TJ Wiggs

From: Steve Norton <steve.norton@psomas.com>
Sent: Monday, February 27, 2023 9:37 AM
To: Matthew Woodhall; Shannon Luoma
Cc: Brad Blood; Carissa Shoemaker
Subject: FW: Yosemite Toad & LV FERC

FYI, Thomas wants to postpone another meeting until he hears back from the Forest's Regional Headquarters.

Steve Norton
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From: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Sent: Monday, February 27, 2023 8:02 AM
To: Steve Norton <steve.norton@psomas.com>
Subject: RE: Yosemite Toad & LV FERC

Hi Steve,

Id really like to get some direction from our regional aquatics bio Holly before having another conversation. I sent her another message this AM.

Thomas Torres
Wildlife Biologist
Forest Service
Inyo National Forest, Mammoth Lakes Ranger District
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c: 760-965-9671
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From: Steve Norton <steve.norton@psomas.com>
Sent: Friday, February 24, 2023 1:36 PM
To: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Cc: Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Brad Blood <bblood@psomas.com>
Subject: RE: Yosemite Toad & LV FERC

Thanks!
Any time after 2:00 on Monday works for us. Let me know if 2:30 on Monday works and I'll send an invite.
-Steve

Steve Norton
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From: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Sent: Friday, February 24, 2023 7:12 AM
To: Steve Norton <steve.norton@psomas.com>
Subject: RE: Yosemite Toad & LV FERC

Hey Steve, yes lets! Monday or Thursday afternoon work for you?

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From: Steve Norton <steve.norton@psomas.com>
Sent: Thursday, February 23, 2023 5:25 PM
To: Torres, Thomas - FS, CA <thomas.torres@usda.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>
Cc: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: RE: Yosemite Toad & LV FERC

Hey Thomas,
Are you free for a call sometime next week?
Let me know.
Thanks!
-Steve

Steve Norton
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From: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Sent: Thursday, February 23, 2023 7:58 AM
To: Steve Norton <steve.norton@psomas.com>
Cc: Schlick, Kary - FS, CA <kary.schlick@usda.gov>
Subject: RE: Yosemite Toad & LV FERC

Hi Steve, thanks for reaching out!

I contacted our regional aquatics program manager with a suite of questions regarding the permit. I have yet to hear back from her, however. But I have thought more about it and have had some conversations with m counterparts. It seems that this project/genetic analysis is a standalone project and perhaps belongs outside of the FERC technical study process.

I would still like to get this done at some point though and am looking into working with our staff at a few research stations. Kary Schlick my coworker on the south zone gave me a few names of individuals who may be interested in taking this on.

That is where I currently stand – but lll let you know if anything changes once the aquatics program manager gets back to me?

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From: Steve Norton <steve.norton@psomas.com>
Sent: Wednesday, February 22, 2023 3:26 PM
To: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Subject: RE: Yosemite Toad & LV FERC

Hey Thomas,
Have you heard anything back from Vallejo regarding potential DNA collection as part of your permit?
I hope all is well and that you're stocked up on food for the next week or so.
Stay warm!
-Steve

Steve Norton
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From: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Sent: Tuesday, February 7, 2023 12:09 PM
To: Steve Norton <steve.norton@psomas.com>
Subject: Yosemite Toad & LV FERC

Hi Steve,

Please read the trailing emails. I have been in touch with Alexa Lindauer from SNARL. I posed a question to her asking if there were already genetic samples you could use for the proposed genetics study.

Lets discuss.

Thomas Torres
Wildlife Biologist
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From: Alexa Lindauer <alexalindauer@gmail.com>
Sent: Tuesday, February 7, 2023 9:28 AM
To: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Subject: Re: [External Email]successful tadpole collection in Humphrey's Basin

I realize I had a similar question from Jim Erdman earlier this year, I assume he is involved in the same permit process. His questions received the following response from Paul Maier and Jeff Mabe (do you know Jeff on the Eldorado?):

Jeff and I are working to develop an Anaxyrus boreas × canorus hybrid panel. Once completed, we hope it will more definitively answer questions about species boundaries, and dual ancestry in questionable individuals. Our project is focusing on the northern hybrid zone, but we would welcome any sample contributions of likely hybrids from other regions (e.g., Frog Lakes, Kaiser Pass, etc.). Please contact Jeff and myself directly if you want to send us your samples.

I'm happy to connect you with Paul and Jeff directly. Their emails are below if you'd like to connect. Happy to be cc-ed if helpful. Let me know what works best.

paulm@genebygene.com
jeffrey.mabe@usda.gov

I think general consensus (Cathy Brown, others) is that toads at Tioga, Ellery, Saddlebag are canorus, but I'm not sure where that consensus comes from.

Hope this helps,
Alexa

On Tue, Feb 7, 2023 at 8:16 AM Torres, Thomas - FS, CA <thomas.torres@usda.gov> wrote:

> HI Alexa,
>
> Thank you for the thorough response!
>
> The reason Im inquiring about toads in this area is because I am working with the Federal Energry Regulation Commission on renewing the Lee Vining hydro plan permit. I am working with their contracted biologists and they brought up the idea of collecting toe clips or tail clips to do some genetic testing to determine if they are hybridized or not (with Western toad).
>
> Rather than go through the process of collecting data ourselves, I was curious if you thought we had any samples or data that would suffice for this kind of work.
>
> Please do let me know. Thank you!

Thomas Torres
Wildlife Biologist
Forest Service

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From: Alexa Lindauer <alexalindauer@gmail.com>
Sent: Monday, February 6, 2023 1:14 PM
To: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Subject: Re: [External Email]successful tadpole collection in Humphrey's Basin

Hi Thomas,

Are you interested in analyses of genetic samples, or preserved tissues or extracts for future analyses? And if the latter, what types of samples are you looking for?

Paul Maier collected tadpoles and tadpole tails for his genomic research (which is published - I am happy to forward you links if you are unfamiliar with his work). I'm not sure if they were destructively sampled for his PhD, or if there are still extracts in a freezer somewhere at UCSD/UC Riverside.

Dave Daversa has been swabbing toads for his postdoc at UCLA the past two summers. I saved the swab extracts, and these container coarser DNA for toads but I'm not sure which labs other than the Rosenblum Lab at Berkeley run these sorts of lab analyses with DNA from swab extracts. Many of Dave's samples are from Dana meadows and other populations within maybe a 7mi radius of Tioga Pass. He may also have collected dead animals he found and froze them, I'm not sure.

The last person to ask would be Rob Grasso in YOSE. He may have the occasional collected specimen here and there.

MVZ Berkeley also has preserved yotoads, not sure from where, and I am no expert in extracting DNA from specimens preserved in formaldehyde.

Hope this helps?? I am happy to connect you with Dave and Paul (I am assuming you know Rob).

On Fri, Feb 3, 2023 at 10:52 AM Torres, Thomas - FS, CA <thomas.torres@usda.gov> wrote:

> Thanks for getting back to me, Alexa. I just had a quick question about Yosemite Toad. Do you know if we have any genetic samples from individuals off of Tioga Road (Saddlebag and Dana meadows)?

Thomas Torres
Wildlife Biologist
Forest Service

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From: Alexa Lindauer <alexalindauer@gmail.com>
Sent: Friday, February 3, 2023 10:08 AM
To: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Subject: Re: [External Email]successful tadpole collection in Humphrey's Basin

Hi Thomas,

Thanks for reaching out. Can we schedule a time on Monday? I'm pretty booked today with calls but am totally free on Monday. Free Tuesday and Wednesday as well if that works better.

Hope you've been getting out and playing in the mountains with all this snow, and finally a clear weather window (and clearer roads)!

-Alexa

On Thu, Feb 2, 2023 at 2:00 PM Torres, Thomas - FS, CA <thomas.torres@usda.gov> wrote:

> Hi Alexa, could you give me a call at your earliest convenience? I was hoping to pick your brain about YOTO. Hope youre well.
>
> 760-965-9671

Thomas Torres
Wildlife Biologist
Forest Service

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Alexa Lindauer (she/her)

Project and Laboratory Manager

Sierra Nevada Aquatic Research Laboratory

University of California, Santa Barbara

alindauer@ucsb.edu | *alexalindauer@gmail.com*

http://mountainlakesresearch.com/

--

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http://mountainlakesresearch.com/

From: Carissa Shoemaker
To: Lauren Rosenkranz
Subject: FW: Meeting with Thomas Torres (INF Wildlife Biologist)
Date: Friday, February 10, 2023 3:00:56 PM
Attachments: image001.png
image002.png
image003.png

Carissa Shoemaker

My part-time work schedule is generally as follows: Tuesday morning, Thursday morning, and all day Friday.
I can be available outside of these times if given advanced notice.

ERM
M 907 575 0294

From: Brad Blood <bblood@psomas.com>
Sent: Friday, February 10, 2023 1:13 PM
To: Steve Norton <steve.norton@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Cc: Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: RE: Meeting with Thomas Torres (INF Wildlife Biologist)

EXTERNAL MESSAGE

Thanks for the up date. I would like a Mountain Beaver photo. That would be amazing!

Cheers

From: Steve Norton <steve.norton@psomas.com>
Sent: Friday, February 10, 2023 1:07 PM
To: Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Cc: Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: Meeting with Thomas Torres (INF Wildlife Biologist)

Hello all,
Yesterday, I sat down with Thomas and had a really good and long discussion about our proposed YOTO efforts. Below are the highlights.

- He is still very interested in the study.
- Prior to entertaining effort of collecting new DNA samples, he wants us to see if there are any existing samples we can use for this study.
    - I told him the points of contact identified by Alexa with SNARL were all operating under Rob Grasso's permit in Yosemite and none were from Saddlebag or the Lee Vining Creek. He was very impressed we did the leg work ahead of time. He is going to

continue following up with SNARL to see if there are any other previously-collected potential DNA banks from our project area that we can use. We both have action items on this.
    - I am going to reach out to Paul Maier to see if swab samples are sufficient for hybrid DNA analysis, once we hear back from SNARL.
- He reviewed his existing permit for YOTO and didn't explicitly see toe or tail clipping on it and will likely need to amend his permit. While we spoke, he emailed the regional permit coordinator in Vallejo to see what it would take to have it amended.
- I am going to connect Thomas and Jeff Mabe (ENF) so they can discuss how to process the permit amendment.
- Thomas was open to letting Jeff or Rob do the collection, if no existing DNA samples are used.
- We discussed logistics of doing the surveys and getting up there as early as possible.
    - I told him we would be up there weekly as soon as we had access.
    - He mentioned he is snowmobile certified and the INF has one available if we choose to go up before 120 opens. There are some significant avalanche risks that would have to be discussed if we went that route.
- He is interested in the photos and video we took last year of mating with snow on the ground. I will be sending him those videos.
- He is going to look up some potential good wildlife camera locations for us to possible place cameras this year.
- He also mentioned asking Beaver's Sporting Goods where they had their Mountain beaver sighting as a potential camera location.
- Also I learned that the Stanislaus NF didn't have any Yosemite toad observations last year confirming it was a strange survey year.

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From:	Carissa Shoemaker
To:	Lauren Rosenkranz
Subject:	FW: Yoto western toad hybrid sampling
Date:	Monday, February 13, 2023 3:16:20 PM
Attachments:	image001.png image002.png image003.png

Carissa Shoemaker

My part-time work schedule is generally as follows: Tuesday morning, Thursday morning, and all day Friday.
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From: Steve Norton <steve.norton@psomas.com>
Sent: Monday, February 13, 2023 2:04 PM
To: Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Cc: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>
Subject: FW: Yoto western toad hybrid sampling

EXTERNAL MESSAGE

For our records, I was copied on the below email.
-Steve

Steve Norton
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From: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>
Sent: Monday, February 13, 2023 9:01 AM
To: Steve Norton <steve.norton@psomas.com>
Cc: Brad Blood <bblood@psomas.com>; Torres, Thomas - FS, CA <thomas.torres@usda.gov>; Paul Maier <paulm@genebygene.com>
Subject: RE: Yoto western toad hybrid sampling

Steve and Thomas,

Look forward to answering your questions and hopefully we can incorporate some of your samples into the study. We probably need to talk about what type of samples you have - tadpole tail tips are best, but we may be able to work with other types.

As for updating our permit – our plan was to develop experience doing genetic sampling on Western toads and then transferring that experience to YOTO. I got a Scientific Collection Permit from CFDW for the WETO sampling and then sampled WETO all last season (tadpole tail tips and buccal swabs from adults). We then had Cathy Brown come out and observe us sampling YOTO at our Upper Blue Lake site.

With our experience sampling WETO and a letter from Cathy saying we are qualified to collect from YOTO we will be applying to add genetic sampling from YOTO to our 10(A)(1)(a) permit through the normal List of Authorized Individuals (LAI) update. To be clear, since I don't know how it works in Wildlife, we have one 10(A)(1)(a) Threatened and Endangered Species Recovery permit for the region under Holly Eddinger and all the aquatic bios work under that permit. We just update the LAI each season if we have new authority under the permit.

Thomas, I hope that helps, but pleased understand I have been planning this project for a long time and gave myself a lot of lead time to develop the necessary experience to qualify under the permit rules. Give me a call on Teams if you want to discuss further.

Thanks

From: Steve Norton <steve.norton@psomas.com>
Sent: Friday, February 10, 2023 1:23 PM
To: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>
Cc: Brad Blood <bblood@psomas.com>; Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Subject: RE: Yoto western toad hybrid sampling

Hi Jeff,
Hi hope your lab contracting and permitting are going well! I apologize for not getting back to you sooner: before I continued reaching out, I wanted to update all the involved parties.

We are continuing on our look into potential toad hybridization up at the Saddlebag and Tioga Lakes and hope to be sending you and Paul all the samples we find (either through new collections or previous collections at SNARL). I'm putting together some detailed questions for both you and Paul and hope to have those out in the coming weeks. Before then, I wanted to connect you and Thomas Torres, the Wildlife Bio in the Inyo NF. He was looking at his existing Yosemite toad permit and wanted to know what process you were using to amend your permit for the Blue Lake effort. I copied him on this email.

Thanks again, I hope your able to enjoy the immense amount of snow!
-Steve

Steve Norton

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From: Mabe, Jeffrey - FS <jeffrey.mabe@usda.gov>
Sent: Tuesday, January 17, 2023 8:33 AM
To: Steve Norton <steve.norton@psomas.com>
Cc: Brad Blood <bblood@psomas.com>
Subject: RE: [External Email]Yoto western toad hybrid sampling

Hey Steve,

It was nice to meet you too. It sounds like your issue is similar to the one we are working on up at Upper Blue Lake. I would certainly welcome the opportunity to work together and get some potential hybrid samples from other locations.

Thanks

From: Steve Norton <steve.norton@psomas.com>
Sent: Thursday, January 12, 2023 3:28 PM
To: Mabe, Jeffrey - FS <jeffrey.mabe@usda.gov>
Cc: Brad Blood <bblood@psomas.com>
Subject: [External Email]Yoto western toad hybrid sampling

[External Email]
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Jeff,
It was great talking to you just now.
Let's talk some more!
-Steve

Steve Norton
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From:	Marquez, Alyssa@Wildlife
To:	Carissa Shoemaker
Cc:	Shannon Luoma; Lauren Rosenkranz; Hockaday, Alyssa@Wildlife; Moyer, Patricia (Trisha)@Wildlife
Subject:	RE: Lee Vining Recreation - Doodle poll for additional 2023 study planning TWG
Date:	Tuesday, February 21, 2023 4:23:03 PM
Attachments:	image001.png

Hi Carissa,

I will be out of the office the week of the REC TWG meeting and our fisheries staff will not be able to attend. Alyssa Hockaday, CDFW Region 6 South FERC coordinator, will be attending in our place. She will only be able to attend the first hour of the meeting (9-10), so if possible, I would like to request that any information that is directly pertinent to CDFW be discussed in that first hour. Alyssa will take notes and record any questions so myself and fisheries can respond as necessary.

Thank you,

Alyssa Marquez

Environmental Scientist, Inland Deserts Region 6
California Department of Fish and Wildlife
787 North Main Street Suite 220
Bishop, CA 93514
(760) 567-0332
Alyssa.Marquez@Wildlife.ca.gov

From: Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Sent: Tuesday, February 21, 2023 9:57 AM
To: Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>
Cc: Shannon Luoma <Shannon.Luoma@KleinschmidtGroup.com>; Lauren Rosenkranz <lauren.rosenkranz@kleinschmidtgroup.com>
Subject: RE: Lee Vining Recreation - Doodle poll for additional 2023 study planning TWG

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Thanks Alyssa,
We don't have an agenda for this one specifically, as it is actually just a precaution in case we don't cover everything during our March 1 Rec TWG. On March 1, we will discuss the REC-1, REC-2, and LAND-2 study plans for 2023 in greater detail than we did during our Progress Report meeting.

Carissa Shoemaker

My part-time work schedule is generally as follows: Tuesday morning, Thursday morning, and all day Friday.
I can be available outside of these times if given advanced notice.

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M 907 575 0294

From: Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>
Sent: Tuesday, February 21, 2023 9:00 AM
To: Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Cc: Shannon Luoma <Shannon.Luoma@KleinschmidtGroup.com>; Lauren Rosenkranz <lauren.rosenkranz@kleinschmidtgroup.com>
Subject: RE: Lee Vining Recreation - Doodle poll for additional 2023 study planning TWG

EXTERNAL MESSAGE

Hi Carissa,

March 15th will not work for our unit and I imagine if Nick hasn't responded, then he doesn't have time. Do you have an Agenda for the meeting? I'll fill out the Doodle poll with my availability.

Alyssa Marquez

Environmental Scientist, Inland Deserts Region 6
California Department of Fish and Wildlife
787 North Main Street Suite 220
Bishop, CA 93514
(760) 567-0332
Alyssa.Marquez@Wildlife.ca.gov

From: Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Sent: Friday, February 17, 2023 9:07 AM
To: Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>
Cc: Shannon Luoma <Shannon.Luoma@KleinschmidtGroup.com>; Lauren Rosenkranz <lauren.rosenkranz@kleinschmidtgroup.com>
Subject: FW: Lee Vining Recreation - Doodle poll for additional 2023 study planning TWG

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Hi Alyssa,

I haven't gotten a Lee Vining Rec additional TWG Doodle Poll response from any CDFW folks yet (looks like I only have you and Nick on this list). Would you or a teammate be able to join us on March 15 at 9am? That time is looking best for the majority of the TWG.

Thanks Alyssa

Carissa Shoemaker

My part-time work schedule is generally as follows: Tuesday morning, Thursday morning, and all day Friday.
I can be available outside of these times if given advanced notice.

ERM
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From: Carissa Shoemaker
Sent: Tuesday, February 14, 2023 5:04 PM
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Subject: Lee Vining Recreation - Doodle poll for additional 2023 study planning TWG

Hello Lee Vining Rec TWG members,

We have a very full agenda for our March 1 Recreation and Land Use TWG meeting, so we want to get a second / follow-up meeting on everyone's calendars in case we need more time to discuss. Please visit this Doodle Poll link to vote on a time for a second TWG. If we end up covering everything during the March 1 call, we will cancel this one.

Let me know if you have any questions.

Thanks!

Carissa Shoemaker

Senior Project Scientist
Pronouns: she/her

My part-time work schedule is generally as follows: Tuesday morning, Thursday morning, and all day Friday.
I can be available outside of these times if given advanced notice.

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TJ Wiggs

From: Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Sent: Thursday, February 23, 2023 10:57 AM
To: Marquez, Alyssa@Wildlife
Cc: Moyer, Patricia (Trisha)@Wildlife; Lawson, Beth@Wildlife; Ellsworth, Alisa@Wildlife; Lauren Rosenkranz; Shannon Luoma
Subject: RE: Lee Vining 2022 Progress Report

Thank you, Alyssa

Carissa Shoemaker

My part-time work schedule is generally as follows: Tuesday morning, Thursday morning, and all day Friday.
I can be available outside of these times if given advanced notice.

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From: Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>
Sent: Wednesday, February 22, 2023 4:25 PM
To: Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Cc: Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>; Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>; Ellsworth, Alisa@Wildlife <Alisa.Ellsworth@wildlife.ca.gov>
Subject: RE: Lee Vining 2022 Progress Report

EXTERNAL MESSAGE

Hi Carissa,

Attached please find CDFW's comment letter on the Lee Vining Creek 2022 Progress Report.

Alyssa Marquez

Environmental Scientist, Inland Deserts Region 6
California Department of Fish and Wildlife
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Subject: RE: Lee Vining 2022 Progress Report

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Hello again Lee Vining stakeholders,

Thanks for joining us at our 2022 Progress Report meeting on February 1. This is just a reminder that we would like your comments on the Progress Report by this Wednesday, February 22.
We will be issuing our Progress Report meeting notes and following up on action items from that meeting after we receive your comments.
You can access the Progress Report at this link: https://kleinschmidt.sharefile.com/d-s23bdf91282914defa74ff61ce4e8fb58

Let me know if you have any questions.
Thanks everyone

Carissa Shoemaker

My part-time work schedule is generally as follows: Tuesday morning, Thursday morning, and all day Friday.
I can be available outside of these times if given advanced notice.

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From: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
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Subject: Lee Vining 2022 Progress Report

EXTERNAL MESSAGE

Hello Lee Vining Stakeholders!
SCE and the Lee Vining Relicensing Team have had a successful first year of implementing the Final Technical Study Plan as filed with FERC in April 2022. We are now prepared to share preliminary data with you and have drafted high-level technical memos summarizing the status of the studies that were implemented in 2022. We are issuing these for a 30-

day review and intend to discuss the technical memos during our February 1 virtual meeting. **If you wish to provide comments, please do so by February 22, 2023.**

The purpose of the technical memos and the meeting are to provide you with available data (to the extent it has been QC'ed) and an update on the relicensing process. Several of the studies were collecting data into the fall of 2022, while others are intended to be 2-years or be implemented in 2023, for this reason, the level of available data varies for each study. During the meeting, we will review the information presented in the technical memos but have avoided drawing conclusions as data analysis is ongoing. For those studies that were completed in 2022, draft Technical Reports will be submitted in the spring of 2023 for review and comment.

As SCE is following the Traditional Licensing Process for the Lee Vining Project, this meeting will not be recorded, but meeting notes and comments on the technical memos will be filed with FERC by early March. You can access the Progress Report and technical memos at this link: https://kleinschmidt.sharefile.com/d-s23bdf91282914defa74ff61ce4e8fb58 Note that the attachments for TER-1 (Botanical) are included as a separate file as it contains large maps that can slow down the overall progress report file.

If you do not have the February 1 meeting on your calendar and would like to attend, please email Carissa Shoemaker (Carissa.Shoemaker@erm.com) for the invitation.

Don't hesitate to reach out with questions prior to our meeting or if you have trouble accessing the files.
Thank you!
Shannon Luoma

Shannon Luoma
Licensing and Regulatory Section Manager
Kleinschmidt
Office: 425.528.1614
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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

Via e-mail

February 22, 2023

Matthew Woodhall
Southern California Edison
Generation-Regulatory Support Services/ Project Lead
1515 Walnut Grove Ave
Rosemead, CA 91770
matthew.woodhall@sce.com

Subject: California Department of Fish and Wildlife Comments on Southern California Edison's 2022 Progress Report for the Relicensing of the Lee Vining Creek Hydroelectric Project, FERC Project No. 1388

Dear Mr. Woodhall:

The California Department of Fish and Wildlife (CDFW) has received and reviewed the *2022 Progress Report* drafted by Southern California Edison (SCE) for the Federal Energy Regulatory Commission (FERC) relicensing of the Lee Vining Creek Hydroelectric Project (Project, FERC No. 1388). The 2022 Progress Report, which includes the Lee Vining TERR-1 Botanical Attachment, was provided to the Project's Technical Working Group (TWG) members via email on January 23, 2023. Additionally, on February 1, 2023, a TWG meeting was held where the results of the Progress Report were presented and TWG members could provide verbal comment to SCE. As requested by SCE, CDFW is now providing written comments and recommendations on the Progress Report. Additional CDFW questions and comments that were not addressed during the Progress Report meeting due to lack of time are included below.

AUTHORITIES

CDFW is the relevant State fish and wildlife agency for resource consultation pursuant to the Federal Power Act Section 10(j) (16 U.S.C. section 803 (j)). The fish and wildlife resources of the State of California are held in trust for the people of the State by and through CDFW (Fish & G. Code § 711.7). CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of those species (Fish & G. Code § 1802). Information generated through the appropriate studies will be utilized by CDFW in the development of recommendations.

The mission of CDFW is to manage California's diverse fish, wildlife, and plant resources, and the habitats on which they depend, for their ecological values and for their use and enjoyment by the public. It is the goal of CDFW to preserve, protect, and as needed, to restore habitat necessary to support native fish, wildlife, and plant species within the

FERC-designated boundaries of the Project, as well as the areas adjacent to the Project in which resources are affected by ongoing Project operations, maintenance, and recreational activities.

PROGRESS REPORT RECOMMENDATIONS, COMMENTS AND QUESTIONS

Table 2-1 Project Relicensing Field Study Summary

General Comment

- **Recommendations**: (WQ-1 Stream and Reservoir Quality) CDFW does not believe that one year of turbidity logging is sufficient to capture a representative picture of the turbidity in the Lee Vining Creek system. Since turbidity loggers were not installed until summer of 2022, please retain the existing turbidity logger for at least one more year to ensure SCE obtains data for spring and to help detect any turbidity differences between years.

WQ-1 Stream and Reservoir Water Quality Technical Memo

General Comment

- **Recommendation**: CDFW recommends SCE manage the Projects operations in a way that allow for elements of the natural flow regime (e.g., pulse flows, baseflows recession flows) to perform distinct ecological and geomorphic functions and provide for specific life history and habitat needs of fish and wildlife species. Input and movement of sediment through river systems during peak flow events is an import ecological and geomorphic function and it is well documented that dams impede and remove sediment from impacted stream reaches downstream of the dams. Reintroduction of the removed sediment into the sediment starved stream system during peak flow events is a potential solution. However, to implement such protection, mitigation, and enhancement (PME) measures, turbidity levels in the replenished stream system need to remain within the Lahontan Regional Water Quality Control Boards' (LRWQCB) Basin Plan standards. Thus, data on the background turbidity or natural turbidity of the system is required for LRWQCB to determine if reintroduction of sediment into the system would violate the basin plan. To obtain this background turbidity data, CDFW recommends that SCE install turbidity loggers in locations in the stream system that allow for collection of the systems background turbidity. The 2023 anticipated large spring runoff would be a good time to acquire turbidity data during a higher turbidity year.

3.1 Modifications to Methods

- **Question**: Why did SCE not conduct *In situ* turbidity sampling? Will SCE conduct *in situ* turbidity sampling in 2023?

- **Question**: How could measuring the depth profiles at the *deepest* ice-free location, rather than maximum depth, affect the results or interpretation?
- **Question**: Why did SCE not collect analytical samples at depth from Saddlebag Lake and Tioga Lake when the reservoirs were stratified? What does SCE intend to do if the lakes cannot be sampled in 2023?
- **Question**: Why was water temperature not collected in stream reaches?

Figure 5.1-1 Saddlebag Vertical Profiles Measured in Spring 2022

- **Comment:** Please include a discussion in the Progress Report on why data (e.g., pH, temperature, and specific conductivity) varies between reservoirs. For example, why does specific conductance increase at Saddlebag Lake when depth is greater than three meters?
- **Comment**: Please include the Target Reporting Limit (for the basin plan) in the Progress Report. Currently the Progress Report only includes laboratory reporting (RL) and laboratory detection limit (DL).
- **Request**: Please include graphs in the Progress Report comparing each water quality parameter at all the reservoir locations.

Table 5.1-1 Analytical Laboratory Data

- **Question:** Many of the orthophosphate samples were received by the analytical laboratory outside of the Environmental Protection Agency (EPA) recommended holding time of the samples. Does SCE plan to retake these samples?

Consistency with Study Plan

- **Request:** Please make the temperature and dissolved oxygen (DO) profiles collected in Project reservoirs in 2015, 2016, and 2017 available to the TWG members.
- **Request:** Please provide all preliminary data provided in the PAD in the Progress Report (e.g., links or attachment).
- **Comment:** In the Progress Report, please address that DO in Project reservoirs and in Project-affected streams exceeded the published limits for water quality objectives in the LRWQCB Basin Plan.

AQ-1 Reservoir Fish Populations and AQ-2 Stream Fish Populations

General Comments

- **Comment:** CDFW has reviewed the 2022 Progress Report and does not currently have concerns assuming that the fish sample size is of sufficient size to assess fish populations in the streams and reservoirs.
- **Questions:** Did surveyors observe anchor ice formation in the stream reaches?

3.1 Modification of Methods

- **Comment**: Mortality of fish can be reduced by watching set gill nets.

AQ-3 Aquatic Habitat Mapping and Sediment Characterization

General Comment

- The aquatic habitat mapping and sediment characterization study has not been implemented yet and CDFW has no comments.

AQ-4 Aquatic Invasive Plants

General Comment

- The aquatic invasive plant study has not been implemented yet. However, CDFW would like to take this opportunity to restate CDFW comments provided to SCE on 1/14/2022 during the PAD Comment period: CDFW requested that nutrient monitoring of Project reservoir hypolimnion and outlets be conducted to determine the potential impact on the growth and spread of the nonnative, invasive Didymo (*Didymosphenia geminate*). This request was provided for the WQ-1 Study Plan but is also relevant here. SCE has not included sampling of the Project reservoirs outlets for nutrients in the WQ-1 Study Plan but did mention that nutrient concentrations were measured in all Project reservoirs and their outlets streams between 2015 and 2017. Please provide this data in future Progress Reports.

AQ-5 Operations Model

Section 3.2.2. Resource Optimization Model

- **Recommendation**: Section 3.2.2 describes the development of a Resource Optimization Model that is being used to "form an understanding of the properties of resource optimization operations in Lee Vining Creek." It is unclear whether SCE plans to share any of the information in the Resource Optimization Model with relicensing participants. CDFW requests that any results of the resource optimization be shared with relicensing participants so that stakeholders may understand how the Project is being used to optimize environmental, water delivery, and power generation during the life of the next FERC license.

Section 5.0 Next Steps

- **Recommendation**: This section states that "upon completion and calibration, the model will be distributed to interested Stakeholders for review and comment." As requested in the February 1, 2023, Progress Report Meeting, CDFW recommends that SCE's modelers meet with interested stakeholders in small-group technical team meetings during the process of calibration and before

completion of the modeling, not after. Stakeholders may have suggestions for improvement of the model platform that would allow the model to be most effectively used to evaluate a range of different potential alternative flow proposals.

Comments about Still Missing AQ-5 Components

- **Comment**: CDFW has concerns regarding several aspects described in the *Operations Modeling Technical Memo*. Specifically, the lack of 1) development of unimpaired hydrology and 2) lack of a path for stakeholders to consider and compare the tradeoffs between Project revenue and alternative flow scenarios.

  In CDFW's study plan request sent on March 25, 2022, CDFW requested that along with the operations modeling, unimpaired hydrology should be developed by SCE at multiple points in the stream system. CDFW stated that unimpaired hydrology is used when considering the results of other resource studies and aquatic populations in the watershed and would be used to compare to historic operations as well as proposed operational scenarios when developing resource management measures. In the *Final Technical Study Plans*, filed by SCE on April 25, 2022, SCE rejected CDFW's request and stated that SCE and FERC use the current baseline conditions (existing Project) to identify and analyze any potential effects. CDFW disagrees and urges SCE to develop an unimpaired hydrologic dataset for the Project. The unimpaired hydrologic dataset is not only used to compare to pre-Project conditions, but is used during development of protection, mitigation and enhancement (PM&E) measures to look at functional flow information including low flows, pulse flows, snowmelt runoff information, and seasonal high flows, if necessary, to improve aquatic habitats. The stated goal of this study is to "Develop a robust Operations Model to assist SCE and Stakeholders in understanding how Project operations interact with Lee Vining hydrology." Although SCE only hopes to compare to existing conditions, there is no way to assess what components of a hydrograph can be restored without understanding the timing and magnitude of available water.

  CDFW additionally requested in our March 25, 2022 letter that the operations model should include a module or post processing tool that allows all relicensing participants and FERC to understand clearly the financial impact (both gross generation and revenue) of new bypass requirements, ramping rate changes, and pulse flow requirements on Project finances. In the *Final Technical Study Plans*, filed by SCE on April 25, 2022, SCE rejected this request stating that SCE considers generation and revenue to be internal considerations that should not drive discussions surrounding potential effects. CDFW disagrees with this assessment, and notes that most PM&E discussions in FERC relicensing's are driven by financial as well as water management implications of any alternative proposals. As CDFW noted in our study plan comments, in discussions of PM&E measures, all relicensing participants should have the ability to understand how

any proposed measures are balanced with Project generation impacts. Without this tool, SCE can say “yes” or “no” to PM&E measures, but both FERC and relicensing participants have no ability to understand why those decisions were made and where there is negotiating space and potential tradeoffs to be made around each of those potential measures. Sections 4(e) and 10(a)(1) of the Federal Power Act requires the Commission to give equal consideration to the power development purposes and to the purposes of energy conservation; the protection of, mitigation of damage to, and enhancement of fish and wildlife; the protection of recreational opportunities; and the preservation of other aspects of environmental quality. With no financial analysis to consider the power generation benefits of one alternative proposal versus another, there is no way for any entity except SCE to determine whether there is any balancing of power generation versus enhancement to fish and wildlife.

CDFW is making the request now to SCE to develop unimpaired hydrology and a method to look at overall and peaking generation comparisons of operations model alternatives. If these components are not developed at this step in the relicensing, CDFW will plan to submit these during third stage consultation as specified in the Traditional Licensing Process (TLP) regulations. CDFW staff recommend that these tools be developed by SCE and utilized now so that they may be used during relicensing PM&E measure discussions.

AQ-6 - Lower Lee Vining Creek Channel Morphology

Comments about Still Missing AQ-6 Components

- **Comment**: CDFW has concerns about the lack of assessment of the channel morphology within the FERC Project area. CDFW believes that it is necessary to gather channel morphology data within the FERC Project area to understand the habitat-flow relationship, to protect wildlife resources and inform future licensing conditions.

  In CDFW’s study plan request sent on March 25, 2022, CDFW requested that an instream flow study be conducted within the FERC Project area. In the *Final Technical Study Plans*, filed by SCE on April 25, 2022, SCE rejected this request stating that CDFW’s new flow study was submitted after the comment period and that the *AQ-3 Aquatic Habitat Mapping and Sediment Characterization* study addresses CDFW’s request for a qualitative habitat mapping study. It is CDFW’s understanding that after the first stage of consultation is concluded (ending after all participating agencies, Native American tribes, and members of the public provide written comments or 60 days after the joint meeting is held [up to 120 days, if extended], whichever occurs first), resource agencies can request the applicant to do necessary and appropriate studies or gather additional information. CDFW does not agree that the AQ-3 study addresses CDFW’s

request. AQ-3 does not propose to conduct surveys to document the current flow-habitat relationship within the Project area. AQ-3 is currently designed with the view that the limiting factor for trout is available spawning habitat, but CDFW does not agree with this viewpoint and believes an instream flow study is necessary to inform decision making. Additionally, the determination of available spawning habitat should be supported by a proportional stock distribution analysis. The 1992 instream flow analysis for brook and brown trout should not be the sole habitat-flow data utilized to inform license conditions 30 years later and an updated instream flow analysis conducted within the FERC Project area needs to be conducted. Due to the underlying glacial geology and the steep gradient of the Lee Vining Creek system within the Project area, CDFW believes using a *Habitat Criteria Mapping Method* or *MesoHABSIM* would be more appropriate than an *Instream Flow Incremental Methodology* (IFIM).

TERR-1 General Botanical Resources Survey

General Comments

- **Comment**: Mountain bent grass (*Agrostis humilis*) is listed as a rank 2B.3 plant, meaning, except for being common beyond the boundaries of California, plants with a California Rare Plant Rank of 2B would have been ranked 1B. From the federal perspective, plants common in other states or countries are not eligible for consideration under the provisions of the Federal Endangered Species Act (FESA). With California Rare Plant Rank 2B, the California Native Plant Society (CNPS) recognizes the importance of protecting the geographic range of widespread species and protects the diversity of California's flora to help maintain evolutionary processes and genetic diversity within species. All of the plants constituting California Rare Plant Rank 2B meet the definitions of the California Endangered Species Act (CESA) of the California Fish and Game Code (FGC) and are eligible for state listing. Impacts to these species or their habitat must be analyzed during preparation of environmental documents relating to the California Environmental Quality Act (CEQA), or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380. Ranks at each level also include a threat rank, with mountain bent grass identified as 0.3 – Not very threatened in CA (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known). However, since the Threat Rank guidelines only represent a starting point in the assessment of threat level, other factors such as habitat vulnerability and specificity, distribution, and condition of occurrences, are also considered in setting the Threat Rank.

- **Comment**: The CNPS identifies that mountain bent grass is threatened by foot traffic and vehicles and possibly threatened by grazing and trampling. SCE should identify the potential for these threats and any other threats (e.g.,

maintenance activities) at each population location to determine the vulnerability, condition of occurrences and if PME measures are needed (e.g., signage, fencing).

- **Comment**: On January 14th, 2022, CDFW proposed a *Riparian Monitoring and Community Health Study*. SCE responded that 'sufficient data exists from ongoing Riparian Monitoring Evaluations conducted as part of the license'. SCE has shared with CDFW via email various *Riparian Reports* associated with the existing FERC License requirements; however, these reports should be made available for review on the Projects relicensing website. Additionally, SCE responded in the *Revised Technical Study Plans* that raw data would be provided to the TWG. This data should also be made available on the Projects relicensing website. Although SCE has not agreed to conduct additional evaluations of riparian communities within the FERC Project boundary, all existing available data that SCE produced as part of the license (e.g., riparian monitoring and evaluations) should be made available for review now. Providing this data later with the Draft License Application will not provide stakeholders sufficient time to review the data in a meaningful way.

Attachment 1 – TERR 1 Mapbook

- **Comment**: Much of the Botanical Resource study area is outside of the FERC Project area and is focused only around Project facilities or recreational areas. Does sufficient data exist to provide a baseline of the distribution of special status plant species within the FERC Project area? Additionally, the Botanical Resource study area does not encompass Lee Vining Creek just east of the Sawmill campground, an area disturbed by several fishing access trails. Documentation of special status plant species around fishing access trails is necessary to determine Project impacts related to recreation.

TERR-2 General Wildlife Resources Survey

3.2 General Wildlife Surveys

- **Comment**: In Section 6.1.1 *Pedestrian Surveys* of the *Final Technical Study Plans* filed by SCE on April 25, 2022, it states that "All Project facilities will be inspected for evidence of bat roosting". The Progress Report does not mention that bat surveys were conducted, and no associated results of those surveys are provided. During the Feb 1, 2022, meeting Psomas (SCE Consultants) stated that they thought bat surveys were conducted and subsequently followed up with an email stating they performed the effort and would incorporate bat survey results into the Technical Memo. CDFW does not currently have access to the results of the bat survey and therefore cannot comment directly on those results. However, the following comments are relevant to the FERC Project, bat survey methodology, and bat ecology.

North American bats use a wide variety of roost sites, including crevice's, cavities and foliage. In a natural setting, this can include dark chambers such as caves or large tree hollows, rock crevices, exfoliating tree bark, and damaged wood snags. Bats will also roost in cave-like spaces and/or crevices in man-made structures, such as old mine workings, cave-like spaces under transformer pads, gaging stations, storage buildings, crevices above sliding doors, control rooms, tunnels, buildings, and bridges. The Project area includes natural aquatic habitats (e.g., reservoirs, rivers), mixed conifer forests, and open habitat that could support roosting, foraging, and migration for various bat species. Large complex structures in the Project area, like the Pool Powerhouse and other associated facilities, offer crevices and cavities that are suitable bat roosting habitat.

A 2001 paper[1] documents six bat species on Lee Vining Creek: big brown bat (*Eptesicus fuscus),* silver-haired bat *(Lasionycteris noctivagans),* hoary bat *(Lasiurus cinereus),* long-eared myotis (*Myotis evotis),* little brown bat (*Myotis lucifugus),* long-legged myotis (*Myotis Volans).* Evaluating the significance of a bat roost from a resource management perspective depends both on what species of bats are present and how those species are using the roost. During the summer months, bats of many species will occupy one site during the day (= day roost) and one or more at night (= night roosts). Night roosts are sites, usually near foraging areas, at which bats rest (often in aggregations) between foraging episodes. In night roosts, they may process large insect prey, feed dependent young, and engage in social interactions. While night roosts are usually sites that offer protection from wind and/or rain, and are somewhat buffered against temperature fluctuations, they also are often in more exposed settings than day roosts. Day roosts are generally selected for low disturbance, protection from predators, and warmth.

During the late spring through the early fall, the most demographically significant roosts are those used by breeding females to raise young (=nursery/maternity roosts). Temperatures in maternity roosts often exceed 37°C. Colony size varies widely among and within species. Those bat species most frequently associated with reservoirs (*Myotis yumanensis* and *Myotis lucifugus*) can form relatively large colonies (from several hundred up to several thousand) in structures, although tree roosts identified by radiotracking are much smaller. Natural features and man-made structures

[1] Pierson, E.D., W. E. Rainey, and C. J. Corben. 2001. Seasonal Patterns of Bat Distribution along an Altitudinal Gradient in the Sierra Nevada.

may also serve as day-roosts for males or non-reproductive females during the summer, as temporary aggregation sites for migrating animals in the spring and fall, and as hibernating sites in the winter.

Only conducting pedestrian surveys for bats during the day is not sufficient to identify bat presence or absence in the Project area. All structures must be visually inspected for bats or bat sign (guano, culled insect parts, or urine stains) during the day, however, additional methods are needed. Any structures that were not completely surveyed or are known to have day roosting bats, must also be observed at evening emergence (from just prior to sunset until one hour after sunset or until 15 minutes after the last bat emerged) using both night vision equipment and one or more bat detectors to record echolocation calls. To guide management recommendations, bat species identification is needed at all structures in the Project area receiving bat use . To facilitate bat species identification, animals should be captured.

- **Comment**: The Progress Report should include at a minimum:
  - A description of the desktop analysis conducted (e.g., CNDDB, literature records, museums records)
  - A list of bat species with the potential (or that have been documented) to occur in the Project area, their conservation status, and an associated species account.
  - A description of the methodology used to conduct the bat surveys of the Project area.
  - A list and map of all SCE's facilities and associated structures in the Project area (e.g., tunnels, gaging stations, storage buildings, control rooms, tunnels, buildings, and bridges), if the facilities were surveyed (or a description of why the facility was not surveyed), when the facilities were surveyed (date and time), and a description of each facility as it relates to bat roosting.

- **Comment**: **Please provide the information requested below.** The following activities were listed in Section 6.1.1 *Pedestrian Surveys* of the *Final Technical Study Plans* filed by SCE on April 25, 2022, but were not mentioned or included in the Progress Report:

  - "*Observations of active or abandoned raptor nests will be recorded using a hand-held Global Positioning System (GPS) unit and mapped onto the field map.*" The Progress Report makes no mention of active or abandoned raptor nests and does not provide GPS points or a map. **Please provide his information with the Progress Report.**

- "*Active searches for reptiles and amphibians will be conducted. Methods will include lifting, overturning, and carefully replacing objects such as rocks, boards, and debris*." The Progress Report makes no mention of amphibian or reptile species or surveys. **Please provide this information, including methodology, with the Progress Report.**

- "*Biologists will perform pedestrian surveys within the terrestrial wildlife study area to (1) ground-truth the potentially suitable habitat maps developed during the literature review and (2) document any wildlife observations. Pedestrian surveys will be performed with binoculars to directly observe wildlife."* The Progress Report makes no mention of the results of ground-truthing the potentially suitable habitat maps developed during the literature review and does not provide the suitable habitat maps. **Please provide this information in the Progress Report.**

- "*All wildlife species observed will be recorded in field notes to species (if possible) and location on field maps*." No maps of wildlife species observed were provided in the Progress Report. **Please provide this information in the Progress Report.**

GIS DATA REQUEST

CDFW requests the following spatial data be provided in as shapefiles or geodatabase:

- Sampling sites for water quality, bacterial, turbidity and fish tissue sampling
- Reaches for the Channel Morphology Study
- Botanical Study Area boundary
- NDVI
  - Sampling plots (wet meadow)
  - Sampling plots (willow riparian scrub)
  - Study Sites (Test)
  - Study Sites (Control)
- Special-status plant species populations
- Tunnel from Ellery to Pool Powerhouse
- Gaging Stations
- Yosemite Toad - 2022 Habitat Survey Area and pools surveyed in 2022
- Terrestrial Wildlife Study Areas

OTHER

- CDFW requests that SCE make the 1933 Sales Agreement between Southern Sierras Power Company and LADWP available on the Projects relicensing website.
- CDFW requests that SCE make the following resource management plans available on the Projects relicensing website:
    - Avian Protection Plan and Bird Nesting Guidelines (includes provisions for reporting wildlife and avian interactions with the Project)
    - Vegetation Management Operations Manual
    - Invasive Mussel Prevention Plan
    - Fire Suppression Plan (part of the Project's Emergency Action Plan)
    - Soil Disposal Plan

CONCLUSION

CDFW appreciates the opportunity to comment on the DLA filed by SCE for the FERC relicensing of the Lee Vining Creek Hydroelectric Project. CDFW looks forward to further discussions with the Technical Working Group members.

If you have any question pertaining to this letter, please contact Alyssa Marquez, at (760) 567-0332 or Alyssa.Marquez@wildlife.ca.gov.

Sincerely,

Trisha A. Moyer

Trisha Moyer

Habitat Conservation Program Supervisor
Inland Deserts Region 6, Eastern Sierra

cc: California Department of Fish and Wildlife

Alisa Ellsworth, Environmental Program Manager
Alisa.Ellsworth@wildlife.ca.gov

Alyssa Marquez, FERC Coordinator R6 HabCon North
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Beth.Lawson@wildlife.ca.gov

Document Content(s)
Lee Vining Creek FERC (P-1388) Progress Report Comment Letter_2.22.23.pdf.1

B-58_Notice re Jacqueline Beidl (USFS) involved in Cultural and Tribal TWG

From: Wufoo
To: Carissa Shoemaker
Subject: Lee Vining Hydroelectric Project [#26]
Date: Monday, February 27, 2023 5:14:41 PM

EXTERNAL MESSAGE

Name	Jacqueline Beidl
Title (if applicable)	Heritage Program Manager and Tribal Liaison
Agency / Organization (if applicable)	Inyo National Forest
Email	jacqueline.beidl@usda.gov
Address	351 Pacu Lane 116 Bishop, California 93514 United States
Phone Number (Office)	(509) 949-9869
I am interested in the following resource areas	• Cultural Resources • Tribal Resources
Please indicate if you would like to be involved in any Technical Working Groups (TWGs) that will be informed to address the following resources areas.	Yes
Based on information presented on this website or the Public Outreach meeting of October 6, are you aware of additional studies, or resource management plans that may be relevant to the project area and/or resource (describe)?	Yes
Based on information presented on this website or the Public Outreach meeting of October 6, are you aware of additional studies, or resource management plans that may be relevant to the project area and/or resource (describe)	Yes
Is there a representative other than yourself you would like to designate as an additional contact for potential follow-up by SCE or SCE's representative for the resource area(s) checked above? Please indicate their contact information below:	Yes

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GET STARTED!

Lee Vining Hydroelectric Project Relicensing

Recreation and Land Use TWG Meeting

March 1, 2023, 9:00 a.m. – 11:00 a.m. PDT via Microsoft Teams

Objective

- Present 2023 implementation plans for REC-1, REC-2, and LAND-2

Duration (minutes)	Agenda Topic/Subtopic	Lead
10	**Welcome, Introductions, Meeting Objectives**	
	- Safety moment - Introductions - Meeting objectives	Matthew Woodhall Shannon Luoma
35	**REC-1: Use and Needs**	
	- Present RUNS proposed locations o Address/review comments received on Tech Memo o Intercept Surveys/Spot counts o Traffic/trail counters and calibrations o Winter survey locations - User Survey Methods o Schedule, timing o Survey instrument o Questions - Creel Survey Methods o Schedule, timing o Survey instrument	Angela Whelpley
20	**REC-2: Facilities Inventory**	
	- Methods o Address/review comments received o Proposed locations o Schedule, timing o Data sheet	Angela Whelpley
10	**10-minute break**	
20	**LAND-2: Aesthetic Resources**	
	- Overview of data sources and data gaps	Karen Klosowski

	- Present proposed KOPs - Methods o Schedule, timing o Data sheet o Report/Deliverables	
5	**Schedule and Next Steps**	
	- Action items and homework - Next meeting	Shannon Luoma
10	**Final Q&A**	
	Adjourn	

DRAFT MEETING NOTES*

LEE VINING, FERC PROJECT NO. 1388

RECREATION AND LAND USE TECHNICAL WORKING GROUP MEETING

MARCH 1, 2023, 9:00 AM–11:00 AM

**These meeting notes are documentation of general discussions from the meeting held on the above-noted date and focus on stakeholder questions and comments. These notes are not a verbatim account of proceedings and do not represent any final decisions or official documentation for the project or participating agencies.*

1.0 OBJECTIVES

- Present 2023 implementation plans for REC-1, REC-2, and LAND-2

2.0 ATTENDEES

Relicensing Team Members
Martin Ostendorf, Southern California Edison (SCE)
Matt Woodhall, SCE
Finlay Anderson, Kleinschmidt
Shannon Luoma, Kleinschmidt
Kelly Larimer, Kleinschmidt
Angela Whelpley, Kleinschmidt
Karen Klosowski, Kleinschmidt
Lauren Rosenkranz, Kleinschmidt
Carissa Shoemaker, ERM

Technical Working Group Members & Interested Parties
Adam Barnett, U.S. Forest Service (USFS)
Stephanie Heller, USFS
Sheila Irons, USFS
Jameisha Washington, USFS
Alyssa Hockaday, California Department of Fish and Wildlife (CDFW) (Federal Energy Regulatory Commission [FERC] coordinator in southern region)
Adam Cohen, State Water Resources Control Board (SWRCB)
Bryan Muro, SWRCB

3.0 COMPILED ACTION ITEMS

- **Relicensing Team** will send datasheets / survey forms out after this meeting for stakeholder review. Complete.
- **Relicensing Team** will send meeting invite for 3/15 at 9 am to 10 am Pacific Time. Complete.
- **Relicensing Team** will look for the USFS Over Snow Vehicle Use Management Plan coming out in May 2023.
- **Relicensing Team and USFS** will discuss logistics and necessity/nexus for over snow /winter surveys.

- **CDFW, Alyssa Hockaday** will confirm with Nick Buckmaster when the reservoirs will be stocked (before Fishmas?) and which target species will be stocked. Completed – usually yes, reservoirs would be stocked before Fishmas, but it depends on snowpack; rainbow trout is the only species that CDFW stocks.
- **Relicensing Team** will further assess the request to add Lower Lee Vining and Moraine campgrounds to the REC-2 survey.
- **Relicensing Team** will add the "industrial" area on the north side of Ellery Lake as a Key Observation Point (KOP) to the Aesthetics survey. Completed.

4.0 WELCOME AND INTRODUCTIONS

Shannon Luoma, Kleinschmidt, welcomed Technical Working Group (TWG) members to the meeting, everyone introduced themselves, and Shannon provided an overview of the agenda. Finlay Anderson, Kleinschmidt, provided a safety moment.

Shannon reminded the group of the Project baseline: based on the 1992 FERC Environmental Assessment, there are no recreation facilities within the FERC Project Boundary.

5.0 REC-1 COMMENT 1: INCLUDE LOWER LEE VINING AND MORAINE CAMPGROUNDS IN REC-1 SURVEY

Question (Q) (Adam Barnett): Nearly a third of respondents from the area reported that they come to recreate in the upper canyon. Substantial can be debated, the amount responded was more than negligible. If we're trying to evaluate the need for facilities it would make sense to ask people from those two new locations [Moraine and Lee Vining campgrounds].

Response (R) (Matthew Woodhall): We found that folks staying in the lower canyon did want to be there, so we conclude that they are camping where they want to be. Your concern was folks were being displaced from the upper area, which we did not find evidence of.

(R) (Adam Barnett): We will take a closer look at your results so we can understand.

6.0 REC-1 COMMENT 2: ASSESS THE OVER SNOW RECREATION IN PROJECT AREA

(Q) (Shannon Luoma): We want to clarify if USFS wants SCE to conduct additional surveys during the winter or just add additional over snow recreation questions to our surveys? We can include snowmobiling and skiing on the survey, but don't see a clear nexus so don't intend to do additional surveys.

(R) (Stephanie Heller): The over snow use is not huge in the area, but asking questions in the summer wouldn't capture accurate results, because the user groups are not the same.

(Q) (Shannon Luoma): We do intend to be out there in April and May, are you asking us to come out specifically in winter to survey these groups?

(Q) (Finlay Anderson): Has the USFS measured winter recreation in the area?

(R) (Stephanie Heller): Unsure, but anecdotal evidence and winter-use guides for the area are available. I'm unsure if actual surveys have been done.

(Q) (Finlay Anderson): We would like to figure out how much of the project itself is driving use. We are trying to figure out how the recreation is connected to the project.

(R) (Stephanie Heller): The USFS is in the middle of over snow use management planning; the Saddlebag Lake area has been discussed a lot among user groups. Also, the backside of Tioga Lake where people want to have access to snowmobile. They access by going on the highway / Tioga Pass Road over snow on snowmobiles. They couldn't get up there last year, this year they can because there is enough snow.

(R) (Jameisha Washington): The use is not only snowmobiles, but also folks accessing Tuolumne Park on skis. Saddlebag is adjacent to that park, people are just looking to get out and do fun things, so they'll take the long road.

(Q) (Jameisha Washington): Regarding the ice climbing comment, how are we deciding what is in the project area? Doesn't the ice exist because of the project? The ice that is near the Poole Powerhouse.

(R) (Martin Ostendorf): The ice climbing group seems to be very specific. We think that ice climbing information can be obtained with consultation with those user groups and shouldn't warrant further questionnaires. How much of the use is induced by our project? We may want to survey use just to figure out how it is used and then determine if there is nexus.

(C) (Sheila Irons): I would add the ice climbing is more accessible since Poole Power Plant Road is plowed to the powerhouse.

(R) (Finlay Anderson): It sounds like the USFS is already starting to determine what use occurs. Ice climbing may be an additional discussion. The USFS is making an over snow management plan. We would like to collaborate and make sure the information is carried forward in our Draft License Application (DLA).

(Q) (Shannon Luoma): We have had some discussions with individuals at the Access Fund about ice climbing. Does the USFS have other contacts within the ice climbing community that we can engage with?

(R) (Adam Barnett): This year is going to be a late start even for summer recreation surveys, so the shoulder/spring season could be more focused on over snow use than other recreation in the canyon, so you may not need additional survey work, but converting earlier surveys to different questions to focus on over snow activities. I'm unsure what snowmobile use will be like this spring, but Saddlebag Lake Road will be used by snowmobilers.

(R) (Shannon Luoma): There are additional logistical challenges getting up there to survey in the snow. We can discuss this further.

(R) (Matthew Woodhall): We're having an almost record-setting snow year this year, so we'll gather that information as we get into the season. For example, the campground surveys will be delayed because of the snow. We'd be capturing the conditions during the high-snow season.

(Q) (Finlay Anderson): Would the USFS be able to provide the Relicensing Team with information about your management plan updates as it relates to winter recreation? This would be really useful for the license application.

(R) (Stephanie Heller): We are only at the very beginning of Over Snow Vehicle Use Management planning. We've had conversations with user groups, but we haven't done formal scoping yet. Our proposed action won't be out until May.

7.0 REC-1 STUDY PLAN FOR 2023

Angela Whelpley shared study plans for 2023.

(Q) (Angela Whelpley): Will CDFW be stocking the reservoirs prior to Fishmas?

(R) (Alyssa Hockaday): I'm unsure, but I will check with Nick Buckmaster and he will let us know.

(Q) (Angela Whelpley): We also want to know which target species will be stocked? Are there others to add to our list?

(R) (Alyssa Hockaday): I will ask Nick to confirm.

8.0 REC-2 COMMENT 1: INCLUDE SAWMILL WALK-IN AND JUNCTION CAMPGROUNDS IN REC-2

No stakeholder comments.

9.0 REC-2 COMMENT 2: INCLUDE LOWER LEE VINING AND MORAINE CAMPGROUNDS IN REC-2

(Q) (Adam Barnett): This is a similar issue to one we faced with Bishop Creek relicensing, there may become a need for additional overnight facilities in upper canyon, but we may not be able to expand them because of topographical constraints. We might not need to do a facilities assessment, but it would be worthwhile to determine if expansion is needed at those lower sites.

(R) (Angela Whelpley): We recognize that there is a ton of use in the vicinity, but we don't feel that including those additional sites is necessary at this time.

(R) (Adam Barnett): The USFS position is that there is a need for additional recreational capacity in the canyon. Sites in the lower canyon may be the only area that we can provide that in this project vicinity.

(R) (Finlay Anderson): We'll take this comment and work it into our process.

(R) (Matthew Woodhall): SCE's position is that in the condition assessment, assessing the condition now based on an unknown outcome is not worthwhile, if there is a known capacity issue in the upper canyon and we had to do offsets at other locations, then we could do some assessments to determine how to make that work. We don't believe these recreation sites are project-induced. We can look at these later if we ever get there.

10.0 REC-2 STUDY PLAN FOR 2023

Angela Whelpley shared study plans for 2023.

No stakeholder comments.

11.0 LAND-2 STUDY PLAN FOR 2023

Shannon Luoma shared study plans for 2023.

(Q) (Adam Barnett): There is an SCE area north of Ellery Lake that is "industrial looking" not USFS property and is in the project area. It is a denuded area north of the lake with some old structures and pull offs. We would like you to include that in the Aesthetics survey.

(R) (Shannon Luoma): Confirmed which area Adam was referring to in ArcGIS Online (AGOL) (IMG-0354 location).

(Q) (Carissa Shoemaker): Would the USFS want to help select the exact location [GPS coordinate] of each KOP?

(R) (Adam Barnett): Yes, we'd like to review the areas you choose.

Karen Klosowski summarized the KOP selection process, datasheet information that will be collected, and how the data will be used in the report.

12.0 SCHEDULE AND NEXT STEPS

Shannon asked the group if a March 15 meeting from 9 am to 10 am would work to discuss comments on the survey methods. No objections were heard, Adam Barnett and SCE can attend. Relicensing Team will send out an invitation and the survey methods documents.

13.0 FINAL Q&A

No stakeholder comments.

The Relicensing Team adjourned the meeting.

TJ Wiggs

From: Blythe Haverstock, Ashley - FS, CA <ashley.blythehaverstock@usda.gov>
Sent: Monday, March 6, 2023 8:13 PM
To: Audry Williams; Jay King
Cc: Barb Siskin; Shannon Luoma; Jordan Pickrell; Michael Pardee; Beidl, Jacqueline - FS, CA
Subject: RE: (External):RE: (External):Draft Lee Vining CUL-1 Archaeology
Attachments: DRAFT1 Formatted CULTURAL RESOURCES (CUL 1)_AW_INF.docx

Thanks for going through this before me, Audry. I also had few comments. The site numbers I have assigned are as follows:

05045101972	LV01 - Poole Powerhouse Complex
05045101973	LV02 - Flowline, Tunnel, Penstock
05045101974	LV06
05045101975	LV07 - Tioga Dam Complex
05045101976	LV09
05045101977	LV10 Saddlebag Lake Road
05045101978	LV11
05045101979	LV12
05045101980	LV13 Saddlebag Dam Complex
05045101981	LV14 Saddlebag Wilderness Cabin
05045101982	LV15 Trash Scatter
05045101983	LV16 Trash Scatter
05045101984	LV17 Trench
05045101985	LV18 Road
05045101986	LV19 Road
05045101987	LV21 Ditch

My two main comments

1. There are a few little spelling errors throughout the document. I tried to fix them where I saw them, but you might want to run a copy edit through again. We have a template document in our files that has the spell check permanently turned off and it causes no end of frustration for me. Perhaps this is the case on your end?
2. For the three unevaluated resources – there are no anticipated effects. Do we need an HPMP or can we just go ahead and evaluate them now?

I'll get through the Built Environment report later this week.

Thank you for the hard work!
Ashley

Ashley Blythe Haverstock
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Caring for the land and serving people

From: Audry Williams <Audry.Williams@sce.com>
Sent: Wednesday, February 8, 2023 6:12 PM
To: Jay King <jay@farwestern.com>; Blythe Haverstock, Ashley - FS, CA <ashley.blythehaverstock@usda.gov>
Cc: Barb Siskin <barb@farwestern.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Jordan Pickrell <jpickrell@hrassoc.com>; Michael Pardee <michael@farwestern.com>
Subject: RE: (External):RE: (External):Draft Lee Vining CUL-1 Archaeology

I had only a few comments. Some of the comments from the BE report and our discussion on recording of the lakes as they are manmade, effect the archaeology report, but I did not add those comments to this report. Let me know if you have any questions. Thanks

Audry Williams
Senior Advisor, Archaeology Program
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From: Jay King <jay@farwestern.com>
Sent: Friday, January 27, 2023 10:42 AM
To: Audry Williams <Audry.Williams@sce.com>; Blythe Haverstock, Ashley - FS <ashley.blythehaverstock@usda.gov>
Cc: Barb Siskin <barb@farwestern.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Jordan Pickrell <jpickrell@hrassoc.com>; Michael Pardee <michael@farwestern.com>
Subject: (External):RE: (External):Draft Lee Vining CUL-1 Archaeology

***** EXTERNAL EMAIL - Use caution when opening links or attachments *****

Hi Audry, the PDFs contain the findings maps as appendices (Appendix C of the archaeological report and Appendix A of the BE report, same set of maps in both). I will get the GIS data posted in the same download location as the reports.

From: Audry Williams <Audry.Williams@sce.com>
Sent: Friday, January 27, 2023 10:07 AM
To: Jay King <jay@farwestern.com>; Blythe Haverstock, Ashley - FS <ashley.blythehaverstock@usda.gov>
Cc: Barb Siskin <barb@farwestern.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Jordan Pickrell <jpickrell@hrassoc.com>; Michael Pardee <michael@farwestern.com>
Subject: RE: (External):Draft Lee Vining CUL-1 Archaeology

Hi there

I have downloaded both reports to start reviewing. Neither report contains the resource location maps or GIS files. Maybe you did not want to do the maps until we confirmed the limping/splitting of sites, which I totally understand. But I would like to have the GIS files for the resources for each report to conduct my review. Can you please let us know when we you will be able o share GIS with us? Thanks!

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From: Jay King <jay@farwestern.com>
Sent: Thursday, January 12, 2023 2:45 PM
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Subject: (External):Draft Lee Vining CUL-1 Archaeology

***** EXTERNAL EMAIL - Use caution when opening links or attachments *****

Hi Ashley & Audry – at the link below, for your review is the draft CUL-1 archaeological survey report for the Lee Vining FERC relicensing work. Included are a Word doc, if you would like to make comments in track-changes, and a PDF complete with all appendices, including site records. There is also a zipped compilation of site records as separate PDF files.

Ashley, 16 of the 22 resources are newly recorded sites on USFS land, and will need site numbers, once they pass your review.

Two of the updates, P-26-002437 (Rhinedollar Dam Complex) and P-26-008527 (Tioga Road), were done in tandem with EI, as discussed previously, so those same site records will appear in their report as well.

The accompanying built-environment report is currently being formatted and should be posted early next week. Built-environment DPR523 records are complete; if you would like an advance look at them, let me know, otherwise I will just post them along with the completed draft report. Six of the records are shared between archaeological and built-environment reports because they have elements of both.

Here's the link. Please let me know if you have any issues downloading.
20230111 - Lee Vining CUL-1



Jay King, MA, RPA (he/him/his)
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SOUTHERN CALIFORNIA EDISON
Lee Vining Hydroelectric Project
(FERC Project No. 1388)

DRAFT TECHNICAL STUDY REPORT

CULTURAL RESOURCES (CUL 1)-ARCHAEOLOGY

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DECEMBER 2024

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Lee Vining Hydroelectric Project

(FERC Project No. 1388)

DRAFT TECHNICAL STUDY REPORT

CULTURAL RESOURCES (CUL 1)- ARCHAEOLOGY

Southern California Edison
1515 Walnut Grove Ave
Rosemead, CA 91770

December 2024

Prepared by:

Jordan Pickrell, PhD
Jerome King, MA, RPA
Lynn Compas, MA, RPA

Support from:

FW

Historical Research Associates, Inc.

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LIST OF ACRONYMS

AMSL	Above Mean Sea Level
APE	Area of Potential Effects
BLM	Bureau of Land Management
BRM	Bedrock Mortar
CFR	Code of Federal Regulations
CRHR	California Register of Historic Resources
DPR	Department of Parks and Recreation
EI	Environmental Intelligence, LLC
EIC	Eastern Information Center
FERC	Federal Energy Regulatory Commission
FW	Far Western Anthropological Research Group, Inc.
GLO	General Land Office
HPMP	Historic Properties Management Plan
HRA	Historical Research Associates, Inc.
INF	Inyo National Forest
LADWP	Los Angeles Department of Water and Power
NAHC	Native American Heritage Commission
NCE	Nevada-California Electric Corporation
NCP	Nevada-California Power Company
NHPA	National Historic Preservation Act
NPM&M	Nevada Power, Mining, and Milling Company
NPS	National Park Service
NRHP	National Register of Historic Places
O&M	Operation and Maintenance
OHP	Office of Historic Preservation
PAD	Pre-Application Document
RSP	Revised Study Plan
SCE	Southern California Edison
SHPO	State Historic Preservation Officer
SOI PQS	Secretary of the Interior Professional Qualifications and Standards
SSP	Southern Sierra Power Company (SSP)

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TLP	Traditional Licensing Process
TSP	Technical Study Plan
TSR	Technical Study Report
TWG	Technical Working Group
U.S.C.	U.S. Code
USFS	U.S. Forest Service
USGS	U.S. Geological Survey

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1.0 EXECUTIVE SUMMARY

This archaeological survey is one of multiple technical studies undertaken on behalf of Southern California Edison's (SCE's) relicensing of the Lee Vining Hydroelectric Project with the Federal Energy Regulatory Commission. The relicensing is subect to the requirements of the National Historic Preservation Act of 1964, which requires agencies to consider the effects of undertakings on historic properties listed on, or eligible for listing on, the National Register of Historic Places.

The project is located in Mono County, California, approximately nine miles west of Mono Lake and the town of Lee Vining in the Eastern Sierra Nevada. The majority of the project is located on lands managed by the Inyo National Forest, while the rest is managed by SCE. The project area includes lands in Township 1 North, Range 24 and 25 East; and Township 2 North, Range 24 East.

SCE contracted with Historical Research Associates, Inc., (HRA) and Far Western Anthropological Research Group, Inc., (FW) to conduct background research, fieldwork, and prepare this report. The field investigations were conducted in July and August 2022. Field survey was directed by Jordan Pickrell, Ph.D., of HRA, and Erik Martin, Ph.D., of FW.

The total area of the Area of Potential Effects is approximately 619 acres, mostly on lands administered by Inyo National Forest. Systematic archaeological survey with 100 percent coverage was conducted on 203 of those acres. The remaining acreage was excluded from the survey due to steep slopes or open water. Ground-surface visibility in the accessible portions of the survey area was generally good except in riparian corridors.

In total, 20 archaeological sites were revisited or newly identified. Of these, four were previously recorded and 16 were newly recorded. All four of the previously recorded resources and six of the newly recorded ones also contain built-environment elements, mostly related to the Lee Vining Hydroelectric Project.

Sites include precontact lithic scatters and historic-period sites related to the hydroelectric project, recreation, and transportation in the region. Each of the archaeological sites associated with the hydroelectric project is a component of a complex that includes built environment resources as well as archaeological resources.

Fourteen archaeological isolates were recorded, of which three are precontact while the rest date to the historic period. The precontact isolates consist of isolated obsidian flakes or nodules. The historic-period isolates are artifacts related to mining, logging, and recreation.

All archaeological sites are on Inyo National Forest land; two of them also extend onto SCE-managed land. All except one of the isolates is on Inyo National Forest land.

Of the archaeological sites revisited and newly identified during the 2022 inventory, 17 were evaluated and recommended not eligible for listing in the National Register of Historic Places. One abandoned segment of Tioga Pass Road (P-26-008527) was submerged under Ellery Lake at the time of the inventory and could not be evaluated. Two precontact lithic scatters (LV06 and LV09) also remain unevaluated.

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2.0 INTRODUCTION

Southern California Edison (SCE) is the licensee, owner, and operator of the Lee Vining Hydroelectric Project (LVHP or Project), FERC Project No. 1388. The Project is located on the eastern slope of the Sierra Nevada along the eastern boundary of Yosemite National Park, and approximately nine miles upstream from Mono Lake and the town of Lee Vining in Mono County, California. The 11.25 megawatt (MW) Project is situated on Lee Vining Creek, largely within the Inyo National Forest managed by the U.S. Forest Service (USFS); the remaining Project lands are privately owned. The Project consists of three dams and reservoirs, an auxiliary dam, a flowline consisting of a pipeline and penstock, and a powerhouse. SCE currently operates the Project under a 30-year license issued by the Federal Energy Regulatory Commission (FERC) on February 4, 1997. The license will expire January 31, 2027. SCE is seeking a license renewal to continue operation and maintenance (O&M) of the Project.

SCE has elected to use the Traditional Licensing Process (TLP), as defined in 18 Code of Federal Regulations (CFR) Part 5, to relicense the Project. As a component of this process, SCE consulted with a variety of Interested Parties to develop and implement Technical Study Plans (TSPs) addressing resources that may be affected by ongoing O&M of the Project. In February 2022, SCE filed its Proposed Study Plan with FERC, which contained 15 TSPs addressing various types of resources, including cultural resources. SCE subsequently held a Study Plan Meeting with the Interested Parties, and filed a Revised Study Plan in April 2022. FERC then issued a Study Plan Determination approving these TSPs.

The FERC-approved Cultural Resources Technical Study Plan (CUL 1-TSP) includes one study element covering the archaeological and built environment resources. Because of the complexity of resource findings and the distinct nature of the two cultural resource types, study implementation included the development of two separate TSRs: archaeology and built environment. This TSR documents the archaeological study components of the CUL 1-TSP. A built-environment TSR is being submitted concurrently with this document. Tribal resources will be documented in a separate TRI-1 TSR.

This report describes results of records searches and other background research into known cultural resources in the Project area; presents the results of pedestrian survey for archaeological resources, completed in 2022; and provides evaluations of 17 of the 20 archaeological sites identified or revisited.

2.1 REGULATORY CONTEXT

This TSR was prepared to comply with Section 106 of the National Historic Preservation Act (NHPA; 16 U.S. Code [U.S.C.] § 470f) and its implementing regulations in 36 CFR Part 800, which requires that federal agencies consider the effect of their undertakings on cultural resources. This TSR was developed in collaboration with a Cultural Resources Technical Working Group (TWG) that includes representatives from FERC, the California State Historic Preservation Officer (SHPO), the INF, and Tribes and Tribal representatives identified by the Native American Heritage Commission (NAHC) and through SCE's Tribal outreach.

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For the purposes of this TSR, and as defined in the NHPA (54 U.S.C. § 300308), a historic property or historic resource is any “prehistoric [precontact] or historic district, site, building, structure, or object included in, or eligible for inclusion on, the National Register of Historic Places (NRHP), including artifacts, records, and material remains related to such a property or resource.” Following National Register Bulletin No. 36, “Guidelines for Evaluating and Registering Archaeological Properties,” an archaeological site is “a location that contains the physical evidence of past human behavior that allows for its interpretation.” The term archaeological site refers to sites that are eligible for or are listed in the NRHP (historic properties), as well as those that do not qualify for listing in the NRHP. Unevaluated archaeological sites are assumed eligible until determined otherwise. The term “archaeological site” or “site” will be used in this report to describe both eligible and unevaluated resources. The term “isolate” will be used to describe an isolated resource that does not constitute an archaeological site.

2.2 PERSONNEL QUALIFICATIONS

SCE contracted with Historical Research Associates, Inc., (HRA) and Far Western Anthropological Research Group, Inc., (FW) to conduct background research, fieldwork, and prepare this TSR specific to archaeological resources. All cultural technical studies were conducted under the supervision of Cultural Resource Task Leads FW Principal Archaeologist Barb Siskin (M.A., 31 years of experience) and HRA Principal Archaeologist Lynn Compas (M.A., 32 years of experience). Archaeological Principal Investigators Jordan Pickrell ([HRA] Ph.D., 20 years of experience) and Erik Martin ([FW] Ph.D., nine years of experience) conducted and supervised archaeological field surveys. All four personnel meet the Secretary of the Interior (SOI) Professional Qualification Standards (PQS) in History and Architectural History (36 CFR Part 61) and have extensive experience documenting historic properties in California. Jordan Pickrell and Jerome King ([FW] M.A., 32 years of experience) authored the majority of this report. Lynn Compas provided technical review, study plan coordination, and oversight. All analysis in support of this TSR was conducted under the supervision of SCE Senior Archaeologist, Audry Williams, who also meets the SOI PQS.

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3.0 STUDY OBJECTIVES

The cultural resource study objectives include the following:

- Meet FERC compliance requirements under in its regulations (18 CFR Part 5) and Section 106 of the NHPA, as amended, by determining if Project-related activities and public access will have an adverse effect on historic properties.
- Identify all archaeological resources, built-environment resources, and Tribal cultural resources within the APE, determine which are historic properties, and develop the HPMP based on those results.
- Ensure that future Project facilities and operations are consistent with the Desired Conditions described in the Land Management Plan for the Inyo National Forest (USFS 2019) for Social and Economic Sustainability and Multiple Uses.

This current TSR serves to fulfill the objective of identifying all archaeological sites within the APE and evaluating which are historic properties. Furthermore, it assesses whether Project-related activities and public access may have an adverse effect on the historic properties. The identification and evaluation of built environment and Tribal resources are covered in separate TSRs. The final objective, ensuring that Project facilites and operations are consistent with the Desired Condidtions described in the Land Management Plan for the INF, will be incorporated in to the Historic Properties Management Plan for the project.

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4.0 EXTENT OF STUDY AREA

4.1 PROJECT VICINITY, AREA OF POTENTIAL EFFECTS, AND STUDY AREA

The project is located in Mono County, California, approximately nine miles west of Mono Lake and the town of Lee Vining in the Eastern Sierra Nevada. The majority of the project is located on lands managed by the INF, while the rest is managed by SCE. The project area includes lands in Township 1 North, Range 24 and 25 East; and Township 2 North, Range 24 East, on the Tioga Pass and Mount Dana 7.5-minute U.S. Geological Survey (USGS) quadrangles.

4.2 AREA OF POTENTIAL EFFECTS

A Project's APE is defined in 36 CFR Part 800.16(d) as "the geographic area or areas within which an undertaking may directly or indirectly cause alterations to the character of use of historic properties, if any such properties exist." SCE defined the APE for the Project as all lands within the FERC Project Boundary (Figure 4-1).

During the 2022 preparation for fieldwork, it was evident that the current FERC boundary, as mapped, did not match the text description of said boundary in the vicinity of the free-flowing portions of Lee Vining Creek. The boundary was corrected in the GIS data, in advance of the fieldwork. The current FERC boundary and the corrected FERC boundary are compared in the map set in Appendix A.

The Study Area includes a 0.5-mile buffer around the APE, to allow for additional background research on known cultural resources in the vicinity.

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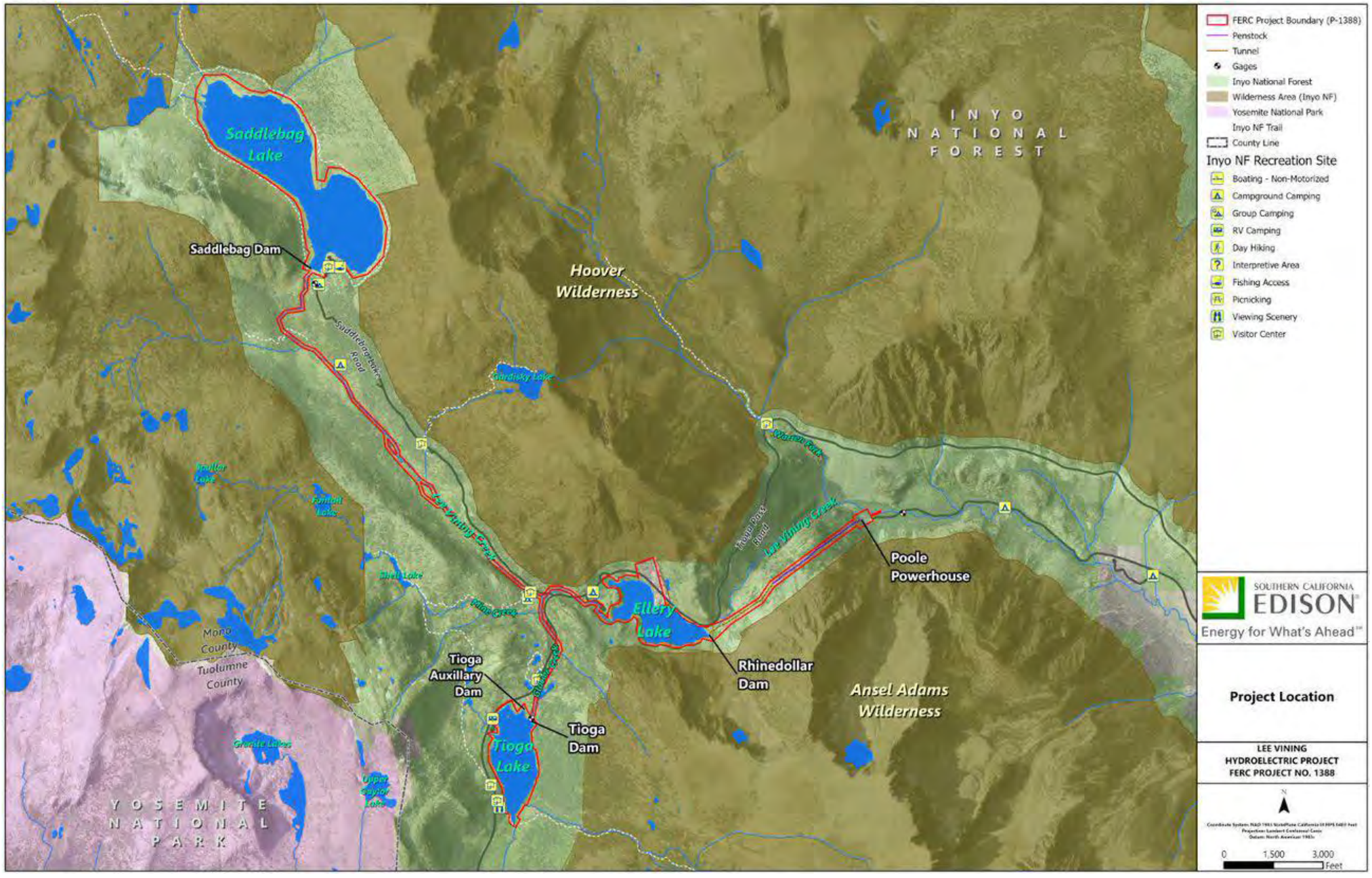


FIGURE 4-1. LOCATION OF THE APE, PROJECT, AND VICINITY.

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5.0 ENVIRONMENTAL AND CULTURAL CONTEXT

5.1 ENVIRONMENTAL CONTEXT

This review of environment, climate, geology, and flora and fauna of the Study Area is drawn largely from relevant sections of the Pre-Application Document (PAD) filed by SCE with FERC on August 12, 2021. The reader is referred there for more detail.

5.1.1 PHYSICAL ENVIRONMENT AND CLIMATE

The Sierra Nevada forms an abrupt orographic boundary focusing significant precipitation on its mountainous western slopes. The rest blocks precipitation from reaching the basins beyond the eastern escarpment, producing an abrupt moisture dichotomy between the generally mesic, subalpine habitats of the tarn lakes and floodplain meadows of the Project Area and the xeric sagebrush steep and local riparian corridors of the Great Basin immediately to the east. Up to 125 centimeters of precipitation (water content) can fall along the crest annually, enlarging the winter snowpack at Tioga Pass and Lundy Pass, while the Mono Basin only a few miles east receives about 13 centimeters per year (Hodelka et al. 2020; Montague 2010). At the Tuolumne Meadows (Montague 2010), just west of the Project Area, maximum temperature in summer averages 21.7 °C (71 °F), with a minimum winter average of 2.6 °C (37 °F). The average winter maximum reaches 5.2 °C (41 °F), with chilling low averages of -13.0 °C (8.6 °F) annually. The high-altitude cold and significant winter precipitation supports a deep snowpack whose moisture is released slowly, supporting meadows and riparian habitats on both sides of the crest well into the summer.

The orographic effect also influenced past climate along the crest. The Project Area was fully glaciated during the Late Pleistocene with deep, scouring glaciers extending from the summits, burying and ultimately shaping the landforms of the Project Area. With glacial retreat culminating between 18,000 and 16,000 years ago, pluvial Lake Russell reached highstand (Ali 2018; Hodelka, et al. 2020). The lake record shows several high-amplitude fluctuations on either side of the Pleistocene–Holocene transition, about 12,600 years ago, suggesting shifts in wet storms systems, pulses of glacial expansion locking up moisture, and glacial retreat providing surface water to the streams and basin lake. The Early Holocene was drier and colder than today; sagebrush and grass pollen appears in the Early Holocene (earliest) section of a pollen core at Tioga Pass Lake (Spaulding 1999). Cooler and wetter conditions, with brief forest expansions, arrive in the high country by about 6000 calendar years (cal) Before Present (BP). Subalpine forest, the woodland pattern present today, was established about 2,500 years ago with expansions and contractions due to drought and climate punctuating the Late Holocene. Extreme drought is evident during the Medieval Climate Anomaly (Stine 1994; Mensing et al. 2008). Although the mountain received winter moisture, it was not enough to support tarn lakes, and flashy stream and groundwater discharge depleted earlier in each season. Drowned trees in Tenaya Lake (Stine 1994), downstream to the west from Tioga Pass, record the diminished surface water during the Medieval Climate Anomaly. The drought was long enough for woodlands to occupy the lake basins, unless there were other changes (tectonics, landslides) that altered the drainage and pool levels.

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About 600 years ago, the Little Ice Age may have resulted in reactivated glaciers, due to increased orographic winter precipitation. The Little Ice Age glacial advance was confined to cirques (Gillespie and Zehfuss 2004) and although the Project Area remained free of glaciers, it seems likely that snow depths were significant and may have been year-round. This may have affected recent patterns of resource productivity and access to the passes and corridors of the Sierra Crest just prior to European contact and the resulting dramatic changes in ethnohistoric land use surrounding Tioga Pass.

5.1.2 GEOLOGY

Formed beneath the deep glaciers of Tioga Pass, the landscape of the Lee Vining Project Area is a product of the Late Pleistocene glaciation of the Sierra Crest. Glaciers extending from the cirques of Glacier Canyon below the northern escarpment of Mount Dana (13,057 feet above mean sea level [amsl]) coalesced with a glacial mass extending from upper reach of Lee Vining Canyon, Lundy Pass, and the eastern cirques of White Mountain (12,057 feet amsl) and Mount Conness (12,590 feet amsl). While the gravity of the western slope and the Grand Canyon of the Tuolumne pulled the Dana glacier westward, the Lee Vining glacier dropped eastward into the Great Basin, carving a dramatic canyon of its own as it extended toward the basin of Mono Lake and pluvial Lake Russell.

The bedrock of Tioga Pass and Lee Vining Canyon consists of granodiorite rocks of the Tuolumne Intrusive Suite (Coleman et al. 2004), and plutonic rocks that surround and intrude remnants of metasedimentary and metavolcanics rocks (Hodelka et al. 2020). While generally gray plutonic rocks encompass the Project Area, darker brown metavolcanics outcrop prominently in places, such as at Ellery Lake. The Pleistocene glaciers scoured the bedrock exposing patchy rock surfaces surrounded by rubble of canyon colluvium, irregular ground moraines, and well-formed lateral moraines.

With the retreat of glaciers in the Terminal Pleistocene and Early Holocene, extreme surface flow continued scouring the once-glaciated terrain. Pluvial Lake Russell in the Basin of Mono Lake reached its highstand during the period of glacial retreat (Ali 2018) and high meltwater drainage into Lee Vining Canyon. Eventually streams turned into narrow floodplains and linear riparian habitats formed as drainages sought equilibrium in the scoured landscape. Tarn lakes, formed in minor cirques and in ground moraine catchments, are common near Tioga Pass and in the upper reach of Lee Vining Canyon. The developed reservoirs at Saddlebag Lake, Tioga Lake, and Ellery Lake augmented existing tarn basins in low-gradient steps below Tioga Pass and below Lundy Pass. Today, local drainages are generally steep, relatively straight channels with pools and riffles leading to dropping falls. The upper reach of Lee Vining Creek, however, has evolved into a meandering channel with a broad wetland floodplain between steep confining slopes. The floodplain shows distributary meanders and oxbows along a channel subject to high seasonal fluctuations due to local run-off, although the controlled output at Saddlebag Lake attenuates a portion of the natural seasonal dynamics. Where there is evidence of long-term floodplain stability, shown by relatively well-developed soils and an absence of recent channeling, the floodplain deposits have potential for preserving

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an intact, buried archaeological record. The Project Area is generally confined to this floodplain throughout the upper reaches of Lee Vining Creek.

Soils forming on the formerly glaciated landscape are, of course, Holocene-age profiles, typically part of the Stecum-Charcol series. These immature profiles are A-C horizons on young landforms of moraines, floodplains, and minor alluvial fans. The profiles are generally thin and shallow on local plutonic (i.e., granitic) bedrock (e.g., grus, till, or small floodplain meadows), but parent material on metamorphic rocks can show significant organic content with relatively mature development (A-Bt-C horizons) for a soil of relatively recent age (i.e., forming since deglaciation). The metamorphic parents can also act as groundwater reservoirs supporting meadow vegetation and complex biotic communities (Cooper et al. 2006). In general, however, soils and sedimentary parent material throughout the Project Area form a shallow veneer on local bedrock with deepest profiles in floodplain meadows. Where present, archaeological resources are likely to have surface manifestations even where shallowly buried deposits of young landforms exist.

5.1.3 FLORA AND FAUNA

This section has been adapted from Davis-King and Snyder (2010), Montague (2010), and Stevens and Lenzi (2015). The Project Area lies at the western margin of the Basin and Range province, a region defined as semidesert due to the rain shadow effect of the adjacent Sierra Nevada. However, semidesert conditions are ameliorated by significant winter precipitation and spring runoff in high elevations common to the Project Area. Subalpine habitat and lodgepole pine (*Pinus contorta)* community flourishes adjacent to seasonally flooded riparian meadows. The subalpine areas dominant throughout much of the Project Area transition eastward to streamside riparian habitats in Lee Vining Canyon.

Subalpine communities occur between approximately 8,000 and 9,500 feet and are characterized by conifer forests often dominated by lodgepole pine (*Pinus contorta*), as mentioned, but also featuring Jeffrey pine (*Pinus jeffreyi*), white fir (*Abies concolor*), and occasional limber pine (*Pinus flexilis*) and whitebark pine (*Pinus albicaulis*). Wet meadows in subalpine habitats harbor root plants, especially various wild onion (*Allium* sp.) varieties, lupine (*Lupinus latifolius*), grasses, and sedges; the variety of useful plants available seasonally in well-watered areas of subalpine habitats is significant for Native people. Willows (*Salix* sp.) and cottonwood/aspen (*Populus* sp.) communities, along with the occasional Pinyon pine (*Pinus monophylla*), occupy the rock-bounded linear corridor of the lower Project Area along Lee Vining Canyon.

Fauna within these communities consist primarily of various mammals and migratory birds. Common summer residents of the subalpine zone include the mountain bluebird (*Sialia currucoides*), Clark's nutcracker (*Nucifraga columbiana*), gray-crowned rosy finch (*Leucosticte tephrocotis*), and white-crowned sparrow (*Zonotrichia leucophrys*). A variety of mammals are found within these communities at various times of the year; these include the yellow-bellied marmot (*Marmota flaviiventris*), Nuttall's cottontail (*Sylvilagus nuttallii*), mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), badger (*Taxidea taxus*), black bear (*Ursus americanus*), and, possibly, grizzly bear (*Ursus arctos horribilis*; Montague 2010). Mountain sheep (*Ovis canadensis*) would have also been present in the

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higher elevations historically. Rodents are particularly prevalent in higher elevations and of importance to Native Americans.

5.2 CULTURAL CONTEXT

Following sections include a review of pre- and post-contact history as well as a summary of the Native American ethnography of the study area. As with preceding sections, it is excerpted in large part from the PAD.

5.2.1 PRECONTACT SETTING

The following discussion provides a generalized review of the precontact populations in the Mono Lake region as viewed through the lens of archaeological research presented by Montague's synthesis (2010) of the archaeology of the Tuolumne River watershed, Stevens et al.'s testing results (2015) at the nearby Mountain Warfare Training Center, Rosenthal's synthesis (2012) of the archaeology of Crane Flat, and recent work by Clay and King (2019) in the Bodie Hills. Following their lead, and other archaeologists who have worked in this part of Mono County (e.g., Basgall 1998; Bettinger 1981; Bieling 1992; Fredrickson 1991, 1998; Giambastiani 1998; Halford 1998, 2008; Noble 1992; Overly 2002, 2004), the precontact setting is divided into three temporal intervals: Early Holocene (pre-8200 cal BP), Middle Holocene (8200–3400 cal BP), and Late Holocene (3400–600 cal BP). For the Great Basin, the Late Holocene is subdivided into Newberry (3400–1300 cal BP), Haiwee (1300–600 cal BP), and Marana (600–150 cal BP) periods, representing broad adaptive shifts in settlement location and artifact assemblages. The Great Basin sequence, which refers to time periods defined on the basis of hundreds of radiocarbon dates and changes in distinctive projectile point types (e.g., Thomas 1981), is based on decades of detailed archaeological studies from the Mono Basin, and on broader archaeological research trends within the larger western Great Basin region.

5.2.1.1 Early Holocene (pre-8200 cal BP)

Evidence of Early Holocene occupation in the Mono Basin is relatively sparse, represented by a few widely dispersed sites (Basgall 1987, 1988; Hall 1990). These early occupations of the region are typically identified by the presence of Great Basin Stemmed or fluted/concave-based projectile points, Pinto-series projectile points, and large percussion-flaked "greenstone" bifaces. These assemblages reflect a high degree of residential mobility with high percentages of debitage from local toolstone sources such as the Casa Diablo or Bodie Hills obsidian sources (Halford 2001, 2008), but with formal tools made from distant, non-local sources (Basgall 1989, 1991; Delacorte 1999). Based on the near absence of milling equipment, there appears to be minimal use of seed resources among the population at this time. Instead, Early Holocene diets likely relied on hunting large and small game animals, the latter of which are particularly prevalent in the more arid parts of the region (Elston et al. 2014; Hall 1990).

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5.2.1.2 Middle Holocene (8200–3400 cal BP)

The Middle Holocene (also referred to as the Little Lake Period by Bettinger and Taylor 1974) is marked by the continued use of Pinto-series points (Basgall and McGuire 1988; Delacorte et al. 1995; Gilreath 1995; Hall 1980; Jackson 1985; Jenkins and Warren 1984; Peak 1975). The period overlaps the Early Martis period (5000–3000 cal BP) of the Sierra chronology. In the Inyo-Mono region, there is a noticeable gap in components dating to this interval (Basgall 2009), although use of the Bodie Hills obsidian quarry continues (Halford 2001, 2008). Middle Holocene assemblages are quite similar to those of the Early Holocene in respect to patterns of toolstone acquisition and use, mobility, and hunting adaptations. They differ by showing an increase in the frequency of milling equipment, a shift probably reflecting a broadening diet breadth in response to increased aridity and reduced environmental productivity (Antevs 1948; Warren and Crabtree 1986).

5.2.1.3 Newberry Period (3400–1300 cal BP)

Pre-contact populations continued to use highly mobile settlement systems during the Newberry Period, but the range of such systems appears to have contracted, becoming regularized within seasonal movements. Another important aspect of the Newberry Period is the trans-Sierra exchange of obsidian. Obsidian transport and exchange appears to have reached its peak during this interval (Rosenthal 2012). The expansion of this system is indicated by an increase in quarry production and biface manufacture at several western Great Basin sources including Bodie Hills, Mono Lake, and Casa Diablo. The pattern is mirrored by a peak in obsidian hydration frequencies from these sources at sites in the western Sierra Nevada. Sourcing at these sites indicates that obsidian primarily was transferred in an east-west direction, with the distribution of obsidian from these sources demarcated by watershed boundaries that would have made north-south travel more difficult (Davis-King and Snyder 2010; Montague 1996; Rosenthal 2012).

It has been hypothesized that the peak in trans-Sierra obsidian conveyance was due to the more regularized settlement patterns that emerged during this interval that allowed for more predictable interaction among neighboring populations (Basgall 1983; Ericson 1982; Gilreath and Hildebrandt 1997, 2011; Goldberg et al. 1990; Hall 1983; King et al. 2011). Regular, trans-Sierra travel of people on both flanks of the mountain range is supported by the clustering of sites along east-west travel corridors leading from the Summit/Virginia, Tioga/Mono/Parker, and Donohue passes. Of these, Mono Trail, passing through Bloody Canyon, Mono Pass, and Tuolumne Meadows, provided the easiest route between Yosemite Valley and Mono Lake (Montague 2010).

5.2.1.4 Haiwee Period (1300–600 cal BP)

The Haiwee Period is marked by the adoption of the bow and arrow in the Sierra Nevada and southwest Great Basin. Archaeologically, this shift in technology is identified by the presence of Rose Spring projectile points in assemblages. In addition to this major technological change, it appears that a restructuring of local subsistence-settlement systems also occurred. Excavations throughout the region indicate the emergence of permanent or semi-permanent lowland villages, characterized by residential structures,

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bedrock milling features, extensive assemblages of flaked and ground stone tools, and a diverse set of floral and faunal remains. Such residences were probably supported by more temporary upland pinyon camps and centralized seed production stations in the valley bottoms (Basgall and McGuire 1988; Bettinger 1989). In higher elevation settings near the Sierra crest, sites from this period are more likely to contain bedrock milling stations, features, ground stone, and midden deposits, suggesting more intensive use of montane environments (Montague 2010). The relationships between these sites indicate that seasonal transhumance had become more spatially confined, resulting in more intensive use of less profitable resources within progressively smaller foraging areas. Reduced residential mobility is also indicated by decreased flaked stone material diversity, a more even balance between tool and debitage material types, and greater use of expedient, non-curated milling equipment (Basgall 1989; Basgall and Giambastiani 1995; Basgall and McGuire 1988; Bettinger 1989, 1999a, 1999b; Bettinger and Baumhoff 1982; Delacorte 1990; Delacorte and McGuire 1993).

Accompanying these decreases in settlement mobility and likely higher degrees of territoriality was a collapse of interregional obsidian exchange (Bettinger 1977, 1982; Bettinger and King 1971; Gilreath and Hildebrandt 1997). Production and exchange of Great Basin obsidians over the Sierra Nevada appears to have declined significantly as indicated by hydration frequencies at both western Sierra sites and the quarries themselves (Rosenthal 2012). The collapse of these production-exchange systems has been attributed to a variety of factors, the most likely being increased territoriality and technological change. With respect to increased territoriality, it has been argued that prior to the Haiwee Period there was a relatively high demand for obsidian and few constraints inhibiting its acquisition (Gilreath and Hildebrandt 1997). Later in time, decreased mobility accompanied by increased population density and territoriality restricted free movement across the landscape, inhibiting the distribution of obsidian and other trade goods over large distances. The decline of trans-Sierra obsidian exchange can also be attributed to decreasing demand for obsidian due to changes in flaked stone technology (i.e., reduced need for toolstone with small arrow points made on debitage instead of bifaces), reducing the overall importance of the toolstone (Basgall and Giambastiani 1995; Gilreath and Hildebrandt 1997; Goldberg et al. 1990).

5.2.1.5 Marana Period (600–150 cal BP)

Key indicators of the Marana interval include Cottonwood and Desert Side-notched projectile points. Many of the trends established in the Haiwee continued forward during this interval, including the more intensive use of local environments, particularly increased use of riparian and lacustrine settings (to obtain flies, shrimp, shellfish, waterfowl, and tule seeds), pine nuts in the intermediate zones, and a variety of root crops and small mammals in the subalpine zones of the Sierra Nevada. This intensification can likely be attributed to large, dense populations, as evidenced in the Sierra by well-developed midden deposits dating to this period (Moratto 1999).

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5.2.1.6 Archaeological Investigations

Among the first well-documented excavations in the region is Bettinger's (1981) investigation at the Lee Vining site (CA-MNO-446) near the mouth of Lee Vining Canyon. Projectile points and source-specific hydration suggested a long span of occupation, with intensive use beginning in the Newberry period. Bettinger characterized the later-dating deposits as the remains of a summer residential base. An obsidian cache was found, with large biface blanks apparently intended for trade. Geochemical sourcing revealed a marked shift in the profile of obsidian sources used over time, with Casa Diablo dominating earlier deposits and a wider variety of more-local sources represented in later deposits.

York (1990) conducted test excavations in the immediate Project Area in support of a previous relicensing of the Lee Vining Project, as well as in the nearby Rush Creek and Lundy Hydroelectric Project areas—all in generally similar settings in the canyons of the eastern Sierra scarp. The tested pre-contact sites, which York generally characterizes as temporary camps, displayed a limited range of flaked and ground stone artifacts. Projectile point types and obsidian hydration measurements suggested occupations ranging from the Newberry through Marana periods; geochemical sourcing revealed the use of a wide variety of east-side obsidian sources dominated by Casa Diablo and Mono Glass Mountain.

Wickstrom and Jackson (1993) and McGuire (1994) reported on test excavations at a series of sites along the Rush Creek Four-Lane Project area, extending several miles south along the U.S. Route 395 corridor from the mouth of Lee Vining canyon. Carpenter (2001) later conducted data-recovery investigations at two of these sites. The pre-contact sites investigated during this project were generally sparse, shallow deposits indicative of temporary camps or task-specific areas, again with diverse obsidian source profiles dominated by Mono Glass Mountain and Mono Craters, and dating primarily to the Haiwee and Marana periods. The exception was the more substantial multi-locus deposit at MNO-891 on Rush Creek, which contained a Newberry-period component dominated by Casa Diablo obsidian, and which still represents one of the few documented substantial residential sites on the western rim of the Mono Basin. This finding of a shift from a Newberry-period focus on Casa Diablo obsidian and other major sources, to a later focus on a wider range of locally available obsidian sources, echoes Bettinger's (1981) earlier finding and has been repeated in many investigations in the Inyo-Mono region. This wholesale shift in patterns of toolstone acquisition may be the result of a collapse in trade networks at the beginning of the Haiwee period, increasing territorial circumscription, or some combination of these.

Surveys in the pinyon belt on the northern rim of the Mono Basin (Clay and King 2019; Eerkens and King 2002) have revealed hundreds of small rock rings in association with pinyon poles and other signs of intensive Marana-period use of this important resource; the rings likely represent the remains of dismantled green-cone caches. Also, near the eastern shore of Mono Lake, the complex of v-wing antelope traps documented by Arkush (1995) records another important archaeological signature of Mono Basin Paiute subsistence practices.

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A substantial amount of archaeological work has also taken place in the upper elevations of Yosemite National Park immediately west of the Project Area, most notably the testing work in Dana Meadows by Montague (1996) and Hull et al. (1995). Similar to sites on the eastern slope, most of these sites were dominated by flaked stone debris with smaller quantities of ground stone artifacts, bedrock milling features, and features such as hearths. Obsidian from Inyo-Mono sources was the overwhelmingly dominant material, as it is throughout much of the park.

5.2.2 NATIVE AMERICAN ETHNOGRAPHY/ETHNOHISTORY

Prior to non-native people entering the region, it was occupied by and in the traditional territory of a Northern Paiute group, the Kukzadikaa. The term Kukzadikaa derives from the Northern Paiute word, *kutsavi*, for the alkali fly (*Ephydra hians*), a greatly prized food by the people of Mono Lake. The Kukzadikaa harvested the pupae of the fly, which they made into a soup and used for trade items elsewhere. This summer food was supplemented by pinyon pine nuts gathered in the autumn, acorn, and the Pandora moth larvae along with other vegetable and animal foods. The people traveled widely, from Walker Lake in Nevada to Yosemite Valley in Mariposa County, and up and down the eastern Sierra Nevada piedmont. They had alternately friendly and unfriendly relations with their neighbors the Miwuk to the west, the Me-Wuk to the northwest, and the Washoe to the north. Abutting their territory to the northeast, east and southeast were other Shoshonean groups of Northern Paiute and Western Shoshone.

Kutzadikaa territory occupies the western Basin and Range Provence, but summer activities take place in the Sierran Biotic Province, which provides diverse biotic communities encompassing five belts. Their terrain has an elevation span from about 6,500 feet amsl at Mono Lake to more than 13,000 feet amsl at Mount Dana. Much of the territory had abundant water, supplied by the perennial Lee Vining Creek and Glacier Canyon in particular, while there are many tarns, springs, creeks, and meadows, with typical Sierra Nevada temperatures of cold, wet months in the winter, and very hot and dry months in the summer. This varied landscape provided a diversity of edible, material, medicinal, and other resources for the people.

The Northern Paiute are a geographically widespread linguistic group that extends from an area just south of Mono Lake, north to Goose Lake into Oregon and Idaho, and west to the Little Humboldt and Reese Rivers. This vast area included numerous groups connected by language but somewhat diverse in culture due in part to the varied environment in which they lived. Although there were some early investigations by Stephen Powers in the mid-1870s and Wesley Powell in 1880, C. Hart Merriam appears to be the first to talk with people who had experienced the first non-natives' arrival. Willard Park investigated the people in the 1930s, and Emma Lou Davis prepared the first ethnographic overview of the Project-area people in 1965.

Merriam observed that the people easily moved between the Great Basin and the Sierra Nevada, especially into what became Yosemite National Park. John Muir also observed the lifeways of the Kutzadikaa, and there are several early non-anthropological documents relating to the people going to the western Sierra to collect or trade for black oak acorn. A seasonal round was part of normal life for the Kutzadikaa, who often

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wintered at Walker Lake due to milder winters, and spent summers in Yosemite Valley, finding the Lee Vining area good for spring and autumn activities. Small familial groups were the most common form or social gatherings throughout the year, although communal hunting for animals such as pronghorn or rabbits was common. People traveled freely and frequently, thus making transportation corridors a principal resource type. Small camps, often with one or two residences or brush shelters are frequently noted, along with pine nut camps, medicine gathering areas, water modification features, and a few other site types. Around Mono Lake, Emma Lou Davis (1965) observed that the Kukzadikaa used “almost every square mile of open country [which] was visited and now shows a telltale flake or two of obsidian. These can be called use areas. There are other places, perennially favored as camps, where chipping waste lies thick. These can be referred to as occupancy areas.”

Material culture largely reflects subsistence and residence patterns, with milling slabs and less frequent rock mortars indicative of seed and nut processing, tools reflecting scraping, cutting, and smoothing of items, possibly imported Owens Valley Brownware, and stone tools made of local materials (Bodie Hills being in their territory), as well as imported or gathered obsidian. Basketry was functional, but especially in the early twentieth century became such an elevated art that the Mono Lake weavers, such as Lucy Telles, Carrie Bethel, and Tina Charley, are among the more revered Indian basket makers in the world. Both twined and coiled varieties are found in several functional types and dimensions.

Ethnohistorically, the Northern Paiute began to see changes to their environment and encounters by outsiders as early as 1800, if not before. The horse, for example, had been introduced into the American southwest and Plains in the 1700s, with Northern Paiute groups accepting the animal and becoming much more nomadic in search of bison. There was a great ecological factor for horse acceptance in that it allowed equestrians to travel long distances to acquire food and other items to bring back to a more central location. Another important factor was the westward encroachment of various groups including Hispanic explorers, French and other fur trappers, and settlers of many affiliations. Both Washo and Paiute oral histories have stories about the Spanish “conquistadors” and men wearing silver plates coming into their territory in search of precious metals.

In 1827, Jedediah Smith, on his journey west from California east to the Great Salt Lake, encountered 20 to 30 presumably Paiute men on horses at Walker Lake, along with numerous other groups who had horses or with whom he exchanged horses for supplies. Then, by 1850, the rush for riches in California and western Nevada particularly affected the lifestyle and environment of the people, and the story of what happened to the westernmost Northern Paiute is similar to that of other people affected by argonauts. Also, by this time, non-native items of metal, glass, and ceramics had found a place in Paiute material culture. Several documents about Mono County Native American history include detailed accounts of Kutzadikaa Paiute interaction with the newcomers. Some 50,000 head of livestock, 21,000 people, and 6,200 wagons passed through Northern Paiute territory on their way to California. It does not take much imagination to visualize how this might have affected the environment and lifeways of the Northern Paiute. Seed plants eaten, trampled, and destroyed, water fouled, game either shot or chased away leaving little upon which the Kutzadikaa could survive. It is not surprising then that in 1858 the San Francisco Bulletin reported that the Indians at Mono Lake noted there was gold there,

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and they were “friendly to the whites. They wish them to come among them, so that they may get work and buy blankets.” The transition into the government period of overseeing certain Indians had begun, moving into a reservation period for some Native Americans and a period of neglect for others, like the Kukzadikaa. There is also an important story to be told about the integration of the Kukzadikaa into the labor force of the area, even including employment on construction and maintenance of the Project.

5.2.3 HISTORIC-PERIOD CONTEXT

To establish the historic context within which the Project was developed and within which some of the archaeological resources will be evaluated, the history of the study area and vicinity has been divided into the following main themes: early exploration and mining; logging; agriculture and ranching; transportation; hydroelectric development; and recreation.

5.2.3.1 Early Exploration and Mining

Although the exact route is unknown, it has been surmised that exploration of Mono County by non-native people began in the early 1800s when trappers Jedediah Strong Smith, Robert Evans, and Silas Goble may have crossed Sonora Pass on their journey to the Great Salt Lake in 1827. In 1834, Joseph Reddeford Walker, leading an expedition of 40 soldiers, followed the East Walker River through Mono County on their way to what would later become California’s San Joaquin Valley. Other parties passed through the county in the 1840s including Lt. John C. Fremont and the Bartleson-Bidwell Party (Chappell 1947:235; Trexler 1980:1).

As with much of the Sierra Nevada, non-native settlement in Mono County began after California became a state in 1850. Gold was discovered shortly thereafter. Leroy “Lee” Vining first came to the Mono Basin in 1852 as a miner. He returned again in 1857 and established himself, along with others, on what became known as Vining’s Gulch or Creek (now Lee Vining Creek). While there is no evidence that Vining collected a significant amount of gold, in the 1860s he established a sawmill at his rancho on Vining Creek where lumber was cut for shipment to Aurora, then the county seat of Mono County. The mill was located approximately 2 miles up canyon from Lee Vining. The town of Lee Vining (first named Leevining) is a descendant of this enterprise (Carle and Banta 2008; Chappell 1947; SCE 2021:4.13-4; Trexler 1980).

During the mid-to late-1800s the main routes over the Sierra Nevada ran east to west via Sonora and Mono passes. The latter in particular was a well-known trail for Native Americans, including those advising Lt. Moore on the route to Mono Lake. It served as the precursor to Tioga Road (Trexler 1980). Some of the travelers on the pass were miners, others were packers with provisions for settlements. When a prospecting party explored the Tioga Pass area in the 1860s, they discovered ore near Tioga Hill, and left a marker consisting of a flattened tin can with the location scratched into it with a knife. The ore they brought out was never assayed and the party never returned to Tioga Hill. Around 1875, William Brusky, while herding sheep in the area, found the marker, and carried out ore that was pronounced worthless. Undaunted, he returned to the location.

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By 1877, he had found ore rich in silver (Trexler 1980). Claims were made in 1878 and the Tioga Mining District was organized. The Great Sierra Consolidated Silver Company bought up all the claims on Tioga Hill in 1881, some 350 of them. They planned to drill a tunnel that went 1,784 feet into the hill at the "Sheepherder Claim," but first they had to build a road to transport the drilling equipment across the Sierra. Teams began constructing the Great Sierra Wagon Road (now Old Tioga Road) in the 1880s. Meanwhile, the company worked some of their more accessible claims; however, silver proved elusive. The mining company pulled out in 1884, after completing Old Tioga Road, meant to bring men, equipment (including drilling equipment), and supplies from California's Central Valley east to the mining districts in Tuolumne and Mono Counties (Trexler 1980).

Although mining did not pan out along Lee Vining Creek, it did elsewhere in Mono and surrounding counties. Between 1852 and 1900, settlers established several towns in the Sierras to serve the miners. The first settlements, Dogtown and Monoville, served the Virginia and Mono Gulch mines by 1859. Sixteen miles north of Monoville, W. S. Body discovered a claim and established the town of Bodie, which at its peak (between 1879 and 1881) had 10,000 residents. The Dogtown and Monoville settlements were short lived, in part due to their locations and lack of water for placer mining but unlike the mines in Tioga District, the Virginia and Mono Gulch mines proved productive. Due to the influx of settlers, the California Legislature voted to create Mono County in 1861. In 1886, Mono County was second in gold and silver production in California. Remaining settlements in and near the Study Area that have their roots in early settlement and mining include Lee Vining (1852), Bishop (1862), and Bridgeport (1864; Cain 1961; Carle and Banta 2008; Chapell 1947).

In the early twentieth century, very little mining activity occurred in the vicinity of the APE. One exception to this was at a mining claim north of Ellery Lake, known as the Australian Lode. The patent was filed by James S. Cain and Alfred Grose in 1918, though Emil Billeb, the general manager of the Bodie Railway and Lumber Company also had an iterest in the claim (Austrailian Lode 1918; Billeb 1968:113 as cited in Kelly 2016). During World War II, government subsidies were introduced to encourage tungsten mining. Prospecting for tungsten primarily occurred on the ridge between Mt Conness and Saddlebag Lake in the early 1940s. Also in that decade, the Epstein Mining Co. established the Hesse Mine near Steelhead Lake. The demand for tungsten decreased at the end of the war. The claim for the mine was still owned by Gus Hess in 1978. Renewed interests in tungsten occurred briefly in the 1980s (Kelly 2016; Western Mining History 2020; Woolfenden 1992).

5.2.3.2 Logging

The need for timber to build mining-related structures, buildings, and entire towns spawned the local timber industry in Mono County. The best timber was located near Bridgeport and South of Mono Lake. By 1863, there were four sawmills in the area, including Lee Vining's as well as others near Big Meadows (Bridgeport), and Lundy. Loggers harvested pine for lumber, mine props, and cordwood, as well as pinion and juniper for mine props and fuel (Chappell 1947). By 1879, most of the lumber was shipped

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to Bodie to build new dwellings and shore up the mining adits. By the early 1880s, the newly organized Bodie Railway and Lumber Company was preparing to log south of Mono Lake (Mono Mills; Cain 1961). Lumber was first hauled by wagon along roads constructed between the various settlements in the area, but in 1881, the Bodie-Benton railroad was completed and began hauling lumber to Bodie from Mono Mills. In 1882, after construction had been completed, 5 million feet of lumber and 27,000 cords of wood were shipped to Bodie from Mono Mills (Cain 1961).

An Act of Congress created the Sierra Forest Reserve covering over six million acres across several counties in 1893 in order to control both logging and grazing. The lands within the reserve were managed by the U.S. Department of the Interior until 1905 when President Theodore Roosevelt reassigned the forest reserves to the newly created USFS. Gifford Pinchot was chosen to head up the Sierra Reserve, which became the Sierra National Forest. The Inyo National Forest, where the majority of the Project is located, was carved out of the Sierra Reserve, and was created in 1907 (Selters 2012).

The construction of roads throughout the region aided the expansion of the timber industry. However, as more land was added to the Inyo National Forest, one of its main missions became the protection of wilderness areas and enhancement of recreation. Although timber and grazing managements are still goals, the forest itself is known as a “flagship” forest that manages the non-timber mandates of the USFS as well (Selters 2012).

5.2.3.3 Agriculture and Ranching

The influx of miners and other settlers in the late 1880s and the need for sustenance spurred the agriculture and ranching industries. The more fertile areas in the county included the Bridgeport and Antelope Valleys. Bridgeport Valley provided pasture lands for cattle and sheep while the Antelope Valley provided produce such as apples, pears, berries, and wheat (Cain 1961). Land around Mono Lake was also used for pasturage and crops that were irrigated via ditches by water from Lee Vining Creek in the 1880s. By that time, more than 2,000 acres of land around the lake were under cultivation. Crops and cattle were shipped to the larger mining camps of Bodie and Aurora. Even though the stock market crashed in the 1880s and productivity at Bodie dropped off, these family farms continued to raise stock and to grow hay, alfalfa, wheat, barley, potatoes, and other root vegetables. Irrigation from Lee Vining Creek gradually stopped with the development of the Lee Vining Hydroelectric Project in the 1920s, and little cultivation occurs in the Lee Vining area today (Costello and Marvin 1983).

Stock, sheep, and cattle were typically taken from the region’s valleys to the high country for grazing in the summers. As the snow melted in the spring, ranchers drove their cattle up over Tioga and Mono Passes and into the higher elevations, via a network of trails and stage roads built for the mines. Given the distance and amount of time it took to travel, most ranchers established camps in the high country for the summer (Theodoratus 1984). As noted earlier, much of the land in the higher elevations became part of the U.S. Forest Reserves in 1893 and then, at the turn-of-the-century, became managed by the USFS (Theodoratus 1984). In 1893, the U.S. Forest Preserve prohibited sheep grazing within its boarders, as it was believed to be particularly destructive. Cattle grazing continued in

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the higher elevations and eventually, by the 1920s, became a rather large enterprise for many grew in popularity (Selters 2012; Theodoratus 1984).

By the 1920s the invention of the automobile and construction of roads greatly reduced travel time and enabled the ranchers to truck their cattle at least partway into the mountains to graze. Since the cattle returned to the same areas each year, they knew the range and the ranchers and were able to spend their summers together on their ranches, instead of in temporary summer camps, growing the local communities (Theodoratus 1984). Automobiles also enhanced other local industries such as logging and recreation, further expanding industrial development in the area.

5.2.3.4 Transportation

Transportation was key to the development of Mono County as well as surrounding areas east of the Sierra Nevada. As noted earlier, supplies were first brought in by packers via trails that ran from the west across the mountains, one of which was the Mono Trail, predecessor to the Great Sierra Wagon Road (now Tioga Road; Trexler 1980).

Some of the earliest mountain crossings were toll roads under franchises granted by the state and county. Individuals and companies maintained the road and collected fees from those who used them. Among the first was a road over Sonora Pass that was completed by 1868. By the 1870s, a stage line operated over this road (Chappell 1947).

The Great Sierra Wagon Road (now Tioga Road) was also technically a toll road, although tolls were never charged. Construction began in 1882 and was completed in 1883. Sources vary, claiming that the road was constructed by either a small team of 35 Chinese laborers, or a larger group of up to 250. When completed, the roadway extended from Crocker's Station on the South Fork of the Tuolumne River to the Tioga Mine northwest of Tioga Pass (near the park's eastern entrance) to what was known as the "Mono Trail." Mono Trail was a Native trail that ran from Tioga Pass farther east to Mono Lake (Trexler 1980:1-6). Although associated with early mining activites, the road was never used to haul the mining equipment nor the ore over the pass (Trexler 1980:4-7). After the road's completion in 1883, the Great Sierra Consolidated Silver Company authorized William C. Priest of Big Oak Flat to collect tolls along the road, although collection gates were never constructed (Trexler 1980:7-10).

In the 1890s, there was a big push for the Department of Interior to purchase the Tioga Road as it went directly through the newly established Yosemite National Park, and the Great Sierra Consolidated Silver Company was no longer maintaining or clearing the roadway for travel. Debate continued on maintenance and ownership of the Tioga Road until 1915, when the newly appointed Secretary of the Interior, Stephen Mather gathered donations from Julius Rosenwald, Thomas Thorkildsen, the Modesto Chamber of Commerce, and the Sierra Club. With these donations, along with his own, Mather convinced fellow Sierra Club member William E. Colby to purchase the former toll road for $15,500 and donate it to the U.S Government. On April 10, 1915, formal title for the Tioga Road was transferred fro the Sierra Club to the U.S. for a consideration price of $10 (Trexler 1980:19). It provided the U.S. government with a 56-mile road between Tioga Pass and Crocker's Station near the South Fork of Tuolumne River.

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Between 1902 and 1905, the California Department of Highways constructed the Tioga Pass Road to connect the eastern Sierra Mountains with Yosemite Valley, because recreational activites in the region increased drastically after Yosemite National PArk was designated by an Act of Congress on October 1, 1890 (NPS 2010). The new road began at Lee Vining and traveled west to Tioga Pass. When completed, it was regarded as a "monument to the skill of state engineers," as it was the highest automobile pass in California with a maximum grade of seven percent (American Society of Civil Engineers 2002; Trexler 1980:16-17).

The first legally authorized automobile-entry into Yosemite National Park was on August 16, 1913. Despite more than 60 regulations aimed at limiting vehicular traffic in the park, automobile travel in the park increased in 1914. Rules included one-way traffic only, top speeds of 10 mph on straight stretches and 6 mph on curves, and fines for those who traveled too slowly along the way (Trexler 1980:18). As traffic increased, the need for roadway maintenance and repair also increased.

Tioga Road and Tioga Pass Road, which connect at Tioga Pass, have each been altered, widened, and realigned several times since completed. Often, Tioga Road was improved or altered first and improvements to Tioga Pass Road followed shortly after. The NPS rebuilt the Tioga Road between 1936 and 1939 within Yosemite National Park, moving the western end of the road to its current location at Crane Flat (Trexler 1980:16). As automobile traffic increased, especially after World War II, it became clear the roadway within and outside Yosemite National Park needed improvement again. After extensive study, NPS rebuilt Tioga Road within the park in 1961 at a cost of $7,000,000 (ASCE 2002).

In 1924, the Southern Sierras Power Company was forced to rebuild a portion of Tioga Pass Rd/Hwy 120 on the north side of the newly raised reservoir at Ellery (Rhinedollar) Lake (Diamond and Hicks 1988:26–34). Between 1939 and 1940, Tioga Pass Road was paved, widened, and realigned. Between 1965 and 1970, the entire 12 miles from the east entrance to Yosemite National Park to its end at Hwy 395 was reconstructed in order to accommodate the increase in automobile traffic by widening the road and straightening some of the curving switchbacks along the road (American Society of Civil Engineers 2002).

Railroads were planned, but large ones connecting the towns along the east side in the vicinity of the APE were never established. Instead, a small 32-mile-long track, the Bodie-Benton Railroad, was built in 1881 to connect Bodie to Mono Mills. The Bodie-Benton railroad was first constructed by Chinese laborers, but due to anti-Chinese sentiment, resulting in violence and expulsion, worker camps were removed, Chinese laborers lost their jobs, and the railroad was finished by white union laborers. As noted earlier, it provided for hauling timber between Bodie and Mono Mills. Although it was intended to be constructed farther south to Benton, it was never extended (Carle and Banta 2008).

Of course, many trails linked the early mining claims, and mining-related settlements such as Bodie, Aurora, Big Meadows, and Lee Vining, providing a means of travel and the hauling of supplies and timber (Chappell 1947). Eventually, many of the trails became wagon roads and were paved. Like Tioga Road, a trail preceded U.S. Route 395. The trail, sometimes known as the Camino Sierra, led from Los Angeles to Lake Tahoe

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roughly paralleling portions of the present highway. This highway and its predecessors provided a link to routes over the mountains to the west side settlements. Portions were paved in 1932 but did not become a four-lane highway until the 1990s (Carle and Banta 2008). Today the highway is a major transportation route connecting Los Angeles to the Canadian Border.

5.2.3.5 Hydroelectric Development

In their 1989 evaluation of the Rush Creek and Lee Vining Creek Hydroelectric Projects, Williams and Hicks provided brief contexts for hydroelectric systems, which are paraphrased and quoted below (Williams and Hicks 1989:7–10).

Hydraulic technology was first used to produce mechanical energy in the first century BC. Between the fourth and twelfth centuries, vertical wheel hydraulic mills had spread throughout Europe, reaching their height during the eighteenth and nineteenth centuries. In the United States, hydraulic power prompted the industrial revolution and remained the "dominant producer of mechanical energy until the Civil War," after which it declined due to the increased use of steam power (Williams and Hicks 1989:8).

During the 1870s and 1880s electric power was made possible through developments in electrical generators. Subsequent "successful experiments in hydroelectricity and long-distance transmission of electricity brought an enlarged and extended life to water power" (Williams and Hicks 1989:8). There are two types of hydroelectric systems: low-head hydro and high-head hydro. The former uses a large volume of water falling a short distance to turn a turbine, wheel, or "runner carrying curved vanes;" while the latter uses a smaller volume of water falling longer distances and developing high pressure to turn an impulse or Pelton water wheel, "in which specially shaped buckets attached to the periphery of a wheel are struck by a jet of water" (Williams and Hicks 1989:8).

5.2.3.5.1 High-Head Hydroelectric System Components

The four basic components of a high-head hydroelectric system include an intake, water conduit, powerhouse, and transmission facility. According to Williams and Hicks (1989):

The intake generally is composed of a dam, headgate, regulating, and cleaning apparatus. Water from a stream channel is reservoired by a dam. Water is released from the reservoir through a headgate, which regulates the flow while screens prevent debris from entering the water conduit. The reservoir behind the intake dam acts as principal regulator of the water flow, with excess water escaping over the dam spillway into the natural water channel.

Following intake, water is conducted through a conduit, which may be composed of flumes, canals, tunnels, and/or pipes known as flowlines, these feeding into a penstock. The length of the conduit may vary greatly, depending on topography and amount of water pressure desired. Sluices and sandboxes may be built into the system to allow sand and gravel, which could clog or damage the conduit or water wheel components, to settle out of the water. Flowlines generally incorporate pressure or air-relief valves, which are installed at regular intervals along their length. These permit outside air to enter the line, to prevent it from collapsing should there be an accidental break in the pipe. A strong

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vacuum would be formed by the sudden acceleration of water through a break, which could easily destroy either wood or steel pipe.

At the end of the conduit, a penstock conveys the water to the powerhouse. This steel pipeline is installed as nearly vertical as conditions will allow, permitting the water to fall and build the pressure needed to operate the water wheel. At the top of this pipe is a small reservoir (forebay) and/or an expansion tank, standpipe, or pressure regulator which helps smooth the flow of water within the penstock.

The powerhouse is located at the bottom of the penstock. It consists of a building within which is housed power generation equipment. This includes one or more water wheels and governors, alternating current (A.C.) generators and exciters, as well as batteries, circuit breakers, and a switchboard. Water pressure provides the energy to turn the Pelton water wheel directly connected to the A.C. generator. It also turns a smaller Pelton wheel connected to an exciter, which generates direct current to energize the electromagnets of the A.C. generator. The rotational speed of the main wheel is controlled by mechanically or electrically operated governors, which regulate the flow of water through a nozzle at the end of the penstock. The transmission of the electricity produced is initiated through a switchboard and circuit breakers, from which it is transmitted to nearby transformers. The powerhouse also may have a small generating unit to operate powerhouse lights and equipment as well as telephone links with other system components. Finally, other buildings associated with the system's operation usually are located near the powerhouse. These may include a machine shop, pumphouses, administrative headquarters, housing for system personnel, garages, and equipment storage facilities.

Transmission of electricity begins with power moving from the generators, through circuit breakers, to transformers by way of a high tension bus-bar (a rigid length of encased constant-voltage conductor, usually copper). Air-break or oil switches connect the bus-bar to the transformers, which step up the voltage for further transmission. Power leaves the transformers for the main transmission line through additional break switches. At the end of the main transmission line, power passes through other transformers, which step down the voltage for further transmission over local distribution lines. Finally, it passes through more step-down transformers for actual consumption [Williams and Hicks 1989:8–9].

The LVHP and the Rush Creek Hydroelectric Project are examples of high-head hydroelectric systems.

5.2.3.5.2 Development of the Lee Vining Hydroelectric Project

Development of the Lee Vining Hydroelectric Project was started by James Stuart Cain. He was an entrepreneur and stockholder in the Standard Consolidated Mining Company in Bodie, California. In 1902, Cain and his partner R.T. Pierce claimed appropriation rights on the waters of Rush Creek and planned to survey Lee Vining Creek. By 1907, Cain had controlling interest in the California-Nevada Canal Water and Power Company. That year he obtained rights-of-way on public land to construct reservoirs on Lee Vining Creek at Saddlebag and Ellery (also known as Rhinedollar) Lakes, and on Glacier Canyon at Tioga Lake, as well as the right to build numerous ditches and flumes (Williams and Hicks 1989).

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By 1911, Cain had created the Pacific Power Company and built a power plant at Mill Creek (renamed Lundy), north of Lee Vining Creek. The firm also received Cain's rights to Lee Vining Creek. Delos Allen Chappell, president of Nevada-California Power Company the developer of the Bishop Creek Hydroelectric System, purchased substantial interest in Pacific Power Company. In 1915, he and Cain reorganized the firm as the Pacific Power Corporation, which was acquired by Nevada-California Electric Corporation. Cain turned his interests to Mono County mining projects, and Chappell died in 1916 as the result of an accident. Nevada-California Electric Corporation legally dissolved the Pacific Power Corporation in 1922. In 1923, control of Lee Vining Creek water rights went to its Nevada-California Electric Corporation's subsidiary, Southern Sierras Power Company. Southern Sierras Power Company completed development of the Lee Vining No. 1 (renamed Poole) and No. 3 Powerhouses by the end of 1924. The Lee Vining powerhouses would eventually supply power to the Imperial Valley (Williams and Hicks 1989).

In 1936, Southern Sierras Power Company was dissolved. Its operating properties were transferred to its parent company, Nevada-California Electric Corporation. In 1941, the corporation changed its name to California Electric Power Company, which operated the Lee Vining Creek system until they merged with Southern California Edison on January 1, 1964 (Diamond and Hicks 1988; Williams and Hicks 1989).

In 1917, construction camps were established at Sylvester Meadows and Ellery (Rhinedollar) Lake, and an office was built at the Saddlebag Dam site. In the initial phase of development between 1917 and 1922, the Nevada-California Electric Corporation began construction of the LVHP. Construction consisted of:

> installing a transmission line from the company's Mill Creek plant to the construction sites; development of a transportation route; establishment of construction camps; conducting preliminary work on Tioga and Rhinedollar reservoirs, tunnel, and powerhouse; and completion of Saddlebag Lake dam [Diamond and Hicks 1988:26].

After establishing a 55kV transmission line to the construction sites in 1917, Nevada-California Electric Corporation constructed a telephone circuit (now Rhinedollar Circuit) from Poole Powerhouse to Saddlebag Dam and in 1919 a transformer bank was built at the Poole Powerhouse Complex. They used both roads and tramways to transport materials from the Sylvester Meadows Headquarters Camp to the Saddlebag Dam site. The tramway from Rush Creek Hydroelectric Project between Agnew Lake and Gem Lake was deconstructed and taken to Lee Vining Creek, where it was reassembled for use during the penstock construction (Diamond and Hicks 1988:26–27). In 1919, the Nevada-California Electric Corporation began excavating the three reservoirs at Saddlebag Lake, Tioga Lake, and Ellery (Rhinedollar) Lake. Between 1920 and 1921, work on the Saddlebag Lake Dam was completed.

The second phase of development occurred between 1922 and 1924, in which the Southern Sierras Power Company accelerated the construction by:

> grading and laying of penstock, tunnel drilling, construction of Rhinedollar dam, and completion of the Lee Vining No.1 and No.3 powerhouses and their associated

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> buildings, penstocks, and flowlines. By the end of 1924, Southern Sierras Power Company had virtually completed the Lee Vining Creek hydroelectric development [Diamond and Hicks 1988:28].

After the second phase of construction, additional work took place throughout the LVHP. The Rhinedollar Dam height was increased twice in 1924 and 1927 (Diamond and Hicks 1988:30). In 1925, the Southern Sierras Power Company added a spillway to Saddlebag Dam, and renamed the Lee Vining Powerhouse No. 1 the Poole Powerhouse in honor of the recently deceased Chief Engineer Charles Oscar Poole. By 1929 they had completed the Tioga Dam and Tioga Auxiliary Dam, which increased production at Poole Powerhouse by approximately 1,289,280 kilowatt-hours (Diamond and Hicks 1988:34).

Controversy with the City of Los Angeles over water rights and property ownership in Owens Valley and Mono County began in the first decade of the twentieth century and persisted for the next three decades. The Southern Sierras Power Company proceeded with the construction of the LVHP anyway, which substantially increased the value of the property holdings the City of Los Angeles was trying to take. In 1921, the Supreme Court ruled in favor of the City of Los Angeles and "a price of $525,000 [was] set for the purchase of Southern Sierras Power Company's Owens River holdings" (Diamond and Hicks 1988:36).

The City of Los Angeles refused to buy the water and property rights directly from the Southern Sierras Power Company. In response the Southern Sierras Power Company established the "California Municipal Water Supply Company to compete directly with Los Angeles by conveying Mono Basin waters to southern California cities outside of Los Angeles" (Diamond and Hicks 1988:36). This was the final straw for the City of Los Angeles, which in 1933 signed a contract with the Southern Sierras Power Company and other companies to purchase "Owens River, Fish Slough, Hillside, Mill Creek, Lee Vining Creek, Rush Creek, Parker Creek, and Walker Creek lands and water rights in Inyo and Mono counties, as well as the two Owens River Gorge plants for $6,740,000" (Diamond and Hicks 1988:36–37).

This purchase impacted the LVHP, as water rights at or above Poole Powerhouse, with the exception of water used for hydroelectric power production no longer belonged to the Southern Sierras Power Company. No exception was made for Lee Vining Powerhouse No. 3, which would be decommissioned as a result, although it continued to run until 1940 (Diamond and Hicks 1988:37).

In 1941, the Southern Sierras Power Company, as a part of the Nevada-California Electric Corporation, became California Electric Power Company. They gave up the fight for water rights in the Imperial and Coachella valleys, which marked the end of the construction of new sources of hydroelectric power production (Diamond and Hicks 1988:38). The California Electric Power Company continued to maintain and improve the LVHP. In 1943, they removed the power generating equipment from Lee Vining Powerhouse No. 3, and converted the building into a substation. Major construction in the 1940s and 1950s occurred at the Lee Vining Substation Complex to make the conversion and provide additional operator housing on site. Additionally in 1952, 13 of the 17 buckets of the Poole Powerhouse's impulse turbines were replaced. In 1953, the intake structure at Saddlebag Dam was partially reconstructed and repaired, and the dam was refaced entirely.

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Additional support buildings and structures were constructed at the Saddlebag Dam Complex at this time (Diamond and Hicks 1988:40; CEPC 1954).

In 1964, the California Electric Power Company merged with the Southern California Edison Company in one of the largest and most complex mergers ever to take place (Diamond and Hicks 1988:39–40).

5.2.3.6 Recreation

Recreation has a very long history in the Lee Vining area and it still thrives today. The many lakes, streams, and mineral and hot springs in the area provide opportunities for relaxation, fishing, and swimming, while the surrounding forests and mountains provide opportunities for packing, hunting, and camping. Of course, the winters with their heavy snowpack provided for activities such as skiing and snowshoeing.

Mono Lake was a big draw not only because of its unusual beauty, but also because of the unique salinity that kept swimmers more buoyant than other lakes. Lee Vining Creek as well as other streams in the watershed were popular with fishermen as were Saddlebag, Ellery, and Tioga lakes. Hot springs, such as Fales Hot Springs, established in the early 1860s, were not only used for recreation, but were also perceived as a way to improve one's health. They were a popular stopping point for packers, and other travelers where one could stay at the hotel for a night or longer to clean up and rest (Cain 1961).

In 1890, Yosemite National Park was created through an act of Congress and encompassed over 1,500 square miles of land, becoming America's third national park. In 1906, the Yosemite Valley and the Mariposa Grove of Giant Sequoias, including Yosemite National Park, were ceded to the federal government (NPS 2010). Recreational packing, though not popular in the early days of settlement, gained steam during the last decades of the nineteenth century when local residents began taking trips to explore their mountainous surroundings. The rise of mountaineering as a recreational activity further fueled local interest in exploration, and ranchers and farmers in the areas began to rent out their pack animals and themselves as guides.

By the 1920s, packing had become a profitable business, as ever-increasing numbers of people with automobiles could reach the Sierra Nevada and pursue recreation activities such as fishing, hunting, camping, and skiing (Woolfenden et al. 2007). Pack stations continued in popularity throughout the middle of the twentieth century but began to decline after the 1960s when government contracts dried up and people relied on cars and airplanes to get them where they wanted to go. Additionally, regulations passed in the 1960s limited to 50 the number of head each pack station could run in the Inyo National Forest, which led to a consolidation of pack stations and decrease in operations. By 1990, there were fewer than 50 pack stations operating in the Sierra Nevada, more than an 80 percent reduction from historic highs earlier in the century (Woolfenden et al. 2007).

Yosemite and Mono Lake were the other big draws for recreationists. Until Tioga Road was completed, packers would take groups of people over Mono Pass into Yosemite Valley. They also took groups of people to Mono Lake via Tuolumne Meadows. One of the earlier accounts is from 1858 when a group, including a woman and a baby, led by

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packers, left from Mono Lake and traveled over Tioga Pass to Yosemite Valley (Trexler 1980). The construction of Tioga Road allowed for more visitors to travel to the park and Mono Lake via packing or wagons. Once the road opened to automobiles after the turn of the century, visitors to Yosemite and Mono Lake increased.

Skiing was very popular early on. The first rope tow in the hills above Lee Vining was constructed in the early 1930s. Back-country alpine skiing was also popular among more adventurous recreationists. By then several businesses that catered to the early recreationists had been established in the town of Lee Vining. Also, within the APE, these activities lead to the establishment of rustic camps such as Girdasky's Camp Tioga (now Tioga Pass Resort) in the early 1900s (Carle and Banta 2008).

Al Gardisky established a homestead in 1914, but quickly expanded the property into a resort after constructing a lodge and the first four cabins of Camp Tioga (now Tioga Pass Resort) by 1916. It's placement near the Tioga Pass entrance to Yosemite National Park made Gardisky's Camp Tioga a popular stop for tourist traveling to and from the park. The recently constructed Tioga Pass Road passed near the camp and provided easy access (Cutts 1997:5). Girdasky's camp served hunters, fishermen, hikers, and back-country skiers. There are also reports that they employed locally based Native Americans in the 1920s and 30s (Davis-King and Snyder 2010).

Between 1935 and 1937, Gardisky added three more cabins and the woodshed/shop. The logs used to construct Cabins 1 through 7 and the motel were gathered from the abandoned Bennetville mine. The resort used kersone lanterns until new owners updated the power supply in 1944. In 1943, Gardisky died and in July his sister sold the resort to Gerald and Eunice Yongue. By 1942, the Yongues had sold the resort to Hal and Edna Bergland. The Berglands made several updates to the resort, including adding power to the buildings through generators, expanding the resort by adding buildings and converting the chicken coop to a cabin, and rebuilding the bridges over Glacier Creek using redwood facing salvaged from the Saddlebag Dam restoration work. Construction during this phase was notably different from the Gardisky era through the use of wood shakes rather than double notch logs. In 1949, Bergland, with the help of Adrian LeRoy Davis built a fireplace on the south wall of the lodge using "ravertine, crystal from Maul and Treble Lakes, and obsidian from the Mono Craters" on the interior. On the exterior, they used stones from the Blue Slide area in Lee Vining Canyon (Cutts 1997:7–9). In 1951, the Berglands changed the name of the resort to Tioga Pass Resort (Cutts 1997:10). The Berglands also constructed the Saddlebag Lake Resort in the 1940s and ran it concurrently with the Tioga Pass Resort (Kissinger and Beidl 2017).

In 1957, Bergland sold Tioga Pass Resort to Raymond and Margaret Yawman. At this time, Bergland split the permit for Tioga Pass Resort and Saddlebag Lake Resort, and he kept the permit for Saddlebag Lake Resort. In 1963, the Yawmans brought Neil Kelly in as a full partner in the resort. Neil and Georgia Kelly became the sole owners of the resort in 1968 and conducted several repairs, especially roof-repairs, to many of the buildings. They also reconstructed a couple of the cabins after they were destroyed during the 1983 snow season. the resort was only open in the summer season until it went to year-round operation in 1987. In 1994, Bob and Claudette Agard bought the property (Cutts 1997:10). Ahead of additional repairs after another heavy snow season, INF conducted an

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evaluation of the resort in 1997 and determined the Tioga Pass Resort an NRHP-eligible historic district. The SHPO concurred in July 1997 (Widell 1997). All subsequent work was completed following the SOI Standards for Rehabilitation (INF 1997).

As mining ceased, recreation helped the town of Lee Vining survive. Today, it is mostly a tourist stop and a destination for those who want to relax and enjoy a variety of activities year-round.

5.3 PREFIELD RESEARCH RESULTS

SOI PQS personnel conducted background research into the Study Area using a series of research methods. First, a records search was performed to gain an understanding of the known cultural resources within the APE and Study Area. Second, a broader regional context of the area was investigated using existing literature. This information was used to guide identification of archaeological resources and site types. The background research incorporated the Study Area to facilitate knowledge about past settlement and subsistence practices, as well as past land use.

A records search was conducted using the ArcGIS Online (AGOL) database maintained by SCE. This database includes data shared by USFS Region 5, as well as data obtained under subscription from the California Historical Resources Information System (CHRIS). A supplementary records search was also conducted at the Eastern Information Center in February 2021 and Inyo National Forest headquarters in July 2022, immediately preceding fieldwork.

5.3.1 PREVIOUS STUDIES

Thirty-three previous cultural resource investigations were identified within the Study Area. Of these, 19 have been conducted within the proposed APE or overlap the proposed APE and Study Area. Among these are various survey and evaluation studies conducted during the last phase of FERC relicensing of the LVHP (Diamond and Hicks 1988; White 1985a, 1985b; York 1990), which included a larger area than the current relicensing effort. These previous relicensing studies resulted in NRHP determinations for two sites within the current study area: P-26-002417 and P-26-002437. Both sites were determined not eligible, with SHPO concurrence.

In 1997, USFS conducted an evaluation of the Tioga Pass Resort (P-26-003308) and designated it a historic district. In 2018, USFS conducted a survey and evaluation of the Saddlebag Lake Resort (FS 05045101804) and found it ineligible to the NRHP (see the built-environment report for detail on this resource). Switalski and Bardsley (2011) evaluated the Rhinedollar 12kV circuit (P-26-006236) and found it ineligible to the NRHP. SHPO concurred with these findings.

Other surveys include the California Department of Transportation (Caltrans) -sponsored surveys of Highway 120 in 1996 and 2010, and various studies conducted by or on behalf of Inyo National Forest and SCE. There is an ongoing survey by Environmental Intelligence, LLC (EI) of SCE circuits on National Forest lands, as discussed further in Survey Results below. None of these previous or concurrent studies prompted any

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exclusion of the current APE from this survey. Maps and lists of the previous studies are presented in Confidential Appendix B.

5.3.2 Previously Recorded Archaeological Sites

The records search revealed 20 archaeological resources, including six precontact resources and 14 dating to the historic period. Of these, eight resources were recorded partially or completely within the APE while the others were plotted within the Study Area only. All previously recorded resources within the APE were ultimately updated or dealt with in some fashion during the survey, as discussed in *Survey Results* below. The records search sites and their NRHP eligibility determinations are listed and mapped in Confidential Appendix B.

The six precontact sites are limited entirely to lithic scatters and isolated tools, all recorded in the 1980s or earlier. As noted above, one of the lithic scatters, CA-MNO-2417, was determined NRHP-ineligible in 1988.

The 14 historic-period resources include several large complexes, most with standing structural elements as well as archaeological features and deposits (Tioga Pass Resort, Saddlebag Lake Resort, the Rhinedollar Dam Complex, Sawmill Campground, and Bennettville Mine), as well as several separately recorded segments of the old Tioga Road, and other features and debris scatters of unknown association. Two of the historic-period archaeological sites within the APE have been evaluated for their eligibility for listing in the NRHP; both were determined not eligible (CA-MNO-2437 and P-26-006236). Another resource, the Tioga Pass Resort, was determined to constitute a historic district in 1997.

All records-search resources within the current study area were ultimately re-recorded or addressed in some fashion during the survey, as discussed in *Survey Results* below.

5.3.3 Background Research

In addition to the records search, additional data sources were reviewed to guide the field survey. These sources included:

- California Historical Landmarks;
- California Register of Historical Resources (CRHR);
- General Land Office (GLO) plats and land patents;
- USGS topographic quadrangles.
- NRHP listings;
- Office of Historic Preservation (OHP) Historic Properties Directory;
- SCE engineering drawings and historic records; and
- Huntington Library Southern California Edison Online Archives;

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Review of GLO plats and patents confirm some of the themes listed above as well as provide an overview of past land use in the area. Among the earliest depictions of the area that includes the APE are GLO plats dated to 1895 and 1925. The 1895 GLO plat of Township 1 North Range 25 East depicts the mountainous terrain in which the APE is situated. “Lee Vinings Creek” (sic) runs through the area. Lake Jessie Montrose is in the approximate location of present-day Tioga Lake. A small, unnamed lake is situated on a flat south of the creek, in the vicinity of present-day Ellery Lake. Another unnamed lake is indicated at the edge of the township, in the general vicinity of present-day Saddlebag Lake. The majority of the cultural features depicted on the map are west of the APE. They include “Benettvill,” Tioga Road, the “Benettville and Lundy Telephone Line,” and six mining claims filed west of the APE between 1884 and 1892 (USSG 1895; GLO 2022a).

North of Bennettville, the telephone line and Tioga Road come together and follow the same alignment across upper Lee Vining Creek, thus crossing the APE. A ditch is also mapped on the east bank of Lee Vining Creek, south of the telephone and road crossing (USSG 1895). It appears that the surveyor added extra land in the mountainous terrain at the western portion of the plat. As a result, the exact locations of the road and telephone line crossing and the ditch along Lee Vining Creek cannot be determined from the plat.

The first USGS topographic map of the region dates to 1901. It depicts the lakes and creeks more acurately than the previous GLO plat. Tioga Road Extends north of the former location of Bennetville but does not cross Lee Vining Creek or the APE. Instead, a trail crosses the creek southwest of an unnamed lake (USGS 1901). Tioga Pass Road first appears on the 1908 edition of the topographic map (USGS 1908).

James Cain and Alfred Grose filed their mining claim for the Australian Lode north of Ellery Lake in 1918. Surveyors from the USSG mapped that claim, which is partially within the APE, when they resurveyed the middle portion of Township 1 N Range 25 E in 1925, documenting the newly constructed LVHP. The plat focuses on the east-west corridor from the Poole Powerhouse to Ellery Lake and Tioga Lake. Buildings and structures within the LVHP that are called out on the plat include the (Poole) powerhouse, a dyke and control house at Ellery Lake, the dam at the northeast corner of Tioga Lake. Other infrastructure associated with the LVHP that appear on the plat include the tramway and penstock between the powerhouse and Ellery Lake and telephone lines. Tioga Pass Road, labeled “Tioga Highway,” and a portion of Saddlebag Lake Road also appear on the plat (USSG 1925).

Saddlebag Lake Road, initially constructed as part of the LVHP, does not appear on topographic maps until 1948. The scale of the available 1948 map is relatively large, so road alignments appear approximate and no buildings or structures are included on the map (AMS 1948). The expansion of Ellery Lake and the major buildings and structures associated with the LVHP first appear on USGS topographic maps in the 1950s. Other buildings are mapped in the vinicity of Tioga Pass Resort, Saddlebag Lake Resort, and the Saddlebag Wilderness Cabin at the north end of Saddlebag Lake. Campgrounds and unimproved roads are mapped adjacent to and crossing the APE, respectively (USGS 1955, 1960).

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5.3.4 POTENTIAL ARCHAEOLOGICAL SITE TYPES

Based on the review of previous records and contextual research, a broad range of site types was anticipated within the APE, but not limited to, the following:

Expeted precontact resource types include:

- Lithic scatters;
- Habitation sites (ground stone, pottery, beads);
- Midden deposits;
- Milling features and associated artifacts (bedrock milling stations,
- portable millingstones, handstones and pestles);
- Rock features such as cairns, hearths, and hunting blinds;
- Earthen features (piaggi rings, wind shelters, water control); and
- Trails.

Historic-period resource types include:

- Residential sites;
- Foundations and tent flats;
- Privies;
- Refuse dumps;
- Industrial remains of mining and timbering activities;
- Agricultural resources;
- Sites related to post-contact Native American occupation and use;
- Transportation resources;
- Recreational resources;
- Construction camps; and
- Other resources related to the construction or operation of the LVHP.

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6.0 SURVEY METHODS

The archaeological inventory was performed to current professional standards, as defined in the Secretary of the Interior's Standards for Guidelines for Archaeology and Historic Preservation. Archaeological survey occurring on INF lands was conducted by HRA and FW under Organic Act permit numbers LVD22022 and LVD22023, respectively.

The field investigations were conducted between July 20 and August 12, 2022 (17 field days total, broken into two sessions). Field survey was directed by Jordan Pickrell, Ph.D., of HRA, and Erik Martin, Ph.D., of FW. Kutzadika'a Tribal representative Damon Dondero also participated in fieldwork.

During the inventory, archaeologists walked parallel transects spaced at no more than 65.6-foot (20-meter) intervals, as vegetation and terrain allowed. Representative photographs were taken throughout the APE, and GPS data was collected to record the progress of the survey each day. Estimates of surface visibility, vegetation communities, and other physical attributes of the areas were also noted on the survey maps. Areas within the APE that could not be accessed in a safe manner (e.g., slopes over 30%, underwater) were not included in the survey; these areas are identified on the results maps in Confidential Appendix C.

6.1 RECORDATION METHODS

All previously recorded sites within or adjacent to the APE were visited. Examination of these sites focused on relocating previously recorded features, concentrations, or diagnostic artifacts within the site, then walking meandering transects spaced no more than 15 meters apart, and flagging any additional artifacts or features observed. If artifacts were observed beyond the previously mapped site boundary, crews continued their transects until they no longer observed cultural materials on the surface or artifact densities dropped significantly. Sketch maps were assessed to determine whether they needed to be updated to reflect current site conditions or more modern recording methods (GPS).

In accordance with INF standards, newly identified archaeological sites were defined as 10 or more artifacts in a 10-x-10-meter area. If deposits included mixed artifact classes (i.e., flaked and ground stone artifacts, midden, brownware pottery, and/or historic items), the 10-item requirement was abandoned, and the resource recorded as a site. Site perimeters were delineated by a 20-meter break in surface artifacts.

New sites were fully documented following the recordation procedures outlined in Instructions for Recording Historical Resources (OHP 1995), using the appropriate California Department of Parks and Recreation (DPR523) forms. The recordation of new sites included documentation, photographs, and GPS of all features, formed artifacts, and site boundaries. Additional artifacts, such as fragmentary glass or debitage, were roughly quantified and a representative sample assessed for additional information (e.g., glass color, flake type). Any site disturbances were noted and photographed as appropriate. Isolates were recorded on a project isolate log; per INF, no DPR523 forms were prepared for isolated finds. No artifacts were collected during the inventory.

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6.2 National Register of Historic Places Evaluation Methods

Archaeologists evaluated archaeological sites both as an individual resources and as potential contributors to a previously identified historic district when appropriate. In instances where additional information was required to complete an evaluation, that was noted.

When possible, archaeological sites within the APE were evaluated for their significance by the guidelines laid out under the NHPA and codified by the NPS in its primary NRHP Bulletin 15, *How to Apply the National Register Criteria for Evaluation*:

- **Criterion A:** Resources that are associated with events that have made a significant contribution to the broad patterns of our history.
- **Criterion B:** Resources that are associated with the lives of significant persons in our past.
- **Criterion C**: Resources that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
- **Criterion D**: Resources that have yielded or may be likely to yield, information important in history or prehistory [NPS 1997:2].

In addition to significance under one or more of the criteria listed above, a resource must also possess integrity, defined by seven aspects as follows:

- **Location:** the place where the historic property was constructed or the place where the historic event took place.
- **Design:** the composition of elements that constitute the form, plan, space, structure, and style of a property.
- **Setting:** the physical environment of a historic property that illustrates the character of the place.
- **Materials:** the physical elements combined in a particular pattern or configuration.
- **Workmanship:** the physical evidence of the crafts of a particular culture or people during any given period of history.
- **Feeling:** the quality that a historic property has in evoking the aesthetic or historic sense of a past period of time.
- **Association:** the direct link between a property and the event or person for which the property is significant [NPS 1997:44–45].

Because the criteria of the California Register of Historical Resources (CRHR) generally align with that of the NRHP, resources were also (by default) evaluated under this evaluative framework, which is codified at California Code of Regulations, Title 14, Division 3, Chapter 11.5, Section 4850 et seq.

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7.0 SURVEY RESULTS

The total area of the APE is approximately 619 acres. Systematic archaeological survey with 100 percent coverage was conducted on 203 of those acres (Confidential Appendix C). The remaining acreage was excluded from the survey due to steep slopes or open water (Table 7-1). Ground-surface visibility in the accessible portions of the APE was generally good except in riparian corridors. Maps depicting the areas surveyed are located in Confidential Appendix C.

Table 7-1. Survey Acreage.

Land Mgr.	100% Survey	No Survey	Total
USFS	188	413	601
Private/Other	15	3	18
Total	203	416	619

In total, 20 archaeological sites were revisited or newly identified within the APE (Confidential Appendices C and E). Of these, four were previously recorded and 16 were newly recorded. All four of the previously recorded resources and six of the newly recorded ones also contain built-environment elements, mostly related to the LVHP.

Sites within the APE include precontact lithic scatters and historic-period sites related to the hydroelectric project, recreation, and transportation in the region. Each of the archaeological sites associated with the hydroelectric project is a component of a complex that includes built environment resources as well as archaeological resources. Table 7-2 summarizes the archaeological sites recorded or revisited in 2022.

An in-progress survey by Environmental Intelligence, LLC (EI) of portions of the current survey area prompted a coordinated recording effort of two resources, the Rhinedollar Dam Complex (P-26-002437) and Tioga Pass Road (P-26-008527). Those site records will appear both in this report (Confidential Appendix E) and in the EI survey report.

Fourteen archaeological isolates identified during the inventory are depicted in Confidential Appendix C and listed in Confidential Appendix D. Three are precontact while the rest date to the historic period. The precontact isolates consist of isolated obsidian flakes or nodules. The historic-period isolates are artifacts related to mining, logging, and recreation.

All archaeological sites are on INF land; three of them also extend onto SCE land. All except one of the isolates is on INF land.

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Table 7-2. Archaeological Sites.

CA Primary No	Trinomial	USFS No.	Temp. No	Age	Summary description	Land Mgr.
P-26-002437	CA-MNO-2437/H	05045101163	-	M/BE	Rhinedollar Dam Complex (archaeological elements)	USFS/ SCE
P-26-003308	CA-MNO-3247H	05045101259	-	H/BE	Tioga Pass Resort (archaeological elements)	USFS
P-26-006236	-	05045101683	-	H/BE	Rhinedollar 12 kV Circuit (archaeological elements)	USFS/ SCE
P-26-008527	CA-MNO-6160H		-	H/BE	Tioga Pass Road segments	USFS/ SCE
-	-	-	LV01	H/BE	Poole Powerhouse Complex (archaeological elements)	USFS
-	-	-	LV02	M/BE	Flowline, Tunnel, Penstock (archaeological elements)	USFS
-	-	-	LV06	P	Lithic scatter	USFS
-	-	-	LV07	H/BE	Tioga Dam Complex (archaeological elements)	USFS
-	-	-	LV09	P	Lithic scatter	USFS
-	-	-	LV10	H/BE	Saddlebag Lake Road	USFS
-	-	-	LV11	H	Machinery	USFS
-	-	-	LV12	M	Waste rock field; millingslick	USFS
-	-	-	LV13	H/BE	Saddlebag Dam Complex (archaeological elements)	USFS
-	-	-	LV14	H/BE	Saddlebag Wilderness Cabin Complex (archaeological elements)	USFS
-	-	-	LV15	H	Debris scatter	USFS
-	-	-	LV16	H	Debris scatter	USFS
-	-	-	LV17	H	Trench	USFS
-	-	-	LV18	H	Abandoned road alignment	USFS
-	-	-	LV19	H	Abandoned road alignment	USFS
-	-	-	LV21	H	Ditch	USFS
Note: P: Precontact; M; Multicomponent; H: Historic-period; BE: includes built-environment elements.						

