

ATTACHMENT A: LONG-TERM OPERATING RULES WITH
LTOR MONITORING PLAN

Southern California Edison

Big Creek No. 4 Hydroelectric Project (FERC Project No. 2017)

**San Joaquin River – Horseshoe Bend Reach
Long-Term Operating Rules**

August 2019

Table of Contents

1.0	Introduction	1
2.0	Spill Year and Non-Spill Year Boating Flows and Down Ramping from Dam 7 into the Horseshoe Bend Reach of the San Joaquin River	2
2.1	Spill Year Schedule D – Boating Flows and Down Ramping of Spill Flows	6
2.2	Spill Year Schedule C or B (High Storage) Boating Flows and Down Ramping of Spill Flows	7
2.3	Spill Year Schedule A or B (Low Storage) Boating Flows and Down Ramping of Spill Flows	9
2.4	Non-Spill Year Boating Flows and Down Ramping from Dam 7 into the Horseshoe Bend Reach of the San Joaquin River	10
2.5	Stranding Protection Down Ramping	12
2.6	Testing of Spill and Non-Spill Year Operations	13
3.0	Other Spill Considerations	13
3.1	Spills September 1 to October 31	13
3.2	Short-term Large Woody Debris Management Spills	14
4.0	Monitoring.....	15
5.0	Minimum Instream Flow	15
6.0	Consultation	16
7.0	References.....	17

List of Appendices

- Appendix A: List of Technical Studies Used in Development of the Long-Term Operating Rules
- Appendix B: Mammoth Pool Operating Contract Flow Diagram
- Appendix C: Whitewater Boating Opportunity Day Definitions
- Appendix D: Long-term Operating Rules Monitoring Plan

List of Acronyms

AF	acre-feet
AGC	Automated Generation Control
AMP	Adaptive Management Plan
BCS	Big Creek System
CDFW	California Department of Fish and Wildlife
cfs	cubic feet per second
DWR	Department of Water Resources
FERC	Federal Energy Regulatory Commission
ISO	Independent System Operator
LTOR	Long-Term Operating Rules
LWD	Large Woody Debris
MIF	Minimum Instream Flow
MPOC	Mammoth Pool Operating Contract
NASMP	Native Aquatic Species Management Plan
Reclamation	U.S. Bureau of Reclamation
SCE	Southern California Edison
SWRCB	State Water Resources Control Board
TRG	Technical Review Group
USFS	U.S. Forest Service
USGS	U.S. Geological Survey

1.0 Introduction

This document presents the Long-Term Operating Rules (LTOR) for river flows for the Horseshoe Bend Reach of the San Joaquin River, which is the 6.3-mile bypass reach of Southern California Edison's (SCE or Licensee) Big Creek No. 4 Hydroelectric Project (Big Creek No. 4 Project). The Big Creek No. 4 Project is the lower-most project of SCE's Big Creek System (BCS), which includes nine powerhouses with six reservoirs operating under the authority of seven separate Federal Energy Regulatory Commission (FERC) licenses. The BCS has a total storage capacity in all of its reservoirs of about 560,000 acre-feet (AF). The San Joaquin River annual average natural runoff in the watershed is approximately 1.8 million AF. Major features of the Big Creek No. 4 Project consist of Dam 7, which impounds Redinger Lake; a diversion and penstock and tunnel; and the Big Creek No. 4 Powerhouse. Water is diverted from Redinger Lake to the Big Creek No. 4 Powerhouse located approximately 6.3 miles downstream. Redinger Lake has a current estimated storage capacity of 24,751 AF (not including dead storage) and the Big Creek No. 4 Powerhouse has a capacity of about 3,500 cubic feet per second (cfs). The Big Creek No. 4 Project is operated to generate power based on water availability and energy demand of SCE's customers and the California Independent System Operator (ISO). Operations are generally carried-out under ISO automated generation control (AGC) to control the power output of electric generators for grid stability.

The Big Creek No. 4 Project FERC License (issued December 2003) required development of an *Adaptive Management Plan for River Flows* (Adaptive Management Plan or AMP) (SCE 2008a). The AMP established a framework for providing flows for whitewater recreation, while protecting native fish, reptiles, and the aquatic community. The AMP required development of LTOR for the Project upon completion of whitewater, biological, and operational studies. The biological components of the AMP were integrated into the *Native Aquatic Species Management Plan* (NASMP) (SCE 2008b). These plans were implemented on September 30, 2009 with approval by the FERC, U.S. Forest Service (USFS), and State Water Resources Control Board (SWRCB). The data developed from the implementation of the AMP, NASMP, and associated studies (Appendix A) were used to develop the LTOR. The LTOR also considered the following Project constraints:

- Project infrastructure capabilities, including: (1) the minimum flow release provided by the fish water generator flow outlet with current operational constraints of 40-50 cfs (maximum release capacity of approximately 70 cfs); (2) limited Redinger Lake storage available for release from the spill gates of 12,200¹ AF; (3) limited spill gate control of approximately 150-200 cfs increments; and (4) planned and unplanned outages;
- Integrated operations of the Dam 7 spill gates and the Big Creek No. No. 4 Powerhouse;
- Power generation and grid stabilization (automated grid control);
- Minimum instream flow (MIF) or other release requirements;
- Minimum reservoir elevations at certain periods;
- Inflow and inflow forecasting;

¹ Approximately 12,220 AF of storage is available in Redinger Reservoir for providing boating flows and down ramping. However, the available storage decreases to 4,620 AF if functionality of the boat ramp is maintained.

- Public safety; and
- Downstream water rights (Mammoth Pool Operating Contract² [MPOC]) (Appendix B).

The LTOR were developed in consultation with SCE and the Big Creek No. 4 Project Technical Review Group³ (TRG) based on nine years of post-license study and analysis. SCE and the TRG balanced Project constraints with the objective to provide consistent boating opportunities while promoting the native aquatic species assemblage. Based on current available information, SCE and the TRG determined that balance would be best met by the following:

- In wet years (with long duration spills), the LTOR prescribe down ramping of spills to mimic the natural hydrograph (enhance the aquatic community) and increase whitewater boating opportunities (refer to Appendix C for whitewater boating opportunity day definitions);
- In drier years (with short duration spills), the LTOR prescribe management of spills to provide whitewater boating opportunities and prevent fish stranding by down ramping the spill;
- In the driest years (non-spill years), the LTOR prescribe flow releases on a scheduled weekend to enhance whitewater boating opportunities and prevent fish stranding by down ramping the release;
- Flow and water temperature monitoring every year;
- Biological monitoring in the first two years following adoption of the LTOR, with a requirement for monitoring in Year 3, if the first two years do not include both a spill and non-spill year. After which, biological monitoring will occur every five years for the term of the license including license extensions; and
- Ongoing consultation with the TRG over the term of the license including any license extensions⁴.

The requirements identified in this document (LTOR), once approved by FERC, will replace all requirements identified in the NASMP and AMP.

2.0 Spill Year and Non-Spill Year Boating Flows and Down Ramping from Dam 7 into the Horseshoe Bend Reach of the San Joaquin River

Spill Years

- The Licensee will provide spill year boating flows and down ramping of spills from May 1 through August 31.
- Spill years are defined as years when (1) average daily flow below Dam 7 at U.S. Geological Survey (USGS) Gage No. 11242000 is projected to exceed 500 cfs based on the Licensee's May 1 average daily flow forecast (May 1 forecast) and a spill actually occurs that exceeds 500 cfs between May 1 and August 31 or (2) a spill that exceeds 500 cfs was not projected based on the Licensee's May 1 forecast, but a spill (average

² The Mammoth Pool Operating Contract is a contract between SCE and the U.S. Bureau of Reclamation that constrains SCE's Big Creek System operations to protect downstream water rights (Appendix B).

³ The Technical Review Group included federal and state resource agencies, Native American tribes, non-governmental organizations, and members of the public.

⁴ The consultation may result in recommendations to modify or further evaluate the LTOR (including monitoring requirements), as appropriate based on monitoring results (adaptive management).

daily flow below Dam 7 at USGS Gage No. 11242000 exceeds 500 cfs) occurs prior to implementation of a non-spill year boating flow (see the Non-Spill Years section below)⁵. Other spills are addressed in the Other Spill Events section below.

- A short-term pulse flow release to flush large woody debris (LWD) from the face of the dam downstream into the Horseshoe Bend Reach of the San Joaquin River (Section 3.2) does not constitute a spill.
- In the spill years, boating flows and down ramps will be based on the water year type schedules A-D in the Mammoth Pool Contract (Appendix B):

Schedule	Criteria
A	April Forecast of Friant Natural Runoff during April-July not more than 650,000 AF
B (Low Storage)	April Forecast of Friant Natural Runoff during April-July more than 650,000 AF and Water Year Forecast Runoff not more than 1,200,000 AF with a September aggregate storage requirement <325,000 AF
B (High Storage)	April Forecast of Friant Natural Runoff during April-July more than 650,000 AF and Water Year Forecast Runoff not more than 1,200,000 AF with a September aggregate storage requirement ≥325,000 AF
C	April Forecast of Friant Natural Runoff during water year more than 1,200,000 AF but not more than 1,600,000 AF
D	April Forecast of Friant Natural Runoff during water year more than 1,600,000 AF

Non-Spill Years

- The Licensee will provide non-spill year boating flows and down ramping of boating flows (regardless of water year type) from May 15 through June 15.
- Non-spill years are defined as years when average daily flow below Dam 7 at USGS Gage No. 11242000 is projected to not exceed 500 cfs between May 1 and August 31 based on the Licensee's May 1 forecast and a spill (average daily flow below Dam 7 at USGS Gage No. 11242000 exceeds 500 cfs) does not occur prior to implementation of a non-spill year boating flow.

Other Spill Events

- Other spill events in the May 1 to October 31 time period that are not captured in the Spill Years or Non-Spill Years definitions above are addressed in Sections 2.1 to 2.5 below as initial, subsequent, or unanticipated spill.

⁵ If a spill is projected based on the Licensee's May 1 forecast and subsequent weekly forecasts continue to predict a spill prior to June 15, but the spill does not occur, then whitewater boating days would not be provided in that year. The Licensee will notify FERC, USFS, CDFW, SWRCB, American Whitewater, and the TRG. The parties would have an opportunity to discuss the forecasting methodology and revise the LTOR, as appropriate (see Section 6.0).

Notification

- Notification of whether it is a projected spill or non-spill year based on the Licensee's forecast will be provided to the USFS, California Department of Fish and Wildlife (CDFW), SWRCB, American Whitewater⁶, Tribes⁷, and the TRG no later than May 1 each year.
- Projected date(s) of boating opportunities will be provided as follows:
 - Spill years: The Licensee will estimate the timing, magnitude (average daily flow), and duration of boating flows. Projections and the Licensee's forecast information will be updated weekly (by 5:00 pm Tuesday) from May 1 through August 31, or until no additional boating flows are projected.
- Non-spill years: Notification will occur a minimum of two weeks prior to the boating flow release. If the Licensee forecasts a potential spill after the boating release occurs, the Licensee will make a good faith effort to provide notification within two weeks of the projected spill or as soon as possible.
- The Licensee will provide notifications by email and posting on the Licensee's webpage (<http://kna.kisters.net/scepublic/#> or its replacement)⁸.