7.1 Previously Recorded Archaeological Sites Not Located During Survey

Two previously recorded archaeological sites that were mapped within the APE were not re-located during the 2022 survey. Archaeological site P-26-000016 was a lithic scatter documented in 1952 and not subsequently recorded since then. During the current survey, a diligent survey of the reported site location failed to reveal any cultural material, except for a single flake just outside the plotted location; this flake was recorded as an isolate (ISOLV04). Archaeological site P-26-002417 was a lithic scatter documented in 1984 and determined not eligible for listing in the NRHP in 1988 (FERC821004D). Again,

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a diligent search of the area failed to reveal any cultural material despite a high degree of certainty in the previous mapping. The area has a heavy cover of riparian vegetation.

7.2 Previously Recorded Archaeological Sites Located Within the APE

The crew revisited four previously recorded archaeological sites within the APE. All four sites are part of complexes also containing built enviornment resources (see Table 7-2). The archaeologists and architectural historians worked together to prepare updated DPR 523 documentation for these resources. The combined records are presented both in Confidential Appendix C of this report and in a corresponding appendix of the built-environment resources report.

7.2.1 P-26-002437 (CA-MNO-2437H; FS 05045101163; Rhinedollar Dam Complex)

A portion of the former, historic-period construction camp associated with the Rhinedollar Dam was initially recorded as archaeological site P-26-002437 by Archaeological Research Services in 1988, as part of the previous relicensing effort. The site was revisited and the site boundary was expanded by the Archaeological Research Center in 1996. As a result of these previous recording efforts 18 features were documented on either side of Tioga Pass Road. The site was determined not eligible for listing in the NRHP in 1989 (FERC821004D).

Teams from Environmental Intelligence (EI) and FW and HRA visited the site during concurrent cultural resource inventories for SCE in 2021 and 2022 respectively. They noted that the previously recorded features included a building, a structure, refuse concentrations, and features. EI and FW/HRA conducted a complete update of the site that included renumbering the features to reflect the distinctions between built environment resources, archaeological features, and refuse concetrations, and expanding the site into the Rhinedollar Dam Complex, made up of a precontact component, a historic-period archaeological component, and a historic-period built enviornment component (Waldroop 2022). The archaeological component of the complex consists of 36 features and 14 artifact concentrations classified geographically into 4 archaeological loci (Loci A – D).

Locus A covers an area that measures 880 feet (northeast/southwest) x 470 feet (northwest/southeast). It encompasses the previously recorded portion of the archaeological site and represents the remains of the Rhinedollar Dam construction camp. The precontact component of P-26-002437 is a single obsidian biface fragment (A1) observed in Locus A. Historic-period features in Locus A include a staircase (F1) adjacent to the cabin, concrete tank foundations (F2), an eye bolt (F3), a pipe connected to the cabin (F4), a concrete pad with an associated pipe, eyebolt, and footings (F5.1-F5.3), a road (F6) with a pipe extruding underneath (F6.1), toppled utility and communication line infrastructure (F7, F11.1), a stone-lined pit (F8), two adjacent concrete pads (F9, F10), a concrete footing (F12), a ferrous cistern (F13), a pipe trench (F14) with associated pipes (F14.1-F14.3), a short rail segment (F15), a rail segment and square depression (F16), another pipe segment (F17), a square depression (F18), a large reservoir and dam (F19) a pipeline (F20), another related pipeline (F21) with associated

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pipe segments (F21.1-F21.4), a circular wooden spring box (F22), a penstock segment with an associated retaining wall/floodgate (F23), a buried penstock/reservoir spillway (F24), a stone foundation (F25), a series of concrete pads with metal drains (F26), and an oval depression (F27). A modern campfire ring within the site boundary was designated as F28. Twelve artifact concentrations (C1-C12) were documented in Locus A. They consist of a mix of architectural, industrial, domestic, and personal artifacts. Additional historic-period refuse is sparsely scattered throughout the remainder of Locus A. Modern disturbances observed in Locus A include a late-historic-period or early-modern-period campfire (F28). A single precontact artifact, an obsidian biface, was recorded in Locus A.

Construction and updates to Rhinedollar Dam took place in stages between 1917 and 1927. The construction camp associated with the dam had at least three bunk houses, a cook's house, and a blacksmith's shop (Diamond and Hicks 1988:26-34). Locus A consists of the remnants of the construction camp. Temporally diagnostic artifacts identfied in that locus indicate that the site was used during the construction period (1917–1927). Bottles with makers marks from Lavoris Chemical Co., Pacific Coast Glass Go., Owens Bottle Co., and Illinois-Pacific Glass Co. conform tightly with the dam construction period (Bay Bottles 2021, Briggs 2010; Lockhart et al. 2016, 2018). Other temporally diagnostic glass bottle fragments identified in concentrations at the site, including Owens Illinois Glass Co. Bottles (one with a Duraglas mark) and a Glass Container Corps bottle, post-date the construction period (Lockhart and Hoenig 2018, Lockhart et al. 2015), indicating that the site was likely used though the mid-twentieth century, potentially for maintenance and operations activities at the dam.

Locus B measures 75 feet (east-west) by 60 feet (north-south) and consists of footings and machinery mounts likley associated with construction or maintenance of Rhinedollar Dam. Features in Locus B include two concrete machinery mounts (F29 and F30), two concrete footings (F31 and F32), boulders modified with drill holes (F33 and F34) and the stub of a wooden post (F35). One small concentration of industrial debris (C13), including a segment fo rubber hose, wood pole fragments, heavy gauge wire segments and two 40d nails, is also located in Locus B. Other artifacts within Locus B include a displaced railroad rail, a 0.5-inch-diameter metal rod, 16 wire nails of various dimension, two screws, one wire rope, and wire and glass fragments. Modern use of the area, which is situated at the edge of a graded and graveled parking pad along Tioga Pass Road, is evident from the presence of modern debris (a plastic yogurt container, a solo cup). Though the industrial mounts, footings, and debris in Locus B are temporally nondiagnostic, they are likely associated with the twentieth-century construction and maintenance of Rhinedollar Dam.

Locus C consists of a monolith inscribed "A. O. Biglow. / JORD" (F36). The base of the rock measures 15.5, 12, and 14 feet on the northeast, south, and northwest sides respectively. It is 11.5 feet tall. No artifacts were identified in the vicinity of the monolith. No disturbance to the monolith was noted. Online searches on Google, Ancestry.com, Newspapers.com, and the Huntington Library's digital collection produced no information on this individual.

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Locus D is a small concentration of temporally nondiagnostic structural and/or industrial material, including wood, nails, and sheet metal, resting against the earthen berm at the northeast end of the complex. It measures 17 feet (north-south) by 12 feet (east-west). No disturbances were noted in Locus D.

A light background scatter of temporally nondiagnostic objects, such as sheet metal fragments, exists in the are northeast of the Rinedollar Dam. The loci boundaries were not expanded to included those items, as they are temporally nondiagnostic and are likely associated with operations and maintenance activities on the Rhinedollar Circuit, which was reconstructed in the vicnity in the 2010s, or the flowline.

7.2.2 P-26-003308 (CA-MNO-3247H; FS 05045101259; TIOGA PASS RESORT)

The Tioga Pass Resort was initially documented on an archaeological site form in 1996 and determined to be a historic district in 1997 (USFS970709A). The district contains a number of built environment resources, which are discussed in the Built Environment report (Waldroop 2022). The artifacts listed on the original site form were re-located by the archaeological crew in 2022. They are best classified as objects on display for resort visitors. The objects include a flywheel from the Hess Mine, a Fresno scraper, and an ore bucket from the Sierra Mine (Cutts and Faust 1996). The flywheel is chained to a tree near the entrance of the resort. The Fresno scraper and ore bucket are currently located near the corner of one of the sheds within the district.

During the 2022 inventory, archaeologists located an archaeological component within the district. It consists of a small scatter of bottle glass covering an area measuring 5 meters northwest-southeast by 1.8 meters north-south. The glass fragments represent a minimum of three bottles (two green and one colorless). The two green bottles were for 7-Up and a beverage manufactured by the White Rock Company. The “Duraglas” logo on the two green glass bottle bases date the archaeological component of the district to the mid-twentieth century (1949–1963). The date code “49” on one of the bottle base fragments indicates a 1949 manufacture date for that bottle (Lockhart and Hoenig 2018). No disturbances to the scatter were observed during the inventory.

7.2.3 P-26-006236 (FS 05045101683; RHINEDOLLAR 12KV CIRCUIT)

The Rhinedollar Circuit is an electrical distribution system that runs between the Poole Powerhouse Complex and the Operator’s Cabin on the north bank of Ellery (Rhinedollar) Lake. The built environment resource was documented on an archaeological site form in 2010, in advance of the Rhinedollar (Overhead) 12kV Distribution Circuit Rebuild Project. At that time, Switalski and Bardsley noted that the original alignment for the distribution circuit likely followed the penstock alignment, as remnants of wood pole supports were observed along the penstock (Switalski and Bardsley 2011:14). Switalski and Bardsley (2011) assessed the Rhinedollar Circuit as not eligible for listing in the NRHP. The California SHPO concurred on June 6, 2011 (USFS110413A). The rebuild of the line occurred circa 2011 (Audry Williams, SCE Senior Advisor, Archaeology Program, personal communication with author, October 11, 2022).

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During the 2022 survey, archaeologists noted remnants of the previous infrastructure, a toppled pole, ceramic insulator fragments, and a concrete footing for one of the removed towers abandoned in place in the boulder field northeast of the Rhinedollar Dam. A metal anchor and braided steel cable fragments were also noted along the alignment, upslope from the boulder field.

7.2.4 P-26-008527 (CA-MNO-6160H; TIOGA PASS ROAD)

During the 2022 inventory, HRA's Architectural Historians documented the Tioga Pass Road (CA-120) between Hwy 395 and the boundary of Yosemite National Park. The present-day road alignment was completed between 1965 and 1970. The road is approximately 12 miles long and is a paved two-lane highway, running generally east and west (Waldroop 2022). Two abandoned segments of previous alignments of Tioga Pass Road were documented beyond the APE in advance of 2020. During a 2021 cultural resources inventory for SCE's transmission lines, EI documented two more abandoned segments of the resource, one falling within the current APE and one east of the APE. During the 2022 survey, FW and HRA archaeologists revisited the abandoned segment documented within the APE. They also documented two additional abandoned road segments within the APE. Due to the concurrent timing of their reporting, EI and FW/HRA collaborated to update the record for P-26-008527 to include the built environment component and the four newly recorded, abandoned segments of early- to mid-twentieth-century alignments of Tioga Pass Road.

Segment A (Feature 1) is the alignment of the former roadway on the north bank of Lee Vining Creek, east of its confluence with Mine Creek. It is located within the APE. This segment was disturbed by construction of Saddlebag Lake Road. East of Saddlebag Lake Road the alignment has been repurposed as a hiking trail. The bench on which the roadbed was situated is between 17 and 18 feet wide. The roadbed, where it is still visible, is approximately 8 feet wide. Long patches of deteriorating asphalt are visible along the edge of the former roadbed. Other portions of the alignment have degraded to a 2 foot-wide footpath. Two metal culverts (Features 2 and 3) are located under the alignment in washed out sections east of Saddlebag Lake Road. One metal guardrail is placed perpendicular to the alignment, at a point where the roadbed narrows to a footpath. The guardrail has been tagged with graffiti. The portion of the alignment west of Saddlebag Lake Road is ephemeral and marked by two patches of deteriorated asphalt.

The Tioga Road is mapped along the north bank of Lee Vining Creek in the 1910s and 1920s (USGS 1910, 1927). The section of the road between Tioga Pass and Ellery Lake was paved, widened, and realigned between 1939 and 1940 (Trexler 1980). The map from 1948 is at a scale too large to make segment-specific interpretations; However, this section of the road was still in use after the route was paved in 1939–1940. By 1953, the realigned segment south of the creek is documented on a topographic map (AMS 1948; ASCE 2002; USGS 1955).

Segment B (Feature 4) is a wide stretch of road prism northwest of the present-day alignment northeast of Ellery Lake. It is located within the APE. Artifacts identified on the roadbed include a wood utility pole and crossbeam with metal hardware, a church key-opened sanitary can, and a modern aluminum Meister Brau beer can. A ditch (Feature 5)

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and large pit (Feature 6) were also documented in the vicinity of Segment B. The function of the pit is unknown, though it may be a borrow pit or a water control feature associated with the road alignment. Segment B indicates that Tioga Road followed a wider curve than the present alignment at some point before the reconstruction of the road in the 1960s. Deteriorating pavement along this segment indicates that it was in use after 1940. The topographic maps of the region show that the road followed different alignments that the present roadway but they are not drawn at scales that allow for interpreting a narrower period of use for this segment (AMS 1948, USGS 1927, 1955).

Segment C (Feature 7) was submerged under Ellery Lake during the 2022 fieldwork. A total of 0.4-mile of road was recorded during the EI's 2021 survey. It is within the APE. EI tracked submerged section with field observations, archival research, and by reviewing aerial imagery. The northwest section of the Segment C appeared to be largely intact, while the southeastern section appeared weathered and ephemeral. I. The intact, northwest portion suggests that the road consists of a dirt road lying on top of a bed of cobbles and boulders with roughly square/rectangular paving stones lining either side of the road. In places, the feature is stacked to a height of 3–4 feet. There is also a submerged stone and log bridge (Feature 8) located along the northwestern extent of the feature. The bridge was photo-documented by the Mono Lake Committee during SCE maintenance on the Ellery Lake Dam in September 2009 (Reis 2009). The northwest portion is submerged to a depth of approximately 8–10 feet. The southeastern portion is more weathered and ephemeral than the northwestern portion and appears to represent the remains of the boulder and cobble bed on which the dirt road used to lie. The alignment of the southeastern portion is traceable along the southeastern shores of Ellery Lake until it is buried under the current grade of Hwy 120. A small, submerged stacked-stone feature (Feature 9) is located perpendicular to the southeastern portion of the road segment. The feature is rectangular in shape and is of unknown function, but appears related to the adjacent roadbed. FW and HRA revisited the shore and terraces above Segment C in 2021 and took additional photographs of the submerged roadbed. Segment C represents an alignment of Tioga Pass Road In use between 1905 and 1924, when the Southern Sierras Power Company realigned the road around the north side of the heightened reservoir at Ellery Lake (Diamond and Hicks 1988:26–34)

Segment D (Feature 8), documented on the resources DPR form, is located outside the APE. A portion of Segment D was previously recorded by GANDA in 2018, and revisited and expanded by EI in 2021. FW and HRA did not revisit Segment D during this inventory. Two additional abandoned segments of Tioga Pass Road have been previously recorded, beyond the APE and were not revisited during the current inventory. They include a segment west of Tioga Lake documented in 2013 as P-26-007502 and a segment documented in 2009 as P-26-005847.

7.3 Newly Recorded Archaeological Sites

Sixteen newly identified archaeological sites were documented within the APE. Six of the newly identified archaeological sites are part of complexes that also contain built environment resources. The crew prepared DPR 523 documentation for each newly recorded archaeological site, working with the architectural historians to prepare the

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documentation for the complexes, as appropriate. Site records for these complexes are presented both in this report and in the accompanying built-environment report. Site locations are plotted on the maps in Confidential Appendix C.

7.3.1.1 LV01 (Poole Powerhouse Complex)

Ten archaeological features and three artifact concentrations were identified and recorded in the vicinity of the Poole Powerhouse. They make up the archaeological component of the Poole Powerhouse Complex. The archaeological features and concentrations are grouped geographically into two Loci (A and B).

Locus A is generally situated on the slope southwest of the triplex cottage, wrapping around to the leveled area northeast of the triplex cottage. It covers an area with maximum dimensions of approximately 105 meters east-west by 50 meters north-south. Five archaeological features (Features 1 through 5) were recorded in Locus A: a metal lattice structure (Feature 1) for a utility line; a 20 foot-long segment of intact trail and retaining wall (Feature 2); board-formed concrete pads for propane, oil, or above ground septic tanks (Features 3 and 4); and a pipe fixture (Feature 5) protruding vertically from the ground. One aftifact concentration (Concentration A) is made up of architectural and domestic artifacts, including a post-1976 Albertsons coffee can (1000Logos 2022a). Other, temporally nondiagnostic and modern debris was found scattered across the hillside in Locus A. This debris includes clay pigeon fragments in the eastern portion of Locus A, and braided cable, a pulley, and wood utility pole fragments among the trees in the western portion of the locus, upslope from the triplex. Evidence of modern vegetation management was also observed in Locus A, where branches have been cut and left on the slope surface.

Locus B is located at the north side of the complex, where a creek wraps around the north side of the switchyard, and associated buildings. It covers an area wit maximum dimensions of approximately 86 meters east-west by 30 meters north-south. Features in Locus B consist of a concrete pad (Feature 6), two mortared rock alignments (Features 7 and 8), a tree with three attached communications insulators (Feature 9), and a grounding rod and concrete pad (Feature 10). Two artifact concentrations (Concentrations B and C) were recorded in Locus B. Concentration B contains a mix of mid-twentieth century and temporally nondiagnostic domestic, industrial, personal, and transportation-related artifacts. Concentration C is made up of temporally nondiagnostic metal hardware. Sediments in the vicinity of Concentration B suggest that the area has been subjected to flooding from the creek that runs through this portion of the complex.

The Poole Powerhouse complex was constructed between 1920 and 1927 (Waldroop 2022 for more detail about individual structures within the complex). The triplex within the complex was last occupied in the 1960s (personal communication SCE Senior Advisor, Archaeology Program, Audry Williams, October 11, 2022). The powerhouse is currently operated by SCE as part of the LVHP. Features recorded within the archaeological component of the Poole Powerhouse complex include infrastructure of the complex that has fallen out of use. Unfortunately, none of the features in this locus appear on the maps of the complex (SCE 1984, SSP 1927).

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Concentrations A and C are predominantly made up of temporally nondiagnostic artifacts, with the exception of the early-modern-period coffee can in Concentration A. Concentration B is characterized as as a mid-twentieth-century deposit. The dispersal of the artifacts makes it unclear whether the concertation was the result of one cleanout episode from the triplex or the result of several dumping episodes likely by power company employees maintaining the equipment and electrical lines at the powerhouse.

7.3.2 LV02 (FLOWLINE, TUNNEL, PENSTOCK)

LV02 is a multicomponent resource organized geographically into five loci along the alignment of the flowline, tunnel and penstock within the APE. The precontact archaeological component is a single piece of obsidian debitage identified in Locus C. The historic-period archaeological componet of this resource consists of the remnants of two linear resources, a tramway and a utility and/or communications line that were part of the LVHP. The historic-period archaeological component includes 11 features, 2 artifact concentrations, and scattered historic-period artifacts.

Locus A is comprised of one berm segment for the tramway (Feature 1). Locus B contains a long berm for the tramway (Feature 2), metal anchors (Features 3, 5, and 6), a winch for the tramway (Feature 4), two artifact concentrations (Concentrations A and B) and a few scattered historic-period artifacts, including a coloress glass Pepsi bottle finish fragment with a logo dating to the 1940s (Kramer 2019). Locus C contains Feature 7, a toppled wood utility pole with communications insulators and a scatter of mid-twentieth-century historic-period artifacts. Loci D and E each contain additional remnants of the former communication line, including an insulator nailed to a tree (Feature 8) in Locus D and cut or toppled wood utility poles (Features 9–11) in Locus E.

Infrastructure in support of the LVHP was in development as early as 1917. Power and telephone lines from the Project's future Headquarters Camp to the Rhinedollar Dam site were installed in that year. In 1919, a tramway that the Nevada—California Power Company had used during construction of the Rush Creek Hydroelectric Project was disassembled and relocated to the LVHP, were it was used during construction of the penstock above the Lee Vining No. 1 Powerhouse (Poole Powerhouse). Workers graded the route for the tramway (Features 1 and 2) in 1920 and laid the first 300 feet of track that same year. Installation of the tramway (and the winch [Feature 4]) was completed in 1922, after the Southern Sierra Power Company took over the LVHP (Diamond and Hicks 1988). The tramway is noted with the penstock on the GLO plat of the area in 1925 (USSG 1925). The present alignment of the distribution line between the Poole Powerhouse and the Rhinedollar Dam Construction Camp, which deviates from the penstock alignment, was constructed in 1924, or shortly thereafter (Switalski and Bardsley 2011), suggesting that the utility line following the penstock (Features 7, 8, 9, 10, and 11) was decommissioned at that time. The infrastructure may have continued to support a communication line.

Artifacts scattered in Loci B and C indicate continued use of the area after construction of the penstock, tunnel, and flowline were completed. The Pepsi bottle in Locus B and the cone top can (1936–1942 [Gauger 2021]) and Mission Beverages soda bottle (post-1933 [Lockhart et al. 2019]) in Locus C may have been discarded by LVHP workers maintaining

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the infrastructure. It is also possible that these items were discarded by recreationists following the access road to the junction of the standpipe, flowline, and penstock. Of note, additional segments of the tramway alignment along the penstock were observed between the powerhouse and the standpipe. They could not be reached due to steep slopes between Locus A and Locus B.

7.3.3 LV06

This site is a precontact flake scatter actively eroding out from an exposed shoreline on the north side of Tioga Reservoir. Although only 12 flakes were documented, this could be the edge of a larger deposit or feature.

7.3.4 LV07 (TIOGA DAM COMPLEX)

The archaeological component of the Tioga Dam Complex consists of a quarry southeast of the dam. The quarry measures 34 meters (110 feet) north-south by 21 meters (70 feet) east-west. Its maximum depth is about 20 feet at its southern edge. One angle iron was identified at the western edge of the quarry. A fragmentary metal canister of unknown dimension was noted near the northern end of the quarry.

The Nevada-California Power Company began excavation of the Tioga Reservoir in 1917 as part of the intial construction fo the LVHP. THe work was halted and the resumed under the Southern Sierras Power Company in 1924. Construction of the rockfill, wood-faced Tioga Dam was completed in 1929 (Diamond and Hicks 1988:26–34). Due to settling, rock fill was added to the top of the dam in 1959 (Williams and Hicks 1989:B-26). Although the quarry does not appear on as-builts of Tioga Dam (SCE 1969), its location adjacent to the dam associates it with the complex. As such the quarry's period of use dates between 1917 and 1959.

No disturbances were observed within the quarry. A modern trail is located east of the quarry, a modern picnic area is located immediately south of the quarry. Eyebolt anchors were observed south and east of the quarry. They were not recorded as part of the archaeological component because they are temporally nondiagnostic. One is currently being used to secure cable and a tree floating at the edge of Tioga Lake.

7.3.5 LV09

This site is a small precontact lithic scatter located along the southwest side of Tioga Lake. Field personnel observed and documented 11 flakes and the base of an arrow-sized triangular projectile point.

7.3.6 LV10 (SADDLEBAG LAKE ROAD)

The archaeological component of Saddlebag Lake Road consists of three features within an area measuiring approximately 40 meters north-south by 32 meters east-west. The features are: an 85-foot long segment of abandoned road (Feature 1) situated on a terrace between the modern alignment of Saddlebag Lake Road and Lee Vining Creek; a trench (Feature 2); and an earthen berm (Feature 3). Two segments of braided steel cable are

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partially exposed along the southwest edge of Feature 1, where the alignment appears to have been undercut by the creek below. One modern aluminum soda can for Orange Slice was observed on Feature 1. One modern juice can was observed on Feature 3.

The roadbed (Feature 1) is interpreted as an early alignment of Saddlebag Lake Road the predates the current alignment of the road. Maps of the area do not provide enough detail to determine when Saddlebag Lake Road was realigned, or otherwise improved, though asphalt on portions of the modern alignment indicates that road improvements have been undertaken since 1940, when Tioga Pass Road to the south was first paved (AMS 1948; Trexler 1980; USGS 1960; USSG 1925). The function(s) and construction date of Features 2 and 3 are unknown, though they may be the result of water control efforts along the modern alignment of Saddlebag Lake Road They form the edge of a graded area at the toe of the slope at the edge of Saddlebag Lake Road.

7.3.7 LV11

This site is comprised of five pieces of machinery and associated landscape modifications on the bank of Lee Vining Creek. The site boundary encompasses an area measuring 30 meters north-south by 12 meters east-west. Archaeologists identified four features within the site boundary: a piece of unidentified machinery (Feature 1), a rock pile (Feature 2), a depression (Feature 3), and a square rock alingment used as a modern campfire ring (Feature 4). The shape and size of Feature 4 suggest that it may have originally been a footing for machinery and repurposed as a fire pit. The artifacts at the site include four pieces of machinery that are classified as more easily movable than Feature 1. See the DPR for details and photographs.

No land ownership was documented along Lee Vining Creek on the General Land Office plats, though the location of Bennettville, east of Lee Vining Creek, is recorded and the “Bennettville and Lundy Telephone Line” crosses the creek north of the site in 1895 (USSG 1895, 1925). No land patents in Section 18 of Township 1 North Range 25 East, the location of the machinery, are on file in the GLO Land Records online database (BLM 2022). No mining claims in this section are documented in the online California mining claims map (Land Matters 2022).

7.3.8 LV12

This multicomponent site is located on Lee Vining Creek. The site boundary encompasses an area measuring 285 meters north-south by 115 meters east-west.

The precontact component of the site consists of a millingslick on a low granite boulder (Feature 1) and one piece of obsidian debitage (Artifact 1).

The historic-period component of the site consists of a waste rock field. Archaeologists identified five historic-period features (Features 2 through 6) within the site boundary: an oval rock alignment (Feature 2), a large pit (Feature 3), depressions (Features 4 and 5) and an abandoned road alignment (Feature 6). In addition, the site contains 16 piles of waste rock (Waste Rock Piles A through O) and 4 earthen berms (Berms A through D) of various shapes and dimensions. The waste rock in the piles consist of angular to

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subangular local fieldstone. Each of the waste rock piles is generally oriented northwest-southeast, perpendicular to Lee Vining Creek.

Relatively few historic period artifacts are located within the site boundary. They include a colorless glass Pepsi bottle neck and finish with a metal crown cap closure (date of manufacture 1940–1950 [Artifact 2]), a church key-opened sanitary can, and three fragments of a colorless glass jar with a “Ball” makers mark (dating c. 1960 to present) and a threaded finish (Kramer 2019, Lockhart et al. 2022).

The Nevada-California Power Company enlarged Saddlebag Lake, a natural alpine lake approximately 0.4 miles upstream from the site, for use as a reservoir for the Lee Vining Hydroelectric Project (LVHP) in the early twentieth century. Reservoir enlargement and construction of the dam at the south end of Saddlebag Lake began in 1917. Dam construction was completed by 1921 (Diamond and Hicks 1988). A sawmill for the project was constructed on the terrace east of the site (SCE 2019). A search of the General Land Office (GLO) records revealed that all of Township 1 N 24 E Section 12, in which the site is located, was one of several tracts withdrawn by a Secretary’s Order for the Owens Valley Reclamation Project on April 5, 1920. That order was revoked on January 13, 1932 and restored by a GLO order the following day (GLO 2022b). However, it is unknown whether the features at the site were the result of work associated with either the LVHP or the Owens Valley Reclamation Project.

Information at Mindat.org revealed no mining claims in this location. The amount of rock contained in the waste rock piles at the site and the characterization of the rock as angular and subangular suggest that these piles were made up of rock that was not associated with mining ventures in the region.

The site is bisected by the Carnegie Station Trail, which follows the alignment of a former two-track road (archaeological site LV19) to the Timberline Experiment Station. The Timberline Experiment Station was constructed in the 1930s. The two-track road was first mapped by the USGS in 1956 (USGS 1960). Archaeologists recording the site observed several hikers on the trail in July 2022. Modern campfire rings were observed on top of Berm A, east of Waste Rock Pile N and on elevated areas off of the hiking trail west of the site boundary. Other modern use of the site is indicated by a small wood bench placed on the east bank of the creek and two solar-powered monitoring apparatuses attached to trees on the east side of the creek. These modern features, along with the two temporally diagnostic artifacts discussed above, indicate that the area has been used throughout the second half of the twentieth century and the first quarter of the twenty-first century.

7.3.9 LV13 (SADDLEBAG DAM COMPLEX)

The archaeological component of the Saddlebag Dam complex consists of two loci containing features and artifacts associated with the construction and maintenance of Saddlebag Dam. Locus A covers an areas with maximum dimensions of 140 meters north-south and 140 meters east-west. It contains four features: a quarry (Feature 1) at the west end of the dam, a wood post (Feature 2) at the edge of the quarry, an abandoned two track access road (Feature 3) to reach the upstream-side of the dam, and an earthen pad (Feature 4) reinforced with chicken wire, that was likely used for construction

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equipment. Three concentrations of iron spikes and nails (Concentrations A, B, and C) are located within Locus A.

Locus B is made up of a single concentration (Concentration D) covering an area measuring approximately 5 meters north-south by 5 meters east west. Artifacts within the concentration are 11 segments of discarded trash rack (a.k.a. grizzly) used primarily at an itake pipe to keep debris out.

The features and concentrations appear intact and relatively undisturbed (with the exception of Feature 2, which has been tagged with graffiti); however, aerial photography indicates that the portion of Locus A in the lake bed north of Saddlebag Dam has been fully submerged, partially submerged, and fully exposed multiple times as reservoir levels fluctuated between 1980 and the 2020 (NERTOnline 1980, 1984, 1985, 1993, 1998, 2005, 2009, 2010, 2012, 2014, 2016, 2018, 2020). Evidence of recreational activity was observed throughout the vicinity. The western portion of the Saddlebag Lake Loop Trail crosses through Locus A. Archaeologists observed several hikers using that trail while they recorded the site. A small rock, marked “1976,” was noted on the slope south of Feature 1.

The Nevada-California Power Company began excavating to enlarge and deepen Saddlebag Lake in 1917. In that same year, the company constructed an office building in the vicinity of the future dam location. Construction of the Saddlebag Dam began in 1920 (Diamond and Hicks 1988:27–28). Construction Engineer E. J. Waugh described the work in 1920, noting, “Air drills started in the quarry June 19th, the derricks were working July 1st, and the electric hoist operating the dump cars within a week thereafter” (Waugh 1921:16, as cited in Diamond and Hicks 1988:28). The initial construction of the rockfill dam was completed in 1921 (Waugh 1922:20 as cited in Diamond and Hicks 1988:28). Unfortunately, none of the features recorded at the site, including the quarry mentioned by Waugh, appear on maps of the Saddlebag Dam Complex (CEPC 1954, SCE 2014; SSP 1920, 1925; Waugh 1921:16 as cited in Diamond and Hicks 1922:28).

The upstream face of the dam was planked with redwood (Williams and Hicks 1989:B-31). SCE records indicate that the dam underwent restoration in the 1940s, which included refacing of the dam. Photographs of the 1940s restoration efforts shows the dam, the quarry (Feature 1), the access route to the upstream face of the dam (Feature 3), and multiple piles of construction materials (possibly removed redwood facing) in the approximate locations of Concentrations A, B, and C.

7.3.10 LV14 (SADDLEBAG WILDERNESS CABIN COMPLEX)

The extant Saddlebag Wilderness Cabin was constructed in by the USFS in 1930 (Ashley Blythe Haverstock, Assistant Forest Archaeologist, INF, email communication with author, October 26, 2022). The associated archaeological component of this resource is located downslope from the extant building and covers an area measuring apprximatey 43 meters east-west by 19 meters north-south. Archaeologists recorded three features at the site: an intact stone foundation (Feature 1), a small depression (Feature 2), and a cleared pad cut into the natural slope (Feature 3). Two fragments of amber glass, including one base fragment of a panel bottle were observed on Feature 3. A scatter of

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fieldstone with mortar fragments on the stones is located on the slope east of Feature 1 and below Features 2 and 3. A few pieces of colorless bottle glass, including a bottle glass base fragment embossed “[LOS ANGE]LES, CA,” were also observed within the boundary of the archaeological site. No disturbances to the site were noted during the inventory.

As noted previously, the extant building was constructed in 1930. Two structures are first documented in this vicinity by the USGS on a topographic map in 1956. However, the structure symbols are situated along the edge of the two-track road to the north, which does not match the location of Feature 1 relative to the extant building (USGS 1960). Topographic maps dated 1948, and 1963 are drawn at larger scales and do not map the location of the structures (AMS 1948, 1966). In 1990, a single structure is mapped in this location (USGS 1990).

7.3.11 LV15

This site is a light scatter of temporally nondiagnostic and potentially historic-period debris on a slope overlooking Saddlebag Lake. The scatter covers an area measuring approximately 13 meters east-west by 8 meters north-south. It is comprised of can fragments, colorless and amber bottle glass fragments, bottle caps and a bimetal object. One of the colorless glass bottle fragments features a color applied label that reads “107 / GOLD / MEDAL/ AWARDS.”

The glass fragment with the applied color label (ACL) is the most likely artifact to provide a date for the scatter. The technology for labeling bottles this way was introduced in 1933 and gained popularity by the end of the 1940s, when the labeling process was automated. Some modern bottles are still manufactured with ACL (Lockhart et al. 2019). Internet searches for the phrasing about gold medal awards did not provide any more refined dates. No disturbances to the site were noted, though other temprorally nondiagnostic debris was observed in the general vicinity.

7.3.12 LV16

This site is a light-density can scatter on the slope overlooking Saddlebag Lake. It covers an area measuring approximately 15 meters north-south by 5.25 meters east-west. The can scatter is comprised of one hole-in-top can, seven fragments of sanitary cans (minimum number of vessels [MNV] =3), three church-key opened cans with unknown contents, and one steel Steinbrau beer can opened with a church key on the base. No other artifacts were identified at the site.

Steinbrau Beer was manufactured by the Maier Brewing Company in Los Angeles, California between 1954 and 1968 (Tavern Trove 2022). This beer can is the single temporally diagnostic artifact identified within the can scatter, dating the site to that time period. As no other functionally diagnostic artifacts were identified, it is unclear if the site was created by hikers using the trail to the north of the site or by people recreating on the lake shore. No disturbances to the site were noted.

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7.3.13 LV17

This site consists of a trench cut from the shore of Saddlebag Lake oriented north-south. The trench is approximately 85 meters (275 feet) long and 10 meters (33 feet) wide. The trench and the landform into which it was cut slope up to the north. Bedrock is visible on both sides of the trench. Large boulders and cobbles slump along the three sides of the trench that are not open to the water. Two items were identified in the base of the trench: one fragment of colorless glass and one plastic water bottle. These items are temporally nondiagnostic and modern, respectively.

This linear trench extending from the shoreline of Saddlebag Lake appears to have been excavated mechanically. This most likely occurred during the expansion of the reservoir between 1917 and 1920; however, that cannot be confirmed with the existing topographic maps (SSP 1920, USGS 1901) or by characteristics of the trench itself.

7.3.14 LV18

This resource is the alignment of a former two-track road from the south end of Saddlebag Lake around the east side of the reservoir to the Saddlebag Wilderness Cabin at the north end of the lake. As it was mapped in 1956, the road continued to the northwest to reach Hess Mine (USGS 1960). The road alignment has since been converted into a hiking/pack trail. Only the former road alignment from the south end of Saddlebag Lake to the north end of the lake is documented here due to proximity to the current project's APE. The corridor is approximately 3.7 kilometers (2.3 miles long). The site's character varies from a 0.6-meter (2-foot) wide footpath on a 2.1 to 3.7-meter (7- to 12-foot) wide bench to a 2.1-meter (7-foot) wide two track on a bench up to 4.9 meters (16 feet) wide at various points along the alignment.

Two temporally nondiagnostic corrugated metal culverts were observed crossing underneath the alignment. No precontact or historic-period artifacts were observed on the alignment. The southernmost 0.25 miles of the original alignment has been blocked off to discourage hikers from using that section. A modern trail from the Saddlebag Lake parking lot meets up with the original two-track road alignment approximately 0.25 miles northeast of the parking lot. Several hikers were observed using the alignment during the field session.

By 1947, roads were constructed around the east side of Saddlebag Lake to reach a mine northeast of Saddlebag Lake and across Twenty Lakes Basin to reach the Hess Mine (Nobs 1947, as cited in Woolfenden 1992). The road around Saddlebag Lake and the road continuing on to the Hess Mine were first documented by the United States Geological Survey (USGS) on a 1956 topographic map (USGS 1960). The topographic maps in the 1960s and 1973 record the alignment of the road along around Saddlebag Lake continuing to the Hess Mine. By 1990, the road was converted to a pack trail (NETROnline 1960, 1962, 1964, 1968, 1973, 1990).

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7.3.15 LV19

This resource is the alignment of a former two track road (Feature 1) between Saddlebag Lake Road and the Carnegie Institution of Washington's Research Station (also known as the Timberline Experiment Station) in the Harvey Monroe Hall Research Natural Area. The former road has been converted into a hiking trail between Sawmill Campground (off Saddlebag Lake Road) and the Timberline Experiment Station. The recorded segment of the resource is approximately 0.7 miles long. Where the two-track is still visible, the alignment is between six and eight feet wide. In other portions, particularly around the crossing at Lee Vining Creek, the alignment narrows to a three-foot wide trail. Two features mapped along the trail are a log footbridge (Feature 2) at the creek crossing and a small retaining wall (Feature 3) along a section of the alignment that climbs toward the Harvey Monroe Hall Research Natural Area. No precontact or historic-period artifacts were identified along the alignment. Only one piece of modern debris, a colorless glass beer bottle fragment, was identified along the trail.

Sections of the alignment are in good shape, particulary on the slopes climing out of the valley where upper Lee Vining Creek flows. The alignment is partially washed out at the creek crossing, evident only as a footpath. Other sections of the alignment approaching and within the Harvey Monroe Hall Resource Natural Area have also degraded to a footpath. The trail following the alignment of the former two-track road is frequently used by hikers.

The Harvey Monroe Hall Research Natural Area was one of the first Research Natural Areas (RNA) to be established by the USFS, when it was designated as such on January 7, 1933. The following month, the Carnegie Institution of Washington and the USFS executed a Cooperative Agreement permitting the Carnegie Institution to build a research station, the Timberline Experiment Station, and conduct scientific research in the newly designated RNA. The Carnegie Institution's research in the RNA, primarily focused on genecology, was based at the Timberline Experiment Station until the early 1970s. The Carnegie Institution also reviewed all research activities conducted by other institutions that used their Timberline Experiment Station. The Cooperative Agreement between the USFS and the Carnegie Institute remained in effect in 1992, when a management plan for the RNA was written. By that time, the USFS was responsible for reviewing and approving all applications to conduct research in at the Timberline Experiment Station (Woolfenden 1992).

The two track road between Saddlebag Lake Rd and the Timberline Experiment Station was first documented by USGS on a 1956 topographic map (USGS 1960). The road and the station are mapped through 1973 (NETROnline 1960, 1962, 1964, 1968, 1973). The former road has been converted into a hiking trail between Sawmill Campground (off Saddlebag Lake Road) and the Timberline Station by 1990 and is mapped as such through 1997 (NETROnline 1990, 1995, 1997).

7.3.16 LV21

This site consists of a ditch segment on the east bank of Lee Vining Creek extending for approximately 200 feet until it merges into the toe of the slope below a modern road. At

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the creek's edge, the ditch is excavated into the undulating valley floor. Near the creek, the top of the ditch is 8.5 feet wide; the base of the ditch is 2.5 feet wide; and the ditch is 2 feet 4 inches deep. The ditch narrows as it runs east. At a midpoint: the top of the ditch is 6 feet wide; the base of the ditch is 2 feet wide; and the ditch is 2 feet deep. The ditch fades into the toe of the slope below a modern road. A smashed segment of corrugated metal culvert was noted in this area. It may have fallen from the road above.

A ditch is recorded along the east bank of Lee Vining Creek on the 1895 General Land Office (GLO) plat of this township. Unfortunately, the surveyor appears to have added some extra land while mapping in this mountainous area, so the alignment of the mapped ditch cannot be verified through georeferencing. The ditch does not appear on the 1901 USGS Mt Lyell, CA map or editions of that topographic map updated in 1905, 1908 and 1910. In 1925, the GLO plat documents the alignment of Saddlebag Lake Road, constructed as part of the Lee Vining Hydroelectric Project in 1917 (Diamond and Hicks 1988, USGS 1901, 1905, 1908, 1910; USSG 1895, 1925).

No land ownership was documented on the 1895 plat, though the location of Benettville, east of Lee Vining Creek, is recorded and the "Bennettville and Lundy Telephone Line" crosses the creek north of the mapped ditch (USSG 1895). No land patents in Section 18 of Township 1 North Range 25 East, the location of the ditch, are on file in the GLO Land Records online database (BLM 2022). No mining claims in this section are documented in the online California mining claims map (Land Matters 2022).

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8.0 ARCHAEOLOGICAL SITE ASSESSMENTS AND EVALUATIONS

For ease of NRHP evaluations, the following sections present a typology of the recorded precontact and historic-period site types within the APE. Site types for historic-period resources are based on function and association. The historic-period site categories are hydroelectric development, recreation, transportation, and undefined. The subsections for each site type include tables listing relevant sites, and assessments of NRHP eligibility, when possible. Sites that include both historic and precontact components are discussed under both relevant categories. The assessments of NRHP eligibility are based on the results of the pedestrian survey. No subsurface survey was completed during the 2022 inventory.

8.1 PRECONTACT SITES AND COMPONENTS

There are five sites with precontact components, not including the two sites that could not be located.

8.1.1 P-26-002437 (CA-MNO-2437/H; FS 05045101163; RHINEDOLLAR DAM COMPLEX)

The precontact component in Locus A consists of one obsidian biface fragment, which is classified as an isolated occurrence and thus does not meet eligibility criteria for listing on the NRHP.

8.1.2 LV02

The precontact component of the site consists of one piece of obsidian debitage, which is classified as an isolate that does not meet eligibility criteria for listing on the NRHP.

8.1.3 LV06

There is no information connecting this lithic scatter to specific events or people, nor does it contain features suitable for consideration from a stylistic or esthetic viewpoint; thus the site does not appear to be eligible for the NRHP under Criteria A, B, or C. With respect to Criterion D, while only a few flakes were observed during survey, the deposit appears to be eroding out of the slope, and thus its full extent and constituents are unknown. The site should remain unevaluated for NRHP eligibility under Criterion D.

8.1.4 LV09

As with site LV06, there is no information connecting this site to specific events or people, nor does it contain features suitable for consideration from a stylistic or esthetic viewpoint; thus the site does not appear to be eligible for the NRHP under Criteria A, B, or C. Again, with respect to Criterion D, while only a few flakes and a single projectile point were observed during survey, there may be a subsurface deposit, and thus its full extent and constituents are unknown. The site should remain unevaluated for NRHP eligibility under Criterion D.

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8.1.5 LV12

The precontact component consists of a millingslick feature and a single obsidian flake, which are best characterized as isolated finds, and as such are considered categorically ineligible to the NRHP.

8.2 Historic-Period Sites: Hydroelectric Development Theme

The Lee Vining Hydroelectric Project (LVHP) was constructed in the early twentieth century. Major elements of the project include: Lee Vining Substation; Poole Powerhouse; a flowline, tunnel, and penstock; Rhinedollar Dam; Saddlebag Dam; Tioga Dam; and Tioga Auxiliary Dam. With the exception of the Tioga Auxiliary Dam, each of these resources is part of a complex made up of either built environment resources or built environment and archaeological components. One transmission line, Casa Diablo–Control–Sherwin 115kV Transmission Line, and one distribution line, the Rhinedollar Circuit are also elements of the LVHP. Finally, two roads constructed for the LVHP, Poole Power Plant Road and Saddlebag Lake Road are documented as part of the project (Waldroop 2022).

Two of the previously documented archaeological resources and five of the newly identified archaeological resources are associated with the LVHP (Table 8-1). They include archaeological components of the powerhouse and dam complexes (P-26-002437, LV01, LV07, and LV13) that were constructed for the LVHP, the ruins of infrastructure associated with modern conduit and distributation lines (P-26-006236, LV02), and an abandoned road segment (LV10) associated with Saddlebag Lake Road, which was initially constructed for the LVHP.

The LVHP was initially recorded, evaluated, and determined not eligible for listing in the NRHP in 1989 (FERC821004D; Williams and Hicks 1989). HRA's architectural historians reassessed the LVHP in 2022. They recommended that the LVHP is not eligible for listing in the NRHP as a historic district due to loss of integrity of both the individual components within the LVHP and the project as a whole (Waldroop 2022). As such the evaluations of the archaeological components of each resource associated with the LVHP will focus on whether the archaeological site is individaully eligible for listing in the NRHP.

Table 8-1. Archaeological Sites associated with Hydroelectric Development

Trinomial/ Temporary Number	Condition	NRHP Eligibility Recommendation
P-26-002437	Fair	Not eligible (Locus A previously determined not eligible)
P-26-006236	Poor	Determined not eligible (USFS110413A)
LV01	Fair	Not eligible
LV02	Fair	Not eligible
LV07	Good	Not eligible
LV10	Poor	Not eligible
LV13	Fair	Not eligible

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8.2.1 P-26-002437 (CA-MNO-2437/H; FS 05045101163; RHINEDOLLAR DAM COMPLEX)

The Rhinedollar Dam Complex includes four archaeological loci (Loci A – D). The Rhinedollar Dam construction camp (Locus A of P-26-002437) has been previously determined not eligible for listing in the NRHP with SHPO concurrence (White 1990). The current inventory documents the construction camp as one component of the Rhinedollar Dam Complex, which is larger than previously recorded and includes both built environment and archaeological resources. Despite this expansion, the archaeological component of the resource is recommended not eligible for listing in the NRHP. No substantial changes to the interpretations of the site function are proposed as a result of the current update.

Although the site's characterization as a component of the LVHP indicates that it is associated with the early-twentieth-century developments in hydroelectric power in the West, the archaeological component of the Rhinedollar Dam Complex, individually, does not retain characteristics to convey its significance under that category. Therefore, the site is not eligible for listing in the NRHP under Criterion A. The name "A. O. Biglow" is inscribed on the newly recorded feature in Locus C. However, online searches on Google, Ancestry.com, Newspapers.com, and the Huntington Library's digital collection produced no information on this individual. No other known individuals are directly linked to the archaeological site. Thus, the site is not associated with an individual significant in local, state, or national history and is not eligible for listing in the NRHP under Criterion B. See Waldroop (2022) for details about the construction elements of the Rhinedollar Dam Complex. Regarding the archaeological component of the complex, the remnant foundations and debris concentrations do not suggest the work of a master architect or that the site is uniquely constructed. Therefore, the archaeological component of the complex is not eligible for listing in the NRHP under Criterion C. As noted above, the Rhinedollar construction camp has already been determined not eligible for listing in the NRHP. Neither the newly identified features within Locus A nor any of the features and concentrations in Loci B-D have the potential to provide additional information about the lifeways of the residents and workers at the complex. Therefore, the archaeological component of the complex is not eligible for listing under Criterion D. In conclusion, the archaeological component of the Rhinedollar Dam Complex is recommended not eligible for listing in the NRHP.

8.2.2 P-26-006236 (FS 05045101683; RHINEDOLLAR 12KV CIRCUIT

The Rhinedollar Circuit is an electrical distribution system that runs between the Pool Powerhouse Complex and the Operator's Cabin at the Rhinedollar Dam Complex. The resource was initially documented in 2010, in advance of the Rhinedollar (Overhead) 12kV Distribution Circuit Rebuild Project. At the time, Switalski and Bardsley (2011) assessed the Rhinedollar Circuit as not eligible for listing in the NRHP. The California SHPO concurred on June 6, 2011 (USFS110413A).

During the 2022 inventory, architectural historians noted the current towers along the Rhinedollar Circuit as single-pylon steel towers. Archaeologists in 2022 noted remnants of the previous infrastructure, a toppled pole, ceramic insulator fragments, and a concrete

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footing for one of the removed towers abandoned in place in the boulder field northeast of the Rhinedollar Dam. A metal anchor and braided steel cable fragments were noted along the alignment, upslope from the boulder field. Neither the new poles, the abandoned footing, nor the other infrastructure debris observed along the alignment alter the interpretations of the resource, which was determined not eligible for listing in the NRHP in 2011 (USFS110413A).

8.2.3 LV01 (POOLE POWERHOUSE COMPLEX)

Two built enviornment resources assocated with the Poole Powerhouse Complex, Poole Powerhouse and the Triplex Cottage have been determined or recommended individually eligible for listing in the NRHP under Criterion C (Waldroop 2022). Although the archaeological component of the complex is adjacent to these two resources, the features at the site do not display the work of a master architect G. Stanley Wilson (as does the triplex) or the Greek Revival architectural style (as does the powerhouse; Waldroop 2022). As such, the archaeological component of the Poole Powerhouse Complex will be evaluated individually.

Although the site's association with the LVHP indicates that the site is associated with early-twentieth-century developments in hydroelectric power in the West, the infrastructure and artifact concentrations that make up the archaeological component of the complex do not retain characteristics to convey significance under that category on their own. Therefore, the site is not eligible for listing in the NRHP under Criterion A. The features and concentrations have not been associated with individuals significant in local, state, or national history; therefore, the site is not eligible for listing in the NRHP under Criterion B. The site does not represent the work of a master, or possess high artistic values; therefore it is not eligible for listing in the NRHP under Criterion C. Finally, the site has not yielded, and is unlikely to yield, information important to our understanding of the past. The features are standard infrastructure associated with the twentieth-century complex. The artifact concentrations are not discrete enough in function or time period to offer significant information about the lifeways of the inhabitants and the workers at the complex. In summary, the site is recommended not eligible for listing in the NRHP.

8.2.3.1 LV02 (Flowline, Tunnel, Penstock)

This archaeological site consists of the remnants of transport and utility/communication infrastructure paralleling the penstock, flowline, and tunnel associated with the LVHP. Although the site's association with the LVHP does indicate that it is associated with early-twentieth-century developments in hydroelectric power in the West, individually, the remnants of a utility/communication line and a tramway used during construction of the tunnel and penstock do not retain characteristics to convey significance under that category. Therefore, the site is not eligible for listing in the NRHP under Criterion A. The infrastructure components themselves are not associated with individuals significant in local, state, or national history; therefore, the site is not eligible for listing in the NRHP under Criterion B. The site does not represent the work of a master, or possess high artistic values; it is made up of the ruins of communication/utility line poles that were standard technology during the early twentieth century and a tramway that was reused

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during construction on multiple hydroelectric projects in the reation. therefore, it is not eligible for listing in the NRHP under Criterion C. Individually, the site has not yielded, and is unlikely to yield, information important to our understanding of the past.

8.2.4 LV07 (TIOGA DAM COMPLEX)

The archaeological component of the Tioga Dam Complex consists of an abandoned quarry. Although the quarry's association with the LVHP does indicate that the site is associated with early-twentieth-century developments in hydroelectric power in the West, individually, the quarry does not retain characteristics to convey significance under that category. Therefore, the site is not eligible for listing in the NRHP under Criterion A. The quarry is not directly associated with individuals significant in local, state, or national history; therefore, the site is not eligible for listing in the NRHP under Criterion B. The quarry does not represent the work of a master, or possess high artistic values; therefore, it is not eligible for listing in the NRHP under Criterion C. Individually, the quarry has not yielded, and is unlikely to yield, information important to our understanding of the past. In summary, the archaeological component of the Tioga Dam complex is recommended not eligible for listing in the NRHP.

8.2.5 LV10 (SADDLEBAG LAKE RD)

Saddlebag Lake Road was constructed as part of the LVHP. Although the site's association with the LVHP does indicate that it is associated with early-twentieth-century developments in hydroelectric power in the West, the abandoned road alignment does not retain characteristics to convey significance under that category. Therefore, the site is not individually eligible for listing in the NRHP under Criterion A. The archaeological component of the Saddlebag Lake Road is not directly associated with individuals significant in local, state, or national history; therefore, the site is not eligible for listing in the NRHP under Criterion B. Made up of a roadbed, trench and berm, the archaeological component of Saddlebag Lake Road does not represent the work of a master, or possess high artistic values; therefore, it is not eligible for listing in the NRHP under Criterion C. Finally, the site has not yielded, and is unlikely to yield, information important to our understanding of the past. Therefore, it is not eligible for listing in the NRHP under Criterion D. In summary, the archaeological component of Saddlebag Lake Road is recommended not eligible for listing in the NRHP.

8.2.6 LV13 (SADDLEBAG DAM COMPLEX)

The archaeological component of the Saddlebag Dam Complex consists of an abandoned quarry (Feature 1), a wood post (Feature 2), an abandoned access road (Feature 3), an earthen pad (Feature 4) associated with machinery pieces, and concentrations of hardware associated with the dam (Concentrations A thorugh D). Although the site's association with the LVHP does indicate that the site is associated with early-twentieth-century developments in hydroelectric power in the West, neither the features nor the construction hardware within the archaeological component of the complex retain characteristics to convey significance under that category. Therefore, the site is not individually eligible for listing in the NRHP under Criterion A. The archaeological

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component of the Saddlebag Dam complex is not directly associated with individuals significant in local, state, or national history; therefore, the site is not eligible for listing in the NRHP under Criterion B. Made up of a quarry, access road and concentrations of dam hardware, the archaeological component of the Saddlebag Dam Complex does not represent the work of a master, or possess high artistic values; therefore, it is not eligible for listing in the NRHP under Criterion C. Finally, the site has not yielded, and is unlikely to yield, information important to our understanding of the past. Information about the site is documented in Nevada-California Power Company and SCE company records. In summary, the archaeological component of the Saddlebag Dam Complex is recommended not eligible for listing in the NRHP.

8.3 HISTORIC-PERIOD SITES: RECREATION THEME

Four sites within the APE are characterized by features or artifacts related to recreation (Table 8-2). The association of these archaeological components and sites with recreation is determined by their association with buildings at the Tioga Pass Resort (as is the case with P-26-003308) and the USFS Saddlebag Wilderness Cabin (LV14) or by the character of the artifacts observed and location along reservoirs frequented by recreationists (LV15 and LV16).

Table 8-2. Archaeological Sites associated with Recreation.

Trinomial No./ Temporary No.	Condition	NRHP Eligibility Recommendation
P-26-003308	Fair	Noncontributing to Tioga Pass Resort Historic District; not individually eligible
LV14	Fair	Not eligible
LV15	Fair	Not eligible
LV16	Fair	Not eligible

Sites LV15, LV16 and the archaeological component of P-26-003308 are characterized as light artifact scatters that are in fair condition but lack the ability to provide information significant to our understanding of recreational use of the region. Site LV14 is included in the recreation theme based on its association with the extant Saddlebag Wilderness Cabin that was constructed by the USFS in 1930 and used by USFS staff approximately 1 week per year. LV14 includes features and is therefore more substantial than the other resources in this category. However, the archaeological features and artifacts at the site are not temporally diagnostic, in and of themselves. Though the foundation (Feature 1) was likely constructed in the mid-twentieth century, the small depression (Feature 2) and graded pad (Feature 3) could be the result of undocumented, modern activities at the site. Indiviudal site evaluations are in the sections below. No modern debris was identified at any of these sites, however, recreational use of the vicinity by hikers on the nearby Saddlebag Lake Loop Trail and fishing parties on Saddlebag Lake were observed throughout the field session.

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8.3.1 P-26-003308 (FS 05045101259; TIOGA PASS RESORT)

In 1997, Tioga Pass Resort was determined eligible for listing in the the NRHP as a historic district under Criteria A and C in the areas of Travel, Recreation, Exploration, and Settlement. Its period of significance is 1915–1940 (Cutts 1997; Windell 1997). The archaeological component, on the ridge above the resort buildings, is a light artifact scatter dating to the mid-twentieth century. One of the bottles in the artifact scatter was manufactured in 1949, after the historic distrcit's period of significance. Therefore, the archaeological component is a noncontributing resource within the Tioga Pass Resort historic district.

Individually, this site has no demonstrable association with events that made a significant contribution to local, state, or national history; therefore, it is not eligible for listing in the NRHP under Criterion A. The site has no know association with a significant individual in local, state, or national history; therefore, it is not eligible for listing in the NRHP under Criterion B. As an artifact scatter, the site is not the work of a master architect nor does it possess high artistic value; therefore, the it is not eligible for listing in the NRHP under Criterion C. As a twentieth-century refuse scatter, which are ubiquitous across the landscape, the site has not yielded, nor is it likely to yield significant information about the lifeways of the people who left the debris behind. Therefore, the site is not eligible for listing in the NRHP under Criterion D. In summary, the site is not individually eligible for listing in the NRHP.

8.3.2 LV14 (SADDLEBAG WILDERNESS CABIN COMPLEX)

Based on its association with the Saddlebag Wilderness Cabin, the archaeological component is associated with recreation in Inyo National Forest; however, the archaeological features lack the characteristics required to convey significance under that theme. Each of the features and artifacts at the site is temporally nondiagnostic, so their construction can not be attributed to one of the eras discussed in the Forest Service's context document (Grosvernor 1999); therefore, the archaeological component of the resource is not eligible for listing in the NRHP under Criterion A. Likewise, the features have not been associated with a significant individual in history; therefore, the archaeological component is not eligible for listing in the NRHP under Criterion B. Feature 1, the foundation, has the only architectural characteristics within the archaeological component. It does not embody distinctive characteristics of a type, period, or method of construction. It does not represent the work of a master or possess high artistic value. Therefore, the archaeological component is not eligible for listing in the NRHP under Criterion C. Finally, the archaeological component has not yielded, and is unlikely to yield, information important to the twentieth-century history of the region. Therefore, it is not eligible for listing in the NRHP under Criterion D. In summary, the archaeological component associated with the Saddlebag Wilderness Cabin is recommended not eligible for listing in the NRHP.

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8.3.3 LV15

This site is a light artifact scatter deposited no earlier than 1933. It is likely the result of recreationists using Saddlebag Lake and/or the trail around the east side of the lake. The site has no demonstrable association with events that made a significant contribution to local, state, or national history; therefore, it is not eligible for listing in the NRHP under Criterion A. The site has no know association with a significant individual in local, state, or national history; therefore, it is not eligible for listing in the NRHP under Criterion B. As an artifact scatter, the site is not the work of a master architect nor does it possess high artistic value; therefore, the it is not eligible for listing in the NRHP under Criterion C. As a twentieth-century refuse scatter, which are ubiquitous across the landscape, the site has not yielded, nor is it likely to yield significant information about the lifeways of the people who left the debris behind. Therefore, the site is not eligible for listing in the NRHP under Criterion D. In summary, the site is not eligible for listing in the NRHP.

8.3.4 LV16

This site is a light can scatter dating to the mid-twentieth century. It is likely the result of recreationists using Saddlebag Lake and/or the trail around the east side of the Lake. The site has no demonstrable association with events that made a significant contribution to local, state, or national history; therefore, it is not eligible for listing in the NRHP under Criterion A. The site has no know association with a significant individual in local, state, or national history; therefore, it is not eligible for listing in the NRHP under Criterion B. As a can scatter, the site is not the work of a master architect nor does it possess high artistic value; therefore, the it is not eligible for listing in the NRHP under Criterion C. As a mid-twentieth-century recreational refuse deposit, which are ubiquitous across the landscape, the site has not yielded, nor is it likely to yield significant information about the lifeways of the people who left the debris behind. Therefore, the site is not eligible for listing in the NRHP under Criterion D. In summary, the site is not eligible for listing in the NRHP.

8.4 HISTORIC-PERIOD SITES: TRANSPORTATION THEME

Allignments associated with four former roads (P-26-008527, LV10, LV18, and LV19) were recorded within the APE (Table 8-3). In the case of Tioga Pass Road (P-26-008527) three different abandoned road segments wihin the APE represent early- to mid-twentieth-century alignments of the modern route. LV10 is discussed in the hydroelectric development section above as it is assocated with Saddlebag Lake Road, which was constructed for the LVHP. LV18 is the alignment of a former road to the Timberline Experiment Station west of the APE. LV19 is the alingment of a mid-twentieth-century road to mines northwest of the APE.

LV18, LV19, and portion of P-26-008527 have each been repurposed as hiking trails that are frequented by recreationists. The longest intact segment of P-26-008527 is inundated by Ellery Lake. Evaluations of each resource follow:

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Table 8-3. Archaeological sites associated with Transportation.

Primary No./ Temporary No.	Condition	NRHP Recommendation
P-26-008527	Poor (Segments A and B); Undetermined (Segment C)	Segments A and B not eligible, Segment C not evaluated
LV18	Fair	Not eligible
LV19	Fair	Not eligible

8.4.1 P-26-008527 (CA-MNO-6160H; TIOGA PASS ROAD)

Per Caltrans' (2016) *A Historical Context and Methodology for Evaluating Trails, Roads, and Highways in California*, Tioga Pass Road falls into two themes: roads and highways as symbols of commerce and trade; and roads and highways as symbols of engineering achievement. Tioga Pass Road/Hwy 120 is associated with early automobile travel in the Sierra Nevada Mountains and was designed and constructed as the eastern link to Yosemite National Park in the early twentieth century. It remains critical for east-west access through Yosemite.

Initial construction of and improvements to Tioga Pass Road align closely with two of the broad periods defined by the Caltrans (2016) context: Early-day Automobile Roads and Highways (1900–1940) and Modern Parkways and Highways (1940–1956). Construction of Tioga Pass Road was initially completed in 1905. Because automobile travel was not allowed in Yosemite National Park until 1913, automobile travel on Tioga Pass Road was not prominent until after this time. Early travel on the dirt road was treacherous, and the road was paved and realigned in 1939–1940 in order to make travel easier. After 1940, travel on Tioga Pass Road/Hwy 120 significantly increased and allowed for an increase in recreational activities in the area. For Tioga Pass Road, the "Early-day Automobile" period is between 1913 and 1939, from when automobile traffic was first allowed in Yosemite National Park to when the roadway was realigned. Additionally, the "Modern Parkway and Highway" period is 1940 to 1965.

The 1960s alterations to the roadway drastically increased recreational travel in the area, such that the roadway could no longer convey its association with the early, treacherous automobile travel. Therefore, the period of significance for Tioga Pass Road/Hwy 120 is defined as 1913 to 1965, from when automobile traffic was allowed within Yosemite National Park to the year alterations that would change the roadway's character-defining elements began.

Tioga Pass Road was designed and constructed as the eastern link to Yosemite National Park. The route is also used by tourists accessing recreational activities outside of the park boundary. It still serves those dual purposes. As such it is a symbol of commerce and trade and may qualify for listing in the NRHP under Criterion A or it is also a symbol of engineering achievement and may qualify for listing in the NRHP under Criterion C. The "Early-day Automobile" period for Tioga Pass Road is between 1913 and 1939; the "Modern Parkway and Highway" period is 1940 to 1965. Archaeologists identified and recorded three abandoned segments representing early- to mid-twentieth-century

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alignments of the route within the APE. Each segment will be evaluated for listing in the NRHP separately.

Segment A represents an alignment of the road that was mapped as early as 1910 and remained in use after the paving of the route in 1939–1940 (Trexler 1980, USGS 1910). It retains integrity of location and setting. This portion of the alignment has been repurposed as a short hiking trail. Erosion and washouts were observed along the alignment, very little of the pavement remains. This segment no longer provides access to Yosemite. It lacks integrity of design, materials, workmanship, feeling, and association. Therefore, Segment A is recommended not eligible for listing in the NRHP.

Segment B represents an alignment of the road that was used at some point between 1940 and 1965. Segment B retains integrity of location; however, it has been disturbed by construction of the modern road alignment. As such, Segment B lacks integrity of design, materials, workmanship, feeling, and association. Segment B is recommended not eligible for listing in the NRHP.

Segment C represents the alignment of Tioga Pass Road in use between 1905 and 1924, when the Southern Sierras Power Company realigned the road around the north side of the heightened reservoir at Ellery Lake (Diamond and Hicks 1988:26–34). Segment C was submerged under Ellery Lake at the time of the 2021 and 2022 inventories. This segment retains integrity of location, however, since it is now submerged it does not retain integrity of setting or feeling. Inundation prevented analysis of integrity of design, materials, and association. As such its integrity could not be fully assessed. If this segment is later found to retain most of the aspects of integrity, Segment C may be eligible for listing in the NRHP under Criterion A and/or Criterion C.

An additional segment outside the current project area (Segment D) is recommended not eligible.

8.4.2 LV18

The former two-track road around the east side of Saddlebag Lake was constructed in the 1940s to reach newly established tungsten mines in this part of the Sierra Nevada mountain range. In Caltrans (2008) “A Historical Context and Archaeological Research Design for Mining Properties in California,” roads and haul roads are listed as one of the ancillary mining property types. As such, the former two-track road may be eligible for listing under Criterion A for Mining if it retains the integrity to convey its significance under that category. Though the road leads to the Hess Mine, it is not directly associated with a significant person in local, state, or national history; therefore, the road is not eligible for listing in the NRHP under Criterion B. The road is a standard two-track alignment that has eroded in sections to a footpath. As such, it does not embody distinctive characteristics of construction, represent the work of a master engineer, or possess high artistic value. The resource is not eligible for listing in the NRHP under Criterion C. The road is documented on historic-period maps. It does not address any of the research themes outlined in the mining context: technology, historical ethnography/cultural history; ethnicity; women and family; economy; or policy. As such, the road is unlikely to yield important information for our understanding of tungsten mining in the mid- to late-

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twentieth century. Therefore, the site is not eligible for listing in the NRHP under Criterion D.

In order for the resource to convey significance under Criterion A, it must retain integrity. The alignment retains integrity of location and setting. Even the southern section of the alignment, which has been bypassed by the modern trail, is visible in its original location. Due to erosion and the repurposing of the alignment from a road to a pack and foot trail, several sections of the alignment have lost integrity of design, materials, workmanship, and feeling. Most importantly, the segment of the alignment that was surveyed and recorded on this form is approximately 1.75 miles from the Hess Mine. When it was converted to a pedestrian/pack trail, a continuation of the trail was constructed around the west side of Saddlebag Lake and the whole trail was rebranded as the Saddlebag Loop Trail. As such, the resource lacks integrity of association. In summary, the site is recommended not eligible for listing in the NRHP due to diminished integrity.

8.4.3 LV19

The Timberline Experiment Station is located approximately 0.2 miles west of the survey corridor (APE) for the current project. As such it was not inventoried or evaluated. The former two-track road between the Sawmill Walk-In Campground and the Timberline Experiment Station is the subject of this evaluation.

Though it has not been formally evaluated, the history of the Timberline Experiment Station indicates that that complex contributed to scientific research at high elevations and that the “Big Three” California botanists conducted research at the facility (Woolfenden 1992). For the purposes of evaluation of the former road alignment, an assumption is made that the Timberline Experiment Station is eligible for listing in the NRHP under Criteria A and B. As the access route to the Timberline Experiment Station, the former two-track road is tangentially associated with the scientific research that occurred at the facility. However, the road and its character defining features (alignment, construction materials, etc.) did not make significant contributions to the research conducted at the Timberline Experiment Station. Therefore, this resource is not eligible for listing in the NRHP under Criterion A under the science and research theme. Neither the California botanists known to have worked at the Timberline Experiment Station nor other significant individuals in history have been directly associated with the construction or maintenance of the road; therefore, the former road is not eligible for listing in the NRHP under Criterion B. It its present condition, some sections of the road ratain two tracks and other sections have eroded or washed out so that only a footpath remains. No segment of the alignment embodies distinctive construction characteristics or high artistic value. No segment represents the work of an engineering master. Therefore, the resource is not eligible for listing in the NRHP under Criterion C. The road alignment is depicted on topographic maps between 1956 and 1973. As such, the physical resource is unlinely to yield additional, undocumented, information important to our understanding of how people traveled through the region in the twentieth century. Therefore the resource is not eligible for listing in the NRHP under Criterion D.

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8.5 HISTORIC-PERIOD SITES: UNDEFINED THEME/FUNCTION

Four archaeological sites recorded within the APE cannot be classified by function (Table 8-4). They include a concentration of machinery pieces of indeterminate purpose (LV11), two areas of landscape modification (the historic-period component of LV12 and LV17) that could not definitively be associated with the LVHP or any other development project in the region, and a ditch along Lee Vining Creek with no associated artifacts. Features recorded at each of these sites were in fair to good condition. However, evidence of modern recreational activity, in the form of debris and/or campfires, was observed at three of the four sites. It appears that construction of Saddlebag Lake Road disturbed archaeological site LV21 during the historic-period.

Table 8-4. Archaeological Sites Not Classified by Function.

Temporary Number	Condition	NRHP Recommendation
LV11	Fair	Not eligible
LV12	Fair	Not eligible
LV17	Good	Not eligible
LV21	Fair	Not eligible

8.5.1 LV11

The function and use of the machinery recorded at archaeological site LV11 is unknown. As such, the site cannot be associated with a broad pattern or theme in history; therefore the site is not eligible for listing in the NRHP under Criterion A. The site is not associated with an individual, significant or otherwise; therefore, the site is not eligible for listing in the NRHP under Criterion B. The machinery does not embody distinctive construction methods or types and lacks artistic value; therefore the site is not eligible for listing in the NRHP under Criterion C. Finally, the abandoned machinery is unlikely to yield information important to our understanding of late-nineteenth or twentieth-century lifeways in the eastern Sierra Nevada mountains; therefore, the site is not eligible for lisiting in the NRHP under Criterion D.

8.5.2 LV12

The functions and construction dates of the features at the waste rock field (LV12) are unclear. The deposition dates of the waste rock piles are also unknown. As such, the site cannot be linked to a project or venture in the region, including the Owens Valley Reclamation Project and the LVHP. Therefore, the historic-period component of the site is not eligible for listing in the NRHP under Criterion A. The waste rock field itself is not associated with individuals significant in local, state, or national history; therefore, the historic-period component is not eligible for listing in the NRHP under Criterion B. The historic-period component of the site does not represent the work of a master, or possess high artistic values; therefore, it is not eligible for listing in the NRHP under Criterion C. Finally, the historic-period component has not yielded, and is unlikely to yield, information important to our understanding of the past; therefore, it is not eligible for listing in the

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NRHP under Criterion D. In summary, the historic-period component of the site is recommended not eligible for listing in the NRHP. (As noted above, the precontact component is also recommended not eligible.)

8.5.3 LV17

This site is characterized as a trench excavated on the peninsula at Saddlebag Lake. Though landscape modifications occurred in the vicinity, during the expansion of Saddlebag Lake into a reservoir in the 1920s, records about the excavations that occurred to deepen the reservoir have not been located. As such, the historic-period component of the site can not be definitively associated with a significant event or pattern in history. Therefore, it is not eligible for listing in the NRHP under Criterion A. The trench is not associated with individuals significant in local, state, or national history; therefore, it is not eligible for listing in the NRHP under Criterion B. The trench does not represent the work of a master, or possess high artistic values; therefore, it is not eligible for listing in the NRHP under Criterion C. Finally, the trench has not yielded, and is unlikely to yield, information important to our understanding of the past. In summary, the site is recommended not eligible for listing in the NRHP.

8.5.4 LV21

Although a ditch was recorded on this side of the creek on a GLO plat in 1895, its function (e.g., mining, irrigation) and location is unclear (USSG 1895). As such, the site cannot be associated with a broad pattern or theme in history; therefore the site is not eligible for listing in the NRHP under Criterion A. Similarly, the site is not associated with an individual, significant or otherwise; therefore, the site is not eligible for listing in the NRHP under Criterion B. The ditch does not embody distinctive construction methods or types and lack artistic value; therefore the site is not eligible for listing in the NRHP under Criterion C. Finally, no artifacts were identified at the site. The ditch is has not yielded, and is unlikely to yield, information important in history; therefore, the site is not eligible for lisiting in the NRHP under Criterion D. In summary, the site is not eligible for listing in the NRHP.

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9.0 PROJECT-RELATED EFFECTS AT ARCHAEOLOGICAL SITES

During the 2022 survey, archaeologists observed various disturbances to sites, inlcuding those caused by erosion, construction, wave action and inundation, O&M activities at the LVHP, and recreation. To assist SCE in prioritizing management measures at archaeological sites most likely to be affected by the Project, the crew assessed whether each archaeological site is or may be affected by O&M of the Project in the future. Non-project related effects, or the potential for them to occur at the sites, were also noted by the crew. The purpose of identifying effects is to aid in the development of management measures that will be incorporated into the HPMP for the Project. The archaeological sites recorded within the APE and the existing or potential observed effects are listed in Table 9-1. Observed and potential effects are classified into 5 categories:

9.1 EROSION

Erosion is classified as a natural effect on archaeological sites within the APE. It is most evident at the abandoned road segments, where materials and alignments at each of the former road alingments recorded within the APE (P-26-008527, LV10, LV18, and LV19) have erroded. The agents of this erosion are unclear, but may include natural processes such as water and snow run off, vegetation gowth, and wildlife as well as human use of the landscape.

9.2 CONSTRUCTION

Construction effects occur when construction post-dates the archaeological site and occurs within the site boundaries. As such, historic-period construction can impact precontact and existing historic-period resources. Modern construction is also considered under this category. A notable historic-period construction effect was observed in Segment A of Tioga Pass Road (P-26-008527), where Saddlebag Lake Road was constructed through the previous alingment of Tioga Pass Road Construction applies to elements beyond buildings and roadways. The installation of monitoring apparati in LV12 is defined as a construction impact to that site.

9.3 WAVE ACTION AND INUNDATION

Although they have different potential effects on archaeological sites located on lake beds and shorelines, wave action and inundation are grouped together here because they are both related to fluctuating water levels at project reservoirs. For example, Locus A at the Saddlebag Dam Complex (LV13) is partially located on the currently exposed lake bed north of the dam. Twentieth-century aerial photography documents that portion of the site being fully submerged, partially submerged, and fully exposed as reservoir levels fluctuated between 1980 and the 2020 (NERTOnline 1980, 1984, 1985, 1993, 1998, 2005, 1009, 2010, 2012, 2014, 2016, 2018, 2020). Similarly, Segment C of Tioga Pass Road (P-26-008527) was submerged under Ellery Lake during the 2022 fieldwork. Wave action and inundation at the reservoirs is classified as a Project effect.

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Rising water levels along the free-flowing portions of the creeks in the APE are classified as a non-Project effect. Sediments observed in Locus B of the Poole Powerhouse Complex (LV01) indicate that the vicinity of Concentration B has flooded in the past.

9.4 Operation and Maintenance Activities

SCE and its predecessors have been operating and maintining the LVHP facilities since the Project's construction in the early twentieth century. Evidence of maintenance activities observed at archaeological sites include vegetation management on the slopes above the Poole Powerhouse (Locus A of LV01) and spare lumber (Concentration A in LV02) matching the wood frame box at the outlet to the horizontal standpipe.

9.5 Recreation

Situated within public lands managed by INF, much of the APE is utilized recreationally by the public, on foot, in land vehicles, and in boats. Examples of USFS facilities overlapping or adjacent to the APE include campgrounds, comfort stations, parking areas, and hiking trails. Recreation along the creeks and reservoirs is the most common cause of site disturbances observed during the archaeological inventory. Observed site distubances falling into this category include campfires, discarded debris, hikers using trails through sites. Additional evidence of recreation activities were observed adjacent to or further removed from sites near the reservoirs in particular.

Evidence of recreational use of the APE beyond defined site boundaries include tourists observed boating, fishing, swimming, and lounging at Saddlebag Lake and Tioga Lake during the inventory; trails and picnic areas in the vicinity; campfires and modern or temporally nondiagnostic debris observed along the shore of Saddlebag Lake and Tioga Lake; chain link and cable boat moorings at the northeast end of Tioga Lake, in the vicinity of Tioga Lake Campground; temporally nondiagnostic rock alignments at Saddlebag Lake constructed as windbreaks or makeshift bridges between highpoints in the exposed lake bed. Due to the prevelance of recreational activities observed in the APE, potential effects from recreation are anticipated at all of the recorded archaeological sites.

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Table 9-1. Management Status and Project-Related Effects at Archaeological Sites in the Project Area.

Primary	Temp. No.	Age	Summary Description of Archaeological Component	Land Manager	Observed O&M Disturbances	Observed Non-Project Disturbances	O&M Potential Effects	Non-Project Potential Effects	NRHP Eligibility
P-26-002437		M	Former construction camp, industrial footings and machinery mounts, and monolith at Rhinedollar Dam Complex	USFS and Private	Utility poles and hardware within site boundary	Recreation	Rhinedollar dam and associated structures, including the flowline, are adjacent to and within archaeological loci; Ellery Lake Reservoir	Recreation	Recommended not eligible; Locus A (former construction camp) determined not eligible, 2/06/90 (FERC821004D)
P-26-003308		H	Debris scatter at Tioga Pass Resort	USFS	None observed	None observed	None anticipated	Recreation	Recommended as a noncontributing resource within the Tioga Pass Resort Historic District; Not individually eligible
P-26-006236		H	Industrial debris and footings associated with former towers and poles on the Rhinedollar Circuit	USFS and SCE	None observed	Original infrastructure replaced ca. 2011	Rhinedollar dam and associated structures, including the flowline, are adjacent to the resource	Recreation	Determined not eligible in 2011 (USFS110413A)
P-26-008527		H	Abandoned segments of former Tioga Pass Road alignments	USFS and SCE	Historic-period construction of Saddlebag Lake Road At Segment A; inundation of Segment C in Ellery Lake	Construction and recreation along Segment A; Highway construction and utility debris observed on Segment B	Segment A adjacent to free-flowing creek; Segment C within Ellery Lake	Recreation	Segments A and B recommended not eligible; Segment C unevaluated due to inundation
	LV01	H	Abandoned utility infrastructure, foundations and pads, trail segment, and debris concentrations at the Poole Powerhouse Complex	USFS	Vegetation management in Locus A	Inundation in Locus B	Site is part of the Poole Powerhouse Complex	Recreation	Recommended not eligible
	LV02	M	Remnants of transport and utility/communication infrastructure along the LVHP flowline, penstock, and tunnel	USFS	Maintenance of the wood frame at the standpipe outlet resulting in milled lumber at the site (Concentration A)	None observed	Site is associated with the flowline, tunnel, and penstock	Recreation	Recommended not eligible
	LV06	P	Lithic scatter	USFS	Inundation, wave action	Recreation	None anticipated	Erosion; recreation	Unevaluated
	LV07	H	Quarry at Tioga Dam	USFS	None observed	None observed	Site is part of the Tioga Dam Complex; Tioga Lake Reservoir	Recreation	Recommended not eligible
	LV09	P	Lithic scatter	USFS	None observed	Recreation	None anticipated	Erosion; recreation	Unevaluated
	LV10	H	Abandoned segment of former Saddlebag Lake Road alignment	USFS	None observed	Recreation	None anticipated, site is above a free-flowing creek	Erosion; recreation	Recommended not eligible
	LV11	H	Machinery	USFS	None observed	Recreation	None anticipated, site is along a free-flowing creek	Recreation	Recommended not eligible
	LV12	M	Millingslick, debitage, and historic-period waste rock field	USFS	None observed	Construction; recreation	None anticipated, site is along a free-flowing creek	Recreation; environmental monitoring	Recommended not eligible (both components)
	LV13	H	Quarry, machinery and pads, abandoned access route and hardware at the Saddlebag Dam Complex	USFS	Aerial photographs indicate that portions of Locus A have been inundated by Saddlebag Lake Reservoir	Recreation	Saddlebag Lake Reservoir; Saddlebag Dam Complex	Recreation	Recommended not eligible

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Table 9-1. Management Status and Project-Related Effects at Archaeological Sites in the Project Area *continued*.

Primary	Temp. No.	Age	Summary Description of Archaeological Component	Land Manager	Observed O&M Disturbances	Observed Non-Project Disturbances	O&M Potential Effects	Non-Project Potential Effects	NRHP Eligibility
	LV14	H	Foundation, depression, graded pad, and light artifact scatter associated with Saddlebag Wilderness Cabin	USFS	None observed	None observed	Saddlebag Lake Reservoir	Recreation	Recommended not eligible
	LV15	H	Debris scatter	USFS	None observed	None observed	Saddlebag Lake Reservoir	Recreation	Recommended not eligible
	LV16	H	Debris scatter	USFS	None observed	None observed	Saddlebag Lake Reservoir	Recreation	Recommended not eligible
	LV17	H	Trench	USFS	None observed	Recreation	Saddlebag Lake Reservoir	Recreation	Recommended not eligible
	LV18	H	Former road alignment to Hess Mine	USFS	None observed	Recreation	Saddlebag Lake Reservoir	Recreation	Recommended not eligible
	LV19	H	Former road alignment to Timberline Experiment Station	USFS	None observed	Recreation	None anticipated, site crosses free-flowing creek	Recreation	Recommended not eligible
	LV21	H	Ditch	USFS	Early twentieth-century construction of Saddlebag Lake Road	None observed	None anticipated, site is along a free-flowing creek	Recreation	Recommended not eligible

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10.0 CONCLUSIONS AND RECOMMENDATIONS

The archaeological inventory documented 20 archaeological sites, including four previously recorded resources and 16 newly recorded resources. Fourteen archaeological isolates were also recorded. Two previously recorded sites could not be located.

Of the archaeological sites revisited and newly identified during the 2022 inventory, 17 were evaluated and recommended not eligible for listing in the NRHP. One abandoned segment (Segment C) of Tioga Pass Road (P-26-008527) was submerged under Ellery Lake at the time of the inventory. As such, it could not be evaluated for listing in the NRHP. Two precontact lithic scatters (LV06 and LV09) also remain unevaluated.

As part of the relicensing process, SCE will develop an HPMP to provide a framework for managing the NRHP-eligible and unevaluated cultural resources within their project bouondary. The HPMP will provide guidance for testing and evaluation of archaeological sites that are not evaluated before that document is created. Furthermore, the HPMP will lay out procedures for avoiding and minimizing adverse effects to cutlural resources that are unevaluated or eligible for listing in the NRHP.

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APPENDIX A: APE MAP SET

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APPENDIX B: RECORDS SEARCH RESULTS

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APPENDIX C: SURVEY RESULTS MAP SET

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APPENDIX D: ISOLATED FIND LIST.

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APPENDIX E: DPR523 SITE RECORDS.

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TJ Wiggs

From: Audry Williams <Audry.Williams@sce.com>
Sent: Tuesday, March 7, 2023 2:35 PM
To: Blythe Haverstock, Ashley - FS, CA; Jay King
Cc: lwaldroop@hrassoc.com; Barb Siskin; Michael Pardee; Shannon Luoma
Subject: RE: (External):RE: [External Email]RE: (External):Lee Vining built-environment report

Yes, the FERC Boundary.

Audry Williams
Senior Advisor, Archaeology Program
Operational Excellence
T. 626-302-5104 | M. 310-617-2636
2244 Walnut Grove Ave., Rosemead, CA 91770

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From: Blythe Haverstock, Ashley - FS, CA <ashley.blythehaverstock@usda.gov>
Sent: Tuesday, March 7, 2023 1:28 PM
To: Jay King <jay@farwestern.com>; Audry Williams <Audry.Williams@sce.com>
Cc: Lauren Waldroop <lwaldroop@hrassoc.com>; Barb Siskin <barb@farwestern.com>; Michael Pardee <michael@farwestern.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: (External):RE: [External Email]RE: (External):Lee Vining built-environment report

*** EXTERNAL EMAIL - Use caution when opening links or attachments ***

Hey everyone –
Quick question for my records – is the built environment survey polygon the same as the archaeological survey?

Thank you!

Ashley Blythe Haverstock
Assistant Forest Archaeologist
Forest Service
Inyo National Forest
p: 760-873-2474
ashley.blythehaverstock@usda.gov
351 Pacu Lane, Suite 200
Bishop, CA 93514
www.fs.usda.gov

Caring for the land and serving people

From: Jay King <jay@farwestern.com>
Sent: Wednesday, February 1, 2023 4:42 PM

B-60.2_Discussion re draft CUL-1 Cultural Resources review and spatial data

To: Audry Williams <Audry.Williams@sce.com>
Cc: lwaldroop@hrassoc.com; Barb Siskin <barb@farwestern.com>; Michael Pardee <michael@farwestern.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Blythe Haverstock, Ashley - FS, CA <ashley.blythehaverstock@usda.gov>
Subject: [External Email]RE: (External):Lee Vining built-environment report

[External Email]
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Use caution before clicking links or opening attachments.
Please send any concerns or suspicious messages to: Spam.Abuse@usda.gov

Hi Audry, we have uploaded a draft GIS deliverable (including both archaeological and built environment shapes) to the link below. Some information regarding eligibility, etc., is blank pending the results of your review. We can update it with the next draft of the report. We can also prepare a USFS-formatted version then. Let me know if you have any issues downloading. Jay

---

From: Jay King
Sent: Monday, January 30, 2023 11:36 AM
To: Audry Williams <Audry.Williams@sce.com>
Cc: lwaldroop@hrassoc.com; Barb Siskin <barb@farwestern.com>; Michael Pardee <michael@farwestern.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Blythe Haverstock, Ashley - FS <ashley.blythehaverstock@usda.gov>
Subject: RE: (External):Lee Vining built-environment report

Hi Audry, here's a different link to the same location, which should allow you to upload. Let me know if you have any problems with it. Jay

20230119 - Lee Vining CUL-1 Built Environment

From: Audry Williams <Audry.Williams@sce.com>
Sent: Friday, January 27, 2023 5:37 PM
To: Jay King <jay@farwestern.com>
Cc: lwaldroop@hrassoc.com; Barb Siskin <barb@farwestern.com>; Michael Pardee <michael@farwestern.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Blythe Haverstock, Ashley - FS <ashley.blythehaverstock@usda.gov>
Subject: RE: (External):Lee Vining built-environment report

Hi there

I have finished reviewing the BE report. The link sent does not allow for me to upload the version I made comments on. Can you change the permission or create another location we can upload? Also I am sure it would be easier for Ashley to review the word doc I put comments and edits on 😊 Thanks!

Audry Williams
Senior Advisor, Archaeology Program
Operational Excellence
T. 626-302-5104 | M. 310-617-2636

B-60.2_Discussion re draft CUL-1 Cultural Resources review and spatial data

2244 Walnut Grove Ave., Rosemead, CA 91770

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From: Jay King <jay@farwestern.com>
Sent: Thursday, January 19, 2023 3:33 PM
To: Audry Williams <Audry.Williams@sce.com>
Cc: Lauren Waldroop <lwaldroop@hrassoc.com>; Barb Siskin <barb@farwestern.com>; Michael Pardee <michael@farwestern.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: (External):Lee Vining built-environment report

***** EXTERNAL EMAIL - Use caution when opening links or attachments *****

Hi Audry -- at the link below, please find the draft built-environment report for Lee Vining. This was authored by HRA, but packaged and formatted by FW. I will wait until your approval to send to Ashley, or you can forward the link to her directly if you prefer.

As previously, there is both an editable Word version, and a PDF version complete with all appendices.

There are six site records that you'll find both in this report and in the archaeology report submitted last week. Also as previously, the individual site records are included in zip files.

Let me know if you need anything else!

20230119 - Lee Vining CUL-1 Built Environment

Jay King, MA, RPA (he/him/his)
President
Far Western Anthropological Research Group, Inc.
Main Office | 2727 Del Rio Place, Davis, CA 95618
Office: 530.756.3941 ext. 137
jay@farwestern.com | www.farwestern.com

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B-61_CDFW attendance re 3-15-23 TWG meeting

From:	Carissa Shoemaker
To:	Shannon Luoma
Cc:	Lauren Rosenkranz
Subject:	FW: Lee Vining Recreation and Land Use TWG
Date:	Tuesday, March 7, 2023 9:32:30 AM

I think we already knew this, but CDFW cannot attend on March 15.

Carissa Shoemaker

My part-time work schedule is generally as follows: Tuesday morning, Thursday morning, and all day Friday.
I can be available outside of these times if given advanced notice.

ERM
M 907 575 0294

-----Original Appointment-----
From: Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>
Sent: Monday, March 6, 2023 11:12 AM
To: Carissa Shoemaker
Subject: Declined: Lee Vining Recreation and Land Use TWG
When: Wednesday, March 15, 2023 9:00 AM-10:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

EXTERNAL MESSAGE

CDFW will not be able to attend this meeting. Our entire Region 6 unit will be in an all day meeting.

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TJ Wiggs

From: Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Sent: Tuesday, March 7, 2023 10:37 AM
To: Marquez, Alyssa@Wildlife
Cc: Moyer, Patricia (Trisha)@Wildlife; Angela Whelpley; Shannon Luoma; Lauren Rosenkranz
Subject: RE: Lee Vining FERC Rec TWG - CDFW Fisheries Response to Questions

Thanks for the fish stocking answers, Alyssa!

Carissa Shoemaker

My part-time work schedule is generally as follows: Tuesday morning, Thursday morning, and all day Friday.
I can be available outside of these times if given advanced notice.

ERM
M 907 575 0294

From: Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>
Sent: Tuesday, March 7, 2023 9:14 AM
To: Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Cc: Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>
Subject: Lee Vining FERC Rec TWG - CDFW Fisheries Response to Questions

EXTERNAL MESSAGE

Hi Carissa,

Below is CDFW fisheries response to the questions posed during the March 1, 2023 Lee Vining Rec TWG meeting.

- Will fisheries be stocking before Fishmas? Depends on snowpack. Usually
- Are there any other target species to stock? Currenting stocking rainbow trout, brook trout, and brown trout. We currently have only stock rainbow trout. BK and BN are wild/self-sustaining populations

Alyssa Marquez

Environmental Scientist, Inland Deserts Region 6
California Department of Fish and Wildlife
787 North Main Street Suite 220
Bishop, CA 93514
(760) 567-0332
Alyssa.Marquez@Wildlife.ca.gov

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DRAFT MEETING NOTES*

LEE VINING, FERC PROJECT NO. 1388

RECREATION AND LAND USE TECHNICAL WORKING GROUP MEETING

MARCH 15, 2023, 9:00 AM–10:00 AM

**These meeting notes are documentation of general discussions from the meeting held on the above-noted date and focus on stakeholder questions and comments. These notes are not a verbatim account of proceedings and do not represent any final decisions or official documentation for the project or participating agencies.*

1.0 OBJECTIVE

- Review methods and approach for 2023 surveys and locations per Recreation and Land Use Study Plans

2.0 ATTENDEES

Relicensing Team Members
Martin Ostendorf, Southern California Edison (SCE)
Matt Woodhall, SCE
Finlay Anderson, Kleinschmidt
Shannon Luoma, Kleinschmidt
Kelly Larimer, Kleinschmidt
Angela Whelpley, Kleinschmidt
Lauren Rosenkranz, Kleinschmidt
Carissa Shoemaker, ERM

Technical Working Group Members & Interested Parties
Adam Barnett, U.S. Forest Service (USFS)
Stephanie Heller, USFS
Sheila Irons, USFS
Adam Cohen, State Water Resources Control Board (SWRCB)
Bryan Muro, SWRCB

3.0 COMPILED ACTION ITEMS

- **Relicensing Team** will review scales of options for questions in the REC-1 survey sheet; it will be made similar to the 1-9 scales used in the Bishop Creek REC survey(s).
- **Relicensing Team** will update REC-1 user survey data sheets to be comparable with past studies.
- **Relicensing Team** will adjust language on question #9 of the REC-1 user survey data sheet to replace "reservoir" with "lake."
- **Relicensing Team** will add language about holiday use to question #13 of the REC-1 user survey data sheet.

- **Relicensing Team** will adjust language on questions #16-19 of the REC-1 user survey data sheet to include "Lee Vining Canyon" as well as provide a map to orient users.
- **Relicensing Team** will develop an alternative survey timeframe to account for potential delays due to weather.
- **Relicensing Team** will send meeting invite for 4/19/2023 at 9 am to 10 am Pacific Time. Complete.

4.0 WELCOME AND INTRODUCTIONS

Shannon Luoma, Kleinschmidt, welcomed Technical Working Group (TWG) members to the meeting, and provided an overview of the agenda. Shannon provided a safety moment.

5.0 REC-1 SURVEY DATES, SCHEDULE, and DATA SHEETS

Angela Whelpley, Kleinschmidt, provided an overview of the REC-1 study sites, schedule, and data sheet package. Angela asked for questions.

Question (Q) (Adam Barnett): Can you explain the counter site selection?

Response (R) (Angela Whelpley): One traffic counter will be installed to count all the traffic at the proposed sites. To collect more realistic use numbers, we intend to work with US Forest Service (USFS) to gather count data at sites that don't have counters.

Angela Whelpley described the methods of choosing and randomizing survey dates, including holidays and Fishmas.

(Q) (Adam Barnett): Is this for both creel surveys and the user survey?

(R) (Angela Whelpley): Yes, the methods are the same. User survey dates are expanded through October to gather data for sites that don't open until July.

(Q) (Adam Barnett): How many user survey dates are there?

(R) (Shannon Luoma): Confirmed 15 days of user surveys.

(Q) (Adam Barnett): Question #9 on the survey data sheets mentions trail use or hiking in wilderness areas. These terms are not realistic and may limit user data to within or outside of John Muir Wilderness Area. There are other wilderness areas, and people aren't expected to know the difference. An option would be to differentiate by day use hiking or backpacking.

(R) (Angela Whelpley): Agreed, it may be worthwhile for us to understand if people are day hiking or overnight backpacking. This might be more beneficial information.

(Q) (Adam Barnett): Yes, that's a more common way of understanding that type of use. Also, we discussed at our last meeting to include snow activities.

(R) (Angela Whelpley): Yes, we intend to include snow activities on these data sheets.

(Q) (Matt Woodhall): Good comment on hiking versus trail use. Would it be more appropriate to use the term "backpacking" or "overnight hiking?"

(R) (Adam Barnett): Yes, distinguish overnight backpacking from day use hiking. Also on question #9, the language "fishing in the reservoir" may be confusing to users. "Lake" might be more common nomenclature as opposed to reservoir.

Angela and Matt agreed that the term "lake" would be more appropriate.

(Q) (Adam Barnett): Could you provide something a bit more meaningful on question #12, with a wider scale of options for more useful information.

(R) (Angela Whelpley): We looked at this scale with our statistician and she said the opposite, that with more options for the data is not as valid. Data collection is more succinct with a smaller number range.

Comment (C) (Adam Barnett): Sure, that makes sense; but a larger scale makes it easier to assign meaning to the results.

(R) (Angela Whelpley): I can absolutely review that comment with the statistician.

(Q) (Matt Woodhall): Adam which option would you prefer?

(R) (Adam Barnett): I'm not going to second guess the statistician and Angela's decision; just thinking out loud. I would defer to your statistician.

(C) (Matt Woodhall): We want to make sure we're collecting appropriate information.

(C) (Adam Barnett): It would be more useful to have comparable data, considering other surveys done in the Inyo National Forest. We would like to use this data for other information.

(Q) (Martin Ostendorf): Did other surveys use 1-10 scale?

(R) (Angela Whelpley): We used a 1-9 scale at Bishop Creek recreation surveys.

(C) (Adam Barnett): So maybe for comparability we stick to 1-9.

(C) (Martin Ostendorf): I'm comfortable using the scale to remain consistent.

(Q) (Adam Barnett): For question #13 [on the user survey data sheet], does it make sense to include "avoiding holidays"? That's a typical response.

(R) (Angela Whelpley): Yes, we know that holidays tend to have higher use than peak season. We can add some language about holiday use.

(C) (Adam Barnett): I have no comments with questions #14 or 15 [on the user survey data sheet]. I also have not heard comments from Jameisha [Washington].

(Q) (Angela Whelpley): Would you prefer that we keep these questions consistent with prior surveys?

(C) (Adam Barnett): Yes.

(Q) (Shannon Luoma): To clarify, all scales that are 1-5 we will change 1-9?

(R) (Angela Whelpley): We will change any scales to make them consistent with surveys conducted at Bishop Creek.

(Q) (Adam Barnett): [In regard to questions #16-19 on the user survey data sheet] I wonder how people interpret the Lee Vining "Area?" Typically, recreation areas are referred to as Lee Vining "Canyon."

(R) (Angela Whelpley): Yes, we can adjust language on questions #16-19 to include Lee Vining Canyon as well as provide a map to orient users.

(C) (Adam Barnett): Agreed, that makes sense.

Angela Whelpley briefly reviewed the Angler Survey Data sheet for creel surveys.

(Q) (Matt Woodhall): Was this derived from our previous creel surveys and approach? Since California Fish and Wildlife (CDFW) is not on the call, I wanted to make sure we covered these.

(R) (Angela Whelpley): Yes, this was developed similar to Bishop Creek work.

(Q) (Shannon Luoma): So everyone knows, we have been discussing with Alyssa Marquez at CDFW who can't be on the call. But we have been reviewing these data sheets and haven't heard any comments thus far. Just want to make sure the TWG knows we are coordinating with CDFW on creel surveys.

No further stakeholder comments or questions.

6.0 REC-2 SURVEY DATES AND SCHEDULE

Angela Whelpley provided an overview of the REC-2 study sites and schedule. Angela asked for questions.

(Q) (Angela Whelpley): Given that some of the recreation facilities do not open until July, we'll be conducting these surveys in mid-July. Does USFS have suggestions on better timing to conduct an effective survey?

(Q) (Martin Ostendorf): Adam, will those sites be open by July?

(R) (Adam Barnett): They should be, but we may not know for certain for a while.

(Q) (Martin Ostendorf): If needed could we push these dates to August?

(R) (Angela Whelpley): Yes, we want to factor in adjustments to the schedule based on weather and would like to communicate any changes as necessary.

No further stakeholder comments or questions.

7.0 LAND-2 SURVEY DATES AND SCHEDULE

Shannon Luoma reviewed the LAND-2 study sites and KOP locations.

(C) (Adam Barnett): That works, thank you for adding that location [on the north side of Ellery Lake as a key observation point].

No further stakeholder comments or questions.

8.0 SCHEDULE AND NEXT STEPS

(Q) (Shannon Luoma): Can we formalize a process for delaying the start of REC-1 studies, if necessary, due to weather and varied opening dates for sites? Should we check in again in April to discuss?

(Q) (Matt Woodhall): We should definitely have some sort of check-in as it relates to schedule updates. We're looking at the overall study approach for items that may push if needed due to snow. We would like inputs on what stakeholders could see as potential impacts due to weather. We would like to take a segmented approach. Is our current plan going to provide useful data? Will pushing the study for a year be more effective? We're trying to get ahead of a unique year.

(R) (Adam Barnett): That makes sense to me to develop a plan B survey frame now, without compressing the survey sampling frame.

(Q) (Shannon Luoma): Currently there are 15 days scheduled for user surveys and 108 spot counts; is there a threshold (for USFS) of surveys for a sufficient study plan? Let's go ahead and schedule another check-in for the last week of April.

(Q) (Martin Ostendorf): One of our concerns, Adam, is that the survey is going to provide adequate user data in a unique year. Will this data be valid and representative?

(R) (Adam Barnett): We want to capture data at the low and moderate use locations also. We should pursue this year, there are a lot fewer normal years than we used to have.

(C) (Martin Ostendorf): Let's have a check-in in April, please understand our concerns with cost. We need the data for the licensing but want to make sure it's representative.

(C) (Adam Barnett): Understood.

Shannon asked the group if an April 19 meeting from 9 am to 10 am would work to discuss any updates to the schedule. No objections were heard. Relicensing Team will send out an invitation.

9.0 FINAL Q&A

Shannon concluded that the primary objectives of the meeting have been met. Shannon asked for any additional discussions around responses to comments received from technical memos. Shannon confirmed that official responses to these comments are being developed in the next few weeks, including meeting minutes, which will be shared and filed with FERC.

No further stakeholder comments or questions.

The Relicensing Team adjourned the meeting.

From:	Carissa Shoemaker
To:	Lauren Rosenkranz; Arianna Bresnan
Subject:	FW: CDFW comments on Lee Vining Creel survey methods
Date:	Thursday, March 16, 2023 9:39:10 AM

For consultation log

Carissa Shoemaker

My part-time work schedule is generally as follows: Tuesday morning, Thursday morning, and all day Friday.
I can be available outside of these times if given advanced notice.

ERM
M 907 575 0294

From: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Sent: Thursday, March 16, 2023 9:07 AM
To: Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
Cc: Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: FW: CDFW comments on Lee Vining Creel survey methods

EXTERNAL MESSAGE

FYI

Shannon Luoma
Licensing and Regulatory Section Manager
Office: 425.528.1614

From: Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>
Sent: Thursday, March 16, 2023 8:38 AM
To: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Cc: Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: RE: CDFW comments on Lee Vining Creel survey methods

Hi Shannon,

Fisheries will not be able to provide comments on the creel surveys. However, overall, the forms seem reasonable. Adding photos of each fish next to what species were caught by the angler could be a good idea. At 37.945920, -119.257871 there looks like there is another turnout that could used for fishing access that is not included in the creel survey locations.

Alyssa Marquez

Environmental Scientist, Inland Deserts Region 6
California Department of Fish and Wildlife
787 North Main Street Suite 220
Bishop, CA 93514
(760) 567-0332
Alyssa.Marquez@Wildlife.ca.gov

From: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Sent: Wednesday, March 15, 2023 8:38 AM
To: Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>
Cc: Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: RE: CDFW comments on Lee Vining Creel survey methods

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Sounds great, thank you Alyssa! It would be great to get feedback by the end of the week if at all possible. I think at the end of the day I think we'll just need to maintain flexibility and communication on the earliest we can get out there due to weather and accessibility and when CDFW will be stocking the reservoirs. Happy to talk on the phone if that's easier as well.

Thanks!
Shannon

Shannon Luoma
Licensing and Regulatory Section Manager
Office: 425.528.1614

From: Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>
Sent: Tuesday, March 14, 2023 3:15 PM
To: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Cc: Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: RE: CDFW comments on Lee Vining Creel survey methods

Hi Shannon,

Thank you for sending this information. CDFW will not have input prior to tomorrows Rec TWG meeting, but we will follow-up with any input we have after the meeting via email or phone call.

Alyssa Marquez

Environmental Scientist, Inland Deserts Region 6

California Department of Fish and Wildlife
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(760) 567-0332
Alyssa.Marquez@Wildlife.ca.gov

From: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Sent: Friday, March 10, 2023 12:14 PM
To: Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>
Cc: Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: CDFW comments on Lee Vining Creel survey methods

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Hi Alyssa!
I know that your team won't be able to attend the LV REC TWG meeting on March 15, so I wanted to check in and see if you all have had a chance to review the survey forms, data sheets and locations for the creel surveys (and any of the other REC forms we sent last week). Let me know if you want to get on the phone about it or if you have specific questions.

Thanks, have a great weekend!
Shannon

Shannon Luoma
Licensing and Regulatory Section Manager
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TJ Wiggs

From: Steve Norton
Sent: Tuesday, March 21, 2023 11:28 AM
To: Matthew Woodhall; Shannon Luoma
Cc: Carissa Shoemaker; Brad Blood
Subject: FW: Yosemite Toad & LV FERC

Hi Matt,
Below is the most recent email from Thomas Torres (Inyo NF Bio) regarding Yosemite toad DNA studies. I am going to reach out to the biologist in the Eldorado National Forest to see how his project ties into the FERC process, but I wanted to share this update and start thinking about how to respond.
Thanks,
-Steve

Steve Norton
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Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

From: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Sent: Tuesday, March 21, 2023 7:40 AM
To: Steve Norton <steve.norton@psomas.com>
Subject: RE: Yosemite Toad & LV FERC

Hi Steve,

I did have a few conversations with our regional aquatics biologist and our natural resource staff officer. I was hoping to hear back from Cathy Brown and Rob Grasso but it seems they are out and still unavailable.

Based on the conversations that I had, it sounds like this genetic project isn't really relevant to the purpose and need of the FERC relicensing process. This would perhaps better be suited for a graduate student or a regional aquatics study.

Thoughts?

Thomas Torres
Wildlife Biologist
Forest Service
Inyo National Forest, Mammoth Lakes Ranger District
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c: 760-965-9671
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Caring for the land and serving people

From: Steve Norton <steve.norton@psomas.com>
Sent: Monday, March 20, 2023 3:07 PM
To: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Subject: RE: Yosemite Toad & LV FERC

Hey Thomas,
Just following up to see if you've heard anything.
Let me know.
Thanks!
-Steve

Steve Norton
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From: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Sent: Monday, February 27, 2023 8:02 AM
To: Steve Norton <steve.norton@psomas.com>
Subject: RE: Yosemite Toad & LV FERC

Hi Steve,

Id really like to get some direction from our regional aquatics bio Holly before having another conversation. I sent her another message this AM.

Thomas Torres
Wildlife Biologist
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From: Steve Norton <steve.norton@psomas.com>
Sent: Friday, February 24, 2023 1:36 PM

To: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Cc: Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Brad Blood <bblood@psomas.com>
Subject: RE: Yosemite Toad & LV FERC

Thanks!
Any time after 2:00 on Monday works for us. Let me know if 2:30 on Monday works and I'll send an invite.
-Steve

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From: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Sent: Friday, February 24, 2023 7:12 AM
To: Steve Norton <steve.norton@psomas.com>
Subject: RE: Yosemite Toad & LV FERC

Hey Steve, yes lets! Monday or Thursday afternoon work for you?

Thomas Torres
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From: Steve Norton <steve.norton@psomas.com>
Sent: Thursday, February 23, 2023 5:25 PM
To: Torres, Thomas - FS, CA <thomas.torres@usda.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>
Cc: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: RE: Yosemite Toad & LV FERC

Hey Thomas,
Are you free for a call sometime next week?
Let me know.
Thanks!
-Steve

Steve Norton
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From: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Sent: Thursday, February 23, 2023 7:58 AM
To: Steve Norton <steve.norton@psomas.com>
Cc: Schlick, Kary - FS, CA <kary.schlick@usda.gov>
Subject: RE: Yosemite Toad & LV FERC

Hi Steve, thanks for reaching out!

I contacted our regional aquatics program manager with a suite of questions regarding the permit. I have yet to hear back from her, however. But I have thought more about it and have had some conversations with m counterparts. It seems that this project/genetic analysis is a standalone project and perhaps belongs outside of the FERC technical study process.

I would still like to get this done at some point though and am looking into working with our staff at a few research stations. Kary Schlick my coworker on the south zone gave me a few names of individuals who may be interested in taking this on.

That is where I currently stand – but lll let you know if anything changes once the aquatics program manager gets back to me?

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From: Steve Norton <steve.norton@psomas.com>
Sent: Wednesday, February 22, 2023 3:26 PM
To: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Subject: RE: Yosemite Toad & LV FERC

Hey Thomas,
Have you heard anything back from Vallejo regarding potential DNA collection as part of your permit?
I hope all is well and that you're stocked up on food for the next week or so.

Stay warm!
-Steve

Steve Norton
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From: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Sent: Tuesday, February 7, 2023 12:09 PM
To: Steve Norton <steve.norton@psomas.com>
Subject: Yosemite Toad & LV FERC

Hi Steve,

Please read the trailing emails. I have been in touch with Alexa Lindauer from SNARL. I posed a question to her asking if there were already genetic samples you could use for the proposed genetics study.

Lets discuss.

Thomas Torres
Wildlife Biologist
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From: Alexa Lindauer <alexalindauer@gmail.com>
Sent: Tuesday, February 7, 2023 9:28 AM
To: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Subject: Re: [External Email]successful tadpole collection in Humphrey's Basin

I realize I had a similar question from Jim Erdman earlier this year, I assume he is involved in the same permit process. His questions received the following response from Paul Maier and Jeff Mabe (do you know Jeff on the Eldorado?):

Jeff and I are working to develop an Anaxyrus boreas × canorus hybrid panel. Once completed, we hope it will more definitively answer questions about species boundaries, and dual ancestry in questionable individuals. Our project is focusing on the northern hybrid zone, but we would welcome any sample contributions of likely hybrids from other regions (e.g., Frog Lakes, Kaiser Pass, etc.). Please contact Jeff and myself directly if you want to send us your samples.

I'm happy to connect you with Paul and Jeff directly. Their emails are below if you'd like to connect. Happy to be cc-ed if helpful. Let me know what works best.

paulm@genebygene.com
jeffrey.mabe@usda.gov

I think general consensus (Cathy Brown, others) is that toads at Tioga, Ellery, Saddlebag are canorus, but I'm not sure where that consensus comes from.

Hope this helps,
Alexa

On Tue, Feb 7, 2023 at 8:16 AM Torres, Thomas - FS, CA <thomas.torres@usda.gov> wrote:

> HI Alexa,
>
> Thank you for the thorough response!
>
> The reason Im inquiring about toads in this area is because I am working with the Federal Energry Regulation Commission on renewing the Lee Vining hydro plan permit. I am working with their contracted biologists and they brought up the idea of collecting toe clips or tail clips to do some genetic testing to determine if they are hybridized or not (with Western toad).
>
> Rather than go through the process of collecting data ourselves, I was curious if you thought we had any samples or data that would suffice for this kind of work.
>
> Please do let me know. Thank you!

Thomas Torres
Wildlife Biologist
Forest Service

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From: Alexa Lindauer <alexalindauer@gmail.com>
Sent: Monday, February 6, 2023 1:14 PM
To: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Subject: Re: [External Email]successful tadpole collection in Humphrey's Basin

Hi Thomas,

Are you interested in analyses of genetic samples, or preserved tissues or extracts for future analyses? And if the latter, what types of samples are you looking for?

Paul Maier collected tadpoles and tadpole tails for his genomic research (which is published - I am happy to forward you links if you are unfamiliar with his work). I'm not sure if they were destructively sampled for his PhD, or if there are still extracts in a freezer somewhere at UCSD/UC Riverside.

Dave Daversa has been swabbing toads for his postdoc at UCLA the past two summers. I saved the swab extracts, and these container coarser DNA for toads but I'm not sure which labs other than the Rosenblum Lab at Berkeley run these sorts of lab analyses with DNA from swab extracts. Many of Dave's samples are from Dana meadows and other populations within maybe a 7mi radius of Tioga Pass. He may also have collected dead animals he found and froze them, I'm not sure.

The last person to ask would be Rob Grasso in YOSE. He may have the occasional collected specimen here and there.

MVZ Berkeley also has preserved yotoads, not sure from where, and I am no expert in extracting DNA from specimens preserved in formaldehyde.

Hope this helps?? I am happy to connect you with Dave and Paul (I am assuming you know Rob).

On Fri, Feb 3, 2023 at 10:52 AM Torres, Thomas - FS, CA <thomas.torres@usda.gov> wrote:

> Thanks for getting back to me, Alexa. I just had a quick question about Yosemite Toad. Do you know if we have any genetic samples from individuals off of Tioga Road (Saddlebag and Dana meadows)?

Thomas Torres
Wildlife Biologist
Forest Service

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From: Alexa Lindauer <alexalindauer@gmail.com>
Sent: Friday, February 3, 2023 10:08 AM
To: Torres, Thomas - FS, CA <thomas.torres@usda.gov>
Subject: Re: [External Email]successful tadpole collection in Humphrey's Basin

Hi Thomas,

Thanks for reaching out. Can we schedule a time on Monday? I'm pretty booked today with calls but am totally free on Monday. Free Tuesday and Wednesday as well if that works better.

Hope you've been getting out and playing in the mountains with all this snow, and finally a clear weather window (and clearer roads)!

-Alexa

On Thu, Feb 2, 2023 at 2:00 PM Torres, Thomas - FS, CA <thomas.torres@usda.gov> wrote:

> Hi Alexa, could you give me a call at your earliest convenience? I was hoping to pick your brain about YOTO. Hope youre well.

760-965-9671

Thomas Torres
Wildlife Biologist
Forest Service

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Alexa Lindauer (she/her)

Project and Laboratory Manager

Sierra Nevada Aquatic Research Laboratory

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http://mountainlakesresearch.com/

--

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From:	Carissa Shoemaker
To:	Arianna Bresnan; Lauren Rosenkranz
Subject:	FW: Lee Vining Fire Suppression Plan
Date:	Monday, March 27, 2023 12:12:54 PM

For consultation log

Carissa Shoemaker

My part-time work schedule is generally as follows: Tuesday morning, Thursday morning, and all day Friday.
I can be available outside of these times if given advanced notice.

ERM
M 907 575 0294

From: Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>
Sent: Friday, March 24, 2023 4:55 PM
To: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Cc: Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: RE: Lee Vining Fire Suppression Plan

EXTERNAL MESSAGE

That sounds good. Thank you Shannon.

Alyssa Marquez

Environmental Scientist, Inland Deserts Region 6
California Department of Fish and Wildlife
787 North Main Street Suite 220
Bishop, CA 93514
(760) 567-0332
Alyssa.Marquez@Wildlife.ca.gov

From: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Sent: Friday, March 24, 2023 3:47 PM
To: Marquez, Alyssa@Wildlife <Alyssa.Marquez@Wildlife.ca.gov>
Cc: Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: Lee Vining Fire Suppression Plan

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Hi Alyssa!
We're working on gathering the data and management plans that CDFW requested in your comment letters earlier this month. So far we've been able to track down most of it, but are having trouble

with the Fire Suppression Plan. SCE has a corporate Wildlife Management Plan that we were able to locate, but it doesn't look like the EAP has a separate fire plan associated with it as the CDFW comment suggests. So we intend to share the wildfire plan, but just wanted to reach out in case you are looking for something different, and can give me some more intel on what sort of data you're looking for so we can try to track that down.
Thanks!
Shannon

Shannon Luoma
Licensing and Regulatory Section Manager
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B-67_Description of Warren Creek data (not attached)

From:	Greg Reis
To:	Shannon Luoma
Subject:	Warren Fork Data
Date:	Wednesday, March 29, 2023 2:53:02 PM
Attachments:	yosbaro06.txt H47_sn47387_WarrenCr.csv H57_48242_WarrenCr-05.csv H36_warrencr.csv Warren.xls

---

* Warren.csv - 21 measurements from June 2003 to August 2006 (with discharge for the 2003-2004 dates)
* H36_warrencr.csv - water level logger stage readings in two channels every half hour from 6/22/2003 to 6/24/04
* H36_warrencr.xls - appears to be same as above but barometer-adjusted stage
* H57_48242_WarrenCr-05.csv - water level logger stage readings in two channels every half hour from 6/18/04-7/12/05
* H47_sn47387_WarrenCr.csv - water level and temperature for Channel 1 every half hour from 7/15/05-8/18/06
* Yosbaro06.txt and Yosbaro06.xls -raw and imported barometric pressure data

See below for a description of the data

Greg Reis, Information & Restoration Specialist, Mono Lake Committee
(760) 647-6386 x141 (direct/voicemail) | 415-342-6390 (mobile)
Hwy 395 at Third St, PO Box 29, Lee Vining, CA 93541
www.monolake.org | www.monobasinresearch.org

Saving Mono Lake for future generations through
protection, restoration, education, and science.
Long Live Mono Lake!

-----Original Message-----
From: Jessica Lundquist <jessica.lundquist@noaa.gov>
Sent: Wednesday, September 6, 2006 10:54 AM
To: greg@monolake.org
Subject: Re: lecture

Greg,

I'm glad to hear your seminar and lecture both went well. I don't know who put that weather station at the bottom of Tioga grade (was wondering the same thing myself) -- all of our sensors and weather stations are much less obstrusive. Maybe Connie or someone with the forest service would know.

Attached are .csv files for Warren Creek for the past x years. I'm also attaching a file with barometric pressure for this timeperiod. The sensors in Warren Creek recorded pressure, so you need to subtract off atmospheric pressure to get stream stage fluctuations. Please note that during the early years, the stream sensor was located in a very turbulent location, and the anchor got moved around by the stream a lot (resulting in basically useless data). My grad student, Fred, is currently working on processing all of the Yosemite stream data (correcting for barometric pressure and for offsets from sensor movements). Let me know if you would like just a graph of the Warren data rather than all of the raw data here. H47 is for water year 05-06,
H57 is for 04-05, and H36 is for 03-04. The sensor installed for 02-03 broke.

Finally, I'm attaching an excel file with actual discharge measurements (and water temperature and conductivity) from 2003 and 2004 from me wading in Warren Creek.

Hope all this helps. We've switched Warren to "low priority" status in our study because it's a bit out of the way

(hence no discharge measurements in 2005 or 2006). Let me know if you want to adopt this site and give it the attention it deserves.

Jessica

Greg Reis wrote:
> Jessica,
> My seminar was good (but small) and my lecture was very well-received,
> the most well-attended of the summer's lectures with about 40 people!
> Congratulations on your new professorship.
>
> So, how big are the files for Warren Creek? 6 hours makes them sound
> big, but if you had satellite internet I know uploads are slow.
>
> Also, do you know anything about the new weather station that is at
> the bottom of the Tioga grade? I drove by this spring when a couple of
> people were planting something there (plants?) but I didn't stop and
> haven't gotten around to stopping and seeing what they put in the
> ground. Then just a week or two ago a weather station appeared in that
> location (radiation shelter and anemometer on a tripod). On the way
> down, it is just before you get to the last big sweeping left turn and
> guardrail, in-between some vertical cliffs on the left.
>
> Thanks,
> Greg
>
> Greg Reis, Information Specialist
> Mono Lake Committee, P.O. Box 29, Lee Vining, CA 93541
> 760-647-6595 | www.monolake.org
>
>

Wayne P. Allen
Principal Manager
Regulatory Support Services

Filed Electronically

March 31, 2023

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
825 First Street, N.E.
Washington, D.C. 20426

Subject: Lee Vining Creek Hydroelectric Project, FERC Project No. 1388
2022 Progress Report Technical Memos

Dear Secretary Bose:

Southern California Edison Company (SCE) hereby files with the Federal Energy Regulatory Commission (FERC) its 2022 Progress Report and Technical Memos for the Lee Vining Creek Project (FERC No. 1388).

The Progress Report include Technical Memos that summarize the preliminary data collected during the 2022 study year. The Progress Report and Technical Memos were sent to Stakeholders for a 30-day review period on January 23, 2023. A virtual Technical Working Group (TWG) meeting was held on February 1, 2023, to discuss the Technical Memos and SCE's plans for 2023 studies. Following the meeting, comments on the Technical Memos were received from the U.S. Forest Service (USFS) and California Department of Fish and Wildlife (CDFW) on February 21 and February 23, 2023, respectively.

The Progress Report, Technical Memos, meeting materials, agency comments, and SCE's response to those comments are attached to this letter.

The Lee Vining Project is following the Traditional Licensing Process, SCE has conducted the activities mentioned above and is filing these documents to keep stakeholders informed and continue collaboration. Following the acceptance of this filing, SCE will forward the "Acceptance for Filing" e-mail generated by FERC's e-filing service to all contacts on the distribution list via e-mail. This filing will also be placed on SCE's Lee Vining Creek Relicensing Website (https://www.sce.com/leevining), where it will be available for download.

SCE looks forward to continuing to work with FERC and other interested parties on the Lee Vining Creek relicensing. Should there be any questions or concerns regarding this filing, please contact Matthew Woodhall, Senior Regulatory Advisor, by phone at (626) 302-9596 or via e-mail at matthew.woodhall@sce.com.

Sincerely,

DocuSigned by:
Wayne Allen
106CF18A73D445F...

Wayne P. Allen
Principal Manager

1515 Walnut Grove Avenue
Rosemead, CA 91770
626.302.9741
wayne.allen@sce.com

Attachments:

- 2022 Progress Report and Technical Memos
- February 1, 2023, Stakeholder Meeting Materials
    - Meeting Agenda
    - PowerPoint Presentation
    - Meeting Summary
- USFS and CDFW Comment Letters
- SCE Responses to Comments

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2022 PROGRESS REPORT AND TECHNICAL MEMOS

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SOUTHERN CALIFORNIA EDISON
Lee Vining Hydroelectric Project
(FERC Project No. 1388)



2022 PROGRESS REPORT

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SOUTHERN CALIFORNIA EDISON

Lee Vining Hydroelectric Project
(FERC Project No. 1388)

2022 PROGRESS REPORT

Southern California Edison
1515 Walnut Grove Ave
Rosemead, CA 91770

January 2023

Support from:

Kleinschmidt

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Appendix E Lower Lee Vining Creek Channel Morphology (AQ-6) Technical Memo

Appendix F General Botanical Resources Survey (TERR-1) Technical Memo

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Appendix H Recreation Use Assessment (REC-1) Technical Memo

Appendix I Existing Recreation Facilities Condition Assessment (REC-2) Technical Memo

Appendix J Cultural Resource (CUL-1) Technical Memo

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LIST OF ACRONYMS AND ABBREVIATIONS

°C	degree Celsius
amsl	above mean sea level
APE	Area of Potential Effects
BE	built environment
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CHSC	California Health and Safety Code
CL	Confidence Limit
CNDDB	California Natural Diversity Database
CRPR	California Rare Plant Rank
DLA	Draft License Application
DO	dissolved oxygen
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
FLA	Final License Application
ft^2	square feet
FVE	Focused Visual Encounter
FW	Far Western Anthropological Research Group, Inc.
GIS	geographic information system
GPS	global positioning system
HRA	Historical Research Associates, Inc.
JAM	Joint Agency Meeting
LADWP	Los Angeles Department of Water and Power
N/A	data not available
NDVI	Normalized Difference Vegetation Index
NHPA	National Historic Preservation Act
NIR	near-infrared
NNIP	non-native invasive plant
NOI	Notice of Intent
NRHP	National Register of Historic Places
NTU	nephelometric turbidity unit

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O&M	operations and maintenance
OHP	California Office of Historic Preservation
PAD	Pre-Application Document
Project	Lee Vining Hydroelectric Project (FERC Project No. 1388)
s.u.	standard unit
SCE	Southern California Edison
TAA	Terrestrial Assessment Area
TBD	to be determined
TDS	total dissolved solids
TLP	Traditional Licensing Process
TSS	total suspended solids
TWG	Technical Working Group
U.S.	United States
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator

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1.0 INTRODUCTION AND BACKGROUND

1.1. INTRODUCTION

Southern California Edison (SCE) is the licensee, owner, and operator of the Lee Vining Hydroelectric Project (Project), licensed under the Federal Energy Regulatory Commission (FERC) Project Number 1388. The Project is an existing hydroelectric generating facility located on Lee Vining Creek near the town of Lee Vining and in Mono County. The Project has an installed capacity of 11.25 megawatts. SCE is developing the application to relicense the Project. This *2022 Progress Report* is intended to provide stakeholders a summary of progress to date and data collected from the studies initiated in 2022. The 2022 Progress Report meeting (February 1, 2023, at 9:00 a.m. via Microsoft Teams) will provide an opportunity for Stakeholders to comment on the 2022 study program. Please note that a 2022 Progress Report and meeting is not a FERC requirement for relicensing using the Traditional Licensing Process (TLP), but SCE is providing them to facilitate collaboration and communication.

1.2. STUDY PLAN IMPLEMENTATION

SCE held 21 stakeholder meetings from October 2020 to March 2022 (see Section 1.3, Consultation to Date). SCE filed the Pre-Application Document (PAD) and Draft Study Plans on August 12, 2021. The comment period ended on January 15, 2022, with comments received from California Department of Fish and Wildlife, U.S. Forest Service, Mono Lake Committee, and the State Water Resources Control Board. Study Plans were modified based on feedback received from Stakeholders; Revised Study Plans were filed with FERC on February 18, 2022. The Final Study Plans were filed with FERC on April 25, 2022. Where appropriate, each study plan included a table identifying study elements discussed during PAD development and not adopted. The Lee Vining Study Program includes 15 study plans, as listed in Table 1.2-1. Several of these studies commenced in the summer of 2022. Table 1.2-1 indicates which studies occurred in 2022 and which will continue or begin in 2023.

The studies that occurred in 2022 form the basis for this *2022 Progress Report*.

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Table 1.2-1. Study Plans and Implementation Year(s)

Study Plan Title	Year(s) of Implementation
Stream and Reservoir Water Quality (WQ-1)	2022*
Reservoir Fish Population (AQ-1)	2022
Stream Fish Population (AQ-2)	2022
Aquatic Habitat Mapping and Sediment Characterization (AQ-3)	2023
Aquatic Invasive Plants (AQ-4)	2023
Operations Model (AQ-5)	2022–2023
Lower Lee Vining Creek Channel Morphology (AQ-6)	2022–2023
General Botanical Resources Survey (TERR-1)	2022–2023
General Wildlife Resources Survey (TERR-2)	2022–2023
Recreation Use Assessment (REC-1)	2022–2023
Existing Recreation Facilities Condition Assessment (REC-2)	2022–2023
Project Lands and Roads (LAND-1)	2023
Visual Resource Assessment (LAND-2)	2023
Cultural Resource (CUL-1)	2022–2023
Tribal Resources (TRI-1)	2023

Note: Grey rows indicate studies that have not yet commenced. These are briefly identified in Table 2-1 but are not discussed further in this *2022 Progress Report*.

* Depending on the 2023 Water Year Type, WQ-1 may be implemented in 2023.

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1.3. CONSULTATION TO DATE

Below is a list of meetings conducted in support of the relicensing effort.

- October 6, 2020—Public Kickoff Meeting (morning and evening presentations)
- November 17, 2020—Initial Technical Working Group (TWG) Meeting
- Aquatics and Hydrology TWG Meetings:
  - January 25, 2021
  - February 22, 2021
  - March 29, 2021
  - May 24, 2021
- Terrestrial and Botanical TWG Meetings:
  - January 27, 2021
  - February 24, 2021
  - April 7, 2021
  - May 26, 2021
- Cultural and Tribal TWG Meetings:
  - January 27, 2021
  - February 24, 2021
  - March 31, 2021
  - May 26, 2021
- Recreation and Land Use TWG Meetings:
  - January 28, 2021
  - February 24, 2021
  - April 1, 2021
  - May 27, 2021
- September 28, 2021—Site Visit
- November 16, 2021—Joint Agency and Public Meeting
- March 28, 2022—Study Plan Meeting

1.4. PROCESS PLAN AND SCHEDULE

The Project follows the TLP schedule as outlined by FERC guidance (18 CFR § 16.8). Table 1.2-2 identifies the major milestones completed and those upcoming for the Project, as filed with FERC in the August 2021 PAD.

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Table 1.2-2. Project Relicensing Schedule

Regulation	Activity	Responsible Party	Activity Timeframe	Dates [a]
Stage 1				
18 CFR § 5.3, 16.8	File NOI and PAD	SCE	At least 5 years but no more than 5.5 years prior to license expiration	8/12/2021
18 CFR § 5.3	Publish Notice in Newspaper of NOI/PAD Filing, TLP Request, and Site Visit	SCE	Concurrent with NOI	8/12/2021
18 CFR § 5.7	Meeting Between FERC Staff and Native American Tribes	FERC/Stakeholders	Within 30 days of NOI	9/13/2021
18 CFR § 5.3	Comments on Use of TLP	FERC/ Stakeholders	Within 30 days of NOI	9/13/2021
18 CFR § 5.8	FERC Notice of Site Visit	FERC	Approximately 30 days before site visit	8/27/2021
18 CFR § 16.8	Conduct Site Visit	SCE	30 to 60 days after FERC Notice of Commencement and TLP Approval	9/28/2021
18 CFR § 5.8	FERC Notice of NOI/PAD Filing, Commencement of Proceeding, and Decision on TLP Request	FERC	Within 60 days of NOI	10/8/2021
18 CFR § 16.8	JAM Notification and Agenda to FERC and Stakeholders	SCE	At least 15 days prior to the JAM	10/31/2021
18 CFR § 16.8	Publish Public Notice of JAM in Newspaper	SCE	At least 14 days prior to the JAM	11/1/2021
18 CFR § 16.8	Conduct JAM	SCE	30 to 60 days after FERC Notice of Commencement and TLP Approval	11/16/2021
18 CFR § 16.8	File Comments on PAD and Study Requests	Stakeholders	Within 60 days of JAM	1/15/2022
Not Required	Provide Study Plans TWG Review	SCE	Within 30 days of Receipt of Study Requests	2/18/2022
Not Required	Comments on Study Plans	Stakeholders	Within 30 days of Receipt of Study Plans	3/20/2022
Not Required	Study Plan Meetings	SCE/Stakeholders	If needed, within 15 days of receipt of comments on Study Plans	3/28/2022

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Regulation	Activity	Responsible Party	Activity Timeframe	Dates [a]
	Final Study Plans	SCE	Within 30 Days of Receipt of Study Plan Comments	4/25/2022
Stage 2				
18 CFR § 16.8	Conduct First Season of Studies	SCE		2022
Not Required	2022 Progress Report Meeting	SCE/Stakeholders	Following first year of study implementation	1/31/2023
18 CFR § 16.8	Conduct Second Season of Studies (if necessary)	SCE		2023
18 CFR § 16.8	File DLA with Stakeholders and FERC	SCE	No later than 150 days prior to deadline for filing FLA	9/3/2024
18 CFR § 16.8	File Comments on Applicant's DLA	Stakeholders	Within 90 days of filing DLA	12/2/2024
Stage 3				
18 CFR § 5.17	File FLA	SCE	No later than 24 months before existing license expires	1/31/2025

CFR = Code of Federal Regulations; DLA = Draft License Application; FERC = Federal Energy Regulatory Commission; FLA = Final License Application; JAM = Joint Agency Meeting; NOI = Notice of Intent; PAD = Pre-Application Document; SCE = Southern California Edison; TLP = Traditional Licensing Process; TWG = Technical Working Group

Notes:

[a] If the due date falls on a weekend or holiday, the deadline has been adjusted to show the preceding business day.

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2.0 SUMMARY OF STUDIES

SCE initiated several resource studies in 2022 as outlined in the Revised Technical Study Plan. A high-level summary of the 2022 field studies is included in Table 2-1.

This *2022 Progress Report* includes technical memos for studies that were implemented in 2022. The goal of this progress report and accompanying technical memos is to provide Stakeholders with a summary update on the Lee Vining Study Program and provide a look ahead for the 2023 field season. This report is a snapshot of the status of each study with as much data as possible provided to help guide discussions. Data is still being analyzed for several studies that were still collecting data into fall 2022. Where available and appropriate, preliminary results will be discussed during the February 2023 progress meeting. For those preliminary results and all studies, final results and discussion will be included in Technical Reports as the studies conclude.

Final Technical Reports will be distributed prior to inclusion in the Draft License Application (DLA) in 2024.

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Table 2-1. Project Relicensing 2022 Field Study Summary

Study Name	Study Status	Modification to Methodology	Next Steps / Schedule
WQ-1 Stream and Reservoir Water Quality	1-year study, pending water quality results; went as planned in 2022	• Due to freezing waters in Saddlebag Lake, depth profiles were collected at the deepest location free of ice cover rather than maximum depth. • Supply chain issues led to turbidity logger installation in early summer rather than in spring. • At some sites, fewer than nine edible-sized individuals of a given species were caught, processed, and sent to analytical laboratory for mercury tissue analysis.	• See the WQ-1 Technical Memo (Appendix A) • Second field season 2023 pending water year type
AQ-1 Reservoir Fish Population	1-year study; went as planned in 2022	• Reduced gill netting set times at some locations from approximately 8 hours to approximately 4 hours to reduce potential for fish mortality.	• See the AQ-1 Technical Memo (Appendix B)
AQ-2 Stream Fish Population	1-year study; went as planned in 2022	• No changes or modifications to methods	• See the AQ-2 Technical Memo (Appendix C)
AQ-3 Aquatic Habitat Mapping and Sediment Characterization	Study will occur in 2023	Not Applicable	• No work conducted in 2022 • Field surveys in 2023
AQ-4 Aquatic Invasive Plants Survey	Study will occur in 2023	Not Applicable	• No work conducted in 2022 • Field surveys in 2023
AQ-5 Operations Model	2-year study; went as planned in 2022	• No changes or modifications to methods	• See the AQ-5 Technical Memo (Appendix D) • Continued data collection and model calibration in 2023
AQ-6 Lower Lee Vining Creek Channel Morphology	2-year study; went as planned in 2022	• No changes or modifications to methods	• See the AQ-6 Technical Memo (Appendix E) • Field surveys in 2023
TERR-1 General Botanical Resources Survey	2-year study; went as planned in 2022	• Conducted two rounds of surveys in place of reference population checks for Special Status Plants • Scale of vegetation mapping is significantly finer than the U.S. Forest Service's scale	• See the TERR-1 Technical Memo (Appendix F) • Field surveys in 2023

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Study Name	Study Status	Modification to Methodology	Next Steps / Schedule
TERR-2 General Wildlife Resources Survey	2-year study; went as planned in 2022	• Expanded Yosemite toad study area and survey days • Trail cameras were deployed during snow-free seasons	• See the TERR-2 Technical Memo (Appendix G) • Develop 2023 Scope and make Study Plan updates • Coordinate 2023 camera locations with REC team • Field surveys in 2023
REC-1 Recreation Use Assessment	2-year study; went as planned in 2022	• Shifted survey dates later in the season because of campground/road opening dates; shifted survey dates due to personnel injury; added dates in September to account for missed day(s) • Survey circuits took longer than anticipated • Nexus survey was on tablet only in English, not on paper and bilingual as originally proposed; however, no language barriers were encountered	• See the REC-1 Technical Memo (Appendix H) • Develop plan for winter 2023 field portion of study • Field surveys in 2023
REC-2 Existing Recreation Facilities Condition Assessment	2-year study; went as planned in 2022	• No changes or modifications to methods	• See the REC-2 Technical Memo (Appendix I) • Field surveys in 2023
LAND-1 Project Lands and Roads Assessment	Study will occur in 2023	• The historic FERC Project Boundary warrants modifications due to shifting creek channel and modern mapping standards	• No work conducted in 2022 • Desktop analysis in 2023
LAND-2 Aesthetics Resource Assessment	Study will occur in 2023	Not Applicable	• No work conducted in 2022 • Field surveys in 2023
CUL-1 Cultural Resource	2-year study; went as planned in 2022	• No changes or modifications to methods	• See the CUL-1 Technical Memo (Appendix J) • Field surveys in 2023
TRI-1 Tribal Resources	Study will occur in 2023	Not Applicable	• Desktop reviews conducted in 2022 • Field surveys in 2023

FERC = Federal Energy Regulatory Commission

Note: Grey rows indicate studies that have not yet commenced.

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APPENDIX A
STREAM AND RESERVOIR WATER QUALITY (WQ-1) TECHNICAL MEMO

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MEMORANDUM

To:	Lee Vining Stakeholders
From:	Southern California Edison Relicensing Team
Date:	January 2023
Subject:	Stream and Reservoir Water Quality (WQ-1) Technical Memo

1.0 INTRODUCTION

This memo presents a data summary of the Study WQ-1 conducted in 2022 within the Lee Vining Hydroelectric Project (Project). The *WQ-1 Stream and Reservoir Water Quality Technical Study Plan* details Southern California Edison's (SCE) proposal for study objectives, study area, methods, and schedule for the effort. The Final Technical Study Plan was filed with the Federal Energy Regulatory Commission (FERC) on April 25, 2022 (SCE, 2022).

In 2022, all components of Study WQ-1 were implemented, including reservoir profiles, reservoir and stream water quality sampling, bacterial sampling, fish tissue sampling, and turbidity monitoring. A data summary from the 2022 spring (May–June) reservoir and stream water quality sampling effort are included in this memo.

2.0 STUDY OBJECTIVES

The goal of this study is to assess consistency of Project reservoirs and Project-affected stream reaches with water quality objectives in the Lahontan Region Water Quality Control Board Basin Plan (Basin Plan) (LRWQCB, 2019).

2.1. STUDY AREA

The study area included Project reservoirs and selected sites within Project-affected stream reaches. Exact locations of the monitoring stations were determined in the field based on sampling suitability (i.e., well-mixed and deep enough for representative sampling) and accessibility. Site selection for fish tissue sampling occurred as part of Study AQ-1 (SCE, 2022). Site coordinates of sampling sites were documented with a hand-held Global Positioning System (GPS) unit, where possible. Established station locations were re-occupied during subsequent water quality monitoring efforts. Specifically excluded from the study area are areas where access is unsafe (very steep terrain or high streamflow). Water quality, bacterial, turbidity, and fish tissue sampling locations are shown on Figure 2.1-1 and listed in Table 2.1-1.

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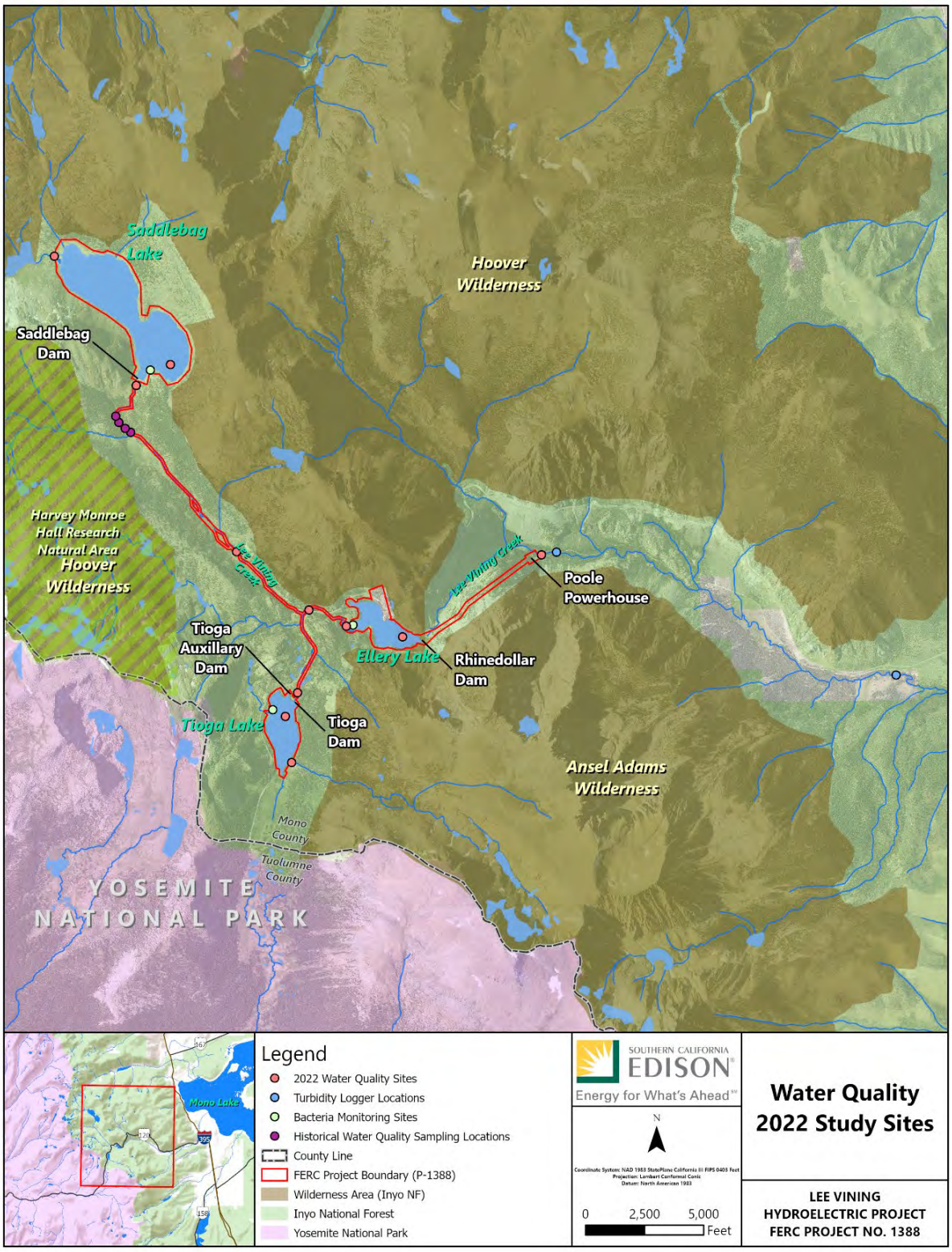


Figure 2.1-1. Overview of Water Quality 2022 Study Sites

Table 2.1-1. 2022 Water Quality General Sampling Locations and Study Components

General Site Description	Study Component			
	Reservoir and Stream Water Quality Sampling	Bacterial Sampling	Fish Tissue Mercury Sampling	Hydro-Resource Optimization Event Turbidity Monitoring
Lee Vining Creek Watershed				
Lee Vining Creek inflow to Saddlebag Lake	X			
Saddlebag Lake	X	X	X	
Lee Vining Creek between Saddlebag Dam and its confluence with Slate Creek	X			
Lee Vining Creek between its confluence with Slate Creek and Glacier Creek	X			
Lee Vining Creek between its confluence with Glacier Creek and Ellery Lake	X			
Lee Vining Creek inflow to Ellery Lake	X			
Ellery Lake	X	X		
Lee Vining Creek immediately downstream of Poole Powerhouse	X			X
Lee Vining Creek upstream of the LADWP Diversion	X			
Glacier Creek Watershed				
Glacier Creek inflow to Tioga Lake	X			
Tioga Lake	X	X	X	
Glacier Creek downstream of Tioga Dam	X			

LADWP = Los Angeles Department of Water and Power

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3.0 METHODS

Study implementation generally followed the methods described in the WQ-1 Final Technical Study Plan (SCE, 2022), with the exceptions described in below.

3.1. MODIFICATIONS TO METHODS

Three modifications to the methods outlined in the WQ-1 Final Technical Study Plan were made in 2022:

1. During spring sampling (June 1, 2022), extensive ice cover on Saddlebag Lake prevented collection of depth profiles at the location of maximum depth. Profiles were instead collected at the deepest location free of ice cover. *In situ* turbidity was not measured during depth profile collection in summer 2022.

2. During summer sampling, analytical samples were not collected at depth from Saddlebag Lake and Tioga Lake when the reservoirs were stratified.

3. Continuous turbidity data loggers were not available for purchase (due to supply chain issues) until late June 2022. As a result, turbidity loggers were installed in early summer 2022 rather than in spring. Turbidity loggers were redeployed after downloading data in October 2022 to characterize turbidity in Lee Vining Creek downstream of Poole Powerhouse through spring 2023. Both logger installations were moved slightly during redeployment to better withstand elevated spring flows.

4. All edible-sized[1] brook trout *(Salvelinus fontinalis*), brown trout (*Salmo trutta*), and rainbow trout (*Oncorhynchus mykiss*) caught during reservoir fish sampling were processed and sent to the analytical laboratory for mercury tissue analysis. However, fewer than nine edible-sized individuals of a given species were caught at some sites.

3.2. ANALYSIS

Data reduction, tabulation, quality assurance / quality control, analysis, and summary are underway. Water quality data collected during this study will also be used by related aquatic studies.

4.0 DATA SUMMARY

4.1. RESERVOIR WATER QUALITY SAMPLING

Vertical profiles of *in situ* water temperature, dissolved oxygen (DO), pH, specific conductivity, and turbidity were collected at or near the location of maximum depth in Saddlebag Lake, Tioga Lake, and Ellery Lake in spring, summer, and fall 2022 (Table 4.1-1). Seasonal sampling schedule and depths are listed in Table 4.1-1. Water quality sonde used to collect depth profiles were calibrated daily before and after sampling. A

[1] greater than 200 millimeters total length

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multi-parameter water quality sonde (YSI Incorporated, Yellow Springs, OH [YSI]) was used to measure profiles at 1-meter intervals.

Table 4.1-1. 2022 Reservoir Water Quality Sampling Sites and Schedule

Site ID Code	Site Description	Location[a] (decimal degrees)		Water Quality Sampling Dates (2022)		
		Latitude (North)	Longitude (East)	Spring	Summer	Fall
LV-2	Saddlebag Lake[b]	37.968235°	-119.269312°	June 1	August 18	October 4
LV-7	Ellery Lake	37.935294°	37.935294°	June 1	August 17	October 5
LV-11	Tioga Lake	-37.926389	-119.252667°	May 31	August 17	October 5

[a] Datum: World Geodetic System (WGS) 84
[b] Frozen conditions on Saddlebag Lake during spring sampling made the maximum depth inaccessible. Samples collected at 37.9701326 N, -119.2730728 E

Water quality grab samples were collected at Project reservoirs during profile collection. Surface samples were collected at all reservoirs during all sampling events at a depth of 0.5 meter. Based on possible thermal stratification in October 2022, grab samples were additionally collected using a Van Dorn sampler at a depth of 20 meters in Saddlebag Lake and 18 meters in Tioga Lake.

All water quality grab samples were placed in a laboratory-supplied container, labeled, preserved, immediately placed on ice, packaged, and transported to California Laboratory Services (Rancho Cordova, California) via overnight shipping on the same day they were collected. Samples were analyzed in the laboratory for basic water chemistry and nutrients according to the methods listed in Table 6-1 of the WQ-1 Final Technical Study Plan (SCE, 2022).

4.2. STREAM WATER QUALITY SAMPLING

In situ water quality sampling for DO, pH, specific conductivity, and turbidity was conducted in spring, summer, and fall at the nine stream water quality sampling sites according to the schedule described in Table 4.2-1. Water quality meters used to collect *in situ* measurements were calibrated daily before and after sampling. Surface water grab samples were simultaneously collected from a well-mixed area of the stream at each sampling site.

All surface water grab samples were placed in a laboratory-supplied container, labeled, preserved, immediately placed on ice, packaged, and transported to California Laboratory Services (Rancho Cordova, California) via overnight shipping on the same day they were collected. Samples were analyzed in the laboratory for basic water chemistry and nutrients according to the methods listed in Table 6-1 of the WQ-1 Final Technical Study Plan (SCE, 2022).

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Table 4.2-1. 2022 Stream Water Quality Sampling Sites Schedule

Site ID Code	Site Description	Location[a] (decimal degrees)		Water Quality Sampling Dates (2022)		
		Latitude (North)	Longitude (East)	Spring	Summer	Fall
Lee Vining Creek						
LV-1	Lee Vining Creek inflow to Saddlebag Lake	37.979087°	-119.284321°	June 1	August 18	October 4
LV-3	Lee Vining Creek between Saddlebag Dam and its confluence with Slate Creek	37.964904°	-119.273738°	May 31	August 18	October 4
LV-4	Lee Vining Creek between its confluence with Slate Creek and Glacier Creek	37.944963°	-119.258639°	May 31	August 18	October 4
LV-5	Lee Vining Creek between its confluence with Glacier Creek and Ellery Lake	37.938058°	-119.249256°	May 31	August 17	October 4
LV-6	Lee Vining Creek inflow to Ellery Lake	37.936590°	-119.243355°	May 31	August 17	October 5
LV-8	Lee Vining Creek immediately downstream of Poole Powerhouse	37.944568°	-119.214543°	May 31	August 17	October 5
LV-9	Lee Vining Creek upstream of the LADWP Diversion	37.935977°	-119.137268°	May 31	August 17	October 5
Glacier Creek						
LV-10	Glacier Creek inflow to Tioga Lake	37.920886°	-119.251772°	June 1	August 17	October 5
LV-12	Glacier Creek downstream of Tioga Dam	37.928959°	-119.250728°	May 31	August 17	October 5

[a] Datum: World Geodetic System (WGS) 84

4.3. BACTERIAL SAMPLING

Five fecal coliform samples were collected within a 30-day period near campgrounds at each of the three Project reservoirs: Saddlebag Lake Campground, Ellery Lake Campground, and Tioga Lake Campground. In 2022, sampling occurred on September 15, 19, and 20; and October 4 and 5. Samples were collected in sterilized bottles supplied by Silver State Laboratory (Reno, Nevada). Samples were immediately stored on ice and transported to the analytical laboratory on the same day they were collected. All analytical data have been received and are currently undergoing review.

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4.4. TURBIDITY MONITORING

Two continuous turbidity data loggers (RBRsolo Tu, RBR, Ottawa, Canada) were installed in Lee Vining Creek downstream of Poole Powerhouse on July 14, 2022. The loggers were installed in the stream channel at a location representative of the entire channel, and the installation location was recorded using a GPS unit. The loggers recorded turbidity at 30-minute intervals. The loggers were checked monthly to confirm they remain submerged and in good condition. Loggers were retrieved and downloaded on October 6, 2022, and redeployed on October 7, 2022, in locations more likely to withstand elevated spring flows. *In situ* calibration measurements of turbidity were collected for quality control purposes prior to logger retrieval using a YSI EXO2 multiparameter water quality sonde. Turbidity data are currently undergoing quality assurance / quality control and review and will be compared before, during, and after hydro-resource optimization events that occurred during the deployment period.

4.5. FISH TISSUE SAMPLING

In August 2022, fish were collected at Saddlebag, Tioga, and Ellery lakes during Study AQ-1 fieldwork (Table 4.5-1). Physical characteristics were recorded for each individual fish: weight, total length, fork length, and presence of any physical abnormalities. Each fish was individually tagged, wrapped in aluminum foil, placed in a labeled zipper-closure bag, and stored on dry ice at -20 degrees Celsius (°C) until transmittal to the Marine Pollution Studies Lab at Moss Landing Marine Laboratories (Moss Landing, California). Fish tissue mercury data will be tabulated by reservoir and compared to consumption screening values established by the California Office of Environmental Health Hazard Assessment.

Table 4.5-1. Fish Collected for Analysis of Mercury in Tissue during 2022

Sample Date	Species	Number of Fish	Size Range (fork length [millimeters])
Ellery Lake			
8/2/2022	Brook trout	5	244–310
	Brown trout	9	195–285
	Rainbow trout	2	225–287
Tioga Lake			
8/3/2022	Brook trout	9	208–262
	Rainbow trout	8	220–425
Saddlebag Lake			
8/4/2022	Brook trout	9	255–324

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5.0 SPRING DATA SUMMARY

In situ and analytical water quality parameters were collected at Project reservoirs and stream sites during May 31 and June 1, 2022. Quality control review and analysis of the summer and fall 2022 data are ongoing and will be developed and presented in a comprehensive Technical Report.

5.1. RESERVOIR WATER QUALITY

During the spring survey at all Project reservoir sites, DO, water temperature, pH, specific conductance, and turbidity exhibited little variation throughout the water columns; and total dissolved solids (TDS), total suspended solids (TSS), and nutrient concentrations were low. *In situ* water temperature, DO, pH, and specific conductance, and turbidity vertical profiles are presented in Figures 5.1-1 to 5.1-3. Basic chemistry and nutrient analytical data for reservoirs are presented in Table 5.1-1.