Safety

- When the LTOR result in increasing flows in the San Joaquin River below Dam 7 (e.g., during spill or non-spill years when flows are increased to provide white water boating opportunities), the following safety measures will be implemented:
 - Signage will be posted at least one week prior to the release (if possible) at both ends of the Horseshoe Bend Trail; at the top of the Willow Creek Trail and parking area; and at the intersection of Powerhouse Road (aka County Road 222) and County Road 235 (near Kerckhoff Reservoir).
 - Notification by email at least one day prior to the release (if possible) to the USFS, CDFW, SWRCB, American Whitewater, Tribes, and the TRG.
 - Notification to the public at least one day prior to the release (if possible) by posting on the Licensee's webpage (<http://kna.kisters.net/scepublic/#> or its replacement).
 - The Licensee will increase flows to 2,000 cfs at the compliance gage (see below) prior to 5:30 am.
 - Activation of the alarm horn at Dam 7 immediately prior to initiating the release.

⁶ Or designated whitewater stakeholder on the TRG.

⁷ The following Tribes were consulted regarding the LTOR: North Fork Mono Tribe, North Fork Mono Nation, North Fork Rancheria of Mono Indians, and Big Sandy Rancheria Band of Western Mono Indians.

⁸ Tribal notification will be provided by email, phone call, or written correspondence, as appropriate.

Compliance Gage and Flow Definitions

- Flow will be measured at the USGS Gage No. 11242000 SAN JOAQUIN R AB WILLOW C NR AUBERRY CA.
 - Average daily flow is defined as the average of the 15-minute flow data for 24 hours (8 am to 8 am).
 - Average hourly flow is defined as the average of the 15-minute flow data within each hour.
 - Average flow during a time step that is shorter than one day, but longer than one hour is defined as the average of the 15-minute flow data within each specified time step.
 - Average flow during a time step that is longer than one day, is defined as 1) the average daily flow for each full day of the time step and 2) average of the 15-min flow data for any remaining time in that time step that is less than a full day.
 - MIF is the flow required downstream of Dam 7 as specified in the Big Creek No. 4 License (4(e) and 401 conditions), as follows:

During operation of the facilities authorized by the new project license, the Licensee shall maintain the San Joaquin River below Dam No. 7 at a continuous, minimum flow of 20 cubic feet per second (cfs) as measured at gage station 11242000 with the following exceptions:

- *From October 1 to April 1 of a dry or critical water year for the San Joaquin Basin, as defined in the SWRCB's 1995 Bay-Delta Water Quality Control Plan, with the reduced flow period beginning the following October:*
 - 15 cubic feet per second (cfs) as measured at gage 11242000 below Dam No. 7, provided the combined flow of the San Joaquin River and Willow Creek (as measured by gage 11246500) is maintained at 20 cfs. For purposes of this condition, the water year type shall be based on the California Department of Water Resources' (DWR) final May San Joaquin Valley Water Year Hydrologic Classification.*
- *With the written consent of the Chief of the Division of Water Rights, the flows in this condition may be temporarily modified during and to the extent required for performance of required maintenance of the dam, the outlet facility, and minimum flow release facilities. The Licensee shall notify the Chief of the Division of Water Rights at least five working days prior to any such departure. The Licensee also may modify the minimum flow requirement temporarily in the event of operating emergencies beyond the control of the Licensee or in the interest of public safety, in which case the Licensee shall notify the SWRCB and the USFS as soon as practicable, but at most 10 days, after making such an emergency flow modification.*

2.1 Spill Year Schedule D – Boating Flows and Down Ramping of Spill Flows

In the months of May through August, the Licensee shall down ramp the declining limb of spill(s) once the average daily flow declines below 3,500 cfs (exceptions are noted below).

The Licensee shall reduce spill flows from Dam 7 according to the following schedule (Schedule D):

- Day 1. Maintain flow within a range of 3,500-3,000 cfs
- Day 2. Reduce the flow within a range of 3,000-2,500 cfs
- Day 3. Reduce the flow within a range of 2,500-2,000 cfs
- Day 8. Reduce the flow within a range of 2,000-1,600 cfs
- Day 10. Reduce the flow within a range of 1,600-1,300 cfs
- Day 12. Reduce the flow within a range of 1,300-1,000 cfs
- Day 14. Reduce the flow within a range of 1,000-750 cfs
- Day 16. Reduce the flow within a range of 750-500 cfs
- Day 18. Reduce the flow within a range of 500-250 cfs
- Day 20. Reduce the flow within a range of 250-100 cfs
- Day 21. Reduce the flow within a range of 100-MIF cfs

Compliance with the down ramp of spill flows requires that the Licensee meet the following conditions:

- Down ramping of spill flows to the appropriate flow range in the schedule will occur by 9 am.
- Down ramp flows must be made on the day and time specified (see exceptions below) in Schedule D unless access to the streamflow release infrastructure is prohibited by hazardous conditions or if there is an equipment/infrastructure malfunction/outage or ISO emergency. If this occurs, the FERC, USFS, CDFW, SWRCB, Tribes, and TRG will be notified of the circumstances, as soon as possible, but no later than 2 business days⁹ after such incident and the down ramp of spill flow must be resumed as soon as practicable, if conditions allow. If requested by the FERC, USFS, CDFW, SWRCB, Tribes, and/or TRG, the Licensee will hold a meeting (or conference call) to discuss.
- Down ramp of spill flow must be maintained for at least the number of days or hours (duration) identified in each down ramp step. Each step of the down ramp can have a duration longer than that specified.
- Once the flows are set at the beginning of a down ramp step, average daily flow must at all times be compliant with the flow range specified in the Schedule D. If average daily flow falls below the flow range identified in the schedule, flow shall be returned, as soon as practical, to the original flow range for at least one day¹⁰ and then down ramp will resume according to the schedule. If average daily flow exceeds the flow range

⁹ Business day is defined as Monday through Friday, excluding state and federal recognized holidays.

¹⁰ The total number of days within each step and flow range will be maintained such that each day that is out of the flow range will be repeated.

identified in the schedule, flow shall be returned, as soon as practical, to the original flow range for at least one day⁹ and then down ramp will resume according to the schedule.

- During down ramping within the boatable flow range (3,500-1,600 cfs), average hourly flow between 9 am – 6 pm cannot drop below the minimum flow within each flow step. If average hourly flow drops below the minimum flow in a down ramping flow step, then the Licensee shall increase flows to within the down ramping step as soon as possible and maintain flow for that day and repeat that down ramping step according to Schedule D for the following day.
- If a spill event occurs in the months of May through August that does not exceed 3,500 cfs average daily flow, then the spill shall be down ramped according to Schedule D beginning at the day/step that includes the largest observed average daily flow. If the spill down ramp does not provide a minimum of two boating days $\geq 2,000$ cfs, then the Licensee will increase flows to provide two days of boating flows (i.e., $\geq 2,000$ cfs) and down ramp according to Schedule D. The Licensee will make a good faith effort to provide the boating flow at the beginning of the spill down ramp. Spills that do not exceed 500 cfs (average daily flow) will not be down ramped.
- If the Licensee's weekly forecast indicates that an initial spill will be followed by a larger magnitude spill, the Licensee will down ramp the initial spill according to the Stranding Protection Down Ramp schedule (Section 2.5). The larger magnitude spill will be down ramped according to Schedule D.
- If a spill(s) occurs after the Licensee has completed the down ramp in Schedule D, the subsequent spill(s) will be down ramped according to the Stranding Protection Down Ramp schedule (Section 2.5).

2.2 Spill Year Schedule C or B (High Storage) Boating Flows and Down Ramping of Spill Flows

In the months of May through August, the Licensee shall down ramp the declining limb of spill(s) once the average daily flow declines below 3,500 cfs (exceptions are noted below).

The Licensee shall reduce spill flows from Dam 7 according to the following schedule (Schedule C/B):

- Day 1. Maintain flow within a range of 3,500-3,000 cfs
- Day 2. Reduce the flow within a range of 3,000-2,500 cfs
- Day 3. Reduce the flow within a range of 2,500-2,000 cfs
- Day 5. Reduce the flow within a range of 2,000-1,600 cfs
- Day 6. At 6 pm, reduce the flow within a range of 1,600-1,200 cfs
- Day 7. At 2 am, reduce the flow within a range of 1,200-800 cfs
- Day 7. At 12 pm, reduce the flow within a range of 800-600 cfs
- Day 7. At 5 pm, reduce the flow within a range of 600-400 cfs
- Day 7. At 10 pm, reduce the flow within a range of 400-200 cfs
- Day 8. At 3 am, reduce the flow within a range of 200-MIF cfs

Compliance with the down ramp of spill flows requires that the Licensee meet the following conditions:

- Down ramping of spill flows to the appropriate flow range in the schedule will occur by 9 am unless otherwise specified in Schedule C/B.
- Down ramp flows must be made on the day and time specified in the Schedule C/B unless access to the streamflow release infrastructure is prohibited by hazardous conditions or if there is an equipment/infrastructure malfunction/outage or ISO emergency. If this occurs, the FERC, USFS, CDFW, SWRCB, Tribes, and TRG will be notified of the circumstances, as soon as possible, but no later than 2 business day after such incident and the down ramp of spill flow must be continued as soon as practicable, if conditions allow. If requested by the FERC, USFS, CDFW, SWRCB, Tribes, and/or TRG, the Licensee will hold a meeting (or conference call) to discuss.
- Down ramp of spill flow must be maintained for at least the number of days or hours (duration) identified in each down ramp step. Each step of the down ramp can have a duration longer than that specified.
- Once the flows are set at the beginning of a down ramp step, average flow during each time step must at all times be compliant with the flow range specified in the Schedule C/B. If average flow falls below the flow range identified in the schedule, flow shall be returned, as soon as practical, to the original flow range for at least the time step¹¹ in the schedule and then down ramp will resume according to the schedule. If average flow exceeds the flow range identified in the schedule, flow shall be returned, as soon as practical, to the original flow range for at least the step duration¹⁰ specified in the schedule, then the down ramp will resume according to the schedule.
- During down ramping within the boatable flow range (3,500-1,600 cfs), average hourly flow between 9 am – 6 pm cannot drop below the minimum flow within each flow step. If average hourly flow drops below the minimum flow in a down ramping flow step, then the Licensee shall increase flows to within the down ramping step as soon as possible and maintain flow for that day and repeat that down ramping step according to Schedule C/B for the following day.
- If a spill event occurs in the months of May through August that does not exceed 3,500 cfs average daily flow, then the spill shall be down ramped according to Schedule C/B beginning at the day/step that includes the largest observed average daily flow. If the spill down ramp does not provide a minimum of two boating days $\geq 2,000$ cfs, then the Licensee will increase flows to provide two days of boating flows (i.e., $\geq 2,000$ cfs) and down ramp according to Schedule C/B. The Licensee will make a good faith effort to provide the boating flow at the beginning of the spill down ramp. Spills that do not exceed 500 cfs (average daily flow) will not be down ramped.

¹¹ The total number of hours/days within each step and flow range will be maintained such that each time step that is out of the flow range will be repeated. If the time step is a multiple day time step, only the day that is out of compliance must be repeated.