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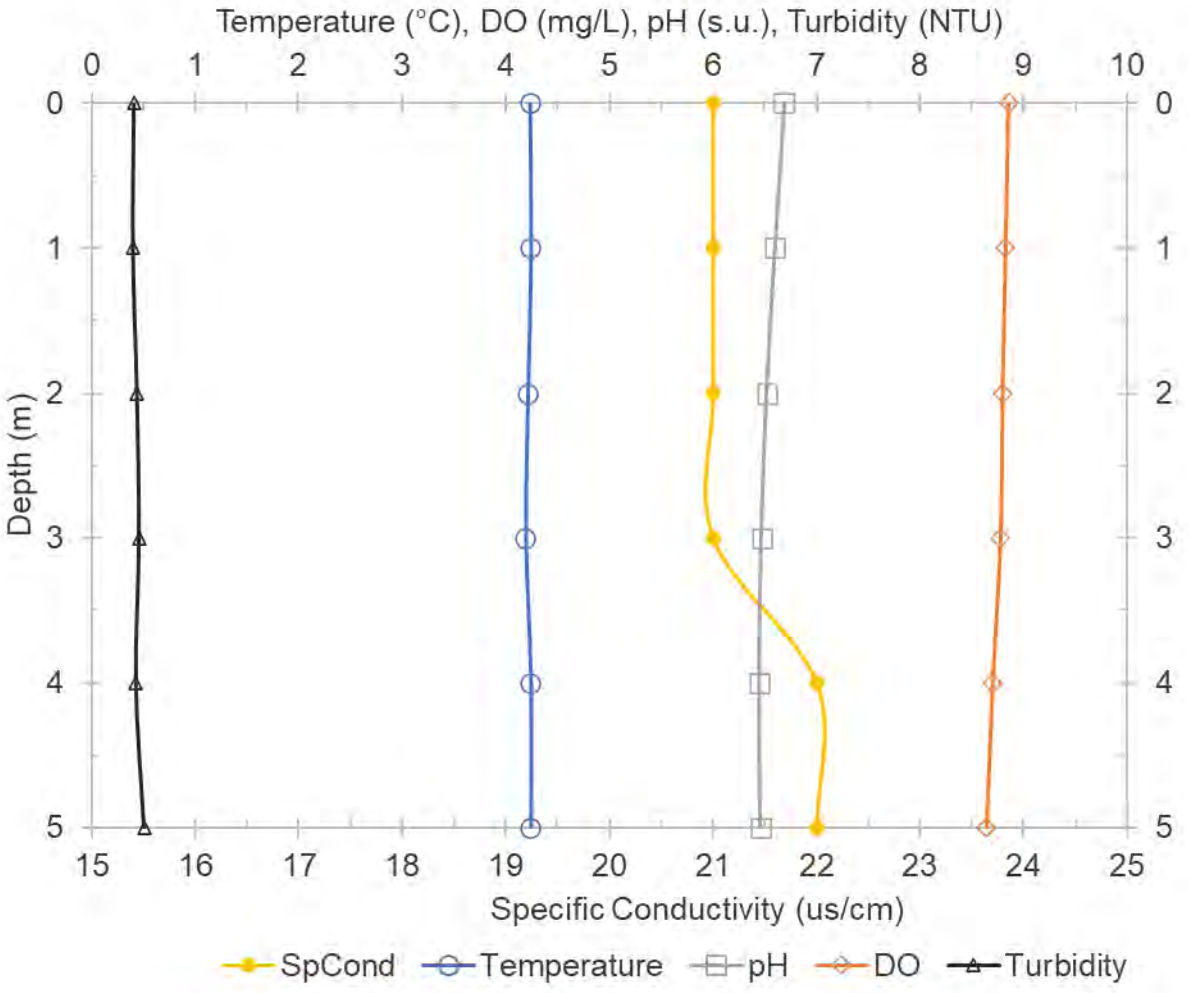


Figure 5.1-1. Saddlebag Lake Water Temperature, Dissolved Oxygen (DO), pH, Specific Conductance (SpCond) Vertical Profiles Measured in Spring 2022.

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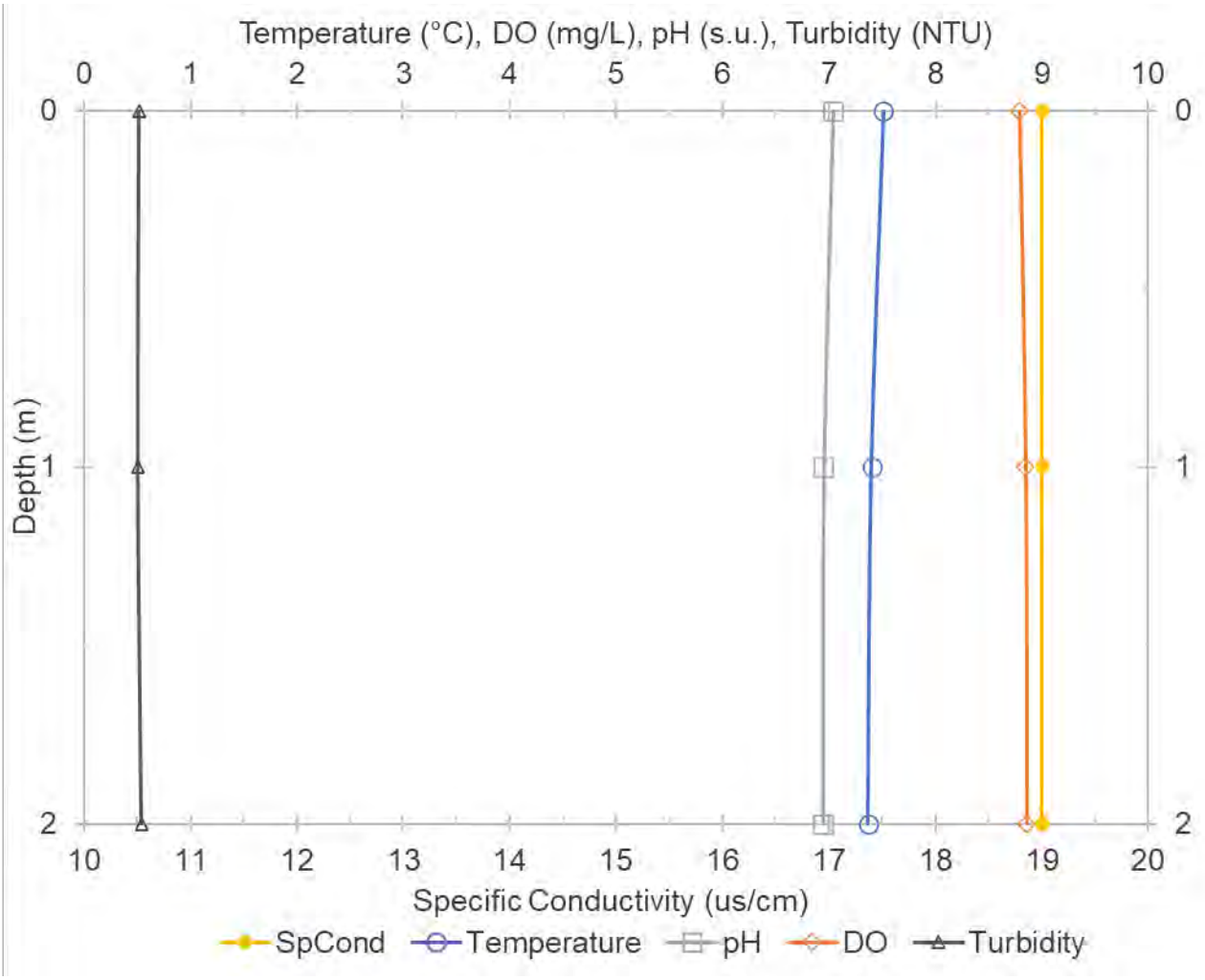


Figure 5.1-2. Ellery Lake Water Temperature, Dissolved Oxygen (DO), pH, and Specific Conductance (SpCond), and Turbidity Vertical Profiles Measured in Spring 2022.

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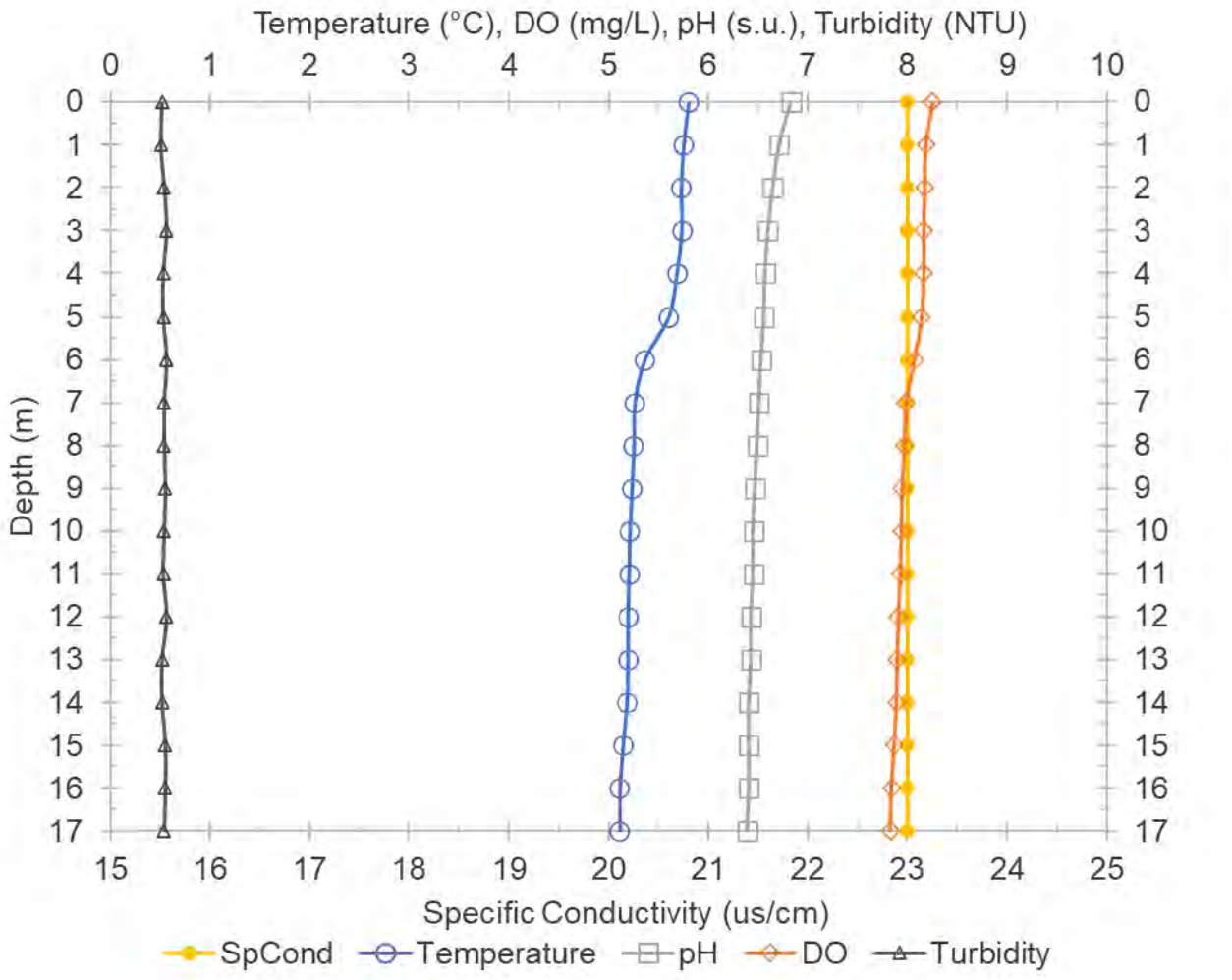


Figure 5.1-3. Tioga Lake Water Temperature, Dissolved Oxygen (DO), pH, and Specific Conductance (SpCond), and Turbidity Vertical Profiles Measured in Spring 2022.

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Table 5.1-1. Analytical Laboratory Data for Surface Water Samples Collected at Reservoir and Stream Sites in Spring 2022

Site ID	Description	Basic Water Quality		Nutrients				
		TDS (mg/L)	TSS (mg/L)	NO_3-NO_2 as N (mg/L)	NH_4 as N (mg/L)	TKN (mg/L)	TP (mg/L)	PO_4 (mg/L)
Lee Vining Creek Watershed								
LV-1	Lee Vining Creek inflow to Saddlebag Lake	9 J	<2	0.120 J	<0.025	0.065 J	<0.023	<0.0051 HT-1
LV-2	Saddlebag Lake	21	<2	0.063 J	<0.025	0.048 J	<0.023	<0.0051 HT-1
LV-3	Lee Vining Creek between Saddlebag Dam and its confluence with Slate Creek	15	<2	0.075 J	0.036 J	0.057 J	<0.023	0.026 A-COM, J
LV-4	Lee Vining Creek between its confluence with Slate Creek and Glacier Creek	12	<2	0.077 J	0.038 J	0.084 J	<0.023	0.043 A-COM, J
LV-5	Lee Vining Creek between its confluence with Glacier Creek and Ellery Lake	10	<2	0.076 J	<0.025	0.081 J	<0.023	0.039 A-COM, J
LV-6	Lee Vining Creek inflow to Ellery Lake	15	<2	0.074 J	0.026 J	0.077 J	<0.023	0.006 A-COM, J
LV-7	Ellery Lake	12	<2	0.062 J	<0.025	0.072 J	<0.023	<0.0051
LV-8	Lee Vining Creek immediately downstream of Poole Powerhouse	21	<2	0.065 J	<0.025	0.060 J	<0.023	0.018 A-COM, J
LV-9	Lee Vining Creek upstream of the LADWP Diversion	23	<2	0.079 J	<0.025	0.100 J	<0.023	<0.0051 A-COM
Glacier Creek Watershed								
LV-10	Glacier Creek inflow to Tioga Lake	23	<2.0	0.110 J	0.031 J	0.110 J	<0.023	0.014 J
LV-11	Tioga Lake	17	<2.0	0.087 J	0.066 J	0.150 J	<0.023	0.026 J
LV-12	Glacier Creek downstream of Tioga Dam	22	<2.0	0.082 J	0.054 J	0.170 J	<0.023	0.018 J
DL		*5*	*2*	*0.055*	*0.025*	*0.04*	*0.023*	*0.0051*
RL		*10*	*5*	*0.4*	*0.1*	*0.2*	*0.05*	*0.15*

DL=laboratory detection limit; mg/L=milligrams per liter; NH_4=Ammonia; NO_3=nitrate; NO_2=nitrite; PO_4 = Orthophosphate; RL=laboratory reporting limit; TDS = total dissolved solids; TSS = total suspended solids; N = nitrogen; TKN = Total Kjeldahl Nitrogen; TP = Total Phosphorous

J Detected but below the reporting limit
HT-1 Sample received by the analytical laboratory outside of the EPA recommended holding time
A-COM Samples run slightly out of EPA recommended holding time

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5.1.1. SADDLEBAG LAKE

Saddlebag Lake had extensive ice cover during the spring sampling rendering the deepest area of the lake inaccessible. *In situ* vertical profiles were collected at a location that was 5 meters deep (Figure 5.1-1). A thermocline was not defined, and water temperatures were cold (4.2 °C). DO concentrations (8.6 to 8.8 milligrams per liter [mg/L]) in Saddlebag Lake were above the 8.0 mg/L minimum threshold (for single-day measurements) described in the Basin Plan for waterbodies designated as cold freshwater habitat (COLD). Measured pH (6.5 to 6.6 standard units [s.u.]) were slightly acidic. Specific conductance (21 to 22 microsiemens per centimeter [uS/cm]) and turbidity (0.4 to 0.5 nephelometric turbidity units [NTU]) were low throughout the water column. In surface water grab samples, TDS were detected at low concentrations and TSS was below the laboratory detection limit (Table 5.1-1). Nitrate-nitrite and Total Kjeldahl Nitrogen were detected at low concentrations. Ammonia, total phosphorus, and orthophosphate were below the laboratory detection limits.

5.1.2. ELLERY LAKE

Ellery Lake was approximately 2 meters deep during the spring survey (Figure 5.1-2). A thermocline was not defined, and water temperatures were cold (7.4 to 7.5 °C). DO concentrations (8.8 to 8.9 mg/L) in Ellery Lake were above the 8.0 mg/L Basin Plan minimum threshold (for single-day measurements). Measured pH were 6.9 to 7.0 s.u. Specific conductance (6.9 to 7.0 uS/cm) and turbidity (0.3 to 0.4 NTU) were low throughout the water column. In surface water grab samples, TDS were detected at low concentrations and TSS was below the laboratory detection limit (Table 5.1-1). Nitrate-nitrite and Total Kjeldahl Nitrogen were detected at low concentrations. Ammonia, total phosphorus, and orthophosphate were below the laboratory detection limits.

5.1.3. TIOGA LAKE

Tioga Lake was approximately 17 meters deep during the spring survey (Figure 5.1-3). A thermocline was not defined, and water temperatures were cold (5.1 to 5.8 °C). DO (7.8 to 8.3 mg/L) gradually decreased with reservoir depth and were slightly less than the 8.0 mg/L Basin Plan minimum threshold (for single-day measurements) in the mid- to bottom-waters (10 to 17 meters). Measured pH (6.4 to 6.8 s.u.) were slightly acidic. Specific conductance (23 uS/cm) and turbidity (0.5 to 0.6 NTU) were low throughout the water column. In surface water grab samples, TDS were detected at low concentrations and TSS was below the laboratory detection limit (Table 5.1-1). Nitrate-nitrite and Total Kjeldahl Nitrogen were detected at low concentrations. Ammonia, total phosphorus, and orthophosphate were below the laboratory detection limits.

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5.2. STREAM WATER QUALITY

In situ and analytical water quality parameters were collected at seven sites in Lee Vining Creek and two sites in Glacier Creek during May 31 and June 1 of 2022. During the spring survey, DO, water temperature, pH, specific conductance, and turbidity exhibited little variation between sites within each of the creeks, Lee Vining Creek and Glacier Creek. TDS, TSS, and nutrient concentrations were low at all Project stream sites. *In situ* water temperature, DO, pH, and specific conductance, and turbidity profiles are presented in Table 5.1-1. Basic chemistry and nutrient analytical data for stream sites are presented in Table 5.2-1.

Table 5.2-1. *In Situ* Water Quality Parameters Measured at Stream Sites (Spring 2022)

Site ID	Description	Water Temperature (°C)	DO (mg/L)	Specific Conductance (µS/cm)	pH (s.u.)	Turbidity (NTU)
Lee Vining Creek						
LV-1	Lee Vining Creek inflow to Saddlebag Lake	5.9	9.0	9	6.9	0.8
LV-3	Lee Vining Creek between Saddlebag Dam and its confluence with Slate Creek	4.1	9.0	23	6.8	0.7
LV-4	Lee Vining Creek between its confluence with Slate Creek and Glacier Creek	2.5	9.8	18	6.7	0.4
LV-5	Lee Vining Creek between its confluence with Glacier Creek and Ellery Lake	1.9	10.0	20	6.8	0.4
LV-6	Lee Vining Creek inflow to Ellery Lake	2.1	9.9	21	7.0	0.3
LV-8	Lee Vining Creek immediately downstream of Poole Powerhouse	5.5	9.0	29	7.0	0.3
LV-9	Lee Vining Creek upstream of the LADWP Diversion	4.8	9.9	35	7.3	0.7
Glacier Creek						
LV-10	Glacier Creek inflow to Tioga Lake	7.6	8.7	29	7.2	0.2
LV-12	Glacier Creek downstream of Tioga Dam	6.0	8.4	23	6.8	0.5

°C = degrees Celsius; DO = dissolved oxygen; NTU = nephelometric turbidity units; s.u. = standard unit

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5.2.1. LEE VINING CREEK

In situ water quality was generally similar across stream sampling sites (Table 5.2-1). Water temperatures in Lee Vining Creek were cold and varied between a low of 1.9°C just downstream of the confluence with Glacier Creek to a high of 5.9°C at the inlet to Saddlebag Lake. DO was above the 8.0 mg/L single-day measurement minimum threshold at all sites, ranging between 9 to 10 mg/L. pH ranged from 6. to 7.3 s.u. and were generally lower at sites upstream of Ellery Lake compared to downstream sites. Specific conductance ranged between 19 to 35 uS/cm, except for the Lee Vining Creek inlet to Saddlebag Lake, where it was considerably lower at 9 uS/cm. Turbidity was low throughout Lee Vining Creek. In stream water grab samples, TDS were detected at low concentrations at all stream sites. Generally, TDS concentrations were lower at sites upstream of Saddlebag Lake and Ellery Lake compared to sites downstream of Ellery Lake. TSS were below the laboratory detection limit at all sites. Nitrate-nitrite and Total Kjeldahl Nitrogen were detected at low concentrations at all sites; ammonia, and orthophosphate were detected at multiple sites. Total phosphorus was below the laboratory detection limits at all sites.

5.2.2. GLACIER CREEK

Water temperature, DO, and specific conductance concentrations were slightly higher at the site in Glacier Creek upstream of Tioga Lake compared to the site downstream (Table 5.2-1). DO was above the 8.0 mg/L single-day measurement minimum threshold at both sites. pH ranged from 6.8 to 7.2 s.u. Specific conductivity and turbidity were low. In stream water grab samples, TDS were detected at low concentrations at both stream sites and TSS were below the laboratory detection limit. Nitrate-nitrite, Total Kjeldahl Nitrogen, ammonia, and orthophosphate were detected at low concentrations and total phosphorus was below the laboratory detection limits.

6.0 NEXT STEPS

Laboratory analytical data have been received and are undergoing review and compilation. Analysis of data is ongoing and includes summary of reservoir profiles, *in situ*, and water quality data; analysis of turbidity downstream of Poole Powerhouse; and summary of fish tissue mercury. All water quality parameters measured will be compared to Basin Plan water quality objectives, and any exceedances were enumerated and evaluated in terms of any relationship to Project operations. Study results will be summarized in a Technical Report in spring of 2023. Continuous turbidity loggers installed in Lee Vining Creek downstream of Poole Powerhouse will remain in place through spring 2023 to characterize potential effects of Project-related streamflow variation on downstream turbidity. As described in the WQ-1 Final Technical Study Plan (SCE, 2022), if the 2023 water year type differs from 2022, SCE will repeat water quality study components described in the study plan.

The anticipated next steps for Study WQ-1 are identified in Table 6-1 below.

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Table 6-1. Schedule

Date	Activity
2022/2023–Winter	Analyze data
2023–January	Progress Report and Meeting
2023–Spring	Distribute draft report to Stakeholders [a]
2023–Spring/Fall	Conduct field surveys, if 2023 water year type differs from 2022
2024–March	Revise report to include 2023 results if conducted; distribute revised report to Stakeholders
2023–Fall	Resolve comments and prepare final report
2024–September	Distribute final report in Draft License Application

[a] If 2023 is a different water year type than 2022 and additional field surveys are needed, the draft report will be held until the second field season has been completed and all data analyzed.

7.0 REFERENCES

LRWQCB (Lahontan Region Water Quality Control Board). 2019. *Water Quality Control Plan for the Lahontan Region*. Plan effective March 31, 1995, including amendments effective through September 22, 2021. State of California Regional Water Quality Control Board, Lahontan Region. Accessed: November 2022. Available online: https://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.html.

SCE (Southern California Edison). 2022. *Final Technical Study Plans*. Lee Vining Hydroelectric Project, FERC Project No. 1388. April 25, 2022.

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APPENDIX B
RESERVOIR FISH POPULATION (AQ-1) TECHNICAL MEMO

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MEMORANDUM

To:	Lee Vining Stakeholders
From:	Southern California Edison Relicensing Team
Date:	January 2023
Subject:	Reservoir Fish Population (AQ-1) Technical Memo

1.0 INTRODUCTION

This memo presents a data summary of the fish species composition and distribution surveys conducted in 2022 within the Lee Vining Hydroelectric Project (Project) reservoirs. The *AQ-1 Reservoir Fish Population Technical Study Plan* details Southern California Edison's (SCE) proposal for study objectives, study area, methods, and schedule for the effort. The Final Technical Study Plan was filed with the Federal Energy Regulatory Commission (FERC) on April 25, 2022 (SCE, 2022).

Surveys occurred August 2 through August 4, 2022. Adult and juvenile gill nets were deployed, and boat electrofishing was conducted in all Project reservoirs. Sampling under Study AQ-1 is complete.

2.0 STUDY OBJECTIVES

Study goals and objectives were determined during the February 22, 2021, and March 29, 2021, Aquatic Resources Technical Working Group (TWG) Meetings. Stakeholders stated that there is no current information regarding the distribution of fish species in the Project Area. The goal of this study is to assess fish populations within Project reservoirs. The objective of this study is to obtain information on reservoir fish populations where background data are lacking. Additionally, fish captured during this study will inform mercury bioaccumulation analyses under Study WQ-1.

2.1. STUDY AREA

Fish population sampling was conducted at three Project reservoirs: Saddlebag Lake, Ellery Lake, Tioga Lake.

Within each Project reservoir, sample sites were established to include a representative subset of available habitats. Boat electrofishing was restricted to nearshore (i.e., shallow) areas and generally included one location near a major reservoir tributary (Figures 2.1-1, 2.1-2, and 2.1-3). Adult and juvenile gill nets were generally paired and distributed in the reservoir to sample near a major reservoir tributary, a deepwater location, and a location near the dam.

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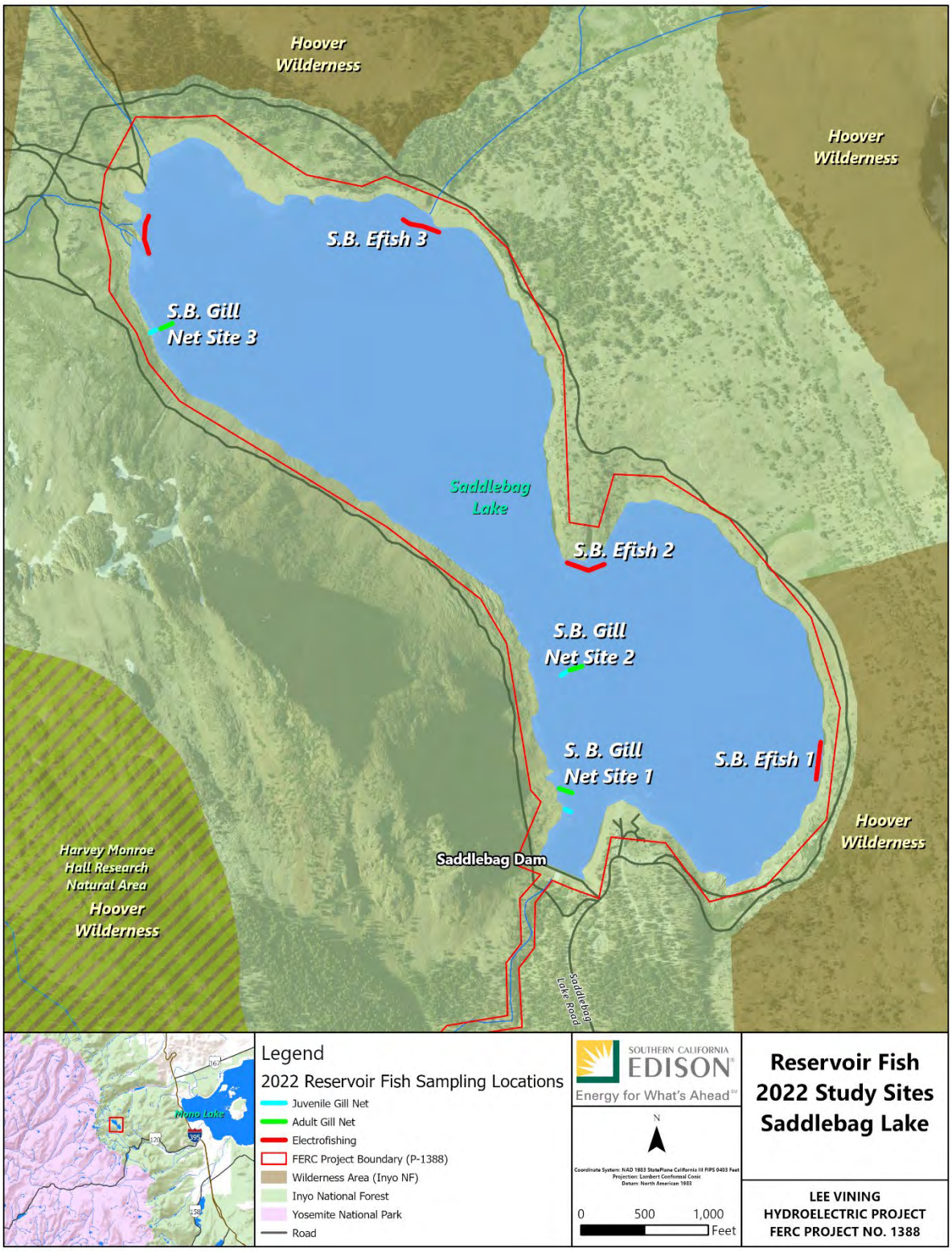


Figure 2.1-1. Reservoir Fish 2022 Study Sites—Saddlebag Lake.

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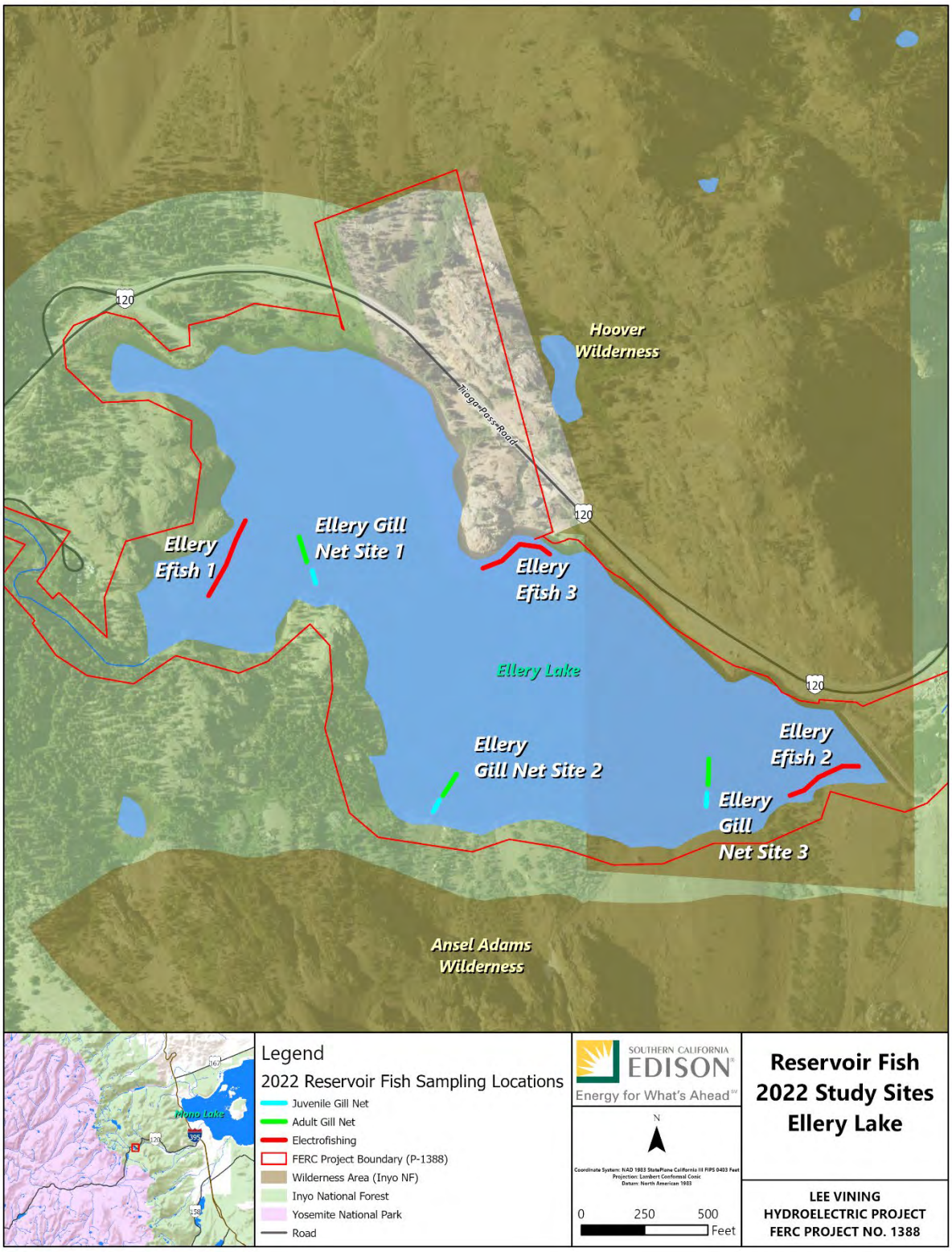


Figure 2.1-2. Reservoir Fish 2022 Study Sites—Ellery Lake.

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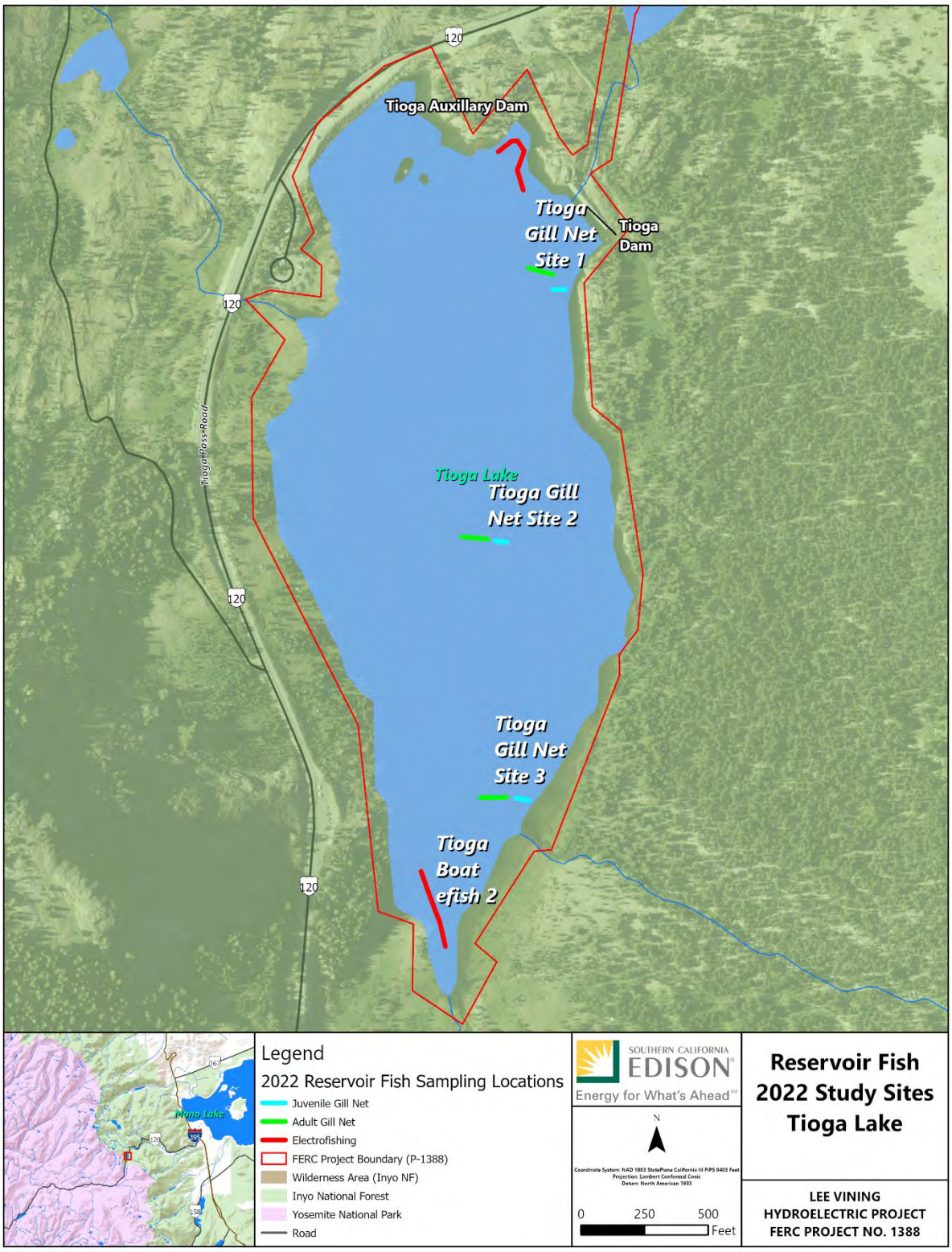


Figure 2.1-3. Reservoir Fish 2022 Study Sites—Tioga Lake.

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3.0 METHODS

Study implementation generally followed the methods described in the AQ-1 Final Technical Study Plan (SCE, 2022), with the exception described below.

3.1. MODIFICATIONS TO METHODS

One modification to study methods was made during sampling to reduce the potential for fish mortally during gill netting efforts. After fish mortalities were observed on the first night at Ellery Lake, gill net soak times during the night sampling period were decreased from approximately 8 hours to approximately 4 hours for all gill net locations at Tioga Lake and at two gill net locations at Saddlebag Lake. Gill net soak times during the day remained at approximately 8 hours for all locations sampled. No other modifications occurred during study implementation.

3.2. ANALYSIS

Data analysis is underway. Data has been entered into an Excel spreadsheet for reduction, tabulation, quality assurance / quality control, and summary. Capture data was summarized by species composition for the whole lake and all gear types, as well as by gear type and site. Length-frequency histograms are being developed for each trout species observed or captured and used to estimate size and age-class distribution. Breaks and modalities within the histograms will be evaluated and compared to the subsample of aged scales collected at each study site and relevant literature on trout growth to estimate the age-class distribution of each species. Relative abundance will be determined by calculating catch-per-unit-effort (fish per hour) by gear type and site.

4.0 DATA SUMMARY

Based on the individuals captured, the fishery appears to be composed of brook trout *(Salvelinus fontinalis*), brown trout (*Salmo trutta*), and rainbow trout (*Oncorhynchus mykiss*) in Ellery Lake; brook trout and rainbow trout in Tioga Lake; and brook trout and Lahontan redside (*Richardsonius egregious*) in Saddlebag Lake (Figure 4-1).

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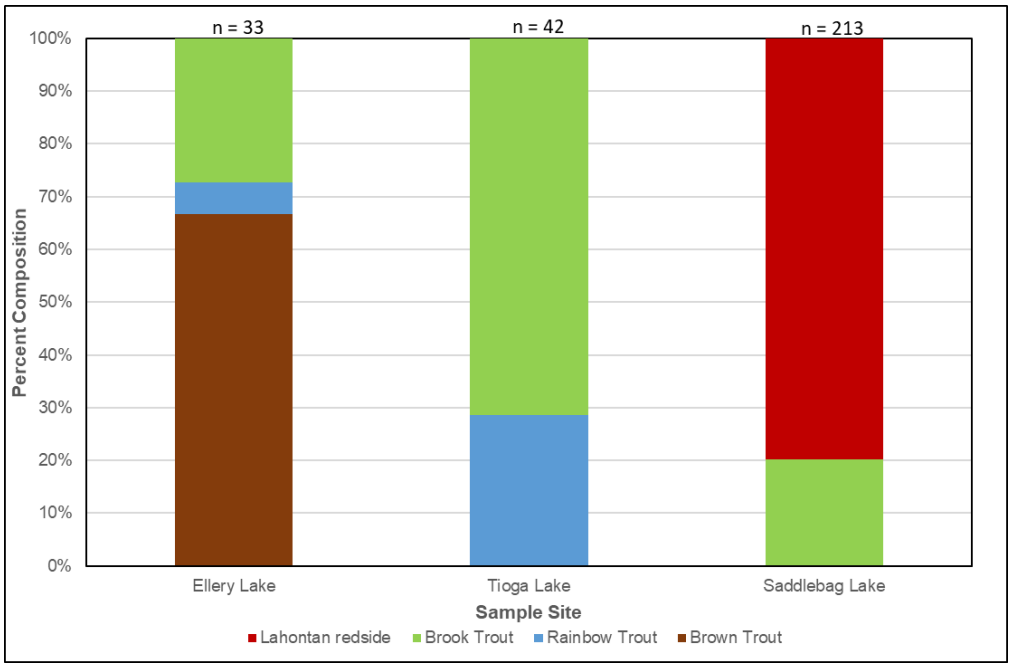


Figure 4-1. Fish Species Composition Observed in Project Reservoirs during August 2022.

5.0 NEXT STEPS

Analysis of sampling data is ongoing and includes age-class evaluations from scale samples and catch-per-unit-effort analyses. Study results will be summarized in a Technical Report in spring of 2023.

The anticipated next steps for the reservoir fish population study are identified in Table 5-1 below.

Table 5-1. Schedule

Date	Activity
2022/2023–Winter	Compile study data and conduct analyses
2023–January	Progress Report and Meeting
2023–Spring	Distribute draft report to Stakeholders
2023–Fall	Resolve comments and prepare final report
2024–September	Distribute final report in Draft License Application

6.0 REFERENCES

SCE (Southern California Edison). 2022. *Final Technical Study Plans*. Lee Vining Hydroelectric Project, FERC Project No. 1388. April 25, 2022.

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APPENDIX C
STREAM FISH POPULATION (AQ-2) TECHNICAL MEMO

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MEMORANDUM

To:	Lee Vining Stakeholders
From:	Southern California Edison Relicensing Team
Date:	January 2023
Subject:	Stream Fish Populations (AQ-2) Technical Memo

1.0 INTRODUCTION

This memo presents a data summary for Study AQ-2 conducted in 2022 for the Lee Vining Hydroelectric Project (Project). The *AQ-2 Stream Fish Population Technical Study Plan* details the Southern California Edison (SCE) proposal for study objectives, study area, methods, and schedule for the effort. The Final Technical Study Plan was filed with the Federal Energy Regulatory Commission (FERC) on April 25, 2022 (SCE, 2022).

Stream fish sampling efforts were implemented during September 16 through 22, 2022. Backpack electrofishing was conducted at seven sample sites. No additional sampling is planned under Study AQ-2.

2.0 STUDY OBJECTIVES

Study goals and objectives were determined during the February 22, 2021, and March 29, 2021, Aquatic Resources Technical Working Group (TWG) Meetings. The goal of this study is to supplement the existing available information to assess fish populations in Project-affected stream reaches. The objective of this study is to obtain information on existing fish populations downstream of Project reservoirs.

2.1. STUDY AREA

The study area includes the Project-affected stream reaches of Lee Vining Creek and Glacier Creek. Three sites between Saddlebag Dam and Slate Creek were previously established and sampled in 1999 to 2001, 2006, 2011, 2016, and 2021 (Salamunovich, 2021). These sites were re-sampled for comparison to historical data, and four additional survey sites were selected during a pre-survey reconnaissance visit (Table 2.1-1). Study site locations are depicted in Figure 2.1-1.

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Table 2.1-1. 2022 Lee Vining Stream Fish Sampling Locations

Reach Description	2022 Site Code	Historical Site Code
Lee Vining Creek between Poole Powerhouse and the pool upstream of the Los Angeles Department of Water and Power Diversion Dam	LLVC-F1	--
Lee Vining Creek between Glacier Creek and Ellery Lake	ULVC-F1	--
Lee Vining Creek between Slate Creek and Glacier Creek	ULVC-F2	--
Lee Vining Creek upstream of Slate Creek	ULVC-F3	Reach 1
	ULVC-F4	Reach 2
	ULVC-F5	Reach 3
Glacier Creek downstream of Tioga Dam	GC-F1	--

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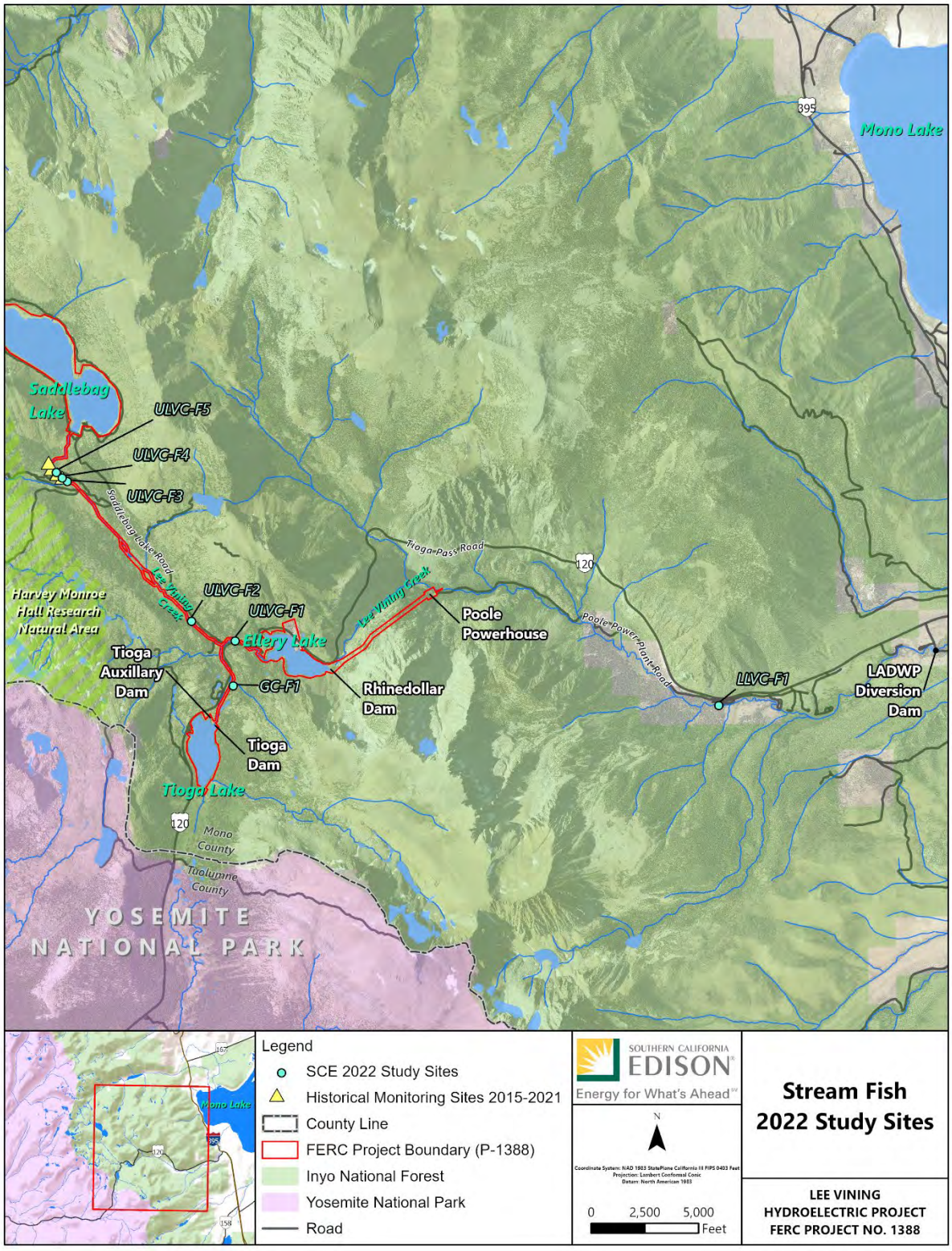


Figure 2.1-1. Stream Fish 2022 Study Sites.

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3.0 METHODS

No modifications to the methods as outlined in the AQ-2 Final Technical Study Plan (SCE, 2022) occurred during study implementation.

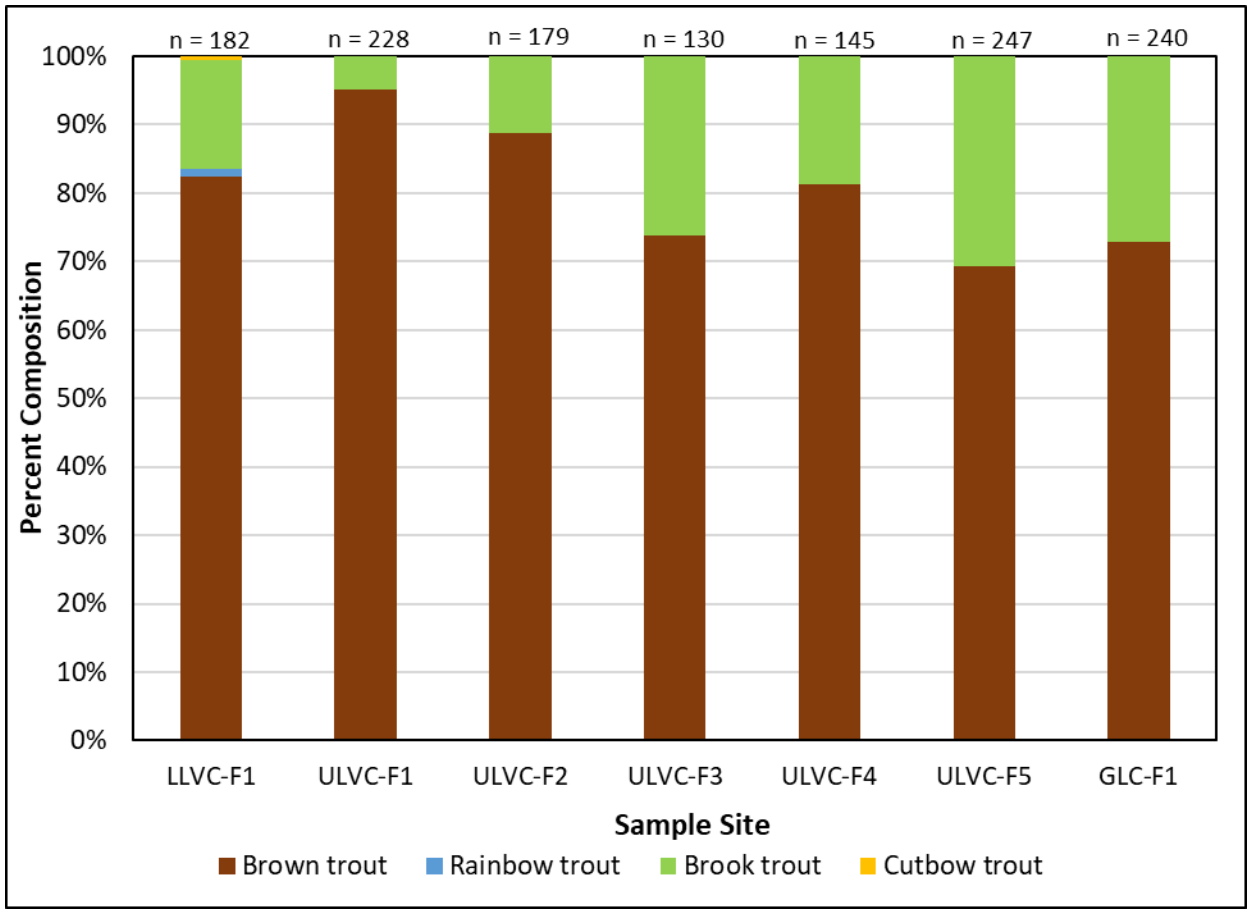
3.1. ANALYSIS

Data analysis is underway. Data collected during the stream fish population study has been entered into an Excel database for data reduction, tabulation, and summary. Data will be compared with data collected during previously conducted studies, where possible. Size distribution will be evaluated at all survey sites. Length-frequency histograms are being developed for each trout species observed or captured and used to estimate size and age-class distribution. Breaks and modalities within the histograms will be evaluated and compared to the subsample of aged scales collected at each study site and relevant literature on trout growth to estimate the age-class distribution of each species. Trout densities (number per acre), biomass (pounds per acre), and 95 percent confidence intervals will be computed for each electrofished site. Trout condition will be assessed using weight-to-length relationships of individual fish, and Fulton's condition factor will be calculated for each fish. Mean fish condition will be calculated from individual condition values for each species.

4.0 DATA SUMMARY

Four species of fish were observed during the stream fish sampling efforts including brown trout (*Salmo trutta*), brook trout *(Salvelinus fontinalis),* rainbow trout (*Oncorhynchus mykiss),* and cutbow trout (*Oncorhynchus clarkii* × *mykiss*) (Figure 4-1). Brown trout were the most abundant species throughout all sites followed by brook trout (Figure 4-1). Only two rainbow trout and one hybrid cutbow trout were captured during sampling; all were captured within the study site on Lee Vining Creek downstream of Poole Powerhouse (LLVC-F1) (Figure 4-1). Scale samples were collected from multiple size-classes of each species from each study site for use in fish age-class analysis.

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GC = Glacier Creek; LLVC = Lower Lee Vining Creek; ULVC = Upper Lee Vining Creek

Figure 4-1. Fish Species Composition Observed during 2022 Stream Surveys.

Spawning brown and brook trout were incidentally observed during September 2022 stream fish sampling. Male fish with milt were documented in Lee Vining Creek downstream of Saddlebag Lake and in Glacier Creek downstream of Tioga; none were observed in Lower Lee Vining Creek downstream of Poole Powerhouse (Table 4-1). Redds were also observed in Lee Vining Creek downstream of Saddlebag Lake and downstream of Poole Powerhouse (Table 4-2).

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Table 4-1. Incidental Spawning Observations during 2022 Stream Surveys.

Reach Description	Study Site	Sample Date	Number of Milting Fish	Species
Lee Vining Creek downstream of Poole Powerhouse	LLVC-F1	9/19/2022	none	--
Lee Vining Creek downstream of Saddlebag Lake	ULVC-F1	9/20/2022	1	brown trout
	ULVC-F2	9/22/2022	2	brown trout
	ULVC-F3	9/16/2022	none	--
	ULVC-F4	9/17/2022	none	--
	ULVC-F5	9/18/2022	2	brown trout
	ULVC-F5	9/18/2022	1	brook trout
Glacier Creek downstream of Tioga	GLC-F1	9/21/2022	1	brown trout
	GLC-F1	9/21/2022	4	brook trout

Table 4-2. Incidental Redd Observations during 2022 Stream Surveys.

Reach Description	Sample Date	Survey Distance (miles)	Number of Redds
Lee Vining Creek downstream of Saddlebag Lake	9/17/2022	0.43	0
	9/21/2022	0.40	0
	9/22/2022	0.34	1
Lee Vining Creek downstream of Poole Powerhouse	9/21/2022	0.72	0

5.0 NEXT STEPS

Analysis of sampling data is ongoing. Completed results will be summarized in a Technical Report in spring of 2023.

The anticipated next steps for Study AQ-2 are identified in Table 5-1 below.

Table 5-1. Schedule

Date	Activity
2022/2023–Winter	Compile initial study data
2023–January	Progress Report and Meeting
2023–Spring	Distribute draft report to Stakeholders
2023–Fall	Resolve comments and prepare final report
2024–September	Distribute final report in Draft License Application

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6.0 REFERENCES

Salamunovich, T. 2021. Fall 2021 Fish Population Survey, Upper Lee Vining Creek, Mono County, California. 3 December 2021 draft report prepared by TRPA Fish Biologists for Psomas, Santa Ana, California.

SCE (Southern California Edison). 2022. *Final Technical Study Plans*. Lee Vining Hydroelectric Project, FERC Project No. 1388. April 25, 2022.

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APPENDIX D
OPERATIONS MODEL (AQ-5) TECHNICAL MEMO

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MEMORANDUM

To:	Lee Vining Stakeholders
From:	Southern California Edison Relicensing Team
Date:	January 2023
Subject:	Operations Model (AQ-5) Technical Memo

1.0 INTRODUCTION

This memo presents the status of Study AQ-5 conducted in 2022 within the Lee Vining Hydroelectric Project (Project) reservoirs. The *AQ-5 Operations Model Technical Study Plan* details the Southern California Edison's (SCE) proposal for study objectives, study area, methods, and schedule for the effort. The Final Technical Study Plan was filed with the Federal Energy Regulatory Commission (FERC) on April 25, 2022 (SCE, 2022).

During the Technical Working Group meetings held January 25, February 22, March 29, and May 24, 2021, SCE and Stakeholders identified an interest in quantifying resource optimization operations at Poole Powerhouse before and after 2015.[1] Particularly, Stakeholders are interested in the seasonality, magnitude, and frequency of peaking operations at Poole Powerhouse and the effects of these operations on downstream recreational sites.

2.0 STUDY OBJECTIVES

- Develop a robust Operations Model (Model) to assist SCE and Stakeholders in understanding how Project operations interact with Lee Vining hydrology. This model would be used to make informed decisions regarding the implementation of and results from other relicensing studies. To meet this goal, this Study Plan has the following objectives:
  - Accurately model the systems inflows, outflows, and operational constraints.
  - Align the model with needs of other relicensing studies and information needs.
  - Develop procedures to configure the model for alternative operational scenarios and document results.
- Determine effective operating limits of the Poole Powerhouse to accurately represent installed and dependable capacity for licensing documents.

[1] Since 2016, current operations have optimized generation during periods of high demand or in response to grid-related events. Stakeholders have been seeking information on how frequently these events lead to increased flows below the Project and whether there are resource impacts from these releases.

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- Determine the frequency, magnitude, duration, and seasonality of intraday releases from the Poole Powerhouse in response to resource optimization needs.
- Describe the stage/discharge relationship at discreet locations between the Poole Powerhouse and the Los Angeles Department of Water and Power (LADWP) diversion.

2.1. STUDY AREA

The study includes all Project-influenced waters including diverted reaches, bypass reaches, and reservoirs beginning in the Project Area and continuing downstream to the LADWP Diversion Dam (Figure 2.1-1).

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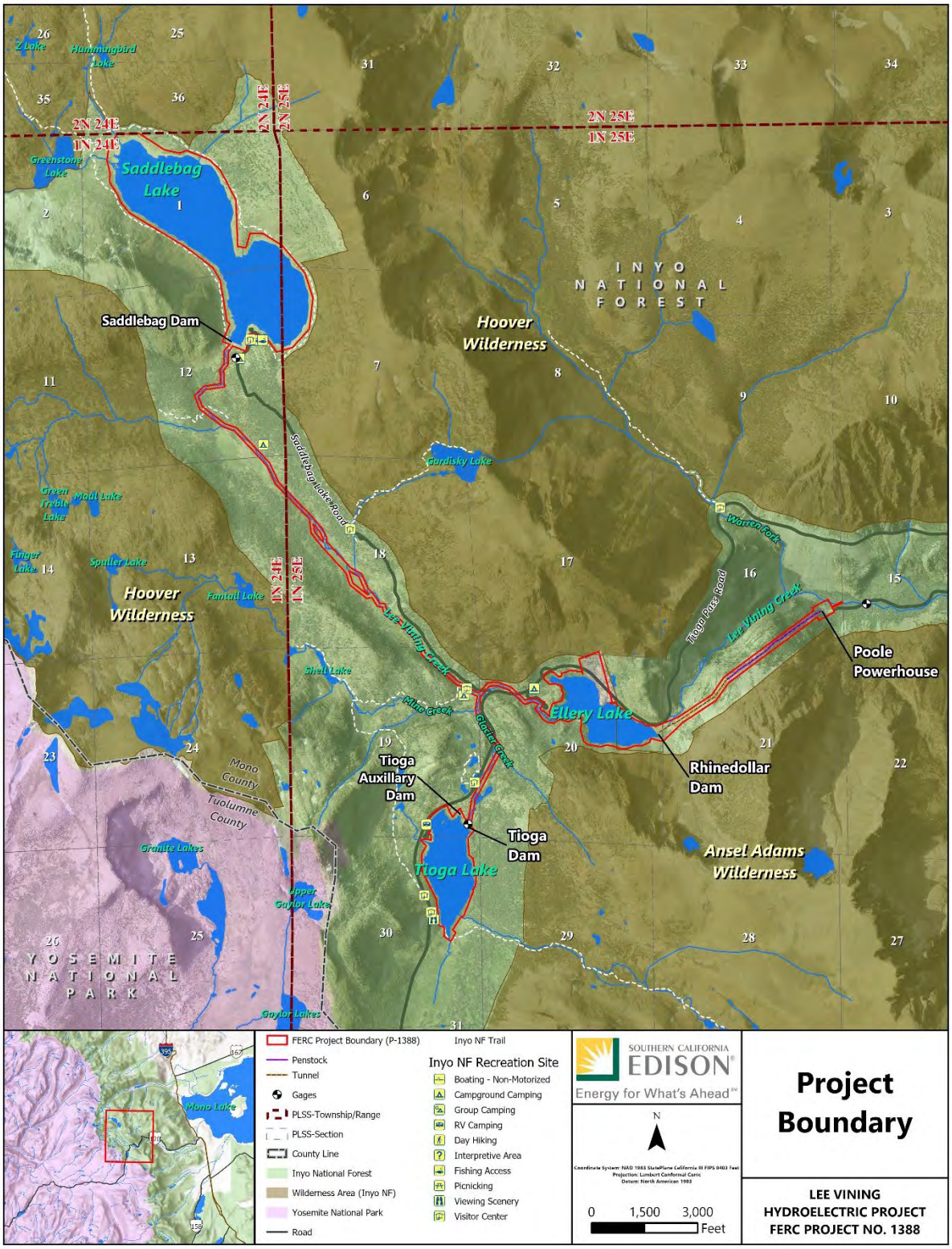


Figure 2.1-1. Project Boundary.

The study area incorporates the approximately[2] 35 square-mile contributing drainage area above the Poole Powerhouse and specific locations of interest along streams influenced by Project operational releases below the powerhouse.

3.0 METHODS

Study implementation generally followed the methods described in the AQ-5 Final Technical Study Plan (SCE, 2022); no modifications occurred during study implementation.

This study will develop two models that describe Project Operations. The first is an excel-based model of daily operations that uses a mass-balance (Operations Model) approach to model daily inflows through the Project reaches and terminating in the discharge from the powerhouse and any bypassed reaches. The second model is a more granular (sub-hourly) evaluation of discharge from the Poole Powerhouse in response to resource optimization events (Resource Optimization Model), in which pricing is evaluated as the independent variable to validate the range of flow-fluctuations that can result from this mode of operation.

3.1. DATA SOURCES

3.1.1. OPERATIONS MODEL

Data representing physical characteristics of project features were provided from SCE. Such features include reservoir stage-storage relationships and spillway elevations for Saddlebag Lake, Tioga Lake, and Rhinedollar Dam, and physical hydraulic capacities of the single project turbine and penstock. Data sources within and around the project boundary were collected, which represent portions of the project hydrology. These include eight U.S. Geological Survey (USGS) gages for daily average flows and contributing drainage area, and four snow course datasets. The existing operation of the project is modeled using data from the current project license, including minimum flow targets and reservoir operating limitations, and dates of these targets where seasonally variable.

3.1.2. RESOURCE OPTIMIZATION MODEL

Several data sources were used in the resource optimization analysis. Gage discharge data from the Poole Powerhouse (provided by SCE), the LADWP gage on Lee Vining Creek, and the Los Angeles aqueduct were used to determine flow patterns in the period of interest. Additionally, pricing data from SCE was used to validate resource optimization events. These datasets are summarized in Table 3.1-1 below.

[2] USGS Gage No. 10287900, Lee Vining Creek near Lee Vining, CA has a published drainage area of 34.9 sq. mi.

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Table 3.1-1. Data Sources Used in Study AQ-5

	Type	Dates	Source	Interval
Poole Powerhouse	Flow	October 2009–July 2021	SCE	15-minute
LADWP Gage	Flow	May 2013–April 2021	LADWP	15-minute
Generation	Price	January 2015–December 2021	SCE	1-hour

LADWP = Los Angeles Department of Water and Power; SCE = Southern California Edison

Numerous USGS gage records within the system are being reviewed for potential value in calculating the operations model hydrologic input. These records include streamflow and storage datasets. Snow course datasets in the Project Area have also been collected. Intraday flow estimates have been requested in locations downstream of the Poole Powerhouse, and recent 15-minute flow datasets at the Poole Powerhouse are being combined with Rhinedollar Dam releases to provide this information. Additional considerations of Warren Fork contributions are being made.

3.2. ANALYSIS

3.2.1. OPERATIONS MODEL

Data analysis is underway. To adequately characterize the existing operations, a daily operations model is being developed using an Excel platform. Relevant hydrologic records are being examined to determine a means for calculating the daily inflow. Some inflows may be synthesized using the datasets where direct historic measurements were not performed. Subdrainage areas are being checked for accuracy with a geographic information system (GIS) as part of this effort.

Hydraulic constraints and regulatory requirements constitute the basis of the model's logic structure. Reservoir storage curves, spillway elevations, and penstock and turbine hydraulic capacities are physical limitations that form the prioritized logic in daily model calculations. Categorization of wet, normal, and dry year types; minimum flow requirements; and reservoir limits are examples of regulatory logic that could be altered as part of the optimization process. Historic operational practices are also examined as part of potential dispatch logic.

3.2.2. RESOURCE OPTIMIZATION MODEL

Data analysis is underway.

Using python code, an algorithm was developed to programmatically identify flow patterns that may be in response to pricing surges in the time series data. A moving average algorithm was selected as it correctly identified sub-daily peak releases for the historical data. The algorithm was calibrated by adjusting the threshold for changes in peak flow as a function of moving average and multiples of the moving standard deviation for each timestep.

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The same algorithm with modified calibration parameters was used for the pricing data. It was determined that 79 percent of the identified flow peaks fell within a pricing peak, which validated the peaking calibration. Using results from the calibrated algorithm, the peaking information was used to form an understanding of the properties of resource optimization operations in Lee Vining Creek.

4.0 RESULTS

Results of calibration efforts are pending completion of GIS efforts and operations model logic. Completion of other studies is necessary for determining results of operational resource optimization.

5.0 NEXT STEPS

Consistent with Study AQ-5 (SCE, 2022), the Relicensing Team will continue to construct the model and review the data. Upon completion and calibration, the model will be distributed to interested Stakeholders for review and comment.

The anticipated next steps for Study AQ-5 are identified in Table 5-1 below.

Table 5-1. Schedule

Date	Activity
2022/2023–Winter	Initial Model
2023–January	Progress Report and Meeting
2023-September	Final Model to Stakeholders
2023–Fall	Resolve comments and prepare final report
2024–September	Distribute final report in Draft License Application

6.0 REFERENCES

SCE (Southern California Edison). 2022. *Final Technical Study Plans*. Lee Vining Hydroelectric Project, FERC Project No. 1388. April 25, 2022.

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APPENDIX E
LOWER LEE VINING CREEK CHANNEL MORPHOLOGY (AQ-6) TECHNICAL MEMO

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MEMORANDUM

To:	Lee Vining Stakeholders
From:	Southern California Edison Relicensing Team
Date:	January 2023
Subject:	Lower Lee Vining Creek Channel Morphology (AQ-6) Technical Memo

1.0 INTRODUCTION

This memo presents a summary of study progress for Study AQ-6 conducted in 2022 for the Lee Vining Hydroelectric Project (Project).

In June 2022, a reconnaissance field visit was conducted to help select three responsive study sites. During the reconnaissance visit, a coarse longitudinal profile survey of Lee Vining Creek was measured from Poole Powerhouse to the Los Angeles Department of Water and Power (LADWP) Diversion (lower Lee Vining Creek). Sediment facies mapping, bulk sediment sampling, pebble counts, cross section and detailed longitudinal profile surveys, and tracer rock deployment was conducted at three study sites between October 3 and 7, 2022.

The *AQ-6 Lower Lee Vining Creek Channel Morphology Technical Study Plan* details Southern California Edison's (SCE) proposal for study objectives, study area, methods, and schedule for the effort. The Final Technical Study Plan was filed with the Federal Energy Regulatory Commission (FERC) on April 25, 2022 (SCE, 2022).

2.0 STUDY OBJECTIVES

This study has three primary goals: (1) assess the potential geomorphic effects of reducing sediment supply (e.g., coarse and fine) to, and altering sediment transport in lower Lee Vining Creek, (2) provide information required to assess potential ecological effects of any geomorphic changes in lower Lee Vining Creek resulting from Project operation, and (3) provide information for developing Protection, Mitigation, and Enhancement measures aimed at mitigating any identified sediment imbalance.

The specific objectives of the study are to:

- Classify transport and response reaches in lower Lee Vining Creek using existing geographic information system (GIS) data, maps, and other remote sensing imagery; and

- Characterize channel morphology, fluvial processes, and coarse sediment (greater than 2 millimeters) transport rates at three responsive study sites from Poole Powerhouse to the most downstream responsive study site located upstream of the pool above the LADWP Diversion.

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2.1. STUDY AREA

The study area includes Lee Vining Creek from the Poole Powerhouse outlet to the pool upstream of LADWP Diversion Dam. Specifically excluded from field study were areas where access was unsafe (very steep terrain or high streamflow). Figure 2.1-1 depicts the study sites. Sites were selected based on the potential responsiveness of the channel to geomorphic change.

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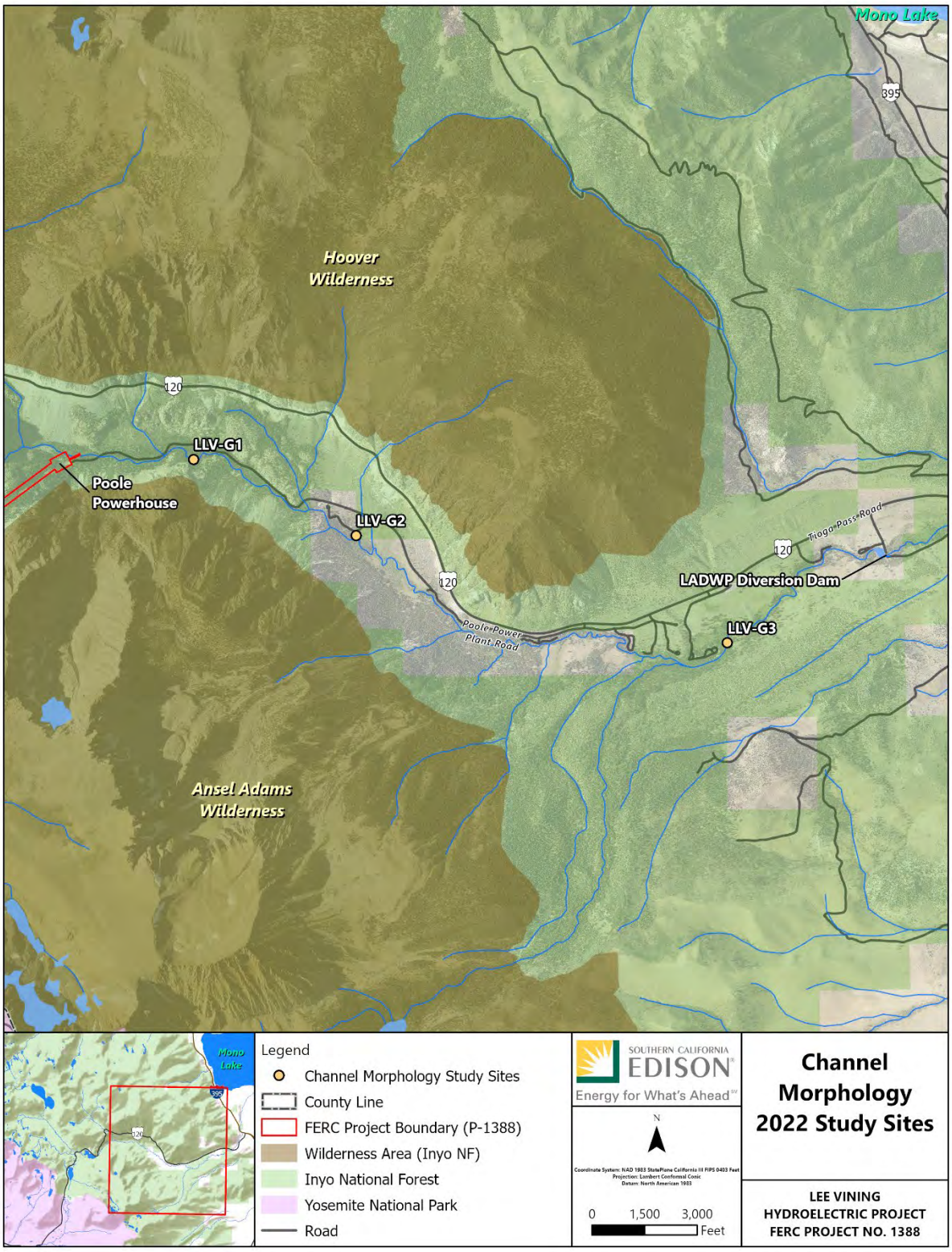


Figure 2.1-1. Channel Morphology 2022 Study Sites.

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3.0 METHODS

Study implementation followed the methods described in the AQ-6 Final Technical Study Plan (SCE, 2022); no modifications occurred during study implementation.

3.1. ANALYSIS

A reference conditions conceptual model is being developed for channel and sediment dynamics prior to dam construction, with emphasis on characteristics most likely to be affected by ongoing Project operations. Results from *AQ-5 Operations Model* will provide information on unimpaired hydrology in lower Lee Vining Creek. Results of this study will provide information on sediment supply and transport at responsive study sites and major tributary confluences in lower Lee Vining Creek under reference conditions.

Current channel and sediment dynamics will be compared with those hypothesized under the reference model to assess potential ongoing Project effects of the Project and other land uses.

4.0 DATA SUMMARY

In June 2022, lower Lee Vining Creek was classified into functionally similar reaches (i.e., reaches with similar sediment transport and storage processes, and that dictate responsiveness to changes in flow and sediment supply) based on the longitudinal profile and field observations of channel gradient, relative confinement, morphology, alluvial sediment storage, and bed surface texture. Five distinct reaches were identified:

1. Reach 1 from Poole Powerhouse to the downstream end of Big Bend Campground. Reach 1 has a channel gradient of approximately 2.1 percent and is predominately plane bed and pool-riffle sequences interspersed with step pool and bedrock channel types, small floodplain development with moderate channel confinement between steep valley walls mantled with large rockfall and debris flow deposits, and frequent large and complex large woody debris jams.

2. Reach 2 from Big Bend Campground to upstream end of large meadow complex near Aspen Campground. Reach 2 has a channel gradient of approximately 4 percent and is predominately cascade and step pool morphology, channel highly confined with little floodplain development and connectivity.

3. Reach 3 from Aspen Campground to downstream extent of large meadow complex. Reach 3 has a channel gradient of approximately 0.2 percent and is predominately pool-riffle channel type, unconfined and well connected to floodplain.

4. Reach 4 from meadow complex to Lower Lee Vining Creek Campground. Reach 2 has a channel gradient approximately 2 percent and is predominately plane bed, moderately confined with little floodplain connectivity.

5. Reach 5 from Lower Lee Vining Creek Campground to LADWP Diversion. Reach 5 has a channel gradient of approximately 1.3 percent and is predominately plane bed

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and pool-riffle channel types with frequent large and complex large woody debris jams and increased floodplain connectivity as compared to Reach 4.

Three intensive study sites (i.e., LLV-G1, LLV-G2, and LLV-G3) were identified in Reaches 1, 3, and 5, respectively, based on the potential responsiveness of the channel to geomorphic change (Figure 2.1-1).

5.0 NEXT STEPS

Data review, analysis, and synthesis is ongoing. Tracer rocks will be recovered from lower Lee Vining Creek after peak flows occur in 2023. Study results will be summarized in a Technical Report in 2024.

The anticipated next steps for Study AQ-6 are identified in Table 5-1 below.

Table 5-1. Schedule

Date	Activity
2022/2023–Winter	Compile initial study data
2023–January	Progress Report and Meeting
2023–Summer/Fall	Continue analysis and collect tracer rocks
2023/2024–Winter	Distribute draft report to Stakeholders
2024–Spring	Resolve comments and prepare final report
2024–September	Distribute final report in Draft License Application

6.0 REFERENCES

SCE (Southern California Edison). 2022. *Final Technical Study Plans*. Lee Vining Hydroelectric Project, FERC Project No. 1388. April 25, 2022.

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APPENDIX F
GENERAL BOTANICAL RESOURCES SURVEY (TERR-1) TECHNICAL MEMO

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MEMORANDUM

To:	Lee Vining Stakeholders
From:	Southern California Edison Relicensing Team
Date:	January 2023
Subject:	General Botanical Resources Survey (TERR-1) Technical Memo

1.0 INTRODUCTION

This memo presents the preliminary data of Study TERR-1 conducted in 2022 within the Lee Vining Hydroelectric Project (Project). The *TERR-1 General Botanical Resources Survey Technical Study Plan* details Southern California Edison's (SCE) proposal for study objectives, study area, methods, and schedule for the effort. The Final Technical Study Plan was filed with the Federal Energy Regulatory Commission (FERC) on April 25, 2022 (SCE, 2022).

Information on vegetation communities and plant species, including riparian conditions monitored as part of the current license, is provided by the previously conducted field surveys and license-required monitoring studies (Psomas, 2006, 2010, 2013; Read, 2004, 2012, 2017, 2022) and the Project Environmental Assessment (FERC, 1992). Since those studies were undertaken, new species have been added to the federal and state endangered species lists, and others have been deemed sensitive by various government agencies.

As outlined in the *TERR-1 General Botanical Resources Survey Technical Study Plan*, the studies began in 2022 and will continue into 2023.

2.0 STUDY OBJECTIVES

The goal of this study is to obtain the additional information to supplement the existing information regarding sensitive botanical resources in the study area by:

- Ground-truthing the existing USFS vegetation map (USFS, 2019), including identification of any sensitive natural communities;
- Documenting the presence of species listed by the federal and/or state Endangered Species Acts or proposed for listing, e.g., whitebark pine (*Pinus albicaulis*);
- Documenting the presence of other special-status plants including species with a California Rare Plant Rank (CRPR) of 1 or 2 and USFS Species of Conservation Concern;
- Documenting non-native, invasive plants identified in the Inyo National Forest Invasive Plant Inventory Database (NRM – TESP/IS, 2018) and on the California Invasive Plant Council Inventory (Cal-IPC, 2020);

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- Incorporating results of the riparian monitoring study undertaken as part of the existing license (see Read, 2004, 2012, 2017, 2022); and

- Performing a focused study of selected riparian habitat areas using Normalized Difference Vegetation Index (NDVI) to (1) compare ”test” reaches and “control” reaches and (2) to assess whether or not there have been changes resulting from hydro-resource optimization.

2.1. STUDY AREAS

Two study areas were used as part of the botanical resources survey. This includes a Botanical Resources Study Area and an NDVI Study Area.

2.1.1. BOTANICAL RESOURCES STUDY AREA

The Botanical Resources Study Area was used to document the presence of special-status plant species and the presence of invasive plant species. The Botanical Resources Study Area is shown on Figure 2.1-1 (and the associated mapbook in Attachment 1) and includes all aboveground Project facilities and USFS recreation areas, including an approximate 100-foot buffer around these areas:

- Saddlebag Dam and Campgrounds (SD): Saddlebag Dam, spillway, and valve house; Saddlebag Day Use Picnic/Fishing Site; Saddlebag Lake Campground; Saddlebag Lake Group Campground; and Saddlebag Lake Loop trailhead

- Rhinedollar Dam and Penstock Trail (RD): Rhinedollar Dam, tunnel intake, spillway, and valve house and Penstock Trail

- Tioga Dam (TD): Tioga Dam, Tioga Auxiliary Dam, and access road

- Poole Powerhouse (PP)

- Sawmill Campground (SM): Sawmill Walk-in Campground including parking area

- Junction Campground (JC)

- Ellery Lake Campground (EC)

- Ellery Lake Overlook (EO)

- Tioga Lake Campground (TC)

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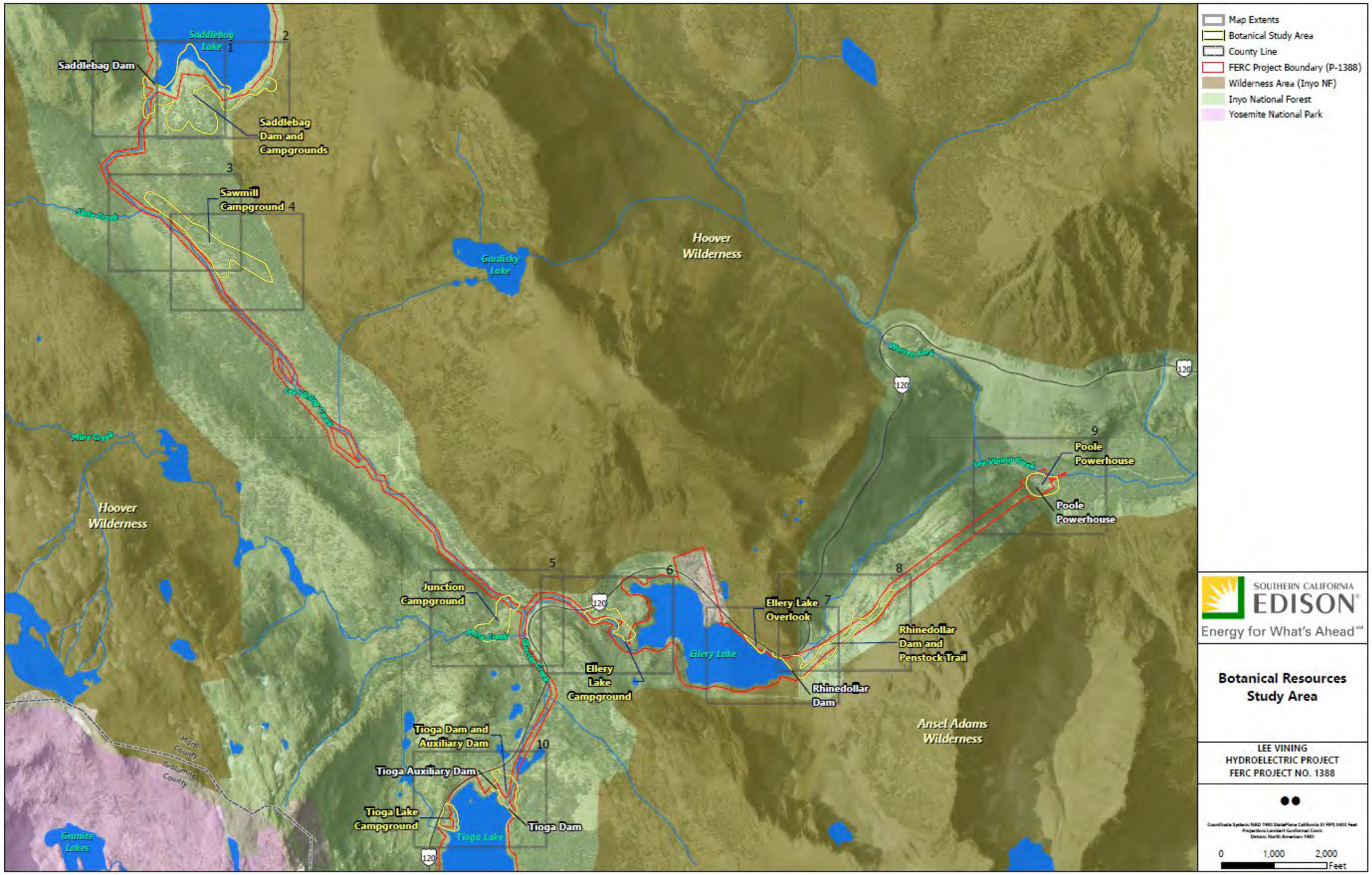


Figure 2.1-1. Botanical Resources Study Area

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2.1.2. NDVI STUDY AREA

The NDVI Study Area was used (1) to compare test reaches and control reaches and (2) to assess the potential effects of hydro-optimization on riparian resources. The NDVI Study Area extends from above Saddlebag Lake to below Aspen Campground (Table 2.1-1; Figure 2.1-2; and the associated mapbook in Attachment 1). Test reaches were located along Lee Vining Creek, within or adjacent to the FERC Project Boundary, that are downstream of Project water releases, including minimum instream flows and hydro-optimization. Control areas include a reach along Lee Vining Creek that is upstream of any Project facility (i.e., upstream of Saddlebag Lake) and tributaries to Lee Vining Creek (i.e., Mine Creek and Slate Creek).

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Table 2.1-1. NDVI Study Sites and Source for Delimiting Sampling Plots

Study Site	Control/Test	Affected by Hydro-Resource Optimization	Willow Riparian Scrub Vegetation Determination	Wet Meadow Vegetation Determination
Above Saddlebag (AS)	Control	No	Based on Google Earth aerial imagery	Based on Google Earth aerial imagery
Upper Slate Creek (USC)	Control	No	Based on Google Earth aerial imagery	Based on Google Earth aerial imagery
Mine Creek (MC)	Control	No	Based on Google Earth aerial imagery	Based on Google Earth aerial imagery
Below Saddlebag (BS)	Test	No	Based on field survey; dominated by gray-leafed Sierra willow (*Salix orestera*)	Community not present
Upper Lee Vining (ULV)	Test	No	Based on field survey; mix of Sierra willow (*Salix eastwoodiae*), tea-leafed willow (*Salix planifolia*), Jepson's willow (*Salix jepsonii*), and gray-leafed Sierra willow	Based on field survey; dominated by a mix of grasses and forbs, including Pacific onion (*Allium validum*), alpine ragwort (*Packera pauciflora*), sedges (*Carex* spp.), and rushes (*Juncus* spp.)
Middle Lee Vining (MLV)	Test	No	Based on Google Earth aerial imagery	Based on Google Earth aerial imagery
Below Ellery (BE)	Test	No	Based on field survey; dominated by gray-leafed Sierra willow	Community not present
Lower Lee Vining (LLV)	Test	Yes	Based on field survey; dominated by narrow-leaved willow (*Salix exigua*)	Based on field survey; dominated by sedges (*Carex* spp.) and rushes (*Juncus* spp.)

Source: Google Earth, various dates

NDVI = Normalized Difference Vegetation Index

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Figure 2.1-2. NDVI Study Area

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3.0 METHODS

Study implementation generally followed the methods described in the *TERR-1 General Botanical Resources Survey Technical Study Plan*, with the exceptions described below.

3.1. MODIFICATIONS TO METHODS

Study *TERR-1* originally proposed two study sites to determine whether changes were detected in riparian "health" as a result of hydro-resource optimization, as measured by NDVI. The current study expanded the analysis to eight study sites: five test reaches of Lee Vining Creek downstream of Project facilities and three outside the Project to act as controls. These additional study sites allow for an increase in sampling replicates and a more robust analysis.

Select portions of the Botanical Resources Study Area were extended beyond 100 feet at the request of the USFS (i.e., the portion of Lee Vining Creek below Saddlebag Dam and the lakeshore around the Saddlebag Day Use Picnic/Fishing Site) for the purpose of gathering more extensive data along the creek.

In some locations, the Botanical Resources Study Area buffer was decreased within 100 feet due to limitations of accessibility and topography.

In place of reference population checks, two rounds of surveys were performed in 2022 to ensure coverage of the blooming periods for all species.

3.2. SPECIAL-STATUS PLANT SPECIES SURVEY

3.2.1. LITERATURE REVIEW

A literature review was conducted to identify special-status plant species reported to occur (or that historically occurred) in the vicinity of the Botanical Resources Study Area. This literature review also verified the protective status of any of the previously identified special-status plants and reviewed any new literature on the ecology and life history of these resources. The literature review was used to define potentially suitable habitat for special-status plant species and make a determination on which species have potential to occur in the Botanical Resources Study Area based on the presence of suitable habitat.

A list of special–status plant species was compiled from several sources by searching the following U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles: Tioga Pass, Mount Dana, Lee Vining, Falls Ridge, Lundy, Dunderberg Peak, Vogelsang Peak, Koip Peak, Matterhorn Peak, and Tenaya Lake. The sources queried included:

- California Natural Diversity Database (CNDDB; CDFW, 2020)
- California Native Plant Society's Inventory of Rare and Endangered Plants (CNPS, 2020)

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- Persistence Analysis for Species of Conservation Concern Inyo National Forest (INF, 2019) (species known to be present in the Mono Ranger District are included)
- USFS records of botany at risk species (NRM – TESP/IS, 2018)
- Whitebark pine range geospatial data (USFS, 2020)

The literature review yielded a total of 135 special-status plant species reported from the vicinity of the Botanical Resources Study Area as shown in Table 1 of Attachment 2, Literature Review Results, to this memo. Species listed in the table are categorized as known to occur, may occur, or unlikely to occur. The table also summarizes pertinent information for each species, including listing status, blooming period, and preferred habitat, with information on the location of occurrences recorded within the Botanical Resources Study Area.

3.2.2. FIELD SURVEY

Special-status plant surveys were floristic in nature and consistent with the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW, 2018). Surveys were performed at appropriate times of year to maximize the probability of detecting special-status plant species, as determined by the literature review and in consultation with the relevant Stakeholders. Two rounds of surveys were conducted to encompass the blooming/fruiting period for multiple special-status plant species.

Surveys were conducted on July 18, 19, 20, 21, and 22 and August 15, 16, 17, 18, and 19, 2022. A systematic, pedestrian survey was conducted throughout the Botanical Resources Study Area in all areas of suitable plant habitat. Inaccessible areas were viewed via binoculars. A field map with the Botanical Resources Study Area overlaid on aerial imagery (source USGS, 2020) was prepared at a scale of 1 inch equals 150 feet (1″=150′).

Plant species were identified in the field or collected for future identification. Voucher specimens will be deposited in an approved herbarium that is a member of the Consortium of California Herbaria (i.e., at the University of California, Riverside, and the California Botanic Garden). Individuals were collected under the conditions of California Department of Fish and Wildlife (CDFW) and USFS permits.

Plants were identified to the taxonomic level necessary to determine whether they were a special-status species.

The location of any special-status plant species population observed in the Botanical Resources Study Area was recorded with either a handheld Garmin Global Positioning System (GPS) unit or on an iPad loaded with Avenza Maps software displaying the field map. The number of individuals was collected for non-clonal species (estimated for large populations) and the area and percent cover was mapped for clonal species. Data were collected on the phenology of individuals and microsite characteristics (e.g., slope, aspect, soil texture, surrounding habitat, and associated species). At the request of the

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resource agencies, locations of black cottonwood (*Populus trichocarpa*) were also recorded. CNDDB Field Survey Forms will be submitted to the CDFW for listed species or species with a CRPR of 1 or 2.

3.3. INVASIVE PLANT SPECIES SURVEY

3.3.1. LITERATURE REVIEW

The list of invasive plant species with potential to occur in the Botanical Resources Study Area was developed from a query of the Cal-IPC (Cal-IPC, 2020) and a list provided by the USFS of non-native invasive plants (NNIPs) currently known in the Inyo National Forest (NRM – TESP/IS, 2018).

Cal-IPC was queried to obtain a list of invasive plants based on two parameters:

- Jepson region: The inventory uses geographic floristic provinces and subdivisions within California as described by the Jepson Flora Project (2022); Sierra Nevada East was used.

- Habitat types: Five vegetation communities were known to be in or near the Botanical Resources Study Area and were selected: scrub and chaparral, grasslands, riparian, woodland, and forest.

Cal-IPC defines NNIPs as plants that (1) are not native to, yet can spread into, wildland ecosystems, and that also (2) displace native species, hybridize with native species, alter biological communities, or alter ecosystem processes (Cal-IPC, 2020).

Cal-IPC categorizes plants as High, Moderate, or Limited, according to the degree of ecological impact in California (Cal-IPC, 2020).

The USFS has categorized NNIPs into various treatment strategies (1) eradicate, (2) control, (3) contain, and (4) limited or no treatment.

The Cal-IPC query combined with the list of NNIPs known to occur in the Inyo National Forest yielded a total of 84 invasive plant species that have the potential to occur in the Botanical Resources Study Area as shown in Table 2 of Attachment 2, Literature Review Results, to this memo.

3.3.2. FIELD SURVEY

Invasive plant species surveys were performed concurrently with and followed the methods for special-status plant surveys, as described above.

The USFS identified select invasive species of concern to be mapped within the Botanical Resources Study Area (see Table 3 in Attachment 2, Literature Review Results, of this memo). Discrete individuals/populations were mapped as a point or polygon. Widely distributed species dispersed throughout a study site were documented as present/absent in individual study sites. The number of individuals of each invasive

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species was estimated. Other non-native plant species observed were documented as present but not mapped.

3.4. NDVI ANALYSIS

An NDVI analysis was performed for willow riparian scrub and wet meadow communities on select study sites of the riparian corridor. Study sites were selected visually based on the presence of a relatively uniform riparian plant community (i.e., willow riparian scrub with or without a wet meadow) that was not obscured by a conifer canopy, as identified by Google Earth aerial imagery and field surveys. Sites were selected that had a willow cover large enough to support 10 replicate sampling plots of 10 square meters each. The number and size of sampling plots per study site was constrained because some study sites had limited willow extent. For each study site, sampling plots were placed within areas of relatively homogeneous willow riparian scrub or wet meadow (where present). Plots were repositioned to minimize the amount of non-vegetative landcover (e.g., rock, trail) or shadow within the plot boundary as shown in the 2016 and 2021 imagery flown as part of the long-term riparian monitoring study.

An NDVI quantifies vegetation by measuring the difference between near-infrared (NIR), which vegetation strongly reflects, and red light (R), which vegetation absorbs. This reports the "greenness" of vegetation, which is used as a proxy for vegetation health (i.e., high NDVI values represent healthier vegetation) (GISGeography, 2022).

$$NDVI = (NIR - R)/(NIR + R)$$

The mean NIR and R values were obtained for each sampling plot using the false color infrared aerial imagery flown as part of the current license requirement for riparian monitoring. Aerial imagery was flown by Keystone Aerial Surveys on August 12, 2016, and August 2, 2021. The flight line extended from just upstream of Saddlebag Lake to the SCE powerhouse in Lee Vining. Pixel resolution of the imagery was approximately 12 centimeters for aerials flown in 2021 and 15 centimeters for aerials flown in 2016.

Values were obtained using the NDVI tool in ArcGIS software. The average and standard deviation of NDVI values were calculated for each of the eight study sites.

4.0 DATA SUMMARY

4.1. SPECIAL-STATUS PLANT SPECIES

Two special-status plant species were observed in 2022 in the Botanical Resources Study Area: mountain bent grass (*Agrostis humilis*) and whitebark pine (*Pinus albicaulis*). Figure 4.1-1 (and the associated mapbook in Attachment 1) shows the location of each population of special-status plant species. At the request of the resource agencies, information was also collected on black cottonwood. A complete list of plant species observed is included in Attachment 3, 2022 Plant Compendium.

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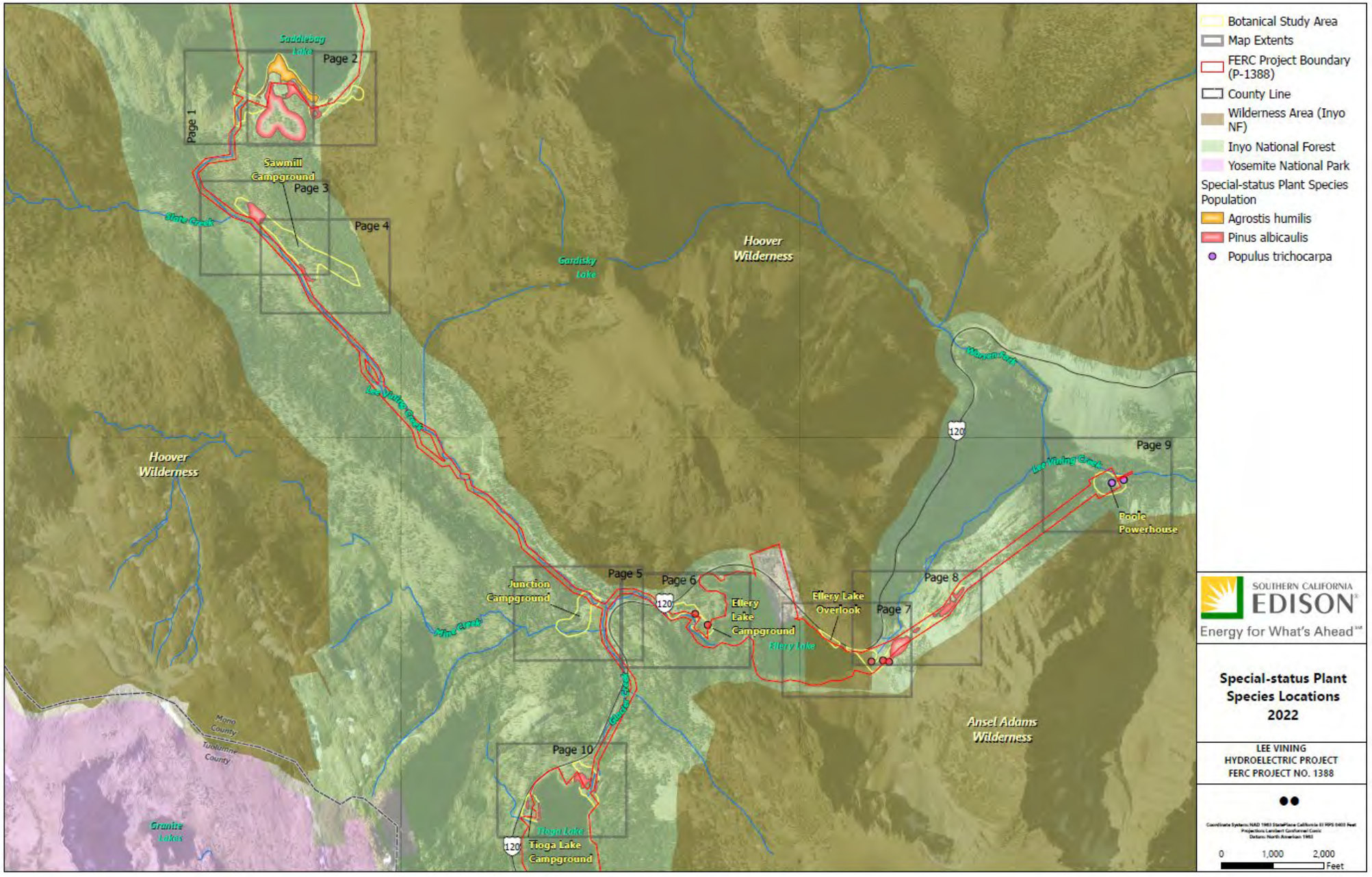


Figure 4.1-1. Special-status Plant Species Locations 2022

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4.1.1. MOUNTAIN BENT GRASS

Mountain bent grass has a CRPR of 2B.3 and is designated as a Species of Conservation Concern by the Inyo National Forest. Five populations of mountain bent grass totaling approximately 854 individuals were observed in the Botanical Resources Study Area (Figure 4.1-1; Table 4.1-1). The majority of individuals were flowering or fruiting. Populations were observed in the Saddlebag Dam and Campgrounds portion of the study area. The species was growing in relatively barren areas along the lakeshore and below Saddlebag Dam, sometimes among scattered boulders and cobbles. Associated species vary by population and include rough bent grass (*Agrostis scabra*), abrupt-beaked sedge (*Carex abrupta*), umbel-bearing pussypaws (*Calyptridium umbellatum*), Newberry's beardtongue (*Penstemon newberryi*), northern goldenrod (*Solidago multiradiata*), and Anderson's alpine aster (*Oreostemma alpigenum* var. *andersonii*).

Table 4.1-1. Population Counts and Phenology of Mountain Bent Grass

Botanical Study Area	Population	Number of Individuals	Percent Vegetative	Percent Flowering/Fruiting
Saddlebag Dam and Campgrounds	1	106	10	90
Saddlebag Dam and Campgrounds	2	500	10	90
Saddlebag Dam and Campgrounds	3	48	10	90
Saddlebag Dam and Campgrounds	4	100	10	90
Saddlebag Dam and Campgrounds	5	100	10	90

4.1.2. WHITEBARK PINE

Whitebark pine is listed as Threatened under the federal Endangered Species Act and is designated as a Species of Conservation Concern by the Inyo National Forest. Federal listing was finalized on December 15, 2022, and the rule is effective January 17, 2023 (USFWS 2022).

Seventeen populations of whitebark pine totaling approximately 1,004 individuals were observed in the Botanical Resources Study Area (Figure 4.1-1; Table 4.1-2). The species was growing in a mix of vegetation types including whitebark pine forest, whitebark pine—alpine, willow scrub, and wet meadow. Associated species vary by site and include lodgepole pine, gray-leafed Sierra willow, Brewer's mountain heather (*Phyllodoce breweri*), western Labrador tea (*Rhododendron columbianum*), whitestem goldenbush (*Ericameria discoidea*), dwarf bilberry, fireweed (*Chamerion angustifolium* ssp. *circumvagum*), compact spear phacelia (*Phacelia hastata* var. *compacta*), Newberry's beardtongue, squirreltail (*Elymus elymoides*), and sedge (*Carex* spp.).

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Table 4.1-2. Population Counts and Phenology of Whitebark Pine

Botanical Study Area	Population	Number of Individuals	Percent Vegetative	Percent Flowering/Fruiting
Rhinedollar Dam and Penstock Trail	1	2	50	50
Rhinedollar Dam and Penstock Trail	2	1	100	—
Rhinedollar Dam and Penstock Trail	3	2	100	—
Rhinedollar Dam and Penstock Trail	4	300	75	25
Rhinedollar Dam and Penstock Trail	5	12	33	67
Rhinedollar Dam and Penstock Trail	6	300	75	25
Saddlebag Dam and Campgrounds	7	30	85	15
Saddlebag Dam and Campgrounds	8	200	75	25
Ellery Lake Campground	9	2	—	100
Ellery Lake Campground	10	3	33	67
Sawmill Campground	11	17	41	59
Sawmill Campground	12	23	78	22
Tioga Dam and Auxiliary Dam	13	10	60	40
Tioga Dam and Auxiliary Dam	14	74	69	31
Tioga Lake Campground	15	6	17	83
Tioga Lake Campground	16	9	55	45
Tioga Lake Campground	17	13	85	15

4.1.3. BLACK COTTONWOOD

Black cottonwood is not considered a special-status plant species; however, as a riparian species, it is of interest to the stakeholders.

Two populations of black cottonwood were observed in the Botanical Resources Study Area (Figure 4.1-1; Table 4.1-3). Population 1 consisted of a single, mature individual. Population 2 consisted of a cluster of eight saplings.

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Table 4.1-3. Population Counts and Phenology of Black Cottonwood

Botanical Study Area	Population	Number of Individuals	Percent Vegetative	Percent Flowering	Percent Fruiting
Poole Powerhouse	1	1	100	—	—
Poole Powerhouse	2	8	100	—	—

4.2. INVASIVE PLANT SPECIES

One invasive plant species of concern designated for mapping was observed in 2022 in the Botanical Resources Study Area: cheat grass (*Bromus tectorum*).

Three populations of cheat grass were observed in 2022 in the Botanical Resources Study Area (Figure 4.2-1 and the associated mapbook in Attachment 1). Two populations were documented from Poole Powerhouse (Population 1 has 30 individuals; Population 2 has 60 individuals) and one was documented from Ellery Lake Campground (Population 3 has 40 individuals).

No other invasive plant species of concern were observed in the Botanical Resources Study Area. Other non-native plant species observed are reported in Attachment 3, 2022 Plant Compendium.

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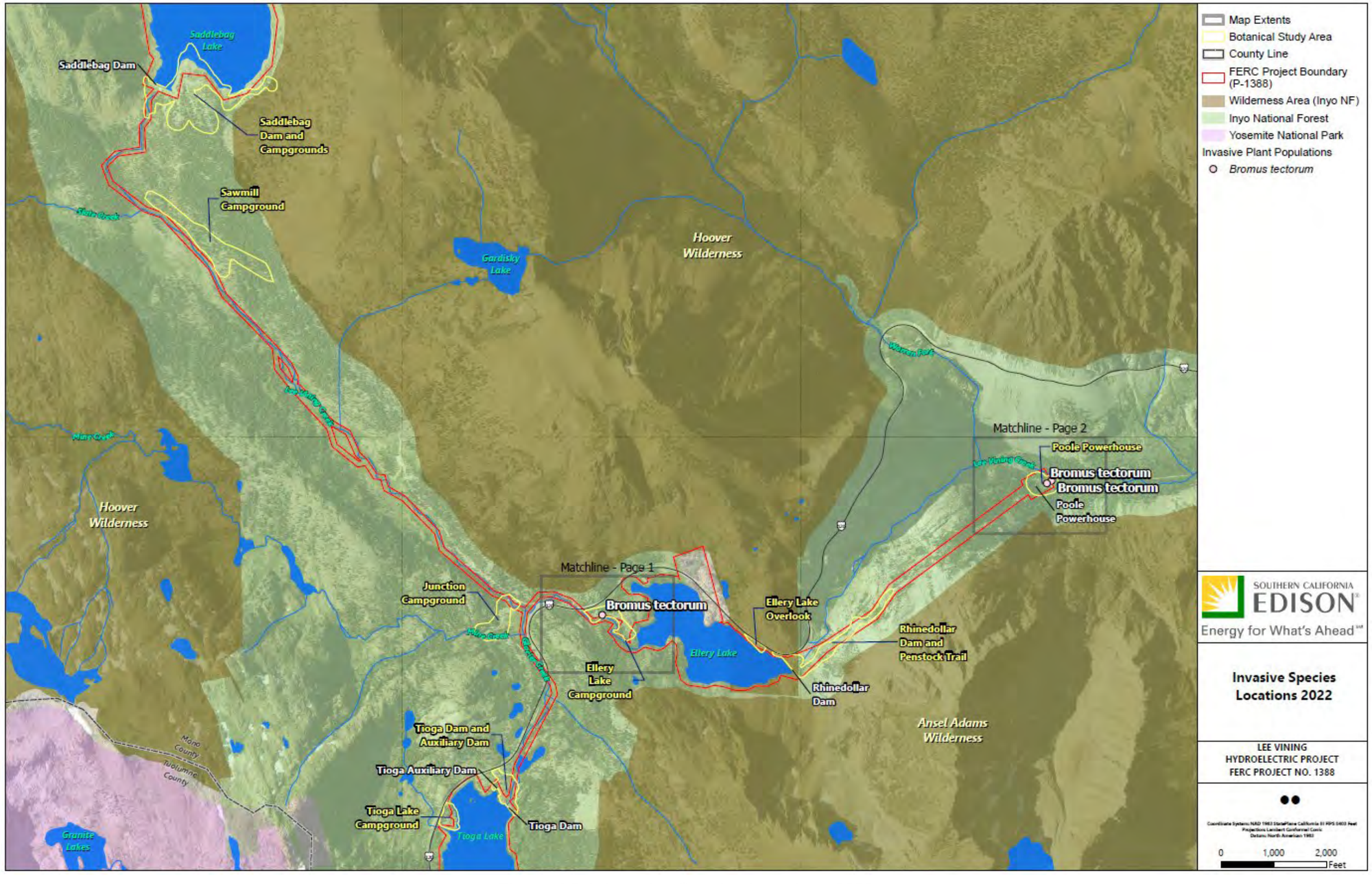


Figure 4.2-1. Invasive Species Locations 2022

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4.3. NDVI ANALYSIS

Vegetation indices are used to measure biomass or vegetative vigor using combinations of several spectral values (Campbell and Wynne, 2011). The NDVI is one form of vegetation index that is constrained to vary within limits (i.e., between -1 and +1). A high NDVI value indicates "healthy" vegetation because it reflects more near-infrared and green light compared to other wavelengths and absorbs more red and blue light.

Table 4.3-1 and Figure 4.3-1 summarizes the 2016 and 2021 NDVI data for willow riparian scrub at both control and test sites.

Table 4.3-1. Summary of NDVI Data for Willow Riparian Scrub in 2016 and 2021

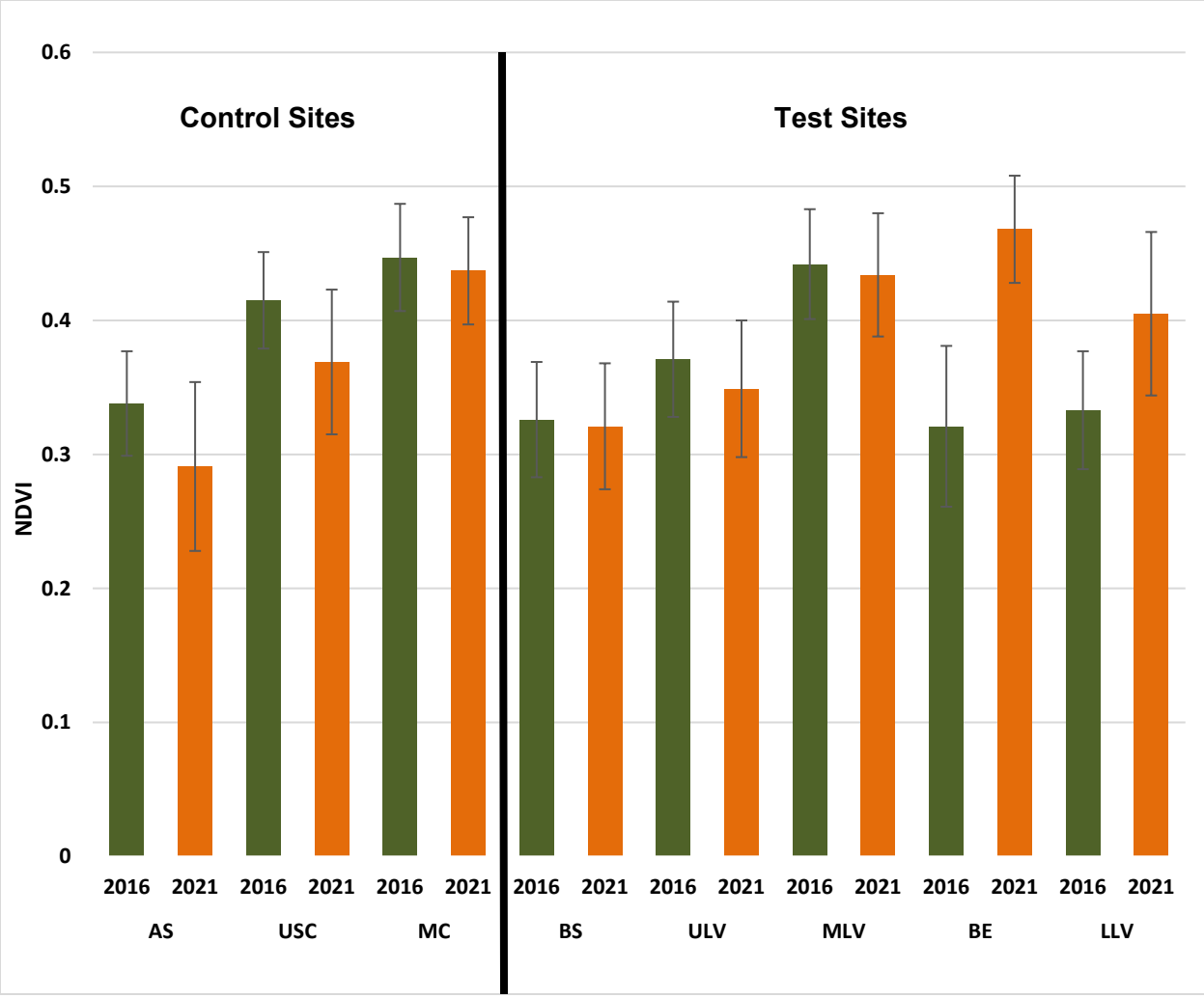
Site [a]	Mean (2016)	Mean (2021)	Standard Deviation (2016)	Standard Deviation (2021)	Minimum (2016)	Minimum (2021)	Maximum (2016)	Maximum (2021)
AS	*0.338*	*0.291*	*0.039*	*0.063*	*0.209*	*0.055*	*0.437*	*0.473*
USC	*0.415*	*0.369*	*0.036*	*0.054*	*0.307*	*0.180*	*0.489*	*0.500*
MC	*0.447*	*0.437*	*0.040*	*0.040*	*0.347*	*0.305*	*0.592*	*0.570*
BS	0.326	0.321	0.043	0.047	0.218	0.119	0.438	0.487
ULV	0.371	0.349	0.043	0.051	0.111	0.138	0.488	0.482
MLV	0.442	0.434	0.041	0.046	0.258	0.223	0.519	0.569
BE	0.321	0.468	0.060	0.040	0.102	0.331	0.437	0.582
LLV	0.333	0.405	0.044	0.061	0.198	0.220	0.454	0.590

AS = Above Saddlebag; USC = Upper Slate Creek; MC = Mine Creek; BS = Below Saddlebag; ULV = Upper Lee Vining; MLV = Middle Lee Vining; BE = Below Ellery; LLV = Lower Lee Vining

Notes:

[a] Site names in italics are control sites; site names not in italics are test sites.

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AS = Above Saddlebag; USC = Upper Slate Creek; MC = Mine Creek; BS = Below Saddlebag; ULV = Upper Lee Vining; MLV = Middle Lee Vining; BE = Below Ellery; LLV = Lower Lee Vining; NDVI = Normalized Difference Vegetation Index

Figure 4.3-1. Mean NDVI (+/- Standard Deviation) for Control and Test Willow Riparian Scrub

Table 4.3-2 and Figure 4.3-2 summarizes the 2016 and 2021 NDVI data for wet meadow at both control and test sites.

Table 4.3-2. Summary of NDVI Data for Wet Meadow in 2016 and 2021

Site [a]	Mean (2016)	Mean (2021)	Standard Deviation (2016)	Standard Deviation (2021)	Minimum (2016)	Minimum (2021)	Maximum (2016)	Maximum (2021)
AS	*0.148*	*0.126*	*0.037*	*0.036*	*0.059*	*0.026*	*0.251*	*0.223*
USC	*0.224*	*0.190*	*0.066*	*0.070*	*0.102*	*0.029*	*0.358*	*0.344*
MC	*0.186*	*0.216*	*0.054*	*0.048*	*0.075*	*0.092*	*0.354*	*0.354*

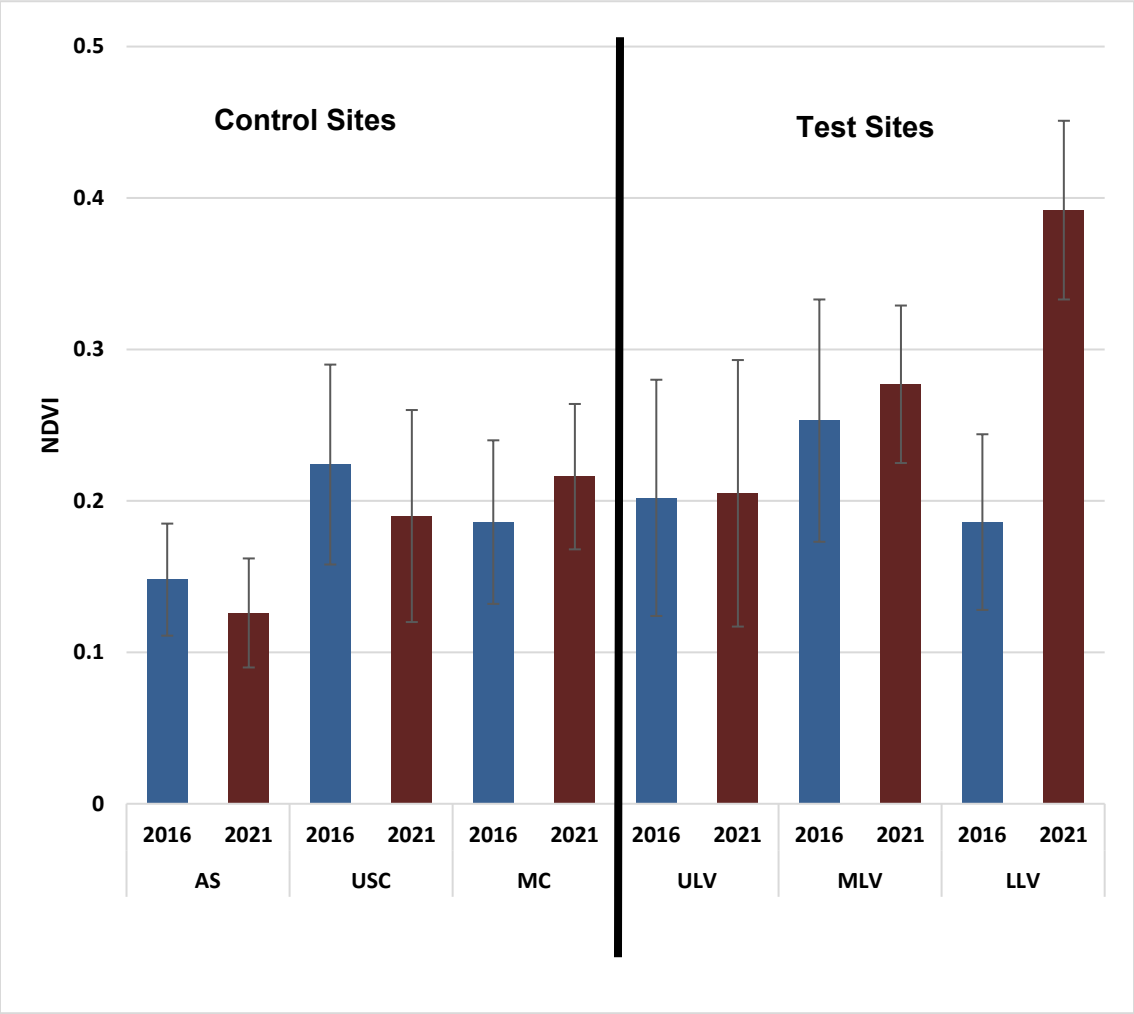
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Site [a]	Mean (2016)	Mean (2021)	Standard Deviation (2016)	Standard Deviation (2021)	Minimum (2016)	Minimum (2021)	Maximum (2016)	Maximum (2021)
ULV	0.202	0.205	0.078	0.088	0.014	-0.029	0.344	0.388
MLV	0.253	0.277	0.080	0.052	0.099	0.145	0.402	0.447
LLV	0.186	0.392	0.058	0.059	0.062	0.191	0.333	0.523

AS = Above Saddlebag; USC = Upper Slate Creek; MC = Mine Creek; ULV = Upper Lee Vining; MLV = Middle Lee Vining; LLV = Lower Lee Vining; NDVI = Normalized Difference Vegetation Index

Notes:

[a] Site names in italics are control sites; site names not in italics are test sites.



AS = Above Saddlebag; USC = Upper Slate Creek; MC = Mine Creek; ULV = Upper Lee Vining; MLV = Middle Lee Vining; LLV = Lower Lee Vining; NDVI = Normalized Difference Vegetation Index

Figure 4.3-2. Mean NDVI (+/- Standard Deviation) for Control and Test Wet Meadow Habitat

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5.0 NEXT STEPS

As noted in the methods, plant species were identified in the field or collected for future identification. Over 300 specimens were collected. Identification is still in progress, and the 2022 plant compendium (Attachment 3) represents species identified to date. The compendium will be completed as species identifications are confirmed.

A second year of plant/invasive surveys will be performed in 2023 to document any additional special-status plant and/or invasive species populations and to add new observations to the plant compendium.

The anticipated next steps for Study TERR-1 are identified in Table 5-1 below.

Table 5-1. Schedule

Date	Activity
2022–Nov/Dec	Compile preliminary data
2023–January	Progress Report and Meeting
2023–Feb/March	Stakeholder review and provide comments on draft report
2023–Summer/Fall	Conduct second season of field surveys
2024–Spring	Distribute draft report to Stakeholders
2024–Summer	Resolve comments and prepare final report
2024–September	Distribute final report in Draft License Application

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ATTACHMENT 1
MAPBOOKS

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Map Extents
Stream Flowline
Botanical Study Area
FERC Project Boundary (P-1388)

Base Imagery: NAIP 2016

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Botanical Resources Study Area

Page 1 of 10

LEE VINING
HYDROELECTRIC PROJECT
FERC PROJECT NO. 1388

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

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Map Extents
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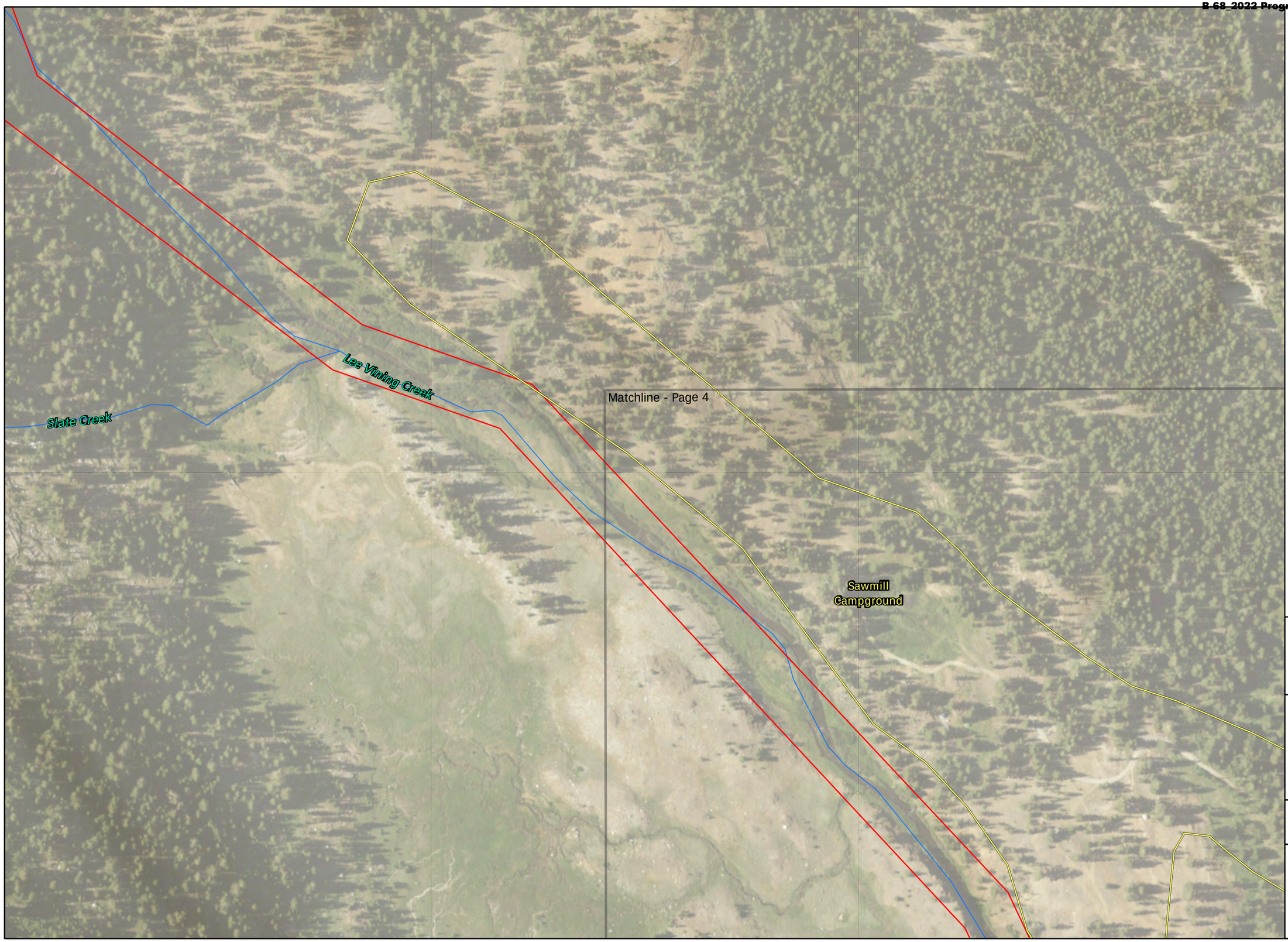
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Lee Vining Creek

Sawmill Campground

Matchline - Page 3

Map Extents
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Lee Vining Creek

Junction Campground

Mine Creek

Glacier Creek

120

120

Matchline - Page 6

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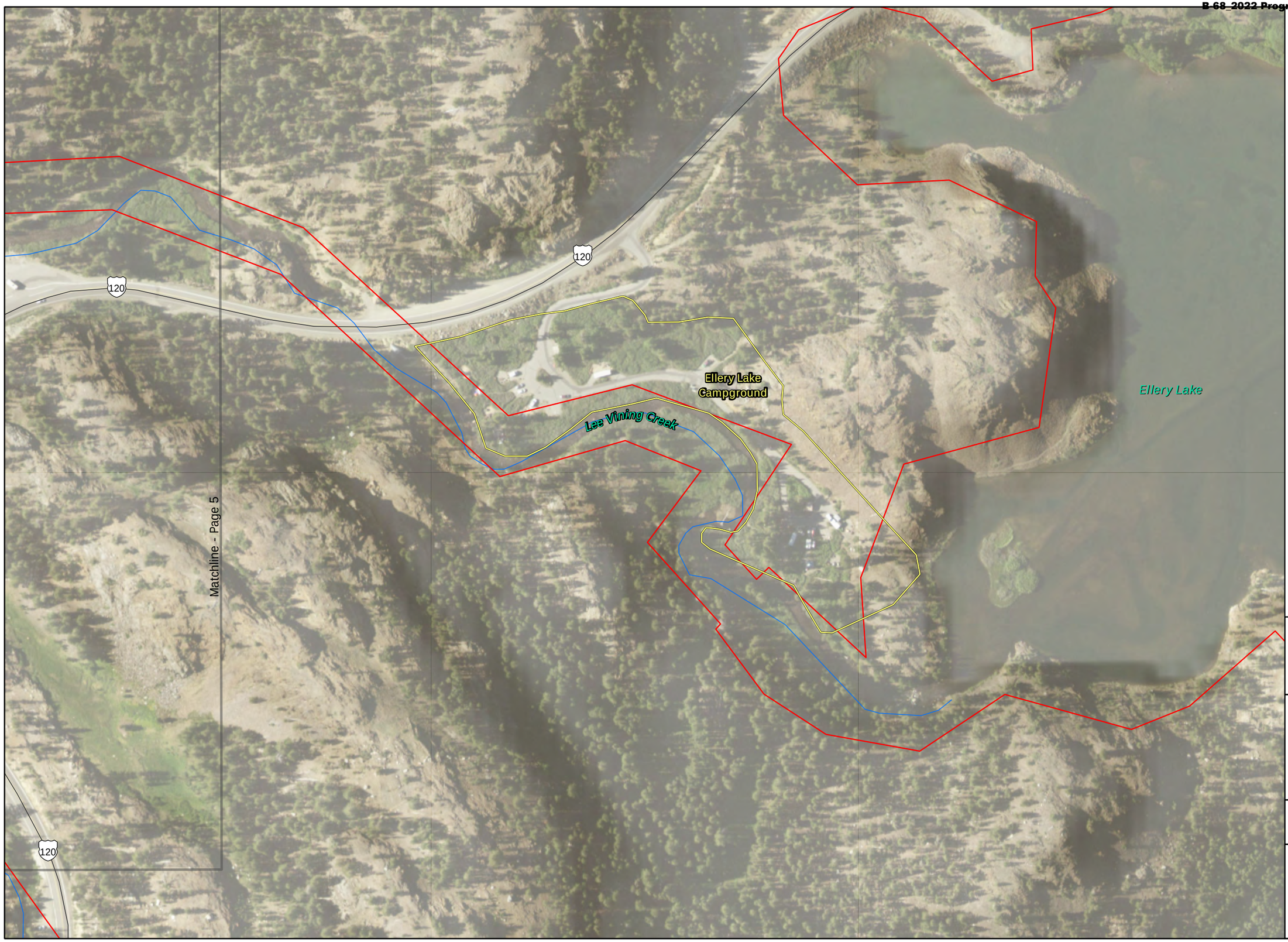
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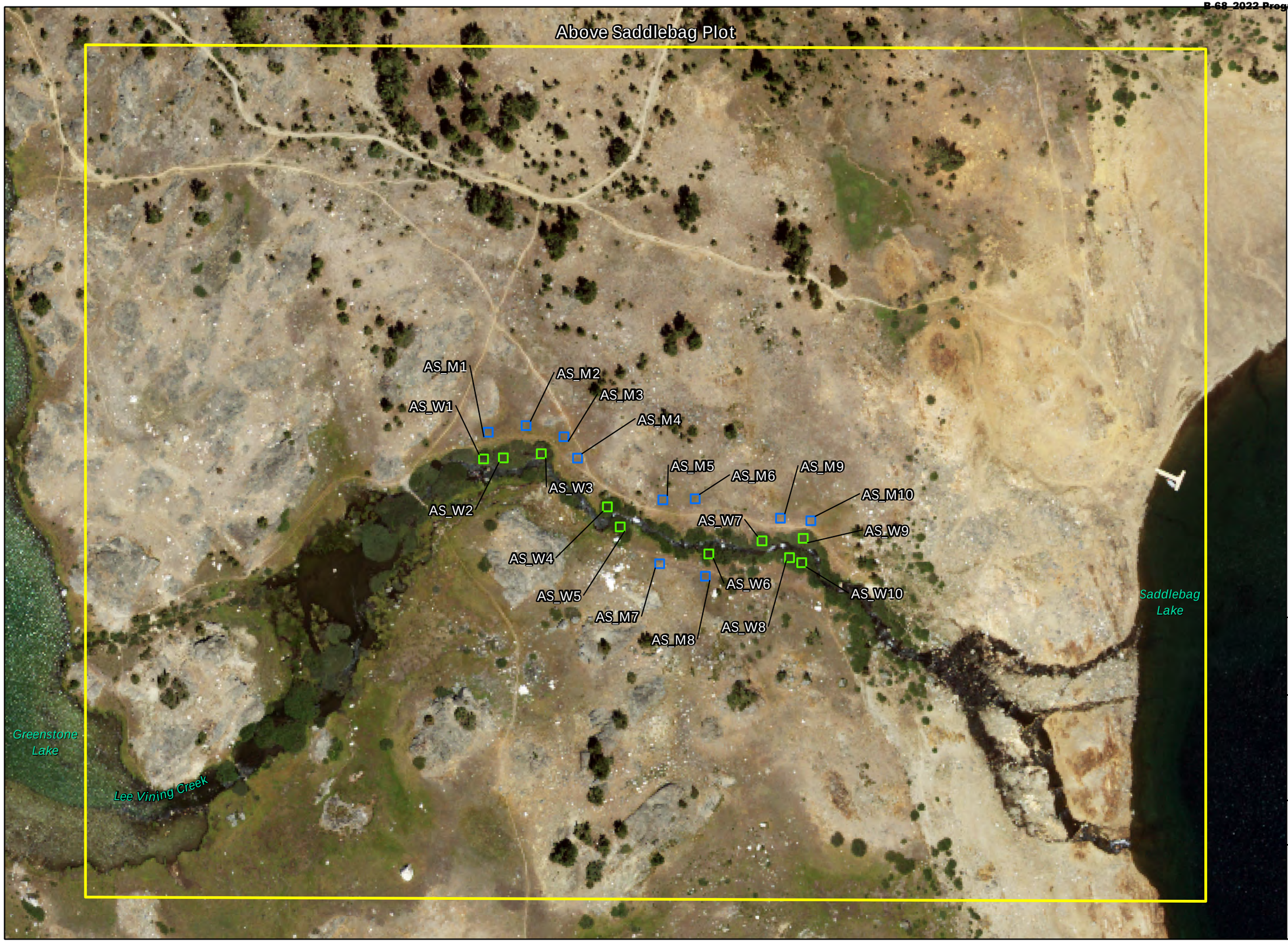
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Datum: North American 1983

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NDVI Plots

- Sampling Plot - Wet Meadow
- Sampling Plot - Willow Riparian Scrub

NDVI Study Sites

- NDVI Study Site - Test
- NDVI Study Site - Contol
- Stream Flowline
- Road
- FERC Project Boundary (P-1388)

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Datum: North American 1983

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NDVI Plots

- Sampling Plot - Wet Meadow
- Sampling Plot - Willow Riparian Scrub

NDVI Study Sites

- NDVI Study Site - Test
- NDVI Study Site - Contol
- Stream Flowline
- Road
- FERC Project Boundary (P-1388)

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NDVI Plots

- Sampling Plot - Wet Meadow
- Sampling Plot - Willow Riparian Scrub

NDVI Study Sites

- NDVI Study Site - Test
- NDVI Study Site - Contol
- Stream Flowline
- Road
- FERC Project Boundary (P-1388)

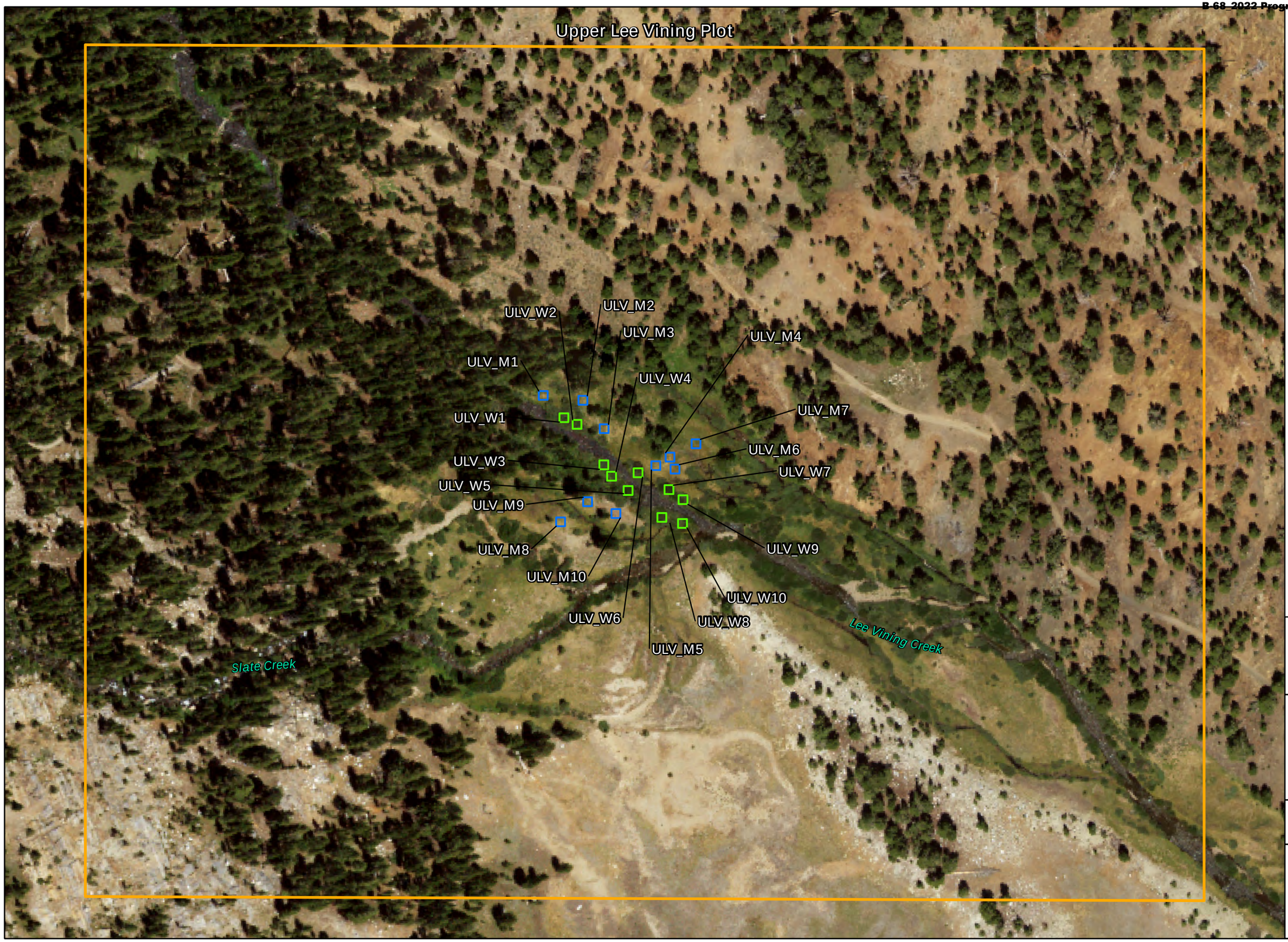
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NDVI Study Area

LEE VINING
HYDROELECTRIC PROJECT
FERC PROJECT NO. 1388

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

0 75 150
Feet



NDVI Plots

- Sampling Plot - Wet Meadow
- Sampling Plot - Willow Riparian Scrub

NDVI Study Sites

- NDVI Study Site - Test
- NDVI Study Site - Contol
- Stream Flowline
- Road
- FERC Project Boundary (P-1388)

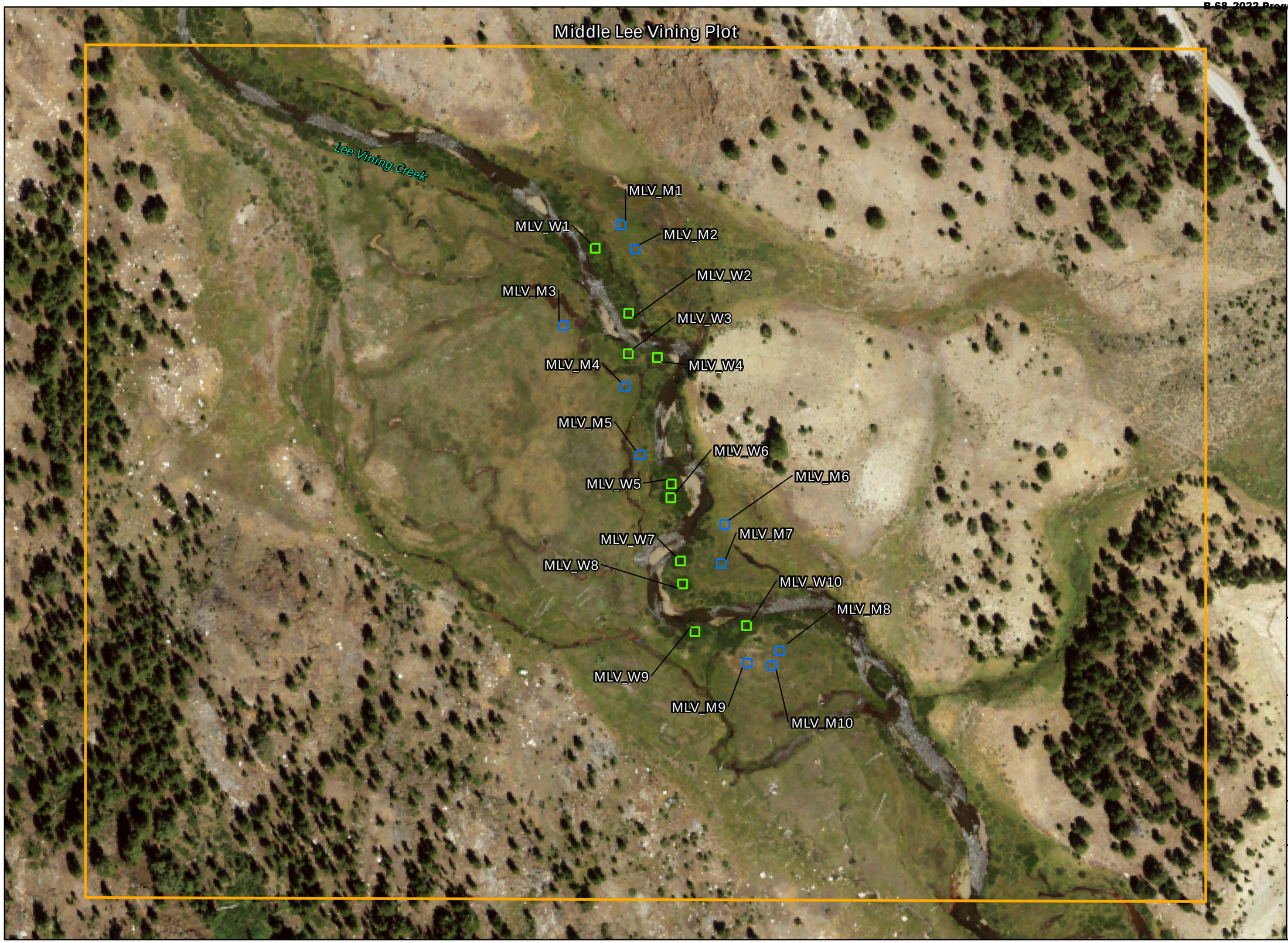
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0 75 150
Feet

Mine Creek Plot

Lee Vining Creek

Mine Creek

Glacier Creek

Tioga Pass Road

120

MC_W4
MC_M5
MC_M4
MC_W6
MC_M6
MC_W8
MC_M1
MC_M3
MC_W9
MC_M2
MC_W1
MC_W10
MC_W2
MC_W5
MC_W7
MC_W3
MC_M9
MC_M7
MC_M10
MC_M8

NDVI Plots

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- Sampling Plot - Willow Riparian Scrub

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NDVI Plots

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NDVI Study Sites

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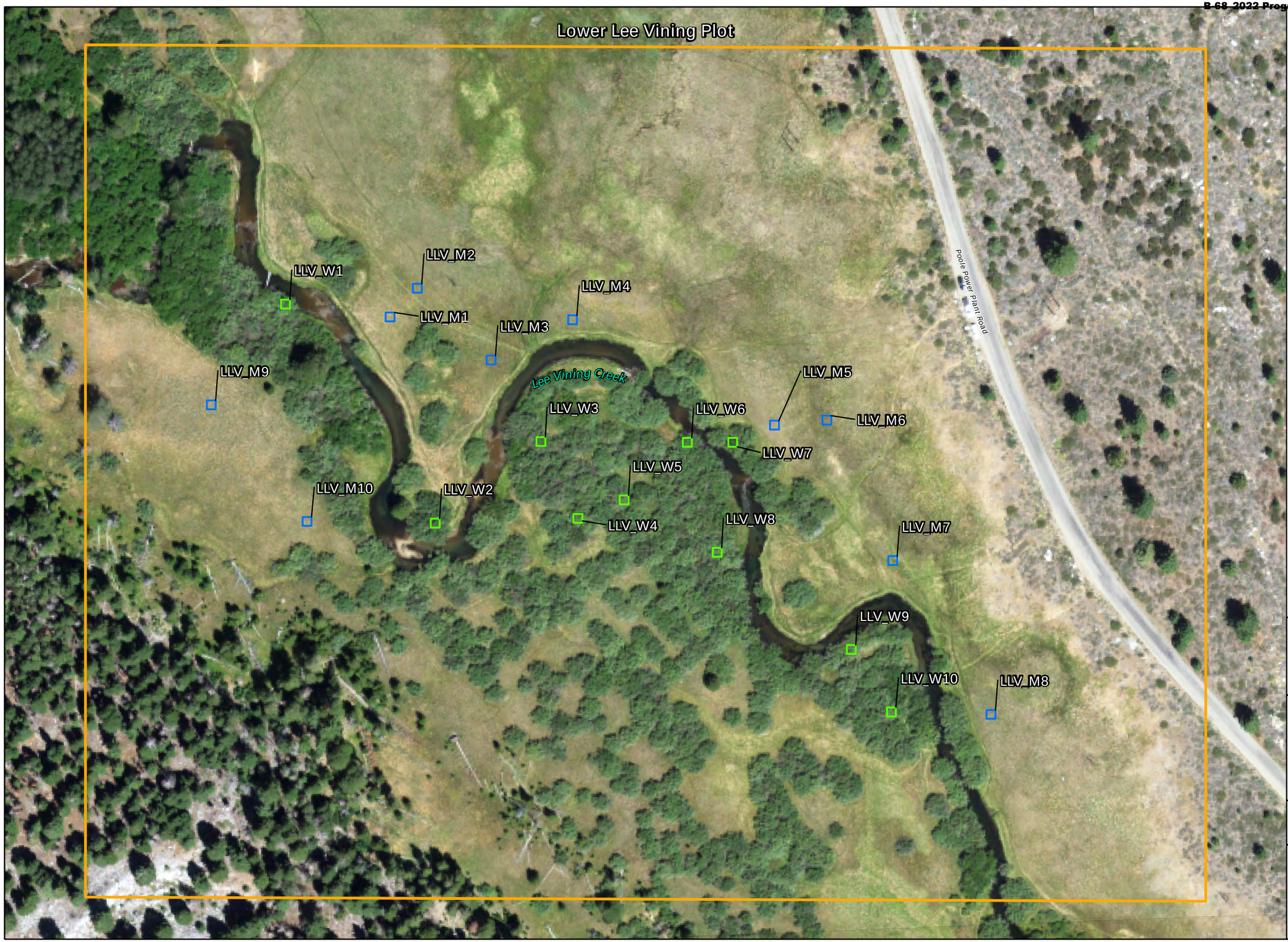
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Feet



NDVI Plots

- Sampling Plot - Wet Meadow
- Sampling Plot - Willow Riparian Scrub

NDVI Study Sites

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- NDVI Study Site - Contol
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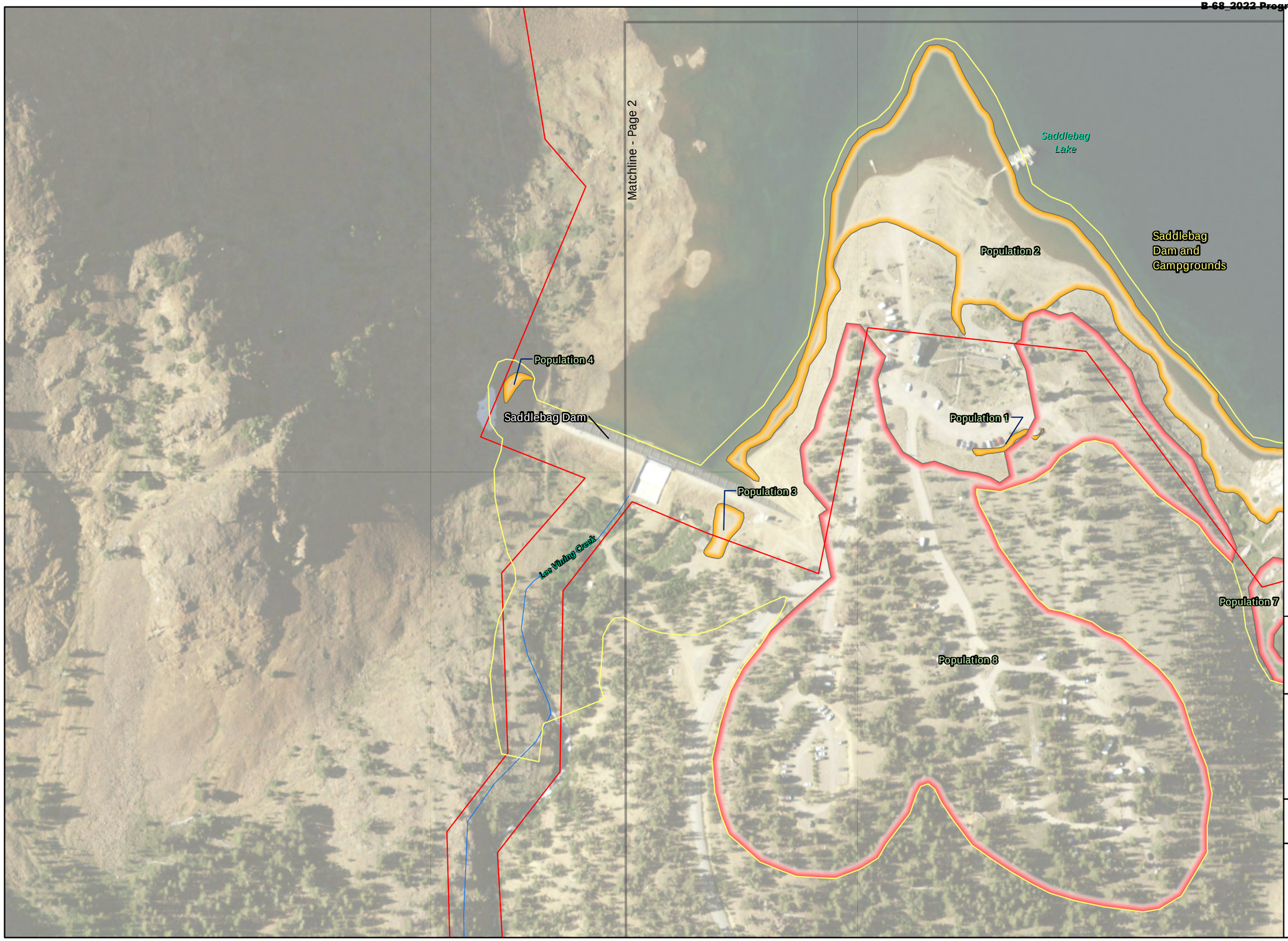
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NDVI Study Area

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HYDROELECTRIC PROJECT
FERC PROJECT NO. 1388

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
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Datum: North American 1983

0 75 150
Feet



Map Extents
Botanical Study Area
County Line
FERC Project Boundary (P-1388)

Special-status Plant Species Population
Agrostis humilis
Pinus albicaulis
Populus trichocarpa

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Special-status Plant Species Location 2022

LEE VINING
HYDROELECTRIC PROJECT
FERC PROJECT NO. 1388

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

0 125 250 Feet

Saddlebag Lake

Population 2

Saddlebag Dam and Campgrounds

Population 1

Population 3

Population 5

Population 7

Population 8

Matchline - Page 1

Map Extents
Botanical Study Area
County Line
FERC Project Boundary (P-1388)

Special-status Plant Species Population

Agrostis humilis
Pinus albicaulis
Populus trichocarpa

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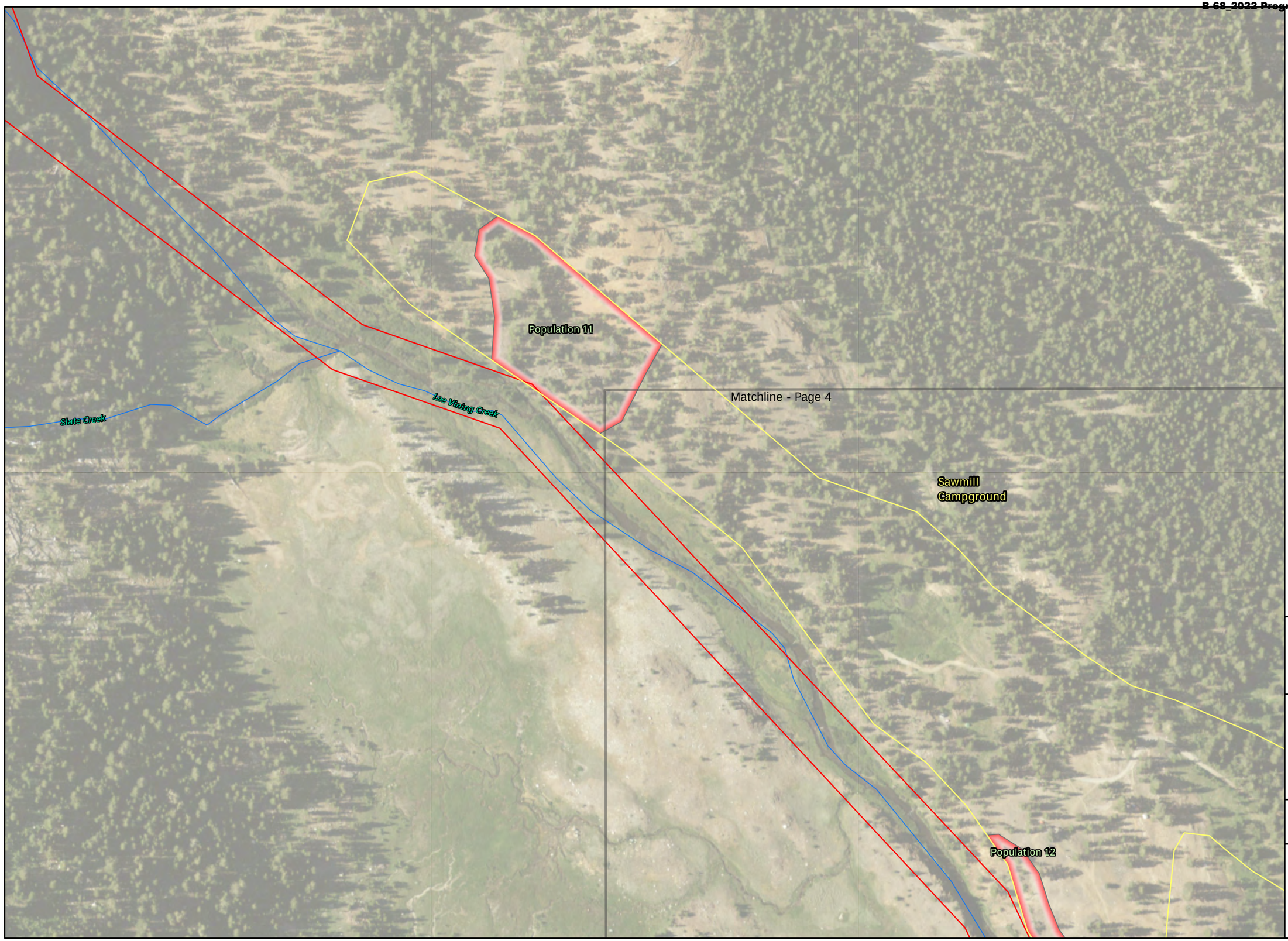
Special-status Plant Species Location 2022

Page 2 of 10

LEE VINING
HYDROELECTRIC PROJECT
FERC PROJECT NO. 1388

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

0 125 250
Feet



Map Extents
Botanical Study Area
County Line
FERC Project Boundary (P-1388)

Special-status Plant Species Population
Agrostis humilis
Pinus albicaulis
Populus trichocarpa