- If the Licensee's weekly forecast indicates that an initial spill will be followed by a larger magnitude spill, the Licensee will down ramp the initial spill according to the Stranding Protection Down Ramp schedule (Section 2.5). The larger magnitude spill will be down ramped according to Schedule C/B.
- If a spill(s) occurs after the Licensee has completed the down ramp in Schedule C/B, the subsequent spill(s) will be down ramped according to the Stranding Protection Down Ramp schedule (Section 2.5).

2.3 Spill Year Schedule A or B (Low Storage) Boating Flows and Down Ramping of Spill Flows

In the months of May through August, the Licensee shall down ramp the declining limb of spill(s) once the average daily flow declines below 2,500 cfs (exceptions are noted below).

The Licensee shall reduce flows from Dam 7 according to the following schedule (Schedule A/B):

- Day 1. Maintain the flow within a range of 2,500-2,000 cfs
- Day 3. At 6 pm, reduce the flow within a range of 2,000-1,600 cfs
- Day 4. At 2 am, reduce the flow within a range of 1,600-1,200 cfs
- Day 4. At 12 pm, reduce the flow within a range of 1,200-800 cfs
- Day 4. At 5 pm, reduce the flow within a range of 800-600 cfs
- Day 4. At 10 pm, reduce the flow within a range of 600-400 cfs
- Day 5. At 3 am, reduce the flow within a range of 400-200 cfs
- Day 5. At 8 am, reduce the flow within a range of 200 - MIF cfs

Compliance with the down ramp of spill flows requires that the Licensee meet the following conditions:

- Down ramping of spill flows to the appropriate flow range in the schedule will occur by 9 am unless otherwise specified.
- Down ramp flows must be made on the day and time specified in Schedule A/B unless access to the streamflow release infrastructure is prohibited by hazardous conditions or if there is an equipment/infrastructure malfunction/outage or ISO emergency. If this occurs, the FERC, USFS, CDFW, SWRCB, Tribes, and TRG will be notified of the circumstances, as soon as possible, but no later than 2 business days after such incident and the down ramp of spill flow must be continued as soon as practicable, if conditions allow. If requested by the FERC, USFS, CDFW, SWRCB, Tribes, and/or TRG, the Licensee will hold a meeting (or conference call) to discuss.
- Down ramp of spill flow must be maintained for at least the number of days or hours (duration) identified in each down ramp step. Each step of the down ramp can have a duration longer than that specified.
- Once the flows are set at the beginning of a down ramp step, average flow during each time step must at all times be compliant with the flow range specified in Schedule A/B. If average flow falls below the flow range identified in the schedule, flow shall be returned,

as soon as practical, to the original flow range for at least the duration of the step¹² identified in the schedule and then down ramp will resume according to the schedule. If average flow exceeds the flow range identified in the schedule, flow shall be returned, as soon as practical, to the original flow range for at least the step duration¹¹ specified in the schedule, then the down ramp will resume according to the schedule.

- During Day 1 through Day 3, average hourly flow between 9 am – 6 pm cannot drop below the minimum flow within each flow step. If average hourly flow drops below the minimum flow in a down ramping flow step, then the Licensee shall increase flows to within the down ramping step as soon as possible and maintain the flow for that day and repeat that down ramping step according to Schedule A/B for the following day.
- If a spill event occurs in the months of May through August that does not exceed 2,000 cfs average daily flow, then the spill shall be down ramped according to Schedule A/B and begin at the day/step that includes the largest observed average daily flow. If the spill down ramp does not provide a minimum of two boating days $\geq 2,000$ cfs, then the Licensee will increase flow to provide two days of boating flows (i.e., $\geq 2,000$ cfs) and down ramp according to Schedule A/B. The Licensee will make a good faith effort to provide the boating flow at the beginning of the spill. Spills that do not exceed 500 cfs (average daily flow) will not be down ramped.
- If the Licensee's weekly forecast indicates that an initial spill will be followed by a larger magnitude spill, the Licensee will down ramp the initial spill according to the Stranding Protection Down Ramp schedule (Section 2.5). The larger magnitude spill will be down ramped according to Schedule A/B.
- If a spill(s) occurs after the Licensee has completed the down ramp in Schedule A/B, the subsequent spill(s) will be down ramped according to the Stranding Protection Down Ramp schedule (Section 2.5).

2.4 Non-Spill Year Boating Flows and Down Ramping from Dam 7 into the Horseshoe Bend Reach of the San Joaquin River

Between May 15 and June 15 of a non-spill year beginning on a Saturday, the Licensee shall provide a boating flow and down ramp of the boating flow.

The Licensee shall provide the boating flow and down ramp from Dam 7 according to the following schedule (Non-Spill Year Boating Flow Schedule):

- Day 1. At 9 am, provide flow within a range of 2,500-2,000 cfs
- Day 2. At 6 pm, reduce the flow within a range of 2,000-1,600 cfs
- Day 3. At 2 am, reduce the flow within a range of 1,600-1,200 cfs
- Day 3. At 12 pm, reduce the flow within a range of 1,200-800 cfs
- Day 3. At 5 pm, reduce the flow within a range of 800-600 cfs
- Day 3. At 10 pm, reduce the flow within a range of 600-400 cfs

¹² The total number of hours/days within each step and flow range will be maintained such that each time step that is out of the flow range will be repeated. If the time step is a multiple day time step, only the day that is out of compliance must be repeated.