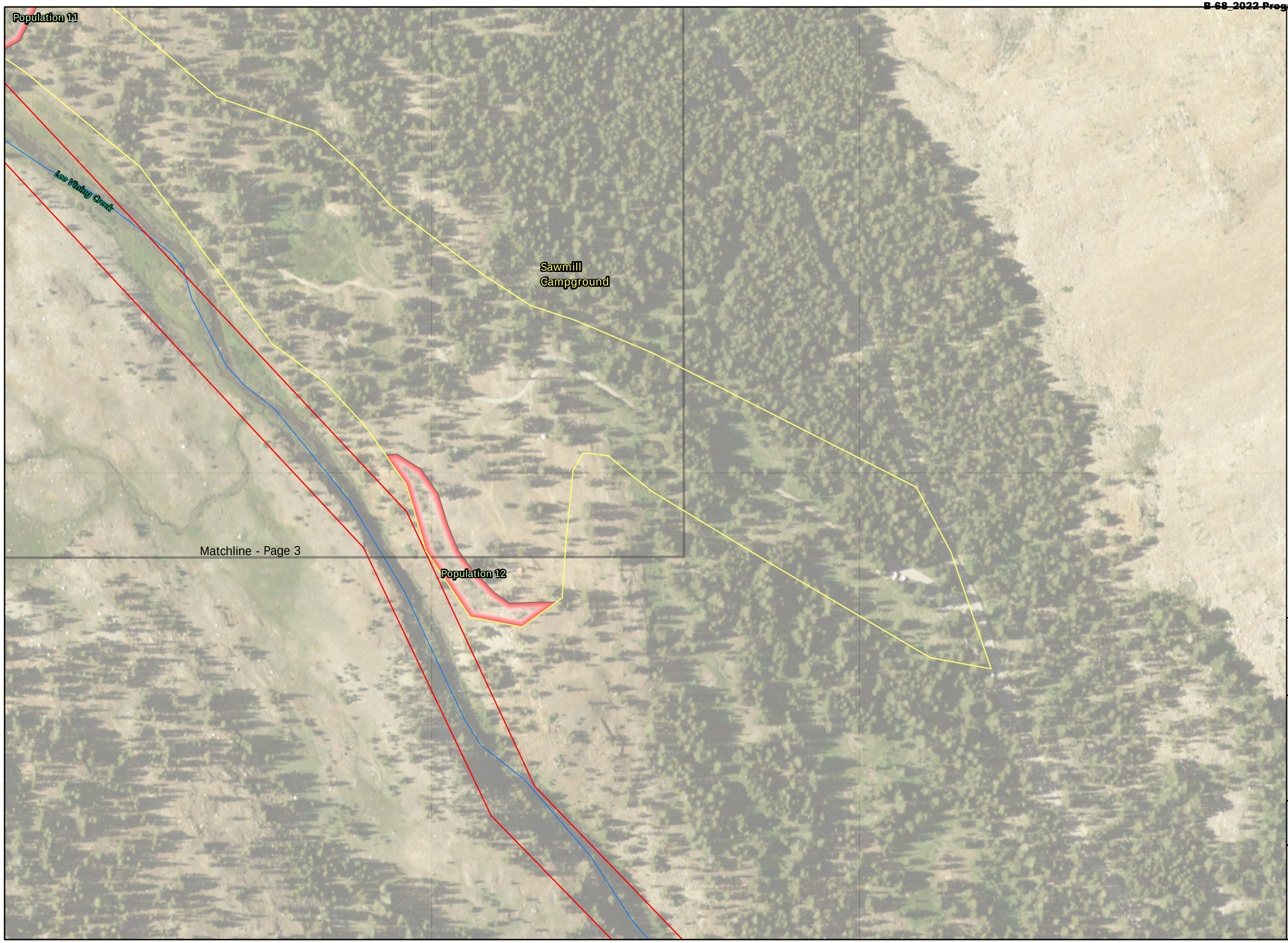
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Special-status Plant Species Location 2022

LEE VINING
HYDROELECTRIC PROJECT
FERC PROJECT NO. 1388

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

0 125 250
Feet



Map Extents
Botanical Study Area
County Line
FERC Project Boundary (P-1388)

Special-status Plant Species Population
Agrostis humilis
Pinus albicaulis
Populus trichocarpa

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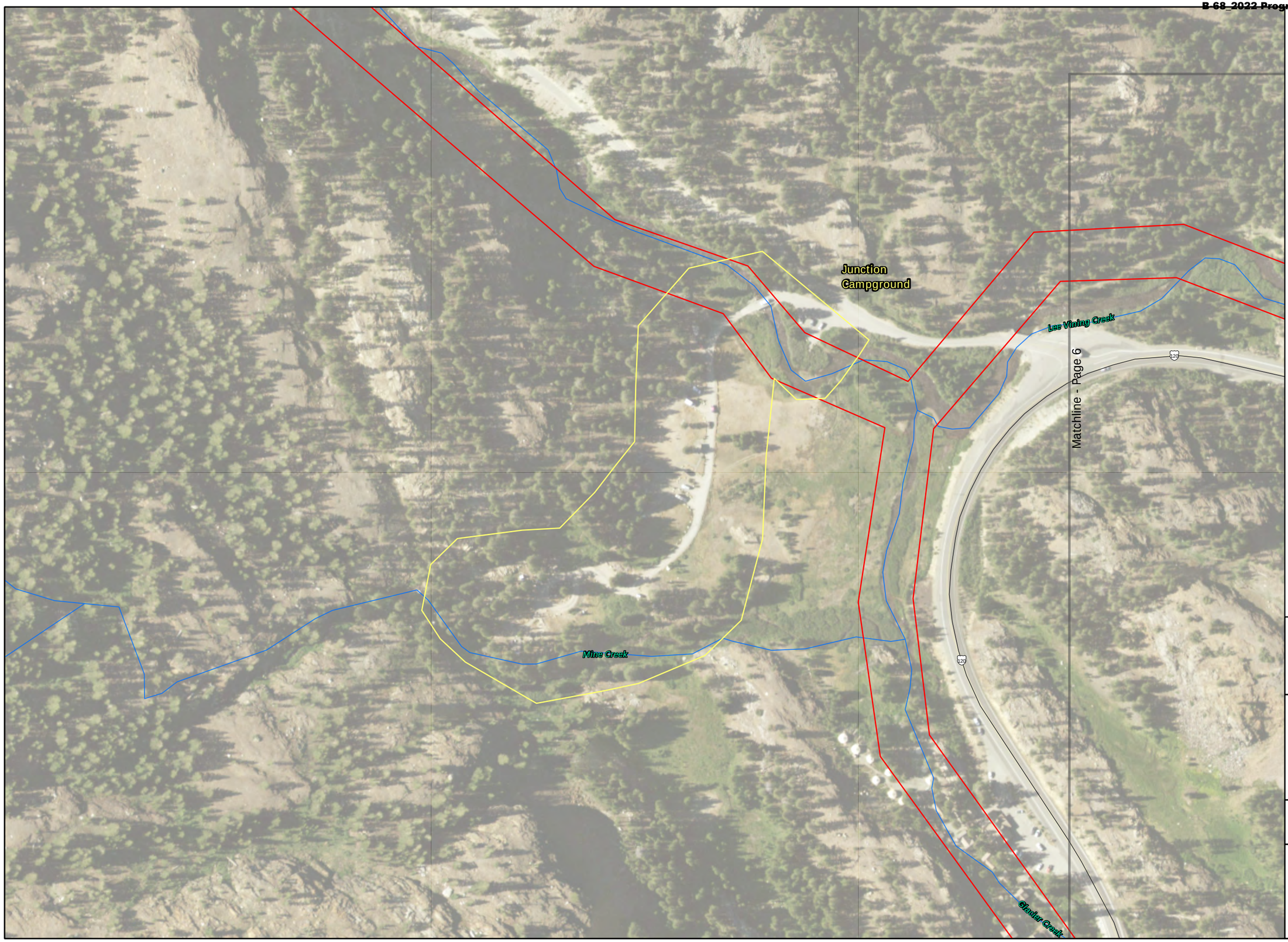
Special-status Plant Species Location 2022

Page 4 of 10

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HYDROELECTRIC PROJECT
FERC PROJECT NO. 1388

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

0 125 250
Feet



Map Extents
Botanical Study Area
County Line
FERC Project Boundary (P-1388)

Special-status Plant Species Population
Agrostis humilis
Pinus albicaulis
Populus trichocarpa

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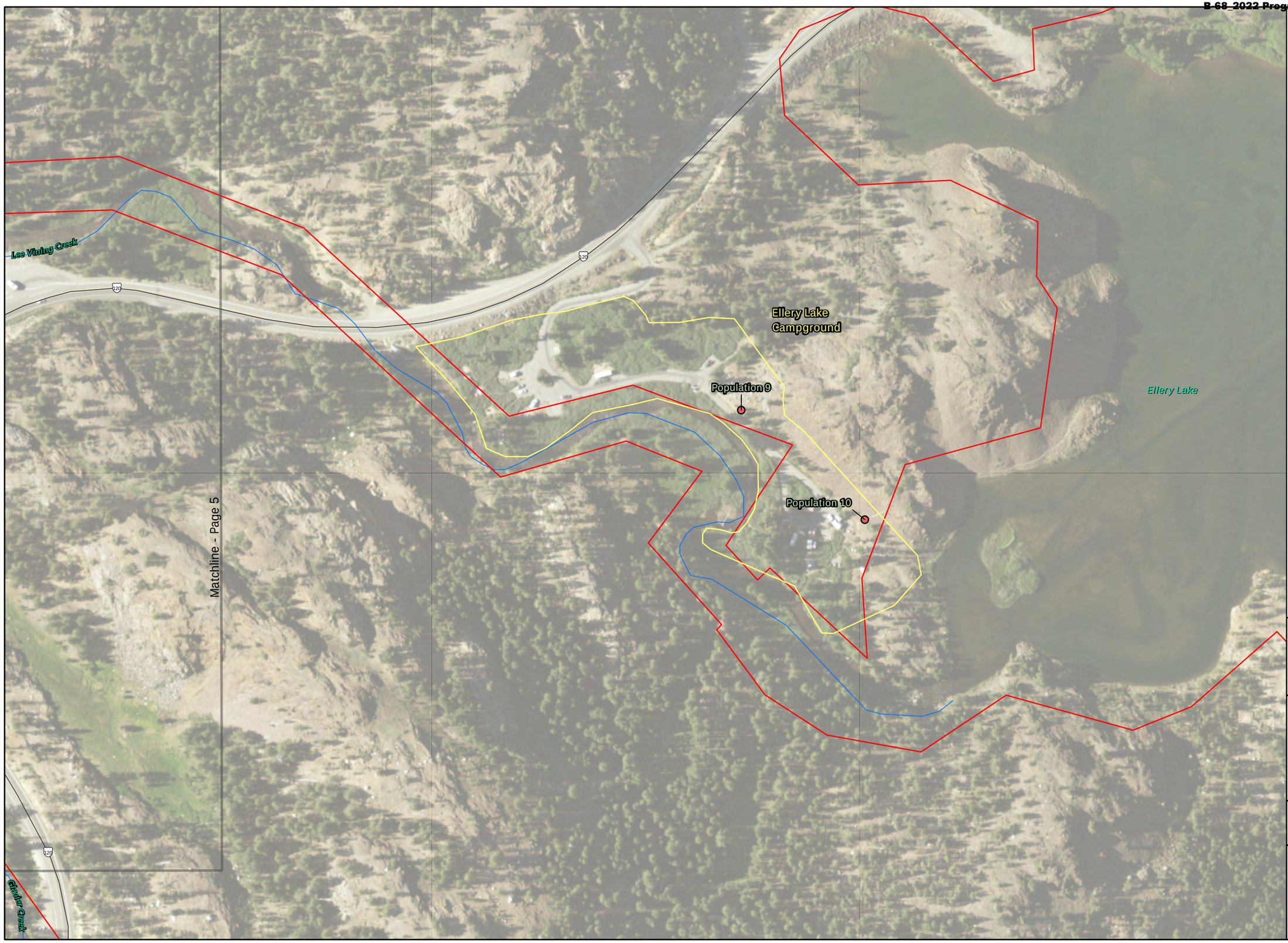
Special-status Plant Species Location 2022

Page 5 of 10

LEE VINING
HYDROELECTRIC PROJECT
FERC PROJECT NO. 1388

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

0 125 250 Feet



Map Extents
Botanical Study Area
County Line
FERC Project Boundary (P-1388)

Special-status Plant Species Population

Agrostis humilis
Pinus albicaulis
Populus trichocarpa

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Special-status Plant Species Location 2022

LEE VINING
HYDROELECTRIC PROJECT
FERC PROJECT NO. 1388

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

0 125 250
Feet

Ellery Lake Overlook

Rhinedollar Dam and Penstock Trail

Lee Vining Creek

Population 4

Ellery Lake

Matchline - Page 8

Population 1

Population 2

Population 3

Rhinedollar Dam

Map Extents

Botanical Study Area

County Line

FERC Project Boundary (P-1388)

Special-status Plant Species Population

Agrostis humilis

Pinus albicaulis

Populus trichocarpa

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Special-status Plant Species Location 2022

LEE VINING
HYDROELECTRIC PROJECT
FERC PROJECT NO. 1388

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

0 125 250 Feet

Lee Vining Creek

Matchline - Page 7

Population 6

Population 5

Rhinedollar
Dam and
Penstock Trail

Population 4

Population 1

Population 2

Population 3

Ellery Lake

120

Map Extents
Botanical Study Area
County Line
FERC Project Boundary (P-1388)

Special-status Plant Species Population

Agrostis humilis
Pinus albicaulis
Populus trichocarpa

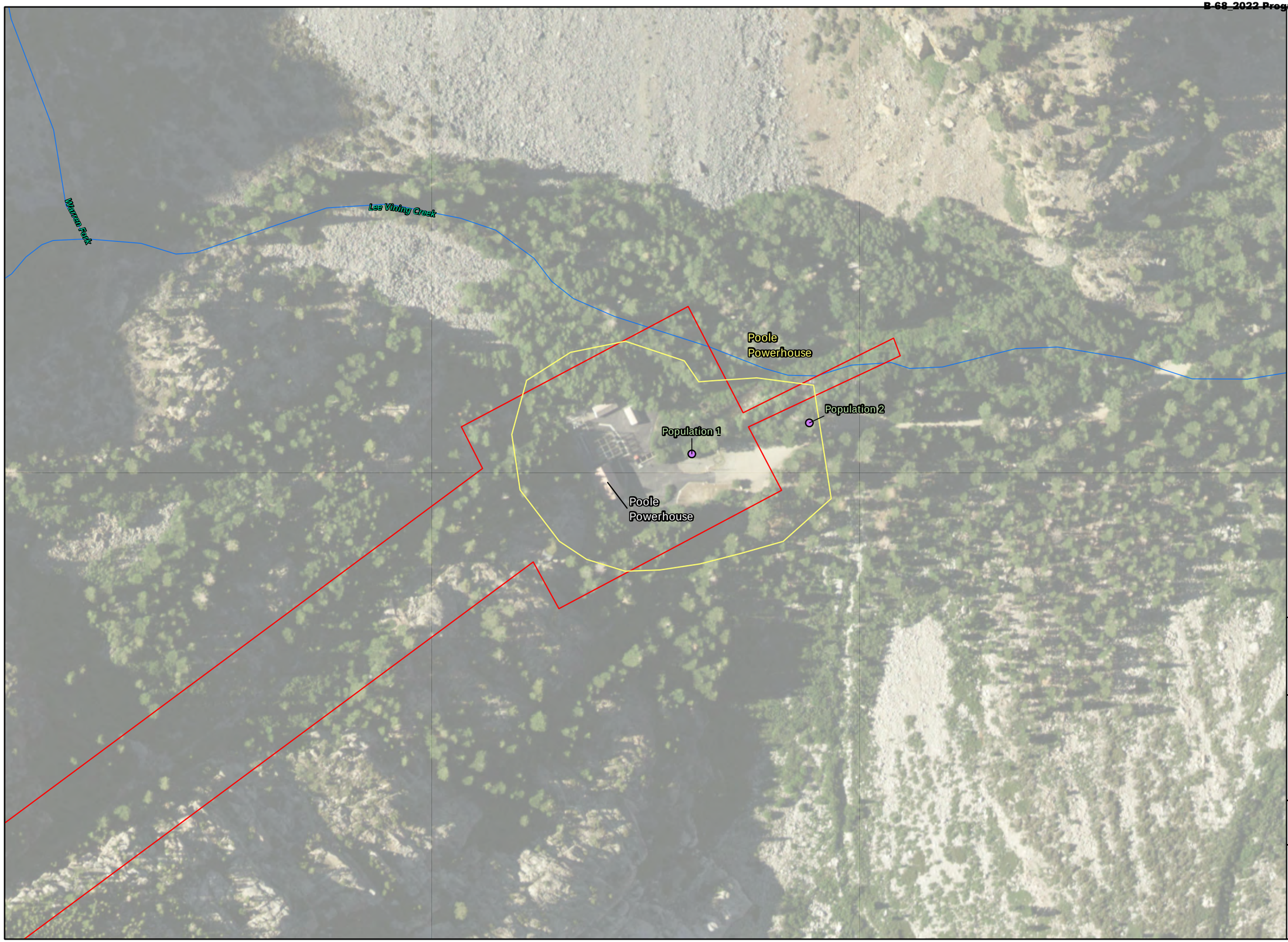
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Special-status Plant Species Location 2022

LEE VINING
HYDROELECTRIC PROJECT
FERC PROJECT NO. 1388

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

0 125 250
Feet



Map Extents
Botanical Study Area
County Line
FERC Project Boundary (P-1388)

Special-status Plant Species Population
Agrostis humilis
Pinus albicaulis
Populus trichocarpa

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Special-status Plant Species Location 2022

LEE VINING
HYDROELECTRIC PROJECT
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0 125 250
Feet



Map Extents
Botanical Study Area
County Line
FERC Project Boundary (P-1388)

Special-status Plant Species Population
Agrostis humilis
Pinus albicaulis
Populus trichocarpa

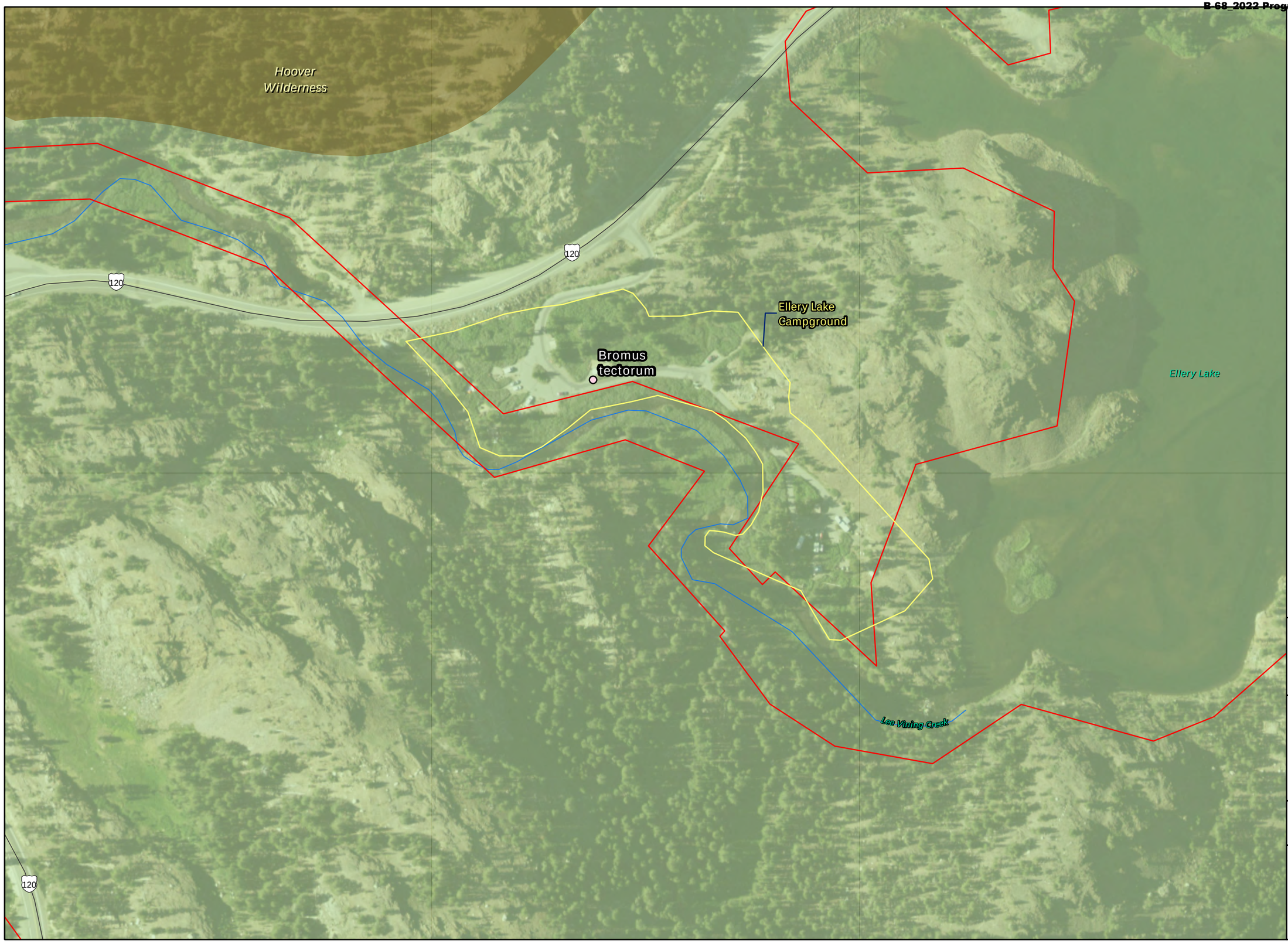
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Special-status Plant Species Location 2022

LEE VINING
HYDROELECTRIC PROJECT
FERC PROJECT NO. 1388

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

0 125 250
Feet



Map Extents
Botanical Study Area
County Line
FERC Project Boundary (P-1388)
Stream Flowline
Wilderness Area (Inyo NF)
Inyo National Forest
Yosemite National Park

Invasive Plant Populations

Bromus tectorum

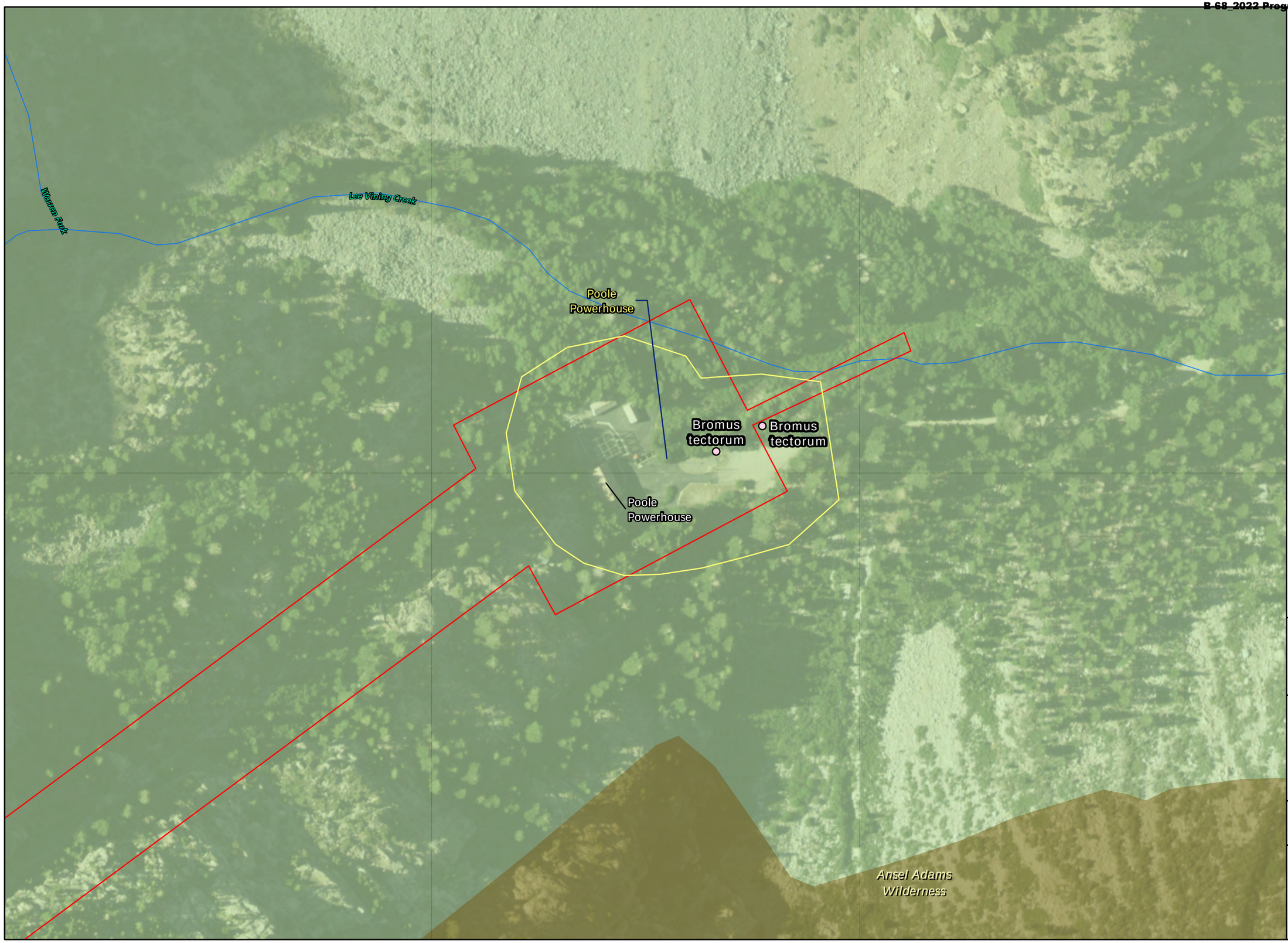
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Invasive Species Locations 2022

LEE VINING
HYDROELECTRIC PROJECT
FERC PROJECT NO. 1388

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

0 120 240
Feet



Map Extents
Botanical Study Area
County Line
FERC Project Boundary (P-1388)
Stream Flowline
Wilderness Area (Inyo NF)
Inyo National Forest
Yosemite National Park

Invasive Plant Populations
- *Bromus tectorum*

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Invasive Species Locations 2022

LEE VINING
HYDROELECTRIC PROJECT
FERC PROJECT NO. 1388

Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

0 120 240
Feet

ATTACHMENT 2
LITERATURE REVIEW RESULTS

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Table 1. Potential for Special-status Plant Species to Occur

Scientific/Common Name [a]	Federal Status [b]	State Status and CRPR Rank [c]	Blooming Period [d]	Habitat	Likelihood for Occurrence Within TAA [e,f] and Occurrence Notes
Known to Occur					
Agrostis humilis mountain bent grass	SCC	2B.3	Jul–Sep	Perennial herb found in alpine boulder and rock field, meadows and seeps, and subalpine coniferous forest, sometimes in carbonate soil; 3,200–10,500 feet	Known to occur. This species has numerous records in the local watershed and two 1999 records within the TAA: (1) 820 feet southeast from the Saddlebag Lake parking lot (YOSE.99S148) and (2) 1,640 feet up Lee Vining Creek from Gardisky Lake Trailhead, on east side of the creek (YOSE.99S145).
Boechera tiehmii Tiehm's rockcress	SCC	1B.3	Jul–Aug	Perennial herb found in alpine boulder and rock field (granitic); 3,590–11,780 feet	Known to occur. This species has three records since 1990 within the TAA in a cirque at east base of Tioga Peak uphill from State Route 120 between Warren Fork and Ellery Lake (RSA565042).
Botrychium crenulatum scalloped moonwort	SCC	2B.2	Jun–Sep	Perennial rhizomatous herb found in bogs and fens, lower montane coniferous forest, meadows and seeps, marshes and swamps (freshwater), and upper montane coniferous forest; 3,280–10,760 feet	Known to occur. This species has been recorded in the TAA area in 1998 on the Nunatak Trail downstream of Tioga Lake (UCR123116).
Carex vallicola western valley sedge	SCC	2B.3	Jul–Aug	Perennial rhizomatous herb found in mesic soil in Great Basin scrub and meadows and seeps; 2,805–9,205 feet	Known to occur. This species has been recorded in the TAA in 2006 in a meadow across State Route 120 and upstream by 0.1 mile (CHSC99395).
Eriogonum alexanderae Alexander's buckwheat	SCC	1B.1	May–Jul	Perennial herb found in shale or gravelly soil in Great Basin scrub, and pinyon and juniper woodland; 4,265–5,577 feet	Known to occur. This species has been recorded in the TAA in 2002 at the south end of Saddlebag Lake (SEINET 523071).

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Scientific/Common Name [a]	Federal Status [b]	State Status and CRPR Rank [c]	Blooming Period [d]	Habitat	Likelihood for Occurrence Within TAA [e,f] and Occurrence Notes
Pinus albicaulis whitebark pine	Candidate; SCC		NA	Tree found in subalpine forest; 10,000–12,100 feet	Known to occur. This species has been recorded in the TAA and in the local watershed numerous times in the last 100 years.
May Occur					
Boechera bodiensis Bodie Hills rockcress	SCC	1B.3	Jun–Jul (Aug)	Perennial herb found in alpine boulder and rock field, Great Basin scrub, pinyon and juniper woodland, and subalpine coniferous forest; 3,530–11,580 feet	May occur. This species was recorded in 1999, 3.2 miles from the TAA but outside the local watershed. Suitable habitat is present.
Boechera shockleyi Shockley's rockcress	SCC	2B.2	May-Jun	Perennial herb found in carbonate or quartzite, rocky or gravelly soils in pinyon and juniper woodland; 2,625–6,930 feet	May occur. This species was recorded in 1984 in the local watershed 0.7 mile from the TAA. Suitable habitat is present.
Boechera tularensis Tulare rockcress	SCC	1B.3	(May) Jun–Jul (Aug)	Perennial herb found in rocky slopes, sometimes roadsides, subalpine coniferous forest, and upper montane coniferous forest; 3,350–10,990 feet	May occur. This species was recorded in 1942, 3.6 miles from the TAA but outside the local watershed. Suitable habitat is present.
Botrychium ascendens upswept moonwort	SCC	2B.3	(Jun) Jul–Aug	Perennial rhizomatous herb found in mesic soil in lower montane coniferous forest, and meadows and seeps; 3,045–9,990 feet	May occur. This species was recorded in 2007, 7.3 miles from the TAA but outside the local watershed. Suitable habitat is present.
Botrychium lineare slender moonwort	SCC	1B.1	Unknown	Perennial herb found in meadows and seeps, subalpine coniferous forest, and upper montane coniferous forest (often disturbed areas); 2,600–8,530 feet	May occur. This species was recorded in 2013, 4.6 miles from the TAA but outside the local watershed. Suitable habitat is present.
Botrychium lunaria common moonwort		2B.3	Aug	Perennial rhizomatous herb found in meadows and seeps, subalpine coniferous forest, and upper montane coniferous forest; 3,400–11,155 feet	May occur. This species was recorded in 1981, 5.7 miles from the TAA but outside the local watershed. Suitable habitat is present.

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Scientific/Common Name [a]	Federal Status [b]	State Status and CRPR Rank [c]	Blooming Period [d]	Habitat	Likelihood for Occurrence Within TAA [e,f] and Occurrence Notes
Botrychium minganense Mingan moonwort	SCC	2B.2	Jul–Sep	Perennial rhizomatous herb found in mesic soil in bogs and fens, lower montane coniferous forest, meadows and seeps (edges), and upper montane coniferous forest; 2,180–7,150 feet	May occur. This species was recorded in 1961, 1.0 mile from the TAA but outside the local watershed. Suitable habitat is present.
Botrychium paradoxum paradox moonwort		2B.1	Aug	Perennial rhizomatous herb found in alpine boulder and rock field (limestone and marble), and upper montane coniferous forest (moist); 4,200–13,780 feet	May occur. This species was recorded in 2008, 5.7 miles from the TAA but outside the local watershed. Suitable habitat is present.
Botrychium yaaxudakeit giant moonwort		2B.1	Aug	Perennial rhizomatous herb found in limestone and marble soil in alpine boulder and rock field (meadows); 3,200–10,500 feet	May occur. This species was recorded in 2007, 6.9 miles from the TAA but outside the local watershed. Suitable habitat is present.
Bruchia bolanderi Bolander's bruchia	SCC	4.2	NA	Moss found in damp soil in lower montane coniferous forest, meadows and seeps, upper montane coniferous forest; 2,800–9,185 feet	May occur. This species was recorded in 2000, 4.1 miles from the TAA but outside the local watershed. Suitable habitat is present.
Carex davyi Davy's sedge	SCC	1B.3	May–Aug	Perennial herb found in subalpine coniferous forest and upper montane coniferous forest; 3,200–10,500 feet	May occur. This species was recorded in 1944, 4.8 miles from the TAA but outside the local watershed. Suitable habitat is present.
Carex praticola northern meadow sedge	SCC	2B.2	May–Jul	Perennial herb found in mesic soil in meadows and seeps; 3,200–10,500 feet	May occur. This species was recorded in 2003 in the local watershed 0.3 mile from the TAA. Suitable habitat is present.
Carex scirpoidea ssp. *pseudoscirpoidea* western single-spiked sedge	SCC	2B.2	Jul, Sep	Perennial rhizomatous herb found in mesic, often carbonate soil in alpine boulder and rock field, meadows and seeps, and subalpine coniferous forest (rocky); 3,700–12,140 feet	May occur. This species was recorded in 2009 in the local watershed 1.1 miles from the TAA. Suitable habitat is present.

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Scientific/Common Name [a]	Federal Status [b]	State Status and CRPR Rank [c]	Blooming Period [d]	Habitat	Likelihood for Occurrence Within TAA [e,f] and Occurrence Notes
Carex tiogana Tioga Pass sedge	SCC	1B.3	Jul–Aug	Perennial herb found in meadows and seeps (mesic, lake margins); 3,300–10,825 feet	May occur. This species was recorded in 2010, 1.6 miles from the TAA but outside the local watershed. Suitable habitat is present.
Claytonia megarhiza fell-fields claytonia	SCC	2B.3	Jul–Sep	Perennial herb found in crevices between rocks in alpine boulder and rock field, and subalpine coniferous forest (rocky or gravelly); 3,532–11,590 feet	May occur. This species was recorded in 2007, 7.4 miles from the TAA but outside the local watershed. Suitable habitat is present.
Draba cana canescent draba		2B.3	Jul	Perennial herb found in carbonate soil in alpine boulder and rock field, meadows and seeps, and subalpine coniferous forest; 3,505–11,500 feet	May occur. This species was recorded in 1990 in the local watershed 0.5 mile from the TAA. Suitable habitat is present.
Draba monoensis White Mountains draba	SCC	1B.2	Aug	Perennial herb found in alpine boulder and rock fields and meadows and seeps; 9,000–11,880 feet	May occur. This species was recorded in 1949, 7 miles from the TAA but outside the local watershed. Suitable habitat is present.
Draba praealta tall draba		2B.3	Jul–Aug	Perennial herb found in mesic soil in meadows and seeps; 3,415–11,205 feet	May occur. This species was recorded in 1990 in the local watershed 0.4 mile from the TAA. Suitable habitat is present.
Festuca minutiflora small-flowered fescue		2B.3	Jul	Perennial herb found in alpine boulder and rock field; 4,050–13,285 feet	May occur. This species was recorded in 2009 in the local watershed 2 miles from the TAA. Suitable habitat is present.
Helodium blandowii Blandow's bog moss	SCC	2B.3		Moss found in meadows, seeps, and subalpine coniferous forest on damp soil, especially under willows among leaf litter. 6,109–8,858 feet	May occur. Detailed location information is not available for this species, but it was reported approximately 30 miles from the TAA outside the local watershed. Suitable habitat is present.
Horkelia hispidula White Mountains horkelia	SCC	1B.3	Jun–Aug	Perennial herb found in Great Basin scrub, subalpine coniferous forest, alpine dwarf scrub, and dry flats, mostly in bristlecone forest. 9,843–11,155 feet	May occur. Outside current known geographic range but reported from Saddlebag Lake in 1940. Suitable habitat is present.

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Scientific/Common Name [a]	Federal Status [b]	State Status and CRPR Rank [c]	Blooming Period [d]	Habitat	Likelihood for Occurrence Within TAA [e,f] and Occurrence Notes
Jamesia americana var. *rosea* rosy-petalled cliffbush	SCC	4.3	Jul–Aug	Perennial deciduous shrub found on rocky slopes and cliffs in subalpine and alpine areas; 6,791–12,139 feet	May occur. Outside current known geographic range but reported 8.8 miles from the TAA in 1949. Suitable habitat is present.
Kobresia myosuroides seep kobresia	SCC	2B.2	(Jun) Aug	Perennial rhizomatous herb found in alpine boulder and rock field (mesic), meadows and seeps (carbonate), and subalpine coniferous forest; 3,245–10,645 feet	May occur. This species was recorded in 2010, 1.6 miles from the TAA but outside the local watershed. Suitable habitat is present.
Lupinus gracilentus slender lupine		1B.3	Jul–Aug	Perennial herb found in subalpine coniferous forest; 3,500–11,485 feet	May occur. This species was recorded in 1997, 0.2 mile from the TAA but outside the local watershed. Suitable habitat is present.
Meesia longiseta long seta hump moss		2B.3	NA	Moss found in carbonate, on soil in bogs and fens, meadows and seeps, and upper montane coniferous forest; 5,741–9,900 feet	May occur. This species was recorded in 2000, 4.1 miles from the TAA but outside the local watershed. Suitable habitat is present.
Pohlia tundrae tundra thread moss		2B.3	NA	Moss found in gravelly, damp soil in alpine boulder and rock field; 3,000–9,845 feet	May occur. This species was recorded in 2009, 1.7 miles from the TAA but outside the local watershed. Suitable habitat is present.
Potamogeton epihydrus Nuttall's ribbon-leaved pondweed		2B.2	(Jun) Jul–Sep	Perennial rhizomatous herb found in marshes and swamps (assorted shallow freshwater); 2,172–9,182 feet	May occur. This species was recorded in 2008, 8.1 miles from the TAA but outside the local watershed. Suitable habitat is present.
Potamogeton praelongus white-stemmed pondweed		2B.3	Jul–Aug	Perennial rhizomatous herb (aquatic) found in marshes and swamps (deep water, lakes); 5,905–9,842 feet	May occur. Outside current known geographic range but reported 4.9 miles from the TAA in 1934. Suitable habitat is present.

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Potamogeton robbinsii Robbins' pondweed		2B.3	Jul–Aug	Perennial rhizomatous herb (aquatic) found in marshes and swamps (deep water, lakes); 3,300–10,825 feet	May occur. This species was recorded in 2008, 5.5 miles from the TAA but outside the local watershed. Suitable habitat is present.
Sabulina stricta bog sandwort		2B.3	Jul–Sep	Perennial herb (aquatic) found in alpine boulder and rock field, alpine dwarf scrub, and meadows and seeps; 3,960–12,990 feet	May occur. This species was recorded in 1990 in the local watershed 0.2 mile from the TAA. Suitable habitat is present.
Salix brachycarpa var. brachycarpa short-fruited willow		2B.3	Jun–Jul	Perennial herb found in carbonate soil in alpine dwarf scrub, meadows and seeps, and subalpine coniferous forest; 3,500–11,485 feet	May occur. This species was recorded in 1993, 0.5 mile from the TAA but outside the local watershed. Suitable habitat is present.
Salix nivalis snow willow		2B.3	Jul–Aug	Perennial deciduous shrub found in alpine dwarf scrub; 3,500–11,485 feet	May occur. This species has been recorded numerous times in the last 90 years on the ridgelines surrounding the TAA. Suitable habitat is present.
Silene oregana Oregon campion		2B.2	Jul–Sep	Perennial deciduous shrub found in Great Basin scrub and subalpine coniferous forest; 2,500–8,200 feet	May occur. This species was recorded in 1995, 1.5 miles from the TAA but outside the local watershed. Suitable habitat is present.
Triglochin palustris marsh arrow-grass		2B.3	Jul–Aug	Perennial rhizomatous herb found in mesic soil in meadows and seeps, marshes and swamps (freshwater), and subalpine coniferous forest; 3,700–12,140 feet	May occur. This species was recorded in 2012, 3.0 miles from the TAA but outside the local watershed. Suitable habitat is present.
Viola purpurea ssp. *aurea* golden violet		2B.2	Apr–Jun	Perennial herb found in sandy soil in Great Basin scrub, and pinyon and juniper woodland; 2,500–8,200 feet	May occur. This species was recorded in 1980, 5.5 miles from the TAA but outside the local watershed. Suitable habitat is present.

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Unlikely to Occur					
Abronia alpina Ramshaw Meadows abronia	SCC	1B.1	Jul–Aug	Perennial herb found in granitic, gravelly margins of meadows in gravel and sand with *Hulsea* spp. and *Lupinus* spp.; 7,874–8,858 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Allium atrorubens var. *atrorubens* Great Basin onion	SCC	2B.3	May–Jun	Perennial bulbiferous herb found in rocky or sandy soil in Great Basin scrub and pinyon and juniper woodland; 2,315–7,595 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Astragalus cimae var. *sufflatus* inflated Cima milk-vetch	SCC	1B.3	Apr–Jun	Perennial herb found in Great Basin scrub, sagebrush, pinyon and juniper woodland in rocky, limestone sites with carbontate/calcareous substrates; 4,987–6,759 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Astragalus inyoensis Inyo milk-vetch	SCC	4.2	May–Jun	Perennial herb found in mostly volcanic, sometimes carbonate soils in Great Basin scrub and pinyon and juniper woodland;4,500–9,150 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Astragalus johannis-howellii Long Valley milk-vetch	SCC	1B.2	(May) Jun–Aug	Perennial herb found in Great Basin scrub (sandy loam); 6,692–8,300 feet	Unlikely to occur. The TAA lies outside this species known geographic range.
Astragalus kentrophyta var. *elatus* spiny-leaved milk-vetch	SCC	2B.2	Jun–Sep	Perennial herb found in subalpine coniferous forest (rocky, sometimes carbonate soil); 9,842–11,450 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Astragalus lemmonii Lemmon's milk-vetch	SCC	1B.2	May–Aug (Sep)	Perennial herb found in Great Basin scrub, meadows and seeps, marshes, and swamps (lake shores); 3,303–7,244 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.

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Astragalus lentiginosus var. kernensis Kern Plateau milk-vetch	SCC	1B.2	Jun–Jul	Perennial herb found in meadows, seeps, and subalpine coniferous forest in dry, gravelly or sandy slopes or flats, primarily in and around large meadows; 6,791–9,006 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Astragalus monoensis Mono milk-vetch	SCC	1B.2	Jun–Aug	Perennial herb found in pumice, gravelly or sandy soil in Great Basin scrub and upper montane coniferous forest; 3,355–11,005 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Astragalus ravenii Raven's milk-vetch	SCC	1B.3	Jul–Sept	Perennial herb found in alpine boulder and rock fields and upper montane coniferous forests on gravelly flats and slopes of metamorphosed sedimentary and volcanic bedrock, often near large nurse rocks; 10,892–12,106 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Astragalus serenoi var. *shockleyi* Shockley's milk-vetch	SCC	2B.2	May–Jun	Open, dry alkaline gravelly clay, generally in sagebrush or pinyon pine; 3,773–7,546 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Astragalus subvestitus Kern County milk-vetch	SCC	4.3	(May) Jun–Jul	Gravel and sand in sagebrush; 4,921–8,694 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Boechera cobrensis Masonic rockcress		2B.3	Jun–Jul	Perennial herb found in sandy soil in Great Basin scrub, and pinyon and juniper woodland; 3,105–10,185 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Boechera pendulina rabbit-ear rockcress	SCC	2B.3	Jun–Jul	Perennial herb found in sandy, gravelly, or rocky (sometimes carbonate) soil in Great Basin scrub and pinyon and juniper woodland; 9,150–9,600 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.

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Boechera pinzliae Pinzl's rockcress	SCC	1B.3	Jul	Perennial herb found in alpine boulder and rock field, and subalpine coniferous forest (scree or sandy); 9,842–10,990 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Botrychium tunux moosewort		2B.1	Aug–Sep	Perennial rhizomatous herb in calcareous alpine boulder and rock field; 10,000 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Calochortus excavatus Inyo County star-tulip	SCC	1B.1	Apr–Jul	Perennial bulbiferous herb found in alkaline, mesic soil in Chenopod scrub, and meadows and seeps; 3,772–6,561 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Camissonia sierrae ssp. *alticola* Mono Hot Springs evening-primrose		1B.2	May–Aug	Annual herb found in granitic, gravel and sand pans in lower montane coniferous forest and upper montane coniferous forest; 2,410–7,905 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Calyptridium pygmaeum pygmy pussypaws	SCC	1B.2	Jun–Aug	Annual herb found in sandy or gravelly soils in subalpine coniferous forest and upper montane coniferous forest; 5,814–9,330 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Carex duriuscula spikerush sedge	SCC	2B.3	Jul-Aug	Perennial rhizomatous herb found in Great Basin scrub and subalpine coniferous forest; 10,500–12,300 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Carex idahoa Idaho sedge	SCC	2B.3	July	Perennial rhizomatous herb found in meadows and seeps and subalpine coniferous forest; 8,550– 9,600 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Carex petasata Liddon's sedge	SCC	2B.3	May–Jul	Perennial herb found in broadleaf upland forest, lower montane coniferous forest, meadows and seeps, and pinyon and juniper woodland; 1,963–10,892 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.

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Carex stevenii Steven's sedge	SCC	2B.2	Aug	Perennial rhizomatous herb found along creeks, sometimes dry meadows and alpine boulder and rock fields; 8,550–10,155 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Chaetadelpha wheeleri Wheeler's dune-broom	SCC	2B.2	Apr–Sep	Perennial rhizomatous herb found in sandy soil in desert dunes, Great Basin scrub, and Mojavean desert scrub; 2,608–6,234 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Cinna bolanderi Bolander's woodreed		1B.2	Jul–Sep	Perennial herb found in mesic stream sides of meadows, seeps, and upper montane coniferous forests; 5,479–8,005 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Cordylanthus eremicus ssp. kernensis Kern Plateau bird's-beak	SCC	1B.3	(May)Jul–Sep	Annual, hemiparasitic herb found in Great Basin scrub, Joshua tree woodland, pinyon and juniper woodland, and upper montane coniferous forest; 5,025–9,000 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Crepis runcinata ssp. *hallii* Hall's meadow hawksbeard	SCC	2B.2	May–Aug	Perennial herb found in mesic, alkaline soil in Mojavean desert scrub, and pinyon and juniper woodland; 1,591–7,125 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Cuniculotinus gramineus Panamint rock-goldenrod	SCC	2B.3	Jun–Aug	Perennial herb found in carbonate, rocky soils in pinyon and juniper woodland and subalpine coniferous forest; 6,120–8,700 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Cusickiella quadricostata Bodie Hills cusickiella		1B.2	May–Jul	Perennial herb found in clay or rocky soil in Great Basin scrub, and pinyon and juniper woodland; 2,800–9,185 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.

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Cymopterus globosus globose cymopterus	SCC	2B.2	Mar–Jun	Perennial herb found in sandy, open flats in Great Basin scrub; 3,937–7,004 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Dedeckera eurekensis July gold	SCC	SR, 1B.3	May–Aug	Perennial deciduous shrub found in Mojavean desert scrub on carbonate soils; 3,645–6,600 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Draba asterophora var. *asterophora* Tahoe draba		1B.2	Jul–Aug (Sep)	Perennial herb found in alpine boulder and rock field, and subalpine coniferous forest; 3,505–11,500 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Draba californica California draba	SCC	4.2	Jul–Aug	Perennial herb found in alpine boulder and rock field and meadows and seeps; 9,000–12,750 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Draba sharsmithii Mt. Whitney draba	SCC	1B.2	Jul–Aug	Perennial herb found in protected rock crevices of alpine boulder and rock fields and subalpine coniferous forest; 7,382–13,009 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Dryopteris filix-mas male fern	SCC	2B.3	Jul–Sep	Crevices of granitic cliffs; 7,874–10,170 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Eremothera boothii ssp. *boothii* Booth's evening-primrose		2B.3	Apr–Sep	Annual herb found in Joshua tree woodland, and pinyon and juniper woodland; 2,400–7,875 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Eremothera boothii ssp. *intermedia* Booth's hairy evening-primrose		2B.3	(May) Jun	Perennial herb found in Great Basin scrub (sandy), and pinyon and juniper woodland; 2,150–7,055 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.

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Ericameria gilmanii Gilman's goldenbush	SCC	1B.3	Aug–Sep	Perennial shrub found at the interface of pinyon and juniper woodland and subalpine forests and on rocky (generally limestone but also granite) sites in open coniferous forests; 6,890–11,155 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Erigeron compactus compact daisy	SCC	2B.3	May–Jul	Perennial herb found on rocky slopes in sagebrush, pinyon and juniper woodland, and alkali flats with carbonate soils; 5,906–7,546 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Erigeron uncialis var. *uncialis* limestone daisy	SCC	1B.2	May–Jul	Perennial herb found in crevices of limestone cliffs in Great Basin scrub, subalpine coniferous forest, and pinyon and juniper woodland; 6,234–9,514 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Eriogonum mensicola Pinyon Mesa buckwheat	SCC	1B.3	Jul–Oct	Perennial herb found on rocky slopes in sagebrush and pinyon and juniper woodland; 5,906–8,858 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Eriogonum wrightii var. *olanchense* Olancha Peak buckwheat	SCC	1B.3	Jul–Sep	Perennial herb found on dry, gravelly to rocky places and open areas at the base of bounders in subalpine coniferous forest and alpine boulder and rock fields; 10,696–11,598 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Eriophyllum nubigenum Yosemite woolly sunflower		1B.3	May–Aug	Annual herb found in gravelly and granitic soils of chaparral, lower montane coniferous forest, and upper montane coniferous forest; 5,003–9,022 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Erythranthe utahensis Utah monkeyflower		2B.1	Apr	Perennial rhizomatous herb found in meadows and seeps, pinyon and juniper woodland; 2,000–6,560 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.

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Goodmania luteola golden goodmania	SCC	4.2	Apr–Aug	Annual herb found in alkaline or clay soil in Mojavean desert scrub, meadows and seeps, playas, and valley and foothill grassland; 65–7,217 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Greeneocharis circumscissa var. *rosulata* rosette cushion cryptantha	SCC	1B.2	Jul–Aug	Annual herb found in gravelly (coarse), granitic soil in alpine boulder and rock field and subalpine coniferous forest; 9,678–12,008 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Grusonia pulchella beautiful cholla	SCC	2B.2	May (Jun)	Perennial stem succulent found on the borders of dry lakes and sandy flats; 4,921–5,577 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Hackelia brevicula Poison Canyon stickseed	SCC	3.3	Jul	Perennial herb found on open slopes, dry streambeds, and rocky slopes of open aspen stands and sagebrush and alpine habitats; 8,858–10,335 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Hackelia sharsmithii Sharsmith's stickseed	SCC	2B.3	Jul–Aug	Perennial herb found in crevices in cliffs, talus slopes, and the shade of large boulders; 10,335–12,139 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Hesperidanthus jaegeri Jaeger's hesperidanthus	SCC	1B.2	May–Jul	Perennial herb found in shady, rocky, limestone crevices in Great Basin scrub, pinyon and juniper woodland, and subalpine coniferous forest; 7,005–9,186 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Hulsea brevifolia short-leaved hulsea	SCC	1B.2	May–Aug	Perennial herb in granitic or volcanic, gravelly or sandy soils, in upper and lower montane coniferous forest; 4,921–10,499 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.

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Hulsea vestita ssp. *inyoensis* Inyo hulsea	SCC	2B.2	Apr–Jun	Perennial herb found in rocky soil in Chenopod scrub, Great Basin scrub, and pinyon and juniper woodland; 5,393–9,842 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Ivesia campestris field ivesia	SCC	1B.2	Jul–Sep	Perennial herb found on meadow edges; 7,218–10,171 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Ivesia kingii var. *kingii* alkali ivesia	SCC	2B.2	May–Aug	Perennial herb found in mesic, alkaline, and clay soils in Great Basin scrub, meadows and seeps, and playas; 3,937–6,988 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Ladeania lanceolata lance-leaved scurf-pea	SCC	2B.3	Apr–Aug	Perennial rhizomatous herb found in sandy soil in Great Basin scrub; 4,000–8,200 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Lewisia disepala Yosemite lewisia		1B.2	Mar–Jun	Perennial herb found in granitic or sandy soil in upper and lower montane coniferous forest, pinyon and juniper woodland; 3396–11,483 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Lomatium foeniculaceum ssp. *inyoense* Inyo lomatium	SCC	4.3	Jun–Jul	Perennial herb found on open summits and subalpine scrub; 7,201–10,499 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Lupinus duranii Mono Lake lupine		1B.2	May–Aug	Perennial herb found in volcanic pumice, gravelly soil in Great Basin scrub, subalpine coniferous forest, and upper montane coniferous forest; 3,000–9,845 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.

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Lupinus padre-crowleyi Father Crowley's lupine	SCC	SR, 1B.2	Jul–Aug	Perennial herb found on decomposed granite in Great Basin scrub, riparian scrub, riparian forest, and upper montane coniferous forest scattered on steep avalanche chutes, in sunny sites in drainages, and in valley bottoms; 8,990–10,909 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Mentzelia inyoensis Inyo blazing star	SCC	1B.3	Apr–Oct	Annual herb found in rocky sites, washes, calcareous pumice sand, and clayey hillsides of Great Basin scrub, pinyon and juniper woodland; 3,789–6,496 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Mentzelia torreyi Torrey's blazing star	SCC	2B.2	Jun–Aug	Perennial herb found in sandy or rocky, alkaline, usually volcanic soil in Great Basin scrub, Mojavean desert scrub, and pinyon and juniper woodland; 2,835–9,300 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Monardella beneolens sweet-smelling monardella	SCC	1B.3	Jun–Sep	Perennial rhizomatous herb found in granitic soils of alpine boulder and rock fields, subalpine coniferous forest, upper montane coniferous forest, and open conifer forests; 8,202–11,598 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Oreocarya roosiorum bristlecone cryptantha	SCC	SR, 1B.2	Jun–Jul	Perennial herb found on carbonate substrates (gentle slopes or flats of dolomite or limestone formations) of subalpine coniferous forest (bristlecone pine/limber pine); 9,547–10,597 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Oxytropis deflexa var. *sericea* blue pendant-pod oxytrope	SCC	2B.1	Jun–Aug	Perennial herb found in moist meadows, seeps, and forest openings; 9,186–10,499 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.

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Parnassia parviflora small-flowered grass-of-Parnassus		2B.2	Aug–Sep	Perennial herb found in meadows and seeps; 6,562–9,367 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Penstemon calcareus *limestone beardtongue*	SCC	1B.3	Apr–May	Perennial herb found on carbonate soil in xeric shrub/blackbrush, limestone crevices, rocky slopes in pinyon and juniper woodland, and Joshua tree scrub; 3,937–5,249 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range and it contains no suitable habitat for this species.
Petrophytum caespitosum ssp. *acuminatum* marble rockmat	SCC	1B.3	Jun–Sep	Perennial evergreen shrub found on rocky sites (limestone cliffs) in lower montane coniferous forest and upper montane coniferous forest; 3,035–7,513 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Phacelia inyoensis Inyo phacelia	SCC	1B.2	Apr–Aug	Annual herb found in meadows and seeps (alkaline); 3,000–10,498 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Phacelia monoensis Mono County phacelia	SCC	1B.1	May–Jul	Annual herb found in clay soil, often on roadsides in Great Basin scrub, and pinyon and juniper woodland; 6,233–9,514 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Phacelia nashiana Charlotte's phacelia	SCC	1B.2	Feb–Jun	Annual herb found on sandy to rocky east-facing slopes, generally in Joshua tree woodland, pinyon and juniper woodland, or xeric shrub/blackbrush; less than 7,874 feet	Unlikely to occur. The TAA lies outside this species' known geographic range and it contains no suitable habitat for this species.
Physaria ludoviciana silver bladderpod	SCC	2B.2	May–Jun	Perennial herb found in Great Basin scrub; 7,053 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Physocarpus alternans Nevada ninebark	SCC	2B.3	Jun–Jul	Perennial deciduous shrub found on limestone outcrops, rocky calcareous canyon walls, and dry rocky pinyon and juniper woodland; 5,905–10,170 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.

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Plagiobothrys parishii Parish's popcornflower	SCC	1B.1	Mar–Jun (Nov)	Annual herb found in alkaline, mesic soil in Great Basin scrub and Joshua tree woodland; 2,460–4,593 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Polemonium chartaceum Mason's sky pilot	SCC	1B.3	Jun–Aug	Perennial herb found on gravelly slopes and rocky ledges on granitic or volcanic soils in alpine boulder and rock fields, and subalpine coniferous forest; 10,794–14,009 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Polyctenium williamsiae Williams' combleaf	SCC	1B.2	Mar–Jun	Perennial herb found in saline soils of alkali playas, marshes, swamps, vernal pool edges, lake margins, meadows, swales, mud flats, dry streambeds, and gravel bars of sagebrush scrub and pinyon and juniper woodland; 3,281–8,202 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Populus angustifolia narrow-leaved cottonwood	SCC	2B.2	Mar–Apr	Perennial deciduous tree that occurs on stream sides; 3,937–5,906 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Potentilla morefieldii Morefield's cinquefoil	SCC	1B.3	Jul–Aug	Perennial herb found in limestone soils of alpine boulder and rock fields; 10,712–13,123 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Potentilla pulcherrima beautiful cinquefoil	SCC	2B.2	Jul–Aug	Perennial herb found on dry edges of meadows and streams; 9,843–10,171 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Ranunculus hydrocharoides frog's-bit buttercup	SCC	2B.1	Jun–Aug	Perennial herb (aquatic) found in wet ground, shallow water, creek edges, and lakes; 3,937–9,186 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.

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Scientific/Common Name [a]	Federal Status [b]	State Status and CRPR Rank [c]	Blooming Period [d]	Habitat	Likelihood for Occurrence Within TAA [e,f] and Occurrence Notes
Sclerocactus polyancistrus Mojave fish-hook cactus	SCC	4.2	Apr–Jun	Perennial stem succulent found in limestone areas, hills and canyons, alluvial slopes of sagebrush, xeric shrub/blackbrush, creosote bush scrub, and Joshua tree woodland; 2,461–6,890 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Solorina spongiosa fringed chocolate chip lichen	SCC	2B.2	NA	Crustose lichen (terricolous) found in moist calcareous habitats, meadows and seeps, and subalpine coniferous forest; approximately 9,500 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Sphaeromeria potentilloides var. *nitrophila* alkali tansy-sage	SCC	2B.2	Jun–Jul	Perennial herb found in usually alkaline soil in meadows and seeps, and playas; 6,889–7,874 feet	Unlikely to occur. The TAA contains no suitable habitat for this species.
Sphenopholis obtusata prairie wedge grass	SCC	2B.2	Apr–Jul	Perennial herb found in mesic soil in cismontane woodland, and meadows and seeps; 984–6,561 feet	Unlikely to occur. The TAA lies outside the species known geographic range and contains no suitable habitat for this species.
Stipa divaricata small-flowered ricegrass	SCC	2B.3	Jun–Sep	Perennial herb found on gravel benches, rocky slopes, and creek banks; 2,625–10,171 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Streptanthus gracilis alpine jewelflower	SCC	1B.3	Jul–Sep	Annual herb found in gravel pockets among granitic outcrops and talus boulders of subalpine coniferous forest and upper montane coniferous forest; 9,186–11,483 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Streptanthus oliganthus Masonic Mountain jewelflower	SCC	1B.2	Jun–Jul	Perennial herb found in volcanic or granitic, rocky soil in pinyon and juniper woodland; 3,050–10,005 feet	Unlikely to occur. The TAA lies outside the species' known geographic range and contains no suitable habitat for this species.

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Scientific/Common Name [a]	Federal Status [b]	State Status and CRPR Rank [c]	Blooming Period [d]	Habitat	Likelihood for Occurrence Within TAA [e,f] and Occurrence Notes
Taraxacum ceratophorum horned dandelion	SCC	2B.1	Jun–Aug	Annual herb found in moist alpine meadows; 9,514–10,171 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Tetradymia tetrameres dune horsebrush	SCC	2B.2	(Jul) Aug	Perennial herb found in sandy soil in Great Basin scrub; 3,937–7,004 feet	Unlikely to occur. The TAA contains no suitable habitat for this species.
Thelypodium integrifolium ssp. *complanatum* foxtail thelypodium	SCC	2B.2	Jun–Oct	Perennial herb found in alkaline or subalkaline, mesic soils in Great Basin scrub, and meadows and seeps; 2,500–8,200 feet	Unlikely to occur. The TAA lies outside the species' known elevation range and it contains no suitable habitat for this species.
Thelypodium milleflorum many-flowered thelypodium	SCC	2B.2	Apr–Jun	Perennial herb found in Chenopod scrub and Great Basin scrub (sandy); 4,002–8,202 feet	Unlikely to occur. The TAA contains no suitable habitat for this species.
Townsendia leptotes slender townsendia	SCC	2B.3	Jun–Jul	Perennial herb found on alpine rocky or sandy slopes; 11,483–12,467 feet	Unlikely to occur. The TAA lies outside this species' elevation range and known geographic range.
Transberingia bursifolia ssp. *virgata* virgate halimolobos	SCC	2B.3	May–Jul	Perennial herb found in meadows, near alpine groves, and in pinyon and juniper woodland; 6,562–12,139 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.
Trichophorum pumilum little bulrush	SCC	2B.2	Aug	Perennial rhizomatous herb found in riverbanks, carbonate soil in bogs and fens, marshes and swamps, and riparian scrub; 9,383–10,662 feet	Unlikely to occur. The TAA contains no suitable habitat for this species.

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Scientific/Common Name [a]	Federal Status [b]	State Status and CRPR Rank [c]	Blooming Period [d]	Habitat	Likelihood for Occurrence Within TAA [e,f] and Occurrence Notes
Trifolium dedeckerae Dedecker's clover	SCC	1B.3	May–Jul	Perennial herb found in gravelly canyons and slopes, cracks in granite rock outcrops, and understory of pinyon pines in pinyon and juniper woodland, subalpine coniferous forest, upper montane coniferous forest, and lower montane coniferous forest; 6,890–11,483 feet	Unlikely to occur. The TAA lies outside this species' known geographic range.

CRPR = California Rare Plant Rank; NA = not applicable; TAA = Terrestrial Assessment Area

Notes:

[a] The following USGS 7.5-minute topographic quadrangles were queried for special status plant species: Tioga Pass, Mount Dana, Lee Vining, Falls Ridge, Lundy, Dunderberg Peak, Vogelsang Peak, Koip Peak, Matterhorn Peak, and Tenaya Lake.

[b] The source of the Inyo National Forest status is the *List of Botany At Risk Species* (NRM – TES/IS, 2018).

[c] The source for the State Status and CRPR rank is the *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW, 2021).

[d] Parentheses enclose blooming periods that are rare to uncommon.

[e] Occurrence information provided by the Consortium of California Herbaria (CCH, 2021); number in parentheses is the accession number.

[f] The TAA includes the FERC Project Boundary plus a 200-foot buffer extending from the reservoir behind Saddlebag Dam to the Poole Powerhouse tailrace.

Federal Status

Candidate = Candidate for listing

Inyo National Forest

SCC = Species of Conservation Concern

State Status

SR = State Rare

California Rare Plant Rank (CRPR)

1B = Plants Rare, Threatened, or Endangered in California and elsewhere
2B = Plants Rare, Threatened, or Endangered in California but more common elsewhere
3 = Plants for which we need more information–Review List
4 = Plants of limited distribution–A Watch List

CRPR Threat Code Extensions

.1 = Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)
.2 = Fairly threatened in California (20–80% of occurrences threatened; moderate degree and immediacy of threat)
.3 = Not very threatened in California (<20% of occurrences threatened; low degree and immediacy of threat or no current threats known)

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Table 2. Invasive Plants Potentially Occurring in the Botanical Resources Study Area

Scientific Name	Common Name	USFS Treatment Strategy	Cal-IPC Rank
Agrostis stolonifera	creeping bent		Limited
Ailanthus altissima	tree of heaven	1: Eradicate	Moderate
Alhagi maurorum	camel thorn		Moderate
Arundo donax	giant reed		High
Asparagus asparagoides	bridal creeper		Moderate
Avena barbata	slender wild oat		Moderate
Avena fatua	wild oat		Moderate
Bassia hyssopifolia	five-hook bassia	3: Contain	Limited
Brassica nigra	black mustard		Moderate
Brassica rapa	field mustard		Limited
Brassica tournefortii	Sahara mustard		High
Bromus diandrus	ripgut grass		Moderate
Bromus hordeaceus	soft chess	4: Limited or None	Limited
Bromus japonicus	Japanese brome	4: Limited or None	Limited
Bromus rubens	red brome	3: Contain	High
Bromus tectorum	cheat grass	3: Contain	High
Centaurea diffusa	diffuse knapweed	1: Eradicate	Moderate
Centaurea melitensis	tocalote		Moderate
Centaurea solstitialis	yellow star-thistle	1: Eradicate	High
Centaurea stoebe ssp. *micranthos*	spotted knapweed	1: Eradicate	High
Chorizpora tenella	crossflower	4: Limited or None	
Cirsium arvense	Canada thistle	1: Eradicate	Moderate
Cirsium vulgare	bull thistle	3: Contain	Moderate
Conium maculatum	poison-hemlock		Moderate
Convolvulus arvensis	bindweed	3: Contain	
Cortaderia selloana	pampas grass		High
Cynodon dactylon	Bermuda grass		Moderate
Dactylis glomerata	orchard grass		Limited
Descurainia sophia	tansy mustard	4: Limited or None	Limited
Dipsacus fullonum	wild teasel	2: Control	Moderate

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Scientific Name	Common Name	USFS Treatment Strategy	Cal-IPC Rank
Dipsacus sativus	Fuller's teasel		Moderate
Elaeagnus angustifolia	Russian olive	2: Control	Moderate
Elymus caput-medusae	medusa head		High
Erodium cicutarium	redstem filaree	4: Limited or None	Limited
Fallopia sachalinensis	giant knotweed		Moderate
Festuca arundinacea	tall fescue		Moderate
Festuca myuros	rattail sixweeks grass	4: Limited or None	Moderate
Festuca perennis	rye grass		Moderate
Foeniculum vulgare	fennel		Moderate
Geranium purpureum	little robin		Limited
Grindelia squarrosa var. serrulate	curlycup gumweed	4: Limited or None	
Halogeton glomeratus	saltlover	2: Control	Moderate
Helminthotheca echioides	bristly ox-tongue		Limited
Hirschfeldia incana	short-pod mustard	3: Contain	Moderate
Holcus lanatus	common velvet grass	3: Contain	Moderate
Hordeum marinum	Mediterranean barley	4: Limited or None	Moderate
Hordeum murinum	wall barley		Moderate
Lactuca serriola	prickly lettuce	4: Limited or None	
Lathyrus latifolius	perennial sweet pea		Watch
Lepidium appelianum	white-top	1: Eradicate	Limited
Lepidium chalepense	lens-podded hoary cress	1: Eradicate	Moderate
Lepidium draba	heart-podded hoary cress	1: Eradicate	Moderate
Lepidium latifolium	perennial pepperweed	1: Eradicate	High
Leucanthemum vulgare	ox-eye daisy		Moderate
Linaria dalmatica ssp. *dalmatica*	dalmatian toadflax	1: Eradicate	Moderate
Linaria vulgaris	butter-and-eggs	1: Eradicate	Moderate
Lotus corniculatus	bird's-foot trefoil	3: Contain	
Malva neglecta	common mallow	4: Limited or None	
Marrubium vulgare	horehound	3: Contain	Limited
Melilotus spp.	sweetclover	3: Contain	
Penstemon subglaber	smooth penstemon	3: Contain	
Poa bulbosa	bulbous bluegrass	4: Limited or None	

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Scientific Name	Common Name	USFS Treatment Strategy	Cal-IPC Rank
Polygonum aviculare	knotweed	4: Limited or None	
Polygonum aviculare ssp. *depressum*	oval-leaf knotweed	4: Limited or None	
Polypogon monspeliensis	rabbitfoot grass	4: Limited or None	Limited
Ranunculus testiculata	curveseed butterwort	4: Limited or None	
Rhaponticum repens	Russian knapweed	1: Eradicate	Moderate
Robinia pseudoacacia	black locust	3: Contain	Limited
Rubus armeniacus	Himalayan blackberry	2: Control	High
Rumex crispus	curly dock	4: Limited or None	Limited
Salsola tragus	Russian thistle	3: Contain	Limited
Saponaria officinalis	bouncingbet	2: Control	Limited
Schismus arabicus	Arabian schismus	4: Limited or None	Limited
Sisymbrium altissimum	tumble mustard	4: Limited or None	
Sonchus oleraceus	common sow thistle	3: Contain	
Spartium junceum	Spanish broom	1: Eradicate	High
Spergularia rubra	red sand-spurry	4: Limited or None	
Tamarix ramosissima	saltcedar	2: Control	High
Taraxacum officinale	common dandelion	4: Limited or None	
Tragopogon dubius	yellow salsify	4: Limited or None	
Tribulus terrestris	puncturevine	2: Control	Limited
Trifolium repens	white clover	4: Limited or None	
Ulmus pumila	Siberian elm	2: Control	
Verbascum thapsus	woolly mullein	4: Limited or None	Limited

Cal-IPC = California Invasive Plant Council; USFS = U.S. Forest Service

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Table 3. Invasive Species of Concern to be Mapped in the Botanical Resources Study Area

Scientific Name	Common Name	USFS Treatment Strategy	Cal-IPC Rank
Ailanthus altissima	tree of heaven	1: Eradicate	Moderate
Bassia hyssopifolia	five-hook bassia	3: Contain	Limited
Bromus rubens	red brome	3: Contain	High
Bromus tectorum	cheat grass	3: Contain	High
Centaurea diffusa	diffuse knapweed	1: Eradicate	Moderate
Centaurea solstitialis	yellow star-thistle	1: Eradicate	High
Centaurea stoebe ssp. *micranthos*	spotted knapweed	1: Eradicate	High
Cirsium arvense	Canada thistle	1: Eradicate	Moderate
Cirsium vulgare	bull thistle	3: Contain	Moderate
Convolvulus arvensis	bindweed	3: Contain	
Dipsacus fullonum	wild teasel	2: Control	Moderate
Elaeagnus angustifolia	Russian olive	2: Control	Moderate
Halogeton glomeratus	saltlover	2: Control	Moderate
Holcus lanatus	common velvet grass	3: Contain	Moderate
Lepidium appelianum	white-top	1: Eradicate	
Lepidium chalepense	lens-podded hoary cress	1: Eradicate	Moderate
Lepidium draba	heart-podded hoary cress	1: Eradicate	Moderate
Lepidium latifolium	perennial pepperweed	1: Eradicate	High
Linaria dalmatica ssp. *dalmatica*	dalmatian toadflax	1: Eradicate	Moderate
Linaria vulgaris	butter-and-eggs	1: Eradicate	Moderate
Rhaponticum repens	Russian knapweed	1: Eradicate	Moderate
Robinia pseudoacacia	black locust	3: Contain	Limited
Rubus armeniacus	Himalayan blackberry	2: Control	High
Salsola tragus	Russian thistle	3: Contain	Limited
Saponaria officinalis	bouncingbet	2: Control	Limited
Spartium junceum	Spanish broom	1: Eradicate	High
Tamarix ramosissima	saltcedar	2: Control	High
Tribulus terrestris	puncturevine	2: Control	Limited
Ulmus pumila	Siberian elm	2: Control	

Cal-IPC = California Invasive Plant Council; USFS = U.S. Forest Service

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ATTACHMENT 3
2022 PLANT COMPENDIUM

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Species	Common Name	SD	RD	TD	PP	SM	JC	EC	EO	TC
PTERIDOPHYTES – FERNS AND FERN ALLIES										
WOODSIACEAE – CLIFF FERN FAMILY										
Cystopteris fragilis	brittle bladderfern	x								
GYMNOSPERMS – CONIFERS										
CUPRESSACEAE – CYPRESS FAMILY										
Juniperus communis	common juniper		x							
Juniperus occidentalis	western juniper			x						
PINACEAE – PINE FAMILY										
Abies conrolor	white fir			x	x					x
Pinus albicaulis	whitebark pine	x	x	x		x		x		x
Pinus contorta ssp. *murrayana*	lodgepole pine	x	x	x		x	x	x		x
Pinus flexilis	limber pine	x	x			x				
Pinus jeffreyi	Jeffrey pine				x					
EUDICOTS – FLOWERING PLANTS										
APIACEAE – CARROT FAMILY										
Angelica capitellata	ranger's buttons	x	x							
Cymopterus terebinthinus	turpentine springparsley	x								
Ligusticum grayi	Gray's licorice-root	x								
Perideridia parishii	Parish's yampah	x				x				
Sphenosciadium capitellatum	swamp white heads			x			x			
APOCYNACEAE – DOGBANE FAMILY										
Apocynum androsaemifolium	bitter dogbane				x					
ASTERACEAE – SUNFLOWER FAMILY										
Achillea millefolium	thousand-leaved yarrow	x				x	x			
Agrostis humilis	mountain bent grass	x								
Agoseris scabra	rough bent grass	x								
Antennaria media	middle pussy-toes		x	x	x	x		x		
Antennaria pulchella	beautiful pussy-toes	x				x				x

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Species	Common Name	SD	RD	TD	PP	SM	JC	EC	EO	TC
Antennaria rosea ssp. *rosea*	rosy pussy-toes	x								x
Arnica lanceolata ssp. *prima*	clasping arnica	x								
Arnica mollis	hairy arnica			x						
Artemisia douglasiana	mugwort				x					
Artemisia ludoviciana	silver wormwood				x					
Artemisia tridentata	big sagebrush	x			x	x	x		x	x
Cirsium andersonii	Anderson's thistle					x				
Cirsium scariosum	meadow thistle	x		x		x	x			x
Dieteria canescens	hoary-aster				x					
Ericameria discoidea	western goldenbush		x							
Ericameria nauseosa	rubber rabbitbrush				x			x	x	
Hulsea algida	cold hulsea								x	
Oreostemma alpigenum var. *andersonii*	tundra aster	x		x			x			x
Packera pauciflora	alpine ragwort	x					x			
Packera subnuda var. *subnuda*	cleftleaf ragwort	x								x
Pyrrocoma apargioides	alpine goldenweed	x								
Raillardella argentea	silky raillardella	x		x		x				
Senecio scorzonella	Sierra ragwort					x				
Senecio triangularis	arrowleaf ragwort						x			
Solidago multiradiata	northern goldenrod	x		x	x	x	x			
Stephanomeria virgata ssp. *pleurocarpa*	rib-fruited wand-like stephanomeria				x					
Taraxacum officinale [a]	common dandelion			x		x				
Wyethia mollis	woolly mule's ears					x				

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Species	Common Name	SD	RD	TD	PP	SM	JC	EC	EO	TC
BORAGINACEAE – BORAGE FAMILY										
Hackelia micrantha	smallest stickseed					x				
Oreocarya nubigena	Sierra oreocarya		x							
Phacelia hastata var. *compacta*	compact spear phacelia	x	x	x		x		x	x	x
BRASSICACEAE – MUSTARD FAMILY										
Barbarea orthoceras	American yellowrocket		x							
Boechera howellii	Howell's rockcress	x			x					x
Boechera lyallii	Lyall's rockcress	x								
Boechera pauciflora	hairy stem rockcress		x		x					
Boechera platysperma	pioneer rockcress	x								
Boechera retrofracta	relexed rockcress				x				x	
Cardamine breweri	bittercress				x					
Descurainia californica	Sierra tansymustard		x		x					
Erysimum perenne	sanddune wallflower	x		x		x	x	x		
Lepidium virginicum	Virginia peppergrass				x					
Rorippa curvipes	bluntleaf yellow cress	x								
Sisymbrium altissimum [a]	tumble mustard				x					
Streptanthus tortuosus	mountain jewel-flower	x								
Subularia aquatica ssp. *americana*	water awlwort		x							
CAPRIFOLIACEAE – HONEYSUCKLE FAMILY										
Symphoricarpos rotundifolius	roundleaf snowberry			x	x					
CHENOPODIACEAE – GOOSEFOOT FAMILY										
Dysphania ambrosioides	Mexican tea				x					
CORNACEAE – DOGWOOD FAMILY										
Cornus sericea	American dogwood				x					

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Species	Common Name	SD	RD	TD	PP	SM	JC	EC	EO	TC
CRASSULACEAE – STONECROP FAMILY										
Rhodiola integrifolia ssp. *integrifolia*	western roseroot		x							
Sedum lanceolatum	spearleaf stonecrop	x				x				
ERICACEAE – HEATH FAMILY										
Cassiope mertensiana	white heather		x							
Kalmia polifolia	swamp laurel	x								
Orthilia secunda	one-sided wintergreen			x						
Phyllodoce breweri	purple mountainheath	x	x	x			x			x
Rhododendron columbianum	Columbia azalea		x							
Vaccinium cespitosum	dwarf bilberry	x		x		x	x			
Vaccinium uliginosum ssp. *occidentale*	western blueberry	x		x						
FABACEAE – LEGUME FAMILY										
Lupinus argenteus	silvery lupine			x	x					
Lupinus lepidus var. *lobbii*	lobb's dwarf lupine	x	x			x				
Trifolium monanthum ssp. *monanthum*	carpet clover		x			x	x			
FAGACEAE – OAK FAMILY										
Chrysoepis sempervirens	bush chinquapin				x					
GROSSULARIACEAE – GOOSEBERRY FAMILY										
Ribes cereum	wax current			x	x					x
Ribes sp.	current	x	x			x	x			
HYPERICACEAE – ST. JOHN'S WORT FAMILY										
Hypericum anagalloides	tinker's penny	x		x			x			x
LAMIACEAE – MINT FAMILY										
Monardella odoratissima ssp. *pallida*	pale fragrant monardella	x	x	x		x			x	x
MONTIACEAE – MINER'S LETTUCE FAMILY										
Calyptridium monospermum	oneseed pussypaws	x				x				

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Species	Common Name	SD	RD	TD	PP	SM	JC	EC	EO	TC
Calyptridium umbellatum	umbel-bearing pussypaws	x				x				
ONAGRACEAE – EVENING PRIMROSE FAMILY										
Chamerion angustifolium ssp. *circumvagum*	fireweed		x	x	x	x	x	x		x
Epilobium ciliatum ssp. *glandulosum*	glandular fringed willowherb	x	x	x			x			x
Epilobium hallianum	Hall's willowherb	x				x				
Epilobium obcordatum	inverted heart willowherb	x								
Gayophytum diffusum	spreading groundsmoke	x			x	x		x		
OPHIOGLOSSACEAE – ADDER'S-TONGUE FAMILY										
Botrychium simplex	least moonwort	x								
OROBANCHACEAE – BROOM-RAPE FAMILY										
Castilleja miniata ssp. *miniata*	red paintbrush				x					
Pedicularis groenlandica	elephant's head	x		x						
PARNASSIACEAE – GRASS-OF-PARNASSUS FAMILY										
Parnassia palustris	marsh grass-of-Parnassus	x		x			x			
PHYRMACEAE – LOPSEED FAMILY										
Erythranthe floribunda	many-flowered monkeyflower	x								
Erythranthe guttata	seep monkeyflower	x								
Erythranthe lewisii	Lewis's monkeyflower				x					
Erythranthe primuloides [Mimulus primuloides var. *primuloides]*	primrose monkeyflower	x		x		x	x			x
Erythranthe tilingii	Tiling's monkeyflower		x			x				x
PLANTAGINACEAE – PLANTAIN FAMILY										
Penstemon heterodoxus var. *heterodoxus*	Sierra beardtongue	x		x		x	x	x		x

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Species	Common Name	SD	RD	TD	PP	SM	JC	EC	EO	TC
Penstemon newberryi	Newberry's beardtongue	x		x	x	x	x			x
Penstemon rostriflorus	beaked beaerdtongue				x					
Veronica serpyllifolia ssp. *humifusa*	sprawling thyme-leaved speedwell				x					
Veronica wormskjoldii	American alpine speedwell			x						x
POLEMONIACEAE – PHLOX FAMILY										
Linanthus pungens	granite gilia	x							x	
POLYGONACEAE – BUCKWHEAT FAMILY										
Bistorta bistortoides	western bistort	x				x				x
Eriogonum nudum var. *deductum*	reduced buckwheat				x	x			x	x
Eriogonum ovalifolium	cushion wild buckwheat		x	x						
Eriogonum umbellatum	sulphur flower	x			x					
Oxyria digyna	two-pistiled mountain sorrel	x								
Polygonum aviculare	oval leaf knotweed				x					
Polygonum douglasii	Douglas' knotweed					x				
Rumex paucifolius	alpine sheep dock	x								
Rumex salicifolius	willow dock				x					
RANUNCULACEAE – BUTTERCUP FAMILY										
Aquilegia formosa	handsome columbine		x			x	x			
Thalictrum fendleri	Fendler's meadow-rue	x			x	x	x	x		
RHAMNACEAE – BUCKTHORN FAMILY										
Ceanothus cordulatus	mountain whitethorn				x					
ROSACEAE – ROSE FAMILY										
Cercocarpus ledifolius	curl-leaf mountain-mahogany				x					
Dasiphora fruticosa	shrubby cinquefoil	x								

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Species	Common Name	SD	RD	TD	PP	SM	JC	EC	EO	TC
Drymocallis lactea var. *lactea*	Sierran woodbeauty	x		x		x	x	x		x
Geum macrophyllum	large leaf avens	x				x	x	x		x
Horkelia fusca	pinewoods horkelia	x		x		x	x			x
Potentilla breweri	Brewer's cinquefoil	x								
Potentilla gracilis	slender cinquefoil		x							
Prunus emarginata	bitter cherry				x					
Purshia tridentata	bitterbrush				x					
Rosa woodsia	Wood's rose				x					
Sibbaldia procumbens	creeping sibbaldia	x	x	x		x		x		x
Spiraea splendens	splendid spiraea	x				x	x			
RUBIACEAE – COFFEE FAMILY										
Kelloggia galioides	galium-like bush penstemon				x					
SAPINDACEAE – SOAPBERRY FAMILY										
Acer glabrum	mountain maple				x					
SALICACEAE – WILLOW FAMILY										
Populus treuloides	quaking aspen				x					
Populus trichocarpa	black cottonwood				x					
Salix eastwoodiae	Sierra willow			x		x				x
Salix exigua	narrow-leaved willow									x
Salix jepsonii	Jepson's willow	x								
Salix orestera	gray-leafed Sierra willow	x	x	x	x	x		x	x	x
SAXIFRAGACEAE – SAXIFRAGE FAMILY										
Heuchera rubescens	pink alumroot				x					
SCROPHULARIACEAE – FIGWORT FAMILY										
Verbascum sp. [a]	mullein				x					
SELLAGINELLACEAE – SPIKE-MOSS FAMILY										
Selaginella sp.	spike-moss	x		x		x	x			

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Species	Common Name	SD	RD	TD	PP	SM	JC	EC	EO	TC
VALERIANACEAE – VALERIAN FAMILY										
Valeriana californica	California valerian	x				x				
VIBURNACEAE – MUSKROOT FAMILY										
Sambucus racemosa	red elderberry			x						
VIOLACEAE – VIOLET FAMILY										
Viola sp. [b]	violet			x						
MONOCOTS – GRASSES AND ALLIES										
ALLIACEAE – ONION FAMILY										
Allium validum	Pacific onion	x				x	x	x		x
CYPERACEAE – SEDGE FAMILY										
Carex abrupta	abrupt-beaked sedge					x			x	x
Carex douglasii	Douglas' sedge			x	x					
Carex filifolia var. *erostrata*	sagebrush sedge	x		x		x	x	x		x
Carex lenticularis var. *lipocarpa [kellogii]*	lakeshore sedge				x					
Carex raynoldsii	Raynold's sedge					x				
Carex utriculata	southern beaked sedge							x		
Carex vesicaria	inflated sedge									
IRIDACEAE – IRIS FAMILY										
Iris missouriensis	western blue flag		x			x				
JUNCACEAE – RUSH FAMILY										
Juncus mexicanus	Mexican rush	x	x	x		x	x	x		x
Juncus parryi	Parry's rush	x			x	x				
Juncus xiphioides	iris-leaved rush			x						
Luzula comosa	Pacific woodrush	x								
Luzula orestera	Sierra woodrush	x		x						
Luzula parviflora	small flowered woodrush			x						
LILIACEAE – LILY FAMILY										
Calochortus leichtlinii	smokey mariposa lily	x				x				

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Species	Common Name	SD	RD	TD	PP	SM	JC	EC	EO	TC
Fritillaria sp.	fritillary					x				
POACEAE – GRASS FAMILY										
Agrostis humilis	mountain bent grass	x								
Agrostis scabra	rough bent grass	x								
Bromus sitchensis var. *carinatus*	California brome					x	x	x		
Bromus tectorum [a]	cheat grass				x			x		
Calamagrostis canadensis	bluejoint reed grass				x					
Elymus elymoides var. *elymoides*	squirreltail wildrye	x		x	x	x	x	x	x	x
Elymus trachycaulus ssp. *trachycaulus*	slender wildrye		x			x				
Hordeum brachyantherum	meadow barley		x			x				x
Phleum alpinum	alpine timothy	x	x	x		x	x			x
Poa pratensis ssp. *pratensis* [a]	kentucky blue grass		x					x	x	
Poa wheeleri	Wheeler's blue grass				x	x				x
THEMIDACEAE – BRODIAEA FAMILY										
Triteleia montana	mountain triteleia					x				

SD = Saddlebag Dam and Campgrounds; RD = Rhinedollar Dam and Penstock Trail; TD = Tioga Dam; PP = Poole Powerhouse; SM = Sawmill Campground; JC = Junction Campground; EC = Ellery Lake Campground; EO = Ellery Lake Overlook; TC = Tioga Lake Campground; x = species observed

Notes:

[a] Non-native species.

[b] Characteristics present for an identification to species were not present during the survey; however, vegetative characteristics determined that the species was not special status (i.e., golden violet [*Viola purpurea* ssp. *aurea*]).

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APPENDIX G
GENERAL WILDLIFE RESOURCES SURVEY (TERR-2) TECHNICAL MEMO

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MEMORANDUM

To:	Lee Vining Stakeholders
From:	Southern California Edison Relicensing Team
Date:	January 2023
Subject:	General Wildlife Resources Survey (TERR-2) Technical Memo

1.0 INTRODUCTION

This memo presents the preliminary data of Study TERR-2 conducted in 2022 within the Lee Vining Hydroelectric Project (Project). The *TERR-2 General Wildlife Resources Survey Technical Study Plan* details Southern California Edison's (SCE) proposal for study objectives, study area, methods, and schedule for the effort. The Final Technical Study Plan was filed with the Federal Energy Regulatory Commission (FERC) on April 25, 2022 (SCE, 2022).

As outlined in the TERR-2 Final Technical Study Plan (SCE, 2022), the studies began in 2022 and will continue into 2023.

2.0 STUDY OBJECTIVES

The goal of this study is to develop the additional information necessary to supplement the existing information to address the above identified issues. The study objectives are:

- Build a compendium of common, U.S. Forest Service At-Risk Species and Species of Conservation Concern (USFS, 2019), and other special-status wildlife species occurring within the Project areas that may be affected by routine Operation and Maintenance (O&M) activities.

- Identify rare, threatened, and endangered riparian birds in the area during general wildlife surveys.

- Determine persistence of known Yosemite toad (*Anaxyrus canorus*) populations within the Project Area and identify active breeding locations in areas subject to potential affects by the Project's routine O&M.

- Determine interactions between dispersed recreational use and breeding habitat for Yosemite toad.

- Develop sufficient data for informal and formal consultation needs for U.S. Fish and Wildlife Service (USFWS) with respect to the Yosemite toad.

- Assess willow flycatcher (*Empidonax traillii*) nesting habitat downstream of the Project between Poole Powerhouse and the reservoir at the Los Angeles Department of Water and Power (LADWP) Diversion Dam using vegetation classification as the primary tool, to include review of aerial photography and ground-truthing.

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2.1. STUDY AREA

The Wildlife study area is shown on Figure 2.1-1. It is comprised of the following SCE O&M areas, including a 200-foot buffer:

- Saddlebag Dam and associated infrastructure
- Tioga Dam and SCE access road to Tioga Dam
- Rhinedollar Dam
- Poole Powerhouse and associated facilities, including garages, storage buildings, and tail race

The initial Yosemite toad study area included Yosemite toad locations known in the Project Area and potentially suitable breeding habitat areas, specifically:

- The wet meadow southeast of Saddlebag Lake
- The California Natural Diversity Database (CNDDB)-identified area at the northwest end of Saddlebag Lake (CDFW, 2022a)
- The inlets at Tioga Lake
- The areas downstream of Tioga Dam along access roads

Additional areas of potentially suitable wet meadow habitat along Lee Vining Creek were also noted for potential study area expansion pending an updated review of aerial imagery. The actual area surveyed for potential Yosemite toad habitat was expanded during the 2022 field season. Figure 2.1-2 shows the area surveyed for potentially suitable habitat, in addition to the pools surveyed in 2022 for presence of Yosemite toad breeding.

The willow flycatcher study area consists of the portion of Lee Vining Creek downstream of Poole Powerhouse to the reservoir at the LADWP Diversion Dam (Figure 2.1-1).

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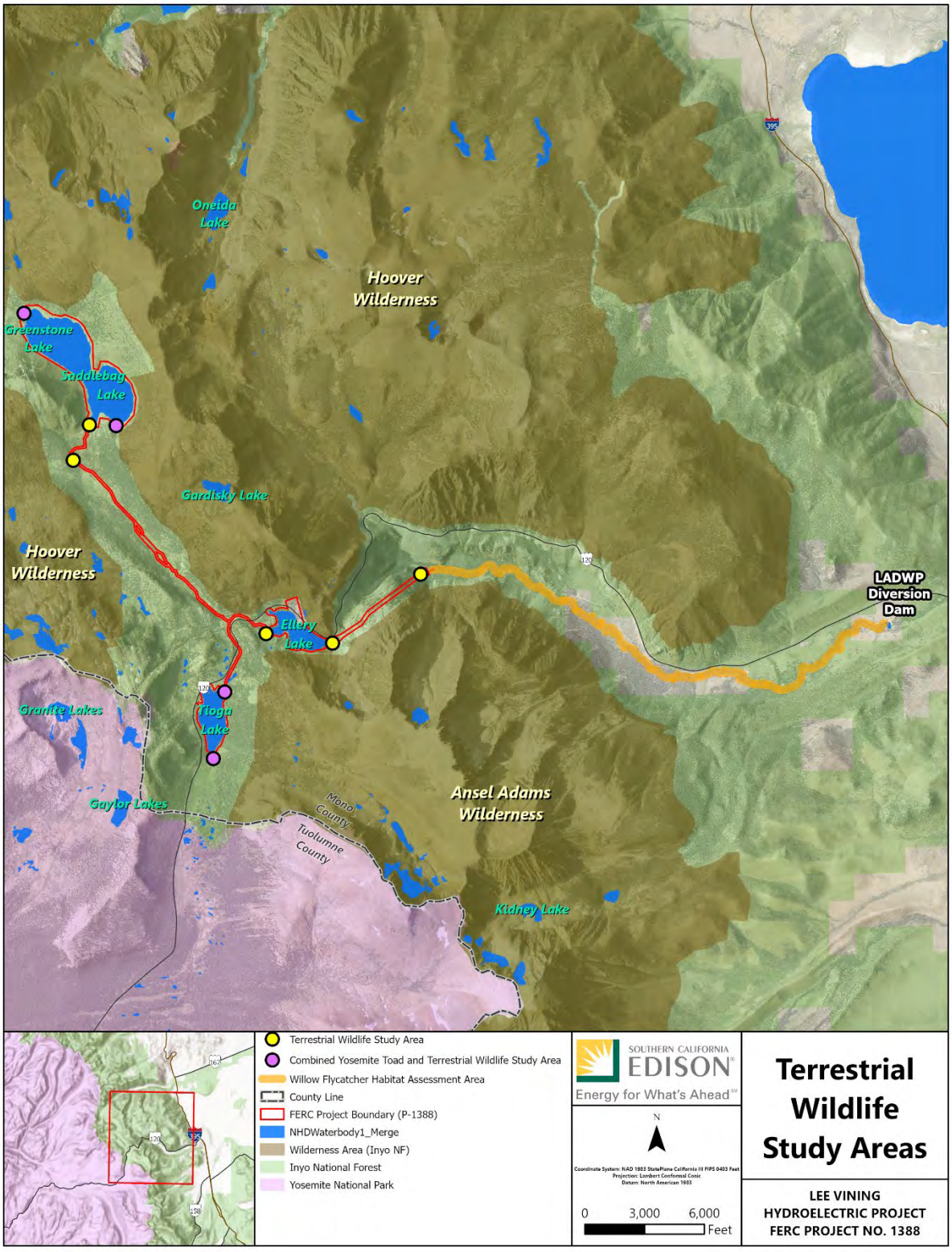


Figure 2.1-1. Terrestrial Wildlife Study Areas.

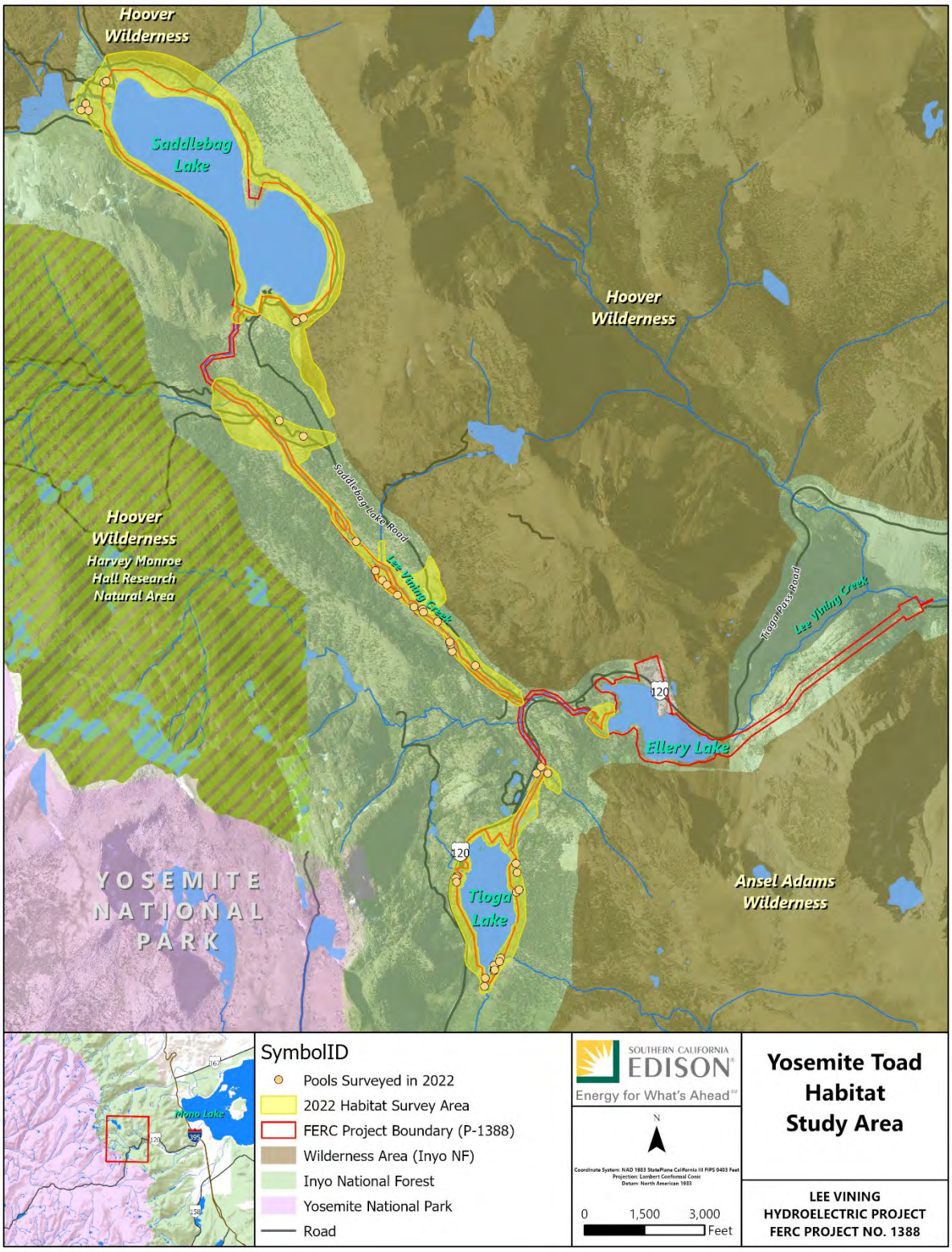


Figure 2.1-2. Yosemite Toad Habitat Study Area.

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3.0 METHODS

Study implementation generally followed the methods described in the *TERR-2 General Wildlife Resources Survey Technical Study Plan*, with the exceptions described below.

3.1. MODIFICATIONS TO METHODS

The survey efforts for Yosemite toad and toad habitat were expanded in consultation with the California Department of Fish and Wildlife (CDFW). The 2022 Focused Visual Encounter (FVE) surveys included all the pools showed shown on Figure 2.1-2, which was an expansion from the study area proposed in the TERR-2 Final Technical Study Plan (SCE, 2022). The expanded Yosemite toad study area included the FERC Project Boundary along the majority of Lee Vining Creek between the Project reservoirs. An additional field visit was also added. All the pools shown on Figure 2.1-2 were surveyed five times throughout the 2022 survey season. The TERR-2 Final Technical Study Plan identified up to four visits, but observations during the initial visits warranted an additional visit. Also, as a response to observations made during the initial field visits, the area surveyed for potentially suitable Yosemite toad breeding habitat was expanded beyond the pools shown in Figure 2.1-2. The shaded area in Figure 2.1-2 was surveyed for suitable breeding habitat following the second survey. This expanded study area includes meadows in the upper floodplain of Lee Vining Creek (i.e., at confluences of Slate Creek and other, unnamed creeks) and an additional meadow 1,300 feet south of Saddlebag Lake. This expansion extends well beyond the FERC Project Boundary but was only surveyed after the second round of FVE surveys was complete. Subsequently, portions of this habitat may have supported breeding toads in 2022, but none were observed during the survey and no determinations of presence or absence could be made.

Modifications were also made to the timing and scale of the trail camera deployments. Two locations immediately adjacent to the wildlife study area were chosen; however, deployments were limited to months where the cameras would not be buried in snow. The cameras will be redeployed at new locations in 2023. Trail camera placement locations in 2023 will be coordinated with Study *REC-1 Recreation Use Assessment*.

3.2. GENERAL WILDLIFE SURVEYS

The presence of general wildlife species within the wildlife study area was determined during field visits and upon review of images collected by trail cameras. Biologists conducted field visits on June 1, 2, 15, and 16; July 26 and 27; and August 9, 10, 11, 23, and 24, 2022. Prior to the field visits, a review of previously observed wildlife occurrences and aerial photographs of the study area was conducted to focus survey efforts. The field visits included pedestrian surveys across the wildlife study area. Binoculars were used to directly observe wildlife, and care was taken to not trample sensitive habitat, such as wet meadow areas potentially supporting Yosemite toad subadults and adults. All wildlife species observed directly or indirectly (including observations of species' evidence such as scat, footprints, burrows, inactive nests, eggs strings, etc.) were recorded in field notes.

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Two trail cameras were installed in locations most likely to capture resident wildlife species, specifically in natural clearings of naturally vegetated areas with limited recreational activity. The first camera was installed approximately 300 feet east of Tioga Lake at the top of a wet meadow near the northeastern shore. The second trail camera was installed along the western side of the Lee Vining Creek floodplain approximately 8,000 feet downstream of Saddlebag Lake. The cameras were deployed between June 16 and August 24, 2022. Memory card status and battery life was checked and maintained during each field visit.

3.3. YOSEMITE TOAD SURVEYS

The first year of FVE Surveys for the Yosemite toad were conducted in 2022. Five field visits were made to potential Yosemite toad breeding areas across the study area. SCE coordinated with the CDFW to monitor for the appropriate time to conduct the first field visit based on bi-weekly photographs of the snowpack at Tioga Lake and available vehicle access to the facilities. The first visit was intended to occur when the snow had melted to search for egg masses, tadpoles, and calling adults, which are all signs of breeding. Both entities agreed that the first visit conducted on June 1 and 2 (Visit 1) was appropriate based on the information available at the time. The subsequent four visits occurred on June 15 and 16 (Visit 2); July 26 and 27 (Visit 3); August 9, 10, and 11 (Visit 4); and August 23 and 24 (Visit 5).

All life stages of Yosemite toad were sought during the survey, including eggs, tadpoles, subadults, and adults. Lake shorelines, stream banks, and relevant habitats were visually and aurally scanned for potentially suitable breeding habitat and sign of breeding activities (including egg masses, larval toads, and adult advertisement calls). Potentially suitable habitat was assessed using the primary constituent elements for habitat as defined by the USFWS (USFWS, 2016). Areas matching these criteria were mapped as potentially suitable habitat using Global Positioning System (GPS) antennas connected to tablets with high resolution aerial photographs. All toad breeding locations observed were documented by taking GPS coordinates and photographs of the site and associated habitat, and, where possible, photographs of Yosemite toads at all life stages. Any evidence of significant pedestrian or bicycle traffic observed during the field visits in potential toad breeding habitat was noted.

3.4. WILLOW FLYCATCHER HABITAT ASSESSMENT

The portion of Lee Vining Creek downstream of Poole Powerhouse and upstream of the reservoir at the LADWP Diversion Dam (willow flycatcher study area) was assessed for the presence of potentially suitable nesting habitat for willow flycatcher and relevant subspecies (i.e., Southwestern Willow Flycatcher [*E.t. extimus*]). Aerial photography was first reviewed for potential habitat areas followed by an in-person visual assessment of the potential habitat. Habitat was assessed using habitat parameters described in U.S. Geological Survey Techniques and Methods 2A-10 (Sogge et al., 2010).

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4.0 DATA SUMMARY

4.1. GENERAL WILDLIFE

The wildlife observed or otherwise documented during the 2022 surveys are listed in Table 4.1-1.

Table 4.1-1. 2022 Wildlife Compendium

Scientific Name	Common Name	Status [a]	Saddlebag Lake	Tioga Lake	Ellery Lake	Study Area between Reservoirs
AMPHIBIANS						
BUFONIDAE – TRUE TOAD FAMILY						
Anaxyrus canorus	Yosemite toad	FT, SSC	X			
Anaxyrus sp.	unknown toad					X
HYLIDAE – TREEFROG FAMILY						
Pseudacris sierrae	Sierran treefrog		X	X		X
SNAKES						
NATRICIDAE – HARMLESS LIVE-BEARING SNAKE FAMILY						
Thamnophis elegans elegans	mountain gartersnake					X
BIRDS						
ANATIDAE – SWAN, GOOSE, AND DUCK FAMILY						
Anas platyrhynchos	Mallard		X			X
Mergus merganser	Common Merganser		X		X	
TROCHILIDAE – HUMMINGBIRD FAMILY						
Selasphorus calliope	Calliope Hummingbird		X			
SCOLOPACIDAE – SANDPIPER FAMILY						
Actitis macularius	Spotted Sandpiper			X		
PANDIONIDAE – OSPREY FAMILY						
Pandion haliaetus	Osprey			X		
ACCIPITRIDAE – HAWK FAMILY						
Haliaeetus leucocephalus	Bald Eagle	SE, FP	X	X		
Buteo jamaicensis	Red-tailed Hawk					X
Aquila chrysaetos	Golden Eagle	FP	X			
PICIDAE – WOODPECKER FAMILY						
Sphyrapicus thyroideus	Williamson’s Sapsucker			X		

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Scientific Name	Common Name	Status [a]	Saddlebag Lake	Tioga Lake	Ellery Lake	Study Area between Reservoirs
Picoides arcticus	Black-backed Woodpecker			X		
Colaptes auratus	Northern Flicker		X	X	X	X
FALCONIDAE – FALCON FAMILY						
Falco peregrinus	Peregrine Falcon	FP	X			
TYRANNIDAE – TYRANT FLYCATCHER FAMILY						
Contopus cooperi	Olive-sided Flycatcher	SSC		X		
Empidonax oberholseri	Dusky Flycatcher			X		X
CORVIDAE – JAY AND CROW FAMILY						
Cyanocitta stelleri	Steller's Jay		X	X		X
Nucifraga columbiana	Clark’s Nutcracker		X	X		
Corvus corax	Common Raven		X	X		
PARIDAE – TITMOUSE FAMILY						
Poecile gambeli	Mountain Chickadee		X	X	X	X
SITTIDAE – NUTHATCH FAMILY						
Sitta canadensis	Red-breasted Nuthatch		X	X		
Sitta carolinensis	White-breasted Nuthatch			X		X
CERTHIIDAE – CREEPER FAMILY						
Certhia americana	Brown Creeper		X	X		
TROGLODYTIDAE – WREN FAMILY						
Salpinctes obsoletus	Rock Wren		X			
REGULIDAE – KINGLET FAMILY						
Regulus satrapa	Golden-crowned Kinglet		X	X		
Regulus calendula	Ruby-crowned Kinglet					X
TURDIDAE – THRUSH FAMILY						
Sialia currucoides	Mountain Bluebird			X		X
Catharus guttatus	Hermit Thrush			X		X
Turdus migratorius	American Robin		X	X	X	
FRINGILLIDAE – FINCH FAMILY						
Haemorhous purpureus	Purple Finch		X			
Haemorhous cassinii	Cassin’s Finch		X	X		
Spinus pinus	Pine Siskin			X		X

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Scientific Name	Common Name	Status [a]	Saddlebag Lake	Tioga Lake	Ellery Lake	Study Area between Reservoirs
PASSERELLIDAE – NEW WORLD SPARROW FAMILY						
Passerella iliaca	Fox Sparrow					X
Junco hyemalis	Dark-eyed Junco		X	X	X	X
Zonotrichia leucophrys	White-crowned Sparrow		X	X		X
Melospiza melodia	Song Sparrow		X	X	X	X
Melospiza lincolnii	Lincoln's Sparrow					X
Pipilo chlorurus	Green-tailed Towhee		X	X		X
PARULIDAE – WOOD-WARBLER FAMILY						
Geothlypis tolmiei	MacGillivray's Warbler					X
Setophaga coronata	Yellow-rumped Warbler			X	X	X
Cardellina pusilla	Wilson's Warbler					X
MAMMALS						
SCIURIDAE – SQUIRREL FAMILY						
Tamiasciurus douglasii	Douglas' squirrel		X	X		
Marmota flaviventris	yellow-bellied marmot		X	X		
Callospermophilus lateralis	golden-mantled ground squirrel			X	X	
Urocitellus beldingi	Belding’s ground squirrel		X			
Tamias alpinus	alpine chipmunk		X			
Tamias minimus	least chipmunk		X	X	X	X
Thomomys bottae	Botta’s pocket gopher			X		X
OCHOTONIDAE – PIKAS						
Ochotona princeps	American pika		X	X		
LEPORIDAE – HARE AND RABBIT FAMILY						
Lepus americanus tahoensis	snowshoe hare	SSC				X
Lepus townsendii townsendii	white-tailed jackrabbit	SSC				X
FELIDAE – CAT FAMILY						
Puma concolor	mountain lion			X		
CANIDAE – DOG FAMILY						
Canis latrans	coyote		X	X		X
URSIDAE – BEAR FAMILY						
Ursus americanus	black bear		X	X		X

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Scientific Name	Common Name	Status [a]	Saddlebag Lake	Tioga Lake	Ellery Lake	Study Area between Reservoirs
CERVIDAE – DEER FAMILY						
Odocoileus hemionus	mule deer		X	X	X	X

Source: CDFW, 2022b

Notes:
[a] Federal (U.S. Fish and Wildlife Service)
FT = Threatened

State (California Department of Fish and Wildlife)
SE = Endangered
FP = Fully Protected
SSC = Species of Special Concern

4.2. YOSEMITE TOAD

All four life stages of Yosemite toad (eggs, tadpoles, subadults, and adults) were observed in the known breeding pond south of Saddlebag Lake during the 2022 survey effort. Despite a greatly expanded Yosemite toad study area, only one other location was observed to show potential presence of Yosemite toad. Tadpoles belonging to the *Anaxyrus* genus were observed in a small pool in the Lee Vining Creek floodplain outside of the FERC Project Boundary and outside of the channel conveying water from any of the Project facilities. Multiple follow-up visits were conducted to determine the species of the tadpoles (such as observation of subadults). However, no tadpoles or other life stages of toad (including subadults) were observed in this area during subsequent visits because the pool containing the tadpoles completely dried prior to the next field visit (which was timed to coincide with the approximate metamorphosizing of the tadpoles). No other observations of any life stage of the *Anaxyrus* genus were made as part of the Project's 2022 Yosemite toad survey effort.

Separately, multiple adults of a known amphibian predator—mountain gartersnake (*Thamnophis elegans elegans*)—were observed foraging in potentially suitable habitat within the Lee Vining Creek floodplain.

Portions of CDFW's 2022 herpetological surveys overlapped with the Project's 2022 Yosemite toad survey effort. The staggered timing of the Project's survey efforts and CDFW's survey efforts (albeit closely staggered) allowed each survey effort to make observations not shared by both parties. Notably, CDFW observed Yosemite toad tadpoles in some pools above the southern margins of Tioga Lake (Psomas, 2022).

4.3. WILLOW FLYCATCHER HABITAT

The literature search and field survey efforts were completed in 2022. The literature survey results informed the field survey effort and the preliminary data from the field survey are as follows. The literature search results will be presented in the Final Technical Report.

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Lee Vining Creek flows east into Mono Lake. Within the willow flycatcher study area, the stream varies from some reaches that are narrow, incised, and fast moving; to reaches of slow-moving waters with small pools; to reaches with broad meadows.

The willow flycatcher study area covered for this habitat assessment consists of the reach of Lee Vining Creek between Poole Powerhouse and the reservoir at the LADWP Diversion Dam, which is approximately 5 miles long. Willow vegetation is generally present along willow flycatcher study area; however, it is only dominant between the Aspen Campground and the Lower Lee Vining Campground a reach of approximately 2 miles. Between the Aspen Campground and the Lower Lee Vining Campground, willow vegetation occurs as a low to mid-range canopy with height range from 6 to 20 feet. The dominant willow species found this reach is narrowleaf willow (*Salix exigua*). Other riparian tree species that occur in the same mid-range vegetative structure include cottonwood (*Populus* sp.) and alder (*Alnus* sp.). A sparse overstory of pine trees including Jeffrey pine (*Pinus jeffreyi*), lodgepole pine (*Pinus contorta*), and singleleaf pinyon (*Pinus monophylla*) are present with a dense understory of various shrub species including Wood's rose (*Rosa woodsii*), currant (*Ribes* sp.), and snowberry (*Symphoricarpos* sp.). In the adjacent meadows and dry washes, Souler's willow (*Salix scouleriana*) is the dominant species. Great Basin mixed scrub and conifer forest borders the riparian vegetation.

West (upstream) of the Aspen Campground and east (downstream) of Lower Lee Vining Creek Campground, the vegetation along Lee Vining Creek is dominated by a dense overstory of upland montane conifer (pine trees) with willow and other riparian trees occurring in the understory with a substantially decreased density.

The closest recorded willow flycatcher nest site (not identified to subspecies) is approximately 4 miles south of the Project in the Pumice Valley of the Mono Basin region (McCreedy, 2007; CDFW, 2022a). Observations of willow flycatcher (not identified to subspecies) occur along Lee Vining Creek in the willow flycatcher study area, but there are no records of nesting (CDFW, 2022a; eBird, 2022).

The reach of Lee Vining Creek between the Aspen Campground and the Lower Lee Vining Campground supports potentially suitable nesting habitat for willow flycatcher. This reach contains perennial aboveground water with a mosaic of open areas (including riparian floodplains, meadows, or dry washes) among extensive stands of shrubby willow thickets over 5 feet tall, greater than 0.5 acre in size, and without substantial canopy cover of pine trees.

The reach of Lee Vining Creek west (upstream) from the Aspen Campgroup has sparse understory vegetation and high canopy cover (over 75 percent cover) from the conifers in the overstory. Although there are willow, cottonwood, and alder trees with a sparse understory of Wood's rose within this reach, the dense overstory canopy of conifer trees makes these portions of Lee Vining Creek not suitable breeding habitat for willow flycatcher.

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5.0 NEXT STEPS

Observations from 2023 field surveys will continue to increase the wildlife species compendium and will be incorporated into a Final Technical Report.

Yosemite toad FVE surveys will continue in 2023. Additionally, more detailed mapping of potential breeding habitat will be conducted within the expanded Yosemite toad study area.

The willow flycatcher habitat assessment survey effort is complete, and no additional surveys are anticipated.

The anticipated next steps for Study TERR-2 are identified in Table 5-1 below.

Table 5-1. Schedule

Date	Activity
2023–January	Progress Report and Meeting
2023–Spring–Fall	Conduct second season of field surveys
2023/2024–Winter	Compile study results and prepare draft report
2024–Spring	Distribute draft report to Stakeholders
2024–Summer	Resolve comments and prepare final report
2024–September	Distribute final report in Draft License Application

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6.0 REFERENCES

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APPENDIX H
RECREATION USE ASSESSMENT (REC-1) TECHNICAL MEMO

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MEMORANDUM

To:	Lee Vining Stakeholders
From:	Southern California Edison Relicensing Team
Date:	January 2023
Subject:	Recreation Use Assessment (REC-1) Technical Memo

1.0 INTRODUCTION

This memo presents the preliminary data of Study REC-1 conducted in 2022 within the Lee Vining Hydroelectric Project (Project). The *REC-1 Recreation Use Assessment Technical Study Plan* details the Southern California Edison's (SCE) proposal for study objectives, study area, methods, and schedule for the effort. The Final Technical Study Plan was filed with the Federal Energy Regulatory Commission (FERC) on April 25, 2022 (SCE, 2022).

This study characterizes existing recreation use and access associated with the Project and aims to assess future recreation needs that may be associated with the Project.

All recreation facilities in the upper Lee Vining Canyon are currently owned and operated by the Inyo National Forest. However, many of these sites are either partially within or directly adjacent to the existing FERC Project Boundary. The initial phase (first study season) of Study REC-1 evaluated which Inyo National Forest recreation facilities or activities have a potential connection to the Project and thus may warrant inclusion in the broader studies proposed in the second study season.

2.0 STUDY OBJECTIVES

The primary objective of Study REC-1 is to determine which Inyo National Forest recreation facilities or activities have a potential connection to the Project and may warrant inclusion in the broader studies proposed in the second study season. Objectives of this study include:

- Characterize existing recreation opportunities and visitation (2022 and 2023 Study Seasons).
- Characterize existing recreation visitor characteristics, needs, and preferences (2022 and 2023 Study Seasons).
- Estimate current recreational fishing effort in Project creeks and reservoirs (2022 and 2023 Study Seasons).
- Estimate future recreational demand and needs, including the need for additional recreation facility and access enhancements or enforcement actions (2022 and 2023 Study Seasons).

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- Assess consistency of current recreation opportunities with the Desired Conditions, Goals, Standards, and Guidelines described in the Land Management Plan for the Inyo National Forest (USFS, 2019) (2022 and 2023 Study Seasons).

2.1. STUDY AREA

The recreation use assessment study area included the study sites listed in Table 2.1-1 and shown on Figure 2.1-1. The study areas were broken out into two geographies: Upper Lee Vining Canyon and Lower Lee Vining Canyon.

Table 2.1-1. 2022 Study Sites and Survey Method

Geographic Area	Site ID	Site Name	User Surveys (2022)
Upper Lee Vining Canyon	1	Saddlebag Lake Campground	☑
	2	Saddlebag Lake Day Use Area	☑
	3	Saddlebag Lake Trailhead	☑
	4	Sawmill Walk-In Campground	☑
	5	Carnegie Station Trailhead	☑
	6	Gardisky Lake Trailhead	☑
	7	Junction Campground	☑
	8	Bennettville Trailhead	☑
	9	Tioga Lake Overlook Info Site	☑
	10	Glacier Canyon Trailhead	☑
	11	Nunatak-Tioga Tarns Trailhead	☑
	12	Tioga Lake Campground	☑
	13	Nunatak Nature Trail	☑
	14	Ellery Lake Campground	☑
	15	Warren Fork Trailhead	☑

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Geographic Area	Site ID	Site Name	User Surveys (2022)
Lower Lee Vining Canyon	16	Big Bend Campground	☑
	17	Aspen Grove Campground	☑
	18	Boulder Day Use Area	☑
	19	Moraine Campground	☑
	20	Lower Lee Vining Campground	☑

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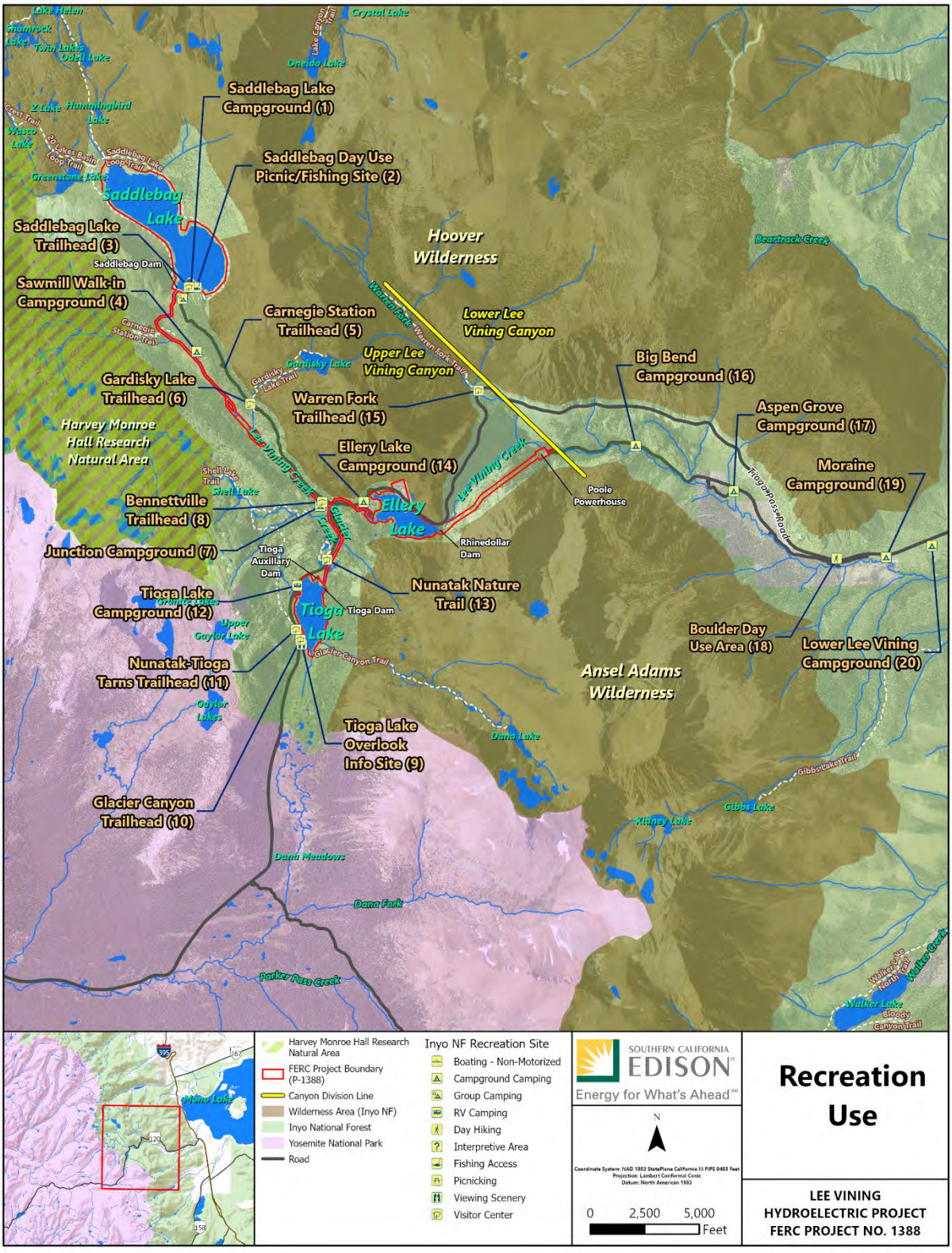


Figure 2.1-1. Recreation Facilities in Project Vicinity.

3.0 METHODS

During the 2022 study season, user surveys were conducted on-site using a survey form at the sites identified in Table 2.1-1 above. These initial surveys were intended to collect the primary reason for each recreator's visit to determine which INF recreation sites or areas may have a potential connection to the Project and thus may warrant inclusion in the broader studies proposed in the second study season (2023). SCE worked with the Recreation and Land Use Technical Working Group (TWG) to develop parameters for determining nexus and final survey forms prior to the 2022 field season.

Visitor surveys were conducted 2 days per month (1 weekday and 1 weekend day) from May to September 2022, and 1 day of one holiday weekend for a total of 11 days throughout the study period. For the purposes of this study, the holidays included the 3 days of the holiday weekends Memorial Day: May 28 to 30, 2022; Fourth of July: July 2 to 4, 2022 Labor Day: September 3 to 5, 2022. One visitor survey circuit includes conducting visitor surveys at each of the sites identified in Table 2.1-1. There were three 4-hour shifts: Shift 1 (7 a.m. to 11 a.m.), Shift 2 (11 a.m. to 3 p.m.), and Shift 3 (3 p.m. to 7 p.m.). On each of the 11 days, two visitor survey circuits were completed within a 4-hour shift. SCE anticipated each circuit would take approximately 2 hours. Within each shift, once the first circuit was completed, the second circuit commenced. The visitor surveys were conducted following a bus route method (e.g., Pollack et al., 1994); the shift, the starting recreation site for each circuit, and the direction of travel (i.e., clockwise or counterclockwise) were selected randomly on the days the surveys were conducted.

3.1. MODIFICATIONS TO METHODS

During the 2022 study season, four modifications to the methods were made. (1) Survey dates were shifted due to campground and road opening dates early in the recreation season. (2) An unrelated field staff injury resulted in moving one survey day in July into September. (3) Surveys were conducted only in English rather than English and Spanish as originally proposed. (4) Cattleguard Campground consists of an administrative building and is not open to public use and therefore was not surveyed.

4.0 DATA SUMMARY

Recreation Use Study data are summarized in Table 4-1 and Table 4-2. Data are presented by the number of responses received during the recreation season and then further broken out to show the answer to the main survey question: "What is the primary purpose of your trip to Lee Vining Canyon?" The responses have been broken out by the location where the survey was conducted.

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Table 4-1. Survey Responses Received During the 2022 Recreation Season by Site

Location of Survey (Site ID)	Surveys Accepted	Surveys Declined	Total Surveys
Saddlebag Lake Rec Areas (1, 2, 3)	50	9	59
Sawmill Walk-in Campground (4)	20	2	22
Carnegie Station Trailhead (5)	5	1	6
Gardisky Lake Trailhead (6)	8	3	11
Junction Campground, Bennettville Trailhead (7, 8)	42	10	52
Tioga Lake Overlook Info Site, Glacier Canyon Trailhead (9, 10)	31	11	42
Nunatak-Tioga Tarns Trailhead (11)	1	0	1
Tioga Lake Campground (12)	22	9	31
Nunatak Nature Trail (13)	5	1	6
Ellery Lake Campground (14)	19	4	23
Warren Fork Trailhead (15)	1	1	2
Big Bend Campground (16)	27	8	35
Aspen Grove Campground (17)	38	8	46
Boulder Day Use Area (18)	1	0	1
Moraine Campground (19)	24	4	28
Lower Lee Vining Campground (20)	36	11	47
Totals	**330**	**82**	**412**

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Table 4-2. Survey Responses to Main Survey Question by Site

Main Survey Question Response	Passing through on my way to Yosemite National Park	Passing through on my way to Eastern Sierras (Mono Lake, June Lake, Mammoth Lakes, Bishop, etc.)	Recreate in the Upper Lee Vining Canyon (Saddlebag Lake, Lee Vining Creek, Tioga Lake, Glacier Creek, Ellery Lake, etc.)	Recreate in the Lower Lee Vining Canyon (Campgrounds and Lee Vining Creek access below Poole Powerhouse)	Other	User Surveys (2023)	Spot Counts (2023)	Counters (2023)
Location of Survey (Site ID) **Upper Lee Vining Canyon**								
Saddlebag Lake Rec Areas (1, 2, 3)	7	3	40	0	0	☑	☑	☑
Sawmill Walk-in Campground (4)	2	0	18	0	0	☑	☑	☑
Carnegie Station Trailhead (5)[a]	0	1	4	0	0	No	No	No
Gardisky Lake Trailhead (6)[a]	1	2	4	0	1 – Locals from Mono fire and forest service hiking Gardisky	No	No	No
Junction Campground, Bennettville Trailhead (7, 8)	7	1	34	0	0	☑	☑	☑
Tioga Lake Overlook Info Site, Glacier Canyon Trailhead (9, 10)	11	11	7	1	1 – Motorcycle ride	☑[b]	☑	No
Nunatak-Tioga Tarns Trailhead (11)[a]	0	0	1	0	0	No	No	No
Tioga Lake Campground (12)	3	1	18	0	0	☑	☑	☑
Nunatak Nature Trail (13)[a]	4	0	1	0	0	No	No	No
Ellery Lake Campground (14)	3	0	16	0	0	☑	☑	☑
Warren Fork Trailhead (15)[a]	0	0	1	0	0	No	No	No
Location of Survey (Site ID) **Lower Lee Vining Canyon**								
Big Bend Campground (16)[a]	0	2	2	22	1 – Going to Bridgeport area	No	No	No
Aspen Grove Campground (17)[a]	4	0	6	28	0	No	No	No
Boulder Day Use Area (18)[a]	0	0	0	1	0	No	No	No
Moraine Campground (19)[a]	3	0	7	14	0	No	No	No
Lower Lee Vining Campground (20)[a]	1	1	8	24	2 – Driving through to Orange County Passing through to Washington	No	No	No
Totals	**46**	**22**	**167**	**90**	**5**			

[a] These sites did not meet the 55 percent potential Project nexus threshold criteria outlined above to be considered for further study.
[b] Data for the Tioga Lake Overlook Site and Glacier Canyon Trailhead did not meet the 55 percent potential Project nexus threshold criteria outlined above; however, SCE committed to moving these sites forward to the 2023 study season in the original study plan.

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In addition to the data provided above, SCE ran a statistical analysis on the data to make a proposed determination of sites that may have a potential Project nexus to be moved forward in the 2023 Recreation Use Study. As noted in Table 4-3, the number of visitors encountered at each site during the recreation surveys varied from 1 to 59, with 50 to 100 percent of encountered visitors accepting the survey. The percent of surveyed visitors at each park recreating in Upper Lee Vining Canyon during the survey ranged from zero to 100 percent (Table 4-3). If the survey represents a random sample of site visitors, the precision of these proportion estimates can be estimated as a function of the number of surveys at each site, as displayed in Figure 4-1.

The true proportion of overall site visitors that are using Upper Lee Vining Canyon is unknown, but these 95 percent binomial confidence intervals indicate the range of values that are most likely to include the true proportion based on the sample. There were six recreation sites with highly uncertain results, indicated by confidence intervals wider than 50 percent. These sites had few visitors during the survey period (less than 15), and therefore had fewer survey responses (less than 10), which resulted in this high level of uncertainty. Although some of the estimated proportions for these six sites are greater than 55 percent, these results are not reliable because there were too few surveys conducted. The reason for this uncertainty is that these sites did not receive many visitors during the survey period.

When the results for these less-used sites are excluded, there is a clear division between the remaining recreation sites in which five have more than 55 percent (red vertical line in Figure 4-1) of visitors recreating in Upper Lee Vining Canyon, and five that clearly have less than 55 percent of visitors recreating in Upper Lee Vining Canyon. The five sites with more than 20 visitors encountered and with 95 percent confidence that more than 55 percent of visitors were recreating in Upper Lee Vining Canyon have a higher potential nexus to the Project. These sites are highlighted with bold font in Table 4-3.

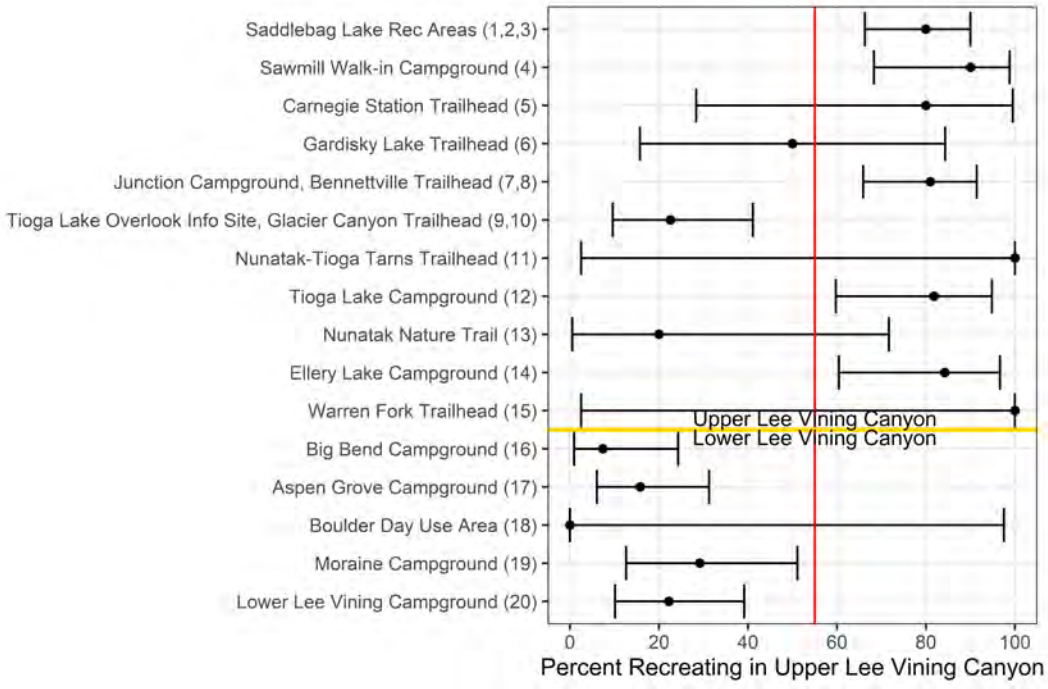
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Table 4-3. Estimated Percent of Site Visitors Using Recreation Sites

	Number of Visitors Encountered	Number of Surveys Accepted	Number Recreating in Upper Lee Vining Canyon	Percent Recreating in Upper Lee Vining Canyon	Lower 95% CL	Upper 95% CL
Location (Site ID) Upper Lee Vining Canyon						
Saddlebag Lake Rec Areas (1,2,3)	**59**	**50**	**40**	**80%**	**66%**	**90%**
Sawmill Walk-in Campground (4)	**22**	**20**	**18**	**90%**	**68%**	**99%**
Carnegie Station Trailhead (5)	6	5	4	80%	28%	99%
Gardisky Lake Trailhead (6)	11	8	4	50%	16%	84%
Junction Campground Bennettville Trailhead (7, 8)	**52**	**42**	**34**	**81%**	**66%**	**91%**
Tioga Lake Overlook Info Site, Glacier Canyon Trailhead (9, 10)	42	31	7	23%	10%	41%
Nunatak-Tioga Tarns Trailhead (11)	1	1	1	100%	2.5%	100%
Tioga Lake Campground (12)	**31**	**22**	**18**	**82%**	**60%**	**95%**
Nunatak Nature Trail (13)	6	5	1	20%	0.5%	72%
Ellery Lake Campground (14)	**23**	**19**	**16**	**84%**	**60%**	**97%**
Warren Fork Trailhead (15)	2	1	1	100%	2.5%	100%
Location (Site ID) Lower Lee Vining Canyon						
Big Bend Campground (16)	35	27	2	7%	0.9%	24%
Aspen Grove Campground (17)	46	38	6	16%	6.0%	31%
Boulder Day Use Area (18)	1	1	0	0%	0%	98%
Moraine Campground (19)	28	24	7	29%	13%	51%
Lower Lee Vining Campground (20)	47	36	8	22%	10%	39%

CL = Confidence Limit

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Note: This figure illustrates the estimated percentage of visitors at each site that are recreating in Upper and Lower Lee Vining Canyon. Error bars have varying widths based on sample size and represent 95 percent confidence intervals on the estimated percentages. The red vertical line is at 55 percent.

Figure 4-1. Estimated Percent of Visitors —Upper and Lower Lee Vining Canyon.

5.0 NEXT STEPS

As proposed, Study REC-1 is a 2-year study. Additional data will be collected in the 2023 survey season in the Upper Lee Vining Canyon area, as discussed in Section 4, Data Summary, and reflected in Table 4-2 above.

SCE will work with the Recreation and Land Use TWG to finalize survey forms prior to the 2023 Recreation User Surveys field season. In addition, SCE will work with the TWG to discuss the 2023 Creel Survey dates. The field schedule and forms will be developed prior to the field season. Study elements to discuss with TWGs include:

- Winter and summer survey locations and schedule;
- 2023 user survey/interview forms;
- Spot count schedule;
- Traffic and trail counter numbers and locations; and
- 2023 Creel survey dates, schedule, and forms.

The anticipated next steps for Study REC-1 are identified in Table 5-1 below.

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Table 5-1. Schedule

Date	Activity
2023–January	2022 Progress Report Meeting
2023–February	Consult with the TWG to finalize surveys and study dates for 2023 field season
2023–Spring/Summer/Winter	Conduct season two studies
2024–Winter/Spring	Compile study results and prepare draft report
2024–Spring	Distribute draft report to TWG
2024–Summer	Resolve comments and prepare final report
2024–September	Distribute final report in Draft License Application

TWG = Technical Working Group

6.0 REFERENCES

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APPENDIX I
EXISTING RECREATION FACILITIES CONDITION ASSESSMENT (REC-2) TECHNICAL MEMO

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MEMORANDUM

To:	Lee Vining Stakeholders
From:	Southern California Edison Relicensing Team
Date:	January 2023
Subject:	Existing Recreation Facilities Condition Assessment (REC-2) Technical Memo

1.0 INTRODUCTION

This memo presents the preliminary data of Study REC-2 conducted in 2022 within the Lee Vining Hydroelectric Project (Project). The *REC-2 Existing Recreation Facilities Condition Assessment Technical Study Plan* details the Southern California Edison's (SCE) proposal for study objectives, study area, methods, and schedule for the effort. The Final Technical Study Plan was filed with the Federal Energy Regulatory Commission (FERC) on April 25, 2022 (SCE, 2022).

Study REC-2 evaluates the condition of and public accessibility to existing recreation facilities associated with the Project. Under Title 18 Code of Federal Regulations Section 2.7, licensees whose projects include land and water resources with outdoor recreational potential have a responsibility to develop those resources in accordance with area needs. This includes the provision for adequate public access to such project facilities and waters. Additionally, it takes into consideration the needs of persons with disabilities in the design and construction of such facilities and access.

All recreation facilities in the upper Lee Vining Canyon are currently owned and operated by the Inyo National Forest. However, many of these sites are either partially within or directly adjacent to the existing FERC Project Boundary. The initial phase (first study season) of Study REC-1 evaluated which Inyo National Forest recreation facilities have a potential connection to the Project and thus may warrant inclusion in the broader studies proposed in the second study season of Study REC-2.

2.0 STUDY OBJECTIVES

- Identify existing dispersed or informal use areas, including documentation of existing conditions (2022 Study Season).
- Conduct a facility inventory and condition assessment at existing recreation facilities and associated parking areas, including an evaluation of signage and public safety features (2023 Study Season).
- Assess the carrying capacity and potential need for expansion, or alteration of existing recreation facilities (2023 Study Season).
- Assess the condition and potential for universal accessibility, where feasible (2023 Study Season).

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- Assess the consistency of current facilities with the Desired Conditions, Goals, Standards, and Guidelines described in the *Land Management Plan for the Inyo National Forest* (USFS, 2019) (2023 Study Season).

2.1. STUDY AREA

The recreation facilities condition assessment study area includes the sites listed in Table 2.1-1 and shown on Figure 2.1-1 below. Table 2.1-1 denotes which sites have already been agreed upon for season 2 of the Study REC-2 facilities condition assessments in 2023. The remaining sites in Table 2.1-1, listed as to be determined (TBD), will have the data from the 2022 user surveys reviewed and discussed with the Technical Working Group to determine if the sites will be included in season 2 of the Study REC-2 facilities condition assessments in 2023.

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Table 2.1-1. Study Sites

Site ID	Site Name	Facilities Condition Assessment (2023)	Dispersed Use Assessment (2022) [a]
1	Saddlebag Lake Campground	☑	☑
2	Saddlebag Lake Day Use Area	☑	☑
3	Saddlebag Lake Trailhead	☑	☑
4	Sawmill Walk-In Campground	TBD [b]	No
5	Carnegie Station Trailhead	TBD [b]	No
6	Gardisky Lake Trailhead	TBD [b]	No
7	Junction Campground	TBD [b]	No
8	Bennettville Trailhead	TBD [b]	No
9	Tioga Lake Overlook Info Site	☑	☑
10	Glacier Canyon Trailhead	☑	☑
11	Nunatak-Tioga Tarns Trailhead	TBD [b]	No
12	Tioga Lake Campground	☑	☑
13	Nunatak Nature Trail	TBD [b]	No
14	Ellery Lake Campground	☑	☑
15	Warren Fork Trailhead	No	No
16	Big Bend Campground	TBD [b]	No
17	Aspen Grove Campground	TBD [b]	No
18	Boulder Day Use Area	TBD [b]	No
19	Moraine Campground	TBD [b]	No
20	Lower Lee Vining Campground	TBD [b]	No
21	Cattleguard Campground	TBD [b]	No

TBD = to be determined

[a] Dispersed use assessments were generally conducted around each of the Project reservoirs (Saddlebag, Ellery, and Tioga). Specific developed Inyo National Forest recreation sites that were included are noted in this table.

[b] To be determined following 2022 user surveys and Technical Working Group consultation.

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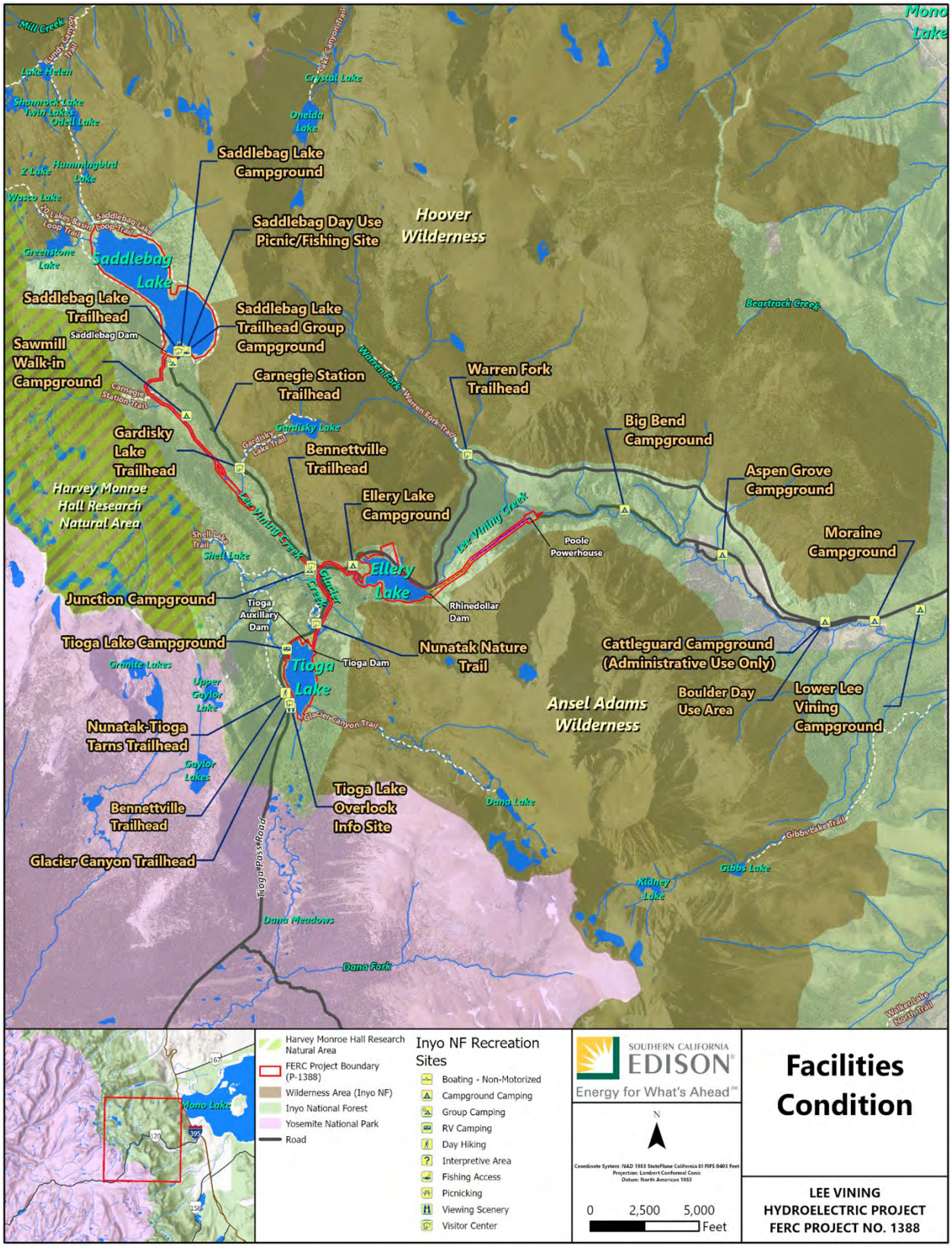


Figure 2.1-1. Facilities Condition.

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3.0 METHODS

Study implementation followed the methods described in the REC-2 Final Technical Study Plan (SCE, 2022); no modifications occurred during study implementation.

3.1. ANALYSIS

A dispersed use assessment was conducted within and adjacent to the FERC Project Boundary at each of the Project reservoirs (Saddlebag, Ellery, and Tioga) and the developed sites indicated in Table 2.1-1 above. This study consisted of an initial desktop exercise to scan aerial imagery for evidence of dispersed use or informal access areas such as social trails, brown out areas, or impromptu parking around the perimeter of each study area. These observations were digitized and attributed within a geographic information system (GIS) database and used in the field assessment to ground-truth those potential dispersed uses and to further assess for signs of user-created roads, trails, and/or campsites. Dispersed use was documented with photographs and integrated into a GIS database with relevant attributes (e.g., spatial location, number of fire rings, or length of roads or trails) to facilitate future analysis and ongoing assessment. Additional qualitative information was collected, including potential issues, possible accommodations, or future recreation opportunities at the sites. Findings are being used to inform potential locations for additional user interviews, spot counts, or traffic/trail counters in REC-1 activities to be performed during the subsequent field season.

4.0 DATA SUMMARY

Based on the initial desktop exercise to scan aerial imagery for evidence of dispersed use or informal access areas, a number of social trails and impromptu parking areas around the perimeter of the Project reservoirs (Saddlebag, Ellery, and Tioga) were identified.

Field surveys were conducted to ground-truth the areas identified in the desktop analysis from September 26 through September 28, 2022. In the field, staff were able to confirm 10 of the 11 sites being utilized in a dispersed manner. An additional 13 dispersed use recreation sites were identified (Tables 4-1 and 4-2 respectively).

Table 4-1. Dispersed Use Observations Aerial Imagery Assessment

Site	Boating	Pull Out	Trailhead	Other	Site Total
Ellery	--	4	2	--	6
Saddlebag	1	--	--	1	2
Tioga	1	2	---	--	3
Type Total	**2**	**6**	**2**	**1**	**11**

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Table 4-2. Dispersed Use Observation Points, In-field Observation

Site	Boating	Pull Out	Trailhead	Campsite	Fire Pit	Site Total
Ellery		7	2	--	3	12
Saddlebag	1	--	--	--	--	1
Tioga	1	5		2	3	11
Type Total	**2**	**12**	**2**	**2**	**6**	**24**

Social trails digitized from desktop analysis of aerial imagery identified 15,872.9 feet of trails in the Project Area. In-field assessment of the paths yielded a difference of 13,635.5 feet of trail in the Project Area. These trails are summarized in Table 4-3.

Table 4-3. Total Length of Trails (feet)

Site	Aerial Imagery Assessment	In-field Observation
Ellery	6,140.5	8,930.1
Rhinedollar	3,607.1	3,607.1
Saddlebag	4,308.0	7,047.5
Tioga	1,817.3	9,923.6
Grand Total	**15,872.9**	**29,508.3**

A spatial distribution of the preliminary data from the dispersed use study can be found for each Ellery Lake, Saddlebag Lake, and Tioga Lake on Figures 4-1, 4-2, and 4-3 respectively.

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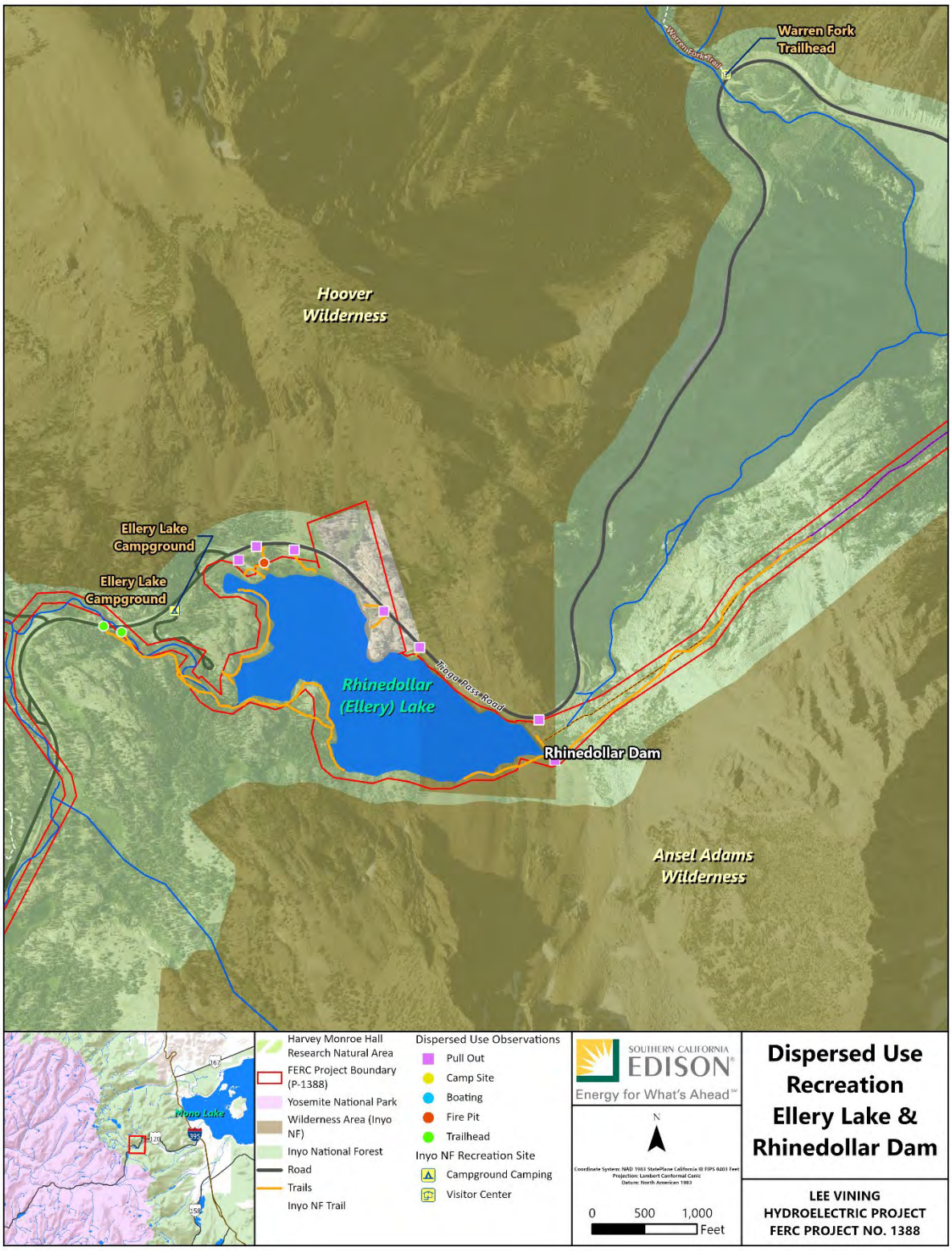


Figure 4-1. Dispersed Use Recreation at Ellery Lake and Rhinedollar Dam.

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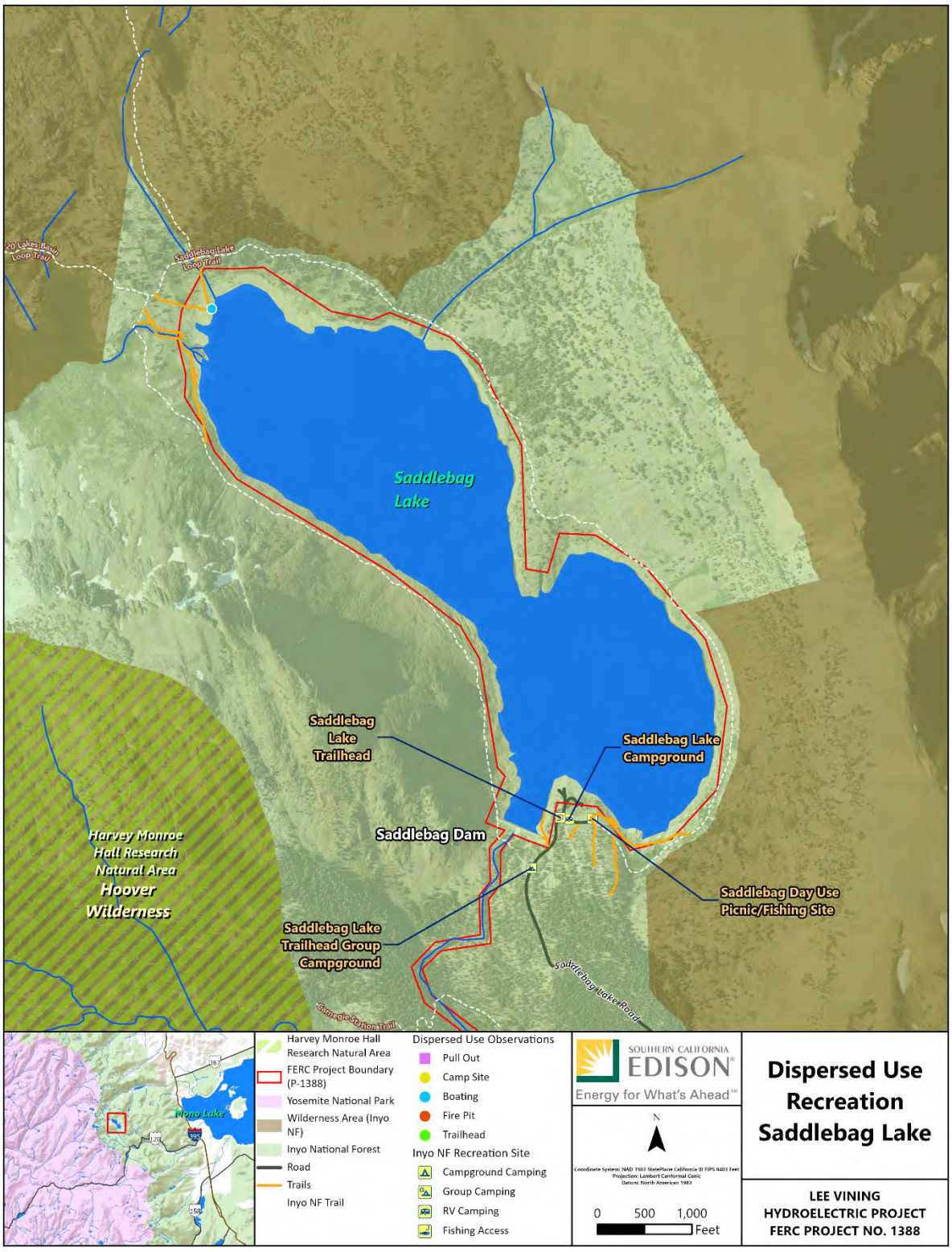


Figure 4-2. Dispersed Use Recreation at Saddlebag Lake.