- Day 4. At 3 am, reduce the flow within a range of 400-200 cfs
- Day 4. At 8 am, reduce the flow within a range of 200-MIF cfs

Compliance with the non-spill year boating flow and down ramp requires that the Licensee meet the following conditions:

- Boating flow and down ramp must be made on the day and time specified in the Non-Spill Year Boating Flow Schedule unless access to the streamflow release infrastructure is prohibited by hazardous conditions or if there is an equipment/infrastructure malfunction/outage or ISO emergency. If this occurs, the FERC, USFS, CDFW, SWRCB, Tribes, and TRG will be notified of the circumstances, as soon as possible, but no later than 2 business days after such incident and the boating flow and down ramp must be continued as soon as practicable, if conditions allow. If requested by the FERC, USFS, CDFW, SWRCB, Tribes, and/or TRG, the Licensee will hold a meeting (or conference call) to discuss.
- The boating flow and down ramp must be maintained for at least the number of days / hours (duration) identified in the schedule. Each step of the boating flow and down ramp can have a duration longer than that specified.
- Once the flows are set at the beginning of a down ramp step, average flow during each time step must at all times be compliant with the flow range specified in the Non-Spill Year Boating Flow Schedule. If average flow falls below the flow range identified in the schedule, flow shall be returned, as soon as practical, to the original flow range for at least the duration of the step¹³ identified in the schedule and then down ramp will resume according to the schedule. If average flow exceeds the flow range identified in the schedule, flow shall be returned, as soon as practical, to the original flow range for at least the step duration¹² specified in the schedule, then the down ramp will resume according to the schedule.
- During Day 1 and Day 2, average hourly flow between 9 am – 6 pm cannot drop below the minimum flow within each flow step. If average hourly flow drops below the minimum flow in a down ramping flow step, then the Licensee shall increase flows to within the down ramping step as soon as possible and maintain the flow for that day and repeat that down ramping step according to the Non-Spill Year Boating Flow Schedule for the following day.
- If an unanticipated spill(s) occurs after the Licensee has completed the boating flow and down ramping release, the unanticipated spill(s) will be down ramped according to the Stranding Protection Down Ramp schedule (Section 2.5).

¹³ The total number of hours/days within each step and flow range will be maintained such that each time step that is out of the flow range will be repeated.

2.5 Stranding Protection Down Ramping

In the months of May through August, the Licensee shall down ramp the declining limb of an initial or subsequent spill(s) as described in Sections 2.1 through 2.4 once the average daily flow declines below 1,600 cfs (exceptions are noted below). The Licensee will make a good faith effort to initiate the down ramp prior to average hourly flow declining below 1,200 cfs.

The Licensee shall down ramp spill flows from Dam 7 according to the following schedule (Stranding Protection Schedule):

- Step 1. Maintain flow within a range of 1,600-1,200 cfs for 10 hours
- Step 2. Reduce the flow within a range of 1,200-800 cfs for 10 hours
- Step 3. Reduce the flow within a range of 800-600 cfs for 5 hours
- Step 4. Reduce the flow within a range of 600-400 cfs for 5 hours
- Step 5. Reduce the flow within a range of 400-200 cfs for 5 hours
- Step 6. Reduce the flow within a range of 200-MIF cfs

Compliance with the Stranding Protection Down Ramp requires that the Licensee meet the following conditions:

- Down ramp must be made on the step and time specified in the Stranding Protection Schedule unless access to the streamflow release infrastructure is prohibited by hazardous conditions or if there is an equipment/infrastructure malfunction/outage or ISO emergency. If this occurs, the FERC, USFS, CDFW, SWRCB, Tribes, and TRG will be notified of the circumstances, as soon as possible, but no later than 2 business days after such incident and the boating flow and down ramp must be continued as soon as practicable, if conditions allow. If requested by the FERC, USFS, CDFW, SWRCB, Tribes, and/or TRG, the Licensee will hold a meeting (or conference call) to discuss.
- Down ramp must be maintained for at least the number of hours (duration) identified in the schedule. Each step of the down ramp can have a duration longer than that specified.
- Once the flows are set at the beginning of a down ramp step, average flow during each time step must be compliant with the flow range specified in the Stranding Protection Schedule. If average flow falls below the flow range identified in the schedule, flow shall be returned, as soon as practical, to the original flow range for at least the time step identified in the schedule and then down ramp will resume according to the schedule. If average flow exceeds the flow range identified the schedule, flow shall be returned, as soon as practical, to the original flow range for at least the step duration specified in the schedule, then the down ramp will resume according to the schedule.
- If a subsequent spill event occurs in the months of May through August that does not exceed 1,200 cfs average daily flow, then the spill shall be down ramped according to the Stranding Protection Schedule beginning at the step that includes the largest flow observed (e.g., if the spill flow equals 700 cfs average daily flow, the down ramping begins at Step 4). Spills that do not exceed 500 cfs (average daily flow) will not be down ramped.

2.6 Testing of Spill and Non-Spill Year Operations

During the first two years when boating flows and down ramping of spill is implemented at Dam 7 (Sections 2.1-2.3, 2.5) and during the first two years when non-spill boating flows and down ramp is implemented at Dam 7 (Section 2.4), the Licensee will test their ability to manage flows to provide the specified flow schedules. Any deviations from the specified schedules during this period will not be considered a compliance violation; however, any deviation will be reported to the FERC, USFS, CDFW, and the SWRCB within 30 days of the occurrence. At the conclusion of each of the first two spill years and at the conclusion of each of the first two non-spill years, the Licensee will submit a testing report to the FERC, USFS, CDFW, SWRCB, American Whitewater, Tribes, and TRG by January 15 of the following year. The testing report shall include Redinger Reservoir inflow, outflow, and storage; river gaging data; and a description of the Licensee's attempt/ability to meet the flow schedules. After the second year of testing, the Licensee may recommend modifications to the down ramp of spill or non-spill year schedules (or the Section 3.0 schedules), as needed, based on infrastructure / operational limitations while attempting to maintain the original intent of the flow schedules provided herein (Section 1.0). The Licensee shall consult with USFS, CDFW, SWRCB, American Whitewater, Tribes, and TRG to discuss potential recommended modifications to the LTOR. Any modifications will require approval from the USFS, CDFW, and SWRCB. Following approval by the USFS, CDFW, and SWRCB, the Licensee will submit the modified flow schedules to FERC for approval. The Licensee shall implement the modified flow schedules as approved by FERC.