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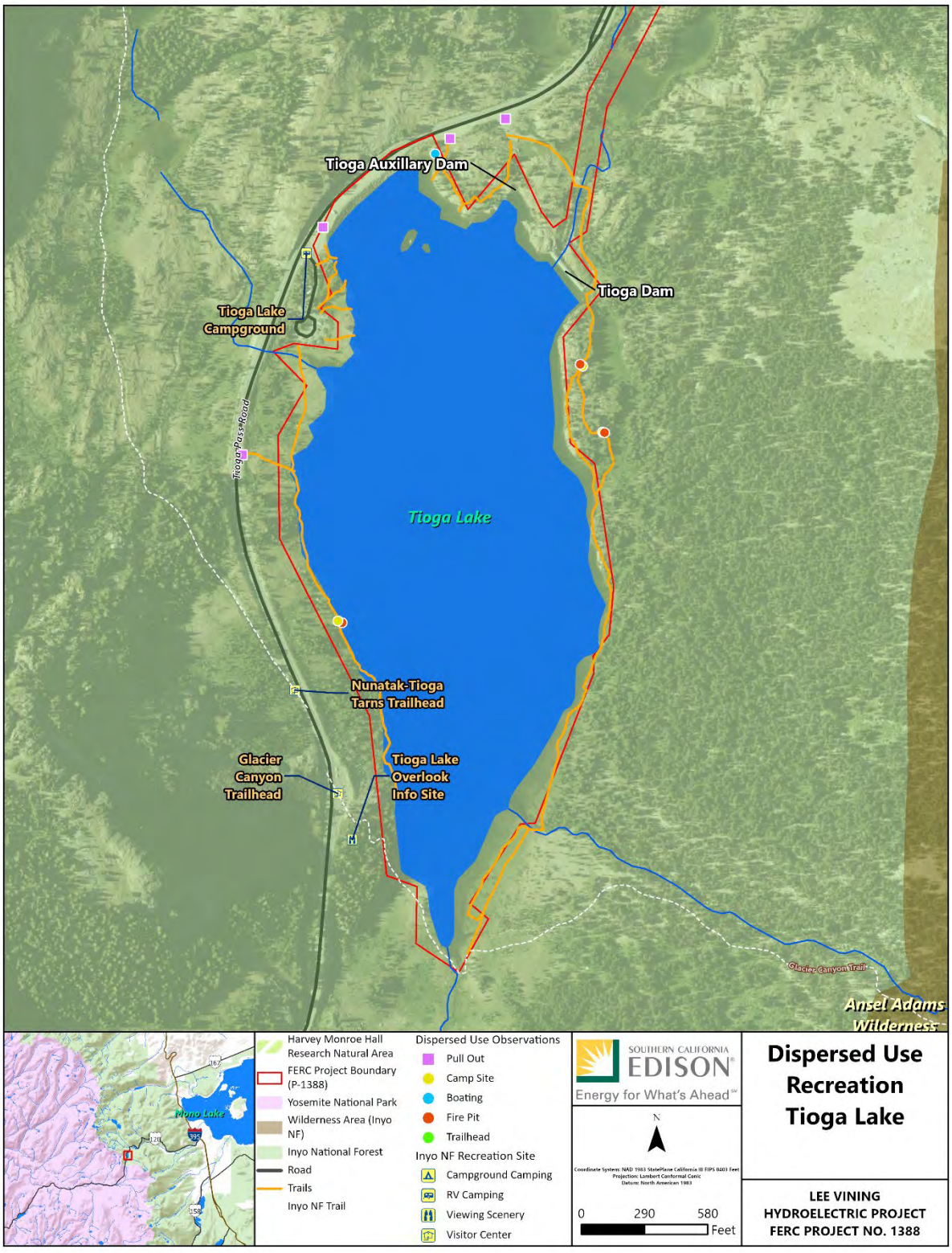


Figure 4-3. Dispersed Use Recreation at Tioga Lake.

5.0 NEXT STEPS

As proposed, the majority of this study's components will be conducted in the 2023 field season.

Findings from the 2022 Dispersed Use effort will be used to inform potential locations for additional user interviews, spot counts, or traffic/trail counters in Study REC-1 activities to be performed during the 2023 field season.

The anticipated next steps for Study REC-2 are identified in Table 5-1 below.

Table 5-1. Schedule

Date	Activity
2023–January	Progress Report and Meeting
2023–Spring/Summer	Conduct season two studies
2024–Winter/Spring	Compile study results and prepare draft report
2024–Spring	Distribute draft report to TWG
2024–Summer	Resolve comments and prepare final report
2024–September	Distribute final report in Draft License Application

TWG = Technical Working Group

6.0 REFERENCES

SCE (Southern California Edison). 2022. *Final Technical Study Plans*. Lee Vining Hydroelectric Project, FERC Project No. 1388. April 25, 2022.

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APPENDIX J
CULTURAL RESOURCE (CUL-1) TECHNICAL MEMO

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MEMORANDUM

To:	Lee Vining Stakeholders
From:	Southern California Edison Relicensing Team
Date:	January 2023
Subject:	Cultural Resource (CUL-1) Technical Memo

1.0 INTRODUCTION

This memo presents the preliminary data of the cultural resources inventory conducted in 2022 within the Lee Vining Hydroelectric Project (Project). The *CUL-1 Cultural Resource Technical Study Plan* details Southern California Edison's (SCE) proposal for study objectives, study area, area of potential effects (APE), methods, and schedule for the effort. The Final Technical Study Plan was filed with the Federal Energy Regulatory Commission (FERC) on April 25, 2022 (SCE, 2022).

The relicensing process is defined as a federal undertaking; therefore, it requires compliance with Section 106 of the National Historic Preservation Act (NHPA). The NHPA requires federal agencies to consider the effects of undertakings on historic properties listed in, or eligible for, the National Register of Historic Places (NRHP).

As part of this process, the Final Technical Study Plan identified the need for a cultural resources inventory of the Project's APE be conducted. The APE comprises all lands within the FERC Project Boundary, including lands managed by Inyo National Forest (INF), in addition to private and county lands (see Figure 2.1-1). Historical Research Associates, Inc. (HRA) and Far Western Anthropological Research Group, Inc. (FW) conducted the cultural resources inventory between July 21 and August 10, 2022. The team conducted the work under Organic Act permit numbers LVD22022 (HRA) and LVD22023 (FW) from Inyo National Forest.

As outlined in the CUL-1 Final Technical Study Plan, the cultural resource studies began in 2022 and will continue into 2023.

2.0 STUDY GOALS AND OBJECTIVES

The cultural resource study goals and objectives include the following:

- Meet FERC compliance requirements in the Code of Federal Regulations, Title 18, Part 5 (18 CFR Part 5) and Section 106 of the NHPA, as amended, by determining if Project-related activities and public access will have an adverse effect on historic properties.

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- Identify all archaeological resources, built-environment (BE) resources, and Traditional Cultural Resources[1] within the APE; determine which are historic properties; and develop the Historic Properties Management Plan (HPMP) based on those results.
- Ensure that future Project facilities and operations are consistent with the Desired Conditions described in the *Land Management Plan for the Inyo National Forest* (USFS, 2019) for Social and Economic Sustainability and Multiple Uses.

2.1. STUDY AREA AND AREA OF POTENTIAL EFFECT

The cultural resource studies will focus upon the FERC Project Boundary, the proposed APE, and a larger study area proposed to be a 0.5-mile radius around the proposed APE (Figure 2.1-1).

[1] A TRC is a resource that may not meet the NRHP criteria but has significant value to a Tribal or non-American Indian community or group.

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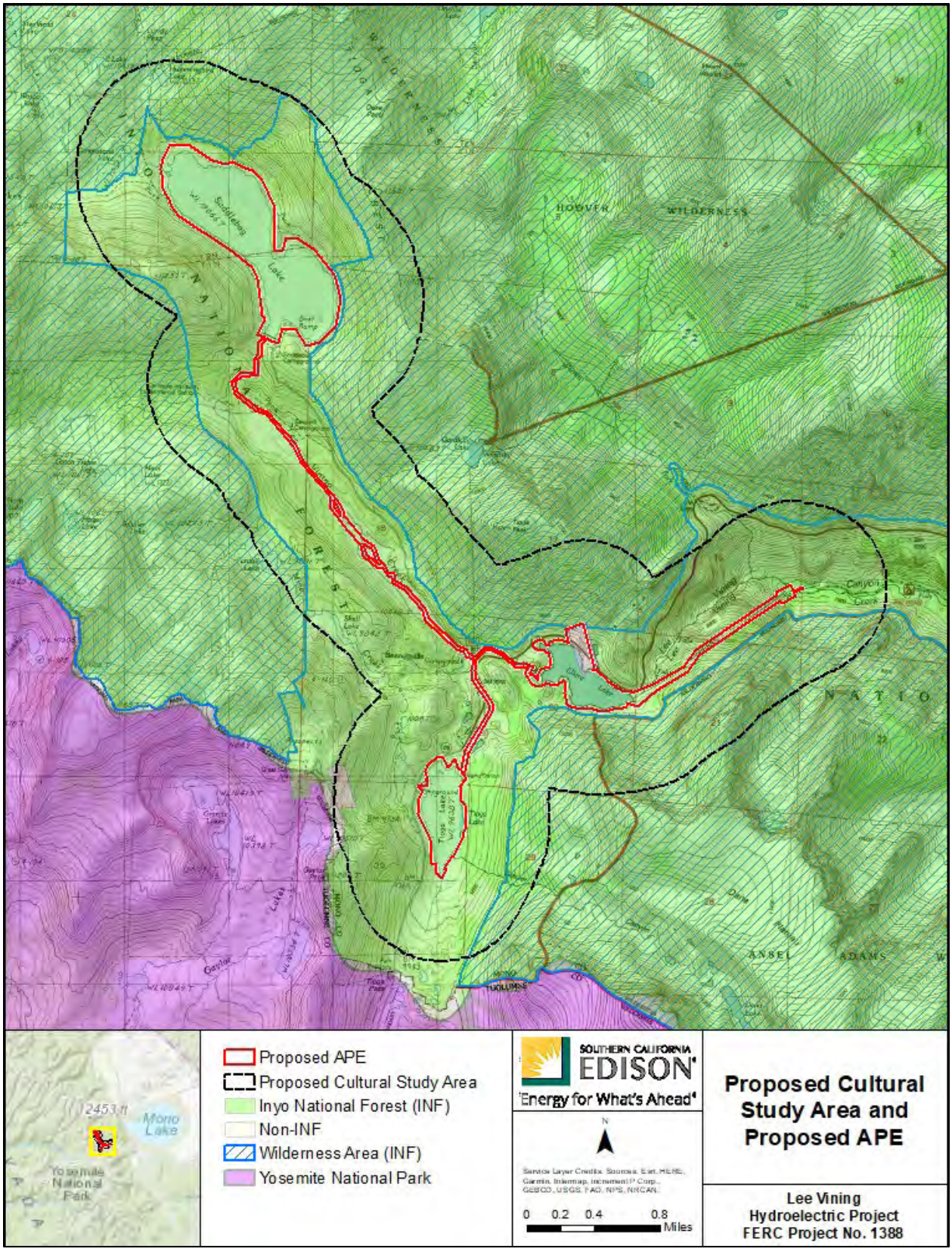


Figure 2.1-1. Proposed APE and Study Area.

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3.0 METHODS

The study approach for the cultural resources inventory followed the methods described in the CUL-1 Final Technical Study Plan, with no modifications, and will be followed for the 2023 cultural resource study efforts.

HRA and FW carried out the archaeological and BE surveys following methods described in the Study Plan, under an Organic Act permit issued by the U.S. Forest Service (USFS). Fieldwork took place between July and August 2022.

4.0 DATA SUMMARY

4.1. ARCHAEOLOGICAL INVENTORY AND PRELIMINARY DATA

The total acreage contained within the APE consists of approximately 619 acres. Systematic archaeological survey with 100 percent coverage was conducted on 203 of those acres. The remaining acreage was excluded from the survey due to steep slopes or open water. See Table 4.1-1 and the map book in Attachment A to this memo for a depiction of survey coverage.

Table 4.1-1. Survey Area

Land Manager	100% Survey	No Survey	Total
U.S. Forest Service	188	413	601
Private/Other	15	3	18
Total	**203**	**416**	**619**

In total, 24 cultural resources were revisited or newly identified within the APE (see the Confidential Map Book in Attachment A). Two previously recorded precontact archaeological sites mapped within the APE during the record search were not relocated during the inventory. The crew did identify and record two new precontact sites and one multicomponent site. The crew revisited 5 previously recorded historic-period resources and recorded 16 newly identified historic-period resources. Sites within the APE include precontact lithic scatters and historic-period sites related to the Project, mining, recreation, and transportation in the region.

Table 4.1-2 summarizes the archaeological sites recorded or revisited in 2022. Preliminary recommendations regarding the eligibility of each resource for listing in the NRHP are included in the table. These recommendations are subject to change as additional information is processed and analyzed during the reporting stage of the Project. Fourteen archaeological isolates identified during the inventory are presented in Table 4.1-3 and are depicted in the Confidential Map Book included as Attachment A to this memo. Three are characterized as pre-contact isolates; the other 11 are characterized as historic-period isolates. The pre-contact isolates consist of isolated obsidian flakes or nodules. The historic-period isolates are artifacts related to mining, logging, and recreation. A technical report that complies with Section 106 and FERC regulations is in progress.

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Table 4.1-2. Archaeological Sites Located Within the APE

Primary Number	Trinomial	USFS Number	Temp Number	Site Type	Composition of Site	NRHP Eligibility Preliminary Recommendation	Research Theme	Property Owner
P-26-000016	CA- MNO-16	05045101165	—	Pre-contact	Lithic scatter	N/A (Not Relocated)	—	USFS
P-26-002417	CA- MNO-2417	05045100702	—	Pre-contact	Lithic scatter	Determined Not Eligible 09/22/88 FERC821004D (Not Relocated)	—	USFS
P-26-002437	CA- MNO-2437	05045101163	—	Historic period (also includes BE resources)	Rhinedollar Construction Camp	Determined Not Eligible 02/06/90 FERC821004D	Hydroelectric	SCE and USFS
P-26-003308	—	05045101259	—	Historic period (also includes BE resources)	Tioga Pass Resort	Historic District 07/29/1997, USFS970709A	Recreation	USFS
P-26-006236	—	05045101683	—	Historic period (also includes BE resources)	Rhinedollar 12kV Circuit	Determined Not Eligible 06/06/2011, USFS110413A	Hydroelectric	USFS and SCE
—	—	—	LV-Site-104	Historic period	Debris scatter	Not Eligible	Unknown	USFS
—	—	—	LV-Site-380[a]	Historic period	Tioga Road	Eligible	Transportation	USFS
—	—	—	LV01	Historic period (also includes BE resources)	Poole Powerhouse Complex (archaeological component)	Not Eligible	Hydroelectric	USFS
—	—	—	LV02	Historic period	Tramway and Distribution Line remnants	Not Eligible	Hydroelectric	USFS
—	—	—	LV03[b]	Historic period	Historic-period earthwork and debris scatter	Not Eligible	Hydroelectric	USFS

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Primary Number	Trinomial	USFS Number	Temp Number	Site Type	Composition of Site	NRHP Eligibility Preliminary Recommendation	Research Theme	Property Owner
—	—	—	LV04	Historic period	A. O. Biglow rock inscription	Not Eligible	Unknown	USFS
—	—	—	LV05[a]	Historic period	Previous alignments of Tioga Road	Eligible	Transportation	USFS and SCE
—	—	—	LV06	Pre-contact	Lithic scatter	Testing Recommended Prior to Evaluation	—	USFS
—	—	—	LV07	Historic period	Borrow pit at Tioga Dam	Not Eligible	Hydroelectric	USFS
—	—	—	LV09	Pre-contact	Lithic Scatter	Not Eligible	—	USFS
—	—	—	LV10	Historic period (also includes a BE component)	Former Saddlebag Lake Road alignment	Not Eligible	Transportation	USFS
—	—	—	LV11	Historic period	Drilling equipment	Not Eligible	Mining	USFS
—	—	—	LV12	Multicomponent	Waste rock field; milling slick	Not Eligible	Hydroelectric	USFS
—	—	—	LV13	Historic period	Saddlebag Lake Dam construction area	Not Eligible	Hydroelectric	USFS
—	—	—	LV14	Historic period (also includes BE resources)	Wilderness Ranger Station and foundations	Research in progress	Recreation	USFS
—	—	—	LV15	Historic period	Debris scatter	Not Eligible	Recreation	USFS
—	—	—	LV16	Historic period	Debris scatter	Not Eligible	Recreation	USFS

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Primary Number	Trinomial	USFS Number	Temp Number	Site Type	Composition of Site	NRHP Eligibility Preliminary Recommendation	Research Theme	Property Owner
—	—	—	LV17	Historic period	Trench mechanically cut from water through bedrock	Not Eligible	Hydroelectric	USFS
—	—	—	LV18	Historic period	Saddlebag Loop Trail (east portion)	Research in progress	Transportation	USFS
—	—	—	LV19	Historic period	Carnegie Station Trail	Research in progress	Transportation	USFS
—	—	—	LV20	Historic period	Bennettville Vis Loop Trail	Research in progress	Recreation	USFS

BE = built environment; N/A = data not available; NRHP = National Register of Historic Places; SCE = Southern California Edison; USFS = U.S. Forest Service

[a] Abandoned segments of Tioga Road were previously recorded under temporary site number LV-Site-380. LV05 includes several additional segments of abandoned roadbed likely associated with historic-period iterations of the road alignment. The modern alignment of Tioga Road (Highway 120) was documented as a BE resource (temporary number HRA-17). These will all likely be incorporated into a single California Department of Parks and Recreation form with BE and archaeological components.

[b] The earthwork that is part of LV03 may be moved to BE, particularly if it is part of the realignment of the Rhinedollar Dam spillway.

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Table 4.1-3. Archaeological Isolates

Temporary Number	Isolate Type	Description
ISOLV01	Pre-contact	1 small, raw, obsidian nodule
ISOLV02	Historic period	Lengths of ½-inch-diameter braided cable
ISOLV03	Pre-contact	1 obsidian flake
ISOLV04	Pre-contact	1 obsidian flake
ISOLV05	Historic period	3 strands of barbed wire grown into tree
ISOLV06	Pre-contact	1 handstone
ISOLV07	Historic period	16 fragments of one amber glass bottle with Owens Illinois makers mark dating between 1929 and ca. 1960 (BRG, 2022)
ISOLV08	Historic period	1 wheel hub
ISOLV09	Historic period	1 fragment of green glass 7-Up bottle, 1 segment of 1-inch-diameter pipe
ISOLV10	Historic period	1 Coca-Cola bottle (partial) with Owens Illinois makers mark dating between 1929 and ca. 1960 (BRG, 2022)
ISOLV11	Historic period	1 church key-opened can
ISOLV12	Historic period	1 can fragment with soldered seam
ISOLV13	Historic period	1 church key-opened can
ISOLV14	Historic period	1 solder-seam meat tin; 1 colorless glass panel bottle base with writing

4.2. BUILT-ENVIRONMENT INVENTORY AND PRELIMINARY DATA

Architectural historians conducted field survey of the APE to verify the presence and current condition of previously recorded BE resources and to inventory and evaluate the NRHP eligibility of previously unidentified BE resources. The team started at the Poole Powerhouse Complex and then proceeded to document the resources around each of the dams starting at the highest elevation (Saddlebag Dam) and ending at the lowest (Rhinedollar Dam). In total, 61 BE resources were inventoried during the 2022 fieldwork. Table 4.2-1 summarizes these resources. Preliminary recommendations regarding the eligibility of each resource for listing in the NRHP are included in the table. These recommendations are subject to change as additional information is processed and analyzed during the reporting stage of the Project. See the map in Attachment A for locations of the BE resources and complexes listed in the table. Sketch maps of each complex and their associated resources will be provided in the technical report.

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Table 4.2-1. Built-Environment Resources Inventoried for the Project

Primary/USFS Number	Temp Number	Resource Name	Date of Construction / Alteration	Associated Complex or Resource	Preliminary Eligibility Recommendation	Associated with the Project?
—	HRA-19o	Tioga Pass Resort, Propane Tank Storage	Research needed	Tioga Pass Resort	Noncontributing to Tioga Pass Resort [a]	No
—	HRA-19p	Tioga Pass Resort, Bathrooms	Research needed	Tioga Pass Resort	Noncontributing to Tioga Pass Resort [a]	No
—	HRA-19q	Tioga Pass Resort, Cabin 8	1983 (rebuilt the destroyed 1935 cabin); recent alterations	Tioga Pass Resort	Noncontributing to Tioga Pass Resort [a]	No
—	HRA-19r	Tioga Pass Resort, Motel Unit	1920–1925; 1940s; recent alterations	Tioga Pass Resort	Contributing to Tioga Pass Resort [a]	No
—	HRA-19s	Tioga Pass Resort, Well	Research needed	Tioga Pass Resort	Noncontributing to Tioga Pass Resort [a]	No
—	HRA-19t	Tioga Pass Resort, Pump Building	1993; recent alterations	Tioga Pass Resort	Noncontributing to Tioga Pass Resort [a]	No
—	HRA-19u	Tioga Pass Resort, Cabin 9	1983 (rebuilt the destroyed 1935 cabin); recent alterations	Tioga Pass Resort	Noncontributing to Tioga Pass Resort [a]	No
—	HRA-19v	Tioga Pass Resort, Cabin 10	1957–1963; recent alterations	Tioga Pass Resort	Noncontributing to Tioga Pass Resort [a]	No
—	HRA-19w	Tioga Pass Resort, Modern foundations for yurts and possibly new cabins	2020s; research needed	Tioga Pass Resort	Noncontributing to Tioga Pass Resort [a]	No

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Primary/USFS Number	Temp Number	Resource Name	Date of Construction / Alteration	Associated Complex or Resource	Preliminary Eligibility Recommendation	Associated with the Project?
—	HRA-20	Tioga Dam Complex, includes Dam, Spillway, Instrument Building (?), Gaging Station, Gate House; need to confirm structure names	1928; 1949; 1958–1959 (confirm dates of any recent alterations)	Tioga Dam	Not Eligible	Yes
—	HRA-21	Tioga Auxiliary Dam	1928 (confirm no alterations since 1988)	Tioga Dam	Not Eligible	Yes
—	HRA-22	Saddlebag Dam Complex, includes Firehouse (?), Valve House, Flowline (1950), Instrument building (?), Gaging Station, and archaeological features	1920; 1954 (confirm dates of recent alterations)	Saddlebag Dam	Not Eligible	Yes
USFS. No. 05-04-51-01804	HRA-23	Saddlebag Lake Resort	1947	Saddlebag Lake Resort	Not Eligible	No
—	HRA-24	Lee Vining Substation Powerhouse (Building 0101)	1924; possibly 1950s/1960s (fenestration)	Lee Vining Substation Complex	Not Eligible	Yes
—	HRA-25	Warehouse (Building 0105)	1924 (confirm dates of recent alterations)	Lee Vining Substation Complex	Not Eligible	Yes
—	HRA-26	Garage (1 car) (Building 0110)	1954 (confirm dates of recent alterations)	Lee Vining Substation Complex	Not Eligible	Yes
—	HRA-27	Cottage (Building 0102)	1924 (confirm dates of recent alterations)	Lee Vining Substation Complex	Not Eligible	Yes

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Primary/USFS Number	Temp Number	Resource Name	Date of Construction / Alteration	Associated Complex or Resource	Preliminary Eligibility Recommendation	Associated with the Project?
—	HRA-28	Rock Wall System	Likely 1920s	Lee Vining Substation Complex	Not Eligible	Yes
—	HRA-29	Historic Bridge	Research needed	Lee Vining Substation Complex	Not Eligible	Yes
—	HRA-30	Cottage (Building 0108)	1951 (confirm dates of recent alterations)	Lee Vining Substation Complex	Not Eligible	Yes
—	HRA-31	Garage	1951 (confirm dates of recent alterations)	Lee Vining Substation Complex	Not Eligible	Yes
—	HRA-32	Lee Vining Substation	1968 (confirm dates of recent alterations)	Lee Vining Substation Complex	Not Eligible	Yes
—	HRA-33	Avalanche Wall	Likely 1920s	Poole Powerhouse	Not Eligible	Yes
—	HRA-34	Wilderness Ranger Cabin [b]	Research needed	Wilderness Ranger Station	Not Eligible?	No
—	HRA-35	Poole Power Plant Road	Likely 1920s	Poole Powerhouse	Not Eligible	Yes
USFS 05-04-53-02829; SCE TLRR Survey No. 9	—	Casa Diablo-Control- Sherwin 115kV Transmission Line [c]	1918	Poole Powerhouse	Not Eligible	Yes

? = reflects uncertainty of ID; BE = built environment; HRA = Historical Research Associates, Inc.; SCE = Southern California Edison; USFS = U.S. Forest Service

[a] Preliminary evaluations based on the 1997 Evaluation of Eligibility for Tioga Pass Resort, which outlined a period of significance of 1915–1940 and described integrity for each of the resources within the district. More research is needed to determine if integrity has diminished due to recent alterations and restoration efforts after major damage from a 2017 avalanche (Cutts, 1997).

[b] This is a BE resource with associated archaeological site(s).

[c] The 2019 surveyors mislabeled Casa Diablo-Control-Sherwin as the Control-Mill Creek in the shapefiles HRA received along with the TLRR report (Urbana, 2019).

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5.0 NEXT STEPS

The anticipated next steps for the Study CUL-1 are identified in Table 5-1 below.

Table 5-1. Schedule

Date	Activity
2022/2023–Winter	Compile cultural resource preliminary data and prepare draft reports
2023–January	Progress Report and Meeting
2023–Feb/March	Stakeholder review and provide comments on draft report
2023–April/May	Resolve comments and prepare draft final report
2023–Spring/Fall	Conduct archaeological site evaluations
2023/2024–Winter	Prepare archaeological site evaluation report
2024–Spring	Distribute draft report to Stakeholders
2024–Spring	Stakeholder review and provide comments on draft report
2024–Spring/Summer	Resolve comments and prepare draft final report
2024–Spring/Summer	Prepare draft HPMP
2024	Stakeholder review and provide comments on draft HPMP
2024	Resolve comments and prepare final HPMP
2024–November	Distribute final reports and HPMP in Final License Application

HPMP = Historic Properties Management Plan

6.0 REFERENCES

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ATTACHMENT A
PRELIMINARY CULTURAL RESOURCES SURVEY RESULTS MEMO
(CONFIDENTIAL)

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FEBRUARY 1, 2023, STAKEHOLDER MEETING MATERIALS

- Meeting Agenda
- PowerPoint Presentation
- Meeting Summary

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Lee Vining Hydroelectric Project Relicensing

2022 Progress Report Stakeholder Meeting

February 1, 2023, 9:00 a.m. – Noon PDT via Microsoft Teams

Objectives

- Information sharing and high-level review of preliminary data from 2022 studies
- Preview 2023 field season

Duration (minutes)	Agenda Topic/Subtopic	Lead
10	**Welcome and Introductions**	
	- Safety moment - Introductions	Matthew Woodhall
15	**Meeting Objectives and How We Got Here (Traditional Licensing Process)**	
	- Review purpose of this meeting - Review where we are in the relicensing process - Study Implementation Schedule	Shannon Luoma
10	**Cultural and Tribal Studies**	
	- Cultural Resource (CUL-1) - Tribal Resources (TRI-1)	Audry Williams
30	**Fish, Aquatics, and Hydrology Studies**	
	- Stream and Reservoir Water Quality (WQ-1) - Reservoir Fish Population (AQ-1) - Stream Fish Population (AQ-2) - Operations Model (AQ-5) - Lower Lee Vining Creek Channel Morphology (AQ-6)	Heather Neff Ken Jarrett Bret Hoffman Isha Deo Ian Pryor
10	**10-minute break**	
20	**Terrestrial and Botanical Studies**	
	- General Botanical Resources Survey (TERR-1) - General Wildlife Resources Survey (TERR-2)	Allison Rudalevige Steve Norton
20	**Recreation and Land Use Studies**	
	- Recreation Use Assessment (REC-1) - Existing Recreation Facilities Condition Assessment (REC-2)	Angela Whelpley

10	**Schedule and Next Steps** - Relicensing Schedule overview - Other action items	Shannon Luoma
10	**Final Q&A**	
	Adjourn	

Materials Available on Relicensing Website

- Preliminary Application Document, filed August 12, 2021
  - Includes Draft Study Plans
- Final Technical Study Plans, filed April 25, 2022
- Site Visit materials
  - Agenda
  - Project overview maps
  - Site Visit booklet
  - Site Visit photos
- Process Plan and Schedule
- USFWS IPaC Report (April 2020)
- Project Flyover Video
- FERC Environmental Assessment
- Current FERC License (1997)
- Select Orders Amending the 1997 License
- Technical Working Group (TWG) materials
  - Meeting agendas
  - Meeting summaries
  - PowerPoint presentations
  - TWG Charter document
- October 2020 Public Meeting materials
- November 2021 Joint Agency and Public Meeting materials
- March 2022 Study Plan Meeting presentation

SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead℠

Lee Vining Hydroelectric Project
FERC No. 1388

Welcome!

Using the chat, please write your name, organization, and your favorite piece of outdoor gear.

2022 Progress Report Stakeholder Meeting
February 1, 2023

Welcome and Land Acknowledgment

SCE would like to take a moment and recognize that the Lee Vining Project is located on the Mono Lake Kutzadikaa Tribes' traditional lands, which they have stewarded for generations.

Safety Moment



Welcome and Introductions: Lee Vining Relicensing Team

SCE Team

Matthew Woodhall
Project Manager

Martin Ostendorf
Senior Manager

Audry Williams
Cultural Resources Manager

Seth Carr
Operations Manager

Lyle Laven
Production Manager

Consultant Team

Shannon Luoma
Project Manager

Finlay Anderson
Technical Advisor

Kelly Larimer
Project Director

Carissa Shoemaker
TWG Coordinator

Heather Neff
Aquatics Lead

Allison Rudalevige and **Steve Norton**
Terrestrial and Botanical Leads

Lynn Johnson
Tribal Lead

Barb Siskin and **Jay King**
Cultural Leads

Angela Whelpley
Recreation and Land Use Leads

Progress Report Meeting Agenda

- Safety moment
- Welcome and introductions
- Meeting objectives
- How we got here (Traditional Licensing Process)
- Review studies, preliminary data summary, 2023 plans
  - Cultural and Tribal
  - Aquatics
  - Terrestrial
  - Recreation and land use
- Schedule, next steps, action items
- Final questions

Meeting Objectives

- Information sharing and high-level review of preliminary data from 2022 studies
- Preview 2023 field season

Regulatory and Process Look Back

- SCE is utilizing the Traditional Licensing Process (TLP)
  - The Federal Energy Regulatory Commission (FERC) does not engage until end of process
  - Less structured "formal" milestone schedule around studies
- Study Plans were developed in collaboration with Technical Work Group (TWG) members:
  - 12+ TWG meetings January-May 2021
- Preliminary Application Document and Notice of Intent filed August 2021
- Site Visit and Joint Agency Meeting – fall 2021
- Study Plan revisions – February 2022
- Final Study Plans filed April 2022
- Studies began in 2022, continuing into 2023
- Tech Memos distributed January 23, 2023

Study Implementation Schedule

Study Plan Title	Year(s) of Implementation
Cultural Resources (CUL-1)	2022-2023
Tribal Resources (TRI-1)	2023
Stream and Reservoir Water Quality (WQ-1)	2022*
Reservoir Fish Populations (AQ-1)	2022
Stream Fish Populations (AQ-2)	2022
Aquatic Habitat Mapping and Sediment Characterization (AQ-3)	2023
Aquatic Invasive Plants (AQ-4)	2023
Operations Model (AQ-5)	2022-2023
Lower Lee Vining Creek Channel Morphology (AQ-6)	2022-2023
Botanical Resources Survey (TERR-1)	2022-2023
Wildlife Resources Survey (TERR-2)	2022-2023
Recreation Use Assessment (REC-1)	2022-2023
Existing Recreation Facilities Condition Assessment (REC-2)	2022-2023
Project Lands and Roads (LAND-1)	2023
Visual Resource Assessment (LAND-2)	2023

*Study may continue into 2023

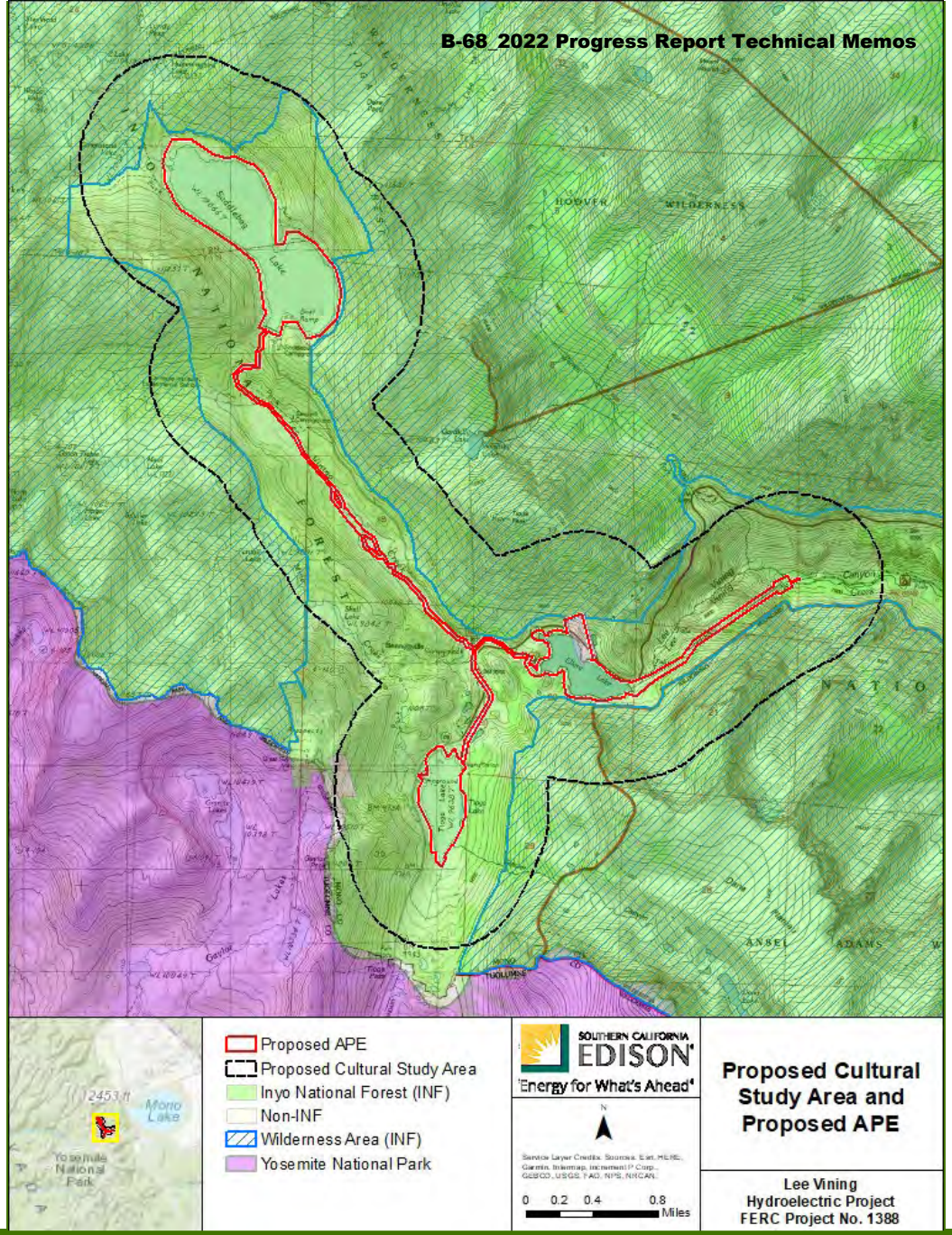
Regulatory and Process Look Ahead

- Comments on tech memos by February 22, 2023
- Focused TWG meetings for select resources prior to 2023 field season as needed
- Draft technical reports for completed studies to be distributed spring 2023 for 60-day review
- 2023 field season
- Draft technical reports for remaining studies to be distributed fall 2023 and spring 2024 for 60-day review
- Draft License Application due to FERC September 2024
  - Will include final technical reports
- Final License Application due to FERC January 2025
- Lee Vining license expires January 2027

2022 (YEAR 1) STUDIES, DATA SUMMARY, & 2023 PLANS

Cultural Resources (CUL-1)

Area of Potential Effects (APE) and Study Area Map



Cultural Resources (CUL-1)

Goals/objectives

- Meet FERC and Section 106 compliance requirements by determining if Project-related activities and public access will have an adverse effect on historic properties
- Identify all archaeological resources, built-environment resources, and Traditional Cultural Resources (TCRs) within the APE; determine which are historic properties; and develop the Historic Properties Management Plan (HPMP) based on those results
- Ensure that future Project facilities and operations are consistent with the desired conditions described in the Land Management Plan for the Inyo National Forest

Cultural Resources (CUL-1)

Preliminary data summary

- Completed background research in summer 2022
- Surveyed APE in July and August 2022
- Submitted draft reports in Q1 2023
- Archaeology: recorded 20 resources (16 new), mostly historic-period, including 6 with built environment elements
- Built Environment: recorded 32 resources, including 13 elements of LVHP; Tioga Pass Resort; Saddlebag Lake Resort; Saddlebag Wilderness Cabin; Tioga Road

Cultural Resources (CUL-1)

Preliminary data summary: National Register of Historic Places (NRHP) Eligibility

- All archaeological resources recommended NRHP ineligible except 3 remaining unevaluated: 2 precontact lithic scatters and a submerged road segment
- All built environment resources recommended NRHP ineligible, including LVHP, except two buildings individually eligible (Poole Powerhouse, Triplex Cottage)
- Evaluation/treatment options to be developed in HPMP

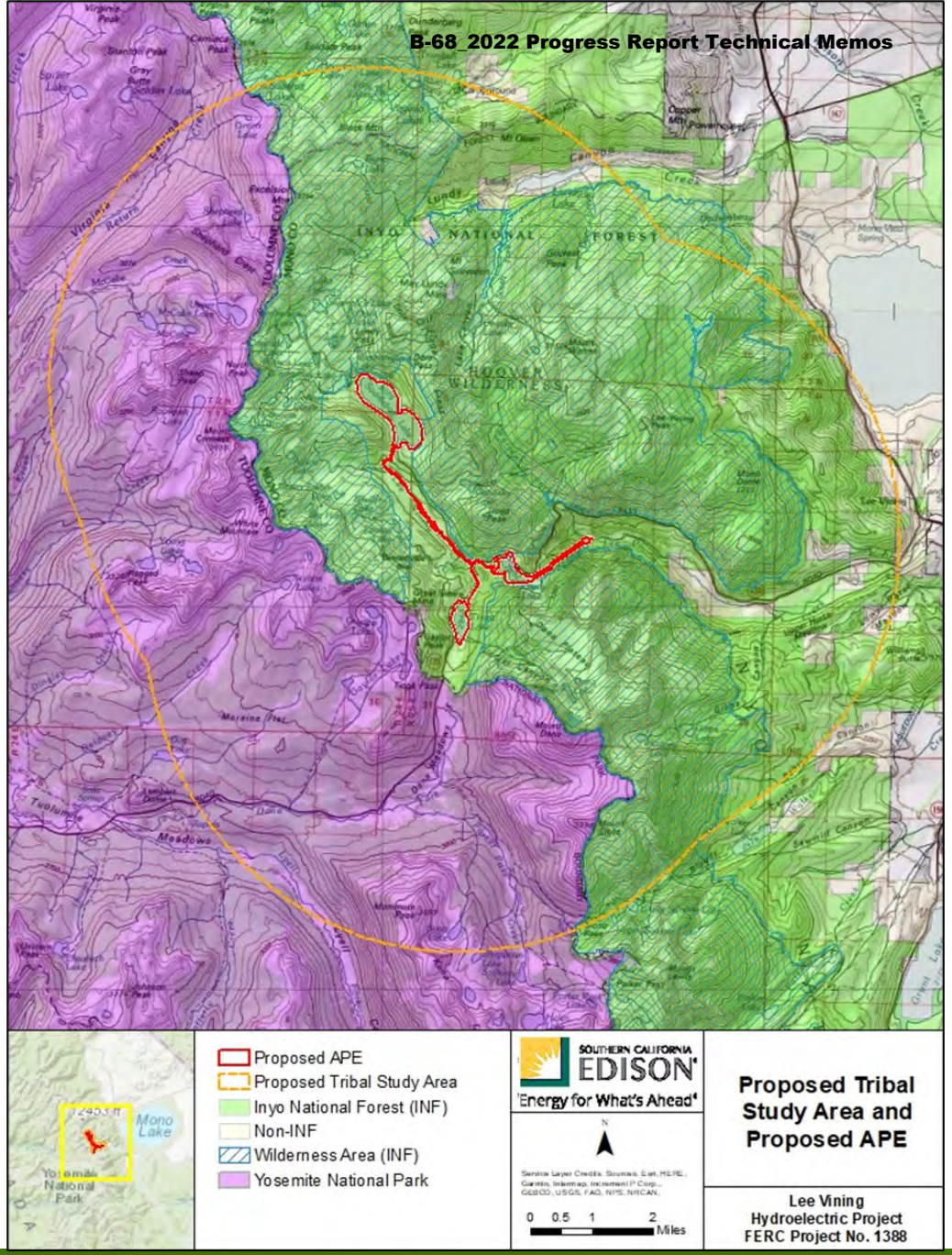
Cultural Resources (CUL-1)

Next steps

Date	Activity
2022/2023–Winter	Compile cultural resource survey data and prepare draft reports
2023–January/February	Progress report and meeting
2023–Spring/Fall	Conduct archaeological site evaluations
2023/2024–Winter	Prepare archaeological site evaluation report
2024–Spring	Distribute draft report to stakeholders for review and comment
2024–Summer	Resolve comments and prepare draft final report
2024–Spring/Summer	Prepare draft HPMP
2024–September	Distribute final reports and HPMP in Draft License Application

Tribal Resources (TRI-1)

APE and Study Area Map



Tribal Resources (TRI-1)

Methods

- Archival research
- Assist other resource specialists
- Meetings with Tribal governments
- Interviews
- Documentation and evaluation
- Reporting and Historic Properties Management Plan

2022 Data Summary

- Background research was conducted in 2022, study will commence in 2023 with interviews

Tribal Resources (TRI-1)

Next steps

Date	Activity
2023–January/February	Progress report and meeting
2023–Summer/Fall	Conduct Tribal site visits; identification and evaluation of Tribal resources
2023/2024–Winter	Prepare draft TRI-1 Study Report
2024–Spring	Distribute draft report to stakeholders for review and comment
2024-Spring	Prepare draft Tribal resource HPMP for review and comment
2024–Summer	Resolve comments and prepare final reports
2024–September	Distribute final reports and HPMP in Draft License Application

Questions?

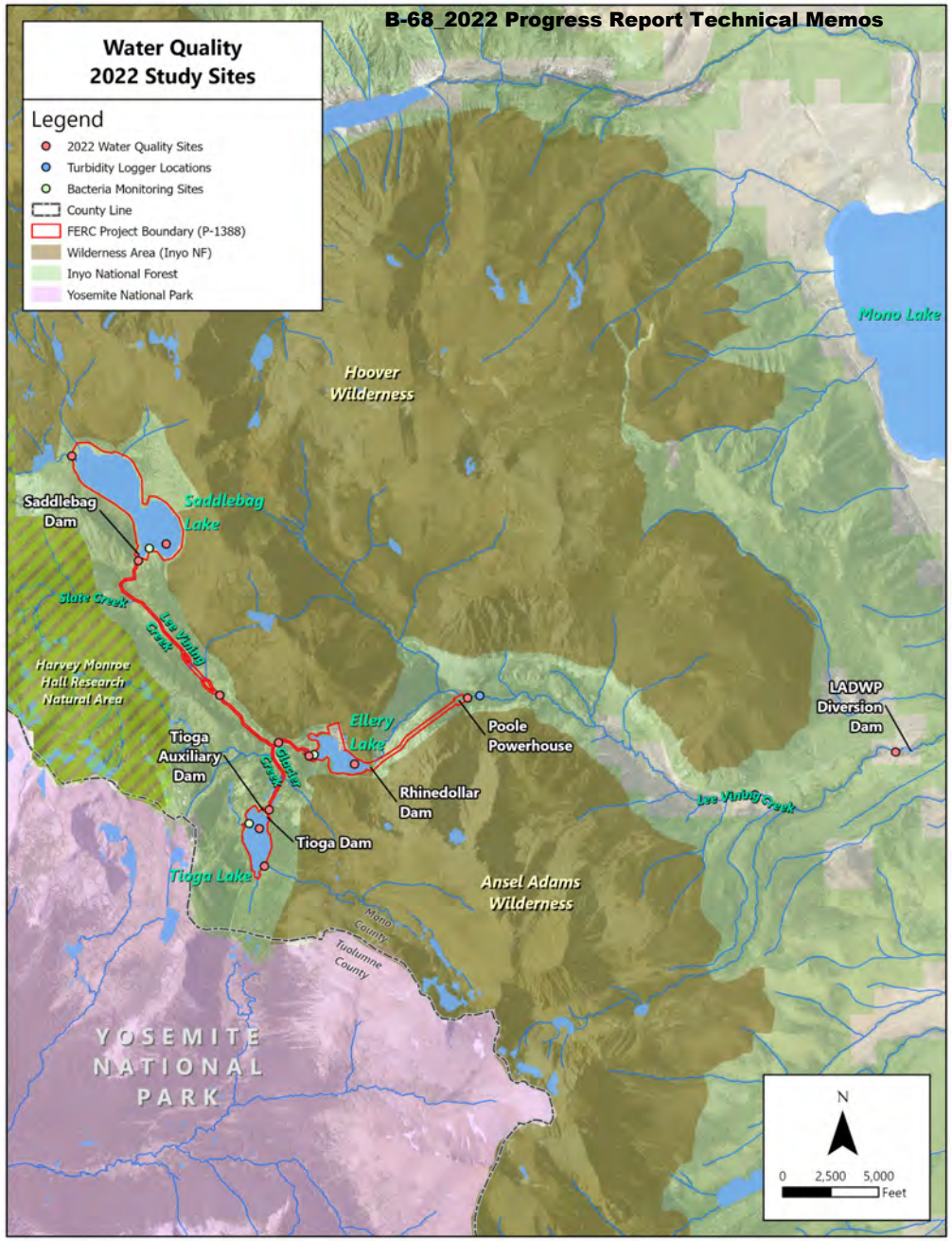


Fish, Aquatics, and Hydrology Studies

1. Water Quality Study (WQ-1)
2. Reservoir Fish Populations (AQ-1)
3. Stream Fish Populations (AQ-2)
4. Operations Model (AQ-5)
5. Lower Lee Vining Creek Channel Morphology (AQ-6)

Stream and Reservoir Water Quality (WQ-1)

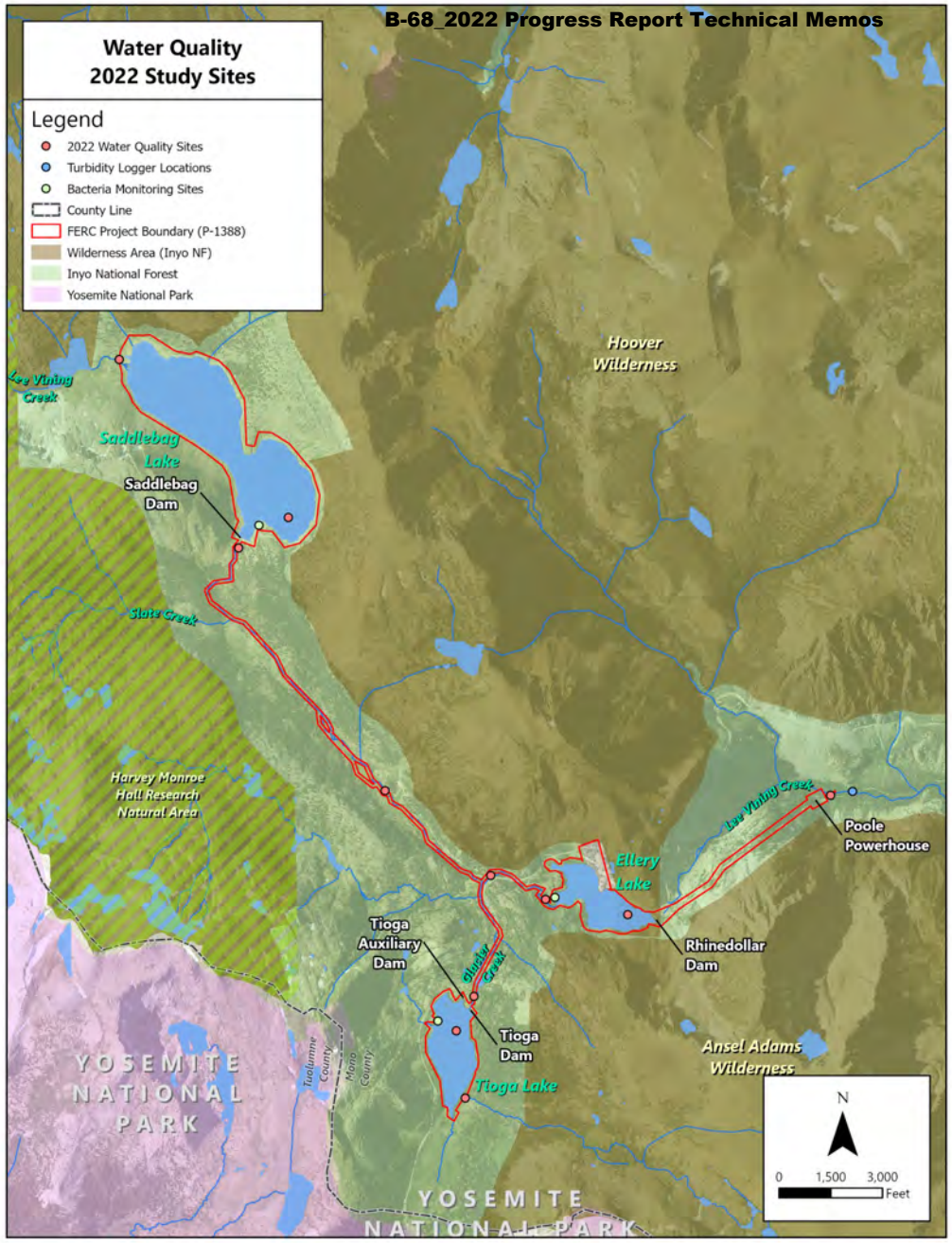
Study Area Map



Stream and Reservoir Water Quality (WQ-1)

Study Sites:

- Saddlebag, Ellery, Tioga lakes (1 WQ site per lake)
- Upper Lee Vining Creek (5 WQ sites)
- Lower Lee Vining Creek (2 WQ sites, 2 turbidity sites)
- Glacier Creek (2 WQ sites)



Stream and Reservoir Water Quality (WQ-1)

Study Goals/Objectives

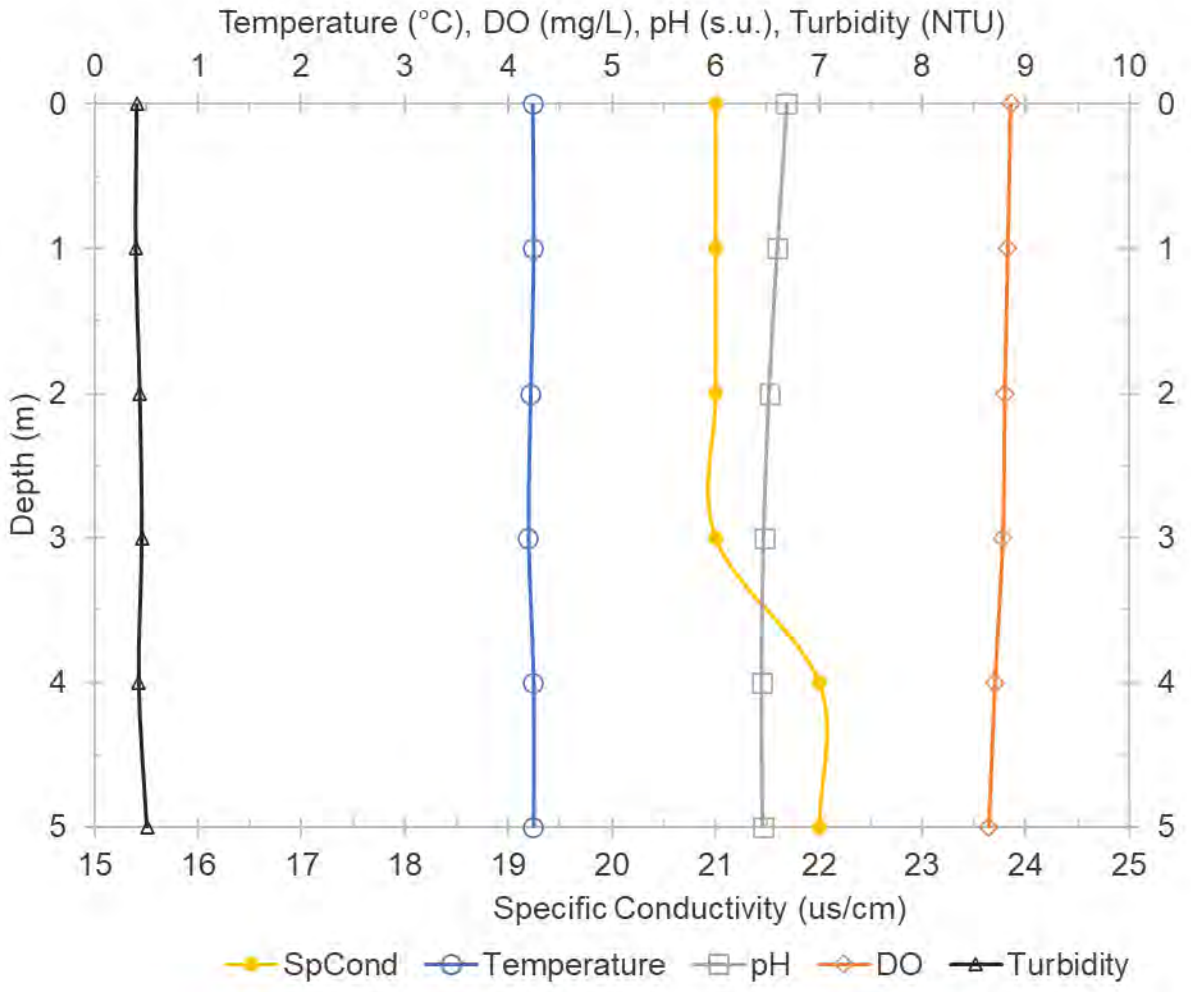
- Assess consistency of Project reservoirs and Project-affected stream reaches with water quality objectives in the Lahontan Region Water Quality Control Board Basin Plan

Modifications to Methods

- Extensive ice cover on Saddlebag Lake prevented collection of depth profiles at maximum depth during spring
- Analytical samples were not collected at depth from Saddlebag Lake and Tioga Lake during summer
- Turbidity logger installation was delayed from spring to summer, loggers were moved to new locations in October 2022
- *In situ* turbidity was not measured during summer (probe malfunction)
- Eight out of nine edible-sized individuals of rainbow trout were caught at Tioga Lake (with nine of nine required brook trout captured)

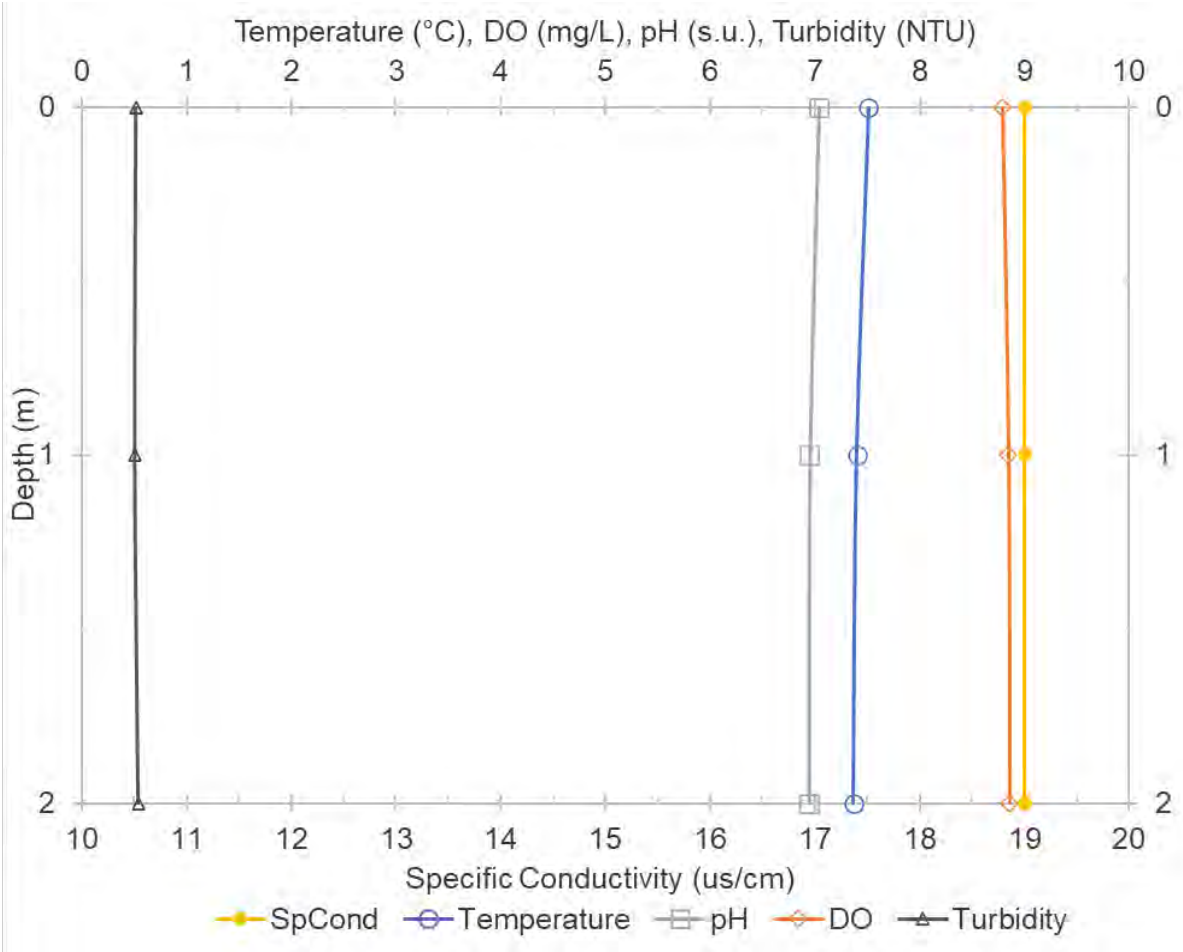
Stream and Reservoir Water Quality (WQ-1)

Saddlebag Lake – *In Situ* Spring 2022



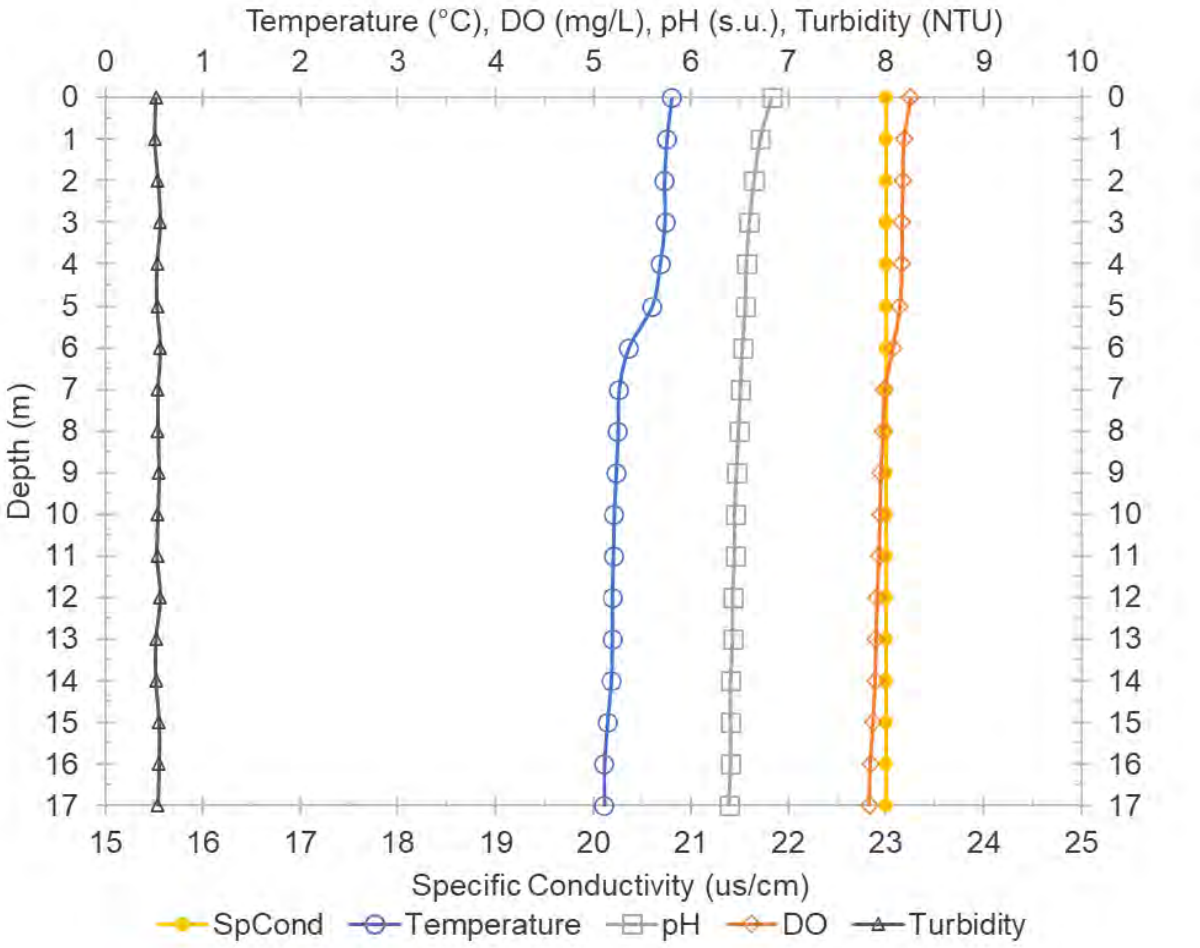
Stream and Reservoir Water Quality (WQ-1)

Ellery Lake – *In Situ* Spring 2022



Stream and Reservoir Water Quality (WQ-1)

Tioga Lake – *In Situ* Spring 2022



Stream and Reservoir Water Quality (WQ-1)

Lee Vining Creek – *In Situ* Spring 2022

Upstream

Downstream

Description	Water Temperature (°C)	DO (mg/L)	Specific Conductance (µS/cm)	pH (s.u.)	Turbidity (NTU)
Lee Vining Creek					
Inflow to Saddlebag Lake	5.9	9.0	9	6.9	0.8
Between Saddlebag Dam and its confluence with Slate Creek	4.1	9.0	23	6.8	0.7
Between its confluence with Slate Creek and Glacier Creek	2.5	9.8	18	6.7	0.4
Between its confluence with Glacier Creek and Ellery Lake	1.9	10.0	20	6.8	0.4
Inflow to Ellery Lake	2.1	9.9	21	7.0	0.3
Immediately downstream of Poole Powerhouse	5.5	9.0	29	7.0	0.3
Upstream of the LADWP Diversion	4.8	9.9	35	7.3	0.7

Stream and Reservoir Water Quality (WQ-1)

Glacier Creek – *In Situ* Spring 2022

Upstream



Downstream

Description	Water Temperature (°C)	DO (mg/L)	Specific Conductance (µS/cm)	pH (s.u.)	Turbidity (NTU)
Glacier Creek					
Inflow to Tioga Lake	7.6	8.7	29	7.2	0.2
Downstream of Tioga Dam	6.0	8.4	23	6.8	0.5

Stream and Reservoir Water Quality (WQ-1)

Lee Vining Creek Watershed– Analytical Spring 2022

Upstream

Downstream

Description	Basic Water Quality		Nutrients				
	TDS (mg/L)	TSS (mg/L)	NO_3-NO_2 as N (mg/L)	NH_4 as N (mg/L)	TKN (mg/L)	TP (mg/L)	PO_4 (mg/L)
Lee Vining Cr. inflow to Saddlebag Lake	9 J	<2	0.120 J	<0.025	0.065 J	<0.023	<0.0051 HT-1
Saddlebag Lake	21	<2	0.063 J	<0.025	0.048 J	<0.023	<0.0051 HT-1
Lee Vining Cr. between Saddlebag Dam and its confluence with Slate Creek	15	<2	0.075 J	0.036 J	0.057 J	<0.023	0.026 A-COM, J
Lee Vining Creek between its confluence with Slate Creek and Glacier Creek	12	<2	0.077 J	0.038 J	0.084 J	<0.023	0.043 A-COM, J
Lee Vining Creek between its confluence with Glacier Creek and Ellery Lake	10	<2	0.076 J	<0.025	0.081 J	<0.023	0.039 A-COM, J
Lee Vining Creek inflow to Ellery Lake	15	<2	0.074 J	0.026 J	0.077 J	<0.023	0.006 A-COM, J
Ellery Lake	12	<2	0.062 J	<0.025	0.072 J	<0.023	<0.0051
Lee Vining Creek immediately downstream of Poole Powerhouse	21	<2	0.065 J	<0.025	0.060 J	<0.023	0.018 A-COM, J
Lee Vining Creek upstream of the LADWP Diversion	23	<2	0.079 J	<0.025	0.100 J	<0.023	<0.0051 A-COM
Detection Limit (DL)	5	2	0.055	0.025	0.04	0.023	0.0051
Reporting Limit (RL)	10	5	0.4	0.1	0.2	0.05	0.15

Stream and Reservoir Water Quality (WQ-1)

Glacier Creek Watershed– Analytical Spring 2022

Upstream

Downstream

Description	Basic Water Quality		Nutrients				
	TDS (mg/L)	TSS (mg/L)	NO_3-NO_2 as N (mg/L)	NH_4 as N (mg/L)	TKN (mg/L)	TP (mg/L)	PO_4 (mg/L)
Glacier Creek Watershed							
Glacier Creek inflow to Tioga Lake	23	<2.0	0.110 J	0.031 J	0.110 J	<0.023	0.014 J
Tioga Lake	17	<2.0	0.087 J	0.066 J	0.150 J	<0.023	0.026 J
Glacier Creek downstream of Tioga Dam	22	<2.0	0.082 J	0.054 J	0.170 J	<0.023	0.018 J
Detection Limit (DL)	5	2	0.055	0.025	0.04	0.023	0.0051
Reporting Limit (RL)	10	5	0.4	0.1	0.2	0.05	0.15

Stream and Reservoir Water Quality (WQ-1)

Next Steps

- Data analysis and summary of
  - reservoir and stream *in situ*, basic water chemistry, and nutrient data
  - bacterial data
  - fish tissue mercury analysis
  - turbidity downstream of Poole Powerhouse
  - comparison to Lahontan Region Water Quality Control Board Basin Plan water quality objectives
- 2022 results will be summarized in a Technical Report and provided to stakeholders in spring of 2023

Stream and Reservoir Water Quality (WQ-1)

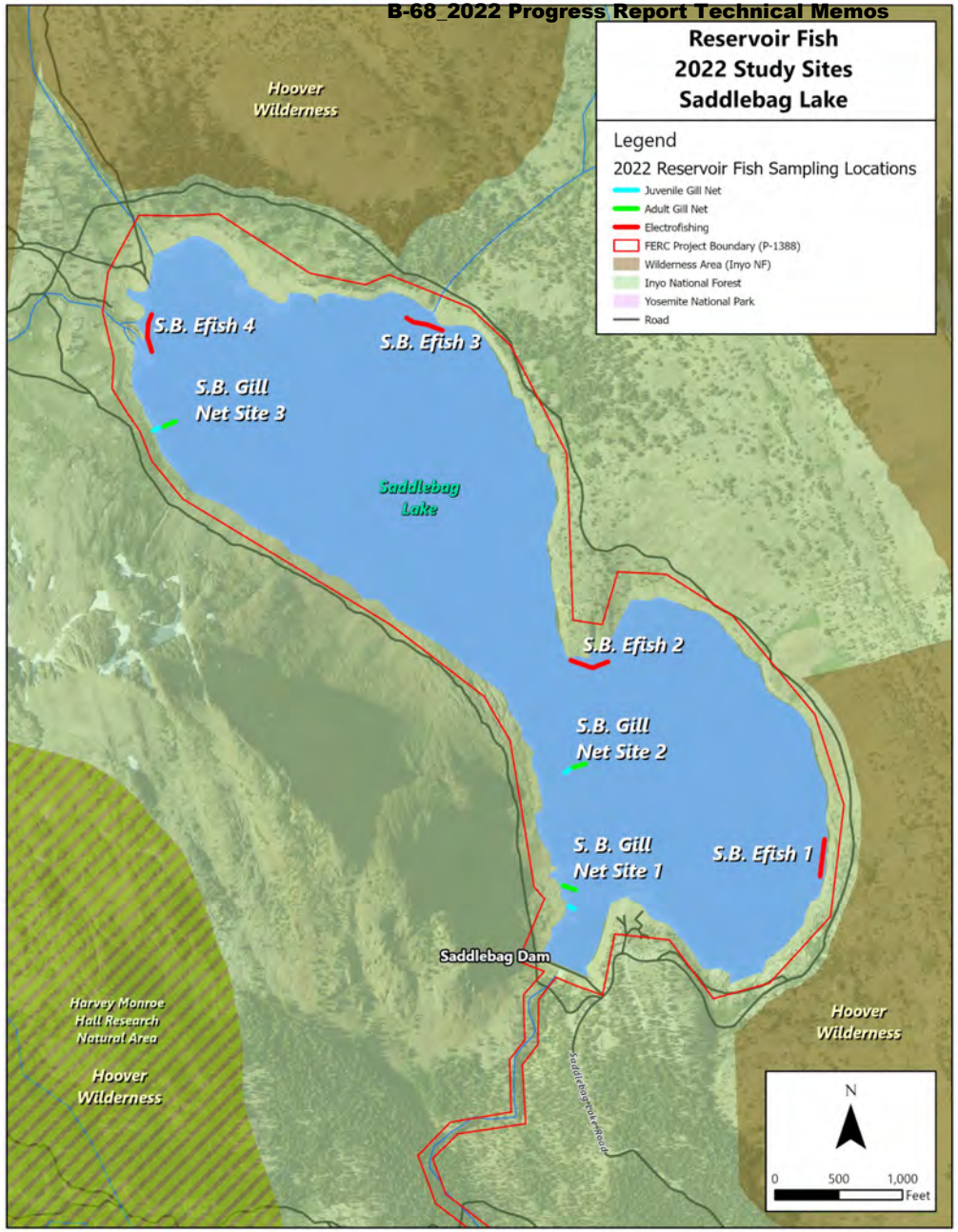
Study Component	2022	2023
Stream and reservoir *in situ*, basic water chemistry, and nutrient water quality sampling	✓	Yes
Bacterial sampling	✓	No
Turbidity monitoring downstream of Poole Powerhouse	✓ (summer–winter)	Yes (winter–fall)
Fish tissue mercury sampling	✓	No

Questions?



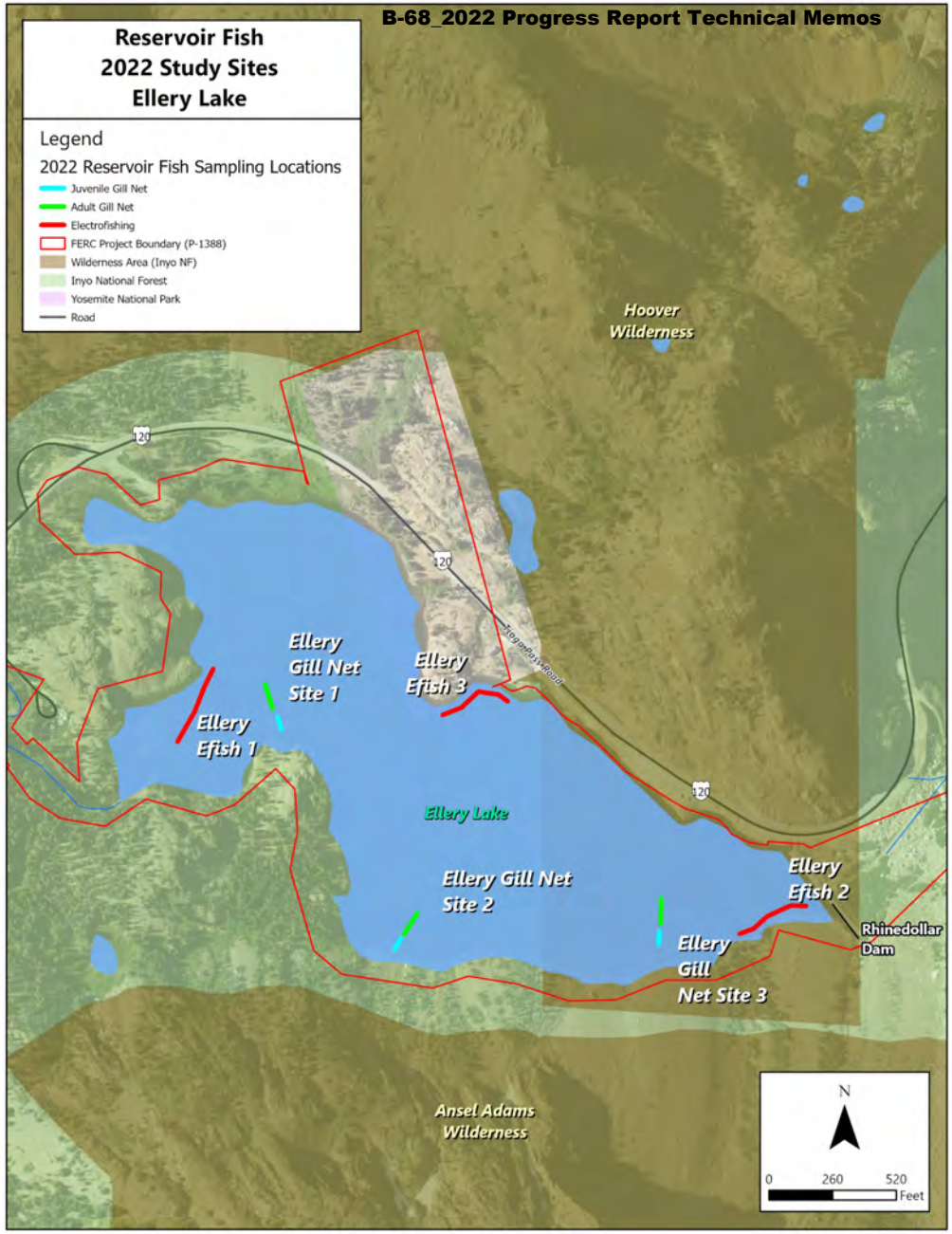
Reservoir Fish Populations (AQ-1)

Reservoir Fish 2022 Study Sites—Saddlebag Lake



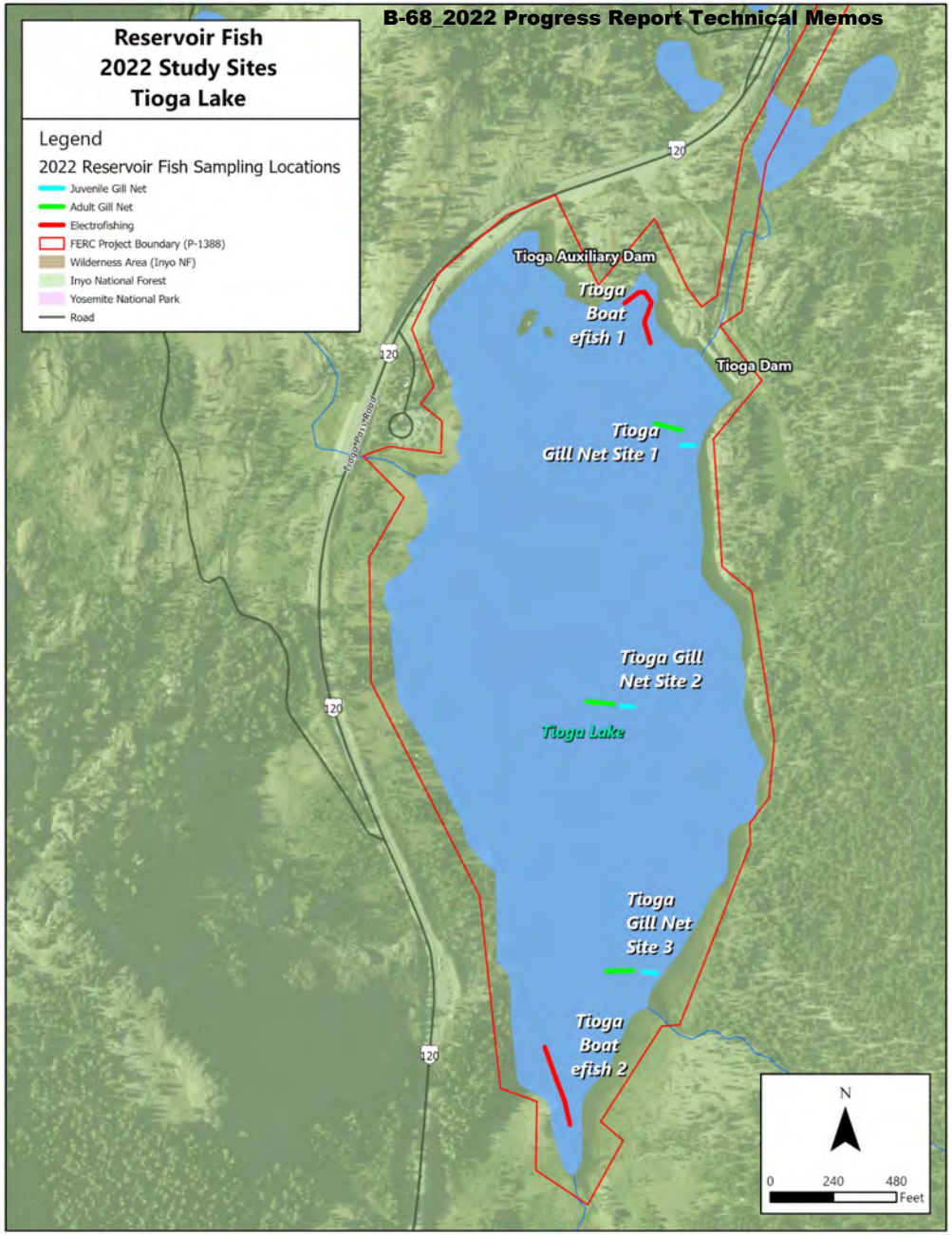
Reservoir Fish Populations (AQ-1)

Reservoir Fish 2022 Study Sites—Ellery Lake



Reservoir Fish Populations (AQ-1)

Reservoir Fish 2022 Study Sites—Tioga Lake



Reservoir Fish Populations (AQ-1)

Study Goals/Objectives

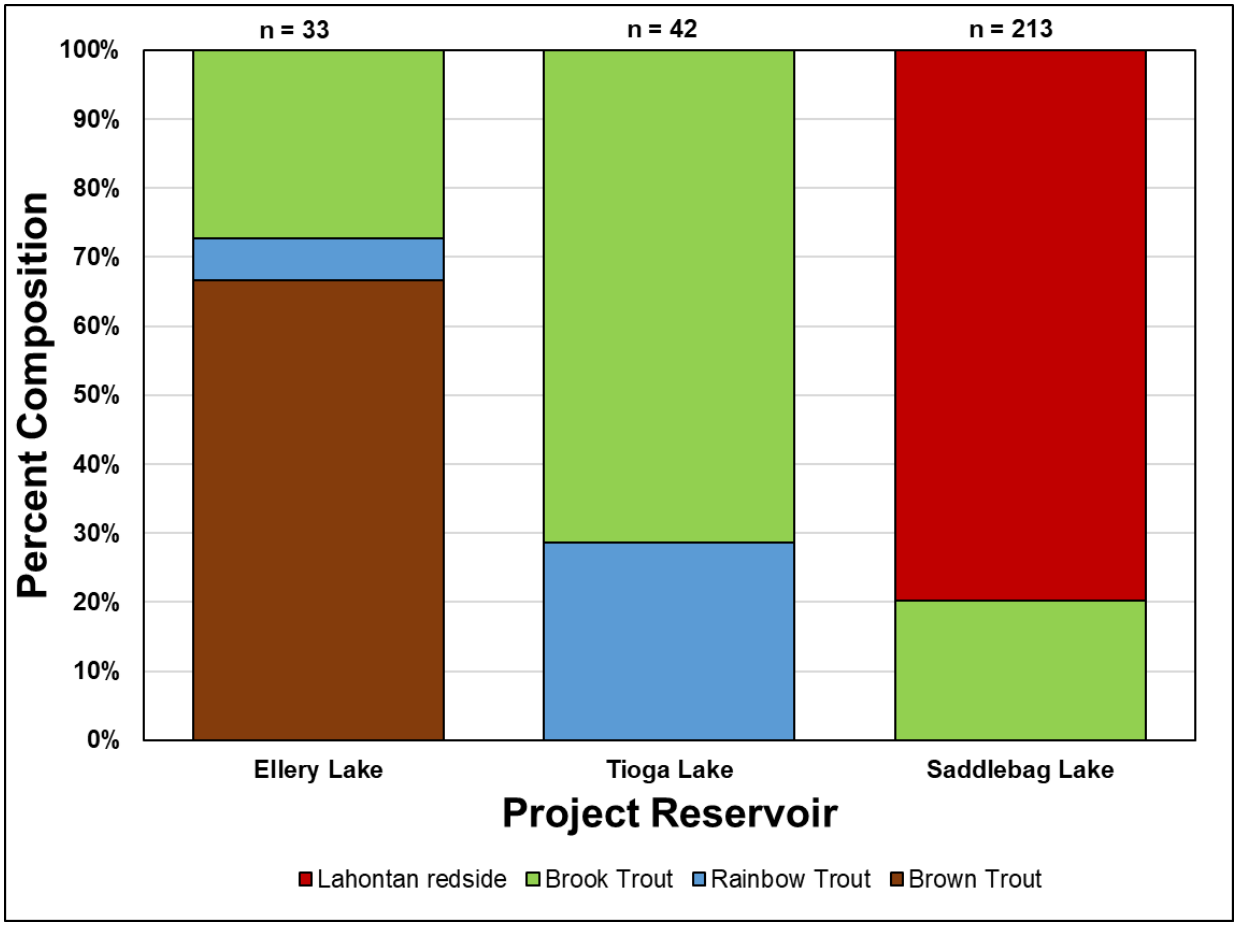
- Assess fish populations within Project reservoirs
- Capture fish for mercury bioaccumulation analyses under Study WQ-1

Modifications to Methods

- Decreased gill net soak times during the night sampling period from approximately 8 hours to approximately 4 hours at Tioga Lake (for all gill net locations) and at Saddlebag Lake (at two gill net locations)

Reservoir Fish Populations (AQ-1)

Preliminary Data Summary – Species Composition





Lahontan redside



Brook trout



Brown trout

Reservoir Fish Populations (AQ-1)

Next Steps

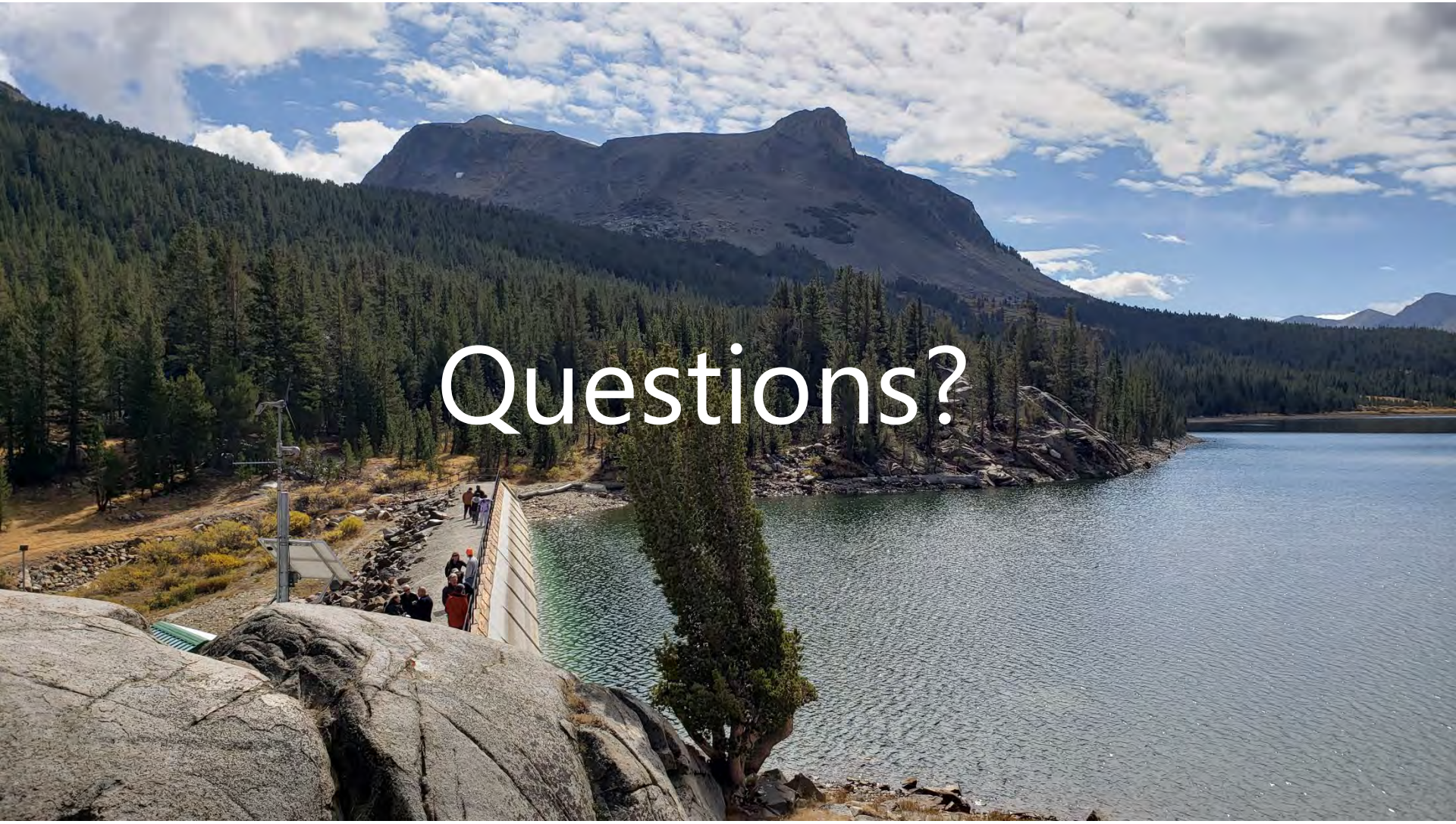
- Surveys were completed in 2022, no additional surveys are planned
- Analysis of sampling data is ongoing and includes age-class evaluations from scale samples and catch-per-unit-effort analyses
- Study results will be summarized in a Technical Report and provided to stakeholders in spring of 2023



Nighttime Boat Electrofishing at Ellery Lake

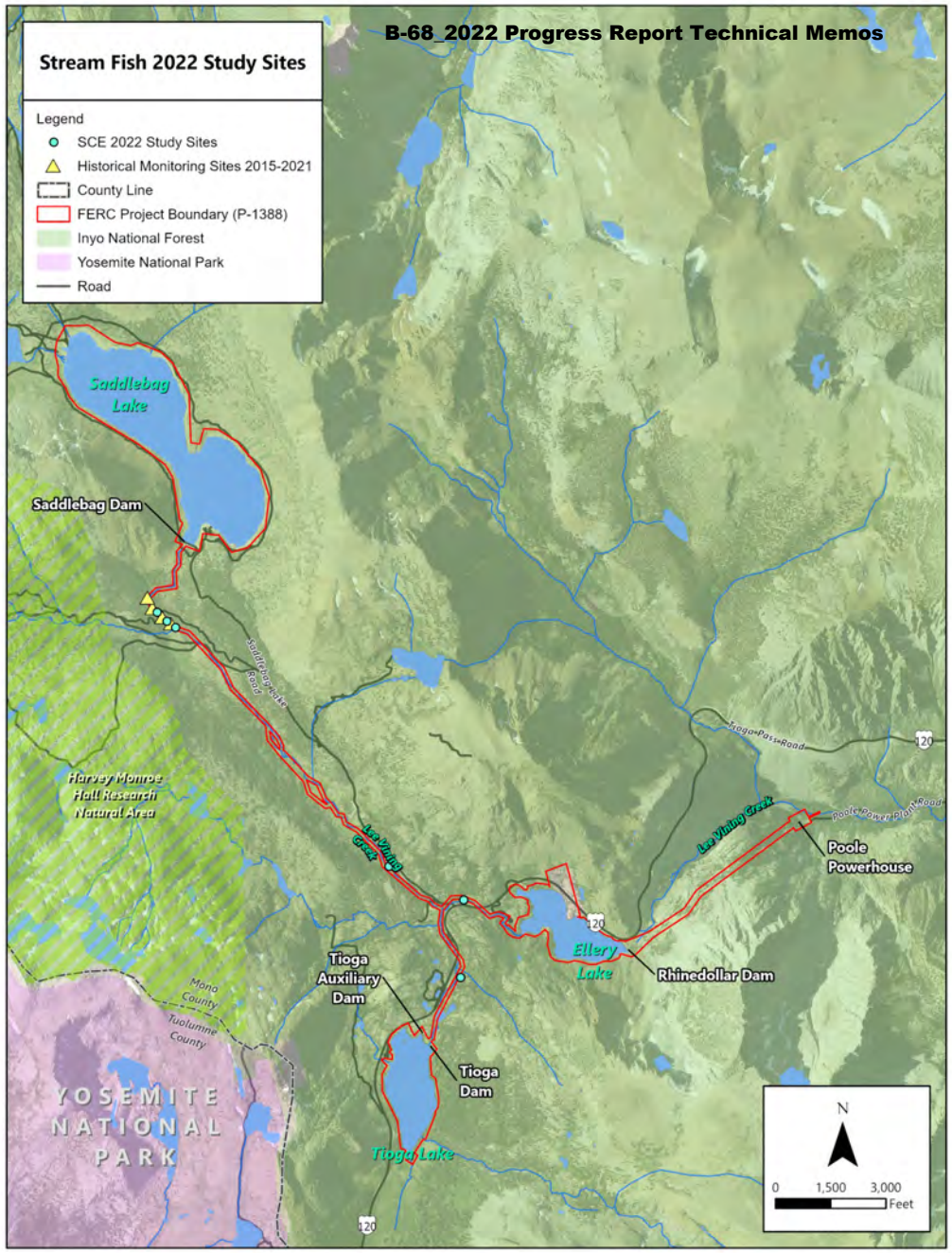


Gillnetting at Ellery Lake


Questions?

Stream Fish Populations (AQ-2)

Study Area Map



Stream Fish Populations (AQ-2)

Study Goals/Objectives

- Assess fish populations in Project-affected stream reaches downstream of Project reservoirs

Modifications to Methods

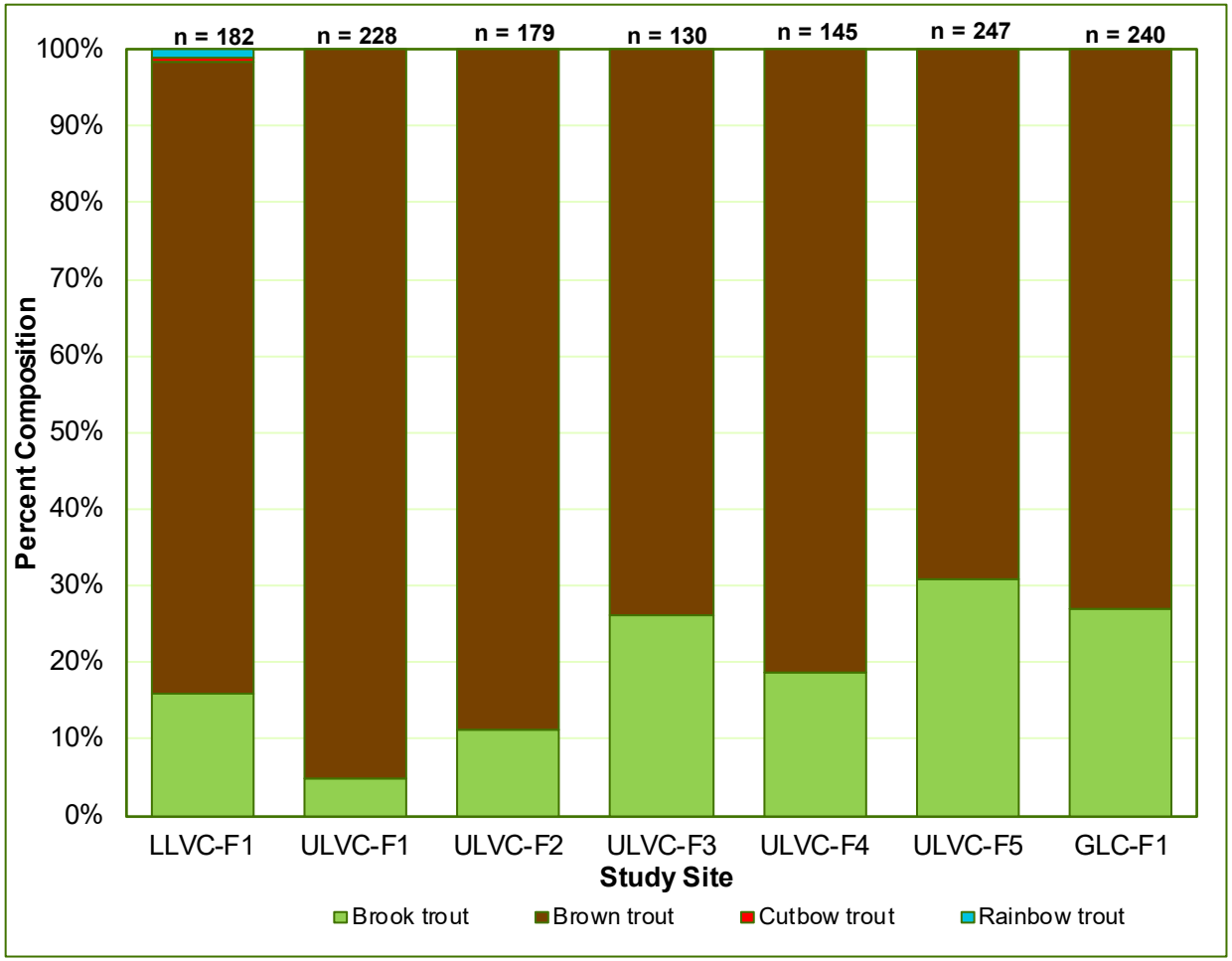
- None



Glacier Creek (Site GLC-F1)

Stream Fish Populations (AQ-2)

Preliminary Data Summary – Species Composition





Brook trout



Brown trout



Rainbow trout

Stream Fish Populations (AQ-2)

Preliminary Data Summary – Spawning

Reach Description	Study Site	Sample Date	Number of Milting Fish	Species
Lee Vining Creek downstream of Poole Powerhouse	LLVC-F1	9/19/2022	none	--
Lee Vining Creek downstream of Saddlebag Lake	ULVC-F1	9/20/2022	1	brown trout
	ULVC-F2	9/22/2022	2	brown trout
	ULVC-F3	9/16/2022	none	--
	ULVC-F4	9/17/2022	none	--
	ULVC-F5	9/18/2022	2	brown trout
	ULVC-F5	9/18/2022	1	brook trout
Glacier Creek downstream of Tioga Lake	GLC-F1	9/21/2022	1	brown trout
	GLC-F1	9/21/2022	4	brook trout

Stream Fish Populations (AQ-2)

Next Steps

- Surveys were completed in 2022, no additional surveys are planned
- Analysis of sampling data is ongoing
- Completed results will be summarized in a Technical Report and provided to stakeholders in spring of 2023
- Results will be summarized by site for:
  - Density and biomass estimates
  - Fish age class
  - Fish condition
  - Habitat conditions

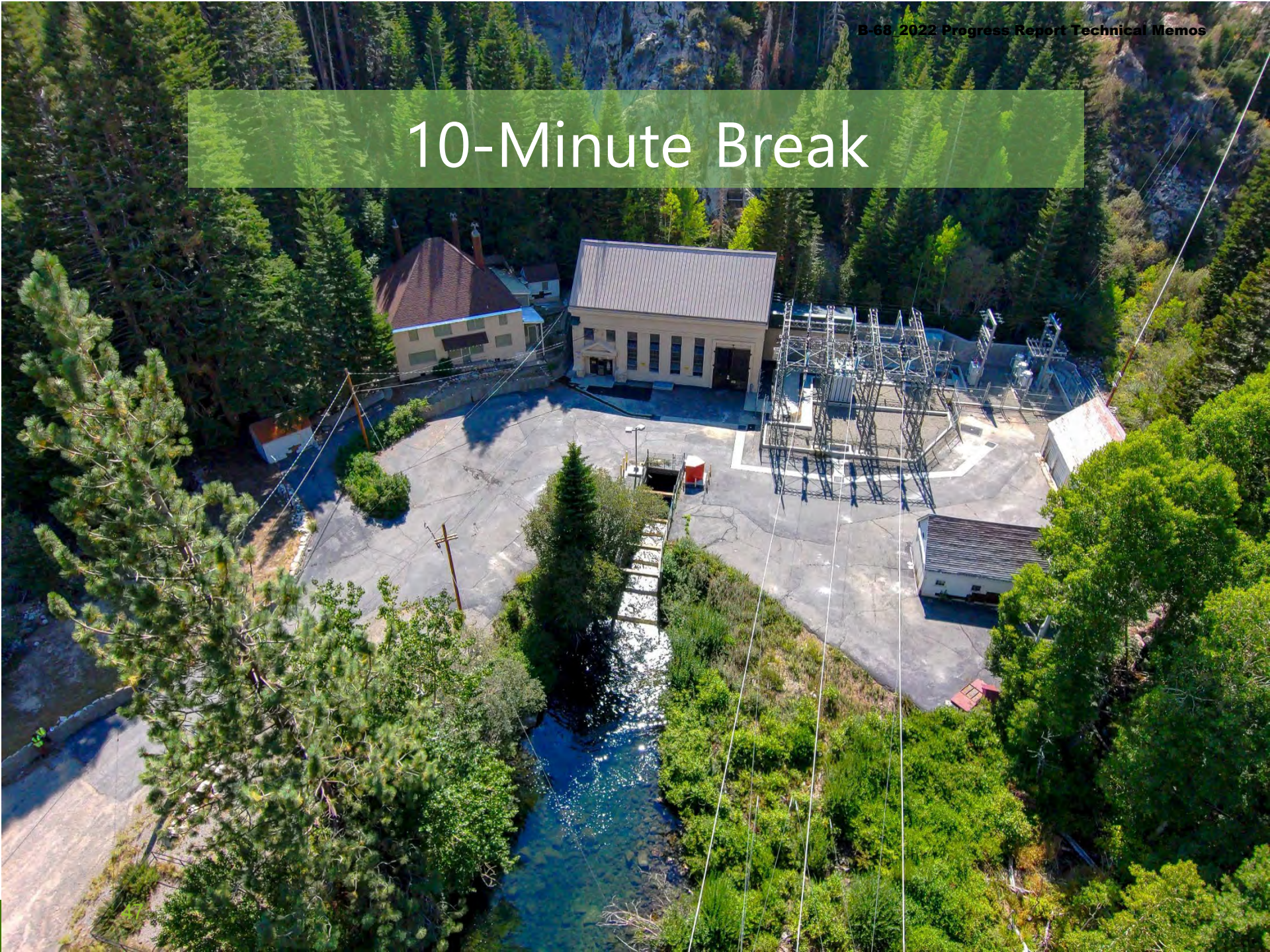


Lee Vining Creek upstream of Glacier Creek (Site ULVC-F2)

Questions?

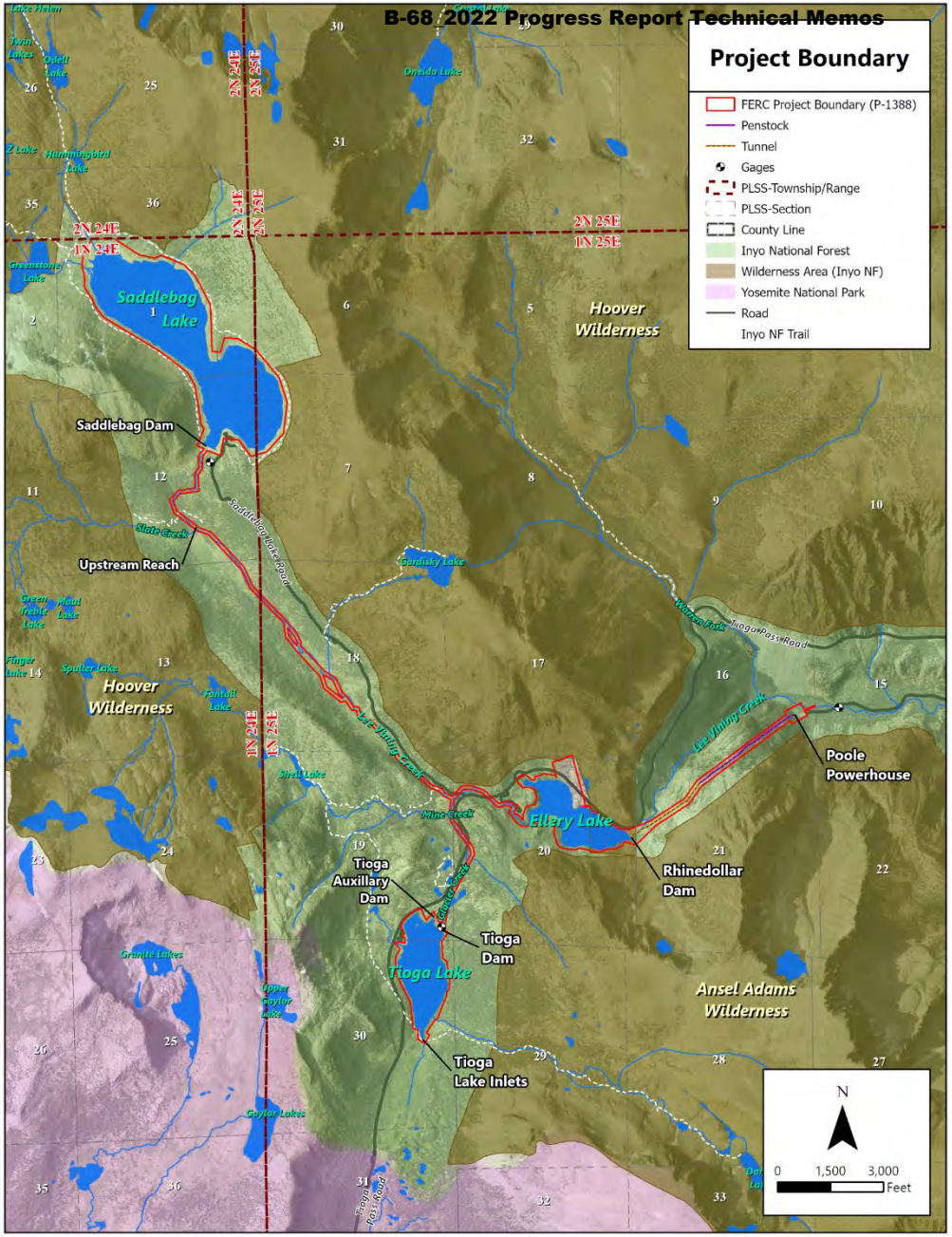


10-Minute Break



Operations Model (AQ-5)

Study Area Map



Operations Model (AQ-5)

Goals/Objectives for Operations Model

- Develop a robust Operations Model (Model) to assist SCE and stakeholders in understanding how Project operations interact with Lee Vining hydrology
- Accurately model the systems inflows, outflows, and operational constraints
- Align model with needs of other relicensing studies and information needs
- Develop procedures to configure model for alternative operational scenarios and document results
- Determine effective operating limits the Poole Powerhouse to accurately represent installed and dependable capacity for licensing documents

Modifications to Methods

- None

Operations Model (AQ-5)

2022 Progress

- Data analysis
  - U.S. Geologic Survey gage records (streamflow, reservoir storage)
  - Snow course
  - 15-minute flow data at Poole Powerhouse
  - Warren Fork flows considered
- Daily operations model
  - Excel platform
  - Daily inflows estimated from hydrologic records
    - Synthesized where necessary
  - Hydraulic constraints: reservoir storage curves, spillway elevations, penstock/turbine capacities
  - Prioritization/allocation:
    - Wet/normal/dry year categorization
    - Minimum flow requirements
    - Reservoir limits/targets

Operations Model (AQ-5)

Goals/Objectives for Resource Optimization Model

- Determine the frequency, magnitude, duration, and seasonality of intraday releases from the Poole Powerhouse in response to resource optimization
- Describe the stage/discharge relationship at discreet locations between the Poole Powerhouse and the Los Angeles Department of Water and Power (LADWP) diversion

Modifications to Methods

- None

Operations Model (AQ-5)

2022 Progress

- Operations Model Data analysis
  - Flow data from Poole Powerhouse, LADWP gage
  - Generation data from Entergy
- Resource Optimization Model analysis
  - Data sources: intra-day flow and target capacity data
  - Identify flow patterns (flood-related peaks from resource optimization peaks)
- Stage/discharge relationship
  - Data procurement in progress to develop hydraulic model
  - Considering potential effects of operations on downstream areas, including campgrounds



Operations Model (AQ-5)

Next Steps

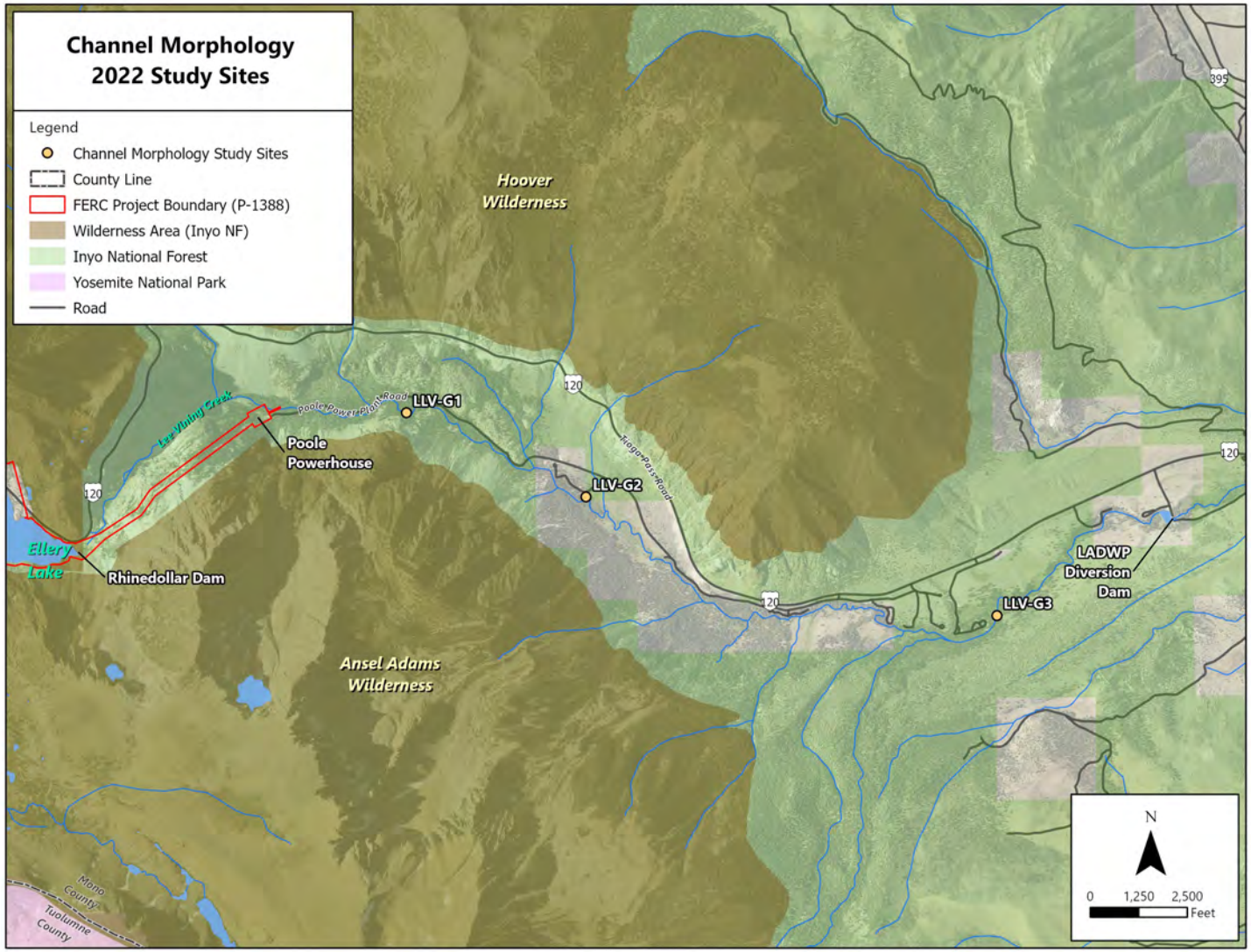
- Construct the model logic and calibrate to hydrologic data records
- Receive quality-controlled data from field surveys
- Determine how model and study data are used to evaluate agency goals (desired outcome)
- Distribute model for review and comment once complete; fall 2023

Questions?



Lower Lee Vining Creek Channel Morphology (AQ-6)

Study Area Map



Lower Lee Vining Creek Channel Morphology (AQ-6)

Study Goals

- Evaluate impacts of altering sediment supply in Lower Lee Vining Creek
- Support development of Protection, Mitigation, and Enhancement

Specific Objectives

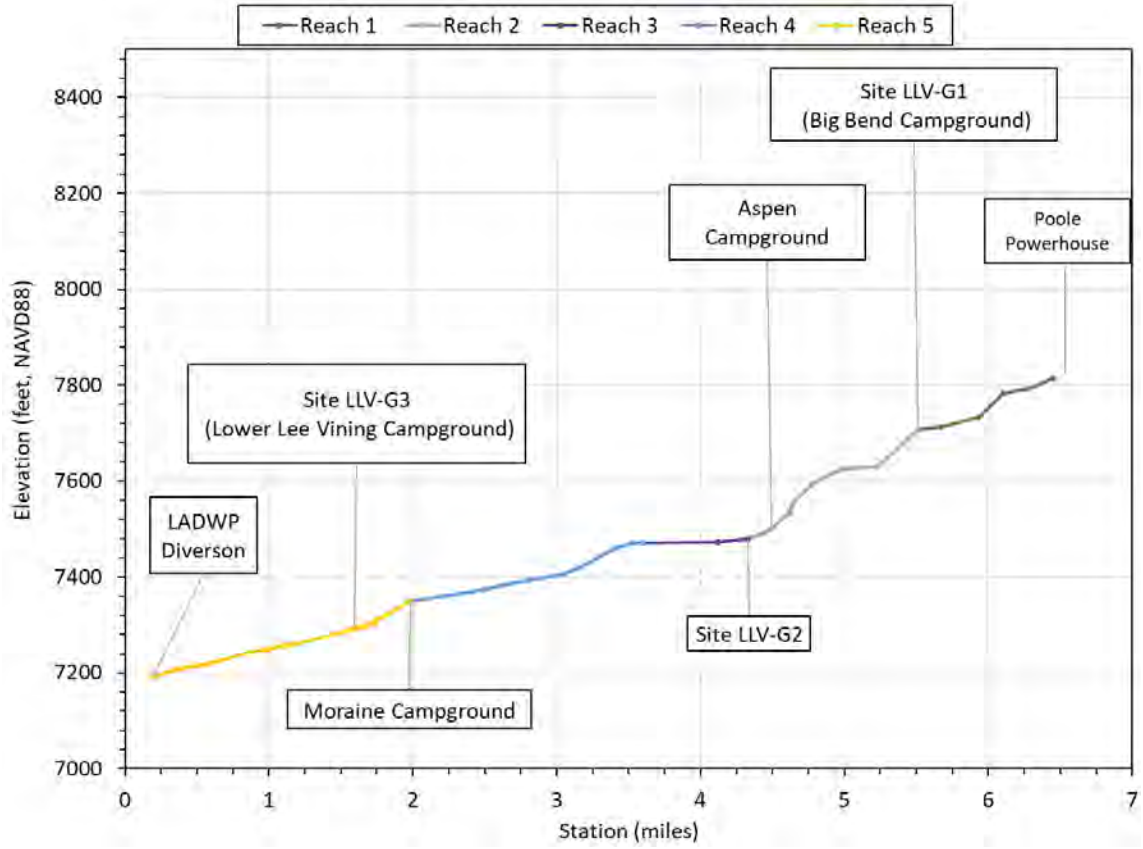
- Classify transport and response reaches
- Characterize channel morphology, fluvial processes, and sediment regime

Modifications to Methods

- None

Lower Lee Vining Creek Channel Morphology (AQ-6)

Preliminary Data Summary



Reach	Length (ft)	Gradient (%)
Reach 1 – Poole Powerhouse to Big Bend Campground	4020	2.1
Reach 2 - Big Bend Campground to Aspen Meadow	6230	3.7
Reach 3 - Aspen Meadow	3840	0.2
Reach 4 – Below Aspen Meadow to LLVCG	8570	1.4
Reach 5 - LLVCG to LADWP	9450	1.7

Lower Lee Vining Creek Channel Morphology (AQ-6)

Preliminary Data Summary – Site LLV-G1



Summary of Data Collected
4 cross sections
3 bulk sediment samples
64 tracer rocks deployed
Longitudinal profile
Sediment facies map

Lower Lee Vining Creek Channel Morphology (AQ-6)

Preliminary Data Summary – Site LLV-G2



Summary of Data Collected
4 cross sections
3 bulk sediment samples
69 tracer rocks deployed
1 pebble count
Longitudinal profile
Sediment facies map

Lower Lee Vining Creek Channel Morphology (AQ-6)

Preliminary Data Summary – Site LLV-G3



Summary of Data Collected
3 cross sections
3 bulk sediment samples
67 tracer rocks deployed
1 pebble count
Longitudinal profile
Sediment facies map

Lower Lee Vining Creek Channel Morphology (AQ-6)

Next Steps

- Data synthesis and analysis (sediment particle size analysis, sediment transport calcs, geomorphic assessment)
- Tracer rocks will be recovered from lower Lee Vining Creek after peak flows occur in 2023
- Study results will be summarized in a Technical Report for stakeholder review in 2024





Questions?



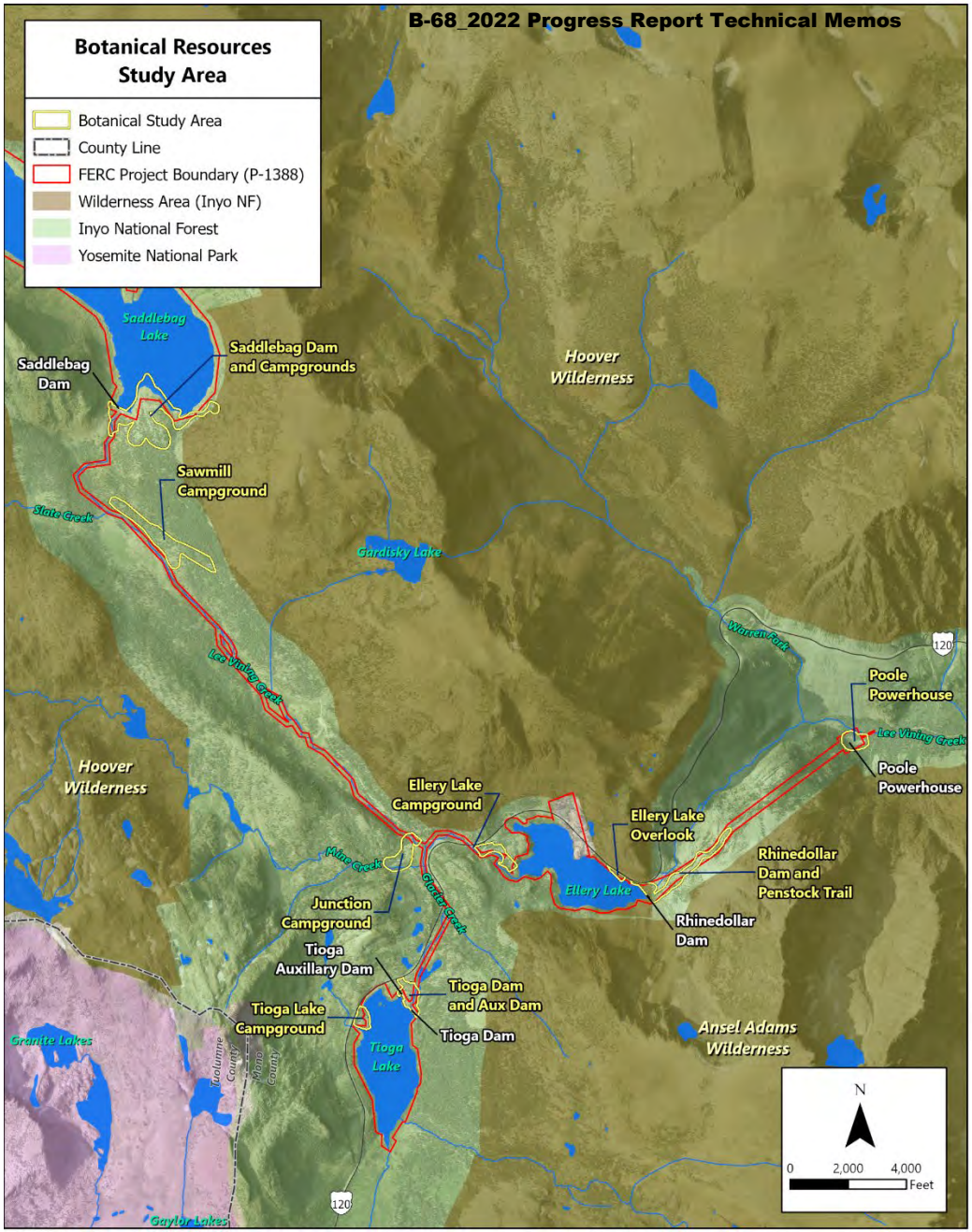
Terrestrial, Botanical, Wetlands, and RTE Species Surveys

1. Botanical Resources (TERR-1)
2. Wildlife Resources (TERR-2)

Botanical Resources (TERR-1)

Study Area Map for

- Special-status Plants
- Invasive Plant Species
- Vegetation Map



Botanical Resources (TERR-1)

Goals/Objectives

- Ground-truth existing U.S. Forest Service vegetation map (USFS 2019), including identification of any sensitive natural communities
- Document the presence of species listed by the federal and/or state Endangered Species Acts or proposed for listing, e.g., whitebark pine (*Pinus albicaulis*)
- Document the presence of other special-status plants
- Document non-native, invasive plants
- Incorporate results of the riparian monitoring study undertaken as part of the existing license
- Perform a focused study of selected riparian habitat areas using NDVI

Botanical Resources (TERR-1)

Modifications to Methods

- Study sites for NDVI analysis were increased from 2 to 8
- Some study areas were extended beyond the 100-foot buffer
- Some study areas were decreased within the 100-foot buffer
- In place of reference population checks, two rounds of surveys were performed in 2022 to ensure coverage of the blooming periods for all species

Botanical Resources (TERR-1)

Preliminary Data

- Federally Listed plant species
  - Whitebark pine
- Special-status plant species
  - Mountain bent grass
  - Black cottonwood
- Invasive plant species
  - Cheat grass
- NDVI analysis



Botanical Resources (TERR-1)

Preliminary Data – Special-status Plant Species

Species	Status	Number of Individuals	Locations Observed
Listed Under Federal Endangered Species Act			
Whitebark Pine	Federally Threatened	1,004	Rhinedollar Dam and Penstock Trail, Saddlebag Dam and Campgrounds, Ellery Lake Campground, Sawmill Campground, Tioga Dam and Auxiliary Dam, and Tioga Lake Campground
Other Special-status Species			
Mountain Bent Grass	CRPR 2B.3	854	Saddlebag Dam and Campgrounds
Black Cottonwood	Local Concern (Agency Request)	9	Poole Powerhouse

Botanical Resources (TERR-1)

Preliminary Data – Invasive Plant Species

Species	Number of Individuals	Locations Observed
Cheat Grass	130	Poole Powerhouse and Ellery Lake Campground

Botanical Resources (TERR-1)

Study Area Map for Normalized Difference Vegetation Index (NDVI) Analysis

Study Sites

- Control
- Test



Botanical Resources (TERR-1)

Example of NDVI Study Site – Lower Lee Vining

Sampling Plots
(10 square meters)

- Willow Riparian Scrub
- Wet Meadow



Botanical Resources (TERR-1)

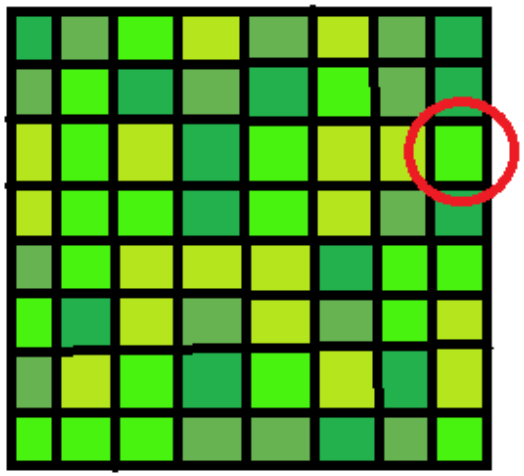
Preliminary Data – NDVI

Normalized Difference Vegetation Index (NDVI)

- Quantifies vegetation by measuring the difference between near-infrared (NIR), which vegetation strongly reflects, and red light (R), which vegetation absorbs
- Provides the "greenness" of vegetation, used as a proxy for vegetation health

$$NDVI = (NIR - R)/(NIR + R)$$

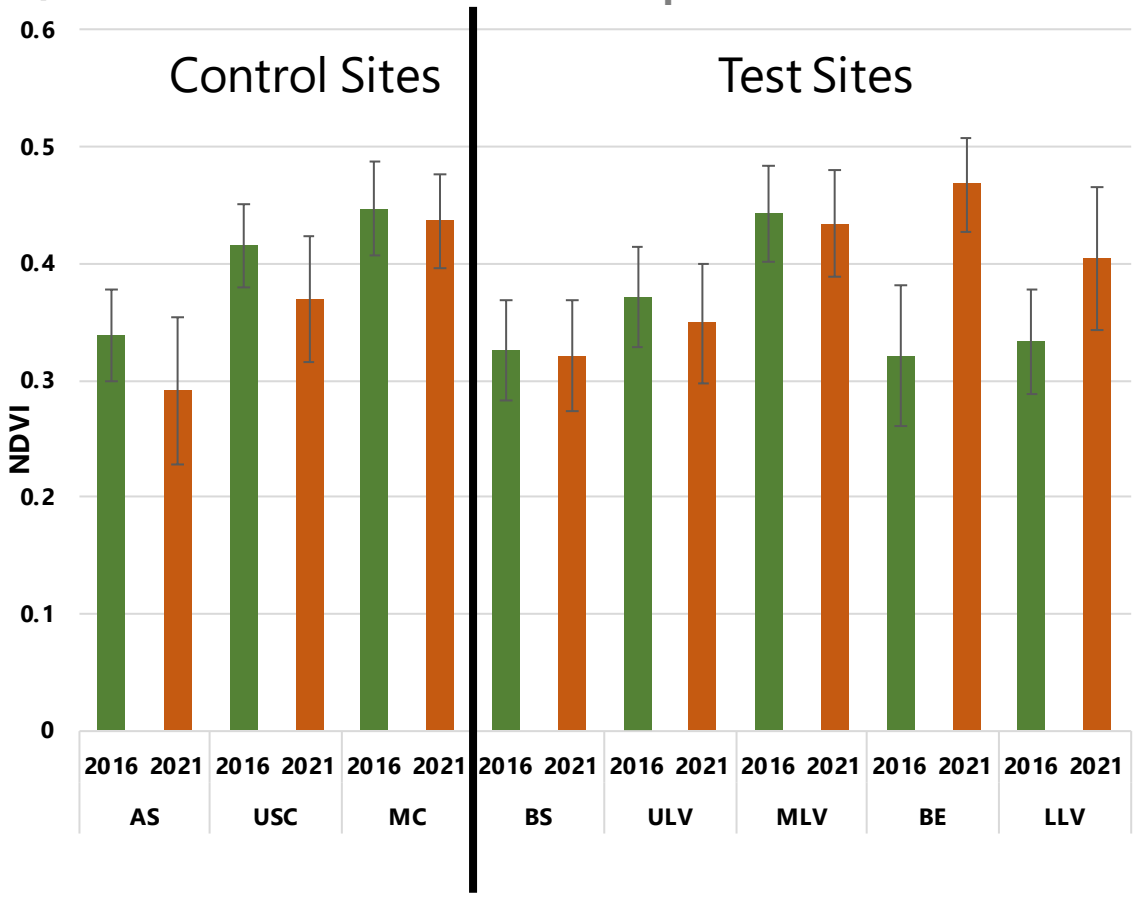
- Each willow riparian scrub or wet meadow study site had 10 sampling plots, each 10 square meters in size
- Used GIS to determine the NDVI value for each pixel within a sampling plot (aerial resolution was 12 cm in 2021 and 15 cm in 2016; e.g., Meadow Site 1 Above Saddlebag had approximately 96,476 pixels)
- Calculated mean NIR and R values for each sampling plot and used that to calculate the mean NDVI value for each sampling plot and study site



Botanical Resources (TERR-1)

Preliminary Data – NDVI Analysis

Control Sites	AS – Above Saddlebag
	USC – Upper Slate Creek
	MC – Mine Creek
Test Sites	BS – Below Saddlebag
	ULV – Upper Lee Vining
	MLV – Middle Lee Vining
	BE – Below Ellery
	LLV – Lower Lee Vining

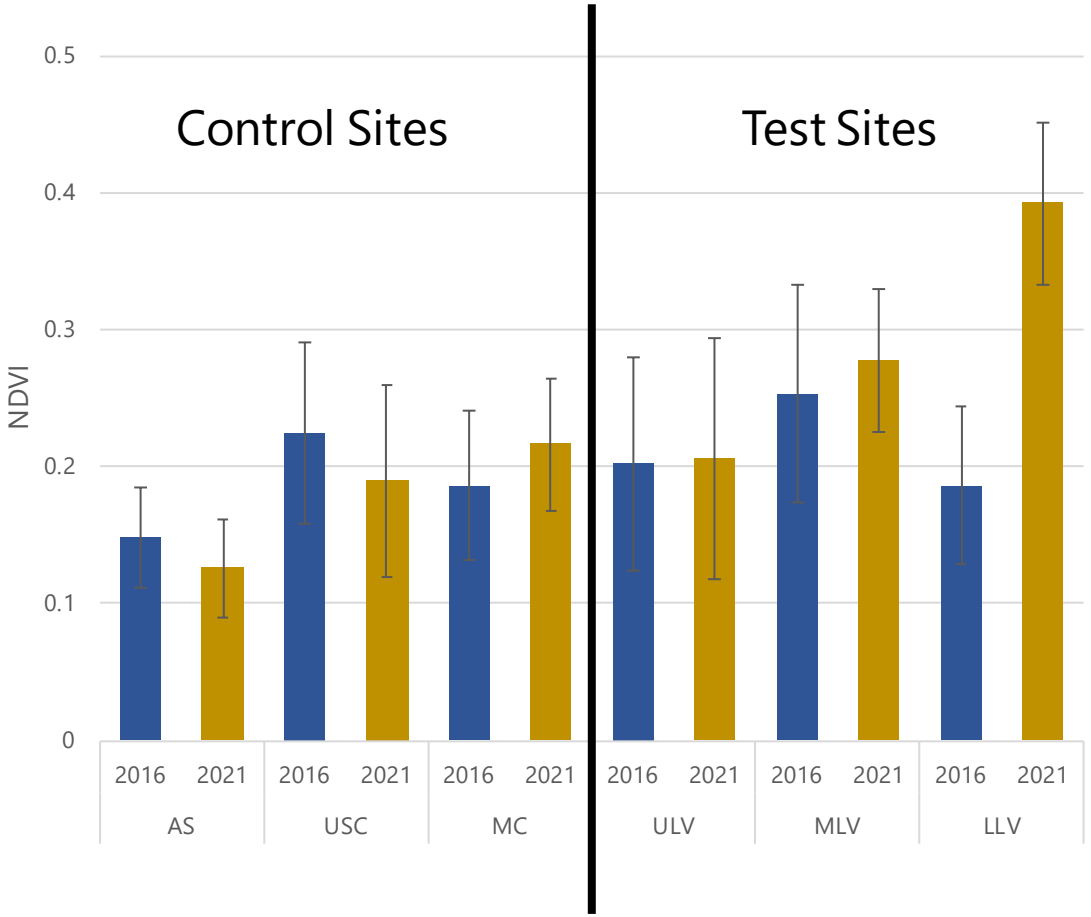


Botanical Resources (TERR-1)

Preliminary Data – NDVI Analysis

Mean NDVI +/- Standard Deviation for Wet Meadow Habitat

Control Sites	AS – Above Saddlebag
	USC – Upper Slate Creek
	MC – Mine Creek
Test Sites	ULV – Upper Lee Vining
	MLV – Middle Lee Vining
	LLV – Lower Lee Vining



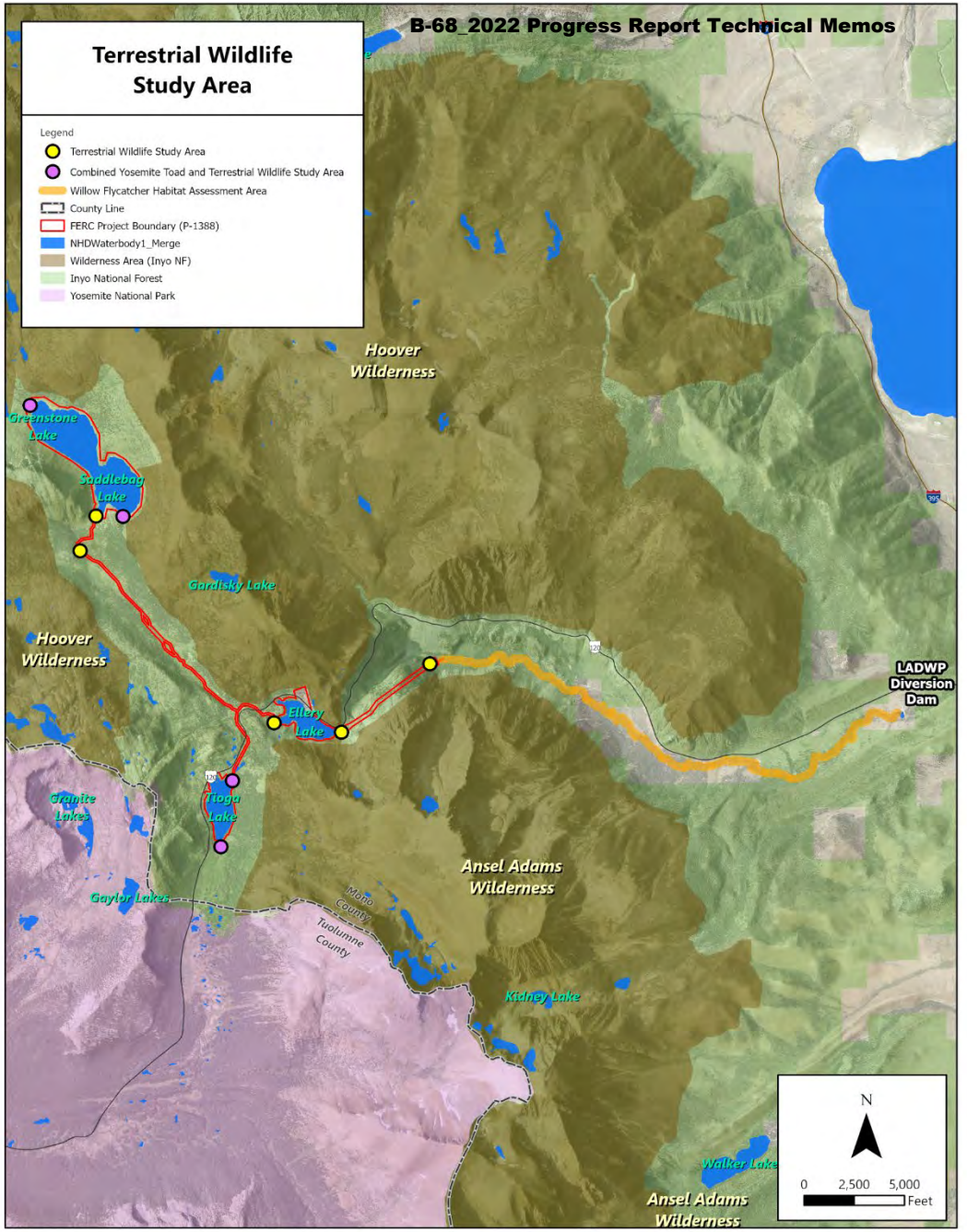
Botanical Resources (TERR-1)

Next Steps

- 2023 surveys to document any additional special-status plant and/or invasive species populations and to add new observations to the plant compendium

Wildlife Resources (TERR-2)

Terrestrial Wildlife Study Area Map



Wildlife Resources (TERR-2)

Goals/Objectives

- Build a compendium of wildlife species occurring within the Project areas
- Identify rare, threatened, and endangered riparian birds in the area during general wildlife surveys
- Determine persistence of known Yosemite toad (*Anaxyrus canorus*) populations within the Project Area and identify active breeding locations
- Determine interactions between dispersed recreational use and breeding habitat for Yosemite toad
- Develop sufficient data for informal and formal consultation needs for U.S. Fish and Wildlife Service with respect to the Yosemite toad
- Assess willow flycatcher (*Empidonax traillii*) nesting habitat downstream of the Project between Poole Powerhouse and the reservoir at the LADWP Diversion Dam

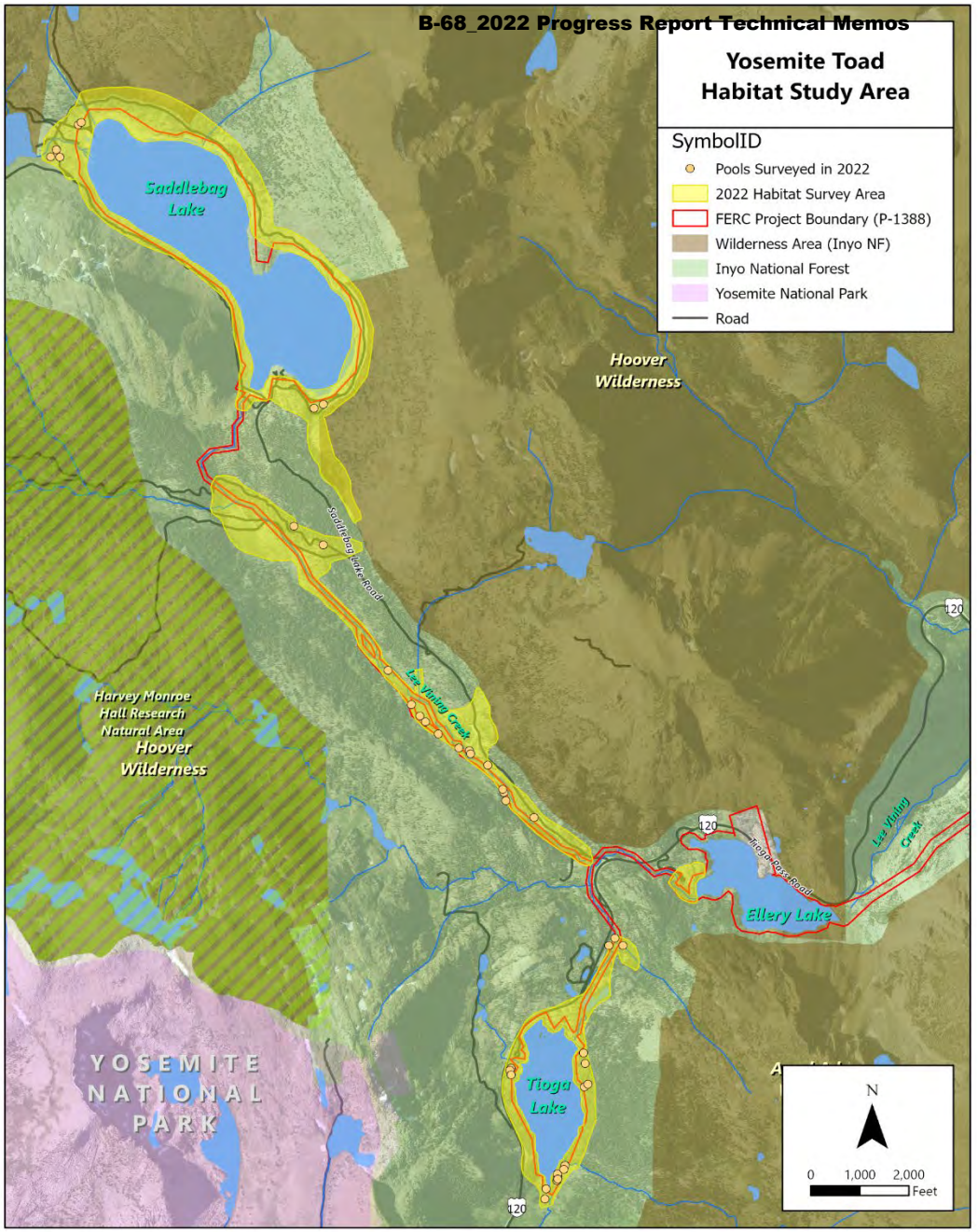
Wildlife Resources (TERR-2)

Modifications to Methods

- Expanded survey efforts for Yosemite toad and toad habitat were expanded in consultation with California Department of Fish and Wildlife (e.g., pools, meadows in upper floodplain of Lee Vining Creek, meadow south of Saddlebag Lake, and along Lee Vining Creek between reservoirs)
- Added an additional field visit (five visits were conducted instead of four)
- Deployment of the two cameras were limited to months where the cameras would not be buried in snow

Wildlife Resources (TERR-2)

Yosemite Toad Habitat Study Area Map



Wildlife Resources (TERR-2)

Preliminary Data Summary

- General wildlife
- Yosemite toad
- Willow flycatcher habitat



Yellow-bellied marmot at Saddlebag Lake (2022).



Yosemite toad in known breeding pool south of Saddlebag Lake (2022).

Wildlife Resources (TERR-2)


Black bear at Tioga Lake (2022).


Mountain garter snake along Lee Vining Creek (2022).

General Wildlife Preliminary Data Summary

- Observed 53 wildlife species during surveys or through review of wildlife cameras
- Of the 53 species, 7 were special status (Endangered, Threatened, Fully Protected, or State Species of Special Concern)
  - Yosemite toad, snowshoe hare, white-tailed jackrabbit, olive-sided flycatcher, bald and golden eagle, and peregrine falcon
- No rare, threatened, or endangered riparian bird species (including willow flycatcher) were observed

Wildlife Resources (TERR-2)



Adult Yosemite toad in amplexus at known breeding pool south of Saddlebag Lake (2022).

Yosemite Toad Preliminary Data Summary

- Eggs, tadpoles, subadult, and adult Yosemite toad observed at known breeding pool south of Saddlebag Lake
- Study area expanded to include potential breeding habitat adjacent to FERC boundary, such as along portions of Lee Vining Creek downstream of Saddlebag
- Unidentified tadpoles observed in pool adjacent to Lee Vining Creek; pool dried up before identification could be made
- Multiple adult mountain garter snakes (known amphibian predator) observed along Lee Vining Creek

Wildlife Resources (TERR-2)



Riparian vegetation between Aspen Campground and Lower Lee Vining Creek Campground (2022).



Riparian vegetation between Aspen Campground and Lower Lee Vining Creek Campground (2022).

Willow Flycatcher Habitat Data Summary

- Reach between Aspen Campground and Lower Lee Vining Campground supports potentially suitable nesting habitat
- Closest record of nesting approximately 4 miles south in Pumice Valley

Wildlife Resources (TERR-2)

Next Steps



Least chipmunk at Saddlebag Lake (2022).

- Update compendium with 2023 field survey observations for the Final Technical Report
- Continue visual encounter surveys focused on Yosemite toad in 2023; conduct more detailed mapping of potential breeding habitat within the expanded Yosemite toad study area
- Coordinating with Project Team Rec specialist to survey dispersed rec use at known Yosemite toad breeding site
- The willow flycatcher habitat assessment survey effort is complete, and no additional surveys are anticipated

Questions?

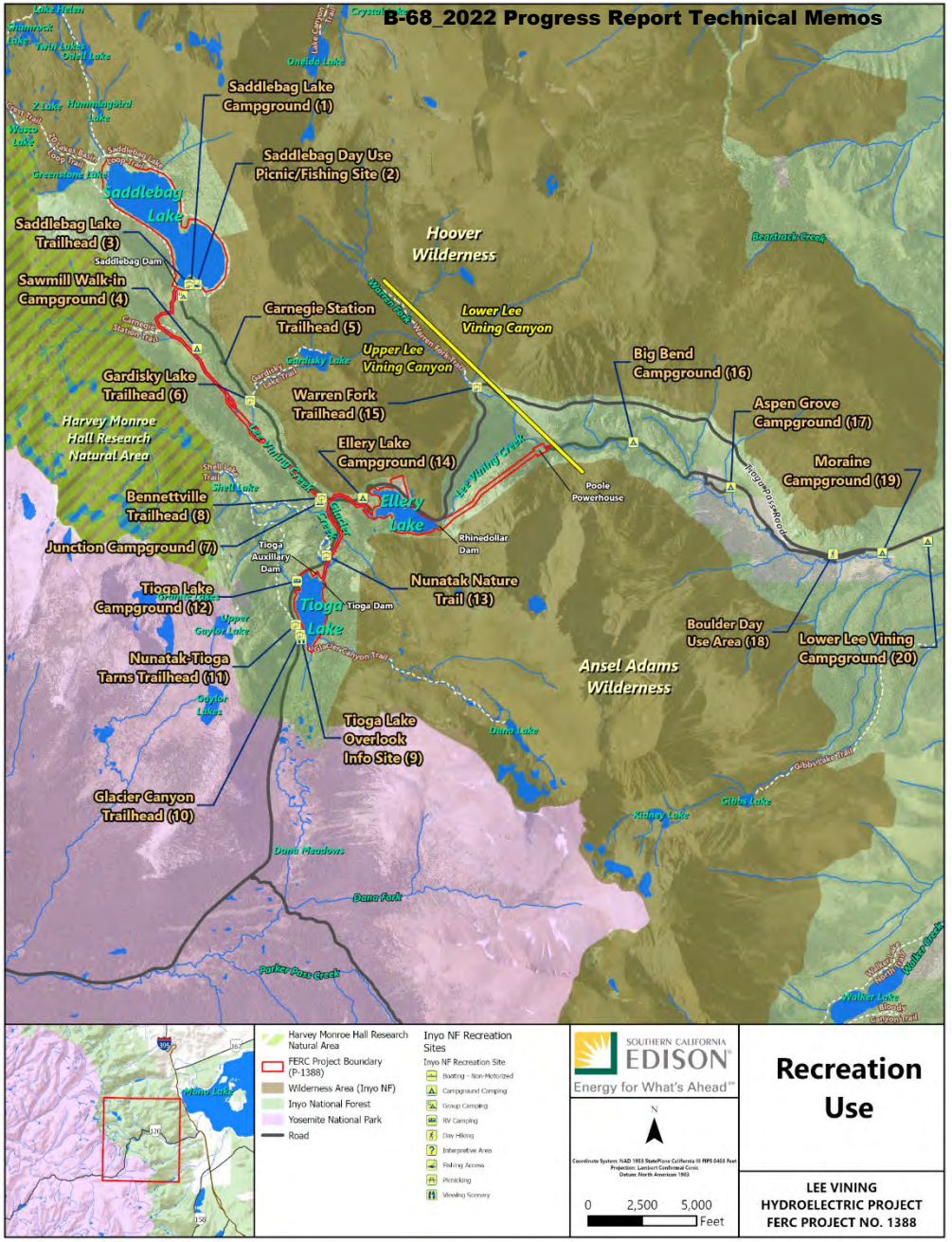


10-Minute Break



Recreation Use and Needs Assessment (REC-1)

Study Area Map



Recreation Use and Needs Assessment (REC-1)

Goals/Objectives

- Characterize existing recreation:
  - Opportunities
  - Visitation
  - Visitor characteristics
  - Needs
  - Preferences
- Estimate current recreational fishing in Project creeks and reservoirs
- Estimate future recreational demand and needs
- Assess consistency of current recreation opportunities with the Desired Conditions, Goals, Standards, and Guidelines in the Land Management Plan for the Inyo National Forest (USFS, 2019)

Recreation Use and Needs Assessment (REC-1)

Modifications to Methods

- Survey dates were shifted due to campground and road opening dates early in the recreation season
- An unrelated field staff injury resulted in moving one survey day from July into September
- Surveys were conducted only in English rather than English and Spanish as originally proposed
- Cattleguard Campground consists of an administrative building and is not open to public use and therefore was not surveyed

Recreation Use and Needs Assessment (REC-1)

Location of Survey (Site ID)	Surveys Accepted	Surveys Declined	Total Surveys
Saddlebag Lake Rec Areas (1, 2, 3)	50	9	59
Sawmill Walk-in Campground (4)	20	2	22
Carnegie Station Trailhead (5)	5	1	6
Gardisky Lake Trailhead (6)	8	3	11
Junction Campground, Bennettville Trailhead (7, 8)	42	10	52
Tioga Lake Overlook Info Site, Glacier Canyon Trailhead (9, 10)	31	11	42
Nunatak-Tioga Tarns Trailhead (11)	1	0	1
Tioga Lake Campground (12)	22	9	31
Nunatak Nature Trail (13)	5	1	6
Ellery Lake Campground (14)	19	4	23
Warren Fork Trailhead (15)	1	1	2
Big Bend Campground (16)	27	8	35
Aspen Grove Campground (17)	38	8	46
Boulder Day Use Area (18)	1	0	1
Moraine Campground (19)	24	4	28
Lower Lee Vining Campground (20)	36	11	47
Totals	**330**	**82**	**412**

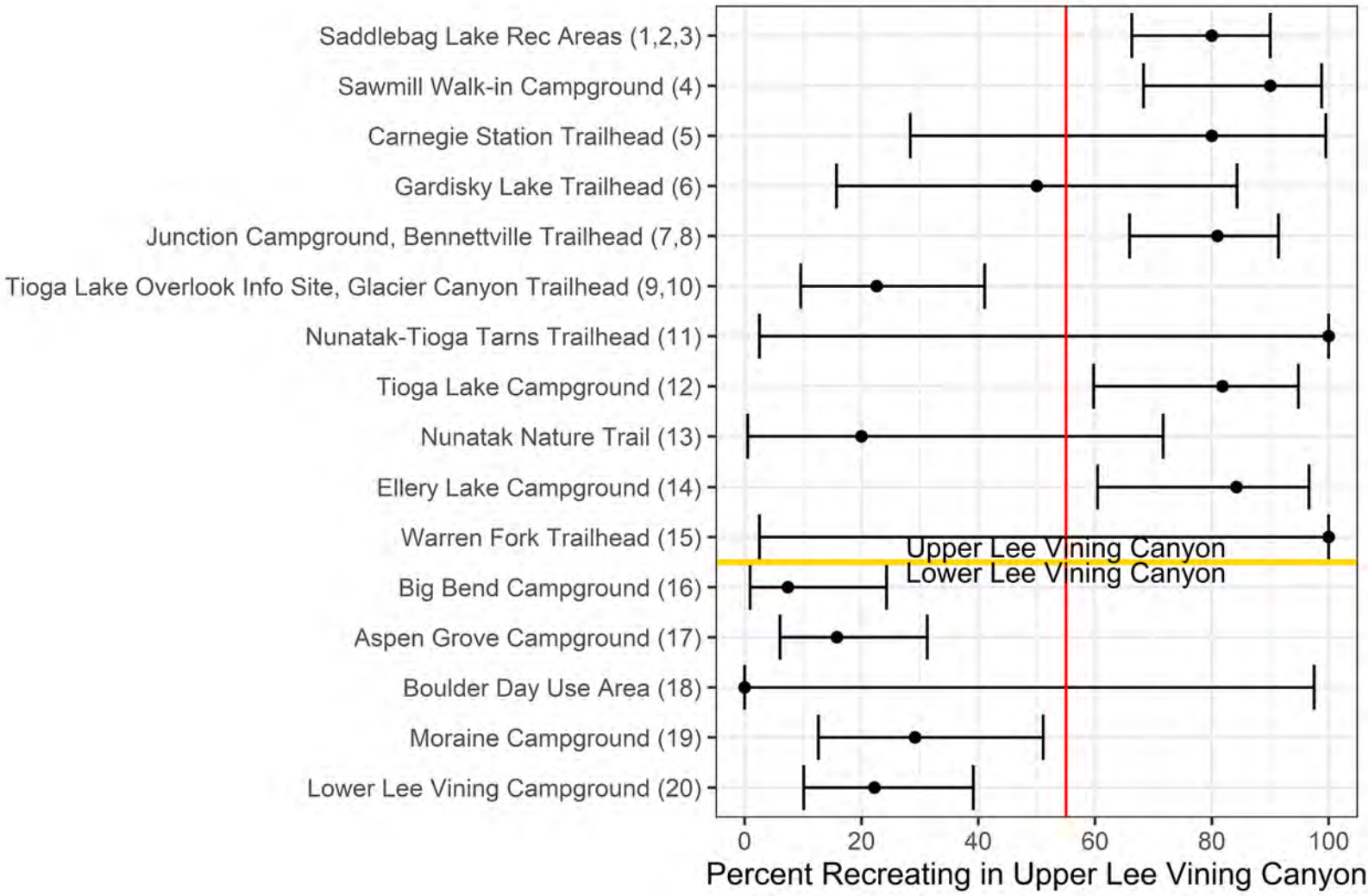
Recreation Use and Needs Assessment (REC-1)

Location of Survey (Site ID)	Main Survey Question Response							
	Passing through on my way to Yosemite National Park	Passing through on my way to Eastern Sierras (Mono Lake, June Lake, Mammoth Lakes, Bishop, etc.)	Recreate in the Upper Lee Vining Canyon (Saddlebag Lake, Lee Vining Creek, Tioga Lake, Glacier Creek, Ellery Lake, etc.)	Recreate in the Lower Lee Vining Canyon (Campgrounds and Lee Vining Creek access below Poole Powerhouse)	Other	User Surveys (2023)	Spot Counts (2023)	Counters (2023)
Upper Lee Vining Canyon								
Saddlebag Lake Rec Areas (1, 2, 3)	7	3	40	0	0	Yes	Yes	Yes
Sawmill Walk-in Campground (4)	2	0	18	0	0	Yes	Yes	Yes
Carnegie Station Trailhead (5)	0	1	4	0	0	No	No	No
Gardisky Lake Trailhead (6)	1	2	4	0	1 – Locals from Mono fire and forest service hiking Gardisky	No	No	No
Junction Campground, Bennettville Trailhead (7, 8)	7	1	34	0	0	Yes	Yes	Yes
Tioga Lake Overlook Info Site, Glacier Canyon Trailhead (9, 10)	11	11	7	1	1 – Motorcycle ride	Yes	Yes	No
Nunatak-Tioga Tarns Trailhead (11)	0	0	1	0	0	No	No	No
Tioga Lake Campground (12)	3	1	18	0	0	Yes	Yes	Yes
Nunatak Nature Trail (13)	4	0	1	0	0	No	No	No
Ellery Lake Campground (14)	3	0	16	0	0	Yes	Yes	Yes
Warren Fork Trailhead (15)	0	0	1	0	0	No	No	No
Lower Lee Vining Canyon								
Big Bend Campground (16)	0	2	2	22	1 – Going to Bridgeport area	No	No	No
Aspen Grove Campground (17)	4	0	6	28	0	No	No	No
Boulder Day Use Area (18)	0	0	0	1	0	No	No	No
Moraine Campground (19)	3	0	7	14	0	No	No	No
Lower Lee Vining Campground (20)	1	1	8	24	2 – Driving through to Orange County Passing through to Washington	No	No	No
Totals	**46**	**22**	**167**	**90**	**5**			

Recreation Use and Needs Assessment (REC-1)

Location (Site ID)	Number of Visitors Encountered	Number of Surveys Accepted	Number Recreating in Upper Lee Vining Canyon	Percent Recreating in Upper Lee Vining Canyon	Lower 95% CL	Upper 95% CL
Upper Lee Vining Canyon						
Saddlebag Lake Rec Areas (1,2,3)	59	50	40	80%	66%	90%
Sawmill Walk-in Campground (4)	22	20	18	90%	68%	99%
Carnegie Station Trailhead (5)	6	5	4	80%	28%	99%
Gardisky Lake Trailhead (6)	11	8	4	50%	16%	84%
Junction Campground Bennettville Trailhead (7, 8)	52	42	34	81%	66%	91%
Tioga Lake Overlook Info Site, Glacier Canyon Trailhead (9, 10)	42	31	7	23%	10%	41%
Nunatak-Tioga Tarns Trailhead (11)	1	1	1	100%	2.5%	100%
Tioga Lake Campground (12)	31	22	18	82%	60%	95%
Nunatak Nature Trail (13)	6	5	1	20%	0.5%	72%
Ellery Lake Campground (14)	23	19	16	84%	60%	97%
Warren Fork Trailhead (15)	2	1	1	100%	2.5%	100%
Lower Lee Vining Canyon						
Big Bend Campground (16)	35	27	2	7%	0.9%	24%
Aspen Grove Campground (17)	46	38	6	16%	6.0%	31%
Boulder Day Use Area (18)	1	1	0	0%	0%	98%
Moraine Campground (19)	28	24	7	29%	13%	51%
Lower Lee Vining Campground (20)	47	36	8	22%	10%	39%

Recreation Use and Needs Assessment (REC-1)



Recreation Use and Needs Assessment (REC-1)

Next Steps

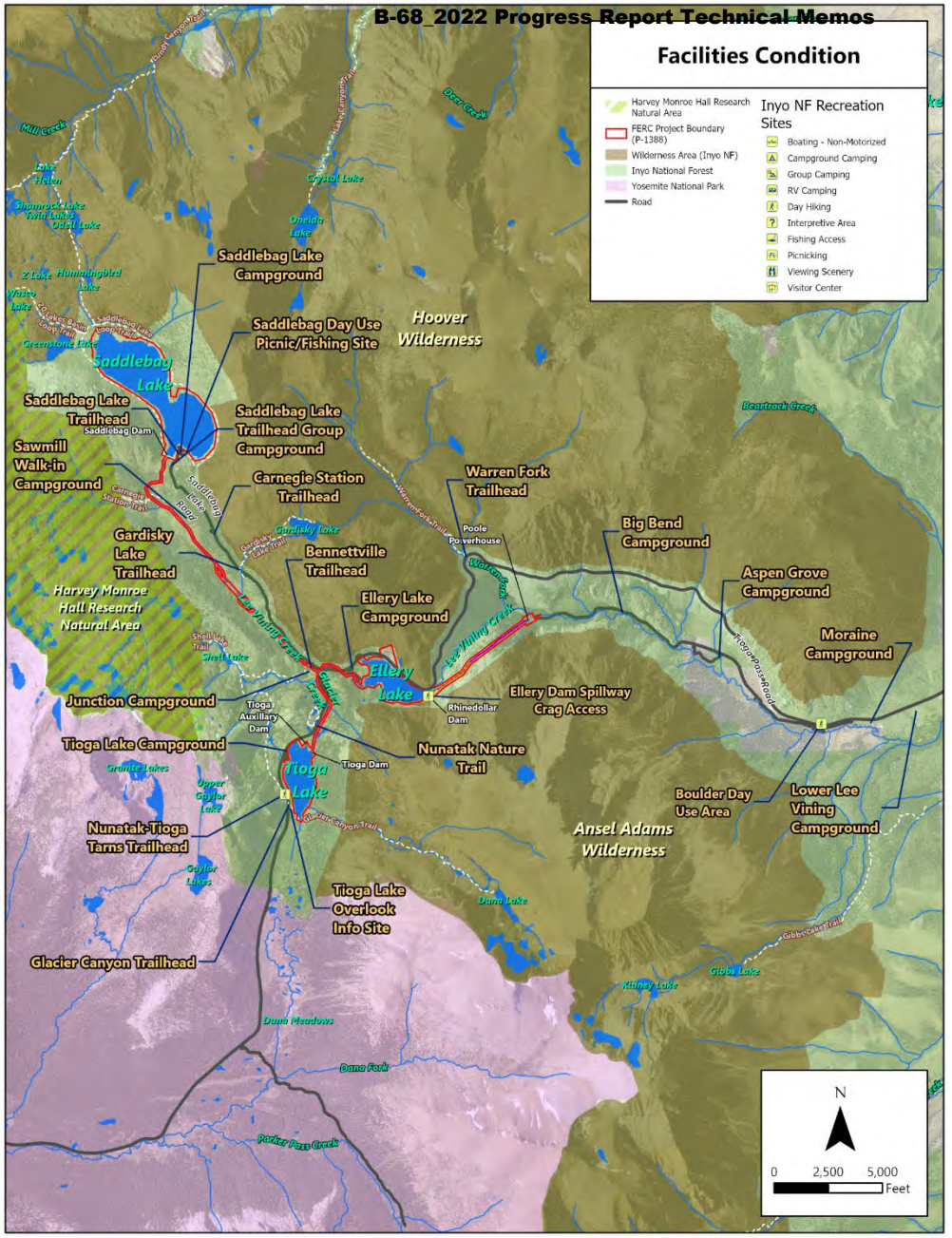
- March 1 TWG meeting
- Additional data will be collected for Study REC-1 in 2023
- SCE will work with the Recreation and Land Use TWG to finalize survey forms prior to the 2023 field season.
- 2023 Study elements:
  - Winter and summer survey locations and schedule
  - 2023 survey/interview forms
  - Spot count schedule
  - Traffic and trail counter numbers and locations
  - Creel survey dates, schedule, and forms

Questions?



Existing Recreation Facilities Condition Assessment (REC-2)

Study Area Map



Recreation Facilities Condition Assessment (REC-2)

Goals/Objectives

- Identify existing dispersed or informal use areas, including documentation of existing conditions (2022 Study Season)
- Conduct a facility inventory and condition assessment at existing recreation facilities and associated parking areas, including an evaluation of signage and public safety features (2023 Study Season)
- Assess the carrying capacity and potential need for expansion, or alteration of existing recreation facilities (2023 Study Season)
- Assess the condition and potential for universal accessibility, where feasible (2023 Study Season)
- Assess the consistency of current facilities with the Desired Conditions, Goals, Standards, and Guidelines described in the Land Management Plan for the Inyo National Forest (USFS 2019) (2023 Study Season)

Recreation Facilities Condition Assessment (REC-2)

Dispersed Use Observations Aerial Imagery Assessment

Site	Boating	Pull Out	Trailhead	Other	Site Total
Ellery	--	4	2	--	6
Saddlebag	1	--	--	1	2
Tioga	1	2	---	--	3
Type Total	2	6	2	1	11

Dispersed Use Observation Points, In-field Observation

Site	Boating	Pull Out	Trailhead	Campsite	Fire Pit	Site Total
Ellery	--	7	2	--	3	12
Saddlebag	1	--	--	--	--	1
Tioga	1	5	--	2	3	11
Type Total	2	12	2	2	6	24

Total Length of Social Trails (feet)

Site	Aerial Imagery Assessment	In-field Observation
Ellery	6,140.5	8,930.1
Rhinedollar	3,607.1	3,607.1
Saddlebag	4,308.0	7,047.5
Tioga	1,817.3	9,923.6
Grand Total	15,872.9	29,508.3

Recreation Facilities Condition Assessment (REC-2)

Next Steps

- March 1 TWG meeting
- Conduct facilities condition assessments
- Findings from this study will be used to inform potential locations for additional user interviews, spot counts, or traffic/trail counters in REC-1 activities to be performed during the 2023 field season

Questions?



RELICENSING SCHEDULE OVERVIEW

Relicensing Process Schedule

Date	Activity
January/February 2023	2022 Progress Report meeting
Spring – Fall 2023	2023 field studies
Spring 2023	Select Technical Reports • Stream and Reservoir Water Quality Study (WQ-1) • Reservoir Fish Population Study (AQ-1) • Stream Fish Populations Study (AQ-2) • General Botanical Resources Survey (TERR-1)
Fall 2023	• Operations and Hydrology Model (AQ-5)
Spring 2024	Remaining Technical Reports • Aquatic Habitat Mapping and Sediment Characterization (AQ-3) • Aquatic Invasive Plants Survey (AQ-4) • Lower Lee Vining Creek Channel Morphology (AQ-6) • General Wildlife Resources Survey (TERR-2) • Project Lands and Roads Assessment (LAND-1) • Visual Resource Assessment (LAND-2) • Recreation Use Assessment (REC-1) • Facilities Condition Assessment (REC-2) • Cultural Resources (CUL-1) • Tribal Resources (TR-1)
September 2024	SCE Files Draft License Application
January 2025	SCE Files Final License Application

How to Stay Involved

- Check the Project website for updates/news at www.sce.com/leevining
- You can view other SCE relicensing Projects at www.sce.com/regulatory/hydro-licensing
- Sign up to receive Project-related emails through the Contact Registration Form/Project Questionnaire on the Project website
- Sign up for FERC's for e-subscription (docket number "P-1388") at www.ferc.gov
- Email Carissa Shoemaker with questions carissa.shoemaker@erm.com

Final Questions?



Thank you!

DRAFT MEETING NOTES*

LEE VINING, FERC PROJECT NO. 1388

2022 PROGRESS REPORT STAKEHOLDER MEETING

FEBRUARY 1, 2023, 9:00 AM–12:00 PM

**These meeting notes are documentation of general discussions from the meeting held on the above-noted date and focus on stakeholder questions and comments. These notes are not a verbatim account of proceedings and do not represent any final decisions or official documentation for the project or participating agencies.*

1.0 OBJECTIVES

- Information sharing and high-level review of preliminary data from 2022 studies
- Preview 2023 field season

2.0 ATTENDEES

Relicensing Team Members
Audry Williams, Southern California Edison (SCE)
Martin Ostendorf, SCE
Matt Woodhall, SCE
Seth Carr, SCE
Finlay Anderson, Kleinschmidt
Shannon Luoma, Kleinschmidt
Kelly Larimer, Kleinschmidt
Arianna Bresnan, Kleinschmidt
Angela Whelpley, Kleinschmidt
Isha Deo, Kleinschmidt
Bret Hoffman, Kleinschmidt
Carissa Shoemaker, ERM
Heather Neff, Stillwater
Noah Hume, Stillwater
Ken Jarrett, Stillwater
Ian Pryor, Stillwater
Allison Rudalevige, Psomas
Brad Blood, Psomas
Steve Norton, Psomas
Edith Read, E Read and Associates, Inc.

Technical Working Group Members & Interested Parties
Ashley Blythe Haverstock, U.S. Forest Service (USFS)
Adam Barnett, USFS
Richard McNeill, USFS
Nathan Sill, USFS
Thomas Torres, USFS
Michael Wiese, USFS
Stephanie Heller, USFS
Sheila Irons, USFS
Todd Ellsworth, USFS
Monique Sanchez, USFS
Chad Mellison, U.S. Fish and Wildlife Service (USFWS)
Amy Chandos, California Department of Fish and Wildlife (CDFW)
Michael Tovar, CDFW
Alyssa Marquez, CDFW
Beth Lawson, CDFW
Nick Buckmaster, CDFW
James Erdman, CDFW

Adam Cohen, State Water Resources Control Board (SWRCB)
Jennifer Watts, SWRCB
Bryan Muro, SWRCB
Bartshe Miller, Mono Lake Committee (MLC)
Greg Reis, MLC
Sue Burak, Snow Survey Associates
Chris Shutes, California Sport Protection Alliance (CSPA)
Saeed Jorat, Los Angeles Department of Water and Power (LADWP)
Ty Tyler, Access Fund

3.0 COMPILED ACTION ITEMS

- **Relicensing Team** will send Chris Shutes a link to the Progress Report, Carissa will forward to him.
- **Relicensing Team** will clarify water quality (WQ) fish/mercury information in follow-up email.
- **Relicensing Team** will schedule an Aquatics/Hydrology Technical Working Group (TWG) meeting for the Operations Model spring of 2023.
- **Relicensing Team** will incorporate information pertaining to bat surveys into the Final Terrestrial Report.
- **Relicensing Team** to add Richard McNeill's whitebark pine elevation reference to Technical Report.
- **Relicensing Team** to check in with Jessica Lundquist at University of Washington for stage data in Warren Fork.
- **USFS Richard McNeill** to send further comments regarding botany surveys and infrastructure and invasive species and sensitive plants.
- **CDFW**'s fisheries biologist was not able to join, but they will provide further comments.
- **Greg from MLC** to provide comments on elevations of the Normalized Difference Vegetation Index (NDVI) sites could factor.
- **Relicensing Team** will discuss botanical survey areas with Richard McNeill and provide spatial data as available.
- **CDFW Alyssa Marquez** needs info/will follow up on Tech Memos and request the ArcGIS information.
- **Relicensing Team** to follow up with Alyssa Marquez to answer her channel morphology questions.

4.0 WELCOME AND INTRODUCTIONS

Shannon Luoma, Kleinschmidt, welcomed TWG members to the meeting, introduced the Relicensing Team, and provided an overview of the agenda. Audry Williams, SCE, provided a tribal land recognition. Matthew Woodhall, SCE, introduced the SCE Team and provided a safety moment. Shannon Luoma, Kleinschmidt, introduced the Consultant Team.

The purpose of the call was to share information and give a high-level review of preliminary data from the 2022 studies and preview the 2023 field season.

5.0 RELICENSING SCHEDULE OVERVIEW

Shannon Luoma, Kleinschmidt, provided an overview of the Process Review and the Traditional Licensing Process (TLP). The agencies' involvement in the technical Study Plans typically ends with the FERC comment period, which occurs after the first stage of consultation. SCE chose to add additional steps to maintain collaboration with the TWG members, including: 2022 TWG meetings, revised Study Plans and a Final Study Plan Meeting, and these progress report meetings. The implementation schedule for studies was reviewed, as well as the FERC filing schedule.

- Question (Q) (Chris Shutes): Asked where he can find the Tech Memos.
    - Response (R) (Team): Carissa Shoemaker will forward him a copy of the 2022 Progress Report. (Complete)

6.0 CULTURAL AND TRIBAL STUDY PLANS DISCUSSION

Topic: Cultural Resources (CUL-1). See slides for further details.

There were no questions or comments from stakeholders.

Topic: Tribal Resources (TRI-1). See slides for further details.

There were no questions or comments from stakeholders.

7.0 FISH, AQUATICS, AND HYDROLOGY STUDY PLANS DISCUSSION

Topic: Stream and Reservoir Water Quality Study (WQ-1). See slides for further details.

Stakeholder questions and comments are summarized below:

- (Q) (Greg Reis): Table A5 lists 9 sites in the creek where WQ is being measured, what is happening on the dates vs the continuous measurements?
    - (R) (Team): There is continuous turbidity logging.
- (Q) (Alyssa Marquez): In Table 2.1-1, I'd expect that the hydro resource optimization site immediately below Poole Powerhouse wouldn't show anything, why not have a turbidity monitor above the LADWP diversion dam? How immediately below pool? It seems odd that there is no testing done above the dam.
    - (R) (Team): There actually are two loggers below Poole Powerhouse, one is a few hundred yards below and the other is farther down near the LADWP diversion dam. There is no sampling above the powerhouse because there is no change to project operations being proposed that would affect sediment above the powerhouse.
- (Q) (Alyssa Marquez): Could you explain how you measured the depth profiles at the deepest ice-free spots and compare them to the actual deepest spot in the lake? Will we be able to get to that depth this year? May be frozen again this year.
    - (R) (Team): We generally have good circulation top to bottom. It is possible we missed low oxygen conditions in the lowest elevations because of the ice. There was an oxygen depletion at depth, so it is plausible that there is nutrient loading in hypoxic sediments. We will capture it as best we can in 2023 if it is occurring. We will do new profiles and nutrient samples at depth. Ice cover complicates the picture, but we assume we will see

consistent chemical columns in winter and spring. We could see elevated nutrient contents in winter. We don't intend to do ice drilling, but we could delay a little in spring to get to open water.

- (Q) (Alyssa Marquez): On the Saddlebag Lake WQ-1 graph, could you explain the leap in specific conductivity at 3 meters?
    - (R) (Team): This is caused by spring runoff mineral content conditions. Likely from inflow rather than something diffusing out of the sediments.
- (Q) (Alyssa Marquez): We aren't expecting to see stratification in Ellery Lake?
    - (R) (Team): Correct, because it is so shallow.
- (Q) (Alyssa Marquez): Regarding the mercury fish sampling, all fish caught were just barely an edible size. Assuming mercury bioaccumulates, should we catch bigger fish since smaller fish are less likely to have more mercury? It would be good to get surveys of bigger fish.
    - (R) (Team): We did detect low amounts mercury in all samples, but none of the results exceeded the criteria. Mercury is found in fish all throughout the Sierra Nevada. The results will be available in the spring Technical Report, but we did achieve our study's objective to get enough fish above the 9" minimum length. We aren't seeing double or triple mercury results, so we don't expect that finding larger fish would be necessary for the purpose of this study. Additional gill netting would be a large and difficult effort, for not very useful results. All fish sampled fell within the Study Plan parameters for size.
    - (R) (Alyssa Marquez): I will pass this information on to our fish biologists.
    - (R) (Team): We will clarify and follow up in an email after the comment period ends.
- (Q) (Alyssa Marquez): We don't have background turbidity data for this project. If CDFW will introduce sediment back into the system it will be difficult to get this approved, like the issue we had at Bishop Creek. Can we put a monitor above the project to measure turbidity? It would be good to have background data for future purposes if we don't currently have it.
    - (R) (Team): We are doing point comparisons above and below Poole and can look and compare these and still get useful information. It is too late this year to add a monitor to catch spring runoff, as everything is frozen up. On Bishop, the sediment issue is an enhancement, not mitigation. The purpose of our information sharing today is focused on implementation of Study Plans we worked on to this point. However, we aren't at that point where we are evaluating turbidity issues, effects, enhancements vs agency goals/objectives. We can have more focused dialogue in the future once the results come back and we can discuss them then. Taking point samples and making inferences may be easier than a continuously running instrument; we do have some of this information already. Sampling is appropriate below Poole Powerhouse because the resource optimization releases are relatively new since the last relicensing and it is important to be able to characterize this.
    - (R) (Team): We will assess the possibility of adding monitors above the project or taking spot readings at important times.
- (Q) (Greg Reis): Progress Report Table 5.2-1 shows turbidity measurements at Lee Vining Creek inflow to Saddlebag. Is that not continuous?
    - (R) (Team): Correct, that is not continuous.
- (Q) (Beth Lawson): We recognize the turbidity was an issue for Lahontan Regional Water Quality Control Board, if there is an ability to collect additional data knowing this was a problem last

time (at Bishop Creek), it is all in our interest to collect this info in the field, it may not be an effect now, but reservoirs capture sediment, we should consider this earlier rather than later. I want to recognize this was a problem that delayed us later in previous projects, so we should collect more data upfront. It doesn't seem like a big additional field work effort.
    - (R) (Team): We can discuss this in a more focused TWG discussion.
- (Q) (Greg Reis): If the turbidity measurements above LADWP diversion dam are not continuous, I'd recommend making those continuous in 2023. The only date listed where hydro resource optimization (HRO) occurred last year was the October date, and the peak flow was near midnight, when sampling presumably didn't occur. In order to better characterize HRO impacts, continuous data above diversion should be collected.
    - (R) (Team): We will have a tough time getting continuous monitors in this spring. We can include this in a focused discussion, including the larger water resources TWG. Lower Lee Vining Creek does have two continuous monitoring sites.

Topic: Reservoir Fish Population Study (AQ-1). See slides for further details.

Stakeholder questions and comments are summarized below:

- (Q) (Richard McNeill): Do you have any ideas about why different species were found in each reservoir?
    - (R) (Team): Potentially there are more brown trout in Ellery Lake because they have access to Lee Vining Creek, which is an active breeding ground for brown trout. Other lakes might have limited access to tributaries; those locations may be preferable for brook trout.
- (Q) (Alyssa Marquez): We couldn't have our fisheries biologist join this meeting this morning, they may want to comment later on these studies.
    - (R) (Team): Thank you for letting us know.

Topic: Stream Fish Populations Study (AQ-2). See slides for further details.

There were no questions or comments from stakeholders.

Topic: Operations Model (AQ-5)

Stakeholder questions and comments are summarized below:

- (Q) (Greg Reis): About 20 years ago, Jessica Lundquist (University of Washington) had a stage recorder in Warren Fork for a couple of years. Those data might be helpful in estimating Warren Fork flows.
    - (R) (Team): Relicensing Team will attempt to reach out to request her data.
- (Q) (Greg Reis): Will there be a draft Ops Model in fall 2023 that we can comment on?
    - (R) (Team): Yes, that is our intent.
- (Q) (Beth Lawson): Can we discuss this more in a TWG? You can show us what you are developing and how we can use it. We'd like to input different scenarios with different monthly time series, water year types, and power generation impacts. I want to front load and get it tuned to have functionality we will need later. Sometimes agencies don't know what we want early on, sometimes we are deep in data and conversations and then we identify something we

can put in. For example, pulse flows and ramp downs may be discussed. I'm willing to look at an in-progress tool, but I'm afraid seeing it this fall will be too late.
    - (R) (Team): We definitely want this to be useful and have the correct inputs, outputs, controls, metrics, etc. We can discuss this further in a TWG, earlier than this fall. Everything comes down to stage or cubic feet per second (cfs) at given locations of interest, water year type, and distribution. Timing, flow, and stage are usually included. We can share our model draft in a TWG when it is ready.
- (Q) (Chris Shutes): The Tech Memo talks about power generation. Optimization represents SCE operations and how we best make use of load and pricing opportunities. Something to think about is how much you're going to let folks see so we can better understand interests of SCE when making recommendations in something like ramping for example to get an understanding of what constrains your operations. Some historical data evaluation might be helpful to see as well.
    - (R) (Team): This is something we can talk about, in terms of operation. In terms of the level of transparency, we will have to work with SCE as we move along as some of that information is closely held. We can look at some dependent variables with SCE to look into historic data.
- (Q) (Alyssa Marquez): Just to confirm the timeline, the Relicensing Team will set up another meeting and you'll share the Operations Model? Do you know when you'll be ready to share it?
    - (R) (Team): We have just received some of the data from SCE operations and we are still analyzing what we received and that is a process, so we can't commit to an exact timeline right now. The Operations Model isn't dependent on field surveys so it can get done on its own schedule. It's always our goal to keep stakeholders engaged and informed and we will continue to do that for the Operations Model even before it is distributed, once we get to that point where we have something to share, we will reach out to stakeholders for interest and opinions. We will reach out to schedule smaller TWG meeting(s) when we are ready, this spring.

Topic: Lower Lee Vining Creek Channel Morphology (AQ-6). See slides for further details.

Stakeholder questions and comments are summarized below:

- (Q) (Alyssa Marquez): Why are we only doing morphology studies downstream of FERC project and not within the boundary? Is there previous data from existing FERC licenses?
    - (R) (Team): Heather: The goal of this study was to evaluate potential effects on channel morphology from hydro resource optimization, which is downstream of Poole Powerhouse. We have some existing general descriptions of morphologic characteristics, and the instream flows continue to be similar to the past, so no real reason to expect changes from the project. The project as it currently operates is considered the baseline and no changes are proposed. The riparian monitoring sites have geomorphology cross sections between Saddlebag Lake and Slate Creek, too.
    - *[Alyssa dropped off the call during this response and missed some of the discussion, the Relicensing Team to follow up separately.]*

- (Q) (Greg Reis): Below Saddlebag there have been variances granted by USFS to allow more flows to be released in the winter rather than summer, reversing the typical flows. Could that be considered a project change and could it impact geomorphology?
    - (R) (Team): The license calls out the flows below Saddlebag per water year types. We're not anticipating doing anything different for next license. To our knowledge, that is an acceptable condition under the license, our anticipated operation would be the same as they are now.

8.0 TERRESTRIAL AND BOTANICAL STUDY PLANS DISCUSSION

Topic: General Botanical Resources Survey (TERR-1). See slides for further details.

Stakeholder questions and comments are summarized below:

- (Q) (Richard McNeill): Could you go back to the NDVI histograms and can you give us a better idea of what these numbers mean? Do you have precipitation data to plot with this? Could you also include the entire basin precipitation data and so we can understand how they all relate to each other?
    - (R) (Team): NDVI ranges from 0 to 1. Lower values are non-vegetation or low value vegetation. Greener vegetation has higher values. NDVI is primarily used in agricultural settings for healthy fields vs drought-stressed fields. This was a riparian setting with lots of willows, where leaf sides can be greener or shinier, more reflective. The NDVI values are not super important, but comparing the sites year to year is the goal. We're mostly looking at the relative values and control for year to year. We could add precipitation data, to assess if precipitation data has any effects between years. It's important to note that the precipitation data would be basin-scale and not site specific.
- (Q) (Greg Reis): I was wondering how elevations of the NDVI sites could factor in with the later snow melt. Thinking about 2016 Lee Vining following a long drought and thinking about lower elevation sites.
    - (R) (Team): We have not done any multi-variate analysis for this, yet. We would need to look at variables that are different between sites and see if they have an effect on the data. Asked Greg to add that question to his comments on the Tech Memos and we can assess from there.
- (Q) (Richard McNeill): I have mapped Whitebark pine (*Pinus albicaulis*) down to 7,'00', 37.930352°, -119.176096° in summer 2022.
    - (R) (Team): Thank you, we can add that to the Technical Report.
- (Q) (Richard McNeill): During the review of everything last year, I made comments of needing an accurate list of infrastructures. It seems like some areas were not surveyed, such as roads that go to the dam, it doesn't seem like we have an accurate list. The list provided doesn't help with spatial setup, we need a map. How do you list roads that don't have names or random buildings around the dams? Surveys have already started, so if we add more infrastructure to the list, how is that addressed? This should have been clarified before we started surveying. The dam road appears to have been partially surveyed, the penstock was partially surveyed, such as the area used by recreational users. I'm mostly concerned about invasive plant species coming in and being carried around the project areas.

  - (R) (Team): We responded to your infrastructure email question with a list; and a list of project facilities to be surveyed were included in the Study Plan. Additionally, completing this list and mapping the project-related infrastructure is the focus of our LAND-1 Study. The botanical survey did cover the penstock and associated climbing areas. Allison has dropped off, so the Team will connect with her and respond to this via email regarding areas you might be concerned about.
- (Q) (Richard McNeill): I would like to have spatial data for the survey area, I don't need survey results, I just want to get a clear understanding of where was surveyed.
  - (R) (Team): We can provide that once it is available.

Topic: General Wildlife Resources Survey (TERR-2). See slides for further details.

Stakeholder questions and comments are summarized below:

- (Q) (Alyssa Marquez): Thank you for the presentation, CDFW is happy with Yosemite toad surveys and all the effort going into that.
  - (R) (Team): Thank you.
- (Q) (Alyssa Marquez): I didn't see any information on bat surveys or results in the Tech Memo. I can provide comments on that later, too.
  - (R) (Team): Thanks for pointing that out. The facilities were inspected for bat roosts but the results accidentally did not make it into the Tech Memo. Results will be added into the spring 2024 Technical Report.
- (Q) (Thomas Torres): I'm looking forward to talking about Yosemite toad tomorrow in our meeting.
  - (R) (Team): We are looking forward to that as well.

9.0 RECREATION AND LAND USE STUDY PLANS DISCUSSION

Topic: Recreation Use Assessment (REC-1). See slides for further details.

Stakeholder questions and comments are summarized below:

- (Q) (Adam): Where did 55% threshold come from?
  - (R) (Team): The Tech Memo has an explanation of the threshold, please refer to that.

Topic: Existing Recreation Facilities Condition Assessment (REC-2). See slides for further details.

There were no questions or comments from stakeholders.

10.0 SCHEDULE AND NEXT STEPS

The Relicensing Team provided a schedule of upcoming important dates and events.

- (Q) (Alyssa Marquez): Are there no other required timelines other than what was listed? In the meantime, should we schedule these small TWG meetings or will you reach out to schedule them? The Tech Reports aren't formal in a TLP?
  - (R) (Team): The next official deadline is the Draft License Application (DLA) filing in 2024, but currently our plan is to release Draft Technical Reports for completed studies as

they become available, with the first batch in the spring of 2023 and the remaining in the spring of 2024. The Tech Reports are typically filed together with the DLA but we will send them out separately before then. The Relicensing Team (Carissa Shoemaker) will reach out to schedule the next TWG.

Topic: Other Action Items

No comments or questions were received at this time.

11.0 FINAL Q&A

- (Q) (Alyssa Marquez): I will follow up on specific Tech Memos and request the ArcGIS information that would be useful.

The Relicensing Team adjourned the meeting.

USFS AND CDFW COMMENT LETTERS

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United States Department of Agriculture
Forest Service
Inyo National Forest
351 Pacu Lane, Suite 200
Bishop, CA 93514
(760) 873-2400
(760) 873-2538 TDD

File Code: 2770
Date: February 21, 2023

Wayne Allen
Principal Manager
Southern California Edison Company
1515 Walnut Grove Avenue
Rosemead, CA 91770

RE: FOREST SERVICE COMMENTS ON THE 2022 PROGRESS REPORT FOR THE LEE VINING HYDROELECTRIC PROJECT, FERC PROJECT P-1388

Dear Mr. Allen:

The Forest Service is providing the following response to the 2022 Progress Report filed by Southern California Edison Company (Licensee) for the Lee Vining Hydroelectric Project (FERC No. P-1388). This response is being submitted by the USDA Forest Service, Inyo National Forest, hereafter referred to as "Forest Service".
This filing includes one attachment (Attachment 1) with the comments.

The Forest Service appreciates the opportunity to comment on the Progress Report, and we look forward to working with the Licensee on the relicensing of this project. If you have any questions regarding this filing, please contact Public Services Staff Officer, Adam Barnett, Inyo National Forest, at 760-873-2461or by electronic mail at adam.barnett@usda.gov.

Sincerely,

LESLEY YEN

Digitally signed by LESLEY YEN
Date: 2023.02.21 09:15:27 -08'00'

LESLEY YEN
Forest Supervisor
cc: FERC service list

Enclosures

CERTIFICATE OF SERVICE

I, Monique Sanchez, Regional Hydropower Coordinator for the U.S. Forest Service, hereby certify that a copy of the forgoing COMMENTS on the Relicensing Application by the Forest Service have been served upon each person designated on the official Service List compiled by the Secretary for the Lee Vining Hydroelectric Project, P-1388.

/s/ Monique Sanchez

Monique Sanchez, Regional Hydropower Coordinator

INF Response to SCE Re: Lee Vining FERC relicensing study interim results

General Botanical Resources Survey (TERR-1)

1. Botanical survey should include areas used to access project infrastructure such as the Saddlebag Lake dam. The Forest Service requests a thorough review of the project area to identify similar locations that have not been surveyed.



Inyo NF Botany Survey Review
6 Feb 2023

The area in blue was not surveyed because it was not listed as hydroelectric infrastructure. If we removed these roads, how would that affect SCE's access to the base of the dam?

This is hydroelectric infrastructure and needs to be surveyed.

150 75 0 150 Feet

N

Area Not Surveyed

LeeVining FERC

Recreation Use Assessment (REC-1)

1. Study results (Table 4-3) indicate substantial use of the upper canyon for recreation by campers staying at Lower Lee Vining Campground (22%) and Moraine Campground (29%). Survey results at both locations are within the 50% confidence interval threshold established by SCE. INF requests that these locations be included in the 2023 continuation of REC-1 to capture potential use displaced by the lack of available campsites in the upper canyon. Displaced visitors are exactly the people who could be best able to inform the extent to which additional camping capacity may be needed in the upper canyon.

2. Because winter 2022/2023 may be a near-record snow year, springtime could present an opportunity to measure substantial over-snow recreation in the project area including snowmobiling and skiing. The INF requests that the 2023 survey be designed to capture over-snow use in addition to summer recreation uses by surveying in April and May.

Existing Recreation Facilities Condition Assessment (REC-2)

1. Based on the findings from REC-1 in 2022, recreation in the upper canyon was the primary activity for users of Sawmill Walk-in Campground and Junction Campground (Figure 4-1). Include these campgrounds in the recreation facilities condition survey in 2023. Survey responses at both campgrounds are well within the 50% confidence interval threshold set by SCE in REC-1.

2. REC-1 results indicate that a substantial portion of visitors staying at Lower Lee Vining Campground (22%) and Moraine Campground (29%) recreate in the upper canyon as their primary activity. These two lower canyon campgrounds should be included in the REC-2 recreation facilities condition assessment in 2023 because of their potential nexus with the project and the possibility that improving these campgrounds may be an option if improvements at upper canyon campgrounds are prevented by physical or biological constraints.

Document Content(s)

USFScommentsCoverLetterLeeVining_P_1388.pdf.....1
INF Response to SCE Lee Vining FERC relicensing study interim results 2-16-2023.pdf.....3

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

Via e-mail

February 22, 2023

Matthew Woodhall
Southern California Edison
Generation-Regulatory Support Services/ Project Lead
1515 Walnut Grove Ave
Rosemead, CA 91770
matthew.woodhall@sce.com

Subject: California Department of Fish and Wildlife Comments on Southern California Edison's 2022 Progress Report for the Relicensing of the Lee Vining Creek Hydroelectric Project, FERC Project No. 1388

Dear Mr. Woodhall:

The California Department of Fish and Wildlife (CDFW) has received and reviewed the *2022 Progress Report* drafted by Southern California Edison (SCE) for the Federal Energy Regulatory Commission (FERC) relicensing of the Lee Vining Creek Hydroelectric Project (Project, FERC No. 1388). The 2022 Progress Report, which includes the Lee Vining TERR-1 Botanical Attachment, was provided to the Project's Technical Working Group (TWG) members via email on January 23, 2023. Additionally, on February 1, 2023, a TWG meeting was held where the results of the Progress Report were presented and TWG members could provide verbal comment to SCE. As requested by SCE, CDFW is now providing written comments and recommendations on the Progress Report. Additional CDFW questions and comments that were not addressed during the Progress Report meeting due to lack of time are included below.

AUTHORITIES

CDFW is the relevant State fish and wildlife agency for resource consultation pursuant to the Federal Power Act Section 10(j) (16 U.S.C. section 803 (j)). The fish and wildlife resources of the State of California are held in trust for the people of the State by and through CDFW (Fish & G. Code § 711.7). CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of those species (Fish & G. Code § 1802). Information generated through the appropriate studies will be utilized by CDFW in the development of recommendations.

The mission of CDFW is to manage California's diverse fish, wildlife, and plant resources, and the habitats on which they depend, for their ecological values and for their use and enjoyment by the public. It is the goal of CDFW to preserve, protect, and as needed, to restore habitat necessary to support native fish, wildlife, and plant species within the

FERC-designated boundaries of the Project, as well as the areas adjacent to the Project in which resources are affected by ongoing Project operations, maintenance, and recreational activities.

PROGRESS REPORT RECOMMENDATIONS, COMMENTS AND QUESTIONS

Table 2-1 Project Relicensing Field Study Summary

General Comment

- **Recommendations**: (WQ-1 Stream and Reservoir Quality) CDFW does not believe that one year of turbidity logging is sufficient to capture a representative picture of the turbidity in the Lee Vining Creek system. Since turbidity loggers were not installed until summer of 2022, please retain the existing turbidity logger for at least one more year to ensure SCE obtains data for spring and to help detect any turbidity differences between years.

WQ-1 Stream and Reservoir Water Quality Technical Memo

General Comment

- **Recommendation**: CDFW recommends SCE manage the Projects operations in a way that allow for elements of the natural flow regime (e.g., pulse flows, baseflows recession flows) to perform distinct ecological and geomorphic functions and provide for specific life history and habitat needs of fish and wildlife species. Input and movement of sediment through river systems during peak flow events is an import ecological and geomorphic function and it is well documented that dams impede and remove sediment from impacted stream reaches downstream of the dams. Reintroduction of the removed sediment into the sediment starved stream system during peak flow events is a potential solution. However, to implement such protection, mitigation, and enhancement (PME) measures, turbidity levels in the replenished stream system need to remain within the Lahontan Regional Water Quality Control Boards' (LRWQCB) Basin Plan standards. Thus, data on the background turbidity or natural turbidity of the system is required for LRWQCB to determine if reintroduction of sediment into the system would violate the basin plan. To obtain this background turbidity data, CDFW recommends that SCE install turbidity loggers in locations in the stream system that allow for collection of the systems background turbidity. The 2023 anticipated large spring runoff would be a good time to acquire turbidity data during a higher turbidity year.

3.1 Modifications to Methods

- **Question**: Why did SCE not conduct *In situ* turbidity sampling? Will SCE conduct *in situ* turbidity sampling in 2023?

- **Question**: How could measuring the depth profiles at the *deepest* ice-free location, rather than maximum depth, affect the results or interpretation?
- **Question**: Why did SCE not collect analytical samples at depth from Saddlebag Lake and Tioga Lake when the reservoirs were stratified? What does SCE intend to do if the lakes cannot be sampled in 2023?
- **Question**: Why was water temperature not collected in stream reaches?

Figure 5.1-1 Saddlebag Vertical Profiles Measured in Spring 2022

- **Comment:** Please include a discussion in the Progress Report on why data (e.g., pH, temperature, and specific conductivity) varies between reservoirs. For example, why does specific conductance increase at Saddlebag Lake when depth is greater than three meters?
- **Comment**: Please include the Target Reporting Limit (for the basin plan) in the Progress Report. Currently the Progress Report only includes laboratory reporting (RL) and laboratory detection limit (DL).
- **Request**: Please include graphs in the Progress Report comparing each water quality parameter at all the reservoir locations.

Table 5.1-1 Analytical Laboratory Data

- **Question:** Many of the orthophosphate samples were received by the analytical laboratory outside of the Environmental Protection Agency (EPA) recommended holding time of the samples. Does SCE plan to retake these samples?

Consistency with Study Plan

- **Request:** Please make the temperature and dissolved oxygen (DO) profiles collected in Project reservoirs in 2015, 2016, and 2017 available to the TWG members.
- **Request:** Please provide all preliminary data provided in the PAD in the Progress Report (e.g., links or attachment).
- **Comment:** In the Progress Report, please address that DO in Project reservoirs and in Project-affected streams exceeded the published limits for water quality objectives in the LRWQCB Basin Plan.

AQ-1 Reservoir Fish Populations and AQ-2 Stream Fish Populations

General Comments

- **Comment:** CDFW has reviewed the 2022 Progress Report and does not currently have concerns assuming that the fish sample size is of sufficient size to assess fish populations in the streams and reservoirs.
- **Questions:** Did surveyors observe anchor ice formation in the stream reaches?

3.1 Modification of Methods

- **Comment**: Mortality of fish can be reduced by watching set gill nets.

AQ-3 Aquatic Habitat Mapping and Sediment Characterization

General Comment

- The aquatic habitat mapping and sediment characterization study has not been implemented yet and CDFW has no comments.

AQ-4 Aquatic Invasive Plants

General Comment

- The aquatic invasive plant study has not been implemented yet. However, CDFW would like to take this opportunity to restate CDFW comments provided to SCE on 1/14/2022 during the PAD Comment period: CDFW requested that nutrient monitoring of Project reservoir hypolimnion and outlets be conducted to determine the potential impact on the growth and spread of the nonnative, invasive Didymo (*Didymosphenia geminate*). This request was provided for the WQ-1 Study Plan but is also relevant here. SCE has not included sampling of the Project reservoirs outlets for nutrients in the WQ-1 Study Plan but did mention that nutrient concentrations were measured in all Project reservoirs and their outlets streams between 2015 and 2017. Please provide this data in future Progress Reports.

AQ-5 Operations Model

Section 3.2.2. Resource Optimization Model

- **Recommendation**: Section 3.2.2 describes the development of a Resource Optimization Model that is being used to "form an understanding of the properties of resource optimization operations in Lee Vining Creek." It is unclear whether SCE plans to share any of the information in the Resource Optimization Model with relicensing participants. CDFW requests that any results of the resource optimization be shared with relicensing participants so that stakeholders may understand how the Project is being used to optimize environmental, water delivery, and power generation during the life of the next FERC license.

Section 5.0 Next Steps

- **Recommendation**: This section states that "upon completion and calibration, the model will be distributed to interested Stakeholders for review and comment." As requested in the February 1, 2023, Progress Report Meeting, CDFW recommends that SCE's modelers meet with interested stakeholders in small-group technical team meetings during the process of calibration and before

completion of the modeling, not after. Stakeholders may have suggestions for improvement of the model platform that would allow the model to be most effectively used to evaluate a range of different potential alternative flow proposals.

Comments about Still Missing AQ-5 Components

- **Comment**: CDFW has concerns regarding several aspects described in the *Operations Modeling Technical Memo*. Specifically, the lack of 1) development of unimpaired hydrology and 2) lack of a path for stakeholders to consider and compare the tradeoffs between Project revenue and alternative flow scenarios.

  In CDFW's study plan request sent on March 25, 2022, CDFW requested that along with the operations modeling, unimpaired hydrology should be developed by SCE at multiple points in the stream system. CDFW stated that unimpaired hydrology is used when considering the results of other resource studies and aquatic populations in the watershed and would be used to compare to historic operations as well as proposed operational scenarios when developing resource management measures. In the *Final Technical Study Plans*, filed by SCE on April 25, 2022, SCE rejected CDFW's request and stated that SCE and FERC use the current baseline conditions (existing Project) to identify and analyze any potential effects. CDFW disagrees and urges SCE to develop an unimpaired hydrologic dataset for the Project. The unimpaired hydrologic dataset is not only used to compare to pre-Project conditions, but is used during development of protection, mitigation and enhancement (PM&E) measures to look at functional flow information including low flows, pulse flows, snowmelt runoff information, and seasonal high flows, if necessary, to improve aquatic habitats. The stated goal of this study is to "Develop a robust Operations Model to assist SCE and Stakeholders in understanding how Project operations interact with Lee Vining hydrology." Although SCE only hopes to compare to existing conditions, there is no way to assess what components of a hydrograph can be restored without understanding the timing and magnitude of available water.

  CDFW additionally requested in our March 25, 2022 letter that the operations model should include a module or post processing tool that allows all relicensing participants and FERC to understand clearly the financial impact (both gross generation and revenue) of new bypass requirements, ramping rate changes, and pulse flow requirements on Project finances. In the *Final Technical Study Plans*, filed by SCE on April 25, 2022, SCE rejected this request stating that SCE considers generation and revenue to be internal considerations that should not drive discussions surrounding potential effects. CDFW disagrees with this assessment, and notes that most PM&E discussions in FERC relicensing's are driven by financial as well as water management implications of any alternative proposals. As CDFW noted in our study plan comments, in discussions of PM&E measures, all relicensing participants should have the ability to understand how

any proposed measures are balanced with Project generation impacts. Without this tool, SCE can say “yes” or “no” to PM&E measures, but both FERC and relicensing participants have no ability to understand why those decisions were made and where there is negotiating space and potential tradeoffs to be made around each of those potential measures. Sections 4(e) and 10(a)(1) of the Federal Power Act requires the Commission to give equal consideration to the power development purposes and to the purposes of energy conservation; the protection of, mitigation of damage to, and enhancement of fish and wildlife; the protection of recreational opportunities; and the preservation of other aspects of environmental quality. With no financial analysis to consider the power generation benefits of one alternative proposal versus another, there is no way for any entity except SCE to determine whether there is any balancing of power generation versus enhancement to fish and wildlife.

CDFW is making the request now to SCE to develop unimpaired hydrology and a method to look at overall and peaking generation comparisons of operations model alternatives. If these components are not developed at this step in the relicensing, CDFW will plan to submit these during third stage consultation as specified in the Traditional Licensing Process (TLP) regulations. CDFW staff recommend that these tools be developed by SCE and utilized now so that they may be used during relicensing PM&E measure discussions.

AQ-6 - Lower Lee Vining Creek Channel Morphology

Comments about Still Missing AQ-6 Components

- **Comment**: CDFW has concerns about the lack of assessment of the channel morphology within the FERC Project area. CDFW believes that it is necessary to gather channel morphology data within the FERC Project area to understand the habitat-flow relationship, to protect wildlife resources and inform future licensing conditions.

  In CDFW’s study plan request sent on March 25, 2022, CDFW requested that an instream flow study be conducted within the FERC Project area. In the *Final Technical Study Plans*, filed by SCE on April 25, 2022, SCE rejected this request stating that CDFW’s new flow study was submitted after the comment period and that the *AQ-3 Aquatic Habitat Mapping and Sediment Characterization* study addresses CDFW’s request for a qualitative habitat mapping study. It is CDFW’s understanding that after the first stage of consultation is concluded (ending after all participating agencies, Native American tribes, and members of the public provide written comments or 60 days after the joint meeting is held [up to 120 days, if extended], whichever occurs first), resource agencies can request the applicant to do necessary and appropriate studies or gather additional information. CDFW does not agree that the AQ-3 study addresses CDFW’s

request. AQ-3 does not propose to conduct surveys to document the current flow-habitat relationship within the Project area. AQ-3 is currently designed with the view that the limiting factor for trout is available spawning habitat, but CDFW does not agree with this viewpoint and believes an instream flow study is necessary to inform decision making. Additionally, the determination of available spawning habitat should be supported by a proportional stock distribution analysis. The 1992 instream flow analysis for brook and brown trout should not be the sole habitat-flow data utilized to inform license conditions 30 years later and an updated instream flow analysis conducted within the FERC Project area needs to be conducted. Due to the underlying glacial geology and the steep gradient of the Lee Vining Creek system within the Project area, CDFW believes using a *Habitat Criteria Mapping Method* or *MesoHABSIM* would be more appropriate than an *Instream Flow Incremental Methodology* (IFIM).

TERR-1 General Botanical Resources Survey

General Comments

- **Comment**: Mountain bent grass (*Agrostis humilis*) is listed as a rank 2B.3 plant, meaning, except for being common beyond the boundaries of California, plants with a California Rare Plant Rank of 2B would have been ranked 1B. From the federal perspective, plants common in other states or countries are not eligible for consideration under the provisions of the Federal Endangered Species Act (FESA). With California Rare Plant Rank 2B, the California Native Plant Society (CNPS) recognizes the importance of protecting the geographic range of widespread species and protects the diversity of California's flora to help maintain evolutionary processes and genetic diversity within species. All of the plants constituting California Rare Plant Rank 2B meet the definitions of the California Endangered Species Act (CESA) of the California Fish and Game Code (FGC) and are eligible for state listing. Impacts to these species or their habitat must be analyzed during preparation of environmental documents relating to the California Environmental Quality Act (CEQA), or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380. Ranks at each level also include a threat rank, with mountain bent grass identified as 0.3 – Not very threatened in CA (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known). However, since the Threat Rank guidelines only represent a starting point in the assessment of threat level, other factors such as habitat vulnerability and specificity, distribution, and condition of occurrences, are also considered in setting the Threat Rank.

- **Comment**: The CNPS identifies that mountain bent grass is threatened by foot traffic and vehicles and possibly threatened by grazing and trampling. SCE should identify the potential for these threats and any other threats (e.g.,

maintenance activities) at each population location to determine the vulnerability, condition of occurrences and if PME measures are needed (e.g., signage, fencing).

- **Comment**: On January 14th, 2022, CDFW proposed a *Riparian Monitoring and Community Health Study*. SCE responded that 'sufficient data exists from ongoing Riparian Monitoring Evaluations conducted as part of the license'. SCE has shared with CDFW via email various *Riparian Reports* associated with the existing FERC License requirements; however, these reports should be made available for review on the Projects relicensing website. Additionally, SCE responded in the *Revised Technical Study Plans* that raw data would be provided to the TWG. This data should also be made available on the Projects relicensing website. Although SCE has not agreed to conduct additional evaluations of riparian communities within the FERC Project boundary, all existing available data that SCE produced as part of the license (e.g., riparian monitoring and evaluations) should be made available for review now. Providing this data later with the Draft License Application will not provide stakeholders sufficient time to review the data in a meaningful way.

Attachment 1 – TERR 1 Mapbook

- **Comment**: Much of the Botanical Resource study area is outside of the FERC Project area and is focused only around Project facilities or recreational areas. Does sufficient data exist to provide a baseline of the distribution of special status plant species within the FERC Project area? Additionally, the Botanical Resource study area does not encompass Lee Vining Creek just east of the Sawmill campground, an area disturbed by several fishing access trails. Documentation of special status plant species around fishing access trails is necessary to determine Project impacts related to recreation.

TERR-2 General Wildlife Resources Survey

3.2 General Wildlife Surveys

- **Comment**: In Section 6.1.1 *Pedestrian Surveys* of the *Final Technical Study Plans* filed by SCE on April 25, 2022, it states that "All Project facilities will be inspected for evidence of bat roosting". The Progress Report does not mention that bat surveys were conducted, and no associated results of those surveys are provided. During the Feb 1, 2022, meeting Psomas (SCE Consultants) stated that they thought bat surveys were conducted and subsequently followed up with an email stating they performed the effort and would incorporate bat survey results into the Technical Memo. CDFW does not currently have access to the results of the bat survey and therefore cannot comment directly on those results. However, the following comments are relevant to the FERC Project, bat survey methodology, and bat ecology.

North American bats use a wide variety of roost sites, including crevice's, cavities and foliage. In a natural setting, this can include dark chambers such as caves or large tree hollows, rock crevices, exfoliating tree bark, and damaged wood snags. Bats will also roost in cave-like spaces and/or crevices in man-made structures, such as old mine workings, cave-like spaces under transformer pads, gaging stations, storage buildings, crevices above sliding doors, control rooms, tunnels, buildings, and bridges. The Project area includes natural aquatic habitats (e.g., reservoirs, rivers), mixed conifer forests, and open habitat that could support roosting, foraging, and migration for various bat species. Large complex structures in the Project area, like the Pool Powerhouse and other associated facilities, offer crevices and cavities that are suitable bat roosting habitat.

A 2001 paper[1] documents six bat species on Lee Vining Creek: big brown bat (*Eptesicus fuscus),* silver-haired bat *(Lasionycteris noctivagans),* hoary bat *(Lasiurus cinereus),* long-eared myotis (*Myotis evotis),* little brown bat (*Myotis lucifugus),* long-legged myotis (*Myotis Volans).* Evaluating the significance of a bat roost from a resource management perspective depends both on what species of bats are present and how those species are using the roost. During the summer months, bats of many species will occupy one site during the day (= day roost) and one or more at night (= night roosts). Night roosts are sites, usually near foraging areas, at which bats rest (often in aggregations) between foraging episodes. In night roosts, they may process large insect prey, feed dependent young, and engage in social interactions. While night roosts are usually sites that offer protection from wind and/or rain, and are somewhat buffered against temperature fluctuations, they also are often in more exposed settings than day roosts. Day roosts are generally selected for low disturbance, protection from predators, and warmth.

During the late spring through the early fall, the most demographically significant roosts are those used by breeding females to raise young (=nursery/maternity roosts). Temperatures in maternity roosts often exceed 37°C. Colony size varies widely among and within species. Those bat species most frequently associated with reservoirs (*Myotis yumanensis* and *Myotis lucifugus*) can form relatively large colonies (from several hundred up to several thousand) in structures, although tree roosts identified by radiotracking are much smaller. Natural features and man-made structures

[1] Pierson, E.D., W. E. Rainey, and C. J. Corben. 2001. Seasonal Patterns of Bat Distribution along an Altitudinal Gradient in the Sierra Nevada.

may also serve as day-roosts for males or non-reproductive females during the summer, as temporary aggregation sites for migrating animals in the spring and fall, and as hibernating sites in the winter.

Only conducting pedestrian surveys for bats during the day is not sufficient to identify bat presence or absence in the Project area. All structures must be visually inspected for bats or bat sign (guano, culled insect parts, or urine stains) during the day, however, additional methods are needed. Any structures that were not completely surveyed or are known to have day roosting bats, must also be observed at evening emergence (from just prior to sunset until one hour after sunset or until 15 minutes after the last bat emerged) using both night vision equipment and one or more bat detectors to record echolocation calls. To guide management recommendations, bat species identification is needed at all structures in the Project area receiving bat use . To facilitate bat species identification, animals should be captured.

- **Comment**: The Progress Report should include at a minimum:
  - A description of the desktop analysis conducted (e.g., CNDDB, literature records, museums records)
  - A list of bat species with the potential (or that have been documented) to occur in the Project area, their conservation status, and an associated species account.
  - A description of the methodology used to conduct the bat surveys of the Project area.
  - A list and map of all SCE's facilities and associated structures in the Project area (e.g., tunnels, gaging stations, storage buildings, control rooms, tunnels, buildings, and bridges), if the facilities were surveyed (or a description of why the facility was not surveyed), when the facilities were surveyed (date and time), and a description of each facility as it relates to bat roosting.

- **Comment**: **Please provide the information requested below.** The following activities were listed in Section 6.1.1 *Pedestrian Surveys* of the *Final Technical Study Plans* filed by SCE on April 25, 2022, but were not mentioned or included in the Progress Report:

  - "*Observations of active or abandoned raptor nests will be recorded using a hand-held Global Positioning System (GPS) unit and mapped onto the field map.*" The Progress Report makes no mention of active or abandoned raptor nests and does not provide GPS points or a map. **Please provide his information with the Progress Report.**

- "*Active searches for reptiles and amphibians will be conducted. Methods will include lifting, overturning, and carefully replacing objects such as rocks, boards, and debris*." The Progress Report makes no mention of amphibian or reptile species or surveys. **Please provide this information, including methodology, with the Progress Report.**

- "*Biologists will perform pedestrian surveys within the terrestrial wildlife study area to (1) ground-truth the potentially suitable habitat maps developed during the literature review and (2) document any wildlife observations. Pedestrian surveys will be performed with binoculars to directly observe wildlife."* The Progress Report makes no mention of the results of ground-truthing the potentially suitable habitat maps developed during the literature review and does not provide the suitable habitat maps. **Please provide this information in the Progress Report.**

- "*All wildlife species observed will be recorded in field notes to species (if possible) and location on field maps*." No maps of wildlife species observed were provided in the Progress Report. **Please provide this information in the Progress Report.**

GIS DATA REQUEST

CDFW requests the following spatial data be provided in as shapefiles or geodatabase:

- Sampling sites for water quality, bacterial, turbidity and fish tissue sampling
- Reaches for the Channel Morphology Study
- Botanical Study Area boundary
- NDVI
  - Sampling plots (wet meadow)
  - Sampling plots (willow riparian scrub)
  - Study Sites (Test)
  - Study Sites (Control)
- Special-status plant species populations
- Tunnel from Ellery to Pool Powerhouse
- Gaging Stations
- Yosemite Toad - 2022 Habitat Survey Area and pools surveyed in 2022
- Terrestrial Wildlife Study Areas

OTHER

- CDFW requests that SCE make the 1933 Sales Agreement between Southern Sierras Power Company and LADWP available on the Projects relicensing website.
- CDFW requests that SCE make the following resource management plans available on the Projects relicensing website:
    - Avian Protection Plan and Bird Nesting Guidelines (includes provisions for reporting wildlife and avian interactions with the Project)
    - Vegetation Management Operations Manual
    - Invasive Mussel Prevention Plan
    - Fire Suppression Plan (part of the Project's Emergency Action Plan)
    - Soil Disposal Plan

CONCLUSION

CDFW appreciates the opportunity to comment on the DLA filed by SCE for the FERC relicensing of the Lee Vining Creek Hydroelectric Project. CDFW looks forward to further discussions with the Technical Working Group members.

If you have any question pertaining to this letter, please contact Alyssa Marquez, at (760) 567-0332 or Alyssa.Marquez@wildlife.ca.gov.

Sincerely,

Trisha A. Moyer

Trisha Moyer

Habitat Conservation Program Supervisor
Inland Deserts Region 6, Eastern Sierra

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SCE RESPONSES TO COMMENTS

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SCE Response to Agency Comments on Lee Vining Progress Report Technical Memos

#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
1	WQ-1	CDFW	**Recommendations:** CDFW does not believe that one year of turbidity logging is sufficient to capture a representative picture of the turbidity in the Lee Vining Creek system. Since turbidity loggers were not installed until summer of 2022, please retain the existing turbidity logger for at least one more year to ensure SCE obtains data for spring and to help detect any turbidity differences between years.	Consistent with the WQ-1 Study Plan, SCE proposes to monitor the following water quality study components in 2023 (the second year of data collection): • reservoir profiles (dissolved oxygen, temperature, pH, specific conductivity, turbidity); • reservoir and stream water quality sampling (in situ; total dissolved solids [TDS], total suspended solids [TSS], ammonium [NH4], nitrate [NO3], and orthophosphate [PO4], total phosphorus [TP]); and • bacterial sampling, and hydro-resource optimization turbidity monitoring. Results will be provided in a Final WQ-1 Technical Report in Spring, 2024.
2	WQ-1	CDFW	**Recommendation:** CDFW recommends SCE manage the Projects operations in a way that allow for elements of the natural flow regime (e.g., pulse flows, baseflows recession flows) to perform distinct ecological and geomorphic functions and provide for specific life history and habitat needs of fish and wildlife species. Input and movement of sediment through river systems during peak flow events is an import ecological and geomorphic function and it is well documented that dams impede and remove sediment from impacted stream reaches downstream of the dams. Reintroduction of the removed sediment into the sediment-starved stream system during peak flow events is a potential solution. However, to implement such protection, mitigation, and enhancement (PME) measures, turbidity levels in the replenished stream system need to remain within the Lahontan Regional Water Quality Control Boards' (LRWQCB) Basin Plan standards. Thus, data on the background turbidity or natural turbidity of the system is required for LRWQCB to determine if reintroduction of sediment into the system would violate the basin plan. To obtain this background turbidity data, CDFW recommends that SCE install turbidity loggers in locations in the stream system that allow for collection of the systems background turbidity. The 2023 anticipated large spring runoff would be a good time to acquire turbidity data during a higher turbidity year.	SCE is not proposing changes to operations. Additionally, any changes made would be susceptible to the recreation management requirements in the existing license. The Lee Vining Creek system is a granitic system with limited sediment throughout. To date, SCE and their Operations team have not noted any significant sediment deposits behind the dams. It is also worth noting that the reservoirs are drained each year, per the existing license requirements, thus reducing additional potential for sediment trapping. First-year study results from 2022 included in the Interim WQ-1 Technical Report (to be distributed spring 2023) indicate turbidity at inflow locations and throughout the FERC Project area is very low. Snow accumulation will likely prevent site access during spring 2023 runoff, water quality data will be collected, spot measurements will be collected as conditions and

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#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
				access allow in addition to the already planned sampling effort, to allow point comparisons to continuous data collected at downstream locations. Results will be provided in a Final WQ-1 Technical Report in Spring 2024.
3	WQ-1	CDFW	**Question:** Why did SCE not conduct In situ turbidity sampling? Will SCE conduct in situ turbidity sampling in 2023?	Turbidity was not collected during Summer 2022 because of probe malfunction in the field. SCE will conduct in situ turbidity monitoring in 2023. Results will be provided in a Final WQ-1 Technical Report in Spring 2024.
4	WQ-1	CDFW	**Question:** How could measuring the depth profiles at the deepest ice-free location, rather than maximum depth, affect the results or interpretation?	As demonstrated by profiles provided in the Progress Report Tech Memo for Ellery and Tioga lakes, water quality conditions are uniform with depth during spring. Thermal stratification may change oxidation/reduction conditions and affect nutrient and metal speciation at depth. Because no stratification was present in Saddlebag Lake in spring, results obtained at shallower depths are sufficient to characterize unsampled (hypolimnetic) portions of Saddlebag Lake.
5	WQ-1	CDFW	**Question:** Why did SCE not collect analytical samples at depth from Saddlebag Lake and Tioga Lake when the reservoirs were stratified? What does SCE intend to do if the lakes cannot be sampled in 2023?	Thermal stratification was not evident in the field; therefore, the field team only collected samples at the surface, consistent with the Study Plan. SCE will collect samples at depth during 2023 water quality sampling at all Project Reservoirs.
6	WQ-1	CDFW	**Question:** Why was water temperature not collected in stream reaches?	In situ and analytical water quality parameters, including water temperature, were collected at all Project reservoirs and stream study sites in spring, summer, and fall. Results will be described in the Interim WQ-1 Technical Report.

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#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
7	WQ-1	CDFW	**Comment:** Please include a discussion in the Progress Report on why data (e.g., pH, temperature, and specific conductivity) varies between reservoirs. For example, why does specific conductance increase at Saddlebag Lake when the depth is greater than three meters?	The intention of the Progress Report Tech Memo was to update stakeholders on the progress of each study at that time. Findings from 2022 data collection are presented in the Interim WQ-1 Technical Report (to be distributed Spring 2023). In addition to stratification effects upon atmospheric exchanges at the water surface, a number of factors may affect variations of in situ water quality between reservoirs and inflowing waters at differing times of the year. Interpretation of results and potential Project effects will be described in the Draft License Application.
8	WQ-1	CDFW	**Comment:** Please include the Target Reporting Limit (for the basin plan) in the Progress Report. Currently, the Progress Report only includes laboratory reporting (RL) and laboratory detection limit (DL).	Target Reporting Limits, as presented within the Lahontan Regional Water Quality Control Boards' (LRWQCB) Basin Plan, will be included in the Interim WQ-1 Technical Report.
9	WQ-1	CDFW	**Request:** Please include graphs in the Progress Report comparing each water quality parameter at all the reservoir locations.	A summary of 2022 water quality data collection at all reservoir locations will be included in the Interim WQ-1 Technical Report.
10	WQ-1	CDFW	**Question:** Many of the orthophosphate samples were received by the analytical laboratory outside of the Environmental Protection Agency (EPA) recommended holding time of the samples. Does SCE plan to retake these samples?	Spring samples were qualified due to shipping times outside of Licensee control. Samples were overnight shipped from Mammoth Lakes to the lab on the day of the collection immediately following sampling. Note that orthophosphate holding times during summer and fall were sufficient, and the same lab was used during spring, summer, and fall sampling. SCE does not currently intend to retake these samples.
11	WQ-1	CDFW	**Request:** Please make the temperature and dissolved oxygen (DO) profiles collected in Project reservoirs in 2015, 2016, and 2017 available to the TWG members.	2015, 2016, and 2017 reservoir profile data from Cohen (2019) will be summarized in the Final WQ-1 Technical Report.
12	WQ-1	CDFW	**Request:** Please provide all preliminary data provided in the PAD in the Progress Report (e.g., links or attachments).	Data presented in the PAD will be incorporated into the Final Technical Reports as appropriate.
13	WQ-1	CDFW	**Comment:** In the Progress Report, please address that DO in Project reservoirs and in Project-affected streams exceeded the published limits for water quality objectives in the LRWQCB Basin Plan.	A comparison to LRWQCB Basin Plan objectives will be provided in the Interim WQ-1 Tech Report. In general, due to site elevations and high temperatures during

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#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
				summer and fall, dissolved oxygen concentrations in Project reservoirs, Project-affected stream reaches, and reservoir inflow locations are near or below minimum water quality objectives both above and below Project reservoirs.
14	AQ-1/2	CDFW	**Comment:** CDFW has reviewed the 2022 Progress Report and does not currently have concerns assuming that the fish sample size is of sufficient size to assess fish populations in the streams and reservoirs.	Comment noted.
15	AQ-1/2	CDFW	**Questions**: Did surveyors observe anchor ice formation in the stream reaches?	No observations of anchor ice were made during the 2022 stream fish surveys.
16	AQ-1/2	CDFW	**Comment:** The mortality of fish can be reduced by watching set gill nets.	Thank you for your comment. Gill-netting study methods were adjusted in the field to address concerns of fish injury; method adjustments included increasing net check frequency and reducing total soak times. Because gill nets were deployed at night to increase capture rates for nocturnal salmonid (e.g., brown trout) and at depths of 20 feet or more in many locations, fish could not be observed in the net without pulling the net to the surface. Watching gill nets while they were deployed was not a suitable approach for reducing fish injury and mortality.
17	AQ-3	CDFW	The aquatic habitat mapping and sediment characterization study has not been implemented yet and CDFW has no comments.	Comment noted.
18	AQ-4	CDFW	The aquatic invasive plant study has not been implemented yet. However, CDFW would like to take this opportunity to restate CDFW comments provided to SCE on 1/14/2022 during the PAD Comment period: CDFW requested that nutrient monitoring of Project reservoir hypolimnion and outlets be conducted to determine the potential impact on the growth and spread of the nonnative, invasive Didymo (*Didymosphenia geminate*). This request was provided for the WQ-1 Study Plan but is also relevant here. SCE has not included sampling of the Project reservoir outlets for nutrients in the WQ-1 Study Plan but did mention that nutrient concentrations were measured in all Project reservoirs and their outlet streams between 2015 and 2017. Please provide this data in future Progress Reports.	Please see Table 5.2-8 of the PAD for a summary of nutrients (ammonium [NH4], nitrate [NO3], and orthophosphate [PO4]) and dissolved oxygen (DO) concentrations measured in Project reservoirs and their outlet streams between 2015 and 2017. Results of Study AQ-4 (Aquatic Invasive Plants) and nutrient data, including both historic and Study WQ-1 results, will be evaluated in the Draft License Application.

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#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
19	AQ-5	CDFW	**Recommendation**: Section 3.2.2 describes the development of a Resource Optimization Model that is being used to "form an understanding of the properties of resource optimization operations in Lee Vining Creek." It is unclear whether SCE plans to share any of the information in the Resource Optimization Model with relicensing participants. CDFW requests that any results of the resource optimization be shared with relicensing participants so that stakeholders may understand how the Project is being used to optimize environmental, water delivery, and power generation during the life of the next FERC license.	SCE will provide stakeholders with the Resource Optimization Model and seek stakeholder input on the model later this year (2023). The model is still being developed and cannot be shared yet.
20	AQ-5	CDFW	**Recommendation:** This section states that "upon completion and calibration, the model will be distributed to interested stakeholders for review and comment." As requested in the February 1, 2023, Progress Report Meeting, CDFW recommends that SCE's modelers meet with interested stakeholders in small-group technical team meetings during the process of calibration and before completion of the modeling, not after. Stakeholders may have suggestions for improvement of the model platform that would allow the model to be most effectively used to evaluate a range of different potential alternative flow proposals.	Per discussions at the February 1, 2023, Progress Report Meeting, SCE intends to hold an Aquatics TWG meeting in May 2023 to discuss the operations model and to seek stakeholder input.
21	AQ-5	CDFW	**Comment**: CDFW has concerns regarding several aspects described in the Operations Modeling Technical Memo. Specifically, the lack of 1) development of unimpaired hydrology and 2) lack of a path for stakeholders to consider and compare the tradeoffs between Project revenue and alternative flow scenarios. In CDFW's study plan request sent on March 25, 2022, CDFW requested that along with the operations modeling, unimpaired hydrology should be developed by SCE at multiple points in the stream system. CDFW stated that unimpaired hydrology is used when considering the results of other resource studies and aquatic populations in the watershed and would be used to compare to historic operations as well as proposed operational scenarios when developing resource management measures. In the Final Technical Study Plans, filed by SCE on April 25, 2022, SCE rejected CDFW's request and stated that SCE and FERC use the current baseline conditions (existing Project) to identify and analyze any potential effects. CDFW disagrees and urges SCE to develop an unimpaired hydrologic dataset for	SCE appreciates that the operations model will need to clarify parameters that are used to manage the resource optimization flows; however, it is not anticipated that stakeholders will be provided with a model to "compare Project revenue and alternative flow scenarios." It is proposed that SCE and stakeholders identify measures that meet their desired future conditions based on the benefits to environmental resource management, and SCE will then determine if the economics of the Project will support those measures and propose alternate operations as needed. For relicensing purposes, the project baseline is the existing conditions of the Lee Vining Project. SCE's approach is to develop the unimpaired hydrograph as represented by reservoir inflows on a daily basis, and therefore the model will be able to discern the natural

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#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
			the Project. The unimpaired hydrologic dataset is not only used to compare to pre-Project conditions, but is used during the development of protection, mitigation and enhancement (PM&E) measures to look at functional flow information including low flows, pulse flows, snowmelt runoff information, and seasonal high flows, if necessary, to improve aquatic habitats. The stated goal of this study is to "Develop a robust Operations Model to assist SCE and stakeholders in understanding how Project operations interact with Lee Vining hydrology." Although SCE only hopes to compare to existing conditions, there is no way to assess what components of a hydrograph can be restored without understanding the timing and magnitude of available water.	hydrograph in Lee Vining Creek and Glacier Creek above Ellery Lake. Certain inputs from ungauged sources (Slate Creek and Warren Fork) will add uncertainty. SCE would like confirmation on what CDFW means by unimpaired hydrologic data set (if different from what is described above) and what information is being requested with regards to "specific locations," recognizing that there will be very little difference between inflows and locations in bypass reaches given how the Project operates (that is, essentially as "run-of-project" with minimal discretion as provided by constraints on reservoir operations set by Forest Service Conditions and the Sales Agreement). SCE has already proposed a Technical Working Group (TWG) meeting in May 2023 to discuss model parameters, and we suggest this can be explored further at that meeting (planned for May 2023).
22	AQ-5	CDFW	CDFW additionally requested in our March 25, 2022, letter that the operations model should include a module or post processing tool that allows all relicensing participants and FERC to understand clearly the financial impact (both gross generation and revenue) of new bypass requirements, ramping rate changes, and pulse flow requirements on Project finances. In the Final Technical Study Plans, filed by SCE on April 25, 2022, SCE rejected this request stating that SCE considers generation and revenue to be internal considerations that should not drive discussions surrounding potential effects. CDFW disagrees with this assessment, and notes that most PM&E discussions in FERC relicensing's are driven by financial as well as water management implications of any alternative proposals. As CDFW noted in our study plan comments, in discussions of PM&E measures, all relicensing participants should have the ability to understand how any proposed measures are balanced with Project generation impacts. Without this tool, SCE can say "yes" or "no" to PM&E measures, but both FERC and relicensing participants have no ability to understand why those decisions were made and where there is negotiating space and potential tradeoffs to be made around each of those potential	See comments above regarding sharing granular data regarding the financial connection between operational inputs. SCE makes business decisions on a range of valuations and the type of data being described in this request represents only part of the picture and is overly simplistic. Exhibit D of the Draft and Final License Application will provide a connection between the revenue/costs associated with each PME and that provides FERC and stakeholders with data to understand how SCE assigns valuation to its operational decisions. Exhibit D, Exhibit H, and the developmental analysis in Exhibit E provide sufficient information for FERC to meet its requirements under sections 4(e) and 10(a)(1) of the Federal Power Act. SCE's obligation is to provide this information to FERC in its expected format. FERC will include this information in its NEPA along with the environmental

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#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
			measures. Sections 4(e) and 10(a)(1) of the Federal Power Act requires the Commission to give equal consideration to the power development purposes and to the purposes of energy conservation; the protection of, mitigation of damage to, and enhancement of fish and wildlife; the protection of recreational opportunities; and the preservation of other aspects of environmental quality. With no financial analysis to consider the power generation benefits of one alternative proposal versus another, there is no way for any entity except SCE to determine whether there is any balancing of power generation versus enhancement to fish and wildlife. CDFW is making the request now to SCE to develop unimpaired hydrology and a method to look at overall and peaking generation comparisons of operations model alternatives. If these components are not developed at this step in the relicensing, CDFW will plan to submit these during third stage consultation as specified in the Traditional Licensing Process (TLP) regulations. CDFW staff recommend that these tools be developed by SCE and utilized now so that they may be used during relicensing PM&E measure discussions.	analysis and stakeholders will have multiple opportunities to review and comment. Regarding the second part of this comment (unimpaired hydrology), please see response to comment #21. SCE has no objections, provided this does not lead to a significant expansion of data collection. There are ungauged streams about which SCE has limited knowledge –a rational method for extracting that hydrology and folding it into our dataset can be provided, but SCE does not agree with the need for additional gaging and field data collection to provide this requested information.

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#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
23	AQ-6	CDFW	**Comment:** CDFW has concerns about the lack of assessment of the channel morphology within the FERC Project area. CDFW believes that it is necessary to gather channel morphology data within the FERC Project area to understand the habitat-flow relationship, to protect wildlife resources and inform future licensing conditions. In CDFW's study plan request sent on March 25, 2022, CDFW requested that an instream flow study be conducted within the FERC Project area. In the Final Technical Study Plans, filed by SCE on April 25, 2022, SCE rejected this request stating that CDFW's new flow study was submitted after the comment period and that the AQ-3 Aquatic Habitat Mapping and Sediment Characterization study addresses CDFW's request for a qualitative habitat mapping study. It is CDFW's understanding that after the first stage of consultation is concluded (ending after all participating agencies, Native American tribes, and members of the public provide written comments or 60 days after the joint meeting is held [up to 120 days, if extended], whichever occurs first), resource agencies can request the applicant to do necessary and appropriate studies or gather additional information. CDFW does not agree that the AQ-3 study addresses CDFW's request. AQ-3 does not propose to conduct surveys to document the current flow-habitat relationship within the Project area. AQ-3 is currently designed with the view that the limiting factor for trout is available spawning habitat, but CDFW does not agree with this viewpoint and believes an instream flow study is necessary to inform decision making. Additionally, the determination of available spawning habitat should be supported by a proportional stock distribution analysis. The 1992 instream flow analysis for brook and brown trout should not be the sole habitat-flow data utilized to inform license conditions 30 years later and an updated instream flow analysis conducted within the FERC Project area needs to be conducted. Due to the underlying glacial geology and the steep gradient of the Lee Vining Creek system within the Project area, CDFW believes using a Habitat Criteria Mapping Method or MesoHABSIM would be more appropriate than an Instream Flow Incremental Methodology (IFIM).	Although dams can affect channel morphology by trapping sediment and altering flow regimes, sediment accumulation behind Lee Vining Project dams has not been identified as an issue by SCE or stakeholders. Further, SCE does not propose to alter peak or minimum streamflows from existing conditions. SCE is evaluating channel morphology in the reach below Poole Powerhouse where hydro-optimization occurs in Study AQ-6. Additionally, existing information to describe habitat-flow relationships throughout Lee Vining Creek, including the following reaches: Upper Lee Vining Creek between Saddlebag and Ellery Lake (SCE, 1986) and Lower Lee Vining Creek below Poole Powerhouse (FERC, 1992). No instream flow studies have been conducted or proposed on Glacier Creek below Tioga Lake; instream flow assessments in this reach would not significantly inform PME measures because of the limited amount of storage available and the overarching habitat management goal of maintaining year-round flow in the creek. Study AQ-3 was designed in response to a CDFW request during TWG Meetings for qualitative assessment of habitat and characterization of sediments; it is not focused solely on spawning. SCE did not reject the referenced study request in 2022 due to timeliness, it was rejected because SCE believes it to be unnecessary and unwarranted. No Study Requests meeting FERC Study Request Criteria described in 18 CFR §5.9 have been received surrounding this topic. Study AQ-3 Habitat Mapping and Sediment Characterization includes a survey of the entire FERC Project Boundary. Further, stock distribution will be assessed for potential Project effects

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#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
				in the Draft License Application. CDFW believes Habitat Criteria Mapping would be a more appropriate methodology than PHABSIM for establishing habitat-flow relationships for brown and brook trout. The justification provided by CDFW is based on the age of the data and glacial geology and the steep gradient of the Lee Vining Creek system within the FERC Project area. PHABSIM studies have been effectively implemented in dozens of high-gradient streams in California for decades, including CDFW's Instream Flow Incremental Methodology studies of nearby Mill Creek, Wilson Creek, and Rush Creek. SCE disagrees that the existing information is no longer valid and believes that outcomes of a new instream flow study would be similar to those already existing because of the steep and stable nature of the channel. The new study would also require a significant level of effort and would not provide significant additional information for developing PME measures. SCE intends to have conversations with the Agencies about the appropriate flow regime for Lee Vining and Glacier creeks prior to the development of the Final License Application.

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#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
24	TERR-1	CDFW	**Comment:** Mountain bent grass (Agrostis humilis) is listed as a rank 2B.3 plant, meaning, except for being common beyond the boundaries of California, plants with a California Rare Plant Rank of 2B would have been ranked 1B. From the federal perspective, plants common in other states or countries are not eligible for consideration under the provisions of the Federal Endangered Species Act (FESA). With California Rare Plant Rank 2B, the California Native Plant Society (CNPS) recognizes the importance of protecting the geographic range of widespread species and protects the diversity of California's flora to help maintain evolutionary processes and genetic diversity within species. All of the plants constituting California Rare Plant Rank 2B meet the definitions of the California Endangered Species Act (CESA) of the California Fish and Game Code (FGC) and are eligible for state listing. Impacts to these species or their habitat must be analyzed during preparation of environmental documents relating to the California Environmental Quality Act (CEQA), or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380. Ranks at each level also include a threat rank, with mountain bent grass identified as 0.3 – Not very threatened in CA (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known). However, since the Threat Rank guidelines only represent a starting point in the assessment of threat level, other factors such as habitat vulnerability and specificity, distribution, and condition of occurrences, are also considered in setting the Threat Rank.	Comment noted.
25	TERR-1	CDFW	**Comment:** The CNPS identifies that mountain bent grass is threatened by foot traffic and vehicles and possibly threatened by grazing and trampling. SCE should identify the potential for these threats and any other threats (e.g., maintenance activities) at each population location to determine the vulnerability, condition of occurrences and if PME measures are needed (e.g., signage, fencing).	Project-related effects will be addressed in the Draft License Application.

SCE Response to Agency Comments on Lee Vining Progress Report Technical Memos

#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
26	TERR-1	CDFW	**Comment:** On January 14th, 2022, CDFW proposed a Riparian Monitoring and Community Health Study. SCE responded that 'sufficient data exists from ongoing Riparian Monitoring Evaluations conducted as part of the license'. SCE has shared with CDFW via email various Riparian Reports associated with the existing FERC License requirements; however, these reports should be made available for review on the Projects relicensing website. Additionally, SCE responded in the Revised Technical Study Plans that raw data would be provided to the TWG. This data should also be made available on the Projects relicensing website. Although SCE has not agreed to conduct additional evaluations of riparian communities within the FERC Project boundary, all existing available data that SCE produced as part of the license (e.g., riparian monitoring and evaluations) should be made available for review now. Providing this data later with the Draft License Application will not provide stakeholders sufficient time to review the data in a meaningful way.	The historic riparian reports are available on the FERC E-library and several have been previously shared on a secure Project Sharefile folder. This folder has been updated to include the latest information and has been distributed to stakeholders. Raw data conducted as part of the relicensing will be provided to stakeholders via Sharefile after it has been through a proper Quality Assurance / Quality Control process.
27	TERR-1	CDFW	Much of the Botanical Resource study area is outside of the FERC Project area and is focused only around Project facilities or recreational areas. Does sufficient data exist to provide a baseline of the distribution of special status plant species within the FERC Project area? Additionally, the Botanical Resource study area does not encompass Lee Vining Creek just east of the Sawmill campground, an area disturbed by several fishing access trails. Documentation of special status plant species around fishing access trails is necessary to determine Project impacts related to recreation.	Prior to going into the field, a literature review was conducted to identify special-status and invasive plant species with potential to occur (or have been reported to occur) in the FERC Project Boundary. The study area focused on areas surrounding above-ground Project facilities, areas within the influence of the Project operations and formal INF recreation facilities. The area around Lee Vining Creek below Sawmill Campground is considered dispersed use, is not an official INF recreation facility and includes no formal trails. Additionally, this area is not within influence of Project operations. For these reasons, SCE does not intend to survey this area.
28	TERR-1	USFS	Botanical survey should include areas used to access project infrastructure such as the Saddlebag Lake dam. The Forest Service requests a thorough review of the project area to identify similar locations that have not been surveyed. (See Figure "Inyo NF Botany Survey Review 6 Feb 2023").	The access road to Saddlebag Lake dam will be added to the botanical survey area this summer (2023).

SCE Response to Agency Comments on Lee Vining Progress Report Technical Memos

#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
29	TERR-2	CDFW	**Comment:** In Section 6.1.1 Pedestrian Surveys of the Final Technical Study Plans filed by SCE on April 25, 2022, it states that "All Project facilities will be inspected for evidence of bat roosting." The Progress Report does not mention that bat surveys were conducted, and no associated results of those surveys are provided. During the Feb 1, 2022, meeting Psomas (SCE Consultants) stated that they thought bat surveys were conducted and subsequently followed up with an email stating they performed the effort and would incorporate bat survey results into the Technical Memo. CDFW does not currently have access to the results of the bat survey and therefore cannot comment directly on those results. However, the following comments are relevant to the FERC Project, bat survey methodology, and bat ecology. North American bats use a wide variety of roost sites, including crevice's, cavities and foliage. In a natural setting, this can include dark chambers such as caves or large tree hollows, rock crevices, exfoliating tree bark, and damaged wood snags. Bats will also roost in cave-like spaces and/or crevices in man-made structures, such as old mine workings, cave-like spaces under transformer pads, gaging stations, storage buildings, crevices above sliding doors, control rooms, tunnels, buildings, and bridges. The Project area includes natural aquatic habitats (e.g., reservoirs, rivers), mixed conifer forests, and open habitat that could support roosting, foraging, and migration for various bat species. Large complex structures in the Project area, like the Pool Powerhouse and other associated facilities, offer crevices and cavities that are suitable bat roosting habitat. A 2001 paper1 documents six bat species on Lee Vining Creek: big brown bat (*Eptesicus fuscus*), silver-haired bat (*Lasionycteris noctivagans*), hoary bat (*Lasiurus cinereus*), long-eared myotis (*Myotis evotis*), little brown bat (*Myotis lucifugus*), long-legged myotis (*Myotis Volans*). Evaluating the significance of a bat roost from a resource management perspective depends both on what species of bats are present and how those species are using the roost. During the summer months, bats of many species will occupy one site during the day (= day roost) and one or more at night (= night roosts). Night roosts are sites, usually near foraging areas, at which bats rest (often in aggregations) between foraging episodes. In night roosts, they may process large insect prey, feed dependent young, and engage in	Bat roost surveys were conducted as specified in the Study Plan but were not included in the technical memo. Survey documentation/observations will be included in the Final Technical Report.

SCE Response to Agency Comments on Lee Vining Progress Report Technical Memos

#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
			social interactions. While night roosts are usually sites that offer protection from wind and/or rain, and are somewhat buffered against temperature fluctuations, they also are often in more exposed settings than day roosts. Day roosts are generally selected for low disturbance, protection from predators, and warmth. During the late spring through the early fall, the most demographically significant roosts are those used by breeding females to raise young (nursery/maternity roosts). Temperatures in maternity roosts often exceed 37°C. Colony size varies widely among and within species. Those bat species most frequently associated with reservoirs (*Myotis yumanensis* and *Myotis lucifugus*) can form relatively large colonies (from several hundred up to several thousand) in structures, although tree roosts identified by radiotracking are much smaller. Natural features and man-made structures may also serve as day-roosts for males or non-reproductive females during the summer, as temporary aggregation sites for migrating animals in the spring and fall, and as hibernating sites in the winter. Only conducting pedestrian surveys for bats during the day is not sufficient to identify bat presence or absence in the Project area. All structures must be visually inspected for bats or bat sign (guano, culled insect parts, or urine stains) during the day, however, additional methods are needed. Any structures that were not completely surveyed or are known to have day roosting bats, must also be observed at evening emergence (from just prior to sunset until one hour after sunset or until 15 minutes after the last bat emerged) using both night vision equipment and one or more bat detectors to record echolocation calls. To guide management recommendations, bat species identification is needed at all structures in the Project area receiving bat use. To facilitate bat species identification, animals should be captured.	

SCE Response to Agency Comments on Lee Vining Progress Report Technical Memos

#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
30	TERR-2	CDFW	**Comment:** The Progress Report should include at a minimum: - A description of the desktop analysis conducted (e.g., CNDDB, literature records, museums records) - A list of bat species with the potential (or that have been documented) to occur in the Project area, their conservation status, and an associated species account. - A description of the methodology used to conduct the bat surveys of the Project area. - A list and map of all SCE's facilities and associated structures in the Project area (e.g., tunnels, gaging stations, storage buildings, control rooms, tunnels, buildings, and bridges), if the facilities were surveyed (or a description of why the facility was not surveyed), when the facilities were surveyed (date and time), and a description of each facility as it relates to bat roosting.	Comment noted. Bat roost surveys were conducted as specified in the Study Plan. Survey documentation/observations will be provided in the Final Technical Report.
31	TERR-2	CDFW	**Comment:** Please provide the information requested below. The following activities were listed in Section 6.1.1 Pedestrian Surveys of the Final Technical Study Plans filed by SCE on April 25, 2022, but were not mentioned or included in the Progress Report: "Observations of active or abandoned raptor nests will be recorded using a hand-held Global Positioning System (GPS) unit and mapped onto the field map." The Progress Report makes no mention of active or abandoned raptor nests and does not provide GPS points or a map. Please provide his information with the Progress Report. "Active searches for reptiles and amphibians will be conducted. Methods will include lifting, overturning, and carefully replacing objects such as rocks, boards, and debris." The Progress Report makes no mention of amphibian or reptile species or surveys. Please provide this information, including methodology, with the Progress Report. "Biologists will perform pedestrian surveys within the terrestrial wildlife study area to (1) ground-truth the potentially suitable habitat maps developed during the literature review and (2) document any wildlife observations. Pedestrian surveys will be performed with binoculars to directly observe wildlife." The Progress Report makes no mention of the results of ground-truthing the potentially suitable habitat maps developed during the literature review and does not provide the suitable habitat maps.	Raptor nest observations and locations will be provided in the Final Technical Report. Both reptile and amphibian species observed during the surveys are listed in the wildlife compendium within the Progress Report Tech Memo. The herpetofauna survey methods match those listed in the Technical Study Plan as noted on page G-5 of the Progress Report Tech Memo. The Final Technical Report will include a discussion of results from ground-truthing potentially suitable habitat identified during the literature search. Locations of wildlife species observations were included in the compendium, but not shown on a field map; maps showing observed species' general locations will be provided in the Final Technical Report.

SCE Response to Agency Comments on Lee Vining Progress Report Technical Memos

#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
			Please provide this information in the Progress Report. "All wildlife species observed will be recorded in field notes to species (if possible) and location on field maps." No maps of wildlife species observed were provided in the Progress Report. Please provide this information in the Progress Report.	
32	Other	CDFW	CDFW requests the following spatial data be provided as shapefiles or geodatabase: - Sampling sites for water quality, bacterial, turbidity and fish tissue sampling - Reaches for the Channel Morphology Study - Botanical Study Area boundary - NDVI -- Sampling plots (wet meadow) -- Sampling plots (willow riparian scrub) -- Study Sites (Test) -- Study Sites (Control) - Special-status plant species populations - Tunnel from Ellery to Pool Powerhouse - Gaging Stations - Yosemite Toad - 2022 Habitat Survey Area and pools surveyed in 2022 - Terrestrial Wildlife Study Areas	All the requested GIS data will be provided to stakeholders via a secure Sharefile link once it has been through a proper Quality Assurance / Quality Control process.
33	Other	CDFW	CDFW requests that SCE make the 1933 Sales Agreement between Southern Sierras Power Company and LADWP available on the Projects relicensing website.	The Sales Agreement will be provided via a secure ShareFile link.
34	Other	CDFW	CDFW requests that SCE make the following resource management plans available on the Projects relicensing website: - Avian Protection Plan and Bird Nesting Guidelines (includes provisions for reporting wildlife and avian interactions with the Project) - Vegetation Management Operations Manual - Invasive Mussel Prevention Plan - Fire Suppression Plan (part of the Project's Emergency Action Plan) - Soil Disposal Plan	The requested management plans will be posted via a secure ShareFile link.

SCE Response to Agency Comments on Lee Vining Progress Report Technical Memos

#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
35	REC-1	USFS	Study results (Table 4-3) indicate substantial use of the upper canyon for recreation by campers staying at Lower Lee Vining Campground (22%) and Moraine Campground (29%). Survey results at both locations are within the 50% confidence interval threshold established by SCE. INF requests that these locations be included in the 2023 continuation of REC-1 to capture potential use displaced by the lack of available campsites in the upper canyon. Displaced visitors are exactly the people who could be best able to inform the extent to which additional camping capacity may be needed in the upper canyon.	While SCE agrees the 50% confidence interval threshold is met by both the Lee Vining Campground and Moraine Campground neither of the sites meet the 55% threshold for recreationists recreating in Upper Lee Vining Canyon which was also utilized. Additionally, surveyors asked recreationists if the campground they were staying at was their preferred location. Of the twenty-four (24) recreationists surveyed at the Moraine Campground, none of them indicated they preferred to stay somewhere else. Of the thirty-six (36) recreationists surveyed at the Lower Lee Vining Campground three (3) indicated they would have preferred to stay somewhere other than the sites listed in the survey, one (1) indicated they preferred to stay at Moraine Campground, one (1) indicated they preferred to stay at Tioga Lake Campground however no sites were available. Additionally, it is SCE's understanding, based on conversations at the March 1 REC Technical Working Group meeting, that the USFS feels that information gathered at these locations would be useful in the event that recreation facilities in the FERC Project area need to be expanded and facilities in the Upper Lee Vining Canyon are limited due to geography and topography. However, it is SCE's position that gathering this data now would be premature and there is currently no nexus to these facilities. For these reasons, SCE does not intend to include these two sites in the REC-1 2023 surveys.
36	REC-1	USFS	Because winter 2022/2023 may be a near-record snow year, springtime could present an opportunity to measure substantial over-snow recreation in the project area including snowmobiling and skiing. The INF requests that the 2023 survey be designed to capture over-snow use in addition to summer recreation uses by surveying in April and May.	Snowmobiling and skiing were not previously identified as recreation opportunities to be included, and SCE does not see any Project nexus with these over-snow activities. However, SCE will include them as activity options in the 2023 survey forms when interacting with

SCE Response to Agency Comments on Lee Vining Progress Report Technical Memos

#	STUDY PLAN	AGENCY	AGENCY COMMENT	RESPONSE
				recreators. Once Tioga Pass Road opens and surveyors are in the Project Area, recreators engaging in these activities will be included opportunistically at the previously identified survey locations. For purposes of ensuring that over-snow use is adequately described in the License Application, SCE would welcome an opportunity to incorporate the revised management plan being developed by the USFS for this area.
37	REC-2	USFS	Based on the findings from REC-1 in 2022, recreation in the upper canyon was the primary activity for users of Sawmill Walk-in Campground and Junction Campground (Figure 4-1). Include these campgrounds in the recreation facilities condition survey in 2023. Survey responses at both campgrounds are well within the 50% confidence interval threshold set by SCE in REC-1.	These campgrounds have been added to the 2023 REC-2 Recreation Facilities Condition Assessment.
38	REC-2	USFS	REC-1 results indicate that a substantial portion of visitors staying at Lower Lee Vining Campground (22%) and Moraine Campground (29%) recreate in the upper canyon as their primary activity. These two lower canyon campgrounds should be included in the REC-2 recreation facilities condition assessment in 2023 because of their potential nexus with the project and the possibility that improving these campgrounds may be an option if improvements at upper canyon campgrounds are prevented by physical or biological constraints.	SCE does not intend to include these sites in the REC-2 study for the reasons previously discussed above (comment 35).

B-69_Discussion re 2023 RTE special status plant surveys and permits (attached 2022 permit)

From:	Allison Rudalevige
To:	Richard.McNeill@usda.gov; Shannon Luoma; Carissa Shoemaker
Cc:	Brad Blood; sandyleatherman@aol.com
Subject:	Lee Vining relicensing 2023 plant surveys
Date:	Friday, April 14, 2023 12:42:00 PM
Attachments:	Rudalevige_Botanical_Collection_Permit_signed_20220211.pdf

Hello Richard-
We're beginning preparations for the 2023 RTE and other special status plant surveys for the Lee Vining relicensing. We anticipate two weeks again, one in late July and the other in late August (depending on snow melt). Could you please send permits to collect in the INF for this season? One for me (see my attached permit from last year) and one for Sandy Leatherman (her information is listed below).

Also, since we will be updating the literature review, could you please send me the latest list of INF Species of Conservation Concern? I would like to make sure nothing has changed since the version we received from Blake a few years ago. Thank you.
~Allison

Sandra Leatherman
4848 Lakeview Ave, Suite 100E
Yorba Linda, CA 92886
Phone: 714-701-0863

Make: Toyota
Model: Forerunner
Year: 2016
Color: White
License Plate: 7TBG447
State: CA

Allison D. Rudalevige
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www.Psomas.com

B-69_Discussion re 2023 RTE special status plant surveys and permits (attached 2022 permit)

U.S. DEPARTMENT OF AGRICULTURE - FOREST SERVICE

Region: PACIFIC S-WEST
National Forest:INYO
Ranger District: WHITE MTN

FOREST PRODUCT FREE USE PERMIT
PERSONAL USE ONLY (Not For Resale)
(Ref. FSM 2460 and FSH 2409.18)

FS-2400-8 (2/98)
OMB No. 0596-0085
Expires 01/31/2002

Permittee's Name and Complete Address:	Issue No	Preparation Date	
Allison D. Rudalevige 12171 Canter St Garden Grove, CA 92845		11 Feb 2020	
	Effective Date	Termination Date	Load Ticket Numbers
	11 Feb 2022	12/31/2022	From Thru
	Permit Area Description:		From Thru

Inyo National Forest except for locations as noted below.
Primarily the Lee Vining Creek watershed. Collections are allowed in campgrounds, picnic areas and along roads and trails. Collection of Regional Forester's Sensitive Species and Species of Conservation Concern are allowed.

Permittee Identification	Phone
	714-325-0129

Vehicle Information:
Year: 2016 License Plate: 7GGJ295
Make: Subaru State: CA
Color: green Model: Forester

Remarks: Permits collection of non-woody plants and leaves and reproductive structures of woody plants.

PRODUCT DESIGNATION

Species	Product	Unit of Measure	Quantity	Rate Per UOM Products	Total Value (Free)
Other vegetative material	Other plants	lbs	10	$0.05	$0.05
				Total Permit Value	$0.05

GENERAL CONDITIONS

Subject to and in strict compliance with all the following conditions and those listed above, the Permittee named herein is authorized to cut and remove the forest product described above.

1. Forest products obtained under "Free Use" are for personal use only and cannot be sold or exchanged (36 CFR 261.6(f)).
2. Permit must be in the Permittee's possession while harvesting and transporting products.
3. This permit is nontransferable.
4. This permit and activities hereunder are subject to all applicable Federal Statutes and Regulations, and State and local laws.
5. No motorized vehicles are allowed off existing roads open to the public, unless otherwise specified within this permit. Permittee parking shall not block traffic.
6. Permittee shall remove all trash and litter resulting from Permittee's activities. Concurrent with forest product removal activities, unused vegetative material shall be removed from roads and ditches.
7. Permittee shall prevent and suppress forest fires; dispose of slash resulting from Permittee's activities; pay the United States for any unnecessary damage resulting from Permittee's activities; and repair all damage to roads, trails, fences, ditches, and telephone lines resulting from Permittee's activities under this permit.
8. The Forest Service reserves the right to unilaterally revoke this permit for Permittee's noncompliance with its terms and conditions or when revocation is in the public's interest.
9. The permit will terminate on the date indicated regardless of whether forest products are removed.
10. None of the terms or conditions of this permit may be varied or modified except for unilateral modifications by the Forest Officer that signed this permit, the Forest Officer's successor, or superior officer.

OTHER CONDITIONS

1.Field collections will be performed only by the lead Investigator or botanical personnel under their direct field supervision. The permittee must certify that those doing the collections have the qualifications necessary to properly identify the species collected.
2.The permittee is encouraged to prepare a voucher specimen for each species collected during the survey and deposit the voucher in a scientifically recognized herbarium. The permittee is requested to advise the agency of the herbarium selected.
3.The permittee will provide the Forest Service with a list of the species collected, quantity taken, and location sites by Forest.
4.The permittee is encouraged to provide the Forest Service with one copy of each publication or report resulting from this collection and advise the Forest of any materials collected that are conveyed to a third party.
5.The Forest Service may use the information obtained through this permit as needed, to further the management and conservation of the species collected under this permit.
6.Collection or disturbance of any federally listed, threatened or endangered species ~~or any Regional Forester's~~ ~~Sensitive Plant Species~~ shown on the attached list is prohibited.
7.Entry into closed areas is prohibited.
8.Collecting specimens in Research Natural Areas or ~~Forest Service Campgrounds or Picnic Areas~~ is prohibited.
9.The granting of this permit does not convey any rights for future collection.
10.The permittee will gather, disturb, or take specimens only for educational or scientific purposes, and will take only such specimens as are absolutely necessary for the uses specified.
11.The permittee will collect within 200 feet of Forest roads or trails, and within Wilderness, Botanical, or Scenic Areas only when necessary to voucher specimens not readily available elsewhere. Careful collection in these areas should be done so as not to give the appearance to others that general collection of wildflowers by unpermitted individuals is allowed.

SIGNATURES

Allison D. Rudalevige 2/14/2022

PERMITTEE SIGNATURE Date FOREST OFFICER SIGNATURE Date

Under the Paperwork Reduction Act of 1995, an agency shall not conduct or sponsor, and no persons are required to respond to, a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0085. Public reporting burden for this collection of information is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

B-70_Notice from Bridgeport Indian Colony

From: Carissa Shoemaker
To: Arianna Bresnan
Cc: Lauren Rosenkranz
Subject: FW: (External):Bridgeport Indian Colony
Date: Thursday, April 20, 2023 11:10:15 AM

For consultation log

Carissa Shoemaker

My part-time work schedule is generally as follows: Tuesday morning, Thursday morning, and all day Friday.
I can be available outside of these times if given advanced notice.

ERM
M 907 575 0294

From: Lynn Johnson <lynn@teamenvironmental.com>
Sent: Wednesday, April 19, 2023 10:46 AM
To: Audry Williams <Audry.Williams@sce.com>
Cc: Naomi Jensen <naomi@teamenvironmental.com>; Mary Farrell <mary@teamenvironmental.com>
Subject: (External):Bridgeport Indian Colony

***** EXTERNAL EMAIL - Use caution when opening links or attachments *****
Hello Audry,

This came in just before today's TWG meeting started:

Mrs. Johnson,
Thank you for the letter and invitation regarding the project in Lee Vining. The Bridgeport Indian Colony views these issues very important to us as a Tribe and fully support your effort on including us in the conversation. At this point, we defer all negotiations and decision making to the Mono Lake KuKootzaduka Tribe.
At anytime we will make ourselves available and show support when needed. Thank you for allowing us to respond.

Respectfully,
Debbie Lundy-Painter,
CULTURE COORDINATOR

Lynn Johnson
Ethnographer/Historian
lynn@teamenvironmental.com

TEAM ENVIRONMENTAL
459 W. Line Street, Suite A, Bishop, CA 93514
O 760-872-1033 / **M** 760-258-7306

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SOUTHERN CALIFORNIA EDISON
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Lee Vining, FERC Project No. 1388

CULTURAL AND TRIBAL RESOURCES TWG MEETING NOTES
APRIL 19, 2023; 10:00 AM – 11:30 AM PDT

**These meeting notes are documentation of general discussions from the meeting held on the above-noted date. These notes are not a verbatim account of proceedings, are not meeting minutes, and do not represent any final decisions or official documentation for the project or participating agencies.*

1. Attendees

Relicensing Team Members
Audry Williams, SCE
Barb Siskin, FarWestern
Carissa Shoemaker, ERM
Finlay Anderson, Kleinschmidt
Jay King, FarWestern
Kelly Larimer, Kleinschmidt
Lynn Johnson, TEAM Environmental
Mary Farrell, TEAM Environmental
Matthew Woodhall, SCE
Naomi Jensen, TEAM Environmental
Shannon Luoma, Kleinschmidt

Agencies, Tribes, and Interested Stakeholders
Ashley Blythe-Haverstock, USFS
Jacqueline Beidl, USFS
Kathy Bancroft, Lone Pine Paiute-Shoshone Tribe
Raymond Andrews, Bishop Paiute Tribe

2. Compiled Action Items for Relicensing Team

- Audry Williams will send Raymond Andrews a copy of the final Tribal report from the Bishop Creek Project

3. Welcome and Introductions

- The Relicensing Team introduced the meeting, gave a land acknowledgement, presented a safety moment
- TWG participants introduced themselves

4. Relicensing Process, Project Overview

- Matt Woodhall provided a Lee Vining Project overview
- Shannon Luoma provided a regulatory process look back and look forward summary
- Shannon provided a list of all the Lee Vining studies and the implementation schedule

5. Cultural Resources Study (CUL-1)

- Audry Williams provided a summary of the Cultural Resources study plan progress so far.
- She also discussed the plan for continued 2023 studies.

6. Tribal Resources Study (TRI-1)

- Audry Williams provided a summary of the Tribal Resources study plan progress so far.
- She also discussed the plan for continued 2023 studies.

7. Schedule and Next Steps

- Audry provided a summary of the Lee Vining vs Lundy vs Rush Creek relicensing schedules as they are all happening at once.
- Comment: Raymond Andrews, Unaffiliated –
    - Is the Lundy project website online yet?
- Response: Shannon Luoma, Kleinschmidt and Audry Williams, SCE –
    - The Lundy webpage is not up yet, but should be online soon. You'll get a notification when things start to get going.
- Comment: Raymond Andrews, Unaffiliated –
    - Is the Bishop Project complete?
- Response: Audry Williams, SCE –
    - For Bishop, the final license application has been submitted, FERC will make their decisions soon. The Bishop webpage has the DLA, FLA, and a summary of the Tribal report. The full Tribal report was not posted online, I can send that to you.
- Finlay Anderson, Kleinschmidt, provided a summary of the Lundy Project schedule. The relicensing team anticipates filing the Pre-Application Document in January/February 2024. This fall you should start seeing information about it.

8. Upcoming TWG Meetings

None scheduled at this time, TBD as needed.

From:	Carissa Shoemaker
To:	Arianna Bresnan
Cc:	Lauren Rosenkranz
Subject:	FW: Lee Vining Relicensing Cultural and Tribal TWG
Date:	Thursday, April 20, 2023 11:12:51 AM
Attachments:	image001.png Lee Vining Cultural-Tribal TWG Apr2023 PP.pdf

For consultation log, please include the PDF too

Carissa Shoemaker

My part-time work schedule is generally as follows: Tuesday morning, Thursday morning, and all day Friday.
I can be available outside of these times if given advanced notice.

ERM
M 907 575 0294

From: Audry Williams <Audry.Williams@sce.com>
Sent: Wednesday, April 19, 2023 11:25 AM
To: ssmiwuknation@gmail.com; sandra47roy@gmail.com; kathybancroft@gmail.com; chair@monolaketribe.us; dtonenna@monolaketribe.us; s.saulque@bentontribe.org; claymiwumati@gmail.com; secretary@southernsierramiwuknation.org; l.stewart@bigpinepaiute.org; d.gutierrez@bigpinepaiute.org; c.levine@bigpinepaiute.org; s.manning@bigpinepaiute.org; meryl.picard@bishoppaiute.org; darren.delgado@bishoppaiute.org; chair@bridgeportindiancolony.com; culture@bridgeportindiancolony.com; carl@fortindependence.com; falconkeeper22@gmail.com; chair@lppsr.org; patsiata@yahoo.com; jsheltraw@monolaketribe.us; char54lange@gmail.com; paiute11@aol.com; dtonenna@gmail.com; Rwgoode911@hotmail.com; fbeihn@nfr-nsn.gov; cmcdonald@northforkrancheria-nsn.gov; efink@nfr-nsn.gov; jtthompson@timbisha.com; one_mug@yahoo.com; administrator@timbisha.com; andrea@mewuk.com; jon@mewuk.com; rfuller@mewuk.com; shanesaulque@hotmail.com; t.braithwaite@bentonpaiutereservation.org; chairman@wrpt.org; omccloud@wrpt.org; lucy_basket4@yahoo.com; nayanake@comcast.net; nativearchdoc@yahoo.com; serrell.smokey@washoetribe.us; THPO@WashoeTribe.us; kutzanuumu@yahoo.com; Blythe Haverstock, Ashley - FS <ashley.blythehaverstock@usda.gov>; Beidl, Jacqueline A -FS <jacqueline.beidl@usda.gov>; Jay King <jay@farwestern.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Lynn Johnson <lynn@teamenvironmental.com>; Barb Siskin <barb@farwestern.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Cc: Fred Beihn <fbeihn@northforkrancheria-nsn.gov>; Kelly Larimer <Kelly.Larimer@KleinschmidtGroup.com>; Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>; Naomi Jensen <naomi@teamenvironmental.com>; Mary Farrell <mary@teamenvironmental.com>; admin bridgeportindiancolony.com <admin@bridgeportindiancolony.com>; Linzey Scott <lscott@wrpt.org>; Martin Ostendorf <Martin.Ostendorf@sce.com>; Waylon Coats <vicechair@southernsierramiwuknation.org>; Barbara Durham <thpo@timbisha.com>
Subject: Lee Vining Relicensing Cultural and Tribal TWG

WARNING: The sender of this email could not be validated and may not match the person in the "From" field.

EXTERNAL MESSAGE

Hi there

Thank you to all those who were able to attend the meeting this morning. For those of you were not able to attend the meeting as well as those that did, I have attached a pdf copy of the presentation from the meeting for your information. We look forward to continuing consultation with you on the project.

Thank you!

Audry Williams
Senior Advisor, Archaeology Program
Operational Excellence
T. 626-302-5104 | M. 310-617-2636
2244 Walnut Grove Ave., Rosemead, CA 91770



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Lee Vining Hydroelectric Project
FERC No. 1388



Cultural and Tribal Resources Technical Working Group Meeting
April 19, 2023

Welcome and Land Acknowledgment

SCE would like to take a moment and recognize that the Lee Vining Project is located on the Mono Lake Kutzadikaa Tribes' traditional lands, which they have stewarded for generations.

Safety Moment



Agenda

- Welcome & Introductions
  - Land Acknowledgement
  - Safety Moment
  - Introductions
  - Meeting goals
- Review Project and Relicensing Process
  - Project overview
  - Review relicensing process
  - Review study implementation schedule
- Discuss 2022 Implementation and 2023 Plans
- Schedule, Next Steps, Action Items
  - Relicensing Project Schedule
  - Other action items
- Final Questions

Lee Vining Relicensing Team

SCE Team

Matthew Woodhall
Project Manager

Martin Ostendorf
Senior Manager

Audry Williams
Senior Archeologist, Cultural/Tribal TWG Lead

Seth Carr
Operations Manager

Consultant Team

Shannon Luoma
Project Manager

Finlay Anderson
Technical Advisor

Kelly Larimer
Project Director

Carissa Shoemaker
TWG Coordinator

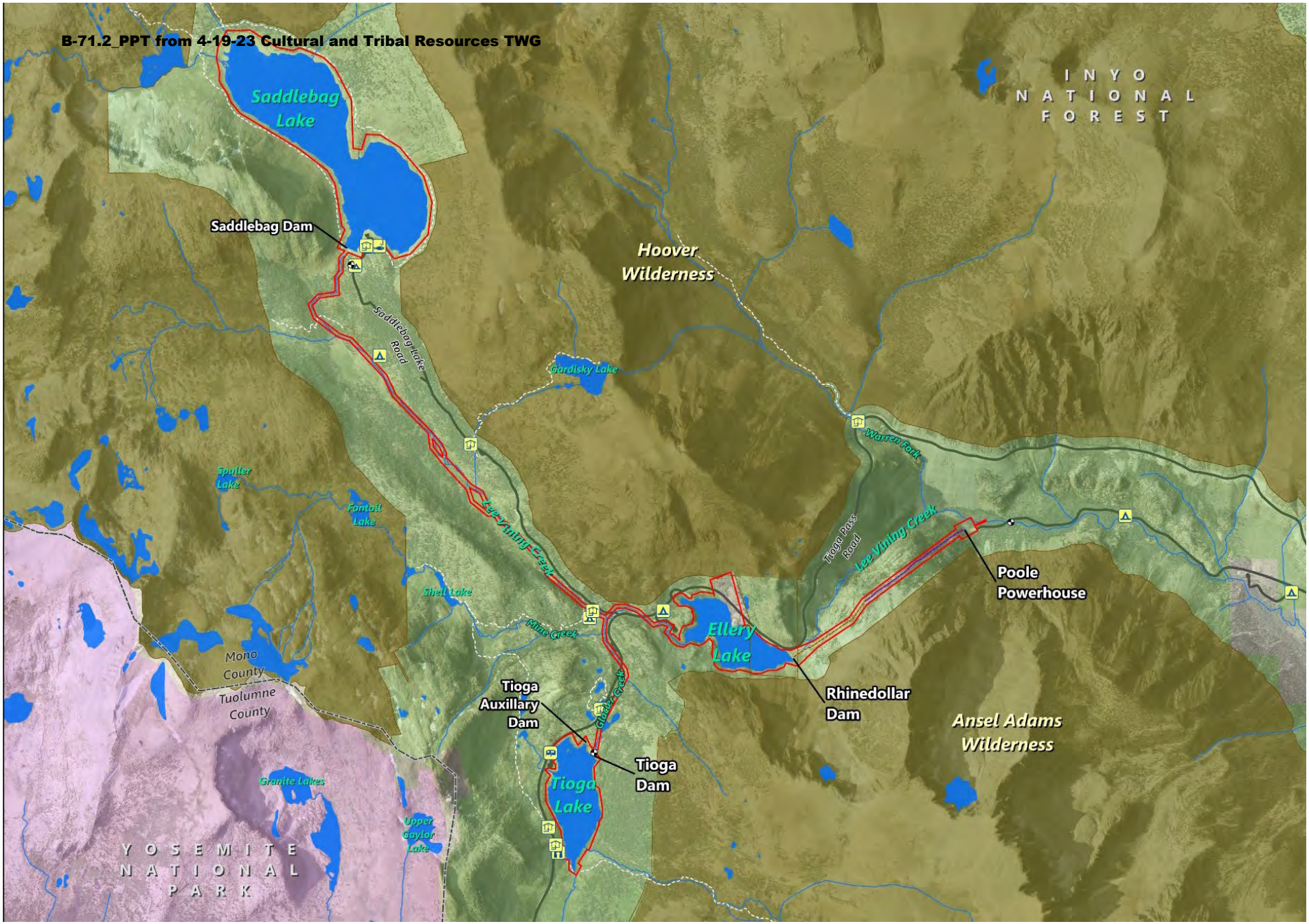
Lynn Johnson
Tribal Lead

Barb Siskin and **Jay King**
Cultural Leads

Confidential/Sensitive Information Disclaimer

- We are aware that sensitive issues may be discussed during this meeting, TWGs are open to all people but we believe this to be a safe place to share
- We welcome suggestions on how to include confidential or sensitive information
- If there is information that you'd rather not discuss here, please contact Audry Williams audry.williams@sce.com

LEE VINING HYDROELECTRIC PROJECT REFRESHER

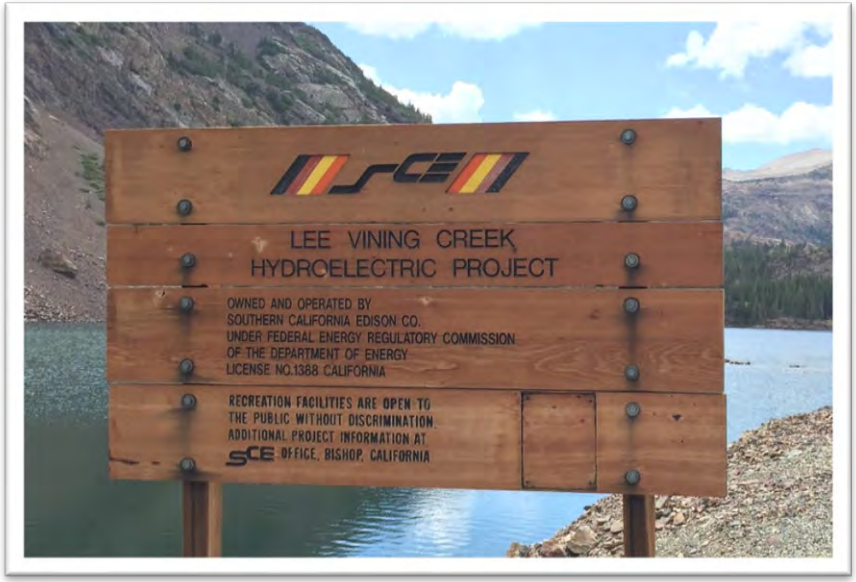

B-71.2_PPT from 4-19-23 Cultural and Tribal Resources TWG
Saddlebag Lake
Saddlebag Dam
Saddlebag Lake Road
Hoover Wilderness
INYO NATIONAL FOREST
Gardisky Lake
Warren Fork
Spuller Lake
Fontail Lake
Lee Vining Creek
Tioga Pass Road
Lee Vining Creek
Poole Powerhouse
Shell Lake
Mine Creek
Ellery Lake
Mono County
Tuolumne County
Tioga Auxillary Dam
Glacier Creek
Rhinedollar Dam
Ansel Adams Wilderness
Tioga Dam
Tioga Lake
Granite Lakes
Upper Gaylor Lake
YOSEMITE NATIONAL PARK



Lee Vining Project in relation to Mono Lake

Lee Vining Hydroelectric Project

- Federal Energy Regulatory Commission (FERC) License
  - FERC Project No. 1388
  - Issued February 1997
  - 30-year license term
  - Expires January 31, 2027



- Key Outcomes from Previous Relicensing
  - Established minimum release flows with Project operations (i.e., generation) while protecting aquatic resources
  - Conducted focused studies/evaluation on key resource topics
  - Established resource protection measures

Lee Vining Hydroelectric Project

- Located in the eastern slope of the Sierra Nevada primarily on Inyo National Forest lands about 9 miles upstream of Lee Vining, CA
- Situated on Lee Vining Creek, in Mono County
- The Project maintains 3 reservoirs and 4 dams:
  - Saddlebag Dam and Lake
  - Tioga Dam, Auxiliary Dam, and Lake
  - Rhinedollar Dam and Ellery Lake



Aerial Overview of Lee Vining Project Area

Project Facilities

- Saddlebag Dam and Lake
  - Headwaters of Lee Vining Creek
  - 297-acre reservoir
- Tioga Dams and Lake
  - Headwaters of Glacier Creek
  - 2 dams: Main and Auxiliary
  - 73-acre reservoir
- Rhinedollar Dam and Ellery Lake
  - Tioga and Saddlebag drain into here
  - 61-acre reservoir
- Poole powerhouse
  - 11.25 megawatts
- Flowline and penstock connect in Ellery Lake and Poole Powerhouse

See the project description sheet for more details



Regulatory & Process - Look Back

- SCE is utilizing the Traditional Licensing Process (TLP)
  - The Federal Energy Regulatory Commission (FERC) does not engage until end of process
  - Less structured "formal" milestone schedule around studies
- Study Plans were developed in collaboration with Technical Work Group (TWG) members:
  - 12+ TWG meetings January-May 2021
- Notice of Intent (NOI) and Preliminary Application Document (PAD) filed August 2021
- Site Visit and Joint Agency Meeting – Fall 2021
- Study Plan revisions – February 2022
- Final Study Plans filed – April 2022
- Some studies began in 2022, continuing into 2023
- Tech Memos distributed January 23, 2023
- Tech Memos filed March 31, 2023 (available on SCE website)

Regulatory & Process - Look Ahead

- Focused TWG meetings for select resources prior to 2023 field season as needed
- Select draft technical reports for completed studies to be distributed spring 2023 for 60-day review*
- 2023 field season
- Draft technical reports for remaining studies to be distributed fall 2023 and spring 2024 for 60-day review*
- Draft License Application due to FERC September 2024
  - Will include final technical reports
- Final License Application due to FERC January 2025
- Lee Vining license expires January 2027

** Confidential Cultural and Tribal Reports will only be shared with appropriate individuals*

Study Implementation Schedule

Study Plan Title	Year(s) of Implementation
Cultural Resources (CUL-1)	2022-2023
Tribal Resources (TRI-1)	2023
Stream and Reservoir Water Quality (WQ-1)	2022-2023
Reservoir Fish Populations (AQ-1)	2022
Stream Fish Populations (AQ-2)	2022
Aquatic Habitat Mapping and Sediment Characterization (AQ-3)	2023
Aquatic Invasive Plants (AQ-4)	2023
Operations Model (AQ-5)	2022-2023
Lower Lee Vining Creek Channel Morphology (AQ-6)	2022-2023
Botanical Resources Survey (TERR-1)	2022-2023
Wildlife Resources Survey (TERR-2)	2022-2023
Recreation Use Assessment (REC-1)	2022-2023
Existing Recreation Facilities Condition Assessment (REC-2)	2022-2023
Project Lands and Roads (LAND-1)	2023
Visual Resource Assessment (LAND-2)	2023

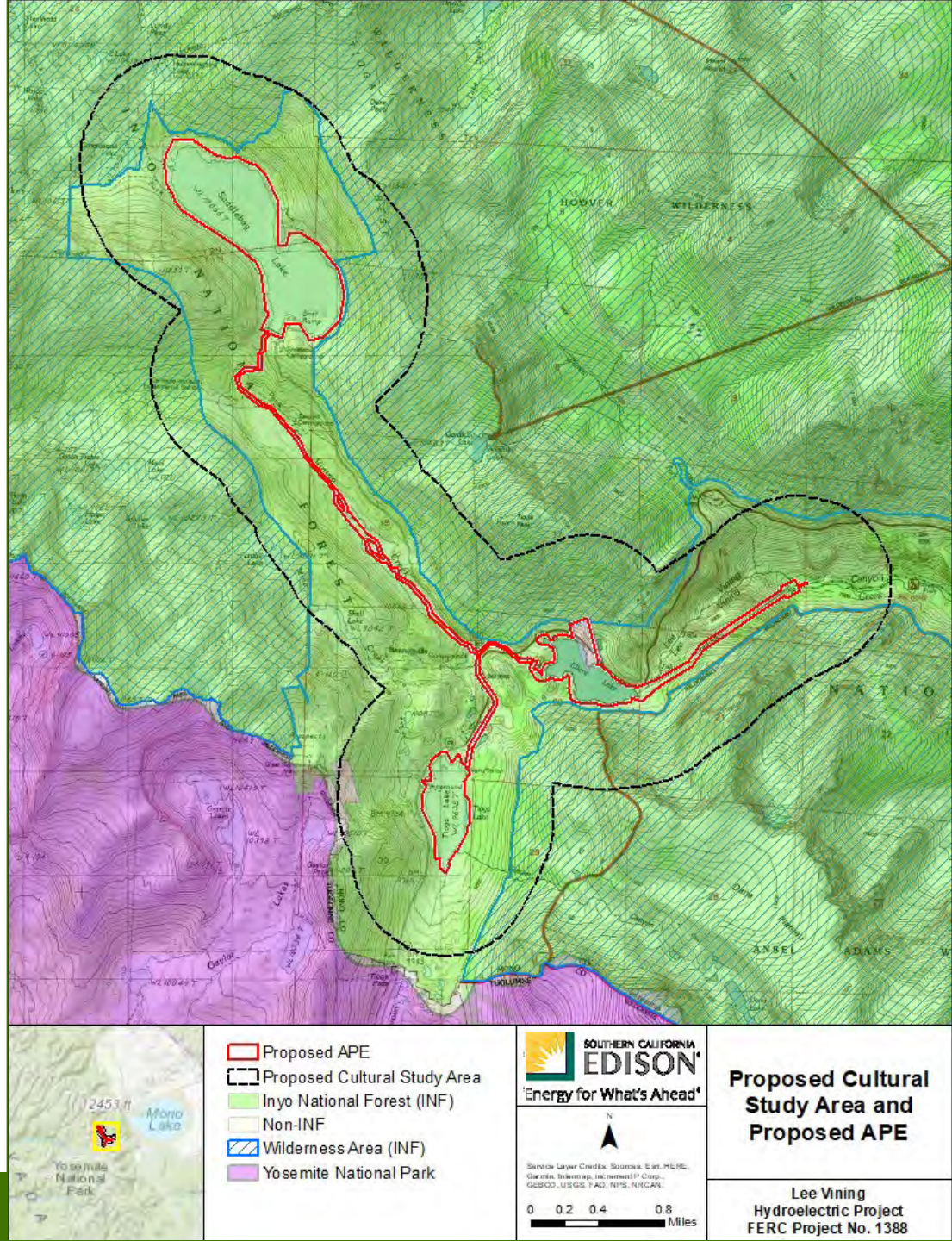
Questions?



2022 Implementation

Cultural Resources (CUL-1)

Area of Potential Effects (APE) and Study Area Map



Cultural Resources (CUL-1)

- Goals/objectives
  - Meet FERC and Section 106 compliance requirements by determining if Project-related activities and public access will have an adverse effect on historic properties
  - Identify all archaeological resources, built-environment resources, and Traditional Cultural Resources (TCRs) within the APE; determine which are historic properties; and develop the Historic Properties Management Plan (HPMP) based on those results
  - Ensure that future Project facilities and operations are consistent with the desired conditions described in the Land Management Plan for the Inyo National Forest

Cultural Resources (CUL-1)

- Preliminary data summary
  - Completed background research in summer 2022
  - Surveyed APE in July and August 2022
  - Submitted draft reports to SCE and USFS in Q1 2023, will distribute to the rest of TWG with the Tribal Report in Q2 2024
  - Archaeology: recorded 20 resources (16 new), mostly historic-period, including 6 with built environment elements
  - Built Environment: recorded 32 resources, including 13 elements of LVHP; Tioga Pass Resort; Saddlebag Lake Resort; Saddlebag Wilderness Cabin; Tioga Road

Cultural Resources (CUL-1)

- Preliminary data summary: National Register of Historic Places (NRHP) Eligibility
  - All archaeological resources recommended NRHP ineligible except 3 remaining unevaluated: 2 precontact lithic scatters and a submerged road segment
  - All built environment resources recommended NRHP ineligible, including LVHP, except two buildings individually eligible (Poole Powerhouse, Triplex Cottage)
  - Evaluation/treatment options to be developed in HPMP

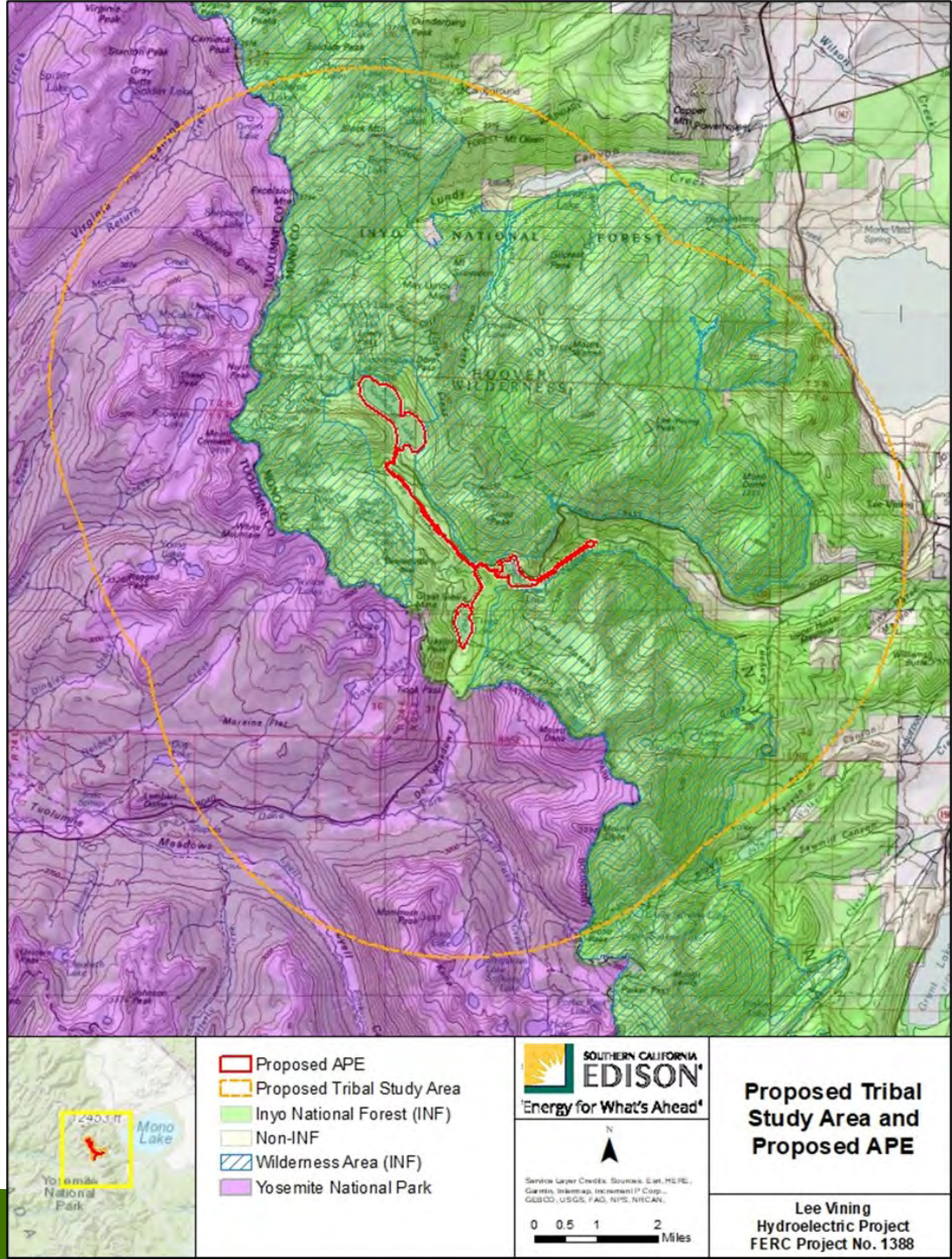
Cultural Resources (CUL-1)

Next Steps

Date	Activity
2023–Spring/Fall	Conduct archaeological site evaluations
2023/2024–Winter	Prepare archaeological site evaluation report
2024–Spring	Distribute draft report to stakeholders for review and comment
2024–Summer	Resolve comments and prepare draft final report
2024–Spring/Summer	Prepare draft HPMP
2024–September	Distribute final reports and HPMP in Draft License Application

Tribal Resources (TRI-1)

APE and Study Area Map



Tribal Resources (TRI-1)

- Methods
  - Archival research
  - Assist other resource specialists
  - Meetings with Tribal governments
  - Interviews
  - Documentation and evaluation
  - Reporting and Historic Properties Management Plan
- 2022 Data Summary
  - Background research was conducted in 2022, study will commence in 2023 with interviews

Tribal Resources (TRI-1)

Next Steps

Date	Activity
2023–Summer/Fall	Conduct Tribal site visits; identification and evaluation of Tribal resources
2023/2024–Winter	Prepare draft TRI-1 Study Report
2024–Spring	Distribute draft report to stakeholders for review and comment
2024-Spring	Prepare draft Tribal resource HPMP for review and comment
2024–Summer	Resolve comments and prepare final reports
2024–September	Distribute final reports and HPMP in Draft License Application

Questions?



RELICENSING SCHEDULE OVERVIEW

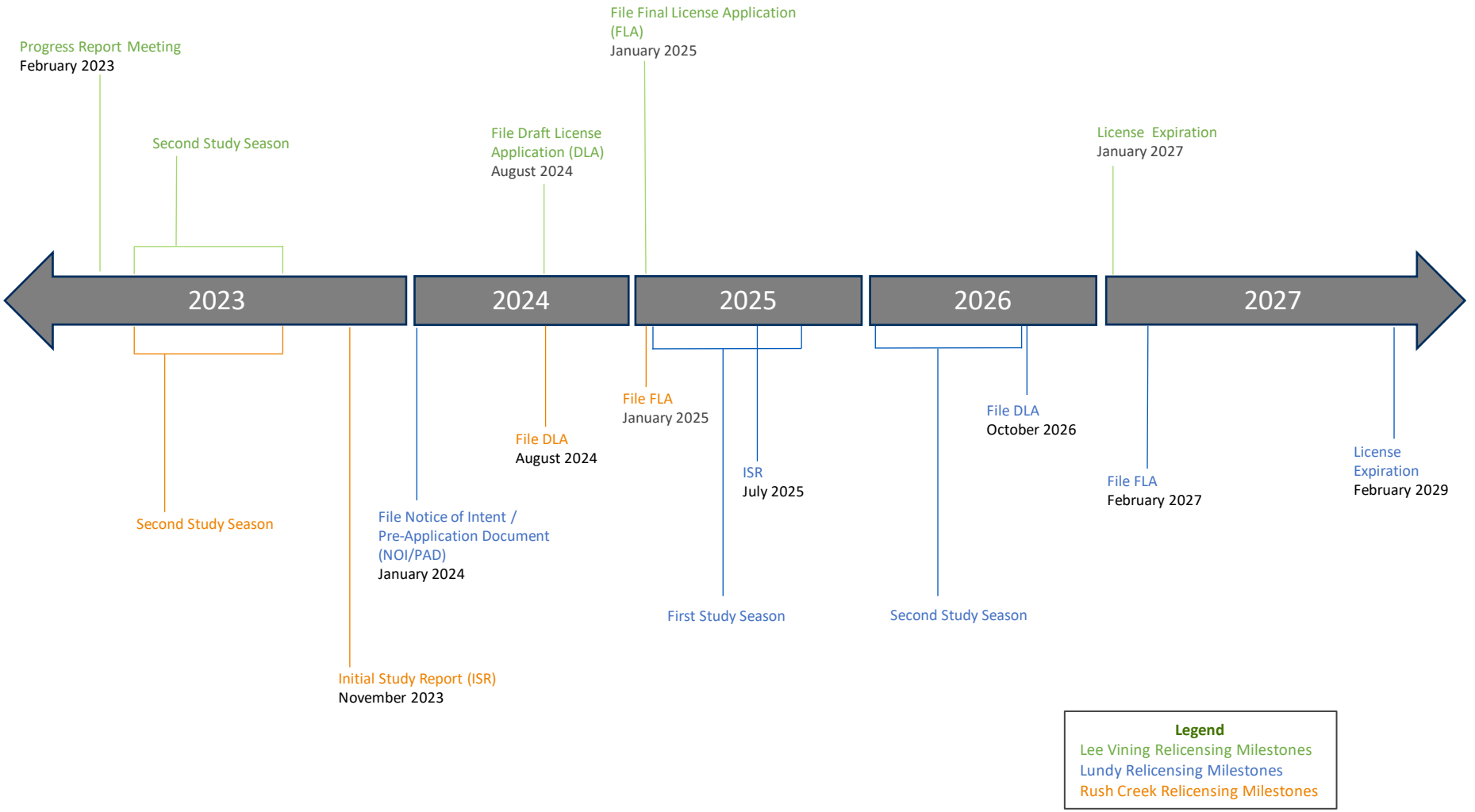
Relicensing Process Schedule

Date	Activity
Spring – Fall 2023	2023 field studies
Spring 2023	Select Technical Reports • Stream and Reservoir Water Quality Study (WQ-1) • Reservoir Fish Population Study (AQ-1) • Stream Fish Populations Study (AQ-2) • General Botanical Resources Survey (TERR-1)
Fall 2023	• Operations and Hydrology Model (AQ-5)
Spring 2024	Remaining Technical Reports • Aquatic Habitat Mapping and Sediment Characterization (AQ-3) • Aquatic Invasive Plants Survey (AQ-4) • Lower Lee Vining Creek Channel Morphology (AQ-6) • General Wildlife Resources Survey (TERR-2) • Project Lands and Roads Assessment (LAND-1) • Visual Resource Assessment (LAND-2) • Recreation Use Assessment (REC-1) • Facilities Condition Assessment (REC-2) • Cultural Resources (CUL-1) • Tribal Resources (TR-1)
September 2024	SCE Files Draft License Application
January 2025	SCE Files Final License Application

How to Stay Involved

- Check the Project website for updates/news at www.sce.com/leevining
- You can view other SCE relicensing Projects at www.sce.com/regulatory/hydro-licensing
- Sign-up to receive Project-related emails through the Contact Registration Form/Project Questionnaire on the Project website
- Participate in an ongoing TWG
- Sign up for FERC's for e-subscription (docket number "P-1388") at www.ferc.gov
- Email Carissa Shoemaker carissa.shoemaker@erm.com or Audry Williams with questions

Lee Vining Hydroelectric Project Relicensing Schedule
For planning purposes only, dates subject to change.
April 2023



Final Questions?



Thank you!

DRAFT MEETING NOTES*

LEE VINING, FERC PROJECT NO. 1388

RECREATION AND LAND USE TECHNICAL WORKING GROUP MEETING

APRIL 19, 2023, 9:00 AM–10:00 AM

**These meeting notes are documentation of general discussions from the meeting held on the above-noted date and focus on stakeholder questions and comments. These notes are not a verbatim account of proceedings and do not represent any final decisions or official documentation for the project or participating agencies.*

1.0 OBJECTIVE

- Discuss 2023 Recreation Study Plan Implementation

2.0 ATTENDEES

Relicensing Team Members
Matt Woodhall, SCE
Finlay Anderson, Kleinschmidt
Shannon Luoma, Kleinschmidt
Kelly Larimer, Kleinschmidt
Angela Whelpley, Kleinschmidt
Carissa Shoemaker, ERM

Technical Working Group Members & Interested Parties
Adam Barnett, U.S. Forest Service (USFS)
Sheila Irons, USFS
Jameisha Washington, USFS
Eric Rios-Bretado, USFS
Adam Cohen, State Water Resources Control Board (SWRCB)
Beth Lawson, California Department of Fish and Wildlife (CDFW)
Bryan Muro, SWRCB
Raymond Andrews, Bishop Paiute Tribe

3.0 COMPILED ACTION ITEMS

- **Relicensing Team** will send the revised REC-1 User questionnaire to Adam Barnett for review. Complete.
- **Jameisha Washington (USFS)** will confirm that the proposed opening dates for recreation sites will be posted to the webpage when they become available.
- **Beth Lawson (CDFW)** will discuss stocking question with Trisha Moyer and let the relicensing team know the results.

- **Relicensing Team** will reach out to Jim Erdman to inquire about stocking timeframe and likelihood.

4.0 WELCOME AND INTRODUCTIONS

Shannon Luoma, Kleinschmidt, welcomed Technical Working Group (TWG) members to the meeting, and provided an overview of the agenda. Shannon provided a safety moment.

5.0 2023 STUDY IMPLEMENTATION APPROACH

SCE is planning to file the updated study plans with FERC Friday (4/21) to formalize the changes that have been made.

SCE will remain flexible with study season implementation due to the snow conditions and record water year. An example, delayed, schedule was drafted and shared with stakeholders.

SCE is working with a temporary staffing agency in Lee Vining to identify field staff for the REC-1 survey. The condensed schedule would start as soon as the survey sites are open. Angela Whelpley showed a revised schedule with the example start date of July 1. The condensed schedule would still include two major holiday weekends (July 4 and Labor Day). April, May, and June dates would be redistributed throughout the later part of the summer and fall.

There were no stakeholder comments on this example schedule shift.

The reporting schedule would likely remain the same. SCE would meet again with this TWG in early 2024, maybe January to discuss again. Prior to that meeting, a draft report and initial results would be given to TWG for review.

SCE will continue to coordinate with USFS and will monitor road conditions via the NPS and CalTrans websites.

6.0 QUESTIONS FOR USFS AND CDFW

Question (Q) Shannon Luoma (Kleinschmidt): SCE would like to better understand what the USFS' plan is to open up the campgrounds and day use areas this summer. Is there a possibility some may be closed for the season? How long does it take you get to the facilities when roads are opened? We understand that some people are comparing this water year with the 2017 water year.

Response (R) Adam Barnett (USFS): We have two district representatives on the call today, Jameisha and Eric are on.

(R) Jameisha Washington (USFS): It really depends how long it takes to open sites after roads have opened. I estimate 2-3 weeks if we are lucky. We do intend to open all the campgrounds this summer. Hazard tree mitigation will need to happen at each site to make them safe.

(R) Eric Rios-Bretado (USFS): We still have a few feet of snow at Lower Lee Vining Campground and Aspen Campground, Aspen will likely flood, which will delay the opening dates. Big Bend Campground may also flood. Recreators out there right now are mostly skiing. I would guess a June opening for Lower

Lee Vining, Aspen may be longer because of flooding and under bank cutting issues. There are also a lot of downed trees at Aspen.

(Q) Matt Woodhall (SCE): Can we access current conditions online anywhere or should we just keep in contact with you (Jameisha and Eric) to get updates?

(R) Jameisha Washington (USFS): Lisa Cox, our public affairs sends out updates of campgrounds and facilities. You can also visit our website on Rec page, there is a status list of developed sites. You can reach out to Eric and I directly too, we intend to keep that updated. I will confirm that the proposed opening dates will be posted to the website: https://www.fs.usda.gov/recmain/inyo/recreation

(Q) Shannon Luoma (Kleinschmidt): Does CDFW plan on stocking any fish this year in the project area?

(R) Beth Lawson (CDFW): I'm not sure yet, I will need to talk to fisheries staff in the region. It's a hatchery-by-hatchery question this year, based on availability. There are always disease concerns with hatchery-raised fish.

(R) Matt Woodhall (SCE): We can reach out to CDFW's Jim Erdman to point us in the right direction. We want to be in the field for creel surveys right when stocking occurs, if it does.

(R) Beth Lawson (CDFW): I have a meeting with Trisha Moyer, we will discuss it at that meeting and will let you know what comes of it.

7.0 Q&A

(Q) Adam Barnett (USFS): Is there a revised version of the REC-1 User questionnaire since our last meeting?

(R) Matt Woodhall (SCE): Yes, we can get you a copy of the revised form to review.

(Q) Adam Cohen (SWRCB): Is there a contingency plan if any facilities are damaged and end up closed or are inaccessible for the whole year?

(R) Shannon Luoma (Kleinschmidt): On the relicensing side we have discussed this, the basic premise of the user survey is to capture a representative sample of the 2023 recreation season, so if there are closed facilities that is part of the year and it would still be representative. Why we added the additional check in early 2024 to review the data prior to finalizing everything. We'll capture the data as the sites open.

(Q) Beth Lawson (CDFW): CDFW is still stocking FERC projects but we have to go through outside hatcheries. Did they not stock at all at the Lee Vining project last year?

(R) Matt Woodhall (SCE): Last year in the Eastern Sierras, CDFW did not put any fish in. Out of the last three years the lakes have only been stocked once. Within the region there is a supplemental effort, Mono County has set out buckets to collect money to help fund. Aquaculturalists in Oregon and Idaho are bringing in fish too. Matt provided a summary of the Lee Vining project license's stocking requirements.

(R) Beth Lawson (CDFW): I would assume something similar will go into a new license. We should expect that going forward.

(R) Matt Woodhall (SCE): Stocking as a license requirement would need to be tied to a project-related impact.

Shannon Luoma summarized action items.

No further stakeholder comments or questions.

The Relicensing Team adjourned the meeting.

From:	Carissa Shoemaker
To:	Arianna Bresnan
Cc:	Lauren Rosenkranz
Subject:	FW: (External):Declined: FW: Lee Vining Relicensing Cultural and Tribal TWG
Date:	Thursday, April 20, 2023 11:12:17 AM

For consultation log

Carissa Shoemaker

My part-time work schedule is generally as follows: Tuesday morning, Thursday morning, and all day Friday.
I can be available outside of these times if given advanced notice.

ERM
M 907 575 0294

-----Original Appointment-----
From: Tara Fouch-Moore <Secretary@southernsierramiwuknation.org>
Sent: Wednesday, April 19, 2023 8:14 AM
To: Audry Williams
Subject: (External):Declined: FW: Lee Vining Relicensing Cultural and Tribal TWG
When: Wednesday, April 19, 2023 10:00 AM-11:30 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

***** EXTERNAL EMAIL - Use caution when opening links or attachments *****

I'm very sorry for the last minute response. Our Tribal Council is unavailable today.
Thank you for reaching out. I will follow up with Chairperson Sandra to see if she would like to schedule a follow up for consultation.

Take Care,

Tara Fouch-Moore
Tribal Secretary
Southern Sierra Miwuk Nation
American Indian Council of Mariposa County

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To:	Arianna Bresnan
Cc:	Lauren Rosenkranz
Subject:	FW: (External):Declined: Lee Vining Relicensing Cultural and Tribal TWG
Date:	Thursday, April 20, 2023 11:10:31 AM
Attachments:	image001.png

For consultation log

Carissa Shoemaker

My part-time work schedule is generally as follows: Tuesday morning, Thursday morning, and all day Friday.
I can be available outside of these times if given advanced notice.

ERM
M 907 575 0294

From: Audry Williams <Audry.Williams@sce.com>
Sent: Wednesday, April 19, 2023 11:03 AM
To: Lynn Johnson <lynn@teamenvironmental.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Cc: mary@teamenvironmental.com
Subject: FW: (External):Declined: Lee Vining Relicensing Cultural and Tribal TWG

EXTERNAL MESSAGE

Here is one from Walker River.

Audry Williams
Senior Advisor, Archaeology Program
Operational Excellence
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2244 Walnut Grove Ave., Rosemead, CA 91770

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-----Original Appointment-----
From: Linzey Scott <lscott@wrpt.org>
Sent: Wednesday, April 19, 2023 9:55 AM
To: Audry Williams
Subject: (External):Declined: Lee Vining Relicensing Cultural and Tribal TWG
When: Wednesday, April 19, 2023 10:00 AM-11:30 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

***** EXTERNAL EMAIL - Use caution when opening links or attachments *****

Good Morning Audry,

I had some very pressing matters come to my office today, as to which require my full time and attention this morning. Thank you for inviting me to sit in the meeting, however I must prioritize these duties today. Therefore, I have to decline todays meeting attendance. I deeply apologize for the inconvenience . I send my support and gratitude for the extension of the invitation.

Respectfully,

Linzey Scott
Tribal Historic Preservation Officer,
Walker River Paiute Tribe
Cultural Department
775-316-6311

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MEETING SUMMARY*
LEE VINING, FERC PROJECT NO. 1388
AQUATIC TECHNICAL WORKING GROUP
MAY 18, 2023, 1:00PM -2:45PM

**These meeting notes are documentation of general discussions from the meeting held on the above-noted date and focus on stakeholder questions and comments. These notes are not a verbatim account of proceedings and do not represent any final decisions or official documentation for the project or participating agencies.*

1.0 OBJECTIVE

- Information sharing of the operations model.
- Solicit stakeholder feedback.

2.0 ATTENDEES

Relicensing Team Members
Matt Woodhall, SCE
Martin Ostendorf, SCE
Seth Carr, SCE
Finlay Anderson, Kleinschmidt Associates (KA)
Shannon Luoma, KA
Bret Hoffman, KA
Isha Deo, KA
Lauren Rosenkranz, KA
Heather Neff, Stillwater
Carissa Shoemaker, ERM

Technical Working Group Members
Chris Shutes, California Sportfishing Protection Alliance (CSPA)
Greg Reis, Mono Lake Committee (MLC)
Sheila Irons, US Forest Service (USFS)
Michael Wiese, USFS
Chad Mellison, USFWS
Beth Lawson, California Department of Fish and Wildlife (CDFW)
Amy Chandos, CDFW
Michael Tovar, CDFW
Adam Cohen, California State Waterboards
Bryan Muro, California State Waterboards
Rajaa Hassan, California State Waterboards
Ron Goode, North Fork Mono Tribe

3.0 COMPILED ACTION ITEMS

- Greg Reiss, MLC, will share additional remote sensing and model-based snow data products potentially relevant to the operations model. Greg will include California functional flow tools as well.
- The Team will review recommended data sources and consider which pieces will fit into the operations model. During the review, the Team will consider: seasons, water year types, reservoir elevations, target elevations, potential variables and prioritization of them, and the limitations of multiple constraints.
- The Team will integrate recommended data sources as functionality of the tool allows, and schedule another TWG meeting to share results.

4.0 WELCOME & INTRODUCTIONS

Shannon Luoma, the Relicensing Team ("Team") Project Manager, welcomed TWG members to the meeting and provided a land acknowledgement. Finlay Anderson, The Team Technical Advisor, provided a safety moment around high temperatures. Matthew Woodhall introduced the SCE team, and Shannon introduced the consulting team. Shannon provided an overview of the meeting agenda and objectives.

5.0 OPERATIONS MODEL

Finlay reiterated the goals and objectives of the study plan, which are similar to a previous model created for SCE's Bishop Creek Project. The goal for the Lee Vining Project ("Project") Operations Model ("Model") is to understand how Project operations interact with Lee Vining hydrology. Additionally, there is a specific nuance with Lee Vining Creek optimization at Poole Powerhouse, and SCE wants to accurately represent capacity for licensing efforts. Finlay compared the Lee Vining Model to the Bishop Creek model, and by contrast the Lee Vining Model is simpler.

Bret Hoffman, the Operations Model Lead, agreed that this is a simpler model. Bret discussed the methods used to represent characteristics of the Project hydrologic system, including constraints, inputs, and project impacts. Bret continued that the Model will provide a resource balance calculated on both a daily and annual basis. The Model will represent system operational targets and scenarios, and will consider baseline conditions and constraints.

Question (Q) Greg Reis (Mono Lake Committee [MLC]) – Regarding Snow Courses as a data source, how will the snow data be used in the model? Is forecasting data used in the model?

Response (R) Bret Hoffman (Kleinschmidt [KA]): Yes, forecasting year type is the primary use of Snow Courses data. For Bishop Creek, the data was also used to correlate information between flow and hydrologic inputs.

Comment (C) Greg Reis (MLC): There are lots of data sources available, in the future the Team should consider available data from remote sensing and other sources.

Q (Bret Hoffman, KA): Can the Team have access to these sources?

R (Greg Reis, MLC): Yes, we can provide some resources. Only sporadic data is available, but it could provide insight to the model. In its early stages, consider implementing this data when it becomes available.

Q (Bret Hoffman, KA): Is the available data useful for forecasting and how snow can impact hydrology?

R (Greg Reis, MLC): Yes, it is useful as a predictive tool. I will share links to the data.

Bret continued to discuss the methods of each model. Bret briefly discussed the baseline conditions and constraints based on SCE operational requirements and the current FERC license requirements.

Q (Chris Shutes, CSPA): What are the specific requirements at the reservoirs at the end of the year? Are there any targets or constraints for the reservoir level at Saddlebag Lake? The Team should consider dam safety with reservoir levels.

R (Matt Woodall, SCE): Saddlebag Lake does not have elevation requirements, but Ellery and Tioga do have them. Saddlebag Lake has an in-stream flow requirement.

R (Bret Hoffman, KA): We want to understand any potential changes to targets now.

R (Finlay Anderson, KA): Let's discuss whether or not to add that constraint based on management objectives and specific outcomes.

R (Bret Hoffman, KA): Agreed, the need to warrant any additional features and logic to the models, or incorporating more constraints into a modeling effort, should have a basis.

C (Greg Reis, MLC): One constraint that I'm interested in seeing added is how daily fluctuations limit the flow below Poole Powerhouse.

R (Bret Hoffman, KA): Yes, that is currently a consideration of the intra-day modeling effort. This may not impact operations as a whole, but may give us daily allocation flow data. That would be used to inform the broader model.

6.0 RESOURCE OPTIMIZATION ANALYSIS

Isha Deo described the methods used to perform the statistical intra-day analysis portion of the model. The first step after developing the algorithm was the calibration to the demand peaks. 78% of flow peaks correspond directly with demand peaks. This helps to validate that the data we're using corresponds with known operation. The operation change in 2016 did make a statistically significant difference on the frequency of peaks. Peaking likelihood is much higher post-operations shift. The Team is in the process of developing the hydraulic model for analyzing stage/velocity effects downstream due to optimization.

7.0 QUESTIONS

Q (Beth Lawson, CDFW): How does SCE plan to use the model? How do other stakeholders in the relicensing process intend to use the model?

R (Finlay Anderson, KA): The intent of the Model is to connect the operations of the Project with a correlation to stage, and to understand the potential effects of this mode of operations on downstream resources. The intent is to communicate that to stakeholders, and integrate with objectives and operations moving forward. We are analyzing multiple resource areas and having many conversations with stakeholders.

Q (Beth Lawson, CDFW): Are you able to correlate peaking and operations? How are you planning to use the output from operations modeling? Will it be used to look at new scenarios in the operations model?

R (Finlay Anderson, KA): It's a two-step process: 1) understand relationship and correlation; 2) understand impacts and how to manage them in the future. This will help agencies who may want to add operational structure in relation to how the model interacts with the grid.

R (Matthew Woodhall and Martin Ostendorf, SCE): What is the ultimate goal? We are looking for a license that will guide operations in the future, and guide conversations about what we've learned from optimization.

R (Matthew Woodhall, SCE): It's a simpler process, we came into this recognizing that optimization operation came into effect after the issuance of a previous license. Any change in operations will be presumed an optimization, a presumed change in hydrology. This effort is to clarify any changes in operations and correlate it with hydrology. Project effects is a requirement of licensing process, and the model will help optimize operations on ecological impacts, benefits, or restoration activities.

C (Beth Lawson, CDFW): I'm speaking for the needs of my resource agency; looking at peaking and resource optimization is great, but we want to ensure that it will be tied back to us and

making considerations regarding how we/you operate the project. We need a clear picture of how the models are being built. In order for us to analyze, we are interested in functional flows, peaking, and adding seasonal flows back into the creeks. There is a strong pressure to add seasonal flow back into river environments. We want to be able to use these tools. We want to understand peaking and how it returns to the river.

R (Matthew Woodhall, SCE): We may need to interject conditions into other study plans. Bret, will this Model be able to look at these varying flows? We're interested in understanding the relationship between species, other ecological decisions, and this Model.

R (Bret Hoffman, KA): Yes, that's a part of this Model. That's what I'm hoping to get out of this meeting is the agencies' needs and what needs to be added to the system. Currently we're using existing targets and constraints.

R (Isha Deo, KA): I just wanted to note that downstream effects will be easier to quantify once the hydraulic model is finished and operating. These models are specifically looking at downstream data.

C (Beth Lawson, CDFW): We want to build in the option to see seasonal variability, with our experience from the Bishop project. We would like to look at SCE's power generation in order to do a trade-off analysis, recognizing that there is sensitivity there.

R (Finlay Anderson, KA): The power generation piece is a larger issue that should be discussed between SCE and stakeholders. We understand the desire for it, but there needs to be some clear sideboards. Maybe we can get some direction to Bret, he can include seasonal inputs for sure. For the reaches below Saddlebag and Tioga, we want to be able to look at shoulder seasons. Bret will need enough guidance to begin putting constraints in his Model. Pausing on the power generation question for now.

C (Chris Shutes, CSPA): For the intra-day issue, there is immediate focus on the reach downstream of Poole Powerhouse. There should also be focus on reservoirs and daily streamflow fluctuations especially between Saddlebag and Ellery Lakes, and focus on the confluence with Tioga. Hydropower operations are going to pull from upstream. Depending on hydraulics and seasonality, is there some way to limit the degree of fluctuation by reducing the peak or bringing up the base, that would impact the drafting of the reservoirs? Warren Fork may help by bringing up the bases when you go into high flows at the powerhouse.

R (Matthew Woodhall, SCE): To clarify, there is no drafting of Saddlebag or Tioga Lake as it relates to hydro optimization. They do have an instream flow requirement and Tioga has to remain within a specified range of the spillway elevation for part of the year. Everything is managed from Ellery Lake, where there is an approximately 2-foot elevation change that we

can manage. We use that to optimize intra-day. There is no control at Saddlebag or Tioga under the current license.