3.0 Other Spill Considerations

3.1 Spills September 1 to October 31

From September 1 through October 31 in all water year types, the Licensee shall down ramp the declining limb of spills once the average daily flow declines below 1,600 cfs. The Licensee will make a good faith effort to initiate the down ramp prior to average hourly flow declining below 1,200 cfs.

The Licensee shall down ramp spill flows from Dam 7 according to the following schedule (Sep/Oct Schedule):

- Step 1. Maintain flow within a range of 1,600-1,200 cfs for 2 hours
- Step 2. Reduce the flow within a range of 1,200-800 cfs for 2 hours
- Step 3. Reduce the flow within a range of 800-600 cfs for 2 hours
- Step 4. Reduce the flow within a range of 600-400 cfs for 2 hours
- Step 5. Reduce the flow within a range of 400-200 cfs for 2 hours
- Step 6. Reduce the flow within a range of 200-MIF cfs

Compliance with the down ramping of spills from September 1 through October 31 requires that the Licensee meet the following conditions:

- Down ramp must be made on the step and time specified in the Sep/Oct Schedule unless access to the streamflow release infrastructure is prohibited by hazardous conditions or if there is an equipment/infrastructure malfunction/outage or ISO emergency. If this occurs, the FERC, USFS, CDFW, SWRCB, Tribes, and TRG will be notified of the circumstances, as soon as possible, but no later than 2 business days after such incident and the boating flow and down ramp must be continued as soon as

practicable, if conditions allow. If requested by the FERC, USFS, CDFW, SWRCB, Tribes, and/or TRG, the Licensee will hold a meeting (or conference call) to discuss.

- Down ramp must be maintained for at least the number of hours (duration) identified in the schedule. Each step of the down ramp can have a duration longer than that specified.
- Once the flows are set at the beginning of a down ramp step, average flow during each time step in the schedule must at all times be compliant with the flow range specified in the Sep/Oct Schedule. If average flow falls below the flow range identified in the schedule, flow shall be returned, as soon as practical, to the original flow range for at least the time step identified in the schedule and then continued according to the schedule. If average flow exceeds the flow range identified the schedule, flow shall be returned, as soon as practical, to the original flow range for at least the step duration specified in the schedule, then the down ramp will resume according to the schedule.
- If a spill event occurs from September 1 to October 31 that does not exceed 1,200 cfs average daily flow, then the spill shall be down ramped according to the Sep/Oct Schedule beginning at the step that includes the largest flow observed (e.g., if the spill flow equals 700 cfs average daily flow, the down ramping begins at Step 4). Spills that do not exceed 500 cfs (average daily flow) will not be down ramped.

3.2 Short-term Large Woody Debris Management Spills

If the Licensee initiates a gate opening at Dam 7 for the purpose of providing a short-term pulse flow (i.e., spill) to flush large woody debris (LWD) (LWD flow) from the face of the dam downstream into the Horseshoe Bend Reach of the San Joaquin River in the months of May through October, then the Licensee will notify the USFS, CDFW, SWRCB, American Whitewater, Tribes, and TRG via email a minimum of two business days prior to the gate opening. In an emergency situation, notification will occur within two business days after the event. The Licensee will implement appropriate public safety measures during any LWD flows.

The Licensee will release LWD flows according to the following requirements:

- Prior to a LWD flow the following safety measures will be implemented:
 - Signage will be posted at least one day prior to the LWD flow (if possible) at both ends of the Horseshoe Bend Trail; at the top of the Willow Creek Trail and parking area; and at the intersection of Powerhouse Road (aka County Road 222) and County Road 235 (near Kerckhoff Reservoir).
 - Notification by email at least one day prior to the LWD flow (if possible) to the USFS, CDFW, SWRCB, American Whitewater, Tribes, and the TRG.
 - Notification to the public at least one day prior to the LWD flow (if possible) by posting on the Licensee's webpage (<http://kna.kisters.net/scepublic/#> or its replacement).
 - If flow below Dam 7 (USGS Gage No. 11242000) is less than 2,000 cfs prior to the LWD flow release, the Licensee will increase flows to 2,000 cfs prior to 5:30 am before initiation of the LWD flow release.
 - Activation of the alarm horn at Dam 7 immediately prior to initiating the LWD flow.

- For LWD flows in the months of May through August:
 - The Licensee will make a good faith effort to implement LWD flows prior to a scheduled spill year or non-spill year down ramping event.
 - LWD flows that occur prior to or after a down ramping event will be down ramped according to the Stranding Protection Down Ramp schedule (Section 2.5).
 - If a LWD flow must occur during a down ramping event, the LWD flow will be down ramped as follows:
 - If the flow step at the initiation of the LWD flow is above 1,600 cfs, the scheduled down ramp will be resumed once the flow returns to the original flow step.
 - If the flow step at the initiation of the LWD flow is below 1,600 cfs, the LWD flow will be down ramped according to the Stranding Protection Down Ramp Schedule (Section 2.5) until the flow returns to the original flow step. After which, down ramping will resume according to the original down ramping schedule.
- For LWD flows in the months of September through October:
 - LWD flows will be down ramped according to the schedule in Section 3.1.

4.0 Monitoring

The goal of long-term monitoring is to determine whether implementation of the LTOR support native aquatic species and their habitats. The monitoring approach is to obtain, for comparative purposes, periodic information on water temperature, flow, fish populations, mussels, western pond turtles, and foothill yellow-legged frogs (presence/absence based on sampling for eDNA) within the Horseshoe Bend Reach of the San Joaquin River. This information will be compared to historic data and data collected as part of the Adaptive Management Plan and Native Aquatic Species Management Plan (SCE 2008b) to evaluate native aquatic species and habitat trends.

Monitoring will be conducted at each of the monitoring sites (Appendix D) in Year 1 and Year 2 following adoption of the LTOR, with a requirement for monitoring in Year 3 if the first two years do not include both a spill and non-spill year. After which, monitoring will occur every five years for the term of the license including license extensions. The Licensee will file monitoring reports to the FERC, USFS, CDFW, SWRCB, Tribes, and TRG. Details of the long-term monitoring are provided in Appendix D.

5.0 Minimum Instream Flow

In the Project license and associated 4(e) and 401 conditions, development of the LTORs include an evaluation and potential modification of the MIF requirement.

However, flow release infrastructure issues at Dam 7 have resulted and continue to result in the Licensee over-releasing MIFs in the Horseshoe Bend Reach of the San Joaquin River by 15 to 20 cfs (minimum flow releases in recent history have been in the 30 to 40 cfs range). Monitoring data collected as part of the NASMP and used in TRG evaluations have been made at the higher instream flow releases. The Licensee plans to repair the infrastructure issues at Dam 7 such that future instream flow releases may be lower and more consistent with the license requirements. Therefore, the USFS, CDFW, SWRCB, Tribes, and TRG reserve the right to evaluate and recommend modifications to the MIF requirements in the future should an infrastructure repair be implemented at Dam 7.

If infrastructure repairs at Dam 7 occur and instream flows drop below 30 cfs (average daily flow; USGS Gage No. 11242000) for more than 7 days, the Licensee will collect water temperature data in the Horseshoe Bend Reach of the San Joaquin River to evaluate the effect of instream flow on water temperature. The Licensee will install five temperature probes in the Horseshoe Bend Reach of the San Joaquin River at the following monitoring locations: USGS Gage No. 11242000, Willow Creek, Below Willow Creek, San Joaquin River Horseshoe Bend East, Fish Population Site 4, and Upstream of Big Creek No. 4 Powerhouse (Appendix D, Table 1). Water temperature will be monitored annually for a minimum of three years encompassing at least one spill year and one non-spill year. A meteorological station will also be maintained at Dam 7 during this monitoring period. The Licensee will compare this monitoring data (instream temperature, meteorological, and flow information) to historical data collected as part of the NASMP and LTOR monitoring, and prepare a report for review by the USFS, CDFW, SWRCB, Tribes, and TRG. The Licensee will convene a meeting with the USFS, CDFW, SWRCB, Tribes, and TRG to discuss the monitoring results and identify any additional steps necessary to evaluate MIF license requirements. If revisions to the MIF license requirements are deemed necessary to meet the objectives of the LTORs, the Licensee, USFS, CDFW, SWRCB, Tribes, and/or TRG can recommend modifications to the MIF requirement. Approval of any modification to the MIF requirements will require approval of USFS, SWRCB, and FERC consistent with the approval process for the LTORs.

6.0 Consultation

The LTOR includes the following consultation activities:

Annual Reporting

Annually, by January 15th, the Licensee will provide a report to USFS, CDFW, SWRCB, American Whitewater, Tribes, and TRG (Participants) documenting: (1) compliance with the LTOR (notifications, safety, down ramps, boating days, annual flow and temperature monitoring data, forecasting, testing results, LWD management); (2) any new listings of aquatic species currently occurring in or proposed for reintroduction in the Horseshoe Bend Reach of the San Joaquin River; and (3) recommendations to modify or further evaluate the LTOR, as appropriate. The report will also include the monitoring results in the years following biological data collection (see Section 4.0), including trends in the native aquatic community based on long-term monitoring results and identification of potential threats to the native aquatic community. Peer review or consultation with additional technical specialists may be included as part of the consultation.

Consultation

The Licensee will convene an annual meeting with Participants in February for the first five years following implementation of the LTOR and in all years following completion of biological monitoring. The purpose of the meetings will be to discuss the report described above. In other years, the Licensee will convene a meeting if requested by USFS, CDFW, SWRCB, Tribes, and/or TRG.

A draft summary of each annual consultation meeting will be provided by the Licensee to the Participants for review and comment within 15 days of the meeting. The Participants will be given 30 days to provide any comments on the draft summary. The Licensee will address Participants comments in a final meeting summary filed with USFS, SWRCB, and FERC, within 30 days after Participant comments are due. Any disagreements/unresolved issues between the Participants will be incorporated into the final meeting summary.

Testing of Spill and Non-Spill Operations Consultation

At the conclusion of each of the first two spill years and at the conclusion of each of the first two non-spill years, the Licensee will consult with the Participants regarding any proposed modification to the down ramp of spill flow or non-spill year schedules, as needed, based on infrastructure/operational limitations (Section 2.6). This consultation can occur at an annual meeting, described above.

Following completion of the testing of spill and non-spill operations consultation, the Licensee will consult with the Participants regarding any flow spikes that occurred during down ramping events, including the rate of attenuation of the flow spikes and the ability of the Licensee to implement Stranding Protection Down Ramp (Section 2.5) for future flow spikes, if applicable.

Infrastructure Malfunction, Hazardous Condition, or ISO Emergency Consultation

If requested by the FERC, USFS, CDFW, SWRCB, Tribes, and/or TRG, the Licensee will schedule a meeting or conference call to discuss compliance with the boating flow and down ramping requirements if access to the streamflow release infrastructure is prohibited by hazardous conditions or if there is an equipment/infrastructure malfunction