R (Chris Shutes, CSPA): That's a helpful clarification. What's the volume of water in that 2-ft stage of Ellery Lake?

R (Matthew Woodhall, SCE): I'm unsure of the top of my head. Bret may know. However, we are not proposing operational changes above (note: Bret clarified that the 2-foot stage of Ellery Lake is 118 acre-feet).

Q (Chris Shutes, CSPA): How do you manage changes of conditions above?

R (Matthew Woodhall, SCE): Greg brought up that we'll be spilling Saddlebag this year. There is a prescribed in-stream flow release, we meet annually with USFS and USFWS and assess the water year and then decide on that years' instream flow cfs requirements. We can manage Saddlebag Lake from spilling pretty easily. Ellery Lake is the managing reservoir.

C (Greg Reis, MLC): I support what Beth was saying about functional flows, the California Environmental Flows Framework (CEFF) has this laid out well, they indicate the importance of flows and how to evaluate them. When I send the Snow Survey information, I will send that too. Saddlebag Lake stuff might help inform other resources but might miss something. With the functional flows, you assume that natural flows will support the ecosystem. The operational change in the recent years and the variance that USFS has given turns the natural hydrograph upside down, natural flows are higher in the summer than winter.

Q (Matthew Woodhall, SCE): Would you address the reach below Saddlebag, you want more flexibility there?

R (Greg Reis, MLC): Yes, if you want functional flows, what is happening here is largely different than what happens in a natural hydrograph.

Q (Matthew Woodhall, SCE): Which reaches are you saying this issue is relevant?

R (Greg Reis, MLC): Looking at a hydrograph would be helpful for seasonal variants. There is a difference from the natural hydrograph anywhere there is a shift from natural flow. This applies to all reaches.

C (Beth Lawson, CDFW): I would echo Greg's point; we are interested in looking at functional flows in all reaches. You should bring functional flow metrics into the operations Model. There are different pulses based on season. A mass-balance approach is worth discussing. I can post

the link to CEFF flow methodology. The point is not to replace studies but to work with existing methodologies to see where there are missing pieces.

Rajaa Hassan, California State Waterboards shared eFLows link in the chat.

Greg Reis, MLC shared CEFF framework link in the chat, which includes hydrograph modeling for different scenario conditions.

Bret will look into these recommended components and consider what pieces will fit into the Operations Model. Things to consider: seasons, water year types, reservoir elevations, target elevations, potential variables and prioritization of them, consider limitations of multiple constraints. Finlay summarized an action item for Bret to consider these data sources, but reiterated that we need to compare with management goals and objectives. Regarding the intra-day analysis, we can connect calibration with a HEC-RAS model which will provide a tool to look at multiple downstream scenarios and tie in with other studies. Bret what does the next iteration of the model look like?

C (Beth Lawson, CDFW): We are trying to balance operations (power generation) with maintaining as much of the natural hydrograph as possible. The collision is the whole reason why we make a model, so we don't break things in real life. We want to figure out what components you need so we can figure out how much we can push the system and how much we can put back into the creek.

C (Chris Shutes, CSPA): What is the maximum outlet capacity of Saddlebag and Tioga Lakes?

R (Bret Hoffman, KA): That isn't something I have found yet.

R (Greg Reis, MLC): I think Tioga was something like 40 cfs.

Q (Heather Neff, Stillwater): I have a question for Beth regarding functional flows. All of the fish species in Lee Vining Creek are non-native. How would we integrate CEFF for the non-native species?

R (Beth Lawson, CDFW): There are other important ecological components outside of fish species. Sediment, riparian vegetation, BMI species are all components of healthy ecosystem not tied specifically to native fish species.

Q (Heather Neff, Stillwater): Are all functional flow components necessary to look at since we are not focusing on the non-native trout species? Are there specific functional flow components to prioritize?

R (Beth Lawson, CDFW): Pulse flows, Winter higher flows, Summer base flows, and the Snowmelt hydrograph. Prioritize an amount of winter base flow, amount of summer base flow,

and some way to calculate snowmelt hydrograph. This is not specific to time, but water balance modeling.

R (Greg Reis, MLC): The fall pulse flow and wet season peak flow are also a part of CEFF.

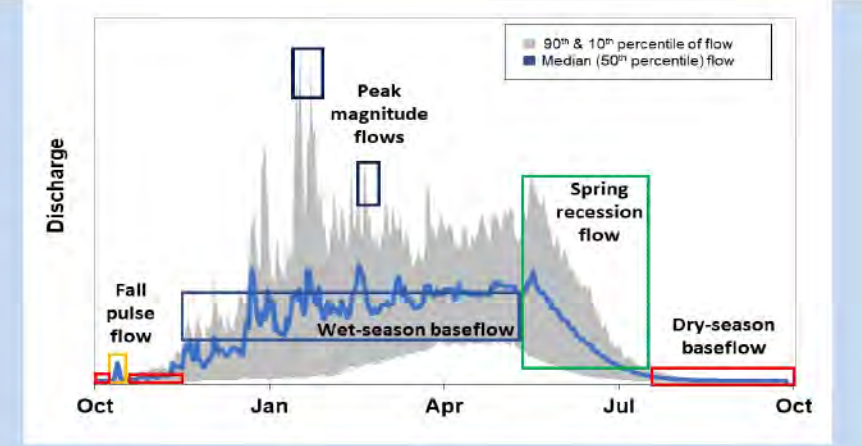
R (Beth Lawson, CDFW): The eFlows tool can be used with an unimpaired hydrograph, Rajaa posted that in the chat. That would help implement all of those flows.

C (Chris Shutes, CSPA): We are interested in all fish species, native or not, as they are a large part of recreation activities. We would not want to harm those species.

C (Martin Ostendorf, SCE): We are looking at the baseline project. We hear that there is a desire to go back to a natural hydrograph, but we need to understand the environmental impacts of the baseline project operations. The tradeoff is that SCE is not here to return the stream to the natural hydrograph. We need a balance between restoration and project impacts. This will come into consideration during PM&Es. This is our tool to help understand the baseline and develop that balance.

C (Beth Lawson, CDFW): This discussion to implement CEFF is happening across all FERC projects in California. In concept it sounds easy, but the goal is to look at the functional flow metrics and results of the studies and pair those together to see if there is a problem.

Rajaa Hassan, California State Waterboards posted a graph as an example in the chat.



C (Martin Ostendorf, SCE): I just don't want to be misleading that we will for sure be implementing functional flows.

C (Chris Shutes, CSPA): The unimpaired hydrograph may show you how big of an impact/impairment there is, there shouldn't be a lot of controversy on including the snowmelt runoff from the inflow creeks like Warren Fork. It would be good to know how much these side channels add to the stream.

C (Greg Reis, MLC): The peak flow study I had suggested can be looked at with these methods, and can be evaluated without any costs. It could possibly show that operations do not negatively impact ecosystem.

8.0 NEXT STEPS AND CLOSING

C (Martin Ostendorf, SCE): So, for next steps, Bret will look at the level of functionality in the tool and then we'll have a follow up meeting with the group to share results.

C (Finlay Anderson, KA): Let us know if you have questions.

No further stakeholder comments or questions.

The Relicensing Team adjourned the meeting.

SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead℠

Lee Vining Hydroelectric Project
FERC No. 1388



Welcome!

Operations Model TWG Meeting
May 18, 2023

Welcome and Land Acknowledgment

SCE would like to take a moment and recognize that the Lee Vining Project is located on the Mono Lake Kutzadikaa Tribes' traditional lands, which they have stewarded for generations.

Safety Moment



Welcome and Introductions: Lee Vining Relicensing Team

SCE Team

Consultant Team

Shannon Luoma
Project Manager

Finlay Anderson
Technical Advisor

Kelly Larimer
Project Director

Carissa Shoemaker
TWG Coordinator

Heather Neff
Aquatics Lead

Bret Hoffman
Operations Model Lead

Isha Deo
Resource Optimization Analysis Lead

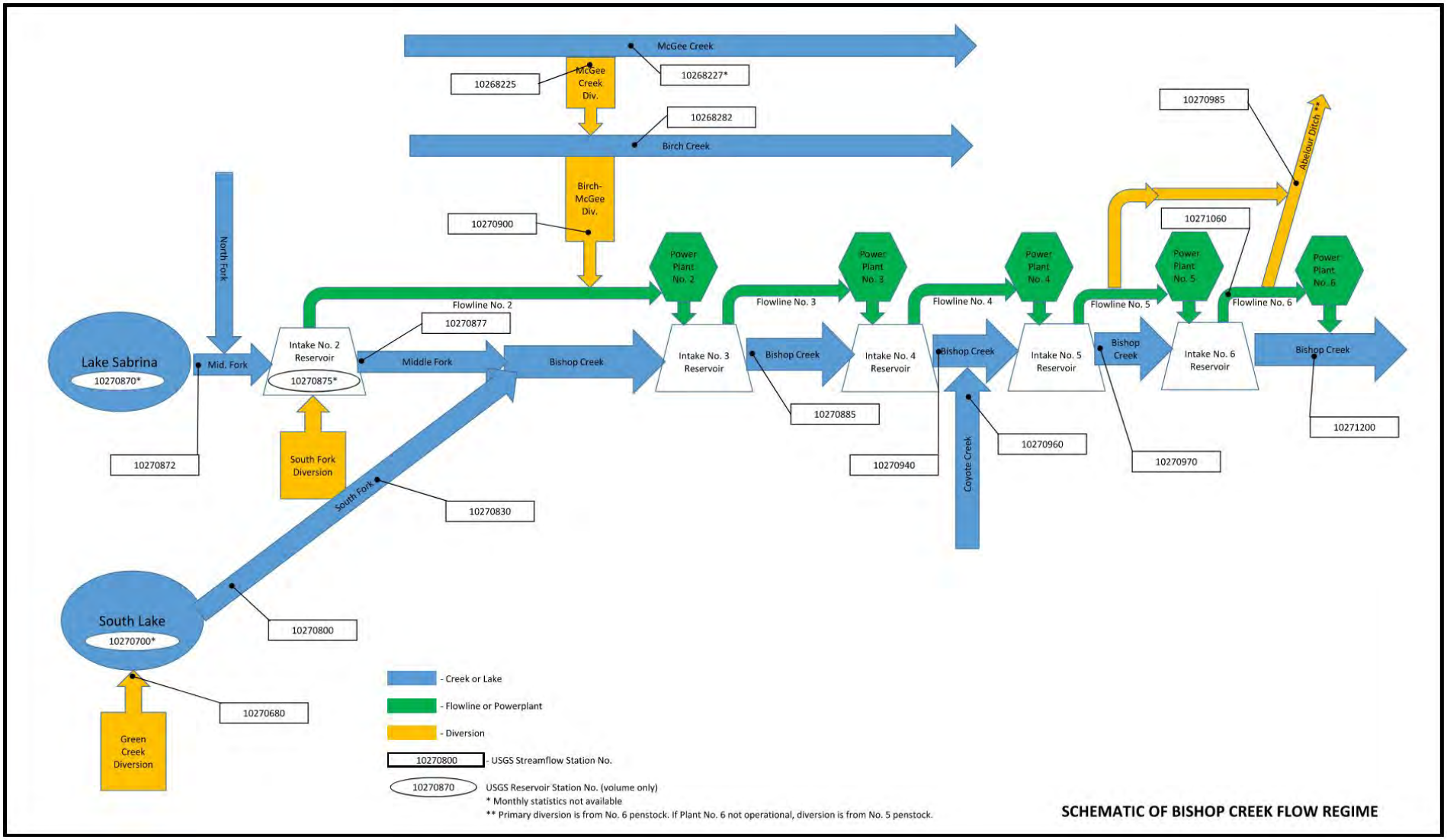
Meeting Agenda

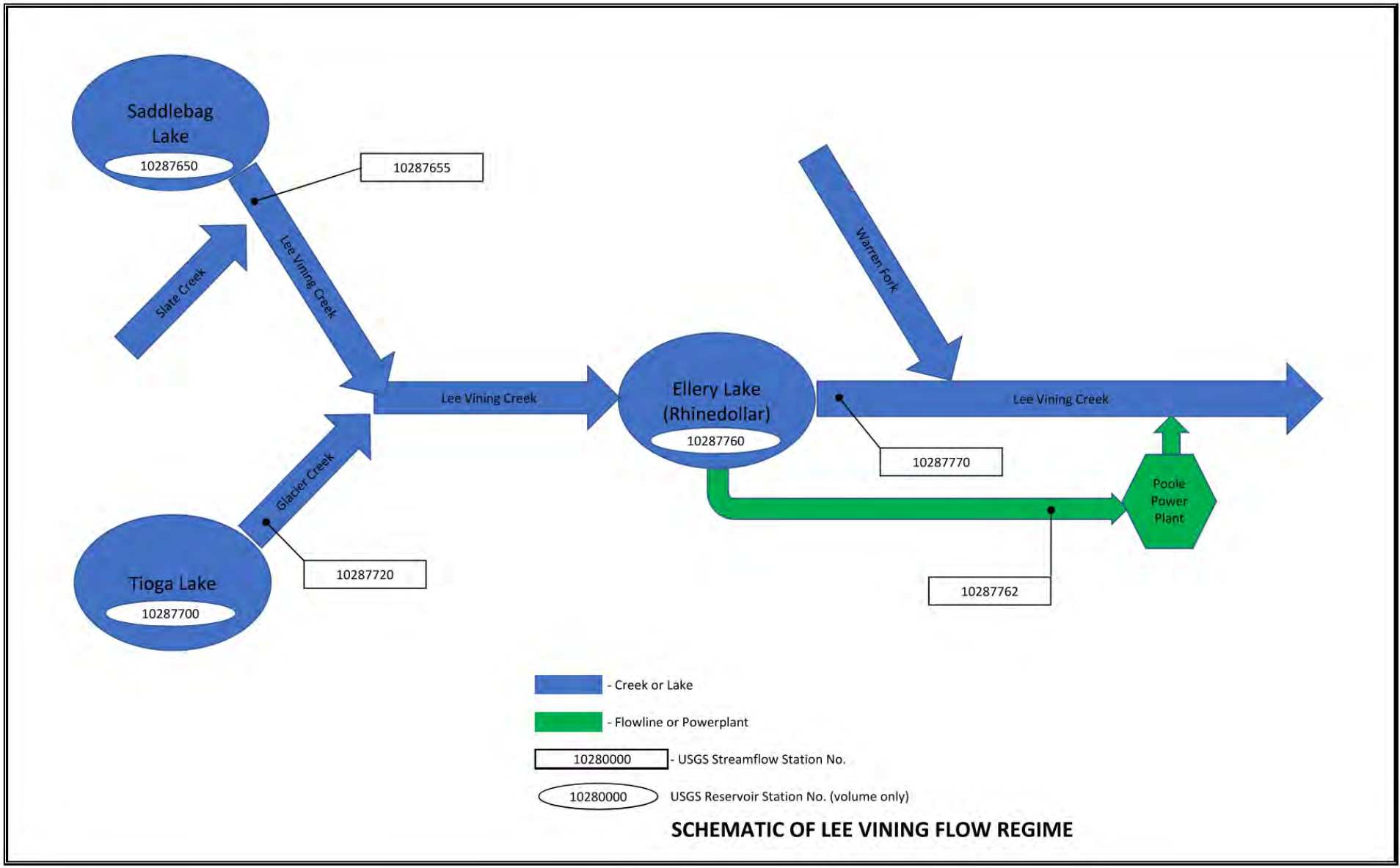
- Safety moment, welcome and introductions
- Meeting objectives
- Study Plan Goals and Objectives
- Schematic of Mass Balance Model
- Constraints / Rules
- Intra-day model / Hydro Optimization
- Schedule, next steps, action items
- Final questions

Meeting Objectives

- Information sharing of operations model
  - Status and direction
- Discuss how model will be used

Operations Model (AQ-5)


McGee Creek
10268225
McGee Creek Div.
10268227*
10268282
Birch Creek
Birch-McGee Div.
10270900
10270985
Abelour Ditch **
10271060
North Fork
Power Plant No. 2
Power Plant No. 3
Power Plant No. 4
Power Plant No. 5
Power Plant No. 6
Flowline No. 2
Flowline No. 3
Flowline No. 4
Flowline No. 5
Flowline No. 6
Lake Sabrina
10270870*
Mid. Fork
Intake No. 2 Reservoir
10270875*
10270877
Middle Fork
Bishop Creek
Intake No. 3 Reservoir
Intake No. 4 Reservoir
Intake No. 5 Reservoir
Intake No. 6 Reservoir
10270872
South Fork Diversion
10270885
10270940
10270960
10270970
10271200
Coyote Creek
South Fork
10270830
South Lake
10270700*
10270800
10270680
Green Creek Diversion
- Creek or Lake
- Flowline or Powerplant
- Diversion
10270800 - USGS Streamflow Station No.
10270870 USGS Reservoir Station No. (volume only)
* Monthly statistics not available
** Primary diversion is from No. 6 penstock. If Plant No. 6 not operational, diversion is from No. 5 penstock.
SCHEMATIC OF BISHOP CREEK FLOW REGIME


Saddlebag Lake
10287650
10287655
Slate Creek
Lee Vining Creek
Warren Fork
Lee Vining Creek
Ellery Lake (Rhinedollar)
10287760
Lee Vining Creek
10287770
Poole Power Plant
Glacier Creek
Tioga Lake
10287700
10287720
10287762
- Creek or Lake
- Flowline or Powerplant
10280000 - USGS Streamflow Station No.
10280000 USGS Reservoir Station No. (volume only)
SCHEMATIC OF LEE VINING FLOW REGIME

Methods

- Stage/Storage Curves, Spillways, Penstock/Poole Powerhouse
- Extent of Models

- Data Sources: Streamflow Gages, Snow Courses, Other?
- Limitations: Temporal Resolution, Period of Record

- Separated Into Intraday for Pulse Operations and Daily to Examine Resource Allocation on Seasonal/Annual Basis

Methods (continued)

- Resource Allocation (Daily Model)
- Sales Agreement (Annual Model)
- Grid System Response & Stability (Intraday Model)

- Minimum Flows, Reservoir Targets
- Seasonality, Year Type, Prioritization

Baseline Conditions and Constraints

- SCE Operational Requirements
  - Draw Reservoirs Within % of Empty (Yearly)
- FERC Current License Requirements
  - 30 cfs Below Poole PH
  - 2 cfs (Seasonal) Below Tioga
  - 14/9/6 cfs (Year Dependent) Below Saddlebag
  - Limit Daily Fluctuations Below Saddlebag (Seasonal)
  - Tioga Lake Within 2/6 Feet Full (Year Dependent, Seasonal)
  - Ellery Lake Within 2 Feet Full (Seasonal)

Methods

- 15-min Poole Powerhouse + Spillway Outflow
- LADWP gage data
- SCADA demand data

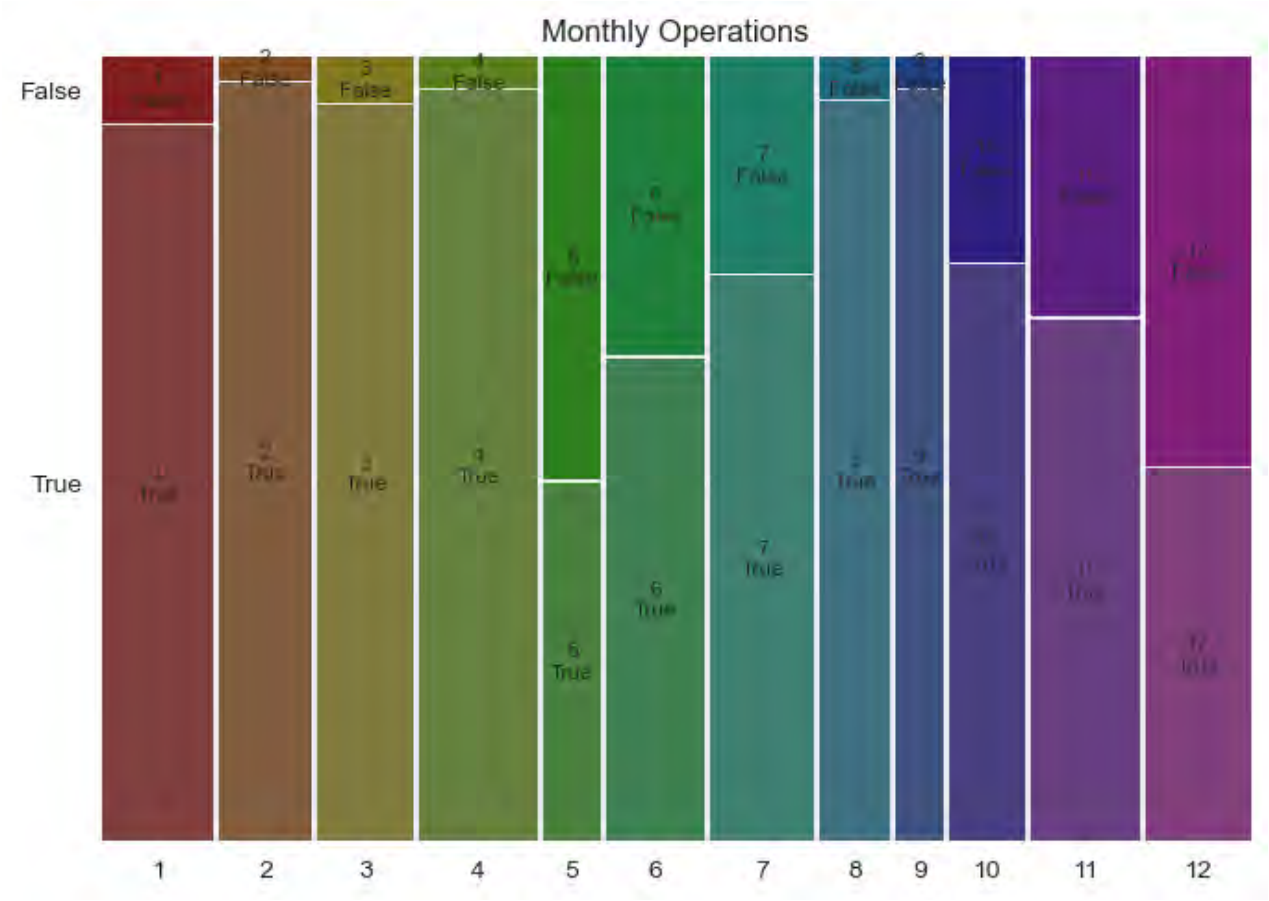
- Sharp variations from recent average flow values strongly correspond with known hydro optimization peaks

Calibration Results

- Moving average length
- Variation from moving average
- Size of peak event
- Length of peak event

- As the exact peak timing captured varies based on duration/magnitude of peak, this value seems reasonable
- Captures 807 hydropeaking events between Oct 2009 – Dec 2021

Likelihood of Peaking Each Month Pre- and Post-Operations Shift



T-Test on Peak Magnitude

- Operation change in 2016 did make a statistically significant difference on the magnitude of peaks



How to Stay Involved

www.sce.com/leevining

www.sce.com/regulatory/hydro-licensing

www.ferc.gov

carissa.shoemaker@erm.com

Final Questions?



B-77_Discussion re Ops Model remote sensing and snow data

From: Lauren Rosenkranz
To: Arianna Bresnan
Cc: Carissa Shoemaker
Subject: FW: Lee Vining Ops Model TWG
Date: Monday, May 22, 2023 9:34:00 AM
Attachments: image001.png
USJ Watershed Monthly Summary_April.pdf

FYI – for consultation log.

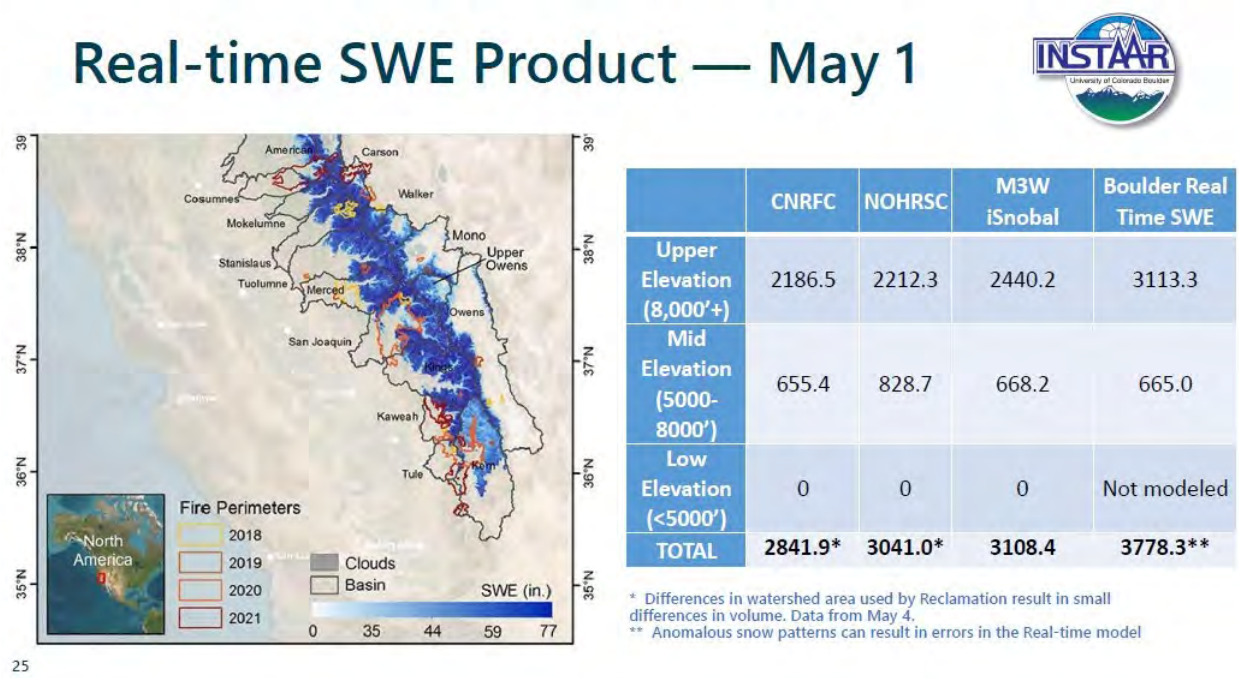
Lauren Rosenkranz (she/her)
Licensing and Permitting Coordinator
Kleinschmidt Associates, Inc.
O: 971-369-4235
I am working a flexible schedule and am available Monday-Thursday.

From: Greg Reis <greg@monolake.org>
Sent: Friday, May 19, 2023 12:56 PM
To: Carissa Shoemaker <Carissa.Shoemaker@erm.com>; matthew.woodhall@sce.com; adam.barnett@usda.gov; justin_barrett@fws.gov; Nick.Buckmaster@wildlife.ca.gov; sb@snowhydrology.com; Amy.Chandos@Wildlife.ca.gov; adam.cohen@waterboards.ca.gov; todd.ellsworth@usda.gov; Rajaa.Hassan@waterboards.ca.gov; stephanie.heller@usda.gov; sheila.irons@usda.gov; Saeed.Jorat@ladwp.com; beth.lawson@wildlife.ca.gov; tristan.leong@usda.gov; alyssa.marquez@wildlife.ca.gov; Geoffrey McQuilkin <geoff@monolake.org>; Chad_Mellison@fws.gov; Philip.Meyer@Waterboards.ca.gov; easternsierraartist@gmail.com; bryan.muro@waterboards.ca.gov; Adam.Perez@ladwp.com; monique.sanchez@usda.gov; cshutes@calsport.org; nathan.sill@usda.gov; parker.thaler@Waterboards.ca.gov; eric.tillemans@ladwp.com; thomas.torres@usda.gov; michael.tovar@wildlife.ca.gov; jennifer.watts@waterboards.ca.gov; michael.wiese@usda.gov; kutzanuumu@yahoo.com; Rwgoode911@hotmail.com; cmcdonald@northforkrancheria-nsn.gov; Martin Ostendorf <Martin.Ostendorf@sce.com>; Kelly Larimer <Kelly.Larimer@KleinschmidtGroup.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>; Heather Bowen Neff <heather@stillwatersci.com>; Bret Hoffman <Bret.Hoffman@KleinschmidtGroup.com>; Isha Deo <Isha.Deo@Kleinschmidtgroup.com>; Noah Hume <noah@stillwatersci.com>; Ethan Bell <ethan@stillwatersci.com>
Subject: RE: Lee Vining Ops Model TWG

Hi all,
As discussed on yesterday's call, I am sharing the remote sensing and model-based snow data products I'm familiar with:

1. Airborne Snow Observatories (ASO). LiDAR snow depth data from airplane flights for funded watersheds (formerly NASA; now usually funded by water users plus some state funding), with snowpack depth derived from the difference from snow-off flight elevation data, paired with ground-based density estimates (snow pillows and surveys). The iSnobal model is used to model the SWE and is calibrated with ASO data (this can be done in watersheds where reservoir storage data is available so that unimpaired runoff can be calculated). It began on the Tuolumne a decade ago (the Mono Basin benefitted from the overflights due to close proximity) and now DWR is now using this for all of its forecasted watersheds. Mono Basin data already available for certain watersheds in certain years. Here is a presentation with an overview including some Rush Creek results on slide 14.
2. NOHRSC – gridded modeled daily SWE, including modeled snowpack water and energy flux if you click on a station.
3. University of Colorado at Boulder INSTAAR – I am not as familiar with these products and don't have a link, but do know that SJRRP and LADWP have used these products.

Also, attached is an example of a report shared on the San Joaquin River Restoration Program's monthly Upper San Joaquin River Watershed Forecasting Discussion where they use all these tools, as well as in-house models and estimates. The report shows how the different products are blended, as well as this slide from another presentation:



	CNRFC	NOHRSC	M3W iSnobal	Boulder Real Time SWE
Upper Elevation (8,000'+)	2186.5	2212.3	2440.2	3113.3
Mid Elevation (5000-8000')	655.4	828.7	668.2	665.0
Low Elevation (<5000')	0	0	0	Not modeled
TOTAL	**2841.9***	**3041.0***	**3108.4**	**3778.3****

* Differences in watershed area used by Reclamation result in small differences in volume. Data from May 4.
** Anomalous snow patterns can result in errors in the Real-time model

As I mentioned on yesterday's call, these products, especially ASO, can add great value to snowmelt forecasting and ASO is now the standard in CA, especially since past snow survey-runoff relationships are being altered by climate change. When ASO data are available (as they may be this year), when paired with unimpaired flow data (ideally derived from daily reservoir storage), it can be used to forecast subwatershed runoff (as I did in 2017 and successfully used ASO data to predict Saddlebag would

spill about a month ahead). Because of the great value of ASO and decreasing value of historic ground-based SWE-runoff regressions, I'd encourage all Mono Basin parties to work to fund (or get DWR funding for) ASO flights/data analysis/iSnobal modeling, as well as SCE sharing daily storage change data, that can be used by SCE and LADWP and others for runoff forecasting and tracking in the Mono Basin.

Thanks,
Greg

Greg Reis, Information & Restoration Specialist, Mono Lake Committee
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Hwy 395 at Third St, PO Box 29, Lee Vining, CA 93541
www.monolake.org | www.monobasinresearch.org

Saving Mono Lake for future generations through
protection, restoration, education, and science.
Long Live Mono Lake!

-----Original Appointment-----
From: Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Sent: Monday, April 10, 2023 7:55 PM
To: matthew.woodhall@sce.com; adam.barnett@usda.gov; justin_barrett@fws.gov; Nick.Buckmaster@wildlife.ca.gov; sb@snowhydrology.com; Amy.Chandos@Wildlife.ca.gov; adam.cohen@waterboards.ca.gov; todd.ellsworth@usda.gov; Rajaa.Hassan@waterboards.ca.gov; stephanie.heller@usda.gov; sheila.irons@usda.gov; Saeed.Jorat@ladwp.com; beth.lawson@wildlife.ca.gov; tristan.leong@usda.gov; alyssa.marquez@wildlife.ca.gov; Geoffrey McQuilkin; Chad_Mellison@fws.gov; Philip.Meyer@Waterboards.ca.gov; easternsierraartist@gmail.com; bryan.muro@waterboards.ca.gov; Adam.Perez@ladwp.com; Greg Reis; monique.sanchez@usda.gov; cshutes@calsport.org; nathan.sill@usda.gov; parker.thaler@Waterboards.ca.gov; eric.tillemans@ladwp.com; thomas.torres@usda.gov; michael.tovar@wildlife.ca.gov; jennifer.watts@waterboards.ca.gov; michael.wiese@usda.gov; kutzanuumu@yahoo.com; Rwgoode911@hotmail.com; cmcdonald@northforkrancheria-nsn.gov; Martin Ostendorf; Kelly.Larimer@KleinschmidtGroup.com; Shannon Luoma; finlay.anderson@kleinschmidtgroup.com; lauren.rosenkranz@kleinschmidtgroup.com; heather@stillwatersci.com; Bret.Hoffman@KleinschmidtGroup.com; Isha.Deo@Kleinschmidtgroup.com; Noah Hume; ethan@stillwatersci.com
Subject: Lee Vining Ops Model TWG
When: Thursday, May 18, 2023 1:00 PM-3:00 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

Hello Lee Vining Aquatics TWG members,

Please join us on Thursday May 18 at 1pm to discuss the Operations Model we have been developing.

Thank you

Carissa Shoemaker

My part-time work schedule is generally as follows: Tuesday morning, Thursday morning, and all day Friday.
I can be available outside of these times if given advanced notice.

ERM
M 907 575 0294

Microsoft Teams meeting

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+1 213-279-1475,,73265045# United States, Los Angeles
Phone Conference ID: 732 650 45#
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B-77_Discussion re Ops Model remote sensing and snow data

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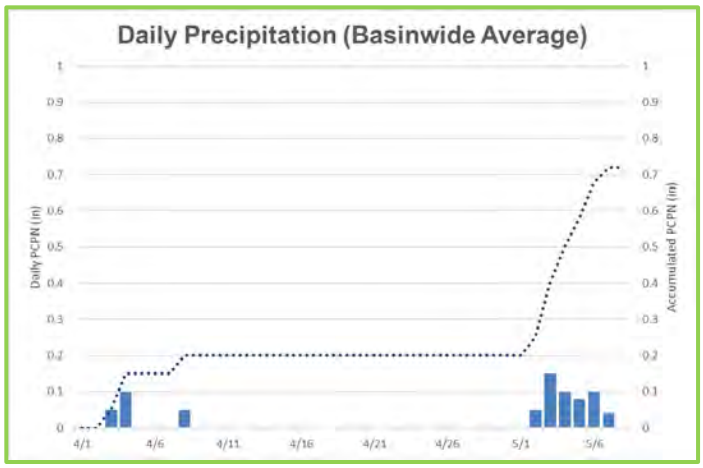
April 2023 Monthly Review

Weather

April temperatures approached normal with alternating weeks of warm and cold temperatures. The precipitation pattern turned dry in April, however cloudy conditions prevailed through most of the month. April was bookended by very small storm events in early April and again in the first few days of May.

The Madden-Julian Oscillation quieted down with conditions moving through Phase 7,8, 1, 2 and 3. The small amount of precipitation in early May was likely related to the MJO passing through Phase 3 late in the April.

The threat of Atmospheric Rivers (ARs) is significantly lower in April and we indeed witnessed none of these water vapor transports to California.

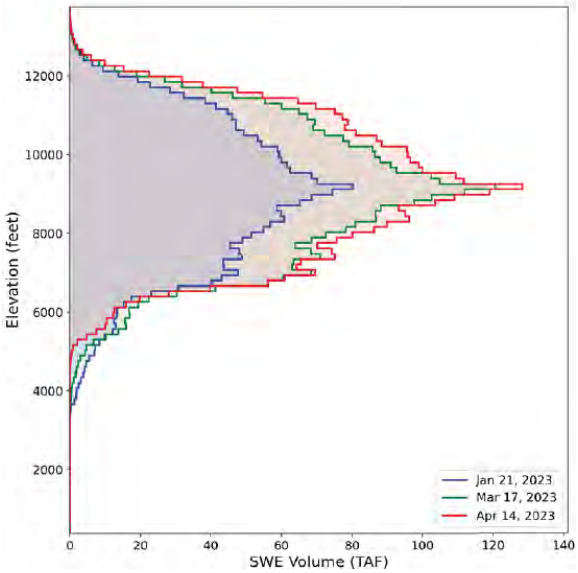


A plot of mean basin daily precipitation across a 36-day period shows an accumulation of 0.2" during April. CNRFC data.

Snowpack

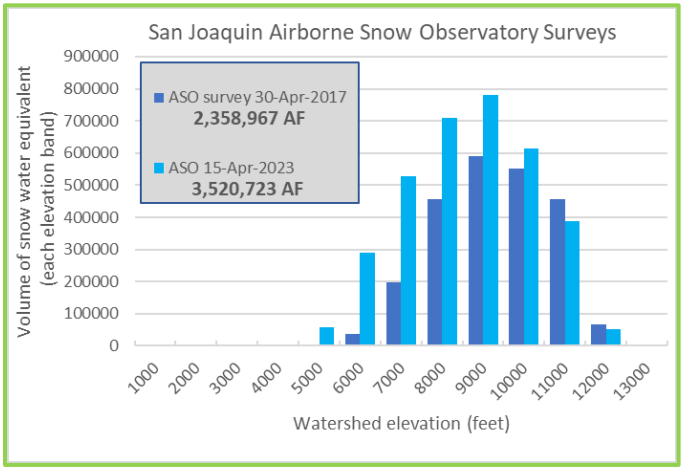
Peak Snow Water Equivalent (SWE) is estimated to have occurred on April 5th or 6th with a volume of approximately 3.6 MAF. Half of the snow courses within and around the margins of the San Joaquin Watershed reached all-time high SWE values for the April 1 survey period. Likewise, some snow pillows reached all-time record SWE values while others snow pillows failed to exceed the records set in 1983. More ground-based stations went offline with inoperable snow depth sensors or both snow depth and snow pillow sensors. In some cases this was due to solar panels and depth sensors being buried beneath snow.

USBR consensus snowpack estimates began the month at 3.54 MAF SWE. Leaning most on the iSnobal model projections early in the month, USBR increased estimated SWE to 3.59 MAF after minor amounts of precipitation were received. On April 20, USBR incorporated the April 14-15 ASO survey, resetting snow volume to 3.36 MAF. The consensus SWE total declined to 3.17 MAF before the end of the month with a moderate degree of melting. Snowmelt was rapid at elevations below 7,000' but extended at slower rates to higher elevations as solar radiation increased over the month.



Airborne Snow Observatory (ASO) surveys from January 21-24, March 17-18, and April 14-15 are shown above. SWE volume (horizontal axis) is shown by elevation (vertical axis)

Comparison of April ASO surveys from 2017 and 2023, showing 49% more snowpack in 2023.

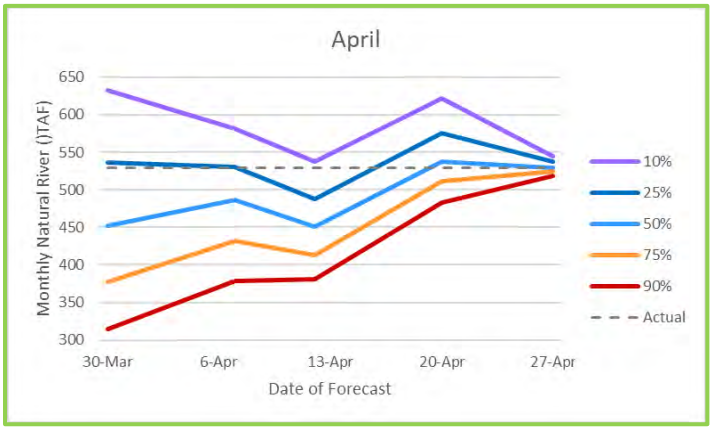


Reclamation tracks multiple snowpack estimates and produces a weekly consensus estimate.

Date	Snowpack SWE					
	CNRFC Basin SWE	M3W iSnoBal SWE	NOHRSC	Boulder/ JPL Real-Time SWE	ASO	USBR Consensus Estimate
7-Apr	3923		3734	4032 (Apr 1)		**3593**
12-Apr	3773	3446 (Apr 15)	3714	3765 (Apr 15)		**3481**
20-Apr	3548		3605		3421 (Apr 15)	**3363**
27-Apr	3119		3372			**3168**
4-May	2841	3109 (May 1)	3041	3324 (May 1)		**2914**
11-May	2822		2973	3765 (Apr 15)		**2823**
18-May	2430	2777 (May 16)	2579	2892 (May 15)		**2510**

Natural River

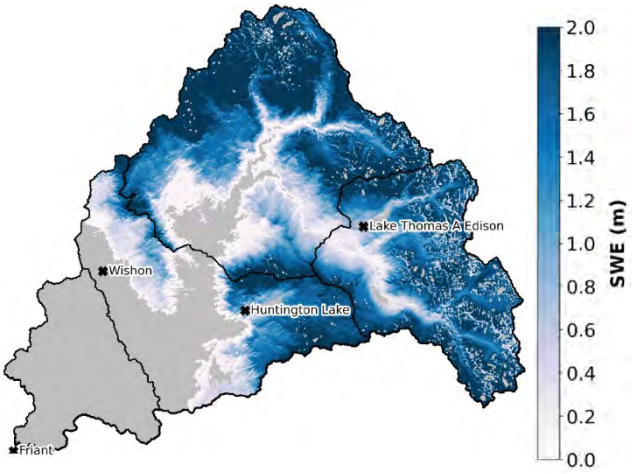
Accumulated natural river declined from about 260% of normal at the beginning of April to 250% at the end of the month. Despite this slight relative decline, April's Natural River total of 530 TAF was nearly a record, second only to 1982's of 614 TAF. Runoff was less suppressed by cold temperatures as temperatures approached normal for the month. Cloud cover was unusually high for the month, otherwise snowmelt and natural river volume would have been even higher.



The Reclamation Joint Forecasting Team's projections for April runoff (natural river) are shown above. Except for an erroneous adjustment on April 13, monthly runoff forecasts were well-verified.

Reclamation utilizes an estimate of monthly natural river and replaces the published forecasts for the current month with our own synthesized forecast. In April, Reclamation's estimates generally rose over the course of the month. A correction was made on April 13 which was erroneous in hindsight — underestimating monthly natural river. Otherwise our monthly natural river forecasts were well-aligned with what actually transpired.

Surface Water Input (SWI) rose substantially in April associated with snowmelt at low and mid-elevations, especially on south-facing slopes. Natural River in April originated from a wider range of elevations, extending strongly up to 8,000' and tapering with higher elevations. By month's end we anticipate that soil moisture was near saturation across most elevations and aspects and thus we should see a corresponding rise in runoff efficiency in the coming weeks.



ASO survey data from April 14-15 depicts SWE depth distribution. Note the heavy accumulations in the NW portion of the watershed and melting of San Joaquin Canyon.

Reclamation Blending of Forecasts

Reclamation manages the water supply from Millerton Lake using runoff forecasts from both the National Weather Service (NWS) California-Nevada River Forecast Center (CNRFC) and the California Department of Water Resources Bulletin 120 (B120). These two forecasts are blended with a custom ratio which is adjusted each week. Additionally, Reclamation replaces the current month runoff projections from these two forecasts with its own daily runoff forecast through the end of the month. By overriding the near-term runoff forecast, Reclamation can make rapid adjustments to extreme events and utilize the most recent reservoir data.

In April, Reclamation blending of forecasts was weighted nearly equally between the California DWR product and the NWS product issued by the California-Nevada River Forecast Center. From March 16 to May 4, Reclamation applied an additional offset to the forecast product, increasing the forecast value especially at the higher exceedances. Such an offset is seldom done but was justified across this period because: 1) Reclamation wanted to capture additional uncertainty in the runoff efficiency and increase the spread between the 90% and 10% exceedance forecasts, 2) Reclamation's process of overriding the current month's natural river values required a correction in later months, and 3) tracking of snowpack conditions indicated that somewhat higher runoff projections were warranted. Adjustments made to the DWR and NWS forecasts and other trends negated the need for an additional offset to the forecasts by May 11.

WY	Reclamation Joint Forecast Projections					
	DWR/NWS	90%	75%	50%	25%	10%
7-Apr	40 / 60 *	4249	4408	4574	4807	5094
12-Apr	50 / 50 *	4280	4394	4584	4790	5049
20-Apr	60 / 40 *	4346	4433	4569	4749	4982
27-Apr	60 / 40 *	4305	4406	4572	4804	5094
4-May	70 / 30 *	4327	4458	4612	4780	4965
11-May	60 / 40	4457	4568	4665	4827	4971
18-May	50 / 50	4494	4585	4664	4765	4861

* Offsets Applied:
7-Apr: 0 / 0 / +50 / +100 / +200
12-Apr: 0 / 0 / +50 / +100 / +200
20-Apr: 0 / 0 / +50 / +100 / +200
27-Apr: 0 / 0 / +50 / +100 / +200
4-May: +100 / +125 / +150 / +175 / +225

Table of Reclamation blended runoff forecasts for the month of April

The US Bureau of Reclamation's Joint Forecasting Team for Millerton Lake Operations consists of members from the South-Central California Area Office and the San Joaquin River Restoration Program

From:	Carissa Shoemaker
To:	Lauren Rosenkranz; Arianna Bresnan
Subject:	FW: Lee Vining Hydro Relicensing - pool habitat field checklist
Date:	Thursday, May 25, 2023 10:20:11 AM
Attachments:	image001.png image002.png image003.png

For consultation log

Carissa Shoemaker

I am on a flexible part-time work schedule over the summer months.

ERM
M 907 575 0294

From: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Sent: Thursday, May 25, 2023 9:14 AM
To: Steve Norton <steve.norton@psomas.com>; Chad_Mellison@fws.gov
Cc: Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Buckmaster, Nick@Wildlife <Nick.Buckmaster@wildlife.ca.gov>
Subject: RE: Lee Vining Hydro Relicensing - pool habitat field checklist

EXTERNAL MESSAGE

Hi Steve (and all),
I'll take a look at the checklist and get back to you. Cursory look appears to be a lot of data to gather. Thanks for the access information. Good to hear the plows are getting near Tioga. Would be nice to know if Ellery is frozen?
At least that opens the possibility for recon soon and we can see what condition the area is in for toad emergence/breeding.
I am hoping to check out the Glass Creek Meadow area (known/occupied Yoto area between Mammoth and June Lake; ~9000 feet) next week to see if it is open and toads are out.
I'll let you know how that goes. Good to hear from you. Hope you had a good winter.
Sierrally

James Erdman
California Department of Fish & Wildlife
Recreational Fisheries & High Mountain Lakes
Office Phone (760)-873-6071
CDFW Cell (760)-567-0413

From: Steve Norton <steve.norton@psomas.com>
Sent: Wednesday, May 24, 2023 5:59 PM

To: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>; Chad_Mellison@fws.gov
Cc: Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: Lee Vining Hydro Relicensing - pool habitat field checklist

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Jim and Chad,
We are striving to map as many of the potential toad breeding pools as possible in the coming field season. Attached is the field checklist we are going to add to our pool metadata each time we go out. Please take a quick look and let me know your thoughts.

In an unrelated note, I spoke to Rob Grasso earlier this week and he said 120 was just plowed up to Ellery. This has little relevance to Yosemite toad, but thought it's good access information worth sharing.

Thanks and have a good weekend if I don't hear from you!
-Steve

Steve Norton
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Senior Biologist / Project Manager / Associate
Resource Management
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2023	
Field Name	**Fields**
Pool ID	[auto fill]
Emergent vegetation	None; 25%; 50%; 75%; >95%
Tree cover within 5 m	Yes; No
Adjacent vegetative cover (herbs or <1 m tall) (up to 2 m distance from shore)	<5%; 25%; 50%; 75%; >95%
Adjacent vegetative cover (woody or >1 m tall) (up to 2 m distance from shore)	<5%; 25%; 50%; 75%; >95%
Dominant adjacent plant species	[text]
Wildlife burrow count within 2 meters	[whole numbers]
Aquatic detritus accumulation	Yes; No
Red algae present	Yes; No
Standing water	Dry; Wet Soils; Pooled
Inflow	Lentic (still); Lotic (flowing)
Water temperature (C)	[whole number]
Deepest water depth (cm)	[whole numbers]
Percentage of pool >30 cm deep	None; 25%; 50%; 75%; 100%
Percentage of pool <= 30 cm deep	None; 25%; 50%; 75%; 100%
Subsequent number of isolated sub-pools	[whole number]
Number of sub-pools with <30 cm depth	[whole number]
Fish present	Yes; No
Treefrog present	None; eggs; tadpoles; metamorphs; subadults; adults
Toad present	None; eggs; tadpoles; metamorphs; subadults; adults
Unidentified tadpoles present	Yes; No
Predators present	[text]
Dead or injured toads observed?	[whole numbers]
Notes	[text]
Data collected by	Sarah Berryman; Jonathan Aguayo; Jason Berkley; Steve Norton; Trevor Bristle; Allison Rudalevige; Intern

B-79_Discussion re toad survey efforts

From:	Steve Norton
To:	Grasso, Rob L
Cc:	Brad Blood; Matthew Woodhall; Shannon Luoma; Carissa Shoemaker
Subject:	FW: Lee Vining Hydroelectric Relicensing - Toad survey efforts
Date:	Tuesday, May 30, 2023 9:07:35 AM
Attachments:	image001.png image002.png image003.png

Good morning Rob,
FYI, I sent the email below to the Inyo NF this morning. If any additional communications happen relevant to toad sampling or forest permitting, I'll them send your way and loop you into the conversation.
I hope you had a good long weekend!
-Steve

Steve Norton
P S O M A S | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

From: Steve Norton
Sent: Tuesday, May 30, 2023 8:40 AM
To: 'Thomas.torres@usda.gov' <thomas.torres@usda.gov>; 'nathan.sill@usda.gov' <nathan.sill@usda.gov>; 'Schlick, Kary -FS' <kary.schlick@usda.gov>
Cc: 'Matthew Woodhall' <Matthew.Woodhall@sce.com>; 'Shannon Luoma' <Shannon.Luoma@Kleinschmidtgroup.com>; 'Carissa Shoemaker' <Carissa.Shoemaker@erm.com>; Brad Blood <bblood@psomas.com>
Subject: Lee Vining Hydroelectric Relicensing - Toad survey efforts

Hi Thomas, Nathan, and Kary,

As you know, we've had various discussions about performing genetic testing on toads within the FERC boundary for this upcoming survey season. We will use this testing to differentiate species composition (particularly with tadpoles) of the toads found within the project area. In general, the purpose of this phase of study implementation is to collect data to better inform our license application. The SCE Relicensing Team believes that western toad have potential to occur within portions of the FERC boundary and that determining the location of potential breeding habitat that supports western toad/Yosemite toad hybridization is important to contextualize the presence of a federally-listed species within the FERC boundary.

We investigated several options for this effort and included Thomas Torres (INF) and Jeff Mabe (Eldorado National Forest) in these conversations concerning Forest Service involvement and/or requirements. Because of the federally protected status of the Yosemite Toad, there are varying

regulatory challenges for this phase. Through this process, SCE has identified a path forward by partnering with the Rob Grasso with Yosemite National Park to perform the genetic sample collection. As the coordination with Mr. Grasso has progressed, he mentioned he may need an amendment to his existing Special Use Permit with the INF.

We appreciate working with INF staff as the relicensing process marches on and intend to continue collaboration and communication throughout this process. Please let me know if you foresee any issues with amending a Special Use Permit for Mr. Grasso and if any other documents may be needed.

Thank you and hope you all had a good holiday weekend,
-Steve Norton

Steve Norton
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From:	Carissa Shoemaker
To:	Lauren Rosenkranz; Arianna Bresnan
Subject:	FW: [External Email]Lee Vining Hydroelectric Relicensing - Toad survey efforts
Date:	Tuesday, May 30, 2023 9:53:54 AM
Attachments:	image004.png image005.png image006.png image007.png image008.png image009.png image010.png

---

For consultation log

Carissa Shoemaker

I am on a flexible part-time work schedule over the summer months.

ERM
M 907 575 0294

From: Sill, Nathan - FS, CA <nathan.sill@usda.gov>
Sent: Tuesday, May 30, 2023 9:33 AM
To: Steve Norton <steve.norton@psomas.com>; Torres, Thomas - FS, CA <thomas.torres@usda.gov>; Schlick, Kary - FS, CA <kary.schlick@usda.gov>
Cc: Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Brad Blood <bblood@psomas.com>
Subject: RE: [External Email]Lee Vining Hydroelectric Relicensing - Toad survey efforts

EXTERNAL MESSAGE

Hi Steve, thanks for the note. I'll check with our SUP staff to see what we can do to amend Rob's SUP. I'll let you know what I hear back.

Nathan Sill
Resources/Planning Staff Officer
Forest Service
Inyo National Forest
p: 760-873-2404
c: 626-698-8996
nathan.sill@usda.gov
351 Pacu Ln.
Bishop, CA 93514
www.fs.usda.gov/inyo

Caring for the land and serving people

From: Steve Norton <steve.norton@psomas.com>
Sent: Tuesday, May 30, 2023 8:40 AM
To: Torres, Thomas - FS, CA <thomas.torres@usda.gov>; Sill, Nathan - FS, CA <nathan.sill@usda.gov>; Schlick, Kary - FS, CA <kary.schlick@usda.gov>
Cc: Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Brad Blood <bblood@psomas.com>
Subject: [External Email]Lee Vining Hydroelectric Relicensing - Toad survey efforts

[External Email]
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Hi Thomas, Nathan, and Kary,

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We investigated several options for this effort and included Thomas Torres (INF) and Jeff Mabe (Eldorado National Forest) in these conversations concerning Forest Service involvement and/or requirements. Because of the federally protected status of the Yosemite Toad, there are varying regulatory challenges for this phase. Through this process, SCE has identified a path forward by partnering with the Rob Grasso with Yosemite National Park to perform the genetic sample collection. As the coordination with Mr. Grasso has progressed, he mentioned he may need an amendment to his existing Special Use Permit with the INF.

We appreciate working with INF staff as the relicensing process marches on and intend to continue collaboration and communication throughout this process. Please let me know if you foresee any issues with amending a Special Use Permit for Mr. Grasso and if any other documents may be needed.

Thank you and hope you all had a good holiday weekend,
-Steve Norton

Steve Norton
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B-80_Discussion re project description with reasoning for collecting Anaxyrus DNA in the Inyo NF

From:	Carissa Shoemaker
To:	Lauren Rosenkranz; Arianna Bresnan
Subject:	FW: Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing
Date:	Tuesday, June 20, 2023 3:06:51 PM
Attachments:	image001.png image002.png image003.png

For consultation log

Carissa Shoemaker

I am on a flexible part-time work schedule over the summer months.

ERM
M 907 575 0294

From: Steve Norton <steve.norton@psomas.com>
Sent: Tuesday, June 20, 2023 11:28 AM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

EXTERNAL MESSAGE

Hi Rob,
You had asked me to provide a brief project description with reasoning for collecting Anaxyrus DNA in the Inyo NF. Below is brief summary for you to use as you wish. Let me know if you need any more detail or other information.
Thanks!
-Steve

Southern California Edison (SCE) is seeking to relicense the Lee Vining Hydroelectric Project located in the eastern Sierra Nevada above the town of Lee Vining and just outside the eastern boundary of Yosemite National Park. As part of the relicensing, SCE needs to determine the extent and locations of Yosemite toad (*Anaxyrus canorus*) within the Project area; determine if western toad (*Anaxyrus boreas*) also occurs; and determine if western toad is hybridizing with Yosemite toad populations. The area to be surveyed includes Saddlebag and Tioga Lakes and the portion of Lee Vining Creek between the lakes. We intend to collect samples (such as tail clips) from up to five individuals at each pond location where the *Anaxyrus* genus are observed. Multiple samples (up to five) are needed from each pond to increase the likelihood of sampling different parentage. This will also provide a greater likelihood that one or more samples provide useable DNA for analysis.

Steve Norton
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B-80_Discussion re project description with reasoning for collecting Anaxyrus DNA in the Inyo NF

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B-81_Mono Lake Kutzadika Tribe letter

From:	Carissa Shoemaker
To:	Lauren Rosenkranz; Arianna Bresnan
Subject:	FW: Mono Lake Kutzadika Tribe letter
Date:	Wednesday, June 28, 2023 8:01:57 AM
Attachments:	image001.png SharpMFP-D257710_20230627_071941.pdf

Attachment for the consultation log

Carissa Shoemaker

I am on a flexible part-time work schedule over the summer months.

ERM
M 907 575 0294

From: Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>
Sent: Tuesday, June 27, 2023 9:42 AM
To: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Cc: Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: FW: Mono Lake Kutzadika Tribe letter

EXTERNAL MESSAGE

From: Matthew Woodhall <Matthew.Woodhall@sce.com>
Sent: Tuesday, June 27, 2023 10:16 AM
To: Seth Carr <seth.carr@sce.com>; Audry Williams <audry.williams@sce.com>
Cc: Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: FW: Mono Lake Kutzadika Tribe letter

Thanks Seth, I have included our relicensing team and Audry on this reply. Appreciate you passing the letter along.

Matthew C. Woodhall
Southern California Edison
Generation-Regulatory Support Services
909-362-1764 - Cell
626-302-9596 - Office

SOUTHERN CALIFORNIA EDISON | Energy for What's Ahead™

From: Seth Carr <Seth.Carr@sce.com>
Sent: Tuesday, June 27, 2023 7:20 AM

To: Matthew Woodhall <Matthew.Woodhall@sce.com>
Subject: Mono Lake Kutzadika Tribe letter

Matt, we got this in the mail while I was on vacation from the Mono Lake tribe and I thought it might have to do with our re-licensing efforts .

Seth Carr
Senior Supervisor, Generation
Eastern Operations, Bishop/Mono Basin
T. 760-873-0722 | M. 760-937-1451

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B-81_Mono Lake Kutzadika Tribe letter

Mono Lake Kutzadika[a] Tribe
P.O. Box 237, Lee Vining, CA 93541

June 19, 2023

Southern California Edison
4000 E. Bishop Creek
Bishop, CA 93514

To Whom It May Concern:

The Mono Lake Kutzadika[a] Tribe is requesting Tribal Consultation for the Lee Vining Hydroelectric Project.

Thank you for your cooperation in this matter.

Sincerely,

Charlotte Lange, Chairperson
760-709-1273
chair@monolaketribe.us

CC Kenneth Holbrook

From: Carissa Shoemaker
To: Arianna Bresnan; Lauren Rosenkranz
Subject: FW: Lee Vining Recreation Study Updates
Date: Monday, July 17, 2023 8:49:49 PM
Attachments: image001.png

For consultation log

Carissa Shoemaker

I am on a flexible part-time work schedule over the summer months.

ERM
M 907 575 0294

From: Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>
Sent: Monday, July 17, 2023 1:06 PM
To: Matthew Woodhall <Matthew.Woodhall@sce.com>; erik@accessfund.org; ty@accessfund.org; adam.barnett@usda.gov; stephen_bowes@nps.gov; Buckmaster, Nick@Wildlife <Nick.Buckmaster@wildlife.ca.gov>; sb@snowhydrology.com; Cohen, Adam@Waterboards <Adam.Cohen@Waterboards.ca.gov>; jora@friendsoftheinyo.org; nora.gamino@usda.gov; katie@accessfund.org; stephanie.heller@usda.gov; sheila.irons@usda.gov; lilian_jonas@contractor.nps.gov; Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>; Bartshe Miller <Bartshe@monolake.org>; Muro, Bryan@Waterboards <Bryan.Muro@Waterboards.ca.gov>; Eric.Rios-Bretado@usda.gov; monique.sanchez@usda.gov; Jameisha.Washington@usda.gov; michael.wiese@usda.gov; kutzanuumu@yahoo.com; Rwgoode911@hotmail.com; cmcdonald@northforkrancheria-nsn.gov
Cc: Kelly.Larimer@KleinschmidtGroup.com; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Shannon.Luoma@KleinschmidtGroup.com; Martin Ostendorf <Martin.Ostendorf@sce.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Tovar, Michael@Wildlife <Michael.Tovar@Wildlife.ca.gov>; Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>
Subject: RE: Lee Vining Recreation Study Updates

EXTERNAL MESSAGE

Cheers Matt,
Thanks for reaching out.
CDFW Habitat Conservation Program is in support of postponing surveys to 2024.
Trisha

Trisha A. Moyer

CDFW- Inland Deserts Region 6
Habitat Conservation Program Supervisor
787 North Main Street Suite 220
Bishop, CA 93514

(760) 835-4304

“Coming together is beginning, staying together is progress, and working together is success.”

~Henry Ford

From: Matthew Woodhall <Matthew.Woodhall@sce.com>
Sent: Monday, July 17, 2023 12:22 PM
To: erik@accessfund.org; ty@accessfund.org; adam.barnett@usda.gov; stephen_bowes@nps.gov; Buckmaster, Nick@Wildlife <Nick.Buckmaster@wildlife.ca.gov>; sb@snowhydrology.com; Cohen, Adam@Waterboards <Adam.Cohen@Waterboards.ca.gov>; jora@friendsoftheinyo.org; nora.gamino@usda.gov; katie@accessfund.org; stephanie.heller@usda.gov; sheila.irons@usda.gov; lilian_jonas@contractor.nps.gov; Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>; Bartshe Miller <Bartshe@monolake.org>; Muro, Bryan@Waterboards <Bryan.Muro@Waterboards.ca.gov>; Eric.Rios-Bretado@usda.gov; monique.sanchez@usda.gov; Jameisha.Washington@usda.gov; michael.wiese@usda.gov; kutzanuumu@yahoo.com; Rwgoode911@hotmail.com; cmcdonald@northforkrancheria-nsn.gov; Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>
Cc: Kelly.Larimer@KleinschmidtGroup.com; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Shannon.Luoma@KleinschmidtGroup.com; Martin Ostendorf <Martin.Ostendorf@sce.com>; Carissa.Shoemaker@erm.com; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
Subject: Lee Vining Recreation Study Updates

WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.

Hello Lee Vining Recreation TWG members,

As you know, heavy snow conditions have caused delays in opening recreation facilities in the Upper Lee Vining Canyon, subsequently also delaying implementation of our Recreation study(ies). Highway 120 was just opened to the public late last week, and the road to Saddlebag was also just plowed. We are assuming that crews will be in the area assessing any damage and getting recreation sites operational but it’s unclear what that process looks like. It had been SCE’s intention to conduct user surveys as soon as facilities are open and our teams can access those sites. But now that it is the middle of July and the Forest Service is just now gaining access to their facilities, SCE is

considering postponing the entire REC-2 implementation to the 2024 study season. Our concern is that surveys conducted this year would not be representative of the recreational use and needs at Lee Vining.

The Final Recreation Use Assessment Study Plan (REC-1) includes one season of user surveys, traffic counters, creel surveys, and spot counts. No changes would be made to the methodology or approach and SCE would plan to implement the study in late spring 2024, as was the original intention for the 2023 season. At this time, SCE believes that the REC-2 (Facilities Condition Assessment) and LAND-2 (Visual Resource Assessment) studies will still be completed this year, but will likely be pushed back into the August or September timeframe.

With this email, SCE is seeking your input. Do you feel that surveys conducted under the REC-1 study in a condensed 2023 season would be a representative sample of use in the Upper Lee Vining Canyon, or if postponing to 2024 would be more representative? Of course, the 2024 season is unknown at this point and may come with its' own complications.

We would be happy to set up a meeting to discuss if needed, but realize that the clock is ticking if we do need to get out there this year. **Please Let us know your thoughts by COB Monday, July 24.**

Matthew C. Woodhall
Southern California Edison
Generation-Regulatory Support Services
909-362-1764 - Cell
626-302-9596 - Office



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From: Carissa Shoemaker
To: Arianna Bresnan; Lauren Rosenkranz
Subject: FW: (External):Re: Lee Vining Recreation Study Updates
Date: Tuesday, July 18, 2023 7:47:27 PM
Attachments: image001.png

For consultation log

Carissa Shoemaker

I am on a flexible part-time work schedule over the summer months.

ERM
M 907 575 0294

From: Matthew Woodhall <Matthew.Woodhall@sce.com>
Sent: Monday, July 17, 2023 1:20 PM
To: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Cc: Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
Subject: FW: (External):Re: Lee Vining Recreation Study Updates

EXTERNAL MESSAGE

FYI….

Matthew C. Woodhall
Southern California Edison
Generation-Regulatory Support Services
909-362-1764 - Cell
626-302-9596 - Office

From: Allison Weber <allison@friendsoftheinyo.org>
Sent: Monday, July 17, 2023 1:03 PM
To: Matthew Woodhall <Matthew.Woodhall@sce.com>
Cc: Wendy Schneider <wendy@friendsoftheinyo.org>
Subject: (External):Re: Lee Vining Recreation Study Updates

Hello Matthew,

Jora Fogg (jora@friendsoftheinyo.org) is no longer with Friends of the Inyo. I have taken over her work in Mono County, and my associate Kayla Browne (kayla@friendsoftheinyo.org) has taken over her work in Inyo County.

Friends of the Inyo very much appreciates you reaching out for input on this study. Of course, there is no average or typical year, but we know this year to be exceptional and can expect skewed results from a condensed study. I agree that 2024 may come with its own complications, but given the long and drawn out nature of this year's snowpack, this complication pushes traffic and recreation use back in the season until certain user groups such as students, families with children, etc. are less likely to be accounted for. I believe postponing the study to 2024 would be more representative of the needs of Lee Vining and would represent good faith science on the part of SCE.

Thank you,
Allison Weber

On Mon, Jul 17, 2023 at 12:45 PM Policy General <policy@friendsoftheinyo.org> wrote:

> ---------- Forwarded message ---------
> From: **Matthew Woodhall** <Matthew.Woodhall@sce.com>
> Date: Mon, Jul 17, 2023 at 12:22 PM
> Subject: Lee Vining Recreation Study Updates
> To: erik@accessfund.org <erik@accessfund.org>, ty@accessfund.org <ty@accessfund.org>, adam.barnett@usda.gov <adam.barnett@usda.gov>, stephen_bowes@nps.gov <stephen_bowes@nps.gov>, Nick.Buckmaster@wildlife.ca.gov <Nick.Buckmaster@wildlife.ca.gov>, sb@snowhydrology.com <sb@snowhydrology.com>, adam.cohen@waterboards.ca.gov <adam.cohen@waterboards.ca.gov>, jora@friendsoftheinyo.org <jora@friendsoftheinyo.org>, nora.gamino@usda.gov <nora.gamino@usda.gov>, katie@accessfund.org <katie@accessfund.org>, stephanie.heller@usda.gov <stephanie.heller@usda.gov>, sheila.irons@usda.gov <sheila.irons@usda.gov>, lilian_jonas@contractor.nps.gov <lilian_jonas@contractor.nps.gov>, beth.lawson@wildlife.ca.gov <beth.lawson@wildlife.ca.gov>, Bartshe Miller <Bartshe@monolake.org>, bryan.muro@waterboards.ca.gov <bryan.muro@waterboards.ca.gov>, Eric.Rios-Bretado@usda.gov <Eric.Rios-Bretado@usda.gov>, monique.sanchez@usda.gov <monique.sanchez@usda.gov>, Jameisha.Washington@usda.gov <Jameisha.Washington@usda.gov>, michael.wiese@usda.gov <michael.wiese@usda.gov>, kutzanuumu@yahoo.com <kutzanuumu@yahoo.com>, Rwgoode911@hotmail.com <Rwgoode911@hotmail.com>, cmcdonald@northforkrancheria-nsn.gov <cmcdonald@northforkrancheria-nsn.gov>, Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@wildlife.ca.gov>
> Cc: Kelly.Larimer@KleinschmidtGroup.com <Kelly.Larimer@kleinschmidtgroup.com>, Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>, Shannon.Luoma@KleinschmidtGroup.com <Shannon.Luoma@kleinschmidtgroup.com>, Martin Ostendorf <Martin.Ostendorf@sce.com>, Carissa.Shoemaker@erm.com <Carissa.Shoemaker@erm.com>, Angela Whelpley <Angela.Whelpley@kleinschmidtgroup.com>
>
> Hello Lee Vining Recreation TWG members,

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Matthew C. Woodhall
Southern California Edison
Generation-Regulatory Support Services
909-362-1764 - Cell
626-302-9596 - Office



--

Allison Weber (she/her)
Policy Associate
Water and Forest Campaign Manager
https://friendsoftheinyo.org/ | https://keeplongvalleygreen.org
allison@friendsoftheinyo.org | (760) 920 1606

B-82.2_Discussion re weather delays affecting recreation studies, postponing surveys to 2024





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From:	Carissa Shoemaker
To:	Arianna Bresnan; Lauren Rosenkranz
Subject:	FW: (External):RE: Lee Vining Recreation Study Updates
Date:	Monday, July 17, 2023 8:50:56 PM
Attachments:	image002.png image003.png image004.png image005.png image006.png

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For consultation log

Carissa Shoemaker

I am on a flexible part-time work schedule over the summer months.

ERM
M 907 575 0294

From: Matthew Woodhall <Matthew.Woodhall@sce.com>
Sent: Monday, July 17, 2023 2:38 PM
To: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Cc: Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
Subject: FW: (External):RE: Lee Vining Recreation Study Updates

EXTERNAL MESSAGE

FYI, looks like we have consensus

Matthew C. Woodhall
Southern California Edison
Generation-Regulatory Support Services
909-362-1764 - Cell
626-302-9596 - Office



From: Barnett, Adam - FS, CA <adam.barnett@usda.gov>
Sent: Monday, July 17, 2023 2:31 PM
To: Matthew Woodhall <Matthew.Woodhall@sce.com>
Cc: Heller, Stephanie - FS, CA <stephanie.heller@usda.gov>; Irons, Sheila - FS, CA <sheila.irons@usda.gov>
Subject: (External):RE: Lee Vining Recreation Study Updates

Hi Matt, delaying REC1 until 2024 is ok with INF. Thanks

Adam Barnett
Public Services Staff Officer
Forest Service
Inyo National Forest
p: 760-873-2461
c: 760-920-8104
adam.barnett@usda.gov
351 Pacu Lane, Suite 200
Bishop, CA 93514
www.fs.usda.gov

Caring for the land and serving people

From: Matthew Woodhall <Matthew.Woodhall@sce.com>
Sent: Monday, July 17, 2023 12:22 PM
To: erik@accessfund.org; ty@accessfund.org; Barnett, Adam - FS, CA <adam.barnett@usda.gov>; stephen_bowes@nps.gov; Nick.Buckmaster@wildlife.ca.gov; sb@snowhydrology.com; adam.cohen@waterboards.ca.gov; jora@friendsoftheinyo.org; nora.gamino@usda.gov; katie@accessfund.org; Heller, Stephanie - FS, CA <stephanie.heller@usda.gov>; Irons, Sheila - FS, CA <sheila.irons@usda.gov>; lilian_jonas@contractor.nps.gov; beth.lawson@wildlife.ca.gov; Bartshe Miller <Bartshe@monolake.org>; bryan.muro@waterboards.ca.gov; Rios-Bretado, Eric - FS, CA <Eric.Rios-Bretado@usda.gov>; Sanchez, Monique - FS, CA <monique.sanchez@usda.gov>; Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>; Wiese, Michael - FS, CA <michael.wiese@usda.gov>; kutzanuumu@yahoo.com; rwgoode911@hotmail.com; cmcdonald@northforkrancheria-nsn.gov; Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>
Cc: Kelly.Larimer@KleinschmidtGroup.com; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Shannon.Luoma@KleinschmidtGroup.com; Martin Ostendorf <Martin.Ostendorf@sce.com>; Carissa.Shoemaker@erm.com; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
Subject: Lee Vining Recreation Study Updates

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Matthew C. Woodhall
Southern California Edison
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909-362-1764 - Cell
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From: Carissa Shoemaker
To: Arianna Bresnan; Lauren Rosenkranz
Subject: FW: Lee Vining Recreation Study Updates
Date: Monday, July 17, 2023 8:49:41 PM
Attachments: image001.png

For consultation log

Carissa Shoemaker

I am on a flexible part-time work schedule over the summer months.

ERM
M 907 575 0294

From: Bartshe Miller <bartshe@monolake.org>
Sent: Monday, July 17, 2023 1:12 PM
To: Matthew Woodhall <Matthew.Woodhall@sce.com>; erik@accessfund.org; ty@accessfund.org; adam.barnett@usda.gov; stephen_bowes@nps.gov; Nick.Buckmaster@wildlife.ca.gov; sb@snowhydrology.com; adam.cohen@waterboards.ca.gov; jora@friendsoftheinyo.org; nora.gamino@usda.gov; katie@accessfund.org; stephanie.heller@usda.gov; sheila.irons@usda.gov; lilian_jonas@contractor.nps.gov; beth.lawson@wildlife.ca.gov; bryan.muro@waterboards.ca.gov; Eric.Rios-Bretado@usda.gov; monique.sanchez@usda.gov; Jameisha.Washington@usda.gov; michael.wiese@usda.gov; kutzanuumu@yahoo.com; Rwgoode911@hotmail.com; cmcdonald@northforkrancheria-nsn.gov; Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>
Cc: Kelly.Larimer@KleinschmidtGroup.com; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Shannon.Luoma@KleinschmidtGroup.com; Martin Ostendorf <Martin.Ostendorf@sce.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
Subject: Re: Lee Vining Recreation Study Updates

EXTERNAL MESSAGE

Hello Matt,
Thank you for checking in on the prorcess and the thoughtful analysis of the situation up in the Tioga Pass area. I agree that this would not be a representative year in terms of recreation use and needs. It seems reasonable to postpone.

Best,
Bartshe

Bartshé Miller, Eastern Sierra Policy Director
Mono Lake Committee
Cell (760) 648-3044 | (760) 647-6386 x121
Hwy 395 at Third Street, P.O. Box 29, Lee Vining, CA 93541

www.monolake.org | www.monobasinreasearch.org

From: Matthew Woodhall <Matthew.Woodhall@sce.com>
Sent: Monday, July 17, 2023 12:22 PM
To: erik@accessfund.org <erik@accessfund.org>; ty@accessfund.org <ty@accessfund.org>; adam.barnett@usda.gov <adam.barnett@usda.gov>; stephen_bowes@nps.gov <stephen_bowes@nps.gov>; Nick.Buckmaster@wildlife.ca.gov <Nick.Buckmaster@wildlife.ca.gov>; sb@snowhydrology.com <sb@snowhydrology.com>; adam.cohen@waterboards.ca.gov <adam.cohen@waterboards.ca.gov>; jora@friendsoftheinyo.org <jora@friendsoftheinyo.org>; nora.gamino@usda.gov <nora.gamino@usda.gov>; katie@accessfund.org <katie@accessfund.org>; stephanie.heller@usda.gov <stephanie.heller@usda.gov>; sheila.irons@usda.gov <sheila.irons@usda.gov>; lilian_jonas@contractor.nps.gov <lilian_jonas@contractor.nps.gov>; beth.lawson@wildlife.ca.gov <beth.lawson@wildlife.ca.gov>; Bartshe Miller <bartshe@monolake.org>; bryan.muro@waterboards.ca.gov <bryan.muro@waterboards.ca.gov>; Eric.Rios-Bretado@usda.gov <Eric.Rios-Bretado@usda.gov>; monique.sanchez@usda.gov <monique.sanchez@usda.gov>; Jameisha.Washington@usda.gov <Jameisha.Washington@usda.gov>; michael.wiese@usda.gov <michael.wiese@usda.gov>; kutzanuumu@yahoo.com <kutzanuumu@yahoo.com>; Rwgoode911@hotmail.com <Rwgoode911@hotmail.com>; cmcdonald@northforkrancheria-nsn.gov <cmcdonald@northforkrancheria-nsn.gov>; Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>
Cc: Kelly.Larimer@KleinschmidtGroup.com <Kelly.Larimer@KleinschmidtGroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Shannon.Luoma@KleinschmidtGroup.com <Shannon.Luoma@KleinschmidtGroup.com>; Martin Ostendorf <Martin.Ostendorf@sce.com>; Carissa.Shoemaker@erm.com <Carissa.Shoemaker@erm.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
Subject: Lee Vining Recreation Study Updates

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Matthew C. Woodhall
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To: Arianna Bresnan; Lauren Rosenkranz
Subject: FW: Lee Vining Recreation Study Updates
Date: Tuesday, July 18, 2023 7:17:45 PM
Attachments: image001.png

For consultation log

Carissa Shoemaker

I am on a flexible part-time work schedule over the summer months.

ERM
M 907 575 0294

From: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>
Sent: Tuesday, July 18, 2023 7:19 AM
To: Matthew Woodhall <Matthew.Woodhall@sce.com>; erik@accessfund.org; ty@accessfund.org; adam.barnett@usda.gov; stephen_bowes@nps.gov; Nick.Buckmaster@wildlife.ca.gov; sb@snowhydrology.com; adam.cohen@waterboards.ca.gov; jora@friendsoftheinyo.org; nora.gamino@usda.gov; katie@accessfund.org; stephanie.heller@usda.gov; sheila.irons@usda.gov; lilian_jonas@contractor.nps.gov; beth.lawson@wildlife.ca.gov; Bartshe Miller <Bartshe@monolake.org>; bryan.muro@waterboards.ca.gov; Eric.Rios-Bretado@usda.gov; monique.sanchez@usda.gov; Jameisha.Washington@usda.gov; michael.wiese@usda.gov; kutzanuumu@yahoo.com; Rwgoode911@hotmail.com; Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>
Cc: Kelly.Larimer@KleinschmidtGroup.com; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Shannon.Luoma@KleinschmidtGroup.com; Martin Ostendorf <Martin.Ostendorf@sce.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
Subject: RE: Lee Vining Recreation Study Updates

EXTERNAL MESSAGE

Hi all.
I think surveys should continue and be done twice or more if need be to understand use during a wet/dry winter.

Christina McDonald, Tribal Secretary
North Fork Rancheria of Mono Indians of California
33143 Road 222, North Fork, CA 93643
PO Box 929, North Fork, CA 93643
(559) 877-2461

From: Matthew Woodhall <Matthew.Woodhall@sce.com>
Sent: Monday, July 17, 2023 12:22 PM

To: erik@accessfund.org; ty@accessfund.org; adam.barnett@usda.gov; stephen_bowes@nps.gov; Nick.Buckmaster@wildlife.ca.gov; sb@snowhydrology.com; adam.cohen@waterboards.ca.gov; jora@friendsoftheinyo.org; nora.gamino@usda.gov; katie@accessfund.org; stephanie.heller@usda.gov; sheila.irons@usda.gov; lilian_jonas@contractor.nps.gov; beth.lawson@wildlife.ca.gov; Bartshe Miller <Bartshe@monolake.org>; bryan.muro@waterboards.ca.gov; Eric.Rios-Bretado@usda.gov; monique.sanchez@usda.gov; Jameisha.Washington@usda.gov; michael.wiese@usda.gov; kutzanuumu@yahoo.com; Rwgoode911@hotmail.com; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>
Cc: Kelly.Larimer@KleinschmidtGroup.com; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Shannon.Luoma@KleinschmidtGroup.com; Martin Ostendorf <Martin.Ostendorf@sce.com>; Carissa.Shoemaker@erm.com; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
Subject: Lee Vining Recreation Study Updates

EXTERNAL: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Lee Vining Recreation TWG members,

As you know, heavy snow conditions have caused delays in opening recreation facilities in the Upper Lee Vining Canyon, subsequently also delaying implementation of our Recreation study(ies). Highway 120 was just opened to the public late last week, and the road to Saddlebag was also just plowed. We are assuming that crews will be in the area assessing any damage and getting recreation sites operational but it's unclear what that process looks like. It had been SCE's intention to conduct user surveys as soon as facilities are open and our teams can access those sites. But now that it is the middle of July and the Forest Service is just now gaining access to their facilities, SCE is considering postponing the entire REC-2 implementation to the 2024 study season. Our concern is that surveys conducted this year would not be representative of the recreational use and needs at Lee Vining.

The Final Recreation Use Assessment Study Plan (REC-1) includes one season of user surveys, traffic counters, creel surveys, and spot counts. No changes would be made to the methodology or approach and SCE would plan to implement the study in late spring 2024, as was the original intention for the 2023 season. At this time, SCE believes that the REC-2 (Facilities Condition Assessment) and LAND-2 (Visual Resource Assessment) studies will still be completed this year, but will likely be pushed back into the August or September timeframe.

With this email, SCE is seeking your input. Do you feel that surveys conducted under the REC-1 study in a condensed 2023 season would be a representative sample of use in the Upper Lee Vining Canyon, or if postponing to 2024 would be more representative? Of course, the 2024 season is unknown at this point and may come with its' own complications.

We would be happy to set up a meeting to discuss if needed, but realize that the clock is ticking if we do need to get out there this year. **Please Let us know your thoughts by COB Monday, July 24.**

Matthew C. Woodhall
Southern California Edison
Generation-Regulatory Support Services
909-362-1764 - Cell
626-302-9596 - Office



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Please visit ERM's web site: http://www.erm.com. To find out how ERM manages personal data, please review our Privacy Policy

TJ Wiggs

From: Steve Norton <steve.norton@psomas.com>
Sent: Tuesday, August 1, 2023 6:31 PM
To: Grasso, Rob L
Cc: Brad Blood; Matthew Woodhall; Carissa Shoemaker; Shannon Luoma; Mellison, Chad
Subject: RE: [EXTERNAL] RE: Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Hi Rob,
We confirmed the tadpoles we found along Lee Vining Creek are toad. We are checking on one additional sampling site tomorrow, but I'd love to have you sample next week if possible. Are you possibly free Wednesday, Thursday, or Friday next week to sample?
Thanks again!
-Steve

Steve Norton
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Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com



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Sent: Friday, July 28, 2023 11:10 AM
To: Steve Norton <steve.norton@psomas.com>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Mellison, Chad <chad_mellison@fws.gov>
Subject: Re: [EXTERNAL] RE: Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Thanks Steve,

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Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

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Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
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I think you are right that breeding over near Saddlebag will get underway here shortly with the expected high temperatures.

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With the coming heatwave, I know conditions and breeding activity will be changing quickly. We will continue to monitor both as time goes on. When toad tadpoles become present, we would love to have you sample tadpoles from at least two general locations: 1) any occupied pools along Lee Vining Creek downstream of Saddlebag dam/upstream of Junction Campground, and 2) any occupied pools near the inlet of Saddlebag on the northwestern side of the reservoir.

I hope your surveys are going well and let me know if you find anything interesting!
-Steve

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Subject: Re: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Thanks Steve,

I am approved by USFWS to collect up to 15 voucher specimens (5 from 3 locations) so keep me in the loop on what you find. I'd prefer to collect tadpoles as they are the easiest and least impactful. I'll bring supplies with me to collect. I'll be on the east side July 4-9th and would ideally collect them on my way back through on the 9th.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park

(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Tuesday, June 27, 2023 9:06 AM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Sarah Berryman <sarah.berryman@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: RE: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Hi Rob,
We expect to have access to 120 and will be out onsite on July 6 (and possibly the 7th). We will be coming up from the east side. Let me know if you're free for a call to touch bases on July 5th, I'll be driving up that day. My cell # is 530-400-2978.
-Steve

Steve Norton
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www.Psomas.com



From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Monday, June 26, 2023 12:31 PM
To: Steve Norton <steve.norton@psomas.com>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: Re: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Thanks Steve,

USFWS has asked me to submit the formal request to amend my permit for the collection of samples. I will do that today. I suspect toads will begin breeding at that location in the next 7-10 days, if not earlier. I just learned toad breeding is underway at Sonora Pass at just over 9,000 ft. I plan to visit the site on July 4th if I can gain access to Tioga Rd.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

B-83.1_Discussion re toad DNA sampling

From: Steve Norton <steve.norton@psomas.com>
Sent: Tuesday, June 20, 2023 11:28 AM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

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Hi Rob,
You had asked me to provide a brief project description with reasoning for collecting Anaxyrus DNA in the Inyo NF. Below is brief summary for you to use as you wish. Let me know if you need any more detail or other information.
Thanks!
-Steve

Southern California Edison (SCE) is seeking to relicense the Lee Vining Hydroelectric Project located in the eastern Sierra Nevada above the town of Lee Vining and just outside the eastern boundary of Yosemite National Park. As part of the relicensing, SCE needs to determine the extent and locations of Yosemite toad (*Anaxyrus canorus*) within the Project area; determine if western toad (*Anaxyrus boreas*) also occurs; and determine if western toad is hybridizing with Yosemite toad populations. The area to be surveyed includes Saddlebag and Tioga Lakes and the portion of Lee Vining Creek between the lakes. We intend to collect samples (such as tail clips) from up to five individuals at each pond location where the *Anaxyrus* genus are observed. Multiple samples (up to five) are needed from each pond to increase the likelihood of sampling different parentage. This will also provide a greater likelihood that one or more samples provide useable DNA for analysis.

Steve Norton
P S O M A S | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
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www.Psomas.com

TJ Wiggs

From: Steve Norton <steve.norton@psomas.com>
Sent: Monday, August 7, 2023 2:35 PM
To: Matthew Woodhall
Cc: Brad Blood; Shannon Luoma; Carissa Shoemaker
Subject: FW: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

FYI.

Steve Norton
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Senior Biologist / Project Manager / Associate
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From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Monday, August 7, 2023 1:33 PM
To: Steve Norton <steve.norton@psomas.com>
Subject: Re: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

Thanks Steve,

I will try and make it up either Tue or Th this week.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Monday, August 7, 2023 8:56 AM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Subject: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

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Hi Rob,
Are you or your team available to sample tadpole DNA in the Inyo NF this week?
Let me know.
Thanks!!
-Steve

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Subject: Re: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Thanks Steve,

I am approved by USFWS to collect up to 15 voucher specimens (5 from 3 locations) so keep me in the loop on what you find. I'd prefer to collect tadpoles as they are the easiest and least impactful. I'll bring supplies with me to collect. I'll be on the east side July 4-9th and would ideally collect them on my way back through on the 9th.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Tuesday, June 27, 2023 9:06 AM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Sarah Berryman <sarah.berryman@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: RE: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Hi Rob,
We expect to have access to 120 and will be out onsite on July 6 (and possibly the 7th). We will be coming up from the east side. Let me know if you're free for a call to touch bases on July 5th, I'll be driving up that day. My cell # is 530-400-2978.
-Steve

Steve Norton
P S O M A S | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com



From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Monday, June 26, 2023 12:31 PM
To: Steve Norton <steve.norton@psomas.com>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: Re: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Thanks Steve,

USFWS has asked me to submit the formal request to amend my permit for the collection of samples. I will do that today. I suspect toads will begin breeding at that location in the next 7-10 days, if not earlier. I just learned toad breeding is underway at Sonora Pass at just over 9,000 ft. I plan to visit the site on July 4th if I can gain access to Tioga Rd.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
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rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Tuesday, June 20, 2023 11:28 AM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hi Rob,
You had asked me to provide a brief project description with reasoning for collecting Anaxyrus DNA in the Inyo NF. Below is brief summary for you to use as you wish. Let me know if you need any more detail or other information. Thanks!
-Steve

Southern California Edison (SCE) is seeking to relicense the Lee Vining Hydroelectric Project located in the eastern Sierra Nevada above the town of Lee Vining and just outside the eastern boundary of Yosemite National Park. As part of the relicensing, SCE needs to determine the extent and locations of Yosemite toad (*Anaxyrus canorus*) within the Project area; determine if western toad (*Anaxyrus boreas*) also occurs; and determine if western toad is hybridizing with Yosemite toad populations. The area to be surveyed includes Saddlebag and Tioga Lakes and the portion of Lee Vining Creek between the lakes. We intend to collect samples (such as tail clips) from up to five individuals at each pond location where the *Anaxyrus* genus are observed. Multiple samples (up to five) are needed from each pond to increase the likelihood of sampling different parentage. This will also provide a greater likelihood that one or more samples provide useable DNA for analysis.

Steve Norton
PSOMAS | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

B-83.3_Discussion re toad DNA sampling

From:	Carissa Shoemaker
To:	Arianna Bresnan
Subject:	FW: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing
Date:	Thursday, August 10, 2023 2:01:55 PM
Attachments:	image001.png image002.png image003.png

For consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Sent: Thursday, August 10, 2023 12:40 PM
To: Grasso, Rob L <Rob_Grasso@nps.gov>; Steve Norton <steve.norton@psomas.com>
Cc: Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>; Brad Blood <bblood@psomas.com>; Mellison, Chad <chad_mellison@fws.gov>; Buckmaster, Nick@Wildlife <Nick.Buckmaster@wildlife.ca.gov>
Subject: RE: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

All,
Thanks for including me in the thread.
Thanks Rob for collecting those samples. I look forward to hearing the results.
Very curious myself about the genetics.
Sierrally, Jim

James Erdman
California Department of Fish & Wildlife
Recreational Fisheries & High Mountain Lakes
Office Phone (760)-873-6071
CDFW Cell (760)-567-0413

From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Tuesday, August 8, 2023 9:41 PM
To: Steve Norton <steve.norton@psomas.com>
Cc: Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>; Mellison, Chad <chad_mellison@fws.gov>; Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Subject: Re: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.

From:	Carissa Shoemaker
To:	Arianna Bresnan
Subject:	FW: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing
Date:	Thursday, August 10, 2023 9:30:04 AM
Attachments:	image001.png image002.png image003.png

For consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Tuesday, August 8, 2023 9:41 PM
To: Steve Norton <steve.norton@psomas.com>
Cc: Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>; Brad Blood <bblood@psomas.com>; Mellison, Chad <chad_mellison@fws.gov>; James.Erdman@wildlife.ca.gov
Subject: Re: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

Hi Steve,

I collected samples from both locations today. I will write up a short report and send out.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Monday, August 7, 2023 9:48 PM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>; Mellison, Chad <chad_mellison@fws.gov>; James.Erdman@wildlife.ca.gov <James.Erdman@wildlife.ca.gov>
Subject: RE: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

From:	Carissa Shoemaker
To:	Arianna Bresnan
Subject:	FW: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing
Date:	Tuesday, August 8, 2023 9:25:18 AM
Attachments:	image001.png image002.png image003.png

For consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Steve Norton <steve.norton@psomas.com>
Sent: Monday, August 7, 2023 9:49 PM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>; Brad Blood <bblood@psomas.com>; Chad_Mellison@fws.gov; James.Erdman@wildlife.ca.gov
Subject: RE: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

Hi Rob,
Please sample toad tadpoles from the following two locations (approximate):
West of Lee Vining Creek: 37.956938, -119.273888
And
South of Saddlebag Lake: 37.964532, -119.268892

As I mentioned, I'll be out onsite Wed through Friday this week so hit me up when you are out there.

Thanks!
-Steve
Cell: 530-400-2978

Steve Norton
P S O M A S | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Monday, August 7, 2023 1:33 PM
To: Steve Norton <steve.norton@psomas.com>

From:	Carissa Shoemaker
To:	Arianna Bresnan; Lauren Rosenkranz
Subject:	FW: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing
Date:	Monday, August 7, 2023 2:46:51 PM
Attachments:	image001.png image002.png image003.png

For consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Steve Norton <steve.norton@psomas.com>
Sent: Monday, August 7, 2023 1:35 PM
To: Matthew Woodhall <Matthew.Woodhall@sce.com>
Cc: Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Subject: FW: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

FYI.

Steve Norton
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From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Monday, August 7, 2023 1:33 PM
To: Steve Norton <steve.norton@psomas.com>
Subject: Re: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

Thanks Steve,

I will try and make it up either Tue or Th this week.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Monday, August 7, 2023 8:56 AM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Subject: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

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Hi Rob,
Are you or your team available to sample tadpole DNA in the Inyo NF this week?
Let me know.
Thanks!!
-Steve

Steve Norton
PSOMAS | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com



From: Steve Norton
Sent: Tuesday, August 1, 2023 5:31 PM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Mellison, Chad <chad_mellison@fws.gov>
Subject: RE: [EXTERNAL] RE: Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Hi Rob,
We confirmed the tadpoles we found along Lee Vining Creek are toad. We are checking on one additional sampling site tomorrow, but I'd love to have you sample next week if possible. Are you

From:	Carissa Shoemaker
To:	Arianna Bresnan; Lauren Rosenkranz
Subject:	FW: [EXTERNAL] RE: Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing
Date:	Friday, August 4, 2023 8:42:59 PM
Attachments:	image001.png image002.png image003.png

For consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Steve Norton <steve.norton@psomas.com>
Sent: Tuesday, August 1, 2023 5:31 PM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Mellison, Chad <chad_mellison@fws.gov>
Subject: RE: [EXTERNAL] RE: Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Hi Rob,
We confirmed the tadpoles we found along Lee Vining Creek are toad. We are checking on one additional sampling site tomorrow, but I'd love to have you sample next week if possible. Are you possibly free Wednesday, Thursday, or Friday next week to sample?
Thanks again!
-Steve

Steve Norton
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Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Friday, July 28, 2023 11:10 AM
To: Steve Norton <steve.norton@psomas.com>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Mellison, Chad <chad_mellison@fws.gov>
Subject: Re: [EXTERNAL] RE: Project description and Reasoning for 2023 DNA sampling - Lee Vining

Hydroelectric Relicensing

Thanks Steve,

Yes, I can come up in the next week or so to collect.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Thursday, July 27, 2023 4:39 PM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: [EXTERNAL] RE: Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

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Hi Rob,
We found some suspicious looking tadpoles recently hatched in a pool about 0.5 miles south of the Saddlebag Dam along Lee Vining Creek today. The tadpoles are not old enough to identify, but we will be going out again next week and should have a better ID then.
If these are toad tadpoles, would your team be able to collect samples sometime in the next couple weeks?

Separately, we had Yosemite toad in amplexus in the known pool along the southern boundary of Saddlebag at the end of last week, so reproduction is definitely in the air above 10,000 feet.
-Steve

Steve Norton
P S O M A S | Balancing the Natural and Built Environment

<Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Torres, Thomas - FS <thomas.torres@usda.gov>
Subject: Re: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Thanks, are you heading up to survey at all in the next week?

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Thursday, July 13, 2023 9:17 PM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Sarah Berryman <sarah.berryman@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Torres, Thomas - FS <thomas.torres@usda.gov>
Subject: RE: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Rob,
FYI, they opened highway 120 to the public this afternoon.
-Steve

Steve Norton
PSOMAS | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
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www.Psomas.com



From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Sunday, July 9, 2023 6:19 AM
To: Steve Norton <steve.norton@psomas.com>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Sarah Berryman <sarah.berryman@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Torres, Thomas - FS <thomas.torres@usda.gov>
Subject: Re: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

From:	Carissa Shoemaker
To:	Arianna Bresnan; Lauren Rosenkranz
Subject:	FW: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing
Date:	Thursday, July 6, 2023 9:26:00 AM
Attachments:	image001.png image002.png image003.png

For the consultation log

Carissa Shoemaker

I am on a flexible part-time work schedule over the summer months.

ERM
M 907 575 0294

From: Steve Norton <steve.norton@psomas.com>
Sent: Saturday, July 1, 2023 5:16 PM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Sarah Berryman <sarah.berryman@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Torres, Thomas - FS <thomas.torres@usda.gov>
Subject: Re: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

EXTERNAL MESSAGE

Excellent. I'll be in touch before then.

Steve Norton

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Senior Biologist / Project Manager / Associate

Resource Management

714.481.8037 (Office/Mobile)
www.Psomas.com

From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Saturday, July 1, 2023 1:09:57 PM
To: Steve Norton <steve.norton@psomas.com>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Sarah Berryman <sarah.berryman@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>;

B-83.3_Discussion re toad DNA sampling

From:	Carissa Shoemaker
To:	Lauren Rosenkranz; Arianna Bresnan
Subject:	FW: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing
Date:	Sunday, July 9, 2023 10:17:36 PM
Attachments:	image001.png image002.png image003.png

For consultation log

Carissa Shoemaker

I am on a flexible part-time work schedule over the summer months.

ERM
M 907 575 0294

From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Sunday, July 9, 2023 5:19 AM
To: Steve Norton <steve.norton@psomas.com>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Sarah Berryman <sarah.berryman@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Torres, Thomas - FS <thomas.torres@usda.gov>
Subject: Re: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

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EXTERNAL MESSAGE

Thanks for the update Steve.

Our crews have been out at Dana Meadow just inside the park the last two days and found toad tadpoles already on the western portion of the meadow near the road. There is still plenty of breeding occurring in the eastern portion of the meadow.

I think you are right that breeding over near Saddlebag will get underway here shortly with the expected high temperatures.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist

Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Saturday, July 8, 2023 5:25 PM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Sarah Berryman <sarah.berryman@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Torres, Thomas - FS <thomas.torres@usda.gov>
Subject: RE: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Hi Rob,
We were onsite Thurs and Friday and didn't find any signs of toad breeding yet. The pools adjacent to Saddlebag were still completely covered with about 3 feet of snow and not yet available for breeding. The portions of Lee Vining Creek downstream of Saddlebag that we are most interested in sampling are generally either covered with snow or subject to the high volume flows the creek is currently experiencing. The southern inlet and margins of Tioga Lake are looking great for breeding, but we didn't explicitly hear or see evidence of breeding.

With the coming heatwave, I know conditions and breeding activity will be changing quickly. We will continue to monitor both as time goes on. When toad tadpoles become present, we would love to have you sample tadpoles from at least two general locations: 1) any occupied pools along Lee Vining Creek downstream of Saddlebag dam/upstream of Junction Campground, and 2) any occupied pools near the inlet of Saddlebag on the northwestern side of the reservoir.

I hope your surveys are going well and let me know if you find anything interesting!
-Steve

Steve Norton
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www.Psomas.com



From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Saturday, July 1, 2023 1:10 PM
To: Steve Norton <steve.norton@psomas.com>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Sarah Berryman <sarah.berryman@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>;

Torres, Thomas - FS <thomas.torres@usda.gov>
Subject: Re: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Thanks Steve,

I am approved by USFWS to collect up to 15 voucher specimens (5 from 3 locations) so keep me in the loop on what you find. I'd prefer to collect tadpoles as they are the easiest and least impactful. I'll bring supplies with me to collect. I'll be on the east side July 4-9th and would ideally collect them on my way back through on the 9th.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
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rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Tuesday, June 27, 2023 9:06 AM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Sarah Berryman <sarah.berryman@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: RE: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Hi Rob,
We expect to have access to 120 and will be out onsite on July 6 (and possibly the 7th). We will be coming up from the east side. Let me know if you're free for a call to touch bases on July 5th, I'll be driving up that day. My cell # is 530-400-2978.
-Steve

Steve Norton
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From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Monday, June 26, 2023 12:31 PM
To: Steve Norton <steve.norton@psomas.com>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: Re: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Thanks Steve,

USFWS has asked me to submit the formal request to amend my permit for the collection of samples. I will do that today. I suspect toads will begin breeding at that location in the next 7-10 days, if not earlier. I just learned toad breeding is underway at Sonora Pass at just over 9,000 ft. I plan to visit the site on July 4th if I can gain access to Tioga Rd.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Tuesday, June 20, 2023 11:28 AM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

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Hi Rob,
You had asked me to provide a brief project description with reasoning for collecting Anaxyrus DNA in the Inyo NF. Below is brief summary for you to use as you wish. Let me know if you need any more detail or other information.
Thanks!
-Steve

Southern California Edison (SCE) is seeking to relicense the Lee Vining Hydroelectric Project located in the eastern Sierra Nevada above the town of Lee Vining and just outside the eastern boundary of Yosemite National Park. As part of the relicensing, SCE needs to determine the extent and locations of Yosemite toad (*Anaxyrus canorus*) within the Project area; determine if western toad (*Anaxyrus boreas*) also occurs; and determine if western toad is hybridizing with Yosemite toad populations. The area to be surveyed includes Saddlebag and Tioga Lakes and the portion of Lee Vining Creek between the lakes. We intend to collect samples (such as tail clips) from up to five individuals at each pond location where the *Anaxyrus* genus are observed. Multiple samples (up to five) are needed from each pond to increase the likelihood of sampling different parentage. This will also provide a greater likelihood that one or more samples provide useable DNA for analysis.

Steve Norton
PSOMAS | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com



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From: Carissa Shoemaker
To: Arianna Bresnan
Subject: FW: Lee Vining Recreation Study Updates Follow-up
Date: Thursday, August 10, 2023 9:29:12 AM
Attachments: image001.png

For consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>
Sent: Wednesday, August 9, 2023 7:18 AM
To: Matthew Woodhall <Matthew.Woodhall@sce.com>; erik@accessfund.org; andrea@accessfund.org; adam.barnett@usda.gov; stephen_bowes@nps.gov; Nick.Buckmaster@wildlife.ca.gov; sb@snowhydrology.com; adam.cohen@waterboards.ca.gov; allison@friendsoftheinyo.org; katie@accessfund.org; stephanie.heller@usda.gov; sheila.irons@usda.gov; lilian_jonas@contractor.nps.gov; beth.lawson@wildlife.ca.gov; Bartshe Miller <Bartshe@monolake.org>; bryan.muro@waterboards.ca.gov; Eric.Rios-Bretado@usda.gov; monique.sanchez@usda.gov; Jameisha.Washington@usda.gov; michael.wiese@usda.gov; kutzanuumu@yahoo.com; Rwgoode911@hotmail.com; Patricia.Moyer@Wildlife.ca.gov
Cc: Kelly Larimer <Kelly.Larimer@KleinschmidtGroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Martin Ostendorf <Martin.Ostendorf@sce.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
Subject: RE: Lee Vining Recreation Study Updates Follow-up

Hi all.
I have not actually heard from a particular source, but I've heard talk that another good winter is coming. If anyone has further details that would be helpful.

Thanks.

Christina McDonald, Tribal Secretary
North Fork Rancheria of Mono Indians of California
33143 Road 222, North Fork, CA 93643
PO Box 929, North Fork, CA 93643
(559) 877-2461

From: Matthew Woodhall <Matthew.Woodhall@sce.com>
Sent: Friday, August 4, 2023 1:37 PM
To: erik@accessfund.org; andrea@accessfund.org; adam.barnett@usda.gov; stephen_bowes@nps.gov; Nick.Buckmaster@wildlife.ca.gov; sb@snowhydrology.com;

adam.cohen@waterboards.ca.gov; allison@friendsoftheinyo.org; katie@accessfund.org; stephanie.heller@usda.gov; sheila.irons@usda.gov; lilian_jonas@contractor.nps.gov; beth.lawson@wildlife.ca.gov; Bartshe Miller <Bartshe@monolake.org>; bryan.muro@waterboards.ca.gov; Eric.Rios-Bretado@usda.gov; monique.sanchez@usda.gov; Jameisha.Washington@usda.gov; michael.wiese@usda.gov; kutzanuumu@yahoo.com; Rwgoode911@hotmail.com; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Patricia.Moyer@Wildlife.ca.gov
Cc: Kelly.Larimer@KleinschmidtGroup.com; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Shannon.Luoma@KleinschmidtGroup.com; Martin Ostendorf <Martin.Ostendorf@sce.com>; Carissa.Shoemaker@kleinschmidtgroup.com; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
Subject: Lee Vining Recreation Study Updates Follow-up

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Thank you all for your input on SCE's proposal to delay the REC-1 Study. The Final REC-1 Study Plan, as submitted to FERC, calls for a single survey season. It is important that the effort be as representative as possible to meet the study objectives. Our previous transmittal communicating our plan to delay surveys was centered on the single season objective and the fact that this year's recreation experience will be abnormal because of the extended delay in opening recreational opportunities at the Project. While we received support to delay into 2024 from the majority of TWG members, we also heard and appreciate the comments from some that the study should be modified to include an additional year; however, we do not think this would meet the study plan objectives or add meaningful information. For these explained, we are modifying our schedule to be ready to hit the ground running next spring!

Thank you all for your timely responses and please don't hesitate to reach out if you would like to discuss further.

Matthew C. Woodhall
Southern California Edison
Generation-Regulatory Support Services
909-362-1764 - Cell
626-302-9596 - Office



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From:	Carissa Shoemaker
To:	Arianna Bresnan
Subject:	FW: [External Email]Lee Vining Project 2023 Recreation Studies
Date:	Monday, August 14, 2023 10:05:32 AM
Attachments:	image001.png image002.png image003.png image004.png

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For consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>
Sent: Monday, August 14, 2023 1:01 PM
To: Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>
Cc: Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Barnett, Adam - FS, CA <adam.barnett@usda.gov>
Subject: RE: [External Email]Lee Vining Project 2023 Recreation Studies

Hi Angela,

Thanks for the heads up. I'm not surprised, we unfortunately do not often have enough rangers to patrol every inch of the forest.

However, I've been planning to have our staff do some focused patrols in the Saddlebag area.

Kind Regards,

Jameisha Washington
District Recreation Staff Officer
Forest Service
Inyo National Forest, Mono Lake
Ranger District
P: 760-965-6893
Jameisha.Washington@usda.gov
10806 Hwy. 120 W/P.O. Box 429
Lee Vining, CA 93541
www.fs.fed.us

Caring for the land and serving people

From: Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
Sent: Monday, August 14, 2023 8:01 AM
To: Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>; Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>
Cc: Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Barnett, Adam - FS, CA <adam.barnett@usda.gov>
Subject: RE: [External Email]Lee Vining Project 2023 Recreation Studies

Hi Jameisha~

It was great to get to the Forest Service sites this last week for the Recreation Facilities Condition Assessment as part of the Lee Vining Hydroelectric Project Relicensing.

I wanted to make you aware that we did note a tent pitched at site #6 in the Sawmill Walk-In campground even though it was cleared signed to be closed.

Thanks~
Angela Whelpley
Recreation and Environmental Specialist
Kleinschmidt
O: 207- 416-1203
C: 207-491-7629
Follow us on LinkedIn
We provide practical **solutions** *for renewable energy, water and environmental projects!*
Please note my schedule will be 7:00am to 4:00pm EST through the summer months.

From: Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>
Sent: Monday, August 7, 2023 6:20 PM
To: Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>
Cc: Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Barnett, Adam - FS, CA <adam.barnett@usda.gov>
Subject: RE: [External Email]Lee Vining Project 2023 Recreation Studies

Hi Lauren,

Saddlebag Lake CG and Sawmill CG are closed. Your staff will be able to skirt around the gates if needed on foot.

There will be some snow patches but most should be accessible.

Kind Regards,

Jameisha Washington
District Recreation Staff Officer
Forest Service
Inyo National Forest, Mono Lake Ranger District
P: 760-965-6893
Jameisha.Washington@usda.gov
10806 Hwy. 120 W/P.O. Box 429
Lee Vining, CA 93541
www.fs.fed.us

Caring for the land and serving people

From: Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>
Sent: Wednesday, August 2, 2023 4:30 PM
To: Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>
Cc: Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Barnett, Adam - FS, CA <adam.barnett@usda.gov>
Subject: RE: [External Email]Lee Vining Project 2023 Recreation Studies

Hi Jameisha! Hope you're well.

I wanted to put on your radar that Kleinschmidt staff will be out conducting facilities inventory studies (REC1) next week for the Lee Vining Project. They will be visiting the following sites:

- Saddlebag Lake Campground
- Saddlebag Lake Day Use Area
- Saddlebag Lake Trailhead
- Sawmill Walk-In Campground
- Junction Campground
- Bennettville Trailhead

- Tioga Lake Overlook Info Site
- Glacier Canyon Trailhead
- Tioga Lake Campground
- Ellery Lake Campground

Will staff have any issues accessing any of these sites? If so, are you able to assist them with access?

Please let us know, and thank you.

Lauren Rosenkranz (she/her)
Licensing and Permitting Coordinator
Kleinschmidt Associates, Inc.
O: 971-369-4235
I am working a flexible schedule and am available Monday-Thursday.

From: Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>
Sent: Monday, July 10, 2023 9:54 AM
To: Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>
Cc: Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Barnett, Adam - FS, CA <adam.barnett@usda.gov>
Subject: RE: [External Email]Lee Vining Project 2023 Recreation Studies

Hi Lauren,

No update. Lower Lee Vining and Moraine are still the only CGs open in Lee Vining Canyon and the road is still closed at the lower entrance.

Jameisha Washington
District Recreation Staff Officer
Forest Service
Inyo National Forest, Mono Lake
Ranger District
P: 760-965-6893
Jameisha.Washington@usda.gov
10806 Hwy. 120 W/P.O. Box 429
Lee Vining, CA 93541
www.fs.fed.us
Caring for the land and serving people

From: Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>
Sent: Monday, July 10, 2023 9:52 AM
To: Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>
Cc: Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Barnett, Adam - FS, CA <adam.barnett@usda.gov>
Subject: RE: [External Email]Lee Vining Project 2023 Recreation Studies

Hi Jameisha,

How are things looking out there? I haven't seen any changes in the Recreation Conditions Report, but wanted to check in to see if you had any updates.

I appreciate your input! Thank you.

Lauren Rosenkranz (she/her)
Licensing and Permitting Coordinator
Kleinschmidt Associates, Inc.
O: 971-369-4235
I am working a flexible schedule and am available Monday-Thursday.

From: Lauren Rosenkranz
Sent: Thursday, June 22, 2023 4:00 PM
To: Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>
Cc: Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Shannon Luoma <Shannon.Luoma@KleinschmidtGroup.com>; Barnett, Adam - FS, CA <adam.barnett@usda.gov>
Subject: RE: [External Email]Lee Vining Project 2023 Recreation Studies

OK this is helpful. Thank you for the update.

Stay safe out there.

Lauren Rosenkranz (she/her)
Licensing and Permitting Coordinator
Kleinschmidt Associates, Inc.
O: 971-369-4235
I am working a flexible schedule and am available Monday-Thursday.

From: Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>
Sent: Thursday, June 22, 2023 2:18 PM
To: Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>
Cc: Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Barnett, Adam - FS, CA <adam.barnett@usda.gov>
Subject: RE: [External Email]Lee Vining Project 2023 Recreation Studies

Hi Lauren,

Tioga Pass road is still closed to the public. We still haven been unable to even assess our infrastructure higher up the pass. Lee Vining Creek is moving very fast and has at this point flooded several of our facilities lower down, including Moraine, Aspen, Big Bend, and our administrative office's maintenance yard.

At this time, I do not have an ETA for Big Bend or Aspen opening. We are considering keeping Moraine closed for the whole season, as over half the sites are in danger of flooding.

Please make sure to include Adam.

Kind Regards,

Jameisha Washington
District Recreation Staff Officer
Forest Service
Inyo National Forest, Mono Lake
Ranger District
P: 760-965-6893
Jameisha.Washington@usda.gov
10806 Hwy. 120 W/P.O. Box 429
Lee Vining, CA 93541
www.fs.fed.us

Caring for the land and serving people

From: Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>
Sent: Thursday, June 22, 2023 1:55 PM
To: Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>
Cc: Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: RE: [External Email]Lee Vining Project 2023 Recreation Studies

Hi Jameisha!

Checking in here. I've been keeping an eye on CalTrans and the Recreation Conditions Report, and it seems like no access has changed to date. Any updates on your end?

Thank you,

Lauren Rosenkranz (she/her)
Licensing and Permitting Coordinator
Kleinschmidt Associates, Inc.
O: 971-369-4235
I am working a flexible schedule and am available Monday-Thursday.

From: Lauren Rosenkranz
Sent: Wednesday, June 7, 2023 12:27 PM
To: 'Washington, Jameisha - FS, CA' <Jameisha.Washington@usda.gov>
Cc: Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Shannon Luoma <Shannon.Luoma@KleinschmidtGroup.com>
Subject: RE: [External Email]Lee Vining Project 2023 Recreation Studies

Hi Jameisha,

Checking in on site conditions. Do you have an idea of when sites will be open? We are hoping to start conducting surveys July 4th weekend – is this feasible?

Thank you, and hope you're staying safe!

Lauren Rosenkranz (she/her)
Licensing and Permitting Coordinator
Kleinschmidt Associates, Inc.
O: 971-369-4235
I am working a flexible schedule and am available Monday-Thursday.

From: Lauren Rosenkranz
Sent: Tuesday, May 23, 2023 1:45 PM
To: Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>
Cc: Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Shannon Luoma <Shannon.Luoma@KleinschmidtGroup.com>
Subject: RE: [External Email]Lee Vining Project 2023 Recreation Studies

OK great, this is helpful. Thank you, Jameisha!

We'll keep checking the Recreation Conditions Report, but please do keep us posted as things progress.

Thanks again!

Lauren Rosenkranz (she/her)
Licensing and Permitting Coordinator
Kleinschmidt Associates, Inc.
O: 971-369-4235
I am working a flexible schedule and am available Monday-Thursday.

From: Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>
Sent: Tuesday, May 23, 2023 1:34 PM
To: Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>
Cc: Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: RE: [External Email]Lee Vining Project 2023 Recreation Studies

Hi Lauren,

I am troubleshooting computers in Bishop and cell towers are down for Verizon. I will listen to your VM soon. I was up canyon yesterday and Caltrans still hasn't opened the road passed the lower gate which is by the turn off for Poole Power Plant Road.

That being said our forest is meeting right now and we're not going to open Big Bend or anything higher in the canyon until further notice, because the flood danger is too high. We are planning to open Lower Lee Vining and Moraine campgrounds this week.

I will keep you posted as we know more, right now we're planning to reassess basically every couple of weeks.

Thanks!

Jameisha Washington
District Recreation Staff Officer
Forest Service
Inyo National Forest, Mono Lake Ranger District
P: 760-965-6893
Jameisha.Washington@usda.gov
10806 Hwy. 120 W/P.O. Box 429
Lee Vining, CA 93541
www.fs.fed.us
Caring for the land and serving people

From: Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>
Sent: Tuesday, May 23, 2023 11:13 AM
To: Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>
Cc: Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: [External Email]Lee Vining Project 2023 Recreation Studies

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Hi Jameisha!

I am following up on a voicemail I left you this morning, regarding the Lee Vining Project recreation studies. I was notified that Hwy 120 has been plowed to Ellery Lake, so I wanted to check in on any updates to recreation area openings. We have been following the Recreation Conditions Report, but I was hoping you could provide some insight on when your team intends to mobilize staff to recreation sites. We would also like to have staff out to collect data as soon as possible. Currently we are slated to begin surveys on July 2, but could start earlier if the sites are available.

Please let me know any updates you may have on site access. My number is listed below, feel free to call if that's easier. Thank you!

Lauren Rosenkranz (she/her)
Licensing and Permitting Coordinator
Kleinschmidt
O: 971-369-4235
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I am working a flexible schedule and am available Monday-Thursday.

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B-86_Discussion re samples from Saddlebag Lake and Tioga Pass being sent to lab.

From:	Carissa Shoemaker
To:	Arianna Bresnan
Subject:	Fwd: Saddlebag Lake and Tioga Pass
Date:	Tuesday, August 15, 2023 10:38:46 AM
Attachments:	image001.png image002.png image003.png image004.png

---

For consultation log

Sent via the Samsung Galaxy S22 5G, an AT&T 5G smartphone
Get Outlook for Android

From: Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>
Sent: Tuesday, August 15, 2023 9:51:18 AM
To: Steve Norton <steve.norton@psomas.com>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>; Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Sarah Berryman <sarah.berryman@psomas.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Subject: RE: Saddlebag Lake and Tioga Pass

Hi Steve,

Yes, we received the sample and have mailed it to the genetics lab for processing. I'll certainly keep you in the loop when we get results. Fingers crossed!

Thanks,
Julia

--
Julia Runcie Lawson
Environmental Scientist
California Department of Fish and Wildlife
Bishop Field Office
Cell: 760-937-0138
julia.lawson@wildlife.ca.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Monday, August 14, 2023 1:39 PM
To: Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>; Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Sarah Berryman <sarah.berryman@psomas.com>;

Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>
Subject: RE: Saddlebag Lake and Tioga Pass

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Hi Julia and Danny,
I wanted to make sure you received the possible wolverine scat sample I delivered to the Bishop Field Office on Tuesday (August 8) last week. I know it will be a while for the DNA results to come in but definitely let me know what the results are: I'm swimming in curiosity. In the low chance it happens to be wolverine and there are publications made, please add a credit to biologists Steve Norton (me) and Sarah Berryman with Psomas as the finders and collectors of the sample: I would love to have my kids see my name associated with this.
Thank you and let me know what you guys find out!
-Steve

Steve Norton
P S O M A S | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

From: Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>
Sent: Friday, July 28, 2023 8:24 AM
To: Steve Norton <steve.norton@psomas.com>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>; Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Thomas.torres@usda.gov
Subject: RE: Saddlebag Lake and Tioga Pass

Hi Steve,

Either mailing the scat or dropping it off at the office works fine. You can leave it dry, ideally in a paper bag. Can you also provide the coordinates and date collected?

Thanks,
Julia

--
Julia Runcie Lawson
Environmental Scientist

California Department of Fish and Wildlife
Bishop Field Office
Cell: 760-937-0138
julia.lawson@wildlife.ca.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Thursday, July 27, 2023 9:07 AM
To: Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>; Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Thomas.torres@usda.gov; Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>
Subject: Re: Saddlebag Lake and Tioga Pass

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Thanks Danny. I'll be through town in a couple weeks (second week of August). I can drop off then, if that works. My cell is 530-400-2978.
-Steve

Steve Norton
P S O M A S | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

From: Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>
Sent: Thursday, July 27, 2023 8:53:21 AM
To: Steve Norton <steve.norton@psomas.com>; Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Thomas.torres@usda.gov <thomas.torres@usda.gov>; Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>
Subject: RE: Saddlebag Lake and Tioga Pass

Hey Steve,

Thanks. Wolverine is certainly possible, although I suspect it's either multiple scats at a canid latrine (e.g., coyote, fox) or a single scat from a small bear. It looks like it might contain bighorn sheep

hair? Thanks for collecting it. Feel free to send it to 787 North Main St., Bishop, CA 93546 attn: Julia Lawson, who I've also copied here. Alternatively, we could arrange to pick it up in person if you are still in the eastern Sierras.

Danny

From: Steve Norton <steve.norton@psomas.com>
Sent: Wednesday, July 26, 2023 1:54 PM
To: Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>; Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Thomas.torres@usda.gov
Subject: RE: Saddlebag Lake and Tioga Pass

Some people who received this message don't often get email from steve.norton@psomas.com. Learn why this is important

WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.

Hi Danny,
Attached is a photo of scat we found along the road to Saddlebag Lake in the Inyo NF. I collected a 2-inch sample and would love to send it off to you for analysis, if you have the same wolverine suspicions that I do. Note the ruler is 6 inches long and the total length of the scat is well over one-foot long if stretched out.

Let me know where to send. I have been keeping it dry, but let me know if you prefer I store in a preservative.
If you want to discuss further, my office number is 714-481-8037.
-Steve

Steve Norton
PSOMAS | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

From: Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>
Sent: Thursday, July 20, 2023 9:03 AM
To: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>; Steve Norton

<steve.norton@psomas.com>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>
Subject: RE: Saddlebag Lake and Tioga Pass

Hi Steve,

Over the last several months we have had baited sites in areas where the wolverine was detected and in places where we suspected it might go. These sites were set up with trail cameras and hair snares, with the primary objective of collecting a DNA sample. Unfortunately, we did not have any success and since it has been months now since the wolverine was last observed, we do not have any idea where it is. Fortunately, we maintain an array of trail cameras for our high elevation mesocarnivore surveys that routinely photograph rare species like Sierra Nevada red fox. So if a wolverine shows up again, we will have a reasonable chance of detecting one.

If you happen across any sign while you are out and about (e.g., track, scat, etc.) certainly let us know. Obtaining a DNA sample to determine the population of origin is of great interest.

Danny

From: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Sent: Wednesday, July 19, 2023 2:53 PM
To: Steve Norton <steve.norton@psomas.com>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>
Subject: Re: Saddlebag Lake and Tioga Pass

I am sure if you find any and are pretty confident in your ID that someone in my office would be willing if not excited to receive the sample.
I have copied Dan Taylor and Danny Gammons so they have a heads up. They are ES Wildlife and Supervisor Wildlife in Bishop Office. They can provide better info on CDFW Wolverine efforts.
Happy Toad travels and good luck with finding any Wolverine scat or getting a photo/video.
Stay in touch.
Sierrally

Sent from my iPhone

> On Jul 19, 2023, at 13:03, Steve Norton <steve.norton@psomas.com> wrote:
>
> WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.
>
> Fantastic. We had one adult calling along Tioga last week and we'll be out again later this week.

Any idea if CDFW has any wolverine sampling efforts in the area/INF?

Stay safe out there!
-Steve

Steve Norton
P S O M A S | Balancing the Natural and Built Environment
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From: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Sent: Wednesday, July 19, 2023 11:51:33 AM
To: Steve Norton <steve.norton@psomas.com>
Subject: RE: Saddlebag Lake and Tioga Pass

Steve,
Good to hear. Thanks.
Heading into Humphreys Basin out of the North Fork of Bishop Creek, over Piute Pass tomorrow.
Field for 7 days. Might see some YOTO in Humphreys (probable).
Sounds like the Tioga/Saddlebag area will be toad ready when I get out.
Happy Toad hunting.
Anaxyrally

James Erdman
California Department of Fish & Wildlife
Recreational Fisheries & High Mountain Lakes
Office Phone (760)-873-6071
CDFW Cell (760)-567-0413

From: Steve Norton <steve.norton@psomas.com>
Sent: Thursday, July 13, 2023 9:16 PM
To: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Subject: RE: Saddlebag Lake and Tioga Pass

WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.

Hey Jim,
FYI, they opened 120 to the Yosemite gate this afternoon and also finished plowing upto Saddlebag (the lake is still frozen, but accessing it is much much easier now).
-Steve

Steve Norton
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Senior Biologist / Project Manager / Associate

B-86_Discussion re samples from Saddlebag Lake and Tioga Pass being sent to lab.

Resource Management
714.481.8037 (Office/Mobile)
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From: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Sent: Wednesday, July 12, 2023 4:03 PM
To: Steve Norton <steve.norton@psomas.com>
Subject: RE: Saddlebag Lake and Tioga Pass

Steve,
Great to hear you have access. Kinda thought so but did not want to assume.
I head into the Horton Lakes tomorrow for a big single day round trip frog survey. ~15 miles in and out but only a few sites to VES.
Friday I head out of town for a few days. Next week in the field 7/19-7/26 over Piute Pass into Humphreys Basin.
Thanks for the offer to join you. Would if I could.
Seems like a good Toad year to me.
Sierrally

James Erdman
California Department of Fish & Wildlife
Recreational Fisheries & High Mountain Lakes
Office Phone (760)-873-6071
CDFW Cell (760)-567-0413

From: Steve Norton <steve.norton@psomas.com>
Sent: Wednesday, July 12, 2023 3:19 PM
To: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Subject: Re: Saddlebag Lake and Tioga Pass

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Hi Jim,
I actually just got into bishop to drive up 120 tomorrow. We were also out late last week and found the margins of Tioga were mostly thawed and full of water (didn't hear any calls by the lake though). If you'd like to head up there with us tomorrow, I've got keys and there's always room for more eyes.

We also hiked up to saddlebag then but the known meadow was under about 3 ft of snow. I expect saddlebag to be going toad crazy next week.
Let me know if you want to join tomorrow (or poss Friday morning).
-Steve

Steve Norton
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www.Psomas.com

From: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Sent: Wednesday, July 12, 2023 9:21:39 AM
To: Steve Norton <steve.norton@psomas.com>
Subject: Saddlebag Lake and Tioga Pass

Hi Steve,
I have a short update on Tioga Pass and Saddlebag Lake.
A friend who works for a consultant (Stillwater Science) was granted escort access up to Saddlebag Lake to install a few turbidity loggers. Twice.
Attached are a few photos she shared with me.
She also stated that Tioga Lake was completely thawed. They crossed into Yosemite and the Gaylor Lakes and stated that the lakes were open and active with calling Buca. Egg masses present.
I am hoping the road opens soon and I can access Tioga Lake (at least). My schedule will make it tough to get to the area before August as it stands right now.
If you are wanting to get out you might try requesting an SCE escort before the road opens.
Just thought I would share what I have learned.
I was out last week in the Independence Creek drainage at a SNYLF population area. Lakes above 10,500 were still frozen and there was fresh ice every morning. Camped at 10,300.
Still managed to collect Bd swabs on 30 frogs. They were just emerging from there long winter nap.
Good luck with this summers Toad surveys. Crazy summer.
Sierrally

James Erdman
Environmental Scientist
Fisheries & High Mountain Lakes
California Department of Fish & Wildlife
Inland Desert-Region 6-North
Bishop Field Office
787 North Main St., Suite 220
Bishop, Ca. 93514
Office Ph. (760)-873-6071
CDFW Cell (760)-567-0413
James.Erdman@wildlife.ca.gov

B-86_Discussion re samples from Saddlebag Lake and Tioga Pass being sent to lab.

From: Arianna Bresnan
To: Olivia Smith
Subject: FW: Lee Vining Aquatics Tech Reports for review
Date: Wednesday, January 31, 2024 1:39:49 PM

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Tuesday, September 19, 2023 2:21 PM
To: Arianna Bresnan <Arianna.Bresnan@KleinschmidtGroup.com>
Subject: FW: Lee Vining Aquatics Tech Reports for review

For LV consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Meese, Graham@Wildlife <Graham.Meese@Wildlife.ca.gov>
Sent: Tuesday, September 19, 2023 2:14 PM
To: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Cc: Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>
Subject: RE: Lee Vining Aquatics Tech Reports for review

Great, thank you for sharing. Please include me in any future correspondence.

Best,

Graham

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Tuesday, September 19, 2023 1:59 PM
To: Meese, Graham@Wildlife <Graham.Meese@Wildlife.ca.gov>
Subject: FW: Lee Vining Aquatics Tech Reports for review

You don't often get email from carissa.shoemaker@kleinschmidtgroup.com. Learn why this is important

WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.

Hi Graham,
I'm forwarding this recent communication regarding Lee Vining aquatics.

Thanks

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Carissa Shoemaker
Sent: Wednesday, September 13, 2023 4:39 PM
Cc: 'heather@stillwatersci.com' <heather@stillwatersci.com>; 'Kelly Larimer' <Kelly.Larimer@KleinschmidtGroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; 'Shannon Luoma' <Shannon.Luoma@Kleinschmidtgroup.com>; Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>; 'matthew.woodhall@sce.com' <matthew.woodhall@sce.com>; 'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; 'audry.williams@sce.com' <audry.williams@sce.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Subject: Lee Vining Aquatics Tech Reports for review

Hello Lee Vining Fish and Aquatics TWG Members,

The Lee Vining relicensing team has prepared three Draft Technical Reports of 2022 survey findings. The draft reports include Reservoir Fish Population Study (AQ-1), Stream Fish Populations Study (AQ-2), and Year 1 Water Quality Study (WQ-1).

We are submitting these reports to you for a 60-day comment period. Please let us know if you have any comments or questions on the drafts by Monday, 13 November. We will incorporate your comments, as appropriate, into the final versions and file the Final Technical Reports with FERC along with the Draft License Application in September 2024.

Other Lee Vining studies are ongoing and their reports will be coming to you for review as they are completed. Let me know if you have questions on the schedule or status of other studies.

> You can access "LV_WQ-1_Tech_Report.pdf" at: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:372f3cdf-8a1e-458d-981b-3c75579294d8
> You can access "LV_AQ-1_Tech_Report.pdf" at: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:1f4f4ea9-dc64-4ac7-816d-df9f4bb4906e
> You can access "LV_AQ-2_Tech_Report.pdf" at: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:2732996e-ae35-4fe3-91ee-338d68963316

Please let me know if you have any questions.
Thank you

Carissa Shoemaker
Licensing Coordinator
Kleinschmidt
C: 907-575-0294

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TJ Wiggs

From: Steve Norton <steve.norton@psomas.com>
Sent: Wednesday, September 20, 2023 1:53 PM
To: Matthew Woodhall; Shannon Luoma
Cc: Carissa Shoemaker; Brad Blood; Finlay Anderson
Subject: FW: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

Matt and Shannon,
I asked Rob Grasso (Yosemite biologist that collected the genetic samples), what the timeline is like for getting DNA results and he sent me the email correspondence below. If he were to guess, he imagines results are 2-3 years out. Read his email below for details.
-Steve

Steve Norton
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From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Wednesday, September 20, 2023 11:41 AM
To: Steve Norton <steve.norton@psomas.com>
Subject: Re: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

Hi Steve,

I don't think adding a third locality in such close proximity to the other sites would change anything all that much in regards to the toad demogrpahics in that area so I wouldn't worry about it.

If I had to guess, we are probably 2-3 years out from a shared result of what the genetics are for the Saddlebag area.

As I understand the process from both Paul and USFWS, I was authorized under permit to collect the samples and hold them in storage (ethanol/freezer) until they are requested from an entity with permission from the USFWS. At that point I would relinquish the samples to that that requesting entity for analysis. I know Paul is intending to perform that analysis but as I understand it he is still in the grant funding seeking stage and currently doesn't have funding or an approved project at this point in time. I don't know when he is expecting funding.

From visiting the sites around Saddlebag my off the cuff guess is that you are dealing strictly with A. canorus at these sites. I base this on the elevation, habitat, characteristics of tadpoles and juveniles I encountered as well as proximity to other known A canorus populations at similar elevations. If you want to search for a more definitive answer in the meantime I would suggest taking dorsal pictures of adult toads. The paratoid glands behind the eyes of adults is probably still the best diagnostic to distinguish boreas from canorus without genetics.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Tuesday, September 19, 2023 4:22 PM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Subject: RE: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

Hi Rob,
I was hoping to send you to a third location along Saddlebag but there was just no activity near the inlet this year like I was hoping. Do you have any idea when the samples will be processed and the results will be analyzed?

I'm assuming you sent the samples to Paul Maier but let me know if there is someone else I should contact for very rough timeline estimates (2024, 2025, etc.).

Thanks and I hope you're well!
-Steve

Steve Norton
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From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Tuesday, August 8, 2023 9:41 PM
To: Steve Norton <steve.norton@psomas.com>
Cc: Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>; Mellison, Chad <chad_mellison@fws.gov>; James.Erdman@wildlife.ca.gov
Subject: Re: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

Hi Steve,

I collected samples from both locations today. I will write up a short report and send out.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Monday, August 7, 2023 9:48 PM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>; Mellison, Chad <chad_mellison@fws.gov>; James.Erdman@wildlife.ca.gov <James.Erdman@wildlife.ca.gov>
Subject: RE: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

Hi Rob,
Please sample toad tadpoles from the following two locations (approximate):
West of Lee Vining Creek: 37.956938, -119.273888
And
South of Saddlebag Lake: 37.964532, -119.268892

As I mentioned, I'll be out onsite Wed through Friday this week so hit me up when you are out there.

Thanks!
-Steve
Cell: 530-400-2978

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From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Monday, August 7, 2023 1:33 PM
To: Steve Norton <steve.norton@psomas.com>
Subject: Re: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

Thanks Steve,

I will try and make it up either Tue or Th this week.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park

(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Monday, August 7, 2023 8:56 AM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Subject: [EXTERNAL] Toad DNA sampling - Lee Vining Hydroelectric Relicensing

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Hi Rob,
Are you or your team available to sample tadpole DNA in the Inyo NF this week?
Let me know.
Thanks!!
-Steve

Steve Norton
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Senior Biologist / Project Manager / Associate
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www.Psomas.com



From: Steve Norton
Sent: Tuesday, August 1, 2023 5:31 PM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Mellison, Chad <chad_mellison@fws.gov>
Subject: RE: [EXTERNAL] RE: Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Hi Rob,
We confirmed the tadpoles we found along Lee Vining Creek are toad. We are checking on one additional sampling site tomorrow, but I'd love to have you sample next week if possible. Are you possibly free Wednesday, Thursday, or Friday next week to sample?
Thanks again!
-Steve

Steve Norton
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www.Psomas.com

From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Friday, July 28, 2023 11:10 AM
To: Steve Norton <steve.norton@psomas.com>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Mellison, Chad <chad_mellison@fws.gov>
Subject: Re: [EXTERNAL] RE: Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Thanks Steve,

Yes, I can come up in the next week or so to collect.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Thursday, July 27, 2023 4:39 PM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: [EXTERNAL] RE: Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

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Hi Rob,
We found some suspicious looking tadpoles recently hatched in a pool about 0.5 miles south of the Saddlebag Dam along Lee Vining Creek today. The tadpoles are not old enough to identify, but we will be going out again next week and should have a better ID then.
If these are toad tadpoles, would your team be able to collect samples sometime in the next couple weeks?

Separately, we had Yosemite toad in amplexus in the known pool along the southern boundary of Saddlebag at the end of last week, so reproduction is definitely in the air above 10,000 feet.
-Steve

Steve Norton
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From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Saturday, July 15, 2023 12:50 PM
To: Steve Norton <steve.norton@psomas.com>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Sarah Berryman <sarah.berryman@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Torres, Thomas - FS <thomas.torres@usda.gov>
Subject: Re: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Thanks, are you heading up to survey at all in the next week?

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Thursday, July 13, 2023 9:17 PM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Sarah Berryman <sarah.berryman@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Torres, Thomas - FS <thomas.torres@usda.gov>
Subject: RE: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Rob,
FYI, they opened highway 120 to the public this afternoon.
-Steve

Steve Norton
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From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Sunday, July 9, 2023 6:19 AM
To: Steve Norton <steve.norton@psomas.com>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Sarah Berryman <sarah.berryman@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker

<Carissa.Shoemaker@erm.com>; Torres, Thomas - FS <thomas.torres@usda.gov>
Subject: Re: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Thanks for the update Steve.

Our crews have been out at Dana Meadow just inside the park the last two days and found toad tadpoles already on the western portion of the meadow near the road. There is still plenty of breeding occurring in the eastern portion of the meadow.

I think you are right that breeding over near Saddlebag will get underway here shortly with the expected high temperatures.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Saturday, July 8, 2023 5:25 PM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Sarah Berryman <sarah.berryman@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Torres, Thomas - FS <thomas.torres@usda.gov>
Subject: RE: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Hi Rob,
We were onsite Thurs and Friday and didn't find any signs of toad breeding yet. The pools adjacent to Saddlebag were still completely covered with about 3 feet of snow and not yet available for breeding. The portions of Lee Vining Creek downstream of Saddlebag that we are most interested in sampling are generally either covered with snow or subject to the high volume flows the creek is currently experiencing. The southern inlet and margins of Tioga Lake are looking great for breeding, but we didn't explicitly hear or see evidence of breeding.

With the coming heatwave, I know conditions and breeding activity will be changing quickly. We will continue to monitor both as time goes on. When toad tadpoles become present, we would love to have you sample tadpoles from at least two general locations: 1) any occupied pools along Lee Vining Creek downstream of Saddlebag dam/upstream of Junction Campground, and 2) any occupied pools near the inlet of Saddlebag on the northwestern side of the reservoir.

I hope your surveys are going well and let me know if you find anything interesting!
-Steve

Steve Norton
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www.Psomas.com

From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Saturday, July 1, 2023 1:10 PM
To: Steve Norton <steve.norton@psomas.com>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Sarah Berryman <sarah.berryman@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>; Torres, Thomas - FS <thomas.torres@usda.gov>
Subject: Re: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Thanks Steve,

I am approved by USFWS to collect up to 15 voucher specimens (5 from 3 locations) so keep me in the loop on what you find. I'd prefer to collect tadpoles as they are the easiest and least impactful. I'll bring supplies with me to collect. I'll be on the east side July 4-9th and would ideally collect them on my way back through on the 9th.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Tuesday, June 27, 2023 9:06 AM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Sarah Berryman <sarah.berryman@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: RE: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Hi Rob,
We expect to have access to 120 and will be out onsite on July 6 (and possibly the 7th). We will be coming up from the east side. Let me know if you're free for a call to touch bases on July 5th, I'll be driving up that day. My cell # is 530-400-2978.
-Steve

Steve Norton
PSOMAS | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Monday, June 26, 2023 12:31 PM
To: Steve Norton <steve.norton@psomas.com>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: Re: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

Thanks Steve,

USFWS has asked me to submit the formal request to amend my permit for the collection of samples. I will do that today. I suspect toads will begin breeding at that location in the next 7-10 days, if not earlier. I just learned toad breeding is underway at Sonora Pass at just over 9,000 ft. I plan to visit the site on July 4th if I can gain access to Tioga Rd.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Tuesday, June 20, 2023 11:28 AM
To: Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@erm.com>
Subject: [EXTERNAL] Project description and Reasoning for 2023 DNA sampling - Lee Vining Hydroelectric Relicensing

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hi Rob,
You had asked me to provide a brief project description with reasoning for collecting Anaxyrus DNA in the Inyo NF. Below is brief summary for you to use as you wish. Let me know if you need any more detail or other information. Thanks!
-Steve

Southern California Edison (SCE) is seeking to relicense the Lee Vining Hydroelectric Project located in the eastern Sierra Nevada above the town of Lee Vining and just outside the eastern boundary of Yosemite National Park. As part of the relicensing, SCE needs to determine the extent and locations of Yosemite toad (*Anaxyrus canorus*) within the Project

area; determine if western toad (*Anaxyrus boreas*) also occurs; and determine if western toad is hybridizing with Yosemite toad populations. The area to be surveyed includes Saddlebag and Tioga Lakes and the portion of Lee Vining Creek between the lakes. We intend to collect samples (such as tail clips) from up to five individuals at each pond location where the *Anaxyrus* genus are observed. Multiple samples (up to five) are needed from each pond to increase the likelihood of sampling different parentage. This will also provide a greater likelihood that one or more samples provide useable DNA for analysis.

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Steve Norton

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Senior Biologist / Project Manager / Associate

Resource Management

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From:	Carissa Shoemaker
To:	Moyer, Patricia (Trisha)@Wildlife
Cc:	Meese, Graham@Wildlife
Subject:	RE: Lee Vining Aquatics Tech Reports for review
Date:	Monday, October 30, 2023 7:36:00 PM

Hi Trisha, absolutely. I've put you back onto two TWG mailing lists: Aquatics and Terrestrial. Do you want to be in Recreation and/or Cultural/Tribal as well?

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>
Sent: Monday, October 30, 2023 12:03 PM
To: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Cc: Meese, Graham@Wildlife <Graham.Meese@Wildlife.ca.gov>
Subject: FW: Lee Vining Aquatics Tech Reports for review

Hi Carissa, I think I may have fallen off your e-mail list for LeeVining FERC when you added Graham? Can you please add me back on to your list?
Thanks,
Trisha

Trisha A. Moyer

CDFW- Inland Deserts Region 6
Habitat Conservation Program Supervisor
787 North Main Street Suite 220
Bishop, CA 93514

(760) 835-4304

"Coming together is beginning, staying together is progress, and working together is success."

~Henry Ford

From: Meese, Graham@Wildlife <Graham.Meese@Wildlife.ca.gov>
Sent: Monday, October 30, 2023 11:03 AM
To: Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>
Subject: FW: Lee Vining Aquatics Tech Reports for review

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Monday, October 30, 2023 10:08 AM
To: Meese, Graham@Wildlife <Graham.Meese@Wildlife.ca.gov>; Luu, Bryant@Wildlife <Bryant.Luu@wildlife.ca.gov>; Hockaday, Alyssa@Wildlife <Alyssa.Hockaday@Wildlife.ca.gov>; Ellsworth, Alisa@Wildlife <Alisa.Ellsworth@wildlife.ca.gov>
Subject: RE: Lee Vining Aquatics Tech Reports for review

Some people who received this message don't often get email from carissa.shoemaker@kleinschmidtgroup.com. Learn why this is important

WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.

Hello Lee Vining Fish and Aquatics TWG Members,

This is just a reminder that comments on the three Aquatics Draft Technical Reports of 2022 survey findings are due back in two weeks, on Monday November 13. The draft reports include Reservoir Fish Population Study (AQ-1), Stream Fish Populations Study (AQ-2), and Year 1 Water Quality Study (WQ-1). We will incorporate your comments, as appropriate, into the final versions and file the Final Technical Report with FERC along with the Draft License Application in September 2024.

> You can access "LV_WQ-1_Tech_Report.pdf" at: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:372f3cdf-8a1e-458d-981b-3c75579294d8
> You can access "LV_AQ-1_Tech_Report.pdf" at: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:1f4f4ea9-dc64-4ac7-816d-df9f4bb4906e
> You can access "LV_AQ-2_Tech_Report.pdf" at: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:2732996e-ae35-4fe3-91ee-338d68963316

Please let me know if you have any questions.
Thank you

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Carissa Shoemaker
Sent: Wednesday, September 13, 2023 4:39 PM
Cc: 'heather@stillwatersci.com' <heather@stillwatersci.com>; 'Kelly Larimer'

<Kelly.Larimer@KleinschmidtGroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; 'Shannon Luoma' <Shannon.Luoma@Kleinschmidtgroup.com>; Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>; 'matthew.woodhall@sce.com' <matthew.woodhall@sce.com>; 'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; 'audry.williams@sce.com' <audry.williams@sce.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Subject: Lee Vining Aquatics Tech Reports for review

Hello Lee Vining Fish and Aquatics TWG Members,

The Lee Vining relicensing team has prepared three Draft Technical Reports of 2022 survey findings. The draft reports include Reservoir Fish Population Study (AQ-1), Stream Fish Populations Study (AQ-2), and Year 1 Water Quality Study (WQ-1).

We are submitting these reports to you for a 60-day comment period. Please let us know if you have any comments or questions on the drafts by Monday, 13 November. We will incorporate your comments, as appropriate, into the final versions and file the Final Technical Reports with FERC along with the Draft License Application in September 2024.

Other Lee Vining studies are ongoing and their reports will be coming to you for review as they are completed. Let me know if you have questions on the schedule or status of other studies.

> You can access "LV_WQ-1_Tech_Report.pdf" at: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:372f3cdf-8a1e-458d-981b-3c75579294d8
> You can access "LV_AQ-1_Tech_Report.pdf" at: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:1f4f4ea9-dc64-4ac7-816d-df9f4bb4906e
> You can access "LV_AQ-2_Tech_Report.pdf" at: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:2732996e-ae35-4fe3-91ee-338d68963316

Please let me know if you have any questions.
Thank you

Carissa Shoemaker
Licensing Coordinator
C: 907-575-0294
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We provide practical **solutions** *for renewable energy, water and environmental projects!*

B-90.1_Aquatics Tech Reports for review to F&A TWG Reminder to Submit Comments

From:	Carissa Shoemaker
To:	adam.barnett@usda.gov; justin_barrett@fws.gov; Nick.Buckmaster@wildlife.ca.gov; sb@snowhydrology.com; Amy.Chandos@Wildlife.ca.gov; adam.cohen@waterboards.ca.gov; todd.ellsworth@usda.gov; Rajaa.Hassan@waterboards.ca.gov; stephanie.heller@usda.gov; sheila.irons@usda.gov; Saeed.Jorat@ladwp.com; beth.lawson@wildlife.ca.gov; tristan.leong@usda.gov; alyssa.marquez@wildlife.ca.gov; geoff@monolake.org; Chad_Mellison@fws.gov; Philip.Meyer@Waterboards.ca.gov; easternsierraartist@gmail.com; bryan.muro@waterboards.ca.gov; Adam.Perez@ladwp.com; greg@monolake.org; monique.sanchez@usda.gov; cshutes@calsport.org; nathan.sill@usda.gov; parker.thaler@Waterboards.ca.gov; eric.tillemans@ladwp.com; thomas.torres@usda.gov; michael.tovar@wildlife.ca.gov; jennifer.watts@waterboards.ca.gov; michael.wiese@usda.gov; Rwgoode911@hotmail.com; cmcdonald@northforkrancheria-nsn.gov; kutzanuumu@yahoo.com
Cc:	Heather Bowen Neff; Kelly Larimer; Finlay Anderson; Shannon Luoma; Lauren Rosenkranz; matthew.woodhall@sce.com; martin.ostendorf@sce.com; Audry Williams
Subject:	RE: Lee Vining Aquatics Tech Reports for review
Date:	Monday, October 30, 2023 10:05:00 AM

Hello Lee Vining Fish and Aquatics TWG Members,

This is just a reminder that comments on the three Aquatics Draft Technical Reports of 2022 survey findings are due back in two weeks, on Monday November 13. The draft reports include Reservoir Fish Population Study (AQ-1), Stream Fish Populations Study (AQ-2), and Year 1 Water Quality Study (WQ-1). We will incorporate your comments, as appropriate, into the final versions and file the Final Technical Report with FERC along with the Draft License Application in September 2024.

> You can access "LV_WQ-1_Tech_Report.pdf" at: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:372f3cdf-8a1e-458d-981b-3c75579294d8
> You can access "LV_AQ-1_Tech_Report.pdf" at: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:1f4f4ea9-dc64-4ac7-816d-df9f4bb4906e
> You can access "LV_AQ-2_Tech_Report.pdf" at: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:2732996e-ae35-4fe3-91ee-338d68963316

Please let me know if you have any questions.
Thank you

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Carissa Shoemaker
Sent: Wednesday, September 13, 2023 4:39 PM
Cc: 'heather@stillwatersci.com' <heather@stillwatersci.com>; 'Kelly Larimer' <Kelly.Larimer@KleinschmidtGroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; 'Shannon Luoma' <Shannon.Luoma@Kleinschmidtgroup.com>; Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>; 'matthew.woodhall@sce.com' <matthew.woodhall@sce.com>; 'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; 'audry.williams@sce.com' <audry.williams@sce.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Subject: Lee Vining Aquatics Tech Reports for review

B-90.1_Aquatics Tech Reports for review to F&A TWG Reminder to Submit Comments

Hello Lee Vining Fish and Aquatics TWG Members,

The Lee Vining relicensing team has prepared three Draft Technical Reports of 2022 survey findings. The draft reports include Reservoir Fish Population Study (AQ-1), Stream Fish Populations Study (AQ-2), and Year 1 Water Quality Study (WQ-1).

We are submitting these reports to you for a 60-day comment period. Please let us know if you have any comments or questions on the drafts by Monday, 13 November. We will incorporate your comments, as appropriate, into the final versions and file the Final Technical Reports with FERC along with the Draft License Application in September 2024.

Other Lee Vining studies are ongoing and their reports will be coming to you for review as they are completed. Let me know if you have questions on the schedule or status of other studies.

> You can access "LV_WQ-1_Tech_Report.pdf" at: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:372f3cdf-8a1e-458d-981b-3c75579294d8
> You can access "LV_AQ-1_Tech_Report.pdf" at: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:1f4f4ea9-dc64-4ac7-816d-df9f4bb4906e
> You can access "LV_AQ-2_Tech_Report.pdf" at: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:2732996e-ae35-4fe3-91ee-338d68963316

Please let me know if you have any questions.
Thank you

Carissa Shoemaker
Licensing Coordinator

C: 907-575-0294
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B-90.2_Botanical Tech Report for review to TWG Reminder to submit comments

From:	Carissa Shoemaker
To:	adam.barnett@usda.gov; justin_barrett@fws.gov; adam.cohen@waterboards.ca.gov; blake.engelhardt@usda.gov; James.Erdman@wildlife.ca.gov; stephanie.heller@usda.gov; sheila.irons@usda.gov; beth.lawson@wildlife.ca.gov; alyssa.marquez@wildlife.ca.gov; Richard.McNeill@usda.gov; Chad_Mellison@fws.gov; bartshe@monolake.org; bryan.muro@waterboards.ca.gov; greg@monolake.org; monique.sanchez@usda.gov; nathan.sill@usda.gov; thomas.torres@usda.gov; michael.tovar@wildlife.ca.gov; michael.wiese@usda.gov; Rwgoode911@hotmail.com; cmcdonald@northforkrancheria-nsn.gov; kutzanuumu@yahoo.com; Ryan.Cooper@Wildlife.ca.gov; graham.meese@wildlife.ca.gov; Bryant.Luu@wildlife.ca.gov; Alyssa.Hockaday@Wildlife.ca.gov; Alisa.Ellsworth@wildlife.ca.gov
Cc:	Kelly Larimer; Finlay Anderson; Shannon Luoma; Lauren Rosenkranz; matthew.woodhall@sce.com; martin.ostendorf@sce.com; Audry Williams; Allison Rudalevige; Brad Blood
Subject:	RE: Lee Vining Botanical Tech Report for review
Date:	Monday, October 30, 2023 10:06:00 AM

Hello Lee Vining Botanical and Terrestrial TWG Members,

This is just a reminder that comments on the Draft Technical Report of the Year 1 (2022) General Botanical Resources Survey (TERR-1) are due in two weeks, on Monday November 13. We will incorporate your comments, as appropriate, into the final version and file the Final Technical Report with FERC along with the Draft License Application in September 2024.

> The report can be found at this link: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:a282fae0-8c0e-46b7-addd-bd47d7d26d65.

Please let me know if you have any questions or need assistance accessing the document.
Thank you

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Carissa Shoemaker
Sent: Wednesday, September 13, 2023 4:38 PM
Cc: Kelly Larimer <Kelly.Larimer@KleinschmidtGroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>; matthew.woodhall@sce.com; martin.ostendorf@sce.com; audry.williams@sce.com; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>; Allison Rudalevige <allison.rudalevige@psomas.com>; Brad Blood <bblood@psomas.com>
Subject: Lee Vining Botanical Tech Report for review

Hello Lee Vining Botanical and Terrestrial TWG Members,

The Lee Vining relicensing team has prepared a Draft Technical Report of the Year 1 (2022) General Botanical Resources Survey (TERR-1). The report can be found at this link: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:a282fae0-8c0e-46b7-addd-bd47d7d26d65.

We are submitting this report to you for a 60-day comment period. Please let us know if you have any comments or questions on the draft by Monday, 13 November. We will incorporate your comments, as appropriate, into the final version and file the Final Technical Report with FERC along with the Draft License Application in September 2024.

Other Lee Vining studies are ongoing and their reports will be coming to you for review as they are completed. Let me know if you have questions on the schedule or status of other studies.

Please let me know if you have any questions.
Thank you

Carissa Shoemaker
Licensing Coordinator

C: 907-575-0294
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From:	Arianna Bresnan
To:	Olivia Smith
Subject:	FW: [External Email]RE: Lee Vining Botanical Tech Report for review
Date:	Wednesday, January 31, 2024 1:40:20 PM
Attachments:	image001.png

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Tuesday, November 7, 2023 2:16 PM
To: Arianna Bresnan <Arianna.Bresnan@KleinschmidtGroup.com>
Subject: FW: [External Email]RE: Lee Vining Botanical Tech Report for review

LV consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Sent: Monday, November 6, 2023 10:02 AM
To: McNeill, Richard - FS, CA <Richard.McNeill@usda.gov>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>; Schlick, Kary - FS, CA <kary.schlick@usda.gov>
Cc: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: RE: [External Email]RE: Lee Vining Botanical Tech Report for review

Hi Rick!
You are correct. What we distributed in September was our 2022 Draft Technical Report. The second round of surveys wasn't complete by the time we issued the report. Our team is still analyzing the data from the 2023 surveys which will be included in the Final Tech Reports and distributed in early 2024 (February/March).
Thanks, let us know if you have any more questions.
Shannon

Shannon Luoma
Office: 425.528.1614

From: McNeill, Richard - FS, CA <Richard.McNeill@usda.gov>
Sent: Monday, November 6, 2023 8:17 AM
To: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>; Schlick, Kary - FS, CA <kary.schlick@usda.gov>
Cc: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: Re: [External Email]RE: Lee Vining Botanical Tech Report for review

Hi Carissa

I am a little confused.

You have submitted a report for review in Sept of 2023, but it doesn't include any of the data collected in 2023. is this correct?

rick

Rick McNeill (he/him/his)
Botanist

Forest Service

Inyo National Forest

cell: 760-920-7579

fax: 760-873-2458
richard.mcneill@usda.gov

351 Pacu Lane
Bishop, CA 93514
www.fs.fed.us

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Friday, November 3, 2023 11:58
To: McNeill, Richard - FS, CA <Richard.McNeill@usda.gov>; Schlick, Kary - FS, CA <kary.schlick@usda.gov>
Cc: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: RE: [External Email]RE: Lee Vining Botanical Tech Report for review

Hi Rick,
We will likely be using Excel to track comments and responses, but if another format works better for you, we can work with anything.
Thanks for asking

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: McNeill, Richard - FS, CA <Richard.McNeill@usda.gov>
Sent: Friday, November 3, 2023 11:55 AM
To: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>; Schlick, Kary - FS, CA <kary.schlick@usda.gov>
Cc: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: Re: [External Email]RE: Lee Vining Botanical Tech Report for review

Hi Carissa

In what form would you like our comments?

rick

Rick McNeill (he/him/his)
Botanist

Forest Service

Inyo National Forest

cell: 760-920-7579

fax: 760-873-2458
richard.mcneill@usda.gov

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Bishop, CA 93514
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From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Monday, October 30, 2023 19:45
To: Schlick, Kary - FS, CA <kary.schlick@usda.gov>
Cc: McNeill, Richard - FS, CA <Richard.McNeill@usda.gov>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: RE: [External Email]RE: Lee Vining Botanical Tech Report for review

Hi Kary,

I have added you to our Lee Vining Technical Working Groups per Rick's suggestion. I also attached

two recent emails regarding Technical Report reviews, if you are interested in taking a look at those. Comments are due Nov 13.

Let me know if you have any questions.
Thanks

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: McNeill, Richard - FS, CA <Richard.McNeill@usda.gov>
Sent: Monday, October 30, 2023 11:37 AM
To: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Subject: Re: [External Email]RE: Lee Vining Botanical Tech Report for review

Hi Carissa

You can remove Blake Engelhardt and Thomas Torres from these email, they are no longer at the Inyo NF.

You should probably add kary.schlick@usda.gov until we get a new north zone wildlife biologist.

rick

Rick McNeill (he/him/his)
Botanist

Forest Service

Inyo National Forest

cell: 760-920-7579

fax: 760-873-2458
richard.mcneill@usda.gov

351 Pacu Lane
Bishop, CA 93514
www.fs.fed.us

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Monday, October 30, 2023 10:06
To: Barnett, Adam - FS, CA <adam.barnett@usda.gov>; justin_barrett@fws.gov <justin_barrett@fws.gov>; adam.cohen@waterboards.ca.gov <adam.cohen@waterboards.ca.gov>; Engelhardt, Blake - FS, CA <blake.engelhardt@usda.gov>; James.Erdman@wildlife.ca.gov <James.Erdman@wildlife.ca.gov>; Heller, Stephanie - FS, CA <stephanie.heller@usda.gov>; Irons, Sheila - FS, CA <sheila.irons@usda.gov>; beth.lawson@wildlife.ca.gov <beth.lawson@wildlife.ca.gov>; alyssa.marquez@wildlife.ca.gov <alyssa.marquez@wildlife.ca.gov>; McNeill, Richard - FS, CA <Richard.McNeill@usda.gov>; Chad_Mellison@fws.gov <Chad_Mellison@fws.gov>; bartshe@monolake.org <bartshe@monolake.org>; bryan.muro@waterboards.ca.gov <bryan.muro@waterboards.ca.gov>; greg@monolake.org <greg@monolake.org>; Sanchez, Monique - FS, CA <monique.sanchez@usda.gov>; Sill, Nathan - FS, CA <nathan.sill@usda.gov>; Torres, Thomas - FS, NM <thomas.torres@usda.gov>; michael.tovar@wildlife.ca.gov <michael.tovar@wildlife.ca.gov>; Wiese, Michael - FS, CA <michael.wiese@usda.gov>; rwgoode911@hotmail.com <rwgoode911@hotmail.com>; cmcdonald@northforkrancheria-nsn.gov <cmcdonald@northforkrancheria-nsn.gov>; kutzanuumu@yahoo.com <kutzanuumu@yahoo.com>; Ryan.Cooper@Wildlife.ca.gov <Ryan.Cooper@Wildlife.ca.gov>; graham.meese@wildlife.ca.gov <graham.meese@wildlife.ca.gov>; Bryant.Luu@wildlife.ca.gov <Bryant.Luu@wildlife.ca.gov>; Alyssa.Hockaday@Wildlife.ca.gov <Alyssa.Hockaday@Wildlife.ca.gov>; Alisa.Ellsworth@wildlife.ca.gov <Alisa.Ellsworth@wildlife.ca.gov>
Cc: Kelly Larimer <Kelly.Larimer@KleinschmidtGroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>; matthew.woodhall@sce.com <matthew.woodhall@sce.com>; martin.ostendorf@sce.com <martin.ostendorf@sce.com>; Audry Williams <audry.williams@sce.com>; Allison Rudalevige <allison.rudalevige@psomas.com>; Brad Blood <bblood@psomas.com>
Subject: [External Email]RE: Lee Vining Botanical Tech Report for review

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[External Email]
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Hello Lee Vining Botanical and Terrestrial TWG Members,

This is just a reminder that comments on the Draft Technical Report of the Year 1 (2022) General Botanical Resources Survey (TERR-1) are due in two weeks, on Monday November 13. We will incorporate your comments, as appropriate, into the final version and file the Final Technical Report with FERC along with the Draft License Application in September 2024.

The report can be found at this link: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:a282fae0-8c0e-46b7-addd-bd47d7d26d65.

Please let me know if you have any questions or need assistance accessing the document.
Thank you

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Carissa Shoemaker
Sent: Wednesday, September 13, 2023 4:38 PM
Cc: Kelly Larimer <Kelly.Larimer@KleinschmidtGroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>; matthew.woodhall@sce.com; martin.ostendorf@sce.com; audry.williams@sce.com; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>; Allison Rudalevige <allison.rudalevige@psomas.com>; Brad Blood <bblood@psomas.com>
Subject: Lee Vining Botanical Tech Report for review

Hello Lee Vining Botanical and Terrestrial TWG Members,

The Lee Vining relicensing team has prepared a Draft Technical Report of the Year 1 (2022) General Botanical Resources Survey (TERR-1). The report can be found at this link: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:a282fae0-8c0e-46b7-addd-bd47d7d26d65.

We are submitting this report to you for a 60-day comment period. Please let us know if you have any comments or questions on the draft by Monday, 13 November. We will incorporate your comments, as appropriate, into the final version and file the Final Technical Report with FERC along with the Draft License Application in September 2024.

Other Lee Vining studies are ongoing and their reports will be coming to you for review as they are completed. Let me know if you have questions on the schedule or status of other studies.

Please let me know if you have any questions.
Thank you

Carissa Shoemaker
Licensing Coordinator
Kleinschmidt
C: 907-575-0294
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From:	Carissa Shoemaker
To:	Engelhardt, Blake - FS, CA
Cc:	Finlay Anderson; Shannon Luoma; Allison Rudalevige; Brad Blood; Edith Read; Robyn Smith
Subject:	RE: [External Email]RE: Lee Vining Botanical Tech Report for review
Date:	Monday, October 30, 2023 7:40:00 PM
Attachments:	image001.png

Thank you, Blake. Congratulations on your new position!

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Engelhardt, Blake - FS, CA <blake.engelhardt@usda.gov>
Sent: Monday, October 30, 2023 4:49 PM
To: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Cc: Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Allison Rudalevige <allison.rudalevige@psomas.com>; Brad Blood <bblood@psomas.com>; Edith Read <marshmistress@msn.com>; Robyn Smith <robyn@JNA-Consulting.com>
Subject: RE: [External Email]RE: Lee Vining Botanical Tech Report for review

Hello all,
I recently started a new position with the FS regional office, focusing on listed plant species consultation and conservation. Please remove me from any of the project contact lists and continue to reach out to Rick McNeill for botanical input in relation to FERC projects on the Inyo NF. It has been a great experience working with all of you on the various FERC project management on the Inyo, and I hope to see you out there on the trails or the water!
Thanks, Blake

Blake M Engelhardt (she/her)
Consultation Biologist (Botany)
Forest Service
R5 - Pacific Southwest Region
mobile: 760-920-1599
blake.engelhardt@usda.gov
www.fs.usda.gov/r5
Caring for the land and serving plants

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Monday, October 30, 2023 10:07 AM
To: Barnett, Adam - FS, CA <adam.barnett@usda.gov>; justin_barrett@fws.gov; adam.cohen@waterboards.ca.gov; Engelhardt, Blake - FS, CA <blake.engelhardt@usda.gov>;

James.Erdman@wildlife.ca.gov; Heller, Stephanie - FS, CA <stephanie.heller@usda.gov>; Irons, Sheila - FS, CA <sheila.irons@usda.gov>; beth.lawson@wildlife.ca.gov; alyssa.marquez@wildlife.ca.gov; McNeill, Richard - FS, CA <Richard.McNeill@usda.gov>; Chad_Mellison@fws.gov; bartshe@monolake.org; bryan.muro@waterboards.ca.gov; greg@monolake.org; Sanchez, Monique - FS, CA <monique.sanchez@usda.gov>; Sill, Nathan - FS, CA <nathan.sill@usda.gov>; Torres, Thomas - FS, NM <thomas.torres@usda.gov>; michael.tovar@wildlife.ca.gov; Wiese, Michael - FS, CA <michael.wiese@usda.gov>; rwgoode911@hotmail.com; cmcdonald@northforkrancheria-nsn.gov; kutzanuumu@yahoo.com; Ryan.Cooper@Wildlife.ca.gov; graham.meese@wildlife.ca.gov; Bryant.Luu@wildlife.ca.gov; Alyssa.Hockaday@Wildlife.ca.gov; Alisa.Ellsworth@wildlife.ca.gov
Cc: Kelly Larimer <Kelly.Larimer@KleinschmidtGroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>; matthew.woodhall@sce.com; martin.ostendorf@sce.com; Audry Williams <audry.williams@sce.com>; Allison Rudalevige <allison.rudalevige@psomas.com>; Brad Blood <bblood@psomas.com>
Subject: [External Email]RE: Lee Vining Botanical Tech Report for review

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[External Email]
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Hello Lee Vining Botanical and Terrestrial TWG Members,

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> The report can be found at this link: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:a282fae0-8c0e-46b7-addd-bd47d7d26d65.

Please let me know if you have any questions or need assistance accessing the document.
Thank you

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Carissa Shoemaker
Sent: Wednesday, September 13, 2023 4:38 PM
Cc: Kelly Larimer <Kelly.Larimer@KleinschmidtGroup.com>; Finlay Anderson

<finlay.anderson@kleinschmidtgroup.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Lauren Rosenkranz <Lauren.Rosenkranz@KleinschmidtGroup.com>; matthew.woodhall@sce.com; martin.ostendorf@sce.com; audry.williams@sce.com; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>; Allison Rudalevige <allison.rudalevige@psomas.com>; Brad Blood <bblood@psomas.com>
Subject: Lee Vining Botanical Tech Report for review

Hello Lee Vining Botanical and Terrestrial TWG Members,

The Lee Vining relicensing team has prepared a Draft Technical Report of the Year 1 (2022) General Botanical Resources Survey (TERR-1). The report can be found at this link: https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:a282fae0-8c0e-46b7-addd-bd47d7d26d65.

We are submitting this report to you for a 60-day comment period. Please let us know if you have any comments or questions on the draft by Monday, 13 November. We will incorporate your comments, as appropriate, into the final version and file the Final Technical Report with FERC along with the Draft License Application in September 2024.

Other Lee Vining studies are ongoing and their reports will be coming to you for review as they are completed. Let me know if you have questions on the schedule or status of other studies.

Please let me know if you have any questions.
Thank you

Carissa Shoemaker
Licensing Coordinator
C: 907-575-0294
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From:	Arianna Bresnan
To:	Olivia Smith
Subject:	FW: State Water Resources Control Board Comments on Draft Technical Reports of 2022 Survey Finding for the Lee Vining Hydroelectric Project
Date:	Wednesday, January 31, 2024 1:40:41 PM
Attachments:	SWRCB_CommentsDraftTechnicalStudies.pdf

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Tuesday, November 14, 2023 10:09 AM
To: Arianna Bresnan <Arianna.Bresnan@KleinschmidtGroup.com>
Subject: FW: State Water Resources Control Board Comments on Draft Technical Reports of 2022 Survey Finding for the Lee Vining Hydroelectric Project

LV consultation log (include attachment too)

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Muro, Bryan@Waterboards <Bryan.Muro@Waterboards.ca.gov>
Sent: Monday, November 13, 2023 4:24 PM
To: wayne.allen@sce.com
Cc: Matthew Woodhall <matthew.woodhall@sce.com>; martin.ostendorf@sce.com; tristan.leong@usda.gov; chad_mellison@fws.gov; Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>; Moyer, Patricia (Trisha)@Wildlife <Patricia.Moyer@Wildlife.ca.gov>; Meese, Graham@Wildlife <Graham.Meese@Wildlife.ca.gov>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>
Subject: State Water Resources Control Board Comments on Draft Technical Reports of 2022 Survey Finding for the Lee Vining Hydroelectric Project

Some people who received this message don't often get email from bryan.muro@waterboards.ca.gov. Learn why this is important

Dear Mr. Allen,

On September 14, 2023, Southern California Edison Company provided 4 draft technical reports that document 2022 survey findings for the Lee Vining Hydroelectric Project for stakeholder comment and review. Please see attached letter for the State Water Resources Control Board's comments.

Thank you,

Bryan Muro

Water Resources Control Engineer
Water Quality Certification Program
Division of Water Rights
State Water Resources Control Board
Phone: 916-327-8702
E-mail: Bryan.Muro@Waterboards.ca.gov

CALIFORNIA Water Boards

GAVIN NEWSOM
GOVERNOR

YANA GARCIA
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

November 13, 2023

Mr. Wayne Allen
Southern California Edison Company
1515 Walnut Grove Avenue
Rosemead, CA 91770
Sent via email: Wayne.Allen@sce.com

Lee Vining Hydroelectric Project
Federal Energy Regulatory Commission Project No. 1388
Mono County
Lee Vining Creek, Glacier Creek, Ellery Lake, Tioga Lake, and Saddlebag Lake

COMMENTS ON THE DRAFT TECHNICAL REPORTS OF 2022 SURVEY FINDINGS FOR THE LEE VINING HYDROELECTRIC PROJECT

Dear Mr. Wayne Allen:

Southern California Edison Company (SCE) owns and operates the Lee Vining Hydroelectric Project (Project) that is located on the eastern slope of the Sierra Nevada, approximately 9 miles upstream from Mono Lake in Mono County. The Project currently operates under a 30-year Federal Energy Regulatory Commission (FERC) license that expires on January 31, 2027. As part of Project relicensing, on September 14, 2023, SCE provided four draft technical reports that document 2022 survey results for stakeholders comment and review. The draft technical reports included results for the following studies: (1) Reservoir Fish Population Study; (2) Stream Fish Populations Study; (3) Year 1 Stream and Reservoir Water Quality Study, and (4) General Botanical Resources Survey. State Water Board staff have reviewed the draft technical reports and is submitting the enclosed comments pertaining to the Stream and Reservoir Water Quality Study in Attachment A: *Comments on 2022 Stream and Reservoir Water Quality Study for Lee Vining Hydroelectric Project*.

If you have questions regarding this letter, please contact Bryan Muro, Project Manager, by email at Bryan.Muro@waterboards.ca.gov. Written correspondence should be directed to:

State Water Resources Control Board
Division of Water Rights
Water Quality Certification Program
Attn: Bryan Muro
P.O. Box 2000
Sacramento, CA 95812

Sincerely,

Bryan Muro

Bryan Muro
Project Manager
Water Quality Certification Program
Division of Water Rights

Attachment: Attachment A: Comments on Stream and Reservoir Water Quality Study for Lee Vining Hydroelectric Project

ec: Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
Via e-filing to FERC Project Docket

Matthew Woodhall
Southern California Edison Company
Matthew.woodhall@sce.com

Martin Ostendorf
Southern California Edison Company
Martin.Ostendorf@sce.com

Tristan Leong
United States Department of Agriculture
tristan.leong@usda.gov

Chad Mellison
United States Fish and Wildlife Service
Chad_Mellison@FWS.gov

Beth Lawson
California Department of Fish and Wildlife
Beth.Lawson@wildlife.ca.gov

Patricia Moyer
California Department of Fish and Wildlife
Patricia.Moyer@Wildlife.ca.gov

Graham Meese
California Department of Fish and Wildlife
Graham.Meese@Wildlife.ca.gov

Carissa Shoemaker
Kleinschmidt Group
Carissa.Shoemaker@KleinschmidtGroup.com

Shannon Luoma
Kleinschmidt Group
Shannon.Luoma@Kleinschmidtgroup.com

Finlay Anderson
Kleinschmidt Group
Finlay.Anderson@kleinschmidtgroup.com

ATTACHMENT A: COMMENTS ON 2022 STREAM AND RESERVOIR WATER QUALITY STUDY FOR LEE VINING HYDROELECTRIC PROJECT

State Water Resources Control Board (State Water Board) staff are providing the following comments on Southern California Edison Company's (SCE) *Stream and Reservoir Water Quality Study for the Lee Vining Hydroelectric Project*:

1. Reference errors are present in the *Stream and Reservoir Water Quality Study for the Lee Vining Hydroelectric Project* (i.e., under Section 4.1.2 Stream Water Quality). Please resolve these issues prior to the finalizing the study report.

2. Saddlebag and Tioga lakes pH data collected in 2022 recorded minimum summer pH values of 5.1 and 5.5, respectively. By contrast, summer pH values reported at site LV-1 (Lee Vining Creek Inflow to Saddlebag Lake) and site LV-10 (Glacier Creek Inflow to Tioga Lake) were 8.7 and 8.3, respectively.

   The Water Quality Control Plan for the Lahontan Region (Basin Plan) pH objective states that: "In fresh waters with designated beneficial uses of COLD[1] or WARM[2], changes in normal ambient pH levels shall not exceed 0.5 pH units." Lee Vining Creek upstream of the Los Angeles Department of Water and Power (LADWP) diversion includes COLD as a beneficial use. Data collected in 2023 will help inform to what extent low pH values recorded in Saddlebag and Tioga lakes is an ongoing condition, and how protection, mitigation, and enhancement (PM&E) measures could be applied, as applicable, to address low pH values.

3. Dissolved oxygen concentrations collected in the bottom six meters of both Saddlebag and Tioga lakes were less than 80 percent saturation in fall 2022. In Tioga Lake, dissolved oxygen reached a minimum of 32 percent (2.7 milligrams per liter [mg/L]) in summer, and a minimum of 0 percent (0 mg/L) in fall.

   The Basin Plan objective for dissolved oxygen states: "The dissolved oxygen concentration, as percent saturation, shall not be depressed by more than 10 percent, nor shall the minimum dissolved oxygen concentration be less than 80 percent saturation." The Basin Plan further states for waters with beneficial uses of COLD with SPWN[3] (such as Lee Vining Creek), the following additional criteria are applicable:
   - a 7 Day Mean concentration of 9.5 mg/L, and
   - a 1 Day Minimum of 8.0 mg/L.

[1] Cold Freshwater Habitat is defined as beneficial uses of waters that support cold water ecosystems, including, but not limited to, preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.
[2] Warm Freshwater Habitat is defined as beneficial uses of water that support warm water ecosystems including, but not limited to, preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.
[3] Spawning, Reproduction, and Development is defined as beneficial uses of water that support high quality aquatic habitat necessary for reproduction and early development of fish and wildlife.

To better inform potential PM&E measures, SCE should consider collecting additional dissolved oxygen data to determine the spatial extent within Tioga and Saddlebag lakes where low dissolved oxygen values are occurring, and if Tioga and Saddlebag lakes are providing adequate water quality to support designated beneficial uses.

4. Fecal coliform bacteria data collected in 2022 ranged from 49 to 540 most probable number per 100 milliliters (MPN/100 mL) on a single sampling date. The Basin Plan objective for fecal coliform states that “The fecal coliform concentration during any 30-day period shall not exceed a log mean of 20/100 mL, nor shall more than 10 percent of all samples collected during any 30-day period exceed 40/100mL.” Data collected in 2023 will help inform under what conditions and how often these values occur and may also inform PM&Es associated with Project recreational activities.

5. State Water Board staff look forward to reviewing and discussing the hydro-resource optimization event turbidity monitoring data as it becomes available. We recommend including the data in .xlsx or .csv format for simplified sharing and review by interested stakeholders.

B-93.1_Email to USFS requesting comments on draft study reports

From:	Arianna Bresnan
To:	Olivia Smith
Subject:	FW: FS comments on Lee Vining Tech Reports
Date:	Wednesday, January 31, 2024 1:40:38 PM
Attachments:	RE Lee Vining Aquatics Tech Reports for review.msg Lee Vining Aquatics Tech Reports for review.msg

---

From: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Sent: Tuesday, November 14, 2023 3:41 PM
To: Arianna Bresnan <Arianna.Bresnan@KleinschmidtGroup.com>
Subject: FW: FS comments on Lee Vining Tech Reports

For the LV consultation record

Shannon Luoma
Office: 425.528.1614

From: Shannon Luoma
Sent: Tuesday, November 14, 2023 11:12 AM
To: Irons, Sheila -FS <sheila.irons@usda.gov>
Cc: Matthew Woodhall <Matthew.Woodhall@sce.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Subject: FS comments on Lee Vining Tech Reports

Hi Sheila!
We distributed technical reports for our 2022 botanical, water quality and fish studies at the Lee Vining Project two months ago for agency review (see attached emails with links to reports). The goal was to have comments back 11/13 but we have not heard from the Forest Service and I just wanted to check in and see if you or your team intends to submit comments.

Thank you, hope you're well!
Shannon

Shannon Luoma
Licensing and Regulatory Section Manager
Kleinschmidt
Office: 425.528.1614
www.KleinschmidtGroup.com
d

From:	Arianna Bresnan
To:	Olivia Smith
Subject:	FW: [External Email]Lee Vining report comments
Date:	Wednesday, January 31, 2024 1:41:14 PM
Attachments:	Outlook-Forest Ser.png

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Thursday, December 14, 2023 7:55 PM
To: Arianna Bresnan <Arianna.Bresnan@KleinschmidtGroup.com>
Subject: FW: [External Email]Lee Vining report comments

LV consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: McNeill, Richard - FS, CA <Richard.McNeill@usda.gov>
Sent: Thursday, December 14, 2023 12:42:18 PM
To: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Cc: Sill, Nathan - FS, CA <nathan.sill@usda.gov>; Wiese, Michael - FS, CA <michael.wiese@usda.gov>; Irons, Sheila - FS, CA <sheila.irons@usda.gov>; Barnett, Adam - FS, CA <adam.barnett@usda.gov>
Subject: Re: [External Email]Lee Vining report comments

Hi Shannon

I apologize, I meant to get you a response, but I got caught up in other things.

My only comment at this point is about the previous winter.

With only two years of data collection and one of those years being the highest recorded snowfall for the Sierra Mountains, I am not sure if this really a good data set on which to base management decisions.

When the water from the Colorado River was allocated, it was based a very high flow year and it has caused many problems since them.

I am afraid that with the extreme winter of 2022-2023, we may be making the same mistake.

I would like to see at least one more year of data collection for the relicensing process.

rick

Rick McNeill (he/him/his)
Botanist

Forest Service

Inyo National Forest

cell: 760-920-7579

fax: 760-873-2458
richard.mcneill@usda.gov

351 Pacu Lane
Bishop, CA 93514
www.fs.fed.us

From: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Sent: Thursday, December 14, 2023 10:15
To: McNeill, Richard - FS, CA <Richard.McNeill@usda.gov>; Irons, Sheila - FS, CA <sheila.irons@usda.gov>; Barnett, Adam - FS, CA <adam.barnett@usda.gov>
Subject: [External Email]Lee Vining report comments

[External Email]
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Hi all - we distributed reports a while back for the 2022 season (fish, botanical, and water quality) and didn't hear from you when the comment period ended. As we button these up and incorporate 2023 data, I am checking in to see if you had any comments to send along.

Thanks!

Shannon Luoma
Licensing & Regulatory Section Manager
425.528.1614

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From:	Carissa Shoemaker
To:	Arianna Bresnan
Subject:	FW: Lee Vining FERC Comment Letter INF
Date:	Friday, December 29, 2023 8:07:30 AM
Attachments:	FERC Comment Letter_LeeVining.pdf image001.png image002.png image003.png image004.png

---

LV consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Wiese, Michael - FS, CA <michael.wiese@usda.gov>
Sent: Wednesday, December 27, 2023 8:34 AM
To: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Cc: McNeill, Richard - FS, CA <Richard.McNeill@usda.gov>; Irons, Sheila - FS, CA <sheila.irons@usda.gov>; Barnett, Adam - FS, CA <adam.barnett@usda.gov>
Subject: Lee Vining FERC Comment Letter INF

> You don't often get email from michael.wiese@usda.gov. Learn why this is important

Good morning Shannon,

My apologies with not providing comments during the appropriate time. Both Rick and I completely spaced on this. Attached is a formal letter with our concerns. Let me know if you have any questions.

Thank you,

Michael Wiese (he/him/his)
Hydrologist
Forest Service
Inyo National Forest
p: 760-920-7037
michael.wiese@usda.gov
351 Pacu Lane Suite 200
Bishop, CA 93514
www.fs.fed.us

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USDA United States Department of Agriculture | Forest Service | Pacific Southwest Region

Inyo National Forest
351 Pacu Lane, Suite 200
Bishop, CA 93514
(760) 873-2400 Voice
(760) 873-2538 Text (TDD)

Date: 12/27/2023

Subject: FERC Relicensing Technical Studies

To: Southern California Edison

This letter is to comment on the technical surveys performed for the 2022 and 2023 period as required for the relicensing of the Southern California Edison hydroelectric facilities in the Lee Vining Creek drainage. The survey studies are: general botanical resources, water quality, stream fish populations, reservoir fish populations and hydrology operation modeling. For the Owens River watershed, the 2022 water year received a very low snowpack with a seasonal average of 40% and a precipitation average of 40% as well. The 2023 water year saw the largest recorded snowpack in recorded history with a seasonal average of 266% and a seasonal precipitation average of 161%. For seasonal snowpack this a drastic change of approximately 565% between the two years and a 300% change for seasonal precipitation. The hydroelectric license is for a 30-year period and with only these two years of data collection guiding the relicensing process, anomalous weather events could skew what is already a limited dataset and provide a flawed basis for management decisions. A similar situation occurred with Colorado River water flows, when past allocation decisions were based on very high flow years. We are concerned that a similar situation could unfold given that these survey studies are based on two years of data collection, with one of those years being the extreme winter of 2022-2023. For this reason, we would like to see at least one more year of data collection for the relicensing process.

Thank you for allowing us to comment on the technical studies.

Sincerely,

Michael Wiese
Forest Hydrologist

B-94_Email with CDFW comments on Draft Technical Reports attached

From:	Arianna Bresnan
To:	Olivia Smith
Subject:	FW: (External):CDFW Comments on Draft Technical Reports - Lee Vining Hydroelectric Project
Date:	Wednesday, January 31, 2024 1:41:11 PM
Attachments:	image001.png CDFW Lee_Vining_Creek_Draft_Tech_Reports_Comment_Letter 11.22.23.pdf

---

From: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Sent: Monday, November 27, 2023 7:53 AM
To: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>; Arianna Bresnan <Arianna.Bresnan@KleinschmidtGroup.com>
Subject: FW: (External):CDFW Comments on Draft Technical Reports - Lee Vining Hydroelectric Project

Carissa, FYI
Arianna, for the consultation log

Shannon Luoma
Office: 425.528.1614

From: Matthew Woodhall <Matthew.Woodhall@sce.com>
Sent: Monday, November 27, 2023 7:32 AM
To: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Cc: Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Heather Bowen Neff <heather@stillwatersci.com>; Brad Blood <bblood@psomas.com>
Subject: FW: (External):CDFW Comments on Draft Technical Reports - Lee Vining Hydroelectric Project

FYI, comments/questions from CDFW

Matthew C. Woodhall
Southern California Edison
Generation-Regulatory Support Services
909-362-1764 - Cell
626-302-9596 - Office

From: Meese, Graham@Wildlife <Graham.Meese@Wildlife.ca.gov>
Sent: Wednesday, November 22, 2023 3:39 PM
To: Matthew Woodhall <Matthew.Woodhall@sce.com>
Cc: Ellsworth, Alisa@Wildlife <Alisa.Ellsworth@wildlife.ca.gov>; Moyer, Patricia (Trisha)@Wildlife

<Patricia.Moyer@Wildlife.ca.gov>; Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>; Leong, Tristan - FS, CA <tristan.leong@usda.gov>; Sanchez, Monique - FS, CA <monique.sanchez@usda.gov>; Muro, Bryan@Waterboards <Bryan.Muro@Waterboards.ca.gov>; Cohen, Adam@Waterboards <Adam.Cohen@Waterboards.ca.gov>
Subject: (External):CDFW Comments on Draft Technical Reports - Lee Vining Hydroelectric Project

Dear Matt,

The California Department of Fish and Wildlife has received and reviewed the *2023 Draft Technical Reports for WQ-1, AQ-1, AQ-2, and TERR-1* for the Federal Energy Regulatory Commission relicensing of the Lee Vining Creek Hydroelectric Project. The 2023 Draft Technical Reports were provided on September 14, 2023 for stakeholder comment and review. As requested by Southern California Edison, CDFW is providing written comments and recommendations in the attached letter.

Sincerely,

Graham Meese
Senior Environmental Scientist
California Department of Fish and Wildlife
Inland Deserts Region | Habitat Conservation | Water
787 North Main Street, Suite 220
Bishop, CA 93514
(760) 996-7387

DocuSign Envelope ID: FA3A8FCC-1D85-428F-BAE5-52321ADDE498

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

Via e-mail

November 22, 2023

Matthew Woodhall
Southern California Edison
Generation-Regulatory Support Services/ Project Lead
1515 Walnut Grove Ave
Rosemead, CA 91770
matthew.woodhall@sce.com

Subject: California Department of Fish and Wildlife Comments on Southern California Edison's 2023 Draft Technical Reports WQ-1, AQ-1, AQ-2, and TERR-1 for the Relicensing of the Lee Vining Creek Hydroelectric Project, FERC Project No. 1388

Dear Mr. Woodhall:

The California Department of Fish and Wildlife (CDFW) has received and reviewed the *2023 Draft Technical Reports for WQ-1, AQ-1, AQ-2, and TERR-1* drafted by Southern California Edison (SCE) for the Federal Energy Regulatory Commission (FERC) relicensing of the Lee Vining Creek Hydroelectric Project (Project, FERC No. 1388). The 2023 Technical Reports were provided to the Project's Technical Working Group (TWG) members via email on October 30, 2023. As requested by SCE, CDFW is now providing written comments and recommendations on the Draft Technical Reports.

AUTHORITIES

CDFW is the relevant State fish and wildlife agency for resource consultation pursuant to the Federal Power Act Section 10(j) (16 U.S.C. section 803 (j)). The fish and wildlife resources of the State of California are held in trust for the people of the State by and through CDFW (Fish & G. Code § 711.7). CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of those species (Fish & G. Code § 1802). Information generated through the appropriate studies will be utilized by CDFW in the development of recommendations.

The mission of CDFW is to manage California's diverse fish, wildlife, and plant resources, and the habitats on which they depend, for their ecological values and for their use and enjoyment by the public. It is the goal of CDFW to preserve, protect, and as needed, to restore habitat necessary to support native fish, wildlife, and plant species within the FERC-designated boundaries of the Project, as well as the areas adjacent to the Project in which resources are affected by ongoing Project operations, maintenance, and recreational activities.

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DRAFT TECHNICAL REPORT RECOMMENDATIONS, COMMENTS AND QUESTIONS

WQ-1 Interim Technical Report: Stream and Reservoir Water Quality

General Comment

- **Comment**: CDFW staff look forward to reviewing and discussing the hydro-resource optimization turbidity monitoring data. Please make the data available to TWG members in .xlsx or .csv format.

Section 3.1 Modifications to Methods

- **Question**: What parameters for thermal stratification were used to determine that thermal stratification was too weak to warrant sample collection at depth?
- **Question**: Was continuous water temperature collected in stream reaches?

Section 3.2.1 Stream and Reservoir Water Quality Sampling

- **Comment**: Please include what types of water quality sensors/sondes were used to collect *in situ* water quality parameters.
- **Question:** What was the calibration protocol used for the water quality sondes? Please include a summary of the calibration dates and results or a log of the calibrations performed as an appendix.

Section 3.2.3 Hydro-Resource Optimization Event Turbidity Monitoring

- **Question:** What was the calibration protocol used for the turbidity loggers? Please include a summary of the calibration dates and results or a log of the calibrations performed as an appendix.

Section 4.1.1 Reservoir Water Quality

- **Comment:** Please include a discussion in the Final Technical Report on why data (e.g., pH, temperature, and specific conductivity) varies between reservoirs and sampling sites.

Section 4.1.2.2 Glacier Creek

- **Comment:** Table 4.1-1 has a reference error. Please correct in the final draft.

Table 4.1-2 Analytical Laboratory Data

- **Question:** Many of the orthophosphate samples were received by the analytical laboratory outside of the Environmental Protection Agency (EPA) recommended holding time of the samples. Does SCE plan to retake these samples? If not, please include a rationale for this decision.

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AQ-1 Reservoir Fish Populations and AQ-2 Stream Fish Populations

General Comment

- **Comment:** CDFW has reviewed the 2023 Draft Technical Reports and currently does not have comments.

TERR-1 General Botanical Resources Survey

General Comments

- **Comment**: The CNPS identifies that mountain bent grass (*Agrostis humilis*) (California Rare Plant Rank 2B.3-rare, threatened or endangered in California) is threatened by foot traffic and vehicles and possibly threatened by grazing and trampling. SCE should identify the potential for these threats and any other threats (e.g., maintenance activities) at each population location to determine the vulnerability, condition of occurrences, and if PME measures are needed (e.g., signage, fencing) to protect the plant.

- **Comment**: On January 14th, 2022, CDFW proposed a *Riparian Monitoring and Community Health Study*. SCE responded that 'sufficient data exists from ongoing Riparian Monitoring Evaluations conducted as part of the license'. SCE has shared with CDFW via email various *Riparian Reports* associated with the existing FERC License requirements; however, these reports should be made available for review on the Projects relicensing website. Additionally, SCE responded in the *Revised Technical Study Plans* that raw data would be provided to the TWG. This data should also be made available on the Projects relicensing website. All existing available data that SCE produced as part of the license (e.g., riparian monitoring and evaluations) should be made available for review. Providing this data later with the Draft License Application will not provide stakeholders sufficient time to review the data in a meaningful way.

Attachment 1 – TERR 1 Mapbook

- **Comment**: Much of the Botanical Resource study area is outside of the FERC Project area and is focused only around Project facilities or recreational areas.
- **Question**: Does sufficient data exist to provide a baseline of the distribution of special status plant species within the FERC Project area?

GIS DATA REQUEST

CDFW requests the following spatial data be provided as shapefiles or geodatabase:

- Sampling sites for water quality, bacterial, turbidity and fish tissue sampling
- Reaches for the Channel Morphology Study
- Botanical Study Area boundary
- NDVI

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  - Sampling plots (wet meadow)
  - Sampling plots (willow riparian scrub)
  - Study Sites (Test)
  - Study Sites (Control)
- Special-status plant species populations
- Tunnel from Ellery to Pool Powerhouse
- Gaging Stations

OTHER

- CDFW requests that SCE make the 1933 Sales Agreement between Southern Sierras Power Company and LADWP available on the Projects relicensing website.
- CDFW requests that SCE make the following resource management plans available on the Projects relicensing website:
  - Avian Protection Plan and Bird Nesting Guidelines (includes provisions for reporting wildlife and avian interactions with the Project)
  - Vegetation Management Operations Manual
  - Invasive Mussel Prevention Plan
  - Fire Suppression Plan (part of the Project's Emergency Action Plan)
  - Soil Disposal Plan

CONCLUSION

CDFW appreciates the opportunity to comment on the Draft Technical Studies provided to the Project's TWG members via email on October 30, 2023 for the FERC relicensing of the Lee Vining Creek Hydroelectric Project. CDFW looks forward to further discussions with the Technical Working Group members.

If you have any question pertaining to this letter, please contact Graham Meese, Senior Environmental Scientist (Specialist), at (760) 996-7387 or Graham.Meese@wildlife.ca.gov

Sincerely,

DocuSigned by:
Trisha Moyer
AB3BB977DEA9442...
Trisha Moyer

Habitat Conservation Program Supervisor
Inland Deserts Region 6, Eastern Sierra

DocuSign Envelope ID: FA3A8FCC-1D85-428F-BAE5-52321ADDE498

cc: California Department of Fish and Wildlife

Alisa Ellsworth, Environmental Program Manager
Alisa.Ellsworth@wildlife.ca.gov

Graham Meese, FERC Coordinator R6 HabCon North
Graham.Meese@wildlife.ca.gov

Beth Lawson, Senior Hydraulic Engineer
Beth.Lawson@wildlife.ca.gov

United States Forest Service

Tristan Leong, Region 5 Hydroelectric Coordinator
Tristan.Leong@usda.gov

Monique Sanchez, Region 5 Hydropower Coordinator
monique.sanchez@usda.gov

State Water Resources Control Board

Brian Muro, Water Resources Control Engineer
Bryan.Muro@Waterboards.ca.gov

Adam Cohen, Senior Environmental Scientist
Adam.Cohen@Waterboards.ca.gov

B-95_Discussion re potential wolverine scat sample testing

From:	Arianna Bresnan
To:	Olivia Smith
Subject:	FW: Potential Wolverine Scat Sample Testing
Date:	Wednesday, January 31, 2024 1:41:07 PM
Attachments:	image001.png image002.png image003.png image004.png

---

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Wednesday, November 29, 2023 9:40 AM
To: Arianna Bresnan <Arianna.Bresnan@KleinschmidtGroup.com>
Subject: FW: Potential Wolverine Scat Sample Testing

LV consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Steve Norton <steve.norton@psomas.com>
Sent: Wednesday, November 29, 2023 9:38 AM
To: Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Subject: RE: Potential Wolverine Scat Sample Testing

Hi Julia,
Thank you so much for following up! Although it's disappointing, it statistically makes sense.
Have a great holiday!
-Steve

Steve Norton
PSOMAS | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

From: Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>
Sent: Wednesday, November 29, 2023 9:09 AM
To: Steve Norton <steve.norton@psomas.com>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>

Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>
Subject: RE: Potential Wolverine Scat Sample Testing

Hi Steve,

I finally heard back from the lab and the scat sample you submitted turned out to be from a coyote. We really appreciate you collecting the scat and sharing it with us! Too bad it wasn't the wolverine, but given its size and location I think it was definitely the right call to pick it up just in case.

Please stay in touch if you have any other cool findings out in the field, and take care,
Julia

--
Julia Runcie Lawson
Environmental Scientist
California Department of Fish and Wildlife
Bishop Field Office
Cell: 760-937-0138
julia.lawson@wildlife.ca.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Tuesday, October 3, 2023 12:04 PM
To: Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>
Subject: Re: Potential Wolverine Scat Sample Testing

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Thanks Julia and welcome back!

Steve Norton
PSOMAS | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

From: Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>
Sent: Tuesday, October 3, 2023 11:51:37 AM
To: Steve Norton <steve.norton@psomas.com>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>

Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>
Subject: RE: Potential Wolverine Scat Sample Testing

Hi Steve,

I still haven't gotten results from the lab, but you're on my list to notify as soon as I hear anything. Thanks for checking in!

Julia

--
Julia Runcie Lawson
Environmental Scientist
California Department of Fish and Wildlife
Bishop Field Office
Cell: 760-937-0138
julia.lawson@wildlife.ca.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Friday, September 15, 2023 4:04 PM
To: Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>; Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>
Subject: Re: Potential Wolverine Scat Sample Testing

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Thanks!!

Steve Norton
PSOMAS | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

From: Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>
Sent: Friday, September 15, 2023 2:45:24 PM
To: Steve Norton <steve.norton@psomas.com>; Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>

Subject: RE: Potential Wolverine Scat Sample Testing

Hi Steve,

Julia is out on leave for the next few weeks and unfortunately I don't know when to expect results from this sample. Hopefully, if results do arrive before Julia returns, I will be copied. If I am I will certainly let you know.

Take care,

Danny

From: Steve Norton <steve.norton@psomas.com>
Sent: Tuesday, September 12, 2023 2:00 PM
To: Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>
Subject: Potential Wolverine Scat Sample Testing

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Hi Julia,
I wanted to check-in and see if you've heard any preliminary results from the genetic testing done on scat sample I dropped off in August. I know these tests can take a while and I imagine the lab has a big backlog, but I figured it was still worth reaching out. Let me know if you have any thoughts on when you expect to hear back.

Thanks and I hope your field season has gone well thus far!
-Steve

Steve Norton
P S O M A S | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com



From: Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>
Sent: Tuesday, August 15, 2023 9:51 AM
To: Steve Norton <steve.norton@psomas.com>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>; Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma

<Shannon.Luoma@Kleinschmidtgroup.com>; Sarah Berryman <sarah.berryman@psomas.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>
Subject: RE: Saddlebag Lake and Tioga Pass

Hi Steve,

Yes, we received the sample and have mailed it to the genetics lab for processing. I'll certainly keep you in the loop when we get results. Fingers crossed!

Thanks,
Julia

--
Julia Runcie Lawson
Environmental Scientist
California Department of Fish and Wildlife
Bishop Field Office
Cell: 760-937-0138
julia.lawson@wildlife.ca.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Monday, August 14, 2023 1:39 PM
To: Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>; Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Sarah Berryman <sarah.berryman@psomas.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>
Subject: RE: Saddlebag Lake and Tioga Pass

WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.

Hi Julia and Danny,
I wanted to make sure you received the possible wolverine scat sample I delivered to the Bishop Field Office on Tuesday (August 8) last week. I know it will be a while for the DNA results to come in but definitely let me know what the results are: I'm swimming in curiosity. In the low chance it happens to be wolverine and there are publications made, please add a credit to biologists Steve Norton (me) and Sarah Berryman with Psomas as the finders and collectors of the sample: I would love to have my kids see my name associated with this.
Thank you and let me know what you guys find out!
-Steve

Steve Norton
PSOMAS | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com



From: Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>
Sent: Friday, July 28, 2023 8:24 AM
To: Steve Norton <steve.norton@psomas.com>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>; Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Thomas.torres@usda.gov
Subject: RE: Saddlebag Lake and Tioga Pass

Hi Steve,

Either mailing the scat or dropping it off at the office works fine. You can leave it dry, ideally in a paper bag. Can you also provide the coordinates and date collected?

Thanks,
Julia

--
Julia Runcie Lawson
Environmental Scientist
California Department of Fish and Wildlife
Bishop Field Office
Cell: 760-937-0138
julia.lawson@wildlife.ca.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Thursday, July 27, 2023 9:07 AM
To: Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>; Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Thomas.torres@usda.gov; Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>
Subject: Re: Saddlebag Lake and Tioga Pass

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Thanks Danny. I'll be through town in a couple weeks (second week of August). I can drop off then, if that works. My cell is 530-400-2978.
-Steve

Steve Norton

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Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

From: Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>
Sent: Thursday, July 27, 2023 8:53:21 AM
To: Steve Norton <steve.norton@psomas.com>; Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Thomas.torres@usda.gov <thomas.torres@usda.gov>; Lawson, Julia@Wildlife <Julia.Lawson@Wildlife.ca.gov>
Subject: RE: Saddlebag Lake and Tioga Pass

Hey Steve,

Thanks. Wolverine is certainly possible, although I suspect it's either multiple scats at a canid latrine (e.g., coyote, fox) or a single scat from a small bear. It looks like it might contain bighorn sheep hair? Thanks for collecting it. Feel free to send it to 787 North Main St., Bishop, CA 93546 attn: Julia Lawson, who I've also copied here. Alternatively, we could arrange to pick it up in person if you are still in the eastern Sierras.

Danny

From: Steve Norton <steve.norton@psomas.com>
Sent: Wednesday, July 26, 2023 1:54 PM
To: Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>; Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Brad Blood <bblood@psomas.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Thomas.torres@usda.gov
Subject: RE: Saddlebag Lake and Tioga Pass

Some people who received this message don't often get email from steve.norton@psomas.com. Learn why this is important

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Hi Danny,
Attached is a photo of scat we found along the road to Saddlebag Lake in the Inyo NF. I collected a 2-inch sample and would love to send it off to you for analysis, if you have the same wolverine suspicions that I do. Note the ruler is 6 inches long and the total length of the scat is well over one-foot long if stretched out.

Let me know where to send. I have been keeping it dry, but let me know if you prefer I store in a preservative.
If you want to discuss further, my office number is 714-481-8037.
-Steve

Steve Norton
P S O M A S | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

From: Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>
Sent: Thursday, July 20, 2023 9:03 AM
To: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>; Steve Norton <steve.norton@psomas.com>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>
Subject: RE: Saddlebag Lake and Tioga Pass

Hi Steve,

Over the last several months we have had baited sites in areas where the wolverine was detected and in places where we suspected it might go. These sites were set up with trail cameras and hair snares, with the primary objective of collecting a DNA sample. Unfortunately, we did not have any success and since it has been months now since the wolverine was last observed, we do not have any idea where it is. Fortunately, we maintain an array of trail cameras for our high elevation mesocarnivore surveys that routinely photograph rare species like Sierra Nevada red fox. So if a wolverine shows up again, we will have a reasonable chance of detecting one.

If you happen across any sign while you are out and about (e.g., track, scat, etc.) certainly let us know. Obtaining a DNA sample to determine the population of origin is of great interest.

Danny

From: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Sent: Wednesday, July 19, 2023 2:53 PM
To: Steve Norton <steve.norton@psomas.com>
Cc: Taylor, Daniel@Wildlife <Daniel.Taylor@wildlife.ca.gov>; Gammons, Daniel@Wildlife <Daniel.Gammons@Wildlife.ca.gov>
Subject: Re: Saddlebag Lake and Tioga Pass

I am sure if you find any and are pretty confident in your ID that someone in my office would be willing if not excited to receive the sample.
I have copied Dan Taylor and Danny Gammons so they have a heads up. They are ES Wildlife and Supervisor Wildlife in Bishop Office. They can provide better info on CDFW Wolverine efforts.
Happy Toad travels and good luck with finding any Wolverine scat or getting a photo/video.
Stay in touch.

Sierrally

Sent from my iPhone

On Jul 19, 2023, at 13:03, Steve Norton <steve.norton@psomas.com> wrote:

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Fantastic. We had one adult calling along Tioga last week and we'll be out again later this week.

Any idea if CDFW has any wolverine sampling efforts in the area/INF?

Stay safe out there!
-Steve

Steve Norton
P S O M A S | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

From: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Sent: Wednesday, July 19, 2023 11:51:33 AM
To: Steve Norton <steve.norton@psomas.com>
Subject: RE: Saddlebag Lake and Tioga Pass

Steve,
Good to hear. Thanks.
Heading into Humphreys Basin out of the North Fork of Bishop Creek, over Piute Pass tomorrow.
Field for 7 days. Might see some YOTO in Humphreys (probable).
Sounds like the Tioga/Saddlebag area will be toad ready when I get out.
Happy Toad hunting.
Anaxyrally

James Erdman
California Department of Fish & Wildlife
Recreational Fisheries & High Mountain Lakes
Office Phone (760)-873-6071
CDFW Cell (760)-567-0413

From: Steve Norton <steve.norton@psomas.com>
Sent: Thursday, July 13, 2023 9:16 PM
To: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Subject: RE: Saddlebag Lake and Tioga Pass

WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.

Hey Jim,
FYI, they opened 120 to the Yosemite gate this afternoon and also finished plowing upto

Saddlebag (the lake is still frozen, but accessing it is much much easier now).
-Steve

Steve Norton
P S O M A S | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

From: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Sent: Wednesday, July 12, 2023 4:03 PM
To: Steve Norton <steve.norton@psomas.com>
Subject: RE: Saddlebag Lake and Tioga Pass

Steve,
Great to hear you have access. Kinda thought so but did not want to assume.
I head into the Horton Lakes tomorrow for a big single day round trip frog survey. ~15 miles in and out but only a few sites to VES.
Friday I head out of town for a few days. Next week in the field 7/19-7/26 over Piute Pass into Humphreys Basin.
Thanks for the offer to join you. Would if I could.
Seems like a good Toad year to me.
Sierrally

James Erdman
California Department of Fish & Wildlife
Recreational Fisheries & High Mountain Lakes
Office Phone (760)-873-6071
CDFW Cell (760)-567-0413

From: Steve Norton <steve.norton@psomas.com>
Sent: Wednesday, July 12, 2023 3:19 PM
To: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Subject: Re: Saddlebag Lake and Tioga Pass

WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.

Hi Jim,
I actually just got into bishop to drive up 120 tomorrow. We were also out late last week and found the margins of Tioga were mostly thawed and full of water (didn't hear any calls by the lake though). If you'd like to head up there with us tomorrow, I've got keys and there's always room for more eyes.

We also hiked up to saddlebag then but the known meadow was under about 3 ft of snow. I expect saddlebag to be going toad crazy next week.
Let me know if you want to join tomorrow (or poss Friday morning).

-Steve

Steve Norton
P S O M A S | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com

From: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Sent: Wednesday, July 12, 2023 9:21:39 AM
To: Steve Norton <steve.norton@psomas.com>
Subject: Saddlebag Lake and Tioga Pass

Hi Steve,
I have a short update on Tioga Pass and Saddlebag Lake.
A friend who works for a consultant (Stillwater Science) was granted escort access up to Saddlebag Lake to install a few turbidity loggers. Twice.
Attached are a few photos she shared with me.
She also stated that Tioga Lake was completely thawed. They crossed into Yosemite and the Gaylor Lakes and stated that the lakes were open and active with calling Buca. Egg masses present.
I am hoping the road opens soon and I can access Tioga Lake (at least). My schedule will make it tough to get to the area before August as it stands right now.
If you are wanting to get out you might try requesting an SCE escort before the road opens.
Just thought I would share what I have learned.
I was out last week in the Independence Creek drainage at a SNYLF population area. Lakes above 10,500 were still frozen and there was fresh ice every morning. Camped at 10,300.
Still managed to collect Bd swabs on 30 frogs. They were just emerging from there long winter nap.
Good luck with this summers Toad surveys. Crazy summer.
Sierrally

James Erdman
Environmental Scientist
Fisheries & High Mountain Lakes
California Department of Fish & Wildlife
Inland Desert-Region 6-North
Bishop Field Office
787 North Main St., Suite 220
Bishop, Ca. 93514
Office Ph. (760)-873-6071
CDFW Cell (760)-567-0413
James.Erdman@wildlife.ca.gov

B-96_Poll to USFS Recreation and Land Use relicensing team

From: Carissa Shoemaker
To: Olivia Smith
Subject: FW: Lee Vining Rec and Lands meeting - poll for time
Date: Wednesday, February 28, 2024 8:04:19 PM

For LV consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Carissa Shoemaker
Sent: Friday, January 5, 2024 11:49 AM
To: Shannon Luoma <Shannon.Luoma@KleinschmidtGroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Kelly Larimer <Kelly.Larimer@KleinschmidtGroup.com>; Hannah Gorin <Hannah.Gorin@KleinschmidtGroup.com>; Ethan Muhlestein <Ethan.Muhlestein@KleinschmidtGroup.com>; Matthew Woodhall <matthew.woodhall@sce.com>; Martin Ostendorf <martin.ostendorf@sce.com>; sheila.irons@usda.gov; adam.barnett@usda.gov; stephanie.heller@usda.gov; eric.rios-bretado@usda.gov; monique.sanchez@usda.gov; Jameisha.Washington@usda.gov; michael.wiese@usda.gov
Subject: Lee Vining Rec and Lands meeting - poll for time

Hello Lee Vining Rec and Lands relicensing and USFS team,

We are planning a meeting to discuss land ownership at the Project and plans for Recreation Use Assessment (REC-1) study fieldwork this spring and summer. Please help us pick a time for the meeting that works for you, at this Doodle Poll link. We are looking at Mon 2/26, Wed 2/28, or Thurs 2/29.

Thank you
Let me know if you have any questions.

Carissa Shoemaker
Licensing Coordinator
Kleinschmidt
C: 907-575-0294
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We provide practical **solutions** *for renewable energy, water and environmental projects!*

B-97.1_Discussion re Saddlebag Lake Toad DNA samples

From:	Arianna Bresnan
To:	Olivia Smith
Subject:	FW: [EXTERNAL] RE: [External Email]Lee Vining and Saddlebag Lake Toad DNA Samples
Date:	Wednesday, January 31, 2024 1:41:49 PM
Attachments:	image001.png image002.png image003.png

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Tuesday, January 16, 2024 3:23 PM
To: Arianna Bresnan <Arianna.Bresnan@KleinschmidtGroup.com>
Subject: FW: [EXTERNAL] RE: [External Email]Lee Vining and Saddlebag Lake Toad DNA Samples

For LV consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>
Sent: Tuesday, January 16, 2024 10:58 AM
To: Grasso, Rob L <Rob_Grasso@nps.gov>; Steve Norton <steve.norton@psomas.com>
Cc: Schlick, Kary - FS, CA <kary.schlick@usda.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>; Brad Blood <bblood@psomas.com>; Mellison, Chad <chad_mellison@fws.gov>
Subject: RE: [EXTERNAL] RE: [External Email]Lee Vining and Saddlebag Lake Toad DNA Samples

> Some people who received this message don't often get email from jeffrey.mabe@usda.gov. Learn why this is important

Thanks Rob,

We have a funded project with a full proposal that I will send to Chad.

Steve,

I don’t need it right now, but if we do get these samples can you please give me some written background on them. Do you think these are potential hybrids or pure YOTO or maybe a mix?

Thanks

From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Tuesday, January 16, 2024 10:27 AM

To: Steve Norton <steve.norton@psomas.com>; Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>
Cc: Schlick, Kary - FS, CA <kary.schlick@usda.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>; Mellison, Chad <chad_mellison@fws.gov>
Subject: Re: [EXTERNAL] RE: [External Email]Lee Vining and Saddlebag Lake Toad DNA Samples

Hi All,

Thanks for coordinating.

I would recommend you start with Chad Mellison (USFWS) cc'd.

Something to keep in mind is that you may need to have a proposal in place describing in detail what you are specifically requesting the samples for, the analyses that are to be conducted, and what the intended results will be used/interpreted for, etc.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

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Sent: Tuesday, January 16, 2024 9:19 AM
To: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>; Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Schlick, Kary - FS, CA <kary.schlick@usda.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>
Subject: [EXTERNAL] RE: [External Email]Lee Vining and Saddlebag Lake Toad DNA Samples

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Thank you, Jeff! I know the project is a significant undertaking and there are a lot of factors outside of your control. We look forward to all that you are able to share as it becomes available.

Hi Rob: please send Jeff the appropriate USFWS staff to contact.

Thanks!
-Steve

Steve Norton
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Senior Biologist / Project Manager / Associate
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714.481.8037 (Office/Mobile)
www.Psomas.com



From: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>
Sent: Tuesday, January 16, 2024 8:45 AM
To: Steve Norton <steve.norton@psomas.com>; Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Schlick, Kary - FS, CA <kary.schlick@usda.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>
Subject: RE: [External Email]Lee Vining and Saddlebag Lake Toad DNA Samples

Steve,

Thanks for the offer of samples to include in our study. I will do my best to get you some answers, but please be aware we are trying to wrap up this study (the grant runs out at the end of the year) so I can't make any guarantees in terms of timing and when we will have answers.

Who do I need to contact at the USFWS?

Thanks

From: Steve Norton <steve.norton@psomas.com>
Sent: Monday, January 15, 2024 5:38 PM
To: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>; Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Schlick, Kary - FS, CA <kary.schlick@usda.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>
Subject: [External Email]Lee Vining and Saddlebag Lake Toad DNA Samples

[External Email]
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Jeff and Rob,
It was great seeing you both at the meeting last week!

Jeff: please email USFWS requesting the toad samples collected by Rob in the Inyo National Forest in 2023. Once the transfer is approved by USFWS, Rob will transfer the 20 samples to you for processing and analysis. As we discussed, please send me the analysis results for just those samples once they are complete (ie. prior to compiling into a draft journal article, etc.). We accept that these data are public: I ask only because we wish to incorporate these data into our discussions with FERC, and our timing doesn't allow us to wait for formal articles to be published.

Please let me know if either of you have any concerns or could use my help with anything.

Again: thank you both!!
-Steve

Steve Norton
P S O M A S | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
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From: Carissa Shoemaker
To: Olivia Smith
Subject: FW: [External Email]Lee Vining and Saddlebag Lake Toad DNA Samples
Date: Wednesday, February 7, 2024 11:57:18 AM
Attachments: image001.png
image002.png
image003.png

For LV consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>
Sent: Tuesday, February 6, 2024 4:55 PM
To: Steve Norton <steve.norton@psomas.com>; Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Schlick, Kary - FS, CA <kary.schlick@usda.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>; Brad Blood <bblood@psomas.com>
Subject: RE: [External Email]Lee Vining and Saddlebag Lake Toad DNA Samples

> Some people who received this message don't often get email from jeffrey.mabe@usda.gov. Learn why this is important

Steve,

I've been meaning to get back to you on this – sorry for the late response. I have not reached out to the FWS for these samples as my time has become severely restricted. I've been tasked with completing analysis and consultation on a large fire recovery project in a very short time. I will not have time to process a new batch of samples before the field season and other pressing concerns.

If we continue the project into 2025 I will definitely reach out to you for these samples, but as it stands now I'm going to have to proceed with what we have already processed.

Sorry I couldn't make it work, but I've been running this project on the side and I'm running out of time to finish it up. That being said – if it works I think there will be some opportunity to examine other locations and include your samples.

Thanks

_Jeff

From: Steve Norton <steve.norton@psomas.com>
Sent: Monday, January 15, 2024 5:38 PM

To: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>; Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Schlick, Kary - FS, CA <kary.schlick@usda.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>
Subject: [External Email]Lee Vining and Saddlebag Lake Toad DNA Samples

[External Email]
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Please let me know if either of you have any concerns or could use my help with anything.

Again: thank you both!!
-Steve

Steve Norton
P S O M A S | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com



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B-97.3_Discussion re Saddlebag Lake Toad DNA samples

From:	Mabe, Jeffrey - FS, CA
To:	Mellison, Chad; Grasso, Rob L; Steve Norton
Cc:	Schlick, Kary - FS, CA; Matthew Woodhall; Shannon Luoma; Carissa Shoemaker; Brad Blood
Subject:	RE: [EXTERNAL] RE: Lee Vining and Saddlebag Lake Toad DNA Samples
Date:	Monday, January 13, 2025 11:08:10 AM
Attachments:	image001.png image002.png image003.png

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All,

Just getting back to my desk after the conference. If you want to send the samples to me that's fine – I will store them in the negative 80 freezer at the Institute for Forestry Genetics.

Best shipping strategy is to overnight them to me at the office at the beginning of the week (not Friday!) on ice (sealed in plastic bags) or those plastic cooler blocks (better). I wrap the tubes in parafilm to prevent them from opening on accident, but if you don't have that material available just be sure they are sealed and packed tight so they can't pop open.

Make sure the package is addressed to me and shoot me an email to let me know they are coming so I'm watching for them.

Just in case you have forgotten the shipping address is:
100 Forni Rd.
Placerville CA, 95667

Thanks

_Jeff

From: Mellison, Chad <chad_mellison@fws.gov>
Sent: Monday, January 13, 2025 9:06 AM
To: Grasso, Rob L <Rob_Grasso@nps.gov>; Steve Norton <steve.norton@psomas.com>; Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>
Cc: Schlick, Kary - FS, CA <kary.schlick@usda.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>
Subject: RE: [EXTERNAL] RE: Lee Vining and Saddlebag Lake Toad DNA Samples

Let's go ahead and send them. Thanks Rob.

CHAD

From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Monday, January 13, 2025 9:05 AM
To: Steve Norton <steve.norton@psomas.com>; Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>
Cc: Schlick, Kary - FS, CA <kary.schlick@usda.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>; Mellison, Chad <chad_mellison@fws.gov>
Subject: Re: [EXTERNAL] RE: Lee Vining and Saddlebag Lake Toad DNA Samples

Hi Steve,

Once I have authorization from USFWS (Chad Mellison) I will send the samples as directed by the Service.

Best,

Rob

Rob Grasso
Park Aquatic Ecologist
Yosemite National Park
(209) 379-1438
rob_grasso@nps.gov

From: Steve Norton <steve.norton@psomas.com>
Sent: Friday, January 10, 2025 1:41 PM
To: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>; Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Schlick, Kary - FS, CA <kary.schlick@usda.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>; Mellison, Chad <chad_mellison@fws.gov>
Subject: [EXTERNAL] RE: Lee Vining and Saddlebag Lake Toad DNA Samples

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Hi Rob and Jeff,

It was great seeing you both yesterday!

Rob,
Please send the toad samples collected on the Inyo National Forest in 2023 to Jeff Mabe with the Eldorado National Forest for storage until the samples can be processed.

Jeff,
Please provide Rob the correct address and any packaging requests you may have. Regarding the samples, I copied the details from the sample collection that Rob provided below for your reference.

Thank you both!!
-Steve

Summary: Due to suspected contact zone between *Anaxyrus canorus* and *A. boreas*, special permission was requested to collect voucher specimens from two locations near Saddle Bag Lake, Inyo National Forest, Mono County, California that could be requested for genetic analyses to establish if hybridization is occurring in this region.

On 8 August 2023, Rob Grasso and one volunteer traveled to Saddle Bag Lake to collect *A. spp*. specimens to be available for genetic analyses. The first location visited was approximately 0.25 mi. east of the dam along the south shore of the lake in a small, ponded meadow area: [Latitude: 37.96511°; Longitude: -119.26891°, Elevation: 10,079 ft] accessed via the lake loop trailhead parking at the lake shore resort. Approximately 200-300 early-stage tadpoles were observed in two distinct pools in the meadow as well as a total of 16 recently metamorphosed or second year toadlets along pond shorelines. A total of 10 *A. spp* tadpoles were collected from 4-6 distinct aggregations of tadpoles from both ponds and placed in 90% ethanol. Tadpoles were small (< 20 mm), dark (black), and had a paddle-shaped tail equal to the length of the body. All characteristics consistent with *A. canorus*. Metamorphs/toadlets also had paratoid gland spacing consistent with *A. canorus*. No adult toads were observed.

The second collection was located below the Saddle Bag Lake dam in a large meadow west of Lee Vining Creek [Latitude: 37.95694°; Longitude: -119.27389°, Elevation: 9,850 ft]. A visual encounter survey of suitable *A. canorus* habitat in the meadow was performed of the area prior to collecting. *A. spp*. tadpoles in the meadow were sparse and spread out. We estimated less than 250 total tadpoles in the area. A total of 10 *A. spp.* tadpoles were collected from 6-8 distinct small aggregations of tadpoles from around the meadow in small ponds as well as stream locations and placed in 90% ethanol. Tadpoles were large (> 20 mm), dark (black), and had a paddle-shaped tail equal to the length of the body. All characteristics consistent with *A. canorus.* No other life stages of toads were observed.

Disposition of *A. canorus* samples: All samples (n=20) are preserved in ethanol and currently

stored in -20 freezer at the Yosemite National Park Maintenance Facility located at 5083 Foresta Rd in El Portal, CA, 95318.

Steve Norton
Vice President / Senior Biologist
Office/Mobile: 714.481.8037

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From: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>
Sent: Tuesday, January 16, 2024 10:58 AM
To: Grasso, Rob L <Rob_Grasso@nps.gov>; Steve Norton <steve.norton@psomas.com>
Cc: Schlick, Kary - FS, CA <kary.schlick@usda.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>; Mellison, Chad <chad_mellison@fws.gov>
Subject: RE: [EXTERNAL] RE: [External Email]Lee Vining and Saddlebag Lake Toad DNA Samples

Thanks Rob,

We have a funded project with a full proposal that I will send to Chad.

Steve,

I don't need it right now, but if we do get these samples can you please give me some written background on them. Do you think these are potential hybrids or pure YOTO or maybe a mix?

Thanks

From: Grasso, Rob L <Rob_Grasso@nps.gov>
Sent: Tuesday, January 16, 2024 10:27 AM
To: Steve Norton <steve.norton@psomas.com>; Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>
Cc: Schlick, Kary - FS, CA <kary.schlick@usda.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>; Mellison, Chad <chad_mellison@fws.gov>
Subject: Re: [EXTERNAL] RE: [External Email]Lee Vining and Saddlebag Lake Toad DNA Samples

Hi All,

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Rob Grasso
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Yosemite National Park
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Subject: [EXTERNAL] RE: [External Email]Lee Vining and Saddlebag Lake Toad DNA Samples

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Thank you, Jeff! I know the project is a significant undertaking and there are a lot of factors outside of your control. We look forward to all that you are able to share as it becomes available.

Hi Rob: please send Jeff the appropriate USFWS staff to contact.

Thanks!
-Steve

Steve Norton
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From: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>
Sent: Tuesday, January 16, 2024 8:45 AM
To: Steve Norton <steve.norton@psomas.com>; Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Schlick, Kary - FS, CA <kary.schlick@usda.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>
Subject: RE: [External Email]Lee Vining and Saddlebag Lake Toad DNA Samples

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Sent: Monday, January 15, 2024 5:38 PM
To: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>; Grasso, Rob L <Rob_Grasso@nps.gov>
Cc: Schlick, Kary - FS, CA <kary.schlick@usda.gov>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Carissa Shoemaker <carissa.shoemaker@kleinschmidtgroup.com>; Brad Blood <bblood@psomas.com>
Subject: [External Email]Lee Vining and Saddlebag Lake Toad DNA Samples

[External Email]
If this message comes from an **unexpected sender** or references a **vague/unexpected topic;**
Use caution before clicking links or opening attachments.
Please send any concerns or suspicious messages to: Spam.Abuse@usda.gov

Jeff and Rob,
It was great seeing you both at the meeting last week!

Jeff: please email USFWS requesting the toad samples collected by Rob in the Inyo National Forest in 2023. Once the transfer is approved by USFWS, Rob will transfer the 20 samples to you for

processing and analysis. As we discussed, please send me the analysis results for just those samples once they are complete (ie. prior to compiling into a draft journal article, etc.). We accept that these data are public: I ask only because we wish to incorporate these data into our discussions with FERC, and our timing doesn't allow us to wait for formal articles to be published.

Please let me know if either of you have any concerns or could use my help with anything.

Again: thank you both!!
-Steve

Steve Norton
P S O M A S | Balancing the Natural and Built Environment
Senior Biologist / Project Manager / Associate
Resource Management
714.481.8037 (Office/Mobile)
www.Psomas.com



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B-98_Discussion re Saddlebag Lake Toad DNA samples

From:	Arianna Bresnan
To:	Olivia Smith
Subject:	FW: [EXTERNAL: Suspicious Link]Lee Vining Rec & Lands TWG
Date:	Wednesday, January 31, 2024 1:41:59 PM
Attachments:	image001.png image002.png image003.png image004.png

---

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Thursday, January 18, 2024 11:54 AM
To: Arianna Bresnan <Arianna.Bresnan@KleinschmidtGroup.com>
Subject: FW: [EXTERNAL: Suspicious Link]Lee Vining Rec & Lands TWG

For LV consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Carissa Shoemaker
Sent: Thursday, January 18, 2024 11:47 AM
To: Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>
Cc: Barnett, Adam - FS, CA <adam.barnett@usda.gov>; Shannon Luoma <Shannon.Luoma@KleinschmidtGroup.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
Subject: RE: [EXTERNAL: Suspicious Link]Lee Vining Rec & Lands TWG

Hi Jameisha,

Thanks for taking the time to meet with us in February. The two meetings on February 28 should be brief: In the first hour we will talk about some land ownership questions, mostly by looking at Master Title Plats and getting input from Sheila Irons; the second hour will be to review and discuss plans for implementing the REC-1 study happening this summer, for which methods haven't changed from the original study plan (just delayed a year). We're mostly just firming up the schedule and making sure everyone is in the know.
The only other meeting we currently have coming up for Lee Vining is an in-person meeting that we plan to have on May 14, we're working on the details for it now. This one will be to present the soon-to-be released technical reports for all resource areas. This will be during the day at the Lee Vining Community Center, we'll be sending a calendar invite in the next week or so.

Just an overall relicensing schedule reminder –
SCE and subcontractors are almost done with data collection for the studies, finishing up this spring and summer. Draft Technical Reports are being prepared now and will be going out to stakeholders

for review in early April. Then we will have the potential effects meeting in mid-May. With stakeholder input from those, the Technical Reports and the Draft License Application will be finalized and filed together this September.

Thanks Jameisha, let me know if you have any questions.

Carissa Shoemaker
Licensing Coordinator
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907-575-0294

From: Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>
Sent: Friday, January 12, 2024 1:37 PM
To: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Cc: Barnett, Adam - FS, CA <adam.barnett@usda.gov>
Subject: RE: [EXTERNAL: Suspicious Link]Lee Vining Rec & Lands TWG

Carissa,

When are the proposed meeting dates after February. Is it possible to shift these to later in the afternoon and evening for the Rec TWG and USFS? I plan to attend the February meetings, but I already have meetings that I cannot miss that whole week. Can you remind me where I can find that information, if it's published?

Jameisha Washington
District Recreation Staff Officer
Forest Service
Inyo National Forest, Mono Lake Ranger District
P: 760-965-6893
Jameisha.Washington@usda.gov
10806 Hwy. 120 W/P.O. Box 429
Lee Vining, CA 93541
www.fs.fed.us

Caring for the land and serving people

-----Original Appointment-----
From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Thursday, January 11, 2024 2:22 PM
To: Shannon Luoma; Finlay Anderson; Angela Whelpley; Kelly Larimer; Hannah Gorin; Ethan

Muhlestein; matthew.woodhall@sce.com; martin.ostendorf@sce.com; kutzanuumu@yahoo.com; rwgoode911@hotmail.com; cmcdonald@northforkrancheria-nsn.gov; erik@accessfund.org; Barnett, Adam - FS, CA; stephen_bowes@nps.gov; kayla@friendsoftheinyo.org; Nick.Buckmaster@wildlife.ca.gov; sb@snowhydrology.com; adam.cohen@waterboards.ca.gov; ryan.cooper@wildlife.ca.gov; Alisa.Ellsworth@wildlife.ca.gov; katie@accessfund.org; andrea@accessfund.org; Heller, Stephanie - FS, CA; Alyssa.Hockaday@Wildlife.ca.gov; Irons, Sheila - FS, CA; lilian_jonas@contractor.nps.gov; beth.lawson@wildlife.ca.gov; Bryant.Luu@wildlife.ca.gov; graham.meese@wildlife.ca.gov; bartshe@monolake.org; bryan.muro@waterboards.ca.gov; Rios-Bretado, Eric - FS, CA; Sanchez, Monique - FS, CA; Washington, Jameisha - FS, CA; Wiese, Michael - FS, CA
Subject: [EXTERNAL: Suspicious Link]Lee Vining Rec & Lands TWG
When: Wednesday, February 28, 2024 1:30 PM-2:30 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

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Hello Lee Vining Rec and Lands Technical Working Group,

We will use this meeting time to discuss plans for the Recreation Use Assessment Study (REC-1) fieldwork this 2024 spring and summer, 2/28 1:30-2:30 Pacific.

Thank you
Let me know if you have any questions.

Carissa Shoemaker
Licensing Coordinator
Kleinschmidt
C: 907-575-0294
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From:	Carissa Shoemaker
To:	Arianna Bresnan
Subject:	FW: [EXTERNAL: Suspicious Link]Lee Vining Rec & Lands TWG
Date:	Wednesday, January 24, 2024 9:33:58 AM
Attachments:	image001.png image002.png image003.png image004.png

---

LV consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>
Sent: Wednesday, January 24, 2024 7:31 AM
To: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Cc: Barnett, Adam - FS, CA <adam.barnett@usda.gov>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
Subject: RE: [EXTERNAL: Suspicious Link]Lee Vining Rec & Lands TWG

Hi Carissa,

Thanks so much for the information, that's very helpful!

Jameisha Washington
District Recreation Staff Officer
Forest Service
Inyo National Forest, Mono Lake Ranger District
P: 760-965-6893
Jameisha.Washington@usda.gov
10806 Hwy. 120 W/P.O. Box 429
Lee Vining, CA 93541
www.fs.fed.us

Caring for the land and serving people

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Sent: Thursday, January 18, 2024 11:47 AM
To: Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>

Cc: Barnett, Adam - FS, CA <adam.barnett@usda.gov>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
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Ranger District
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Subject: [EXTERNAL: Suspicious Link]Lee Vining Rec & Lands TWG
When: Wednesday, February 28, 2024 1:30 PM-2:30 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

Some people who received this message don't often get email from carissa.shoemaker@kleinschmidtgroup.com. Learn why this is important

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Hello Lee Vining Rec and Lands Technical Working Group,

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Thank you
Let me know if you have any questions.

Carissa Shoemaker
Licensing Coordinator
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C: 907-575-0294
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From:	Carissa Shoemaker
To:	Olivia Smith
Subject:	FW: Lee Vining Rec and Land Use TWG Materials 2/28 meeting
Date:	Wednesday, February 28, 2024 8:02:44 PM
Attachments:	2024 REC Survey Package for TWG.pdf REC TWG Agenda 02282024.pdf

For LV consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Carissa Shoemaker
Sent: Thursday, February 22, 2024 5:30 PM
To: erik@accessfund.org; adam.barnett@usda.gov; stephen_bowes@nps.gov; kayla@friendsoftheinyo.org; Nick.Buckmaster@wildlife.ca.gov; sb@snowhydrology.com; adam.cohen@waterboards.ca.gov; ryan.cooper@wildlife.ca.gov; Alisa.Ellsworth@wildlife.ca.gov; katie@accessfund.org; andrea@accessfund.org; stephanie.heller@usda.gov; Alyssa.Hockaday@Wildlife.ca.gov; sheila.irons@usda.gov; lilian_jonas@contractor.nps.gov; beth.lawson@wildlife.ca.gov; Bryant.Luu@wildlife.ca.gov; graham.meese@wildlife.ca.gov; bartshe@monolake.org; bryan.muro@waterboards.ca.gov; eric.rios-bretado@usda.gov; monique.sanchez@usda.gov; Jameisha.Washington@usda.gov; michael.wiese@usda.gov; cmcdonald@nfr-nsn.gov; Rwgoode911@hotmail.com; kutzanuumu@yahoo.com
Cc: Shannon Luoma <Shannon.Luoma@KleinschmidtGroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Kelly Larimer <Kelly.Larimer@KleinschmidtGroup.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Hannah Gorin <Hannah.Gorin@KleinschmidtGroup.com>; Ethan Muhlestein <Ethan.Muhlestein@KleinschmidtGroup.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>; Martin Ostendorf <martin.ostendorf@sce.com>
Subject: Lee Vining Rec and Land Use TWG Materials 2/28 meeting

Hello Lee Vining Recreation and Land Use TWG!

In preparation for next week's meeting, please find attached our package of meeting materials outlining our plan to implement the Recreation Use and Needs Study this year. This material should all look familiar as very minor modifications have been made since our discussion in 2023 when we were still hoping we could implement the surveys last year. To aid in your review and discussion for next week, we have the below notes about how we developed the survey schedules:

Creel Survey Date Selection

- There are a total of 128 days included in the study season
- Per a CDFW request last year, 30% of those days will be surveyed between Fishmas and Labor Day 2024 (April 27, 2024 through September 2, 2024)
    - (30% of 128 = 38.4 days rounded up to 40 for even distribution of days)

- 4 holidays included: Memorial Day, Juneteenth National Independence Day, 4 of July, Labor Day
- Remaining 36 days divided equally between weekdays (18) and weekends (18)
- Per CDFW request last year "a minimum of 10 days per month should be sampled", dates were equally distributed throughout May (including dates in April to account for Fishmas), June, July, and August (including dates in September through Labor Day) to equal 10 days per month

Visitor Intercept Survey and Spot Count Date Selection

- Per the study plan, we have planned for 11 survey days between Memorial Day and October 31, 2024
    - (2 days per month, 1 weekday and 1 weekend day; 1 holiday weekend day selected from 4 holidays during study season)
- The randomly selected holiday was Memorial Day weekend 2024

Please let me know if you have any questions.
Thank you and see you next week!

Carissa Shoemaker
Licensing Coordinator
Kleinschmidt
C: 907-575-0294
Follow us on LinkedIn
We provide practical **solutions** *for renewable energy, water and environmental projects!*

Lee Vining Hydroelectric Project Relicensing

Recreation and Land Use TWG Meeting

February 28, 2024, 1:30-2:30pm PDT via Microsoft Teams

Objectives

- Discuss property ownership with USFS
- Look at ownership transfer documents
- Identify data gaps and action items for Project Boundary
- Review REC-1 work to date
- Present 2024 implementation plans for REC-1

Duration (minutes)	Agenda Topic/Subtopic	Lead
10	**Welcome, Introductions, Meeting Objectives**	
	- Safety moment - Introductions - Meeting objectives	Matthew Woodhall Shannon Luoma
35	**REC-1: Use and Needs**	
	- Present RUNS proposed locations o Address/review comments received on Tech Memo o Intercept Surveys/Spot counts o Traffic/trail counters and calibrations o Winter survey locations - User Survey Methods o Schedule, timing o Survey instrument o Questions - Creel Survey Methods o Schedule, timing o Survey instrument - Study Plan data needs/request	Angela Whelpley
5	**Schedule and Next Steps**	
	- Action items and homework - Next meeting	Shannon Luoma
10	**Final Q&A**	
	Adjourn	

Table 1. 2024 Study Sites and Survey Type

Site ID	Site Name	User Surveys (2024)	Creel Surveys (2024)	Spot Counts (2024)	Counters (2024)
1	Saddlebag Lake Campground	☑	☑	☑	☑
2	Saddlebag Lake DUA	☑	☑	☑	☑
3	Saddlebag Lake Trailhead	☑	**No**	☑	☑
4	Sawmill Walk-In Campground	☑	☑	☑	**No**
7	Junction Campground	☑	☑	☑	**No**
8	Bennettville Trailhead	☑	**No**	☑	**No**
9	Tioga Lake Overlook Info Site / Glacier Canyon Trailhead	☑ [b]	**No**	☑	☑
12	Tioga Lake Campground	☑	☑	☑	**No**
14	Ellery Lake Campground	☑	☑	☑	☑
22	Informal Fishing Access Turnout along Saddlebag Lake Rd [a]	**No**	☑	**No**	**No**
23	Ellery Lake CALDOT Pullout [b]	☑	**No**	☑	**No**

DUA = Day Use Area; CALDOT = California Department of Transportation

[a] CDFW requested that creel surveys be conducted at this informal site. Flyers will be placed at the site requesting users to fill out a survey online, no in person surveys will be conducted.

[b] Requests from Mono Lake Committee and Access Fund were received to include the formal California Department of Transportation pullout site in the REC-1 study. This site is included in the list of sites to have user surveys and spot counts completed.

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Figure 1. 2024 Survey and Data Collection Sites

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Traffic and Trail Counter Locations

Saddlebag Lake Area

Site ID	Informal Name	Type	Latitude, Longitude	Mile Marker	General Location
VEH-SDDLBG1	Saddlebag Traffic	Traffic	37.9637, -119.2730	n/a	Saddlebag Lake, road going into recreation general area. Vehicle counter to be placed along Saddlebag Lake Road just before pull-outs for access to dam or rec area amenities.
TRL-SDDLBG1	Saddlebag Trail West	Trail	37.9651, -119.2692	n/a	Saddlebag Lake, trail segment west of potential amphibian habitat. Counter to be placed after trail & side trail converge.
TRL-SDDLBG2	Saddlebag Trail East	Trail	37.9654, -119.2668	n/a	Saddlebag Lake, trail segment east of potential amphibian habitat. Counter to be placed after trails converge

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Traffic Counter Location



Trail Counter Locations

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Ellery Lake Area Trail Counter Locations

Site ID	Informal Name	Type	Latitude, Longitude	Mile Marker	General Location
TRL-ELLERY1	Ellery-Lee Vining Creek Trail	Trail	37.9375, -119.2457	2.25	Ellery Lake, eastern trail approximately 560' up canyon from Ellery Lake Campground. 2 trails that converge along the river. Trail counter to be placed after the trails meet to capture traffic from both access paths.
TRL-ELLERY2	Ellery-Rhinedollar Trail	Trail	37.9346, -119.2315	3.2	Ellery Lake, Rhinedollar dam climbing access. Trail Counter to be placed along the uphill path to the climbing areas at logical trail bottleneck.



Trail Counter Location 1



Trail Counter Location 2

Tioga Lake Area Trail Counter Location

Site ID	Informal Name	Type	Latitude, Longitude	Mile Marker	General Location
TRL-TIOGA1	Tioga Pullout Access Trail	Trail	37.9254, -119.2555	1	Tioga Lake, informal eastern lake access. Approx 1000 ft up canyon from Tioga Lake Campground. Counter should be placed within approximately 100' of reservoir max fill to ensure that the counter is within the project boundary.



Trail Counter Location

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Table 2. 2024 Proposed REC-1 Survey Schedule

Date	Activity
Sunday, April 28, 2024	Creel Surveys
Friday, May 3, 2024	Creel Surveys
Saturday, May 4, 2024	Creel Surveys
Wednesday, May 8, 2024	Visitor Intercept Surveys / Spot Counts
Saturday, May 11, 2024	Creel Surveys
Sunday, May 12, 2024	Visitor Intercept Surveys / Spot Counts
Wednesday, May 15, 2024	Creel Surveys
Sunday, May 19, 2024	Creel Surveys
Wednesday, May 22, 2024	Creel Surveys
Thursday, May 23, 2024	Creel Surveys
Saturday, May 25, 2024	Visitor Intercept Surveys / Spot Counts
Sunday, May 26, 2024	Creel Surveys
Tuesday, May 28, 2024	Creel Surveys
Saturday, June 1, 2024	Visitor Intercept Surveys / Spot Counts
Sunday, June 2, 2024	Calibration Counts
Sunday, June 9, 2024	Creel Surveys
Saturday, June 15, 2024	Creel Surveys
Sunday, June 16, 2024	Creel Surveys
Monday, June 17, 2024	Creel Surveys
Tuesday, June 18, 2024	Creel Surveys
Wednesday, June 19, 2024	Creel Surveys
Tuesday, June 25, 2024	Creel Surveys
Thursday, June 27, 2024	Creel Surveys
Friday, June 28, 2024	Creel Surveys
	Visitor Intercept Surveys / Spot Counts
Sunday, June 30, 2024	Creel Surveys
Tuesday, July 2, 2024	Creel Surveys
Sunday, July 7, 2024	Creel Surveys
Monday, July 8, 2024	Creel Surveys
Saturday, July 13, 2024	Visitor Intercept Surveys / Spot Counts
Sunday, July 14, 2024	Creel Surveys
Tuesday, July 16, 2024	Creel Surveys
Thursday, July 18, 2024	Creel Surveys
Saturday, July 20, 2024	Creel Surveys
Sunday, July 21, 2024	Creel Surveys
Tuesday, July 23, 2024	Visitor Intercept Surveys / Spot Counts
Friday, July 26, 2024	Creel Surveys
Sunday, July 28, 2024	Creel Surveys
Saturday, August 3, 2024	Visitor Intercept Surveys / Spot Counts
Sunday, August 4, 2024	Creel Surveys

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Friday, August 9, 2024	Creel Surveys
Sunday, August 11, 2024	Creel Surveys
Monday, August 12, 2024	Creel Surveys
Friday, August 16, 2024	Creel Surveys
	Visitor Intercept Surveys / Spot Counts
Saturday, August 17, 2024	Creel Surveys
Sunday, August 18, 2024	Creel Surveys
Tuesday, August 20, 2024	Calibration Counts
Friday, August 23, 2024	Creel Surveys
Monday, August 26, 2024	Creel Surveys
Sunday, September 1, 2024	Creel Surveys
Friday, September 6, 2024	Visitor Intercept Surveys / Spot Counts
Sunday, September 8, 2024	Visitor Intercept Surveys / Spot Counts
Tuesday, October 8, 2024	Calibration Counts
Sunday, October 13, 2024	Visitor Intercept Surveys / Spot Counts
Thursday, October 31, 2024	Visitor Intercept Surveys / Spot Counts

Bold text notes holiday weekend survey dates.

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General Recreation Survey

Clerk: _____ **Site:** _____ **Date:** _____ **Time:** _____**am/pm**

Weather: ☐ **Sunny/Clear** ☐ **Partly Cloudy** ☐ **Cloudy** ☐ **Light Rain** ☐ **Heavy Rain**

1. What is your home zip code? _____
2. Including yourself, how many people are in your party today? _____ *people in party*
3. Please provide the number of people in each age group within your party.

   ☐ Under 18 ☐ 18–24 ☐ 25–34 ☐ 35–44 ☐ 45–54 ☐ 55–64 ☐ 65+
4. Is this your first visit to the Upper Lee Vining Canyon? ❑ Yes ❑ No
5. What day did you arrive at the Upper Lee Vining Canyon? _____
6. At what time did you arrive at the Upper Lee Vining Canyon? _____ *am / pm*
7. How much time will you spend on your current trip?

   _____ *Number of hours* ---------***OR*** --------- _____ *Number of days (If 24 hours or more)*
8. If you plan to stay overnight, what type of overnight accommodations did or will you use on your trip *(Mark all that apply)*:

   ❑ Campground *Location:*_____
   ❑ Rented cabin/condo/home/motel/hotel *Location:*_____
   ❑ Your own home/property
   ❑ *Other* *Please Specify:*_____
9. Please indicate which of the following recreational activities you are participating in on this trip (*Mark all that apply*):

   ❑ Bicycling ❑ Personal Watercraft Use ❑ Day Hiking ❑ Cross Country Skiing
   ❑ Camping ❑ Photography ❑ Overnight Backpacking ❑ Snowmobiling
   ❑ Rock Climbing ❑ Picnicking ❑ Viewing Scenery
   ❑ Fishing in Creek ❑ Relaxing ❑ Viewing Wildlife
   ❑ Fishing in Lake ❑ Scenic Driving ❑ OHV Use
   ❑ Other: _____
10. Of the activities listed above, please indicate which is the **primary** activity of this trip (*Choose only one*):_____
11. Are there types of recreational activities or facilities appropriate for the Upper Lee Vining Canyon that are not currently provided?

    ❑Yes ❑ No ❑ N/A ***If yes, please list:***

    _____
12. Please help us understand capacity issues in the Upper Lee Vining Canyon by answering the following questions *(circle one response for each item)*:

	Not at all crowded		**Slightly crowded**			**Moderately crowded**		**Extremely crowded**		
How crowded did you feel today?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**N/A**
Was it more or less crowded than you thought it would be?	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**N/A**

13. Have you ever changed your use of the Upper Lee Vining Canyon due to crowding? ❑ Yes ❑ No ❑ N/A
    If yes, how have you changed your use of this area? *(Mark all that apply)*

    ❑ Visit the area during the off-season ❑ Visit earlier in the morning
    ❑ Visit the area during weekdays ❑ Visit a different part of the Lee Vining Area
    ❑ Visit the area on days to avoid holidays

14. We are interested in your opinion about the **number of existing recreation facilities** in the Upper Lee Vining Canyon. (*Please indicate a response for **any** of the following facilities you have used during your visit)*

		Too High				About Right				Too Low	Don't Know
Publicly Available Recreation Sites	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Restrooms	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Parking	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Picnic or Day Use Areas	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Boat Launches	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Public Docks	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Hiking Trails	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Swim Areas	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Campsites	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Signage	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Fish Cleaning Stations	Quantity	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A

15. We are interested in your opinion about the **condition of existing recreation facilities** in the Upper Lee Vining Canyon. (*Please indicate a response for **any** of the following facilities you have used during your visit)*

		Too High				About Right				Too Low	Don't Know
Publicly Available Recreation Sites	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Restrooms	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Parking	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Picnic or Day Use Areas	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Boat Launches	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Public Docks	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Hiking Trails	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Swim Areas	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Campsites	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Signage	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Fish Cleaning Stations	Quality	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A

16. How would you rate the use fees associated with the campgrounds in the Upper Lee Vining Canyon? *(Mark one for each item)*

	Too High				About Right				Too Low	Don't Know
Boat Rental	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A
Campground Fees	❑	❑	❑	❑	❑	❑	❑	❑	❑	N/A

17. What did you like **most** about your visit to the Upper Lee Vining Canyon?

_____

_____

18. What did you like **least** about your visit to the Upper Lee Vining Canyon?

_____

_____

19. Do you have any additional comments about public recreation opportunities and facilities in the Upper Lee Vining Canyon? (*Please be as specific as possible*)

_____

_____

Angler Survey Data Sheet

GENERAL INFO (will likely be the same for all interviews at the same survey location. Ok to put Ditto)

Date		General Weather Conditions	Sunny/Clear Overcast Cloudy Rain Heavy Rain Snow/sleet/hail Air Temp: _____ °F
Survey Location			
Notes			

ANGLER INFO

Interview Time	
Number of anglers in party	
ZIP code	
What time did you start fishing?	
How much longer will you fish?	
Target Species (primary)	
2nd Target Species (If applicable)	
How often (frequency) do you fish in the area?	*Examples* *Just passing through* *# times per year*
How do you define quality of fishing?	Fish Species/Size Catch Rate Natural Setting Solitude Park Amenities Water Access Proximity *Any other potential variables*
How does fishing quality compare here to other nearby locations you've fished this trip? (If applicable)	
How does overall fishing quality here compare to past experiences here? (If applicable)	

BIOLOGICAL DATA (Enter total number of harvested (H) and released (R) fish in each size class)

Species	<8 in.	8 in.	9 in.	10 in.	11 in.	12 in.	13 in.	14 in.	15 in.	16 in.	17 in.	18 in.	19+ in.
Rainbow trout													
Brook trout													
Brown trout													
Other													
Notes													

B-100_Notice re Recreation and Land Use TWG meeting and package of meeting materials

Calibration Form					Site Name:											
Staff Person:		Date:			Time Start:				Time End:							
					Start Count:				End Count:							
Weekend or Weekday?					# of people participating in activity during visit											
Vehicle Description	Trailer Y/N	Time in	Time out	Total # of People	Motor Boating	Non motor boating	Camping	Fishing	Picnic	Walk/ Jog/ Hike	Biking	Sightseeing	Swim	Birding	Other Rec Use	Non Rec Use

From: Carissa Shoemaker
To: Olivia Smith
Subject: FW: Lee Vining Creel Survey Question
Date: Wednesday, February 28, 2024 8:14:05 PM

For LV consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Carissa Shoemaker
Sent: Wednesday, February 28, 2024 8:14 PM
To: Meese, Graham@Wildlife <Graham.Meese@Wildlife.ca.gov>; Shannon Luoma <Shannon.Luoma@KleinschmidtGroup.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
Cc: Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>; matthew.woodhall@sce.com
Subject: RE: Lee Vining Creel Survey Question

Thank you, Graham for confirming. And thanks for joining us!

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Meese, Graham@Wildlife <Graham.Meese@Wildlife.ca.gov>
Sent: Wednesday, February 28, 2024 5:04 PM
To: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Cc: Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>; matthew.woodhall@sce.com
Subject: Lee Vining Creel Survey Question

Some people who received this message don't often get email from graham.meese@wildlife.ca.gov. Learn why this is important

Hi Everyone,
It was great to join my first REC and Land Use TWG meeting today and I confirmed with our fisheries staff that the request for a photo can be optional and does not need to be of each fish.

Thanks,

Graham Meese
Senior Environmental Scientist

California Department of Fish and Wildlife
Inland Deserts Region | Habitat Conservation | Water
787 North Main Street, Suite 220
Bishop, CA 93514
(760) 996-7387

TJ Wiggs

From: Meese, Graham@Wildlife <Graham.Meese@Wildlife.ca.gov>
Sent: Thursday, February 29, 2024 9:31 AM
To: Carissa Shoemaker
Subject: RE: Lee Vining Creel Survey Question

You don't often get email from graham.meese@wildlife.ca.gov. Learn why this is important

Of course, I look forward to participating in the TWGs and assisting to move this process forward.

Best,

Graham

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Wednesday, February 28, 2024 8:14 PM
To: Meese, Graham@Wildlife <Graham.Meese@Wildlife.ca.gov>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>
Cc: Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>; matthew.woodhall@sce.com
Subject: RE: Lee Vining Creel Survey Question

You don't often get email from carissa.shoemaker@kleinschmidtgroup.com. Learn why this is important

WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.

Thank you, Graham for confirming. And thanks for joining us!

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Meese, Graham@Wildlife <Graham.Meese@Wildlife.ca.gov>
Sent: Wednesday, February 28, 2024 5:04 PM
To: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Cc: Lawson, Beth@Wildlife <Beth.Lawson@wildlife.ca.gov>; matthew.woodhall@sce.com
Subject: Lee Vining Creel Survey Question

Some people who received this message don't often get email from graham.meese@wildlife.ca.gov. Learn why this is important

Hi Everyone,
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Thanks,

Graham Meese
Senior Environmental Scientist

California Department of Fish and Wildlife
Inland Deserts Region | Habitat Conservation | Water
787 North Main Street, Suite 220
Bishop, CA 93514
(760) 996-7387

TJ Wiggs

Subject: Lee Vining Rec & Lands TWG
Location: Microsoft Teams Meeting

Start: Wed 2/28/2024 2:30 PM
End: Wed 2/28/2024 3:30 PM

Recurrence: (none)

Meeting Status: Accepted

Organizer: Carissa Shoemaker

-----Original Appointment-----
From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Wednesday, February 28, 2024 8:04 PM
To: Carissa Shoemaker; Olivia Smith; Shannon Luoma; Finlay Anderson; Angela Whelpley; Kelly Larimer; Hannah Gorin; Ethan Muhlestein; matthew.woodhall@sce.com; martin.ostendorf@sce.com; kutzanuumu@yahoo.com; Rwgoode911@hotmail.com; cmcdonald@northforkrancheria-nsn.gov; erik@accessfund.org; adam.barnett@usda.gov; stephen_bowes@nps.gov; kayla@friendsoftheinyo.org; Nick.Buckmaster@wildlife.ca.gov; sb@snowhydrology.com; adam.cohen@waterboards.ca.gov; ryan.cooper@wildlife.ca.gov; Alisa.Ellsworth@wildlife.ca.gov; katie@accessfund.org; andrea@accessfund.org; stephanie.heller@usda.gov; Alyssa.Hockaday@Wildlife.ca.gov; sheila.irons@usda.gov; lilian_jonas@contractor.nps.gov; beth.lawson@wildlife.ca.gov; Bryant.Luu@wildlife.ca.gov; graham.meese@wildlife.ca.gov; bartshe@monolake.org; bryan.muro@waterboards.ca.gov; eric.rios-bretado@usda.gov; monique.sanchez@usda.gov; Jameisha.Washington@usda.gov; michael.wiese@usda.gov
Subject: FW: Lee Vining Rec & Lands TWG
When: Wednesday, February 28, 2024 1:30 PM-2:30 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

For LV consultation log

-----Original Appointment-----
From: Carissa Shoemaker
Sent: Thursday, January 11, 2024 2:22 PM
To: Shannon Luoma; Finlay Anderson; Angela Whelpley; Kelly Larimer; Hannah Gorin; Ethan Muhlestein; matthew.woodhall@sce.com; martin.ostendorf@sce.com; kutzanuumu@yahoo.com; Rwgoode911@hotmail.com; cmcdonald@northforkrancheria-nsn.gov; erik@accessfund.org; adam.barnett@usda.gov; stephen_bowes@nps.gov; kayla@friendsoftheinyo.org; Nick.Buckmaster@wildlife.ca.gov; sb@snowhydrology.com; adam.cohen@waterboards.ca.gov; ryan.cooper@wildlife.ca.gov; Alisa.Ellsworth@wildlife.ca.gov; katie@accessfund.org; andrea@accessfund.org; stephanie.heller@usda.gov; Alyssa.Hockaday@Wildlife.ca.gov; sheila.irons@usda.gov; lilian_jonas@contractor.nps.gov; beth.lawson@wildlife.ca.gov; Bryant.Luu@wildlife.ca.gov; graham.meese@wildlife.ca.gov; bartshe@monolake.org; bryan.muro@waterboards.ca.gov; eric.rios-bretado@usda.gov; monique.sanchez@usda.gov; Jameisha.Washington@usda.gov; michael.wiese@usda.gov
Subject: Lee Vining Rec & Lands TWG
When: Wednesday, February 28, 2024 1:30 PM-2:30 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

B-102_Discussion re TWG group participation

Hello Lee Vining Rec and Lands Technical Working Group,

We will use this meeting time to discuss plans for the Recreation Use Assessment Study (REC-1) fieldwork this 2024 spring and summer, 2/28 1:30-2:30 Pacific.

Thank you
Let me know if you have any questions.

Carissa Shoemaker
Licensing Coordinator
Kleinschmidt
C: 907-575-0294
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Microsoft Teams meeting

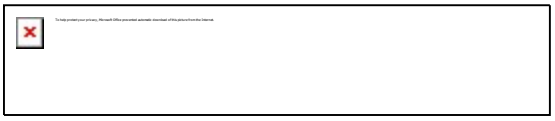
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From:	Carissa Shoemaker
To:	Olivia Smith
Subject:	FW: [EXTERNAL: Suspicious Link]Lee Vining Land Ownership (Relicensing Team & USFS)
Date:	Thursday, February 29, 2024 1:52:29 PM
Attachments:	image001.png image002.png image003.png image004.png

---

For LV consultation log

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Carissa Shoemaker
Sent: Thursday, February 29, 2024 1:52 PM
To: Rowe, Courtney - FS, CA <Courtney.Rowe@usda.gov>
Subject: RE: [EXTERNAL: Suspicious Link]Lee Vining Land Ownership (Relicensing Team & USFS)

Perfect thanks, Jacquie is on the Cultural TWG already so I'll add you to the other three.

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Rowe, Courtney - FS, CA <Courtney.Rowe@usda.gov>
Sent: Wednesday, February 28, 2024 8:59 PM
To: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Subject: RE: [EXTERNAL: Suspicious Link]Lee Vining Land Ownership (Relicensing Team & USFS)

You don't often get email from courtney.rowe@usda.gov. Learn why this is important

As long as Jacquie beidel is on cultural, I don't need to be. We just don't have district-specific staff for Aquatics/Hydrology, Terrestrial/Botanical. And, with stephanie taking intermittent leave, she asked me to stay across the land use.

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Wednesday, February 28, 2024 8:00 PM
To: Rowe, Courtney - FS, CA <Courtney.Rowe@usda.gov>
Cc: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: RE: [EXTERNAL: Suspicious Link]Lee Vining Land Ownership (Relicensing Team & USFS)

Hi Courtney, absolutely.
We have four Technical Working Groups for Lee Vining: Recreation/Land Use, Aquatics/Hydrology,

Terrestrial/Botanical, and Cultural/Tribal. Do you want to be in all four? Or the first three and not Cultural?
Thanks for joining us today!

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Rowe, Courtney - FS, CA <Courtney.Rowe@usda.gov>
Sent: Wednesday, February 28, 2024 2:16 PM
To: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Subject: RE: [EXTERNAL: Suspicious Link]Lee Vining Land Ownership (Relicensing Team & USFS)

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Can you please also add me to TWG for general, aquatics, terrestrial/botanical? I am our district resource officer.

Courtney J Rowe
Environmental Coordinator
Forest Service
Mono Lake / Mammoth Ranger District
p: 760-923-8974
courtney.rowe@usda.gov
P.O. Box 429
Lee Vining, CA 93541
www.fs.usda.gov

Caring for the land and serving people

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Wednesday, February 28, 2024 1:07 PM
To: Rowe, Courtney - FS, CA <Courtney.Rowe@usda.gov>
Cc: Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>
Subject: RE: [EXTERNAL: Suspicious Link]Lee Vining Land Ownership (Relicensing Team & USFS)

Hi Courtney,

Did you join just now at about 1:00? We ended pretty fast, we chatted from 12:30 to 12:55 about land ownership and the Project boundary. Next, we're jumping on a separate call at 1:30 to talk Recreation. The link for the Rec call is **Click here to join the meeting** if you need that one.

Thanks!

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Rowe, Courtney - FS, CA <Courtney.Rowe@usda.gov>
Sent: Wednesday, February 28, 2024 1:01 PM
To: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Subject: RE: [EXTERNAL: Suspicious Link]Lee Vining Land Ownership (Relicensing Team & USFS)

> You don't often get email from courtney.rowe@usda.gov. Learn why this is important

The TEAMS link did not work for me

C.J. Rowe, courtney.rowe@usda.gov, MLRD-MRD Planner
"Start where you are. Use what you have. Do what you can." –Arthur Ashe

-----Original Appointment-----
From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Friday, January 12, 2024 1:45 PM
To: Carissa Shoemaker; Rowe, Courtney - FS, CA; Shannon Luoma; Finlay Anderson; Angela Whelpley; Kelly Larimer; Hannah Gorin; Ethan Muhlestein; Matthew Woodhall; Martin Ostendorf; Irons, Sheila - FS, CA; Barnett, Adam - FS, CA; Heller, Stephanie - FS, CA; Rios-Bretado, Eric - FS, CA; Sanchez, Monique - FS, CA; Washington, Jameisha - FS, CA; Wiese, Michael - FS, CA
Subject: [EXTERNAL: Suspicious Link]Lee Vining Land Ownership (Relicensing Team & USFS)
When: Wednesday, February 28, 2024 12:30 PM-1:30 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

-----Original Appointment-----
From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Thursday, January 11, 2024 2:22 PM
To: Carissa Shoemaker; Shannon Luoma; Finlay Anderson; Angela Whelpley; Kelly Larimer; Hannah Gorin; Ethan Muhlestein; Matthew Woodhall; Martin Ostendorf; Irons, Sheila - FS, CA; Barnett, Adam - FS, CA; Heller, Stephanie - FS, CA; Rios-Bretado, Eric - FS, CA; Sanchez, Monique - FS, CA; Washington, Jameisha - FS, CA; Wiese, Michael - FS, CA
Subject: [EXTERNAL: Suspicious Link]Lee Vining Land Ownership (Relicensing Team & USFS)
When: Wednesday, February 28, 2024 12:30 PM-1:30 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

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method to verify.
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Hello Lee Vining relicensing and USFS team,

Thank you for helping chose a time with the Doodle Poll.
We will use this meeting to discuss land ownership at the Lee Vining Project, 2/28 12:30-1:30 Pacific.

There will be a second meeting invitation coming for the following hour (1:30-2:30), to which we are inviting the entire Rec and Land Use Technical Working Group. Here we will discuss plans for Recreation Use Assessment (REC-1) study fieldwork this spring and summer.

Thank you
Let me know if you have any questions.

Carissa Shoemaker
Licensing Coordinator
Kleinschmidt
C: 907-575-0294
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TJ Wiggs

From: Carissa Shoemaker
Sent: Monday, April 1, 2024 11:55 AM
To: adam.barnett@usda.gov; dannon.dirgo@usda.gov
Cc: sheila.irons@usda.gov; stephanie.heller@usda.gov; Eric.Rios-Bretado@usda.gov; Courtney.Rowe@usda.gov; monique.sanchez@usda.gov; Jameisha.Washington@usda.gov; michael.wiese@usda.gov; Shannon Luoma; Angela Whelpley; Finlay Anderson
Subject: Lee Vining REC TWG follow up

Hello Adam and Dannon,

As a follow up to our Lee Vining Recreation TWG meeting we had at the end of February, I looked at our past TWG notes to see if we have discussed trail counter proposed locations. I wasn't able to find any discussion directly related to trail counter locations, but they were proposed initially because they were used in the Bishop Creek REC-1 Study and partially to document dispersed use in Yosemite toad habitat on the south end of Saddlebag Lake. The REC-1 Study Plan has included trail counters since the initial version filed with the PAD in August 2021. Regardless, we intend to include an additional trail counter on the west side of Saddlebag Dam to capture recreationists crossing the dam, as you suggested during our TWG meeting.

We are also hoping you can provide us with campground use data, concessionaire data, and special use permit data from 2023. I believe Adam said that the district special use permit coordinator would have the latter. We will use this data in the Technical Reports and Draft License Application.

Thank you, let me know if you have any questions.

Carissa Shoemaker
Licensing Coordinator
Kleinschmidt
C: 907-575-0294
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TJ Wiggs

From: Carissa Shoemaker
Sent: Monday, April 1, 2024 3:35 PM
To: Leong, Tristan - FS, CA
Cc: Shannon Luoma
Subject: RE: [External Email]Lee Vining REC TWG follow up

Hi Tristan,

The only upcoming Lee Vining meeting we have is an in-person meeting (May 14 at the Lee Vining Community Center) to review Technical Reports. The reports are going to be sent out to stakeholders soon. I will forward that invitation to you now and be sure that you also receive the reports when they are available.

Thanks!

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Leong, Tristan - FS, CA <tristan.leong@usda.gov>
Sent: Monday, April 1, 2024 1:29 PM
To: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Subject: RE: [External Email]Lee Vining REC TWG follow up

You don't often get email from tristan.leong@usda.gov. Learn why this is important

Thank you Carissa,

If possible, is there a way to forward me any or all pending meetings if they don't automatically populate?

Tristan Leong
Hydroelectric Coordinator
Forest Service
Region 5 Public Services RHAT
p: 707-562-8838
c: 530-961-2155
tristan.leong@usda.gov
1323 Club Drive
Vallejo, CA 94592
www.fs.usda.gov
Caring for the land and serving people

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Monday, April 1, 2024 11:10 AM

To: Sanchez, Monique - FS, CA <monique.sanchez@usda.gov>
Cc: Leong, Tristan - FS, CA <tristan.leong@usda.gov>; Alvarez, Dawn - FS, CA <dawn.alvarez@usda.gov>
Subject: RE: [External Email]Lee Vining REC TWG follow up

Thanks Monique,
I've added Tristan to all Lee Vining email lists.

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294

From: Sanchez, Monique - FS, CA <monique.sanchez@usda.gov>
Sent: Monday, April 1, 2024 11:07 AM
To: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Cc: Leong, Tristan - FS, CA <tristan.leong@usda.gov>; Alvarez, Dawn - FS, CA <dawn.alvarez@usda.gov>
Subject: RE: [External Email]Lee Vining REC TWG follow up

Good morning Carissa,

Please include Tristan in all Lee Vining communications.

Thank you,

Monique Sanchez
Hydropower Coordinator
(she, her, hers)
Forest Service
Pacific Southwest Region
Public Services
530-604-2971
monique.sanchez@usda.gov
1980 Old Mission Drive,
Solvang, CA 93463
www.fs.fed.us

Caring for the land and serving people

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Monday, April 1, 2024 10:55 AM
To: Barnett, Adam - FS, CA <adam.barnett@usda.gov>; Dirgo, Dannon - FS, CA <dannon.dirgo@usda.gov>
Cc: Irons, Sheila - FS, CA <sheila.irons@usda.gov>; Heller, Stephanie - FS, CA <stephanie.heller@usda.gov>; Eric.Rios-Bretado@usda.gov; Rowe, Courtney - FS, CA <Courtney.Rowe@usda.gov>; Sanchez, Monique - FS, CA <monique.sanchez@usda.gov>; Washington, Jameisha - FS, CA <Jameisha.Washington@usda.gov>; Wiese, Michael - FS, CA <michael.wiese@usda.gov>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>
Subject: [External Email]Lee Vining REC TWG follow up

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Hello Adam and Dannon,

As a follow up to our Lee Vining Recreation TWG meeting we had at the end of February, I looked at our past TWG notes to see if we have discussed trail counter proposed locations. I wasn't able to find any discussion directly related to trail counter locations, but they were proposed initially because they were used in the Bishop Creek REC-1 Study and partially to document dispersed use in Yosemite toad habitat on the south end of Saddlebag Lake. The REC-1 Study Plan has included trail counters since the initial version filed with the PAD in August 2021. Regardless, we intend to include an additional trail counter on the west side of Saddlebag Dam to capture recreationists crossing the dam, as you suggested during our TWG meeting.

We are also hoping you can provide us with campground use data, concessionaire data, and special use permit data from 2023. I believe Adam said that the district special use permit coordinator would have the latter. We will use this data in the Technical Reports and Draft License Application.

Thank you, let me know if you have any questions.

Carissa Shoemaker
Licensing Coordinator
Kleinschmidt
C: 907-575-0294
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TJ Wiggs

From: Lyons-Gould, Andrew - FS, CA <Andrew.Lyons-Gould@usda.gov>
Sent: Tuesday, April 23, 2024 2:45 PM
To: Carissa Shoemaker
Subject: RE: [External Email]FW: Lee Vining Yosemite toad consultation

Hi Carissa!

Thanks for adding me to the group. Monday the 6th or Thursday the 9th work for me!

Andrew Lyons-Gould
Wildlife Biologist
Forest Service
Inyo National Forest, Mammoth and Mono Lake Ranger Districts
p: 760-920-9913
andrew.lyons-gould@usda.gov
2500 Highway 203, PO Box 148
Mammoth Lakes, CA 93546
www.fs.usda.gov
Caring for the land and serving people

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Tuesday, April 23, 2024 1:39 PM
To: Lyons-Gould, Andrew - FS, CA <Andrew.Lyons-Gould@usda.gov>
Subject: [External Email]FW: Lee Vining Yosemite toad consultation

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Hi Andrew, I was asked to send this over to you as well!
Do any of these times work for you to meet about Lee Vining Yosemite toad consultation?

Thursday May 2: 11-12
Monday May 6: 2-3
Thursday May 9: 9-10

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294
Upcoming outage, traveling for work: May 13-16

From: Carissa Shoemaker
Sent: Tuesday, April 23, 2024 8:15 AM
To: Mellison, Chad <Chad_Mellison@fws.gov>; Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>; Schlick, Kary - FS, CA <kary.schlick@usda.gov>
Cc: Shannon Luoma <Shannon.Luoma@KleinschmidtGroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Steve Norton <steve.norton@psomas.com>; Brad Blood <bblood@psomas.com>; Matthew Woodhall <Matthew.Woodhall@sce.com>
Subject: Lee Vining Yosemite toad consultation

Hello Chad, Jim, and Kary,

The Lee Vining Project relicensing team is hoping to talk to you about Yosemite toad consultation ahead of our May 14 stakeholder meeting. Please let me know which of these times work best for you to have a call.

Thursday May 2: 11-12
Monday May 6: 2-3
Thursday May 9: 9-10

Scheduling poll

Lee Vining Yosemite toad consultation

1 hour duration

3 time options

Vote **View all your polls**

Thank you!

Carissa Shoemaker
Licensing Coordinator
Kleinschmidt
C: 907-575-0294
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We provide practical **solutions** *for renewable energy, water and environmental projects!*
Upcoming outage, traveling for work: May 13-16

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violate the law and subject the violator to civil or criminal penalties. If you believe you have received this message in error, please notify the sender and delete the email immediately.

From:	Steve Norton
To:	Erdman, James@Wildlife; Matthew Woodhall; Carissa Shoemaker; Shannon Luoma; Brad Blood
Cc:	Buckmaster, Nick@Wildlife
Subject:	RE: Yosemite Toad TEAMS Meeting today?
Date:	Monday, May 6, 2024 2:48:49 PM
Attachments:	image001.png

Hi Jim,
I'm sorry Teams wasn't working out. It was a very short meeting, but we can set up another one if you're interested. We'll send you the meeting minutes regardless, but if you want a phone call if for no other reason than to reduce the number emails you have to go through, just say the word.

I hope you didn't get didn't get snowed out from any plans last weekend!
-Steve

Steve Norton
Vice President / Senior Biologist
Office/Mobile: 714.481.8037

P S O M A S
Explore a career with Psomas

From: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Sent: Monday, May 6, 2024 2:20 PM
To: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Cc: Steve Norton <steve.norton@psomas.com>; Buckmaster, Nick@Wildlife <Nick.Buckmaster@wildlife.ca.gov>
Subject: RE: Yosemite Toad TEAMS Meeting today?

Carissa,
Thanks very much.
CDFW is experiencing issues with the updates to TEAMS.
We are updating to the newest version and TEAMS is not available to me today.
Thanks again for sending an updated announcement.

I am disappointed that I cannot attend this call.
Please extend my apologies to the Yosemite Toad group.
Sierrally

James Erdman
California Department of Fish & Wildlife
Recreational Fisheries & High Mountain Lakes
Office Phone (760)-873-6071
CDFW Cell (760)-567-0413

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Monday, May 6, 2024 2:13 PM
To: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>

Subject: RE: Yosemite Toad TEAMS Meeting today?

WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.

Yes! Chatting now. I just resent the invite. Try that one and let me know if it doesn't work.

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294
Upcoming outage, traveling for work: May 13-16

From: Erdman, James@Wildlife <James.Erdman@wildlife.ca.gov>
Sent: Monday, May 6, 2024 2:07 PM
To: Steve Norton <steve.norton@psomas.com>; Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Subject: Yosemite Toad TEAMS Meeting today?

Hi Carissa and Steve,
I am checking to see if there is a TEAMS meeting today for the FERC Lee Vining Terrestrial 2 Yosemite Toad today?
My calendar has a meeting scheduled at 1400 but I cannot connect?
Thanks for any information.
Sierrally



From:	Steve Norton
To:	Matthew Woodhall; Brad Blood
Cc:	Shannon Luoma; Carissa Shoemaker
Subject:	FW: ANCA - ANBO hybridization study
Date:	Thursday, May 9, 2024 5:43:20 PM
Attachments:	image001.png image002.png image003.png image004.png

FYI, I sent the email below in regards to the hybrid DNA study email chain.
-Steve

Steve Norton
Vice President / Senior Biologist
Office/Mobile: 714.481.8037

P S O M A S
Explore a career with Psomas

From: Steve Norton
Sent: Thursday, May 9, 2024 5:39 PM
To: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>; Grasso, Rob <Rob_Grasso@nps.gov>
Cc: Paul Maier <paulm@genebygene.com>
Subject: RE: ANCA - ANBO hybridization study

Congratulations Jeff and Paul!!
This is a huge accomplishment!

Jeff and Rob,
Let me know if I need to fill out the form for the samples Rob collected to be transferred to Jeff/Paul.

-Steve

Steve Norton
Vice President / Senior Biologist
Office/Mobile: 714.481.8037

P S O M A S
Explore a career with Psomas

From: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>
Sent: Wednesday, May 8, 2024 2:54 PM
To: Van horne, Rachel - FS, NV <rachel.vanhorne@usda.gov>; Holdeman, Steven - FS, CA <steven.holdeman@usda.gov>; Barnes, Stephanie - FS, CA <stephanie.barnes1@usda.gov>; Brown, Cathy - FS, CA <Catherine.Brown@usda.gov>; Grasso, Rob <Rob_Grasso@nps.gov>; scrimdees1@yahoo.com; Steve Norton <steve.norton@psomas.com>; Torres, Thomas - FS, NM <thomas.torres@usda.gov>; srlee@usgs.gov; Danny_Boiano@nps.gov
Cc: Paul Maier <paulm@genebygene.com>
Subject: ANCA - ANBO hybridization study

Hi Yosemite Toad folks,

For those of you that don't know, Paul Maier and I have been working for several years on the ANCA+ANBO hybridization question. At this point we want to let folks that may be interested know that we have successfully built an Anaxyrus boreas × canorus hybrid panel, and identified hybrid toads in Eldorado NF!

However, we believe the northern hybrid zone may extend outside the ENF into StNF and HTNF, and that multiple hybrid zones may exist. To fully address the hybrid question, we are seeking additional funding to fill in sampling gaps in other areas. USFWS has also mentioned interest in generally filling in canorus sampling gaps, which is a secondary goal. We have an established and validated method now, so we only need more samples.

If you can help collect tissue samples (we have some specific locations in mind), please let us know—that would be a huge help! Or if you have locations where you suspect hybridization may be occurring and would like to investigate please let us know and we can discuss including in the sampling effort. We are writing now because we know your 2024 summer field planning is well underway. If you have the capacity to help this season, we are happy to send requested coordinates, and sample collection supplies/instructions ASAP. We can also try to coordinate help if you need someone permitted to collect tissue samples from A. canorus.

This has been a decades-long question, and these results are very exciting! We would really love to flesh out the answer even more!

If you are interested in helping please reach out to me (Jeff) as I will be coordinating the sampling effort here in CA. Paul will be available for any technical questions you may have that I cannot address.

Regards

PAUL MAIER, Ph.D.
Population Geneticist
genebygene.com | familytreedna.com

And



Jeff Mabe, PhD
Aquatic Biologist
Eldorado National Forest
p: (530) 621-5240

jeffrey.mabe@usda.gov

100 Forni Rd.
Placerville, CA 95667
www.fs.fed.us



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From:	Steve Norton
To:	Brad Blood; Matthew Woodhall
Cc:	Shannon Luoma; Carissa Shoemaker
Subject:	FW: ANCA - ANBO hybridization study
Date:	Thursday, May 9, 2024 5:42:05 PM
Attachments:	image001.png image002.png image003.png image004.png

FYI, below are the updated correspondence for the Yosemite/Western toad hybrid DNA study. I sent an email to Jeff, Rob, and Paul that I will also forward shortly.
-Steve

Steve Norton
Vice President / Senior Biologist
Office/Mobile: 714.481.8037

P S O M A S
Explore a career with Psomas

From: Paul Maier <paulm@genebygene.com>
Sent: Thursday, May 9, 2024 11:40 AM
To: Brown, Cathy - FS, CA <Catherine.Brown@usda.gov>
Cc: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>; Van horne, Rachel - FS, NV <rachel.vanhorne@usda.gov>; Holdeman, Steven - FS, CA <steven.holdeman@usda.gov>; Barnes, Stephanie - FS, CA <stephanie.barnes1@usda.gov>; Grasso, Rob <Rob_Grasso@nps.gov>; scrimdees1@yahoo.com; Steve Norton <steve.norton@psomas.com>; Torres, Thomas - FS, NM <thomas.torres@usda.gov>; srlee@usgs.gov; Danny_Boiano@nps.gov
Subject: Re: ANCA - ANBO hybridization study

Thanks all for your eagerness to help!

This is a very exciting project (Rob G once described it as one of the last great mysteries of the Sierra Nevada).

The results do not disappoint, but I won't spoil it :)

I just want to add: We have a wish list of specific coordinates that would help delineate the various hybrid zones, and fill in genomic sampling gaps. Please let us know if you're interested in helping, and we can discuss more over a call.

Sincerely,
Paul

PAUL MAIER, Ph.D.
Population Geneticist
genebygene.com | familytreedna.com

On Thu, May 9, 2024 at 10:51 AM Brown, Cathy - FS, CA <Catherine.Brown@usda.gov> wrote:

> That sounds great!
> Thanks Jeff!
>
> **Cathy Brown, PhD**
> **Sierra Nevada Monitoring Strategy**
> **Amphibian Monitoring Team Leader**
>
> **Forest Service**
> **Stanislaus National Forest**
>
> **209-985-3487**
> **cathy.brown@usda.gov**
>
> Stanislaus National Forest
> 19777 Greenley Rd
> Sonora, CA 95370
> www.fs.fed.us
>
> **Caring for the land and serving people**
>
> ---
>
> **From:** Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>
> **Sent:** Thursday, May 9, 2024 10:43 AM
> **To:** Brown, Cathy - FS, CA <Catherine.Brown@usda.gov>; Van horne, Rachel - FS, NV <rachel.vanhorne@usda.gov>; Holdeman, Steven - FS, CA <steven.holdeman@usda.gov>; Barnes, Stephanie - FS, CA <stephanie.barnes1@usda.gov>; Grasso, Rob <Rob_Grasso@nps.gov>; scrimdees1@yahoo.com; Steve Norton <steve.norton@psomas.com>; Torres, Thomas - FS, NM <thomas.torres@usda.gov>; srlee@usgs.gov; Danny_Boiano@nps.gov
> **Cc:** Paul Maier <paulm@genebygene.com>
> **Subject:** RE: ANCA - ANBO hybridization study
>
> Cathy,
>
> Thanks so much. Paul and I are kinda flying by the seat of our pants right now and trying to figure out how to proceed now that we have a working assay.
>
> The original grant I got was an OHV grant based on toads that were being killed on a jeep trail near our suspected hybrids. So to extend the sampling to the larger area of interest we will need to develop more funding – but I'm already working on that.
>
> Our basic plan right now is to see who is interested in helping, collect as many samples as we can and store them at the Institute for Forestry Genetics here on the Eldo. When we can secure more

funding we will transmit them to the lab for processing.

All that being said, it would probably be wise to have a call with everyone who is interested to try to flesh out a plan. Once I have a good feel for who wants to help I'll try to set up a Teams call.

_Jeff

From: Brown, Cathy - FS, CA <Catherine.Brown@usda.gov>
Sent: Thursday, May 9, 2024 10:32 AM
To: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>; Van horne, Rachel - FS, NV <rachel.vanhorne@usda.gov>; Holdeman, Steven - FS, CA <steven.holdeman@usda.gov>; Barnes, Stephanie - FS, CA <stephanie.barnes1@usda.gov>; Grasso, Rob <Rob_Grasso@nps.gov>; scrimdees1@yahoo.com; Steve Norton <steve.norton@psomas.com>; Torres, Thomas - FS, NM <thomas.torres@usda.gov>; srlee@usgs.gov; Danny_Boiano@nps.gov
Cc: Paul Maier <paulm@genebygene.com>
Subject: RE: ANCA - ANBO hybridization study

Hey Jeff,
This is great!! I am glad USFWS is finally willing to be interested in this.
As you know, SNAMPH's crews go to lots of hard to get to places, and we can definitely help collect samples. We would need to train them, so if you would like us to help, let's figure out a plan.

Thanks!

Cathy

Cathy Brown, PhD
Sierra Nevada Monitoring Strategy
Amphibian Monitoring Team Leader

Forest Service
Stanislaus National Forest

209-985-3487
cathy.brown@usda.gov

Stanislaus National Forest
19777 Greenley Rd
Sonora, CA 95370
www.fs.fed.us



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From: Mabe, Jeffrey - FS, CA <jeffrey.mabe@usda.gov>
Sent: Wednesday, May 8, 2024 2:54 PM
To: Van horne, Rachel - FS, NV <rachel.vanhorne@usda.gov>; Holdeman, Steven - FS, CA

<steven.holdeman@usda.gov>; Barnes, Stephanie - FS, CA <stephanie.barnes1@usda.gov>; Brown, Cathy - FS, CA <Catherine.Brown@usda.gov>; Grasso, Rob <Rob_Grasso@nps.gov>; scrimdees1@yahoo.com; Steve Norton <steve.norton@psomas.com>; Torres, Thomas - FS, NM <thomas.torres@usda.gov>; srlee@usgs.gov; Danny_Boiano@nps.gov
Cc: Paul Maier <paulm@genebygene.com>
Subject: ANCA - ANBO hybridization study

Hi Yosemite Toad folks,

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However, we believe the northern hybrid zone may extend outside the ENF into StNF and HTNF, and that multiple hybrid zones may exist. To fully address the hybrid question, we are seeking additional funding to fill in sampling gaps in other areas. USFWS has also mentioned interest in generally filling in canorus sampling gaps, which is a secondary goal. We have an established and validated method now, so we only need more samples.

If you can help collect tissue samples (we have some specific locations in mind), please let us know—that would be a huge help! Or if you have locations where you suspect hybridization may be occurring and would like to investigate please let us know and we can discuss including in the sampling effort. We are writing now because we know your 2024 summer field planning is well underway. If you have the capacity to help this season, we are happy to send requested coordinates, and sample collection supplies/instructions ASAP. We can also try to coordinate help if you need someone permitted to collect tissue samples from A. canorus.

This has been a decades-long question, and these results are very exciting! We would really love to flesh out the answer even more!

If you are interested in helping please reach out to me (Jeff) as I will be coordinating the sampling effort here in CA. Paul will be available for any technical questions you may have that I cannot address.

Regards

PAUL MAIER, Ph.D.
Population Geneticist
genebygene.com | familytreedna.com

And

Jeff Mabe, PhD
Aquatic Biologist
Eldorado National Forest
p: (530) 621-5240
jeffrey.mabe@usda.gov

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Technical Report Comments

Item #	Date Sent	Stakeholder Group	Type of Correspondence/Consultation Event	Document Type
C-01.1	4/9/2024	TWG Members	2023 Technical Reports distribution to stakeholders for 60-day review (#1)	Email
C-01.2	4/10/2024	Me-Wuk	Response to 2023 Technical Report distribution, updated contact info	Email
C-02.1	4/12/2024	TWG Members	2023 Technical Reports distribution to stakeholders for 60-day review (#2)	Email
C-02.2	4/29/2024	Mono Lake Committee	Mono Lake Committee comments on Technical Report (Channel Geomorphology)	Email
C-03.1	4/15/2024	CDFW	LV 2022 Technical Reports data requests to CDFW (1)	Email
C-03.2	4/15/2024	CDFW	LV 2022 Technical Reports data requests to CDFW (2)	Email
C-04	4/16/2024	TWG Members	2023 Technical Reports distribution to stakeholders for 60-day review (#3)	Email
C-05.1	4/30/2024	USFS	Discussion re 05-14-24 Technical Report Review Meeting	Email
C-05.2	5/9/2024	All Stakeholders	LV 05-14-24 Technical Report Review Meeting Agenda	Email
C-05.3	5/14/2024	Bishop Paiute	Discussion re 05-14-24 Technical Report Meeting format	Email
C-06	5/17/2024	All Stakeholders	Notice of PPT & attendee list for 05-14-24 Technical Report Meeting	Email
C-07.1	5/17/2024	USFS	Discussion re LV Botanical Technical Report data	Email
C-07.2	6/6/2024	USFS	Discussion re LV Botanical Technical Report data (attached as zip file)	Email
C-08	5/28/2024	CDFW	CDFW comments on Terrestrial Wildlife Tech Report (TERR-2)	Email

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Item #	Date Sent	Stakeholder Group	Type of Correspondence/Consultation Event	Document Type
C-09.1	6/7/2024	CDFW; USFS; CA State Water Board; Mono Lake Committee; Kleinschmidt; SCE	Notice re: Operations Model Technical Report for review	Email
C-09.2	6/14/2024	CDFW	Discussion re HEC-RAS Model meeting scheduling with CDFW	Email
C-09.3	6/27/2024	CDFW; USFS; CA State Water Board; Mono Lake Committee; Kleinschmidt; SCE	MLC follow up questions after second Operations Model meeting	Email
C-09.4	7/5/2024	Mono Lake Committee	Email re: fileshare link for HEC-RAS model	Email
C-10	6/10/2024	Mono Lake Committee	Discussion re MLC comments on Technical Reports	Email
C-11	6/11/2024	USFWS	USFWS comments on Technical Reports	Email
C-12	6/11/2024	Mono Lake Committee	MLC comments on Technical Reports	Email
C-13	6/11/2024	CA State Water Board	CA State Water Board comments on Technical Reports	Letter
C-14	6/12/2024	USFS	USFS comments on Technical Reports	Email
C-15.1	6/18/2024	CDFW	Meeting invite to CDFW for HEC-RAS Model review	Email
C-15.2	6/20/2024	CDFW	Email re: fileshare link for HEC-RAS model	Email
C-16	6/27/2024	USFS	Discussion re USFS campground occupancy rates for 2021 and 2022 seasons	Email

CA = California; CDFW = California Department of Fish and Wildlife; HEC-RAS = Hydrologic Engineering Center River Analysis System; LV = Lee Vining; MLC = Mono Lake Committee; PPT = PowerPoint; SCE = Southern California Edison; TWG = Technical Working Group; USFS = U.S. Fish and Wildlife; USFWS = U.S. Fish and Wildlife Service

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TJ Wiggs

From: Carissa Shoemaker
Sent: Tuesday, April 9, 2024 9:38 PM
To: adam.barnett@usda.gov; adam.cohen@waterboards.ca.gov; Adam.Perez@ladwp.com; Alisa.Ellsworth@wildlife.ca.gov; Alyssa.Hockaday@Wildlife.ca.gov; andrea@accessfund.org; ashley.blythehaverstock@usda.gov; bartshe@monolake.org; beth.lawson@wildlife.ca.gov; bryan.muro@waterboards.ca.gov; Bryant.Luu@wildlife.ca.gov; Chad_Mellison@fws.gov; clerkrecorder@mono.ca.gov; courtney.rowe@usda.gov; cshutes@calsport.org; culture@bridgeportindiancolony.com; curator@monobasinhistory.org; dannon.dirgo@usda.gov; meryl.picard@bishoppaiute.org; darren.delgado@bishoppaiute.org; cheyenne.stone@bigpinepaiute.org; rfuller@mewuk.com; chair@bridgeportindiancolony.com; THPO@WashoeTribe.us; easternsierraartist@gmail.com; eric.tillemans@ladwp.com; erik@accessfund.org; kutzanuumu@yahoo.com; nayanake@comcast.net; patsiata@yahoo.com; kathybancroft@gmail.com; ssmiwuknation@gmail.com; sandra47roy@gmail.com; carl@fortindependence.com; secretary@southernsierramiwuknation.org; Rwgoode911@hotmail.com; d.gutierrez@bigpinepaiute.org; char54lange@gmail.com; chair@monolaketribe.us; s.manning@bigpinepaiute.org; cmcdonald@nfr-nsn.gov; jon@mewuk.com; lucy_basket4@yahoo.com; claymiwumati@gmail.com; s.saulque@bentontribe.org; falconkeeper22@gmail.com; serrell.smokey@washoetribe.us; dtonenna@gmail.com; dtonenna@monolaketribe.us; events@mammothmuseum.org; geoff@monolake.org; graham.meese@wildlife.ca.gov; greg@monolake.org; Jacqueline.beidl@usda.gov; Jameisha.Washington@usda.gov; James.Erdman@wildlife.ca.gov; jennifer.watts@waterboards.ca.gov; justin_barrett@fws.gov; kary.schlick@usda.gov; kary.schlick@usda.gov; katie@accessfund.org; kayla@friendsoftheinyo.org; lilian_jonas@contractor.nps.gov; michael.tovar@wildlife.ca.gov; michael.wiese@usda.gov; monique.sanchez@usda.gov; nathan.sill@usda.gov; Nick.Buckmaster@wildlife.ca.gov; parker.thaler@Waterboards.ca.gov; Patricia.Moyer@Wildlife.ca.gov; Rajaa.Hassan@waterboards.ca.gov; Richard.McNeill@usda.gov; ryan.cooper@wildlife.ca.gov; Saeed.Jorat@ladwp.com; sb@snowhydrology.com; sheila.irons@usda.gov; stephanie.heller@usda.gov; stephen_bowes@nps.gov; todd.ellsworth@usda.gov; tristan.leong@usda.gov; Wilfred.Nabahe@usda.gov
Cc: Matthew Woodhall; Martin Ostendorf; Shannon Luoma; Finlay Anderson; Kelly Larimer; Angela Whelpley; Hannah Gorin; Bret Hoffman; Isha Deo; Ethan Muhlestein; Steve Norton; Brad Blood; Allison Rudalevige; Heather Neff; Ian Pryor; Matt McKechnie; Christina Buck; Noah Hume
Subject: Lee Vining Hydro 2023 Draft Technical Reports for review

Hello Lee Vining Technical Working Group members,

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C-01.1_LV Technical Reports for review

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Kleinschmidt's project manager: Shannon Luoma Shannon.Luoma@Kleinschmidtgroup.com

Thank you

Carissa Shoemaker
Licensing Coordinator
Kleinschmidt
C: 907-575-0294
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TJ Wiggs

From: Reba Fuller <rfuller@mewuk.com>
Sent: Wednesday, April 10, 2024 8:44 AM
To: Carissa Shoemaker
Cc: Kyle Cox
Subject: RE: [EXTERNAL] Lee Vining Hydro 2023 Draft Technical Reports for review

Follow Up Flag: Follow up
Flag Status: Completed

You don't often get email from rfuller@mewuk.com. Learn why this is important

Good Morn, please remove my name from your list. The new contact for this project will be Kyle Cox who is the manager of the cultural department. He can be reached at kyle@mewuk.com.
Good luck on your project.
Reba Fuller

From: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Sent: Tuesday, April 9, 2024 8:38 PM
To: adam.barnett@usda.gov; adam.cohen@waterboards.ca.gov; Adam.Perez@ladwp.com; Alisa.Ellsworth@wildlife.ca.gov; Alyssa.Hockaday@Wildlife.ca.gov; andrea@accessfund.org; ashley.blythehaverstock@usda.gov; bartshe@monolake.org; beth.lawson@wildlife.ca.gov; bryan.muro@waterboards.ca.gov; Bryant.Luu@wildlife.ca.gov; Chad_Mellison@fws.gov; clerkrecorder@mono.ca.gov; courtney.rowe@usda.gov; cshutes@calsport.org; culture@bridgeportindiancolony.com; curator@monobasinhistory.org; dannon.dirgo@usda.gov; meryl.picard@bishoppaiute.org; darren.delgado@bishoppaiute.org; cheyenne.stone@bigpinepaiute.org; Reba Fuller <rfuller@mewuk.com>; chair@bridgeportindiancolony.com; THPO@WashoeTribe.us; easternsierraartist@gmail.com; eric.tillemans@ladwp.com; erik@accessfund.org; kutzanuumu@yahoo.com; nayanake@comcast.net; patsiata@yahoo.com; kathybancroft@gmail.com; ssmiwuknation@gmail.com; sandra47roy@gmail.com; carl@fortindependence.com; secretary@southernsierramiwuknation.org; Rwgoode911@hotmail.com; d.gutierrez@bigpinepaiute.org; char54lange@gmail.com; chair@monolaketribe.us; s.manning@bigpinepaiute.org; cmcdonald@nfr-nsn.gov; Jon Otterson <jon@mewuk.com>; lucy_basket4@yahoo.com; claymiwumati@gmail.com; s.saulque@bentontribe.org; falconkeeper22@gmail.com; serrell.smokey@washoetribe.us; dtonenna@gmail.com; dtonenna@monolaketribe.us; events@mammothmuseum.org; geoff@monolake.org; graham.meese@wildlife.ca.gov; greg@monolake.org; Jacqueline.beidl@usda.gov; Jameisha.Washington@usda.gov; James.Erdman@wildlife.ca.gov; jennifer.watts@waterboards.ca.gov; justin_barrett@fws.gov; kary.schlick@usda.gov; kary.schlick@usda.gov; katie@accessfund.org; kayla@friendsoftheinyo.org; lilian_jonas@contractor.nps.gov; michael.tovar@wildlife.ca.gov; michael.wiese@usda.gov; monique.sanchez@usda.gov; nathan.sill@usda.gov; Nick.Buckmaster@wildlife.ca.gov; parker.thaler@Waterboards.ca.gov; Patricia.Moyer@Wildlife.ca.gov; Rajaa.Hassan@waterboards.ca.gov; Richard.McNeill@usda.gov; ryan.cooper@wildlife.ca.gov; Saeed.Jorat@ladwp.com; sb@snowhydrology.com; sheila.irons@usda.gov; stephanie.heller@usda.gov; stephen_bowes@nps.gov; todd.ellsworth@usda.gov; tristan.leong@usda.gov; Wilfred.Nabahe@usda.gov
Cc: Matthew Woodhall <Matthew.Woodhall@sce.com>; Martin Ostendorf <martin.ostendorf@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Kelly Larimer <Kelly.Larimer@KleinschmidtGroup.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Hannah Gorin <Hannah.Gorin@kleinschmidtgroup.com>; Bret Hoffman <Bret.Hoffman@KleinschmidtGroup.com>; Isha Deo <Isha.Deo@Kleinschmidtgroup.com>; Ethan Muhlestein <Ethan.Muhlestein@KleinschmidtGroup.com>; Steve Norton <steve.norton@psomas.com>; Brad Blood <bblood@psomas.com>; Allison Rudalevige <allison.rudalevige@psomas.com>; Heather Bowen Neff <heather@stillwatersci.com>; Ian Pryor

<Ian@stillwatersci.com>; Matt McKechnie <mmckechnie@stillwatersci.com>; Christina Buck <cbuck@stillwatersci.com>; Noah Hume <noah@stillwatersci.com>
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Kleinschmidt's project manager: Shannon Luoma Shannon.Luoma@Kleinschmidtgroup.com

Thank you

Carissa Shoemaker
Licensing Coordinator
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TJ Wiggs

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Sent: Friday, April 12, 2024 2:15 PM
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Cc: Matthew Woodhall; Martin Ostendorf; Shannon Luoma; Finlay Anderson; Kelly Larimer; Angela Whelpley; Hannah Gorin; Bret Hoffman; Isha Deo; Ethan Muhlestein; Steve Norton; Brad Blood; Allison Rudalevige; Heather Neff; Ian Pryor; Matt McKechnie; Christina Buck; Noah Hume
Subject: Lee Vining Hydro 2023 Draft Technical Reports for review (#2)

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Let us know if you have any questions.

SCE's project manager: Matthew Woodhall Matthew.Woodhall@sce.com
Kleinschmidt's project manager: Shannon Luoma Shannon.Luoma@Kleinschmidtgroup.com

Thank you

Carissa Shoemaker
Licensing Coordinator
Kleinschmidt
C: 907-575-0294
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TJ Wiggs

From: Carissa Shoemaker
Sent: Monday, April 29, 2024 11:49 AM
To: Greg Reis
Cc: Bartshe Miller; Robert Di Paolo; Shannon Luoma
Subject: RE: Lee Vining Hydro 2023 Draft Technical Reports for review (#2)

Thank you for the comments, Greg!

Carissa Shoemaker
Licensing Coordinator
www.kleinschmidtgroup.com
907-575-0294
Upcoming outage, traveling for work: May 13-16

From: Greg Reis <greg@monolake.org>
Sent: Saturday, April 27, 2024 6:40 AM
To: Carissa Shoemaker <Carissa.Shoemaker@KleinschmidtGroup.com>
Cc: Bartshe Miller <bartshe@monolake.org>; Robert Di Paolo <robbie@monolake.org>
Subject: RE: Lee Vining Hydro 2023 Draft Technical Reports for review (#2)

The following are my comments on the geomorphology report

- Figure 3.2-1 shows a period of time in March when Total SCE was much higher than LADWP. Please explain how this is possible, and if one of the traces is likely erroneous, which one and why?
- Table 3.3-1 refers to SCE and USGS gauges. These gauges should be shown on the map, and the footnote should note what flow path is being measured by each gauge. If one of the gauges matches "Total SCE" in Figure 3.2-1, that should be noted.
- The peak discharge of 470 cfs noted on page 11 is higher than the peak shown for "Total SCE" in Figure 3.2-1.
- I recommend separate analysis of the cross section data focused on stages that occur during typical hydropeaking resource optimization operations. These frequent repeated fluctuations in a similar stage range could be impacting the morphology, benthic macroinvertebrate community, and vegetation community in these ranges.

Greg Reis, Information & Restoration Specialist, Mono Lake Committee
(760) 647-6386 x141 (direct/voicemail) | 415-342-6390 (mobile)
Hwy 395 at Third St, PO Box 29, Lee Vining, CA 93541
www.monolake.org | www.monobasinresearch.org

Saving Mono Lake for future generations through protection, restoration, education, and science.
Long Live Mono Lake!

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courtney.rowe@usda.gov; cshutes@calsport.org; culture@bridgeportindiancolony.com; curator@monobasinhistory.org; dannon.dirgo@usda.gov; meryl.picard@bishoppaiute.org; darren.delgado@bishoppaiute.org; cheyenne.stone@bigpinepaiute.org; chair@bridgeportindiancolony.com; THPO@WashoeTribe.us; easternsierraartist@gmail.com; eric.tillemans@ladwp.com; erik@accessfund.org; kutzanuumu@yahoo.com; nayanake@comcast.net; patsiata@yahoo.com; kathybancroft@gmail.com; ssmiwuknation@gmail.com; sandra47roy@gmail.com; carl@fortindependence.com; secretary@southernsierramiwuknation.org; Rwgoode911@hotmail.com; d.gutierrez@bigpinepaiute.org; kyle@mewuk.com; char54lange@gmail.com; chair@monolaketribe.us; s.manning@bigpinepaiute.org; cmcdonald@nfr-nsn.gov; jon@mewuk.com; lucy_basket4@yahoo.com; claymiwumati@gmail.com; s.saulque@bentontribe.org; falconkeeper22@gmail.com; serrell.smokey@washoetribe.us; dtonenna@gmail.com; dtonenna@monolaketribe.us; events@mammothmuseum.org; Geoffrey McQuilkin <geoff@monolake.org>; graham.meese@wildlife.ca.gov; Greg Reis <greg@monolake.org>; Jacqueline.beidl@usda.gov; Jameisha.Washington@usda.gov; James.Erdman@wildlife.ca.gov; jennifer.watts@waterboards.ca.gov; justin_barrett@fws.gov; kary.schlick@usda.gov; kary.schlick@usda.gov; katie@accessfund.org; kayla@friendsoftheinyo.org; lilian_jonas@contractor.nps.gov; michael.tovar@wildlife.ca.gov; michael.wiese@usda.gov; monique.sanchez@usda.gov; nathan.sill@usda.gov; Nick.Buckmaster@wildlife.ca.gov; parker.thaler@Waterboards.ca.gov; Patricia.Moyer@Wildlife.ca.gov; Rajaa.Hassan@waterboards.ca.gov; ryan.cooper@wildlife.ca.gov; Saeed.Jorat@ladwp.com; sb@snowhydrology.com; sheila.irons@usda.gov; stephanie.heller@usda.gov; todd.ellsworth@usda.gov; tristan.leong@usda.gov; Wilfred.Nabahe@usda.gov
Cc: Matthew Woodhall <Matthew.Woodhall@sce.com>; Martin Ostendorf <martin.ostendorf@sce.com>; Shannon Luoma <Shannon.Luoma@Kleinschmidtgroup.com>; Finlay Anderson <finlay.anderson@kleinschmidtgroup.com>; Kelly Larimer <Kelly.Larimer@KleinschmidtGroup.com>; Angela Whelpley <Angela.Whelpley@KleinschmidtGroup.com>; Hannah Gorin <Hannah.Gorin@kleinschmidtgroup.com>; Bret Hoffman <Bret.Hoffman@KleinschmidtGroup.com>; Isha Deo <Isha.Deo@Kleinschmidtgroup.com>; Ethan Muhlestein <Ethan.Muhlestein@KleinschmidtGroup.com>; Steve Norton <steve.norton@psomas.com>; Brad Blood <bblood@psomas.com>; Allison Rudalevige <allison.rudalevige@psomas.com>; Heather Bowen Neff <heather@stillwatersci.com>; Ian Pryor <Ian@stillwatersci.com>; Matt McKechnie <mmckechnie@stillwatersci.com>; Christina Buck <cbuck@stillwatersci.com>; Noah Hume <noah@stillwatersci.com>
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TJ Wiggs

From: Carissa Shoemaker
Sent: Monday, April 15, 2024 2:01 PM
To: 'Rose.Banks@wildlife.ca.gov'; 'Nick.Buckmaster@wildlife.ca.gov'; 'ryan.cooper@wildlife.ca.gov'; 'Alisa.Ellsworth@wildlife.ca.gov'; 'James.Erdman@wildlife.ca.gov'; 'Alyssa.Hockaday@Wildlife.ca.gov'; 'beth.lawson@wildlife.ca.gov'; 'Bryant.Luu@wildlife.ca.gov'; 'graham.meese@wildlife.ca.gov'; 'Patricia.Moyer@Wildlife.ca.gov'; 'steve.parmenter@wildlife.ca.gov'; 'michael.tovar@wildlife.ca.gov'; 'Brandy.Wood@Wildlife.ca.gov'
Cc: Shannon Luoma; 'Matthew Woodhall'; Finlay Anderson
Subject: Lee Vining 2022 Draft Technical Reports data requests to CDFW

Apologies if you got this multiple times, but I got some bounce backs and wanted to ensure it was received by all. I've included the data requests at this OneDrive link as another way to access the information: LV 2022 Tech Report Data Share with CDFW

Hello CDFW,

The Lee Vining relicensing team has reviewed your comments on the Lee Vining 2022 Draft Technical Reports. Comments on the 2022 reports have been incorporated into the 2023 Draft Reports, as appropriate. We have compiled the data and documents you requested in your comments and have attached them here in zip files and Adobe PDF links. Please let me know if you have trouble opening these or have any other questions.

Thank you!

Carissa Shoemaker
Licensing Coordinator
Kleinschmidt
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From: Carissa Shoemaker
Sent: Monday, April 15, 2024 10:49 AM
To: 'Rose.Banks@wildlife.ca.gov'; 'Nick.Buckmaster@wildlife.ca.gov'; 'ryan.cooper@wildlife.ca.gov'; 'Alisa.Ellsworth@wildlife.ca.gov'; 'James.Erdman@wildlife.ca.gov'; 'Alyssa.Hockaday@Wildlife.ca.gov'; 'beth.lawson@wildlife.ca.gov'; 'Bryant.Luu@wildlife.ca.gov'; 'graham.meese@wildlife.ca.gov'; 'Patricia.Moyer@Wildlife.ca.gov'; 'steve.parmenter@wildlife.ca.gov'; 'michael.tovar@wildlife.ca.gov'; 'Brandy.Wood@Wildlife.ca.gov'
Cc: Shannon Luoma; 'Matthew Woodhall'; Finlay Anderson
Subject: Lee Vining 2022 Draft Technical Reports data requests to CDFW
Attachments: Aquatics spatial data.zip; Botanical spatial data.zip; Other spatial data.zip; Riparian data.zip

Hello CDFW,

The Lee Vining relicensing team has reviewed your comments on the Lee Vining 2022 Draft Technical Reports. Comments on the 2022 reports have been incorporated into the 2023 Draft Reports, as appropriate. We have compiled the data and documents you requested in your comments and have attached them here in zip files and Adobe PDF links. Please let me know if you have trouble opening these or have any other questions.

Sales Agreement and Management Plans:
Sales Agreement 1933.pdf
SCE 2022 Wildfire Mitigation Plan Update.pdf
SCE Avian Protection Plan.pdf
SCE Cond 10 Spoil Disposal Plan.pdf
SCE Invasive Mussel Plan FINAL 20170725.pdf
SCE Vegetation Management (VM-3) Program Guide.pdf
SCE Vegetation Management Operations Manual (VMOM).pdf

Riparian monitoring reports:
1999-2001 Lee Vining Baseline Riparian Monitoring Report.pdf
2006 Lee Vining Riparian Report.pdf
2011 Lee Vining Riparian, Aquatic, Fish Monitoring Report.pdf
2016 Lee Vining Riparian Report.pdf
2021 Lee Vining Riparian Report.pdf

Thank you!

Carissa Shoemaker
Licensing Coordinator
Kleinschmidt
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Follow us on LinkedIn
We provide practical **solutions** *for renewable energy, water and environmental projects!*

TJ Wiggs

From: Carissa Shoemaker
Sent: Tuesday, April 16, 2024 12:30 PM
To: 'adam.barnett@usda.gov'; 'adam.cohen@waterboards.ca.gov'; 'Adam.Perez@ladwp.com'; 'Alisa.Ellsworth@wildlife.ca.gov'; 'Alyssa.Hockaday@Wildlife.ca.gov'; 'andrea@accessfund.org'; 'ashley.blythehaverstock@usda.gov'; 'bartshe@monolake.org'; 'beth.lawson@wildlife.ca.gov'; 'bryan.muro@waterboards.ca.gov'; 'Bryant.Luu@wildlife.ca.gov'; 'Chad_Mellison@fws.gov'; 'clerkrecorder@mono.ca.gov'; 'courtney.rowe@usda.gov'; 'cshutes@calsport.org'; 'culture@bridgeportindiancolony.com'; 'curator@monobasinhistory.org'; 'dannon.dirgo@usda.gov'; 'meryl.picard@bishoppaiute.org'; 'darren.delgado@bishoppaiute.org'; 'cheyenne.stone@bigpinepaiute.org'; 'chair@bridgeportindiancolony.com'; 'THPO@WashoeTribe.us'; 'easternsierraartist@gmail.com'; 'eric.tillemans@ladwp.com'; 'erik@accessfund.org'; 'kutzanuumu@yahoo.com'; 'nayanake@comcast.net'; 'patsiata@yahoo.com'; 'kathybancroft@gmail.com'; 'ssmiwuknation@gmail.com'; 'sandra47roy@gmail.com'; 'carl@fortindependence.com'; 'secretary@southernsierramiwuknation.org'; 'Rwgoode911@hotmail.com'; 'd.gutierrez@bigpinepaiute.org'; 'kyle@mewuk.com'; 'char54lange@gmail.com'; 'chair@monolaketribe.us'; 's.manning@bigpinepaiute.org'; 'cmcdonald@nfr-nsn.gov'; 'jon@mewuk.com'; 'lucy_basket4@yahoo.com'; 'claymiwumati@gmail.com'; 's.saulque@bentontribe.org'; 'falconkeeper22@gmail.com'; 'serrell.smokey@washoetribe.us'; 'dtonenna@gmail.com'; 'dtonenna@monolaketribe.us'; 'events@mammothmuseum.org'; 'geoff@monolake.org'; 'graham.meese@wildlife.ca.gov'; 'greg@monolake.org'; 'Jacqueline.beidl@usda.gov'; 'Jameisha.Washington@usda.gov'; 'James.Erdman@wildlife.ca.gov'; 'jennifer.watts@waterboards.ca.gov'; 'justin_barrett@fws.gov'; 'kary.schlick@usda.gov'; 'kary.schlick@usda.gov'; 'katie@accessfund.org'; 'kayla@friendsoftheinyo.org'; 'lilian_jonas@contractor.nps.gov'; 'michael.tovar@wildlife.ca.gov'; 'michael.wiese@usda.gov'; 'monique.sanchez@usda.gov'; 'nathan.sill@usda.gov'; 'Nick.Buckmaster@wildlife.ca.gov'; 'parker.thaler@Waterboards.ca.gov'; 'Patricia.Moyer@Wildlife.ca.gov'; 'Rajaa.Hassan@waterboards.ca.gov'; 'ryan.cooper@wildlife.ca.gov'; 'Saeed.Jorat@ladwp.com'; 'sb@snowhydrology.com'; 'sheila.irons@usda.gov'; 'stephanie.heller@usda.gov'; 'todd.ellsworth@usda.gov'; 'tristan.leong@usda.gov'; 'Wilfred.Nabahe@usda.gov'
Cc: 'Matthew Woodhall'; 'Martin Ostendorf'; Shannon Luoma; Finlay Anderson; Kelly Larimer; Angela Whelpley; Hannah Gorin; Bret Hoffman; Isha Deo; Ethan Muhlestein; 'Steve Norton'; 'Brad Blood'; 'Allison Rudalevige'; 'Heather Neff'; 'Ian Pryor'; 'Matt McKechnie'; 'Christina Buck'; 'Noah Hume'
Subject: Lee Vining Hydro 2023 Draft Technical Reports for review (#3)

Hello Lee Vining Technical Working Group members,

The Lee Vining Hydroelectric Project Relicensing Team has drafted several Technical Reports summarizing data collected in the 2022 and 2023 studies. These draft reports are all now available for your review:

- General Wildlife Resources Survey (TERR-2) at: LV_TERR-2_Wildlife_Tech_Report.pdf

Provided last week:

- Aquatic Habitat Mapping and Sediment Characterization (AQ-3) at: LV_AQ-3_Aquatic Habitat_Sediment_Tech_Report.pdf

- Aquatic Invasive Plants Survey (AQ-4) at: LV_AQ-4_Aquatic_Invasive_Plants_Tech_Report.pdf
- Operations and Hydrology Model (AQ-5) at: LV_AQ-5_Ops Model_Tech Report.pdf
- Lower Lee Vining Creek Channel Morphology (AQ-6) at: LV_AQ-6_Channel_Morph_Tech_Report.pdf
- Stream and Reservoir Water Quality Study (WQ-1) at: LV_WQ-1_Water Quality_Tech_Report.pdf
- General Botanical Resources Survey (TERR-1) at: LV_TERR-1_Botanical_Tech_Report.pdf
- Project Lands and Roads Assessment (LAND-1) at: LV_LAND-1_Project Lands_Tech_Report.pdf
- Aesthetic Resources Study (LAND-2) at: LV_LAND-2_Aesthetics_Tech_Report.pdf
- Facilities Condition Assessment (REC-2) at: LV_REC-2_Facilities_Condition_Tech_Report.pdf

These draft reports are being distributed for a 60-day review. Comments received will be reviewed and incorporated into the Final Technical Reports as appropriate, to be filed with the Draft License Application in September. Please send us your comments and questions by June 11.
We plan to discuss these Draft Technical Reports with you on May 14 at our in-person meeting in Lee Vining, please reach out if you do not have this invitation.

Let us know if you have any questions.

SCE's project manager: Matthew Woodhall Matthew.Woodhall@sce.com
Kleinschmidt's project manager: Shannon Luoma Shannon.Luoma@Kleinschmidtgroup.com

Thank you

Carissa Shoemaker
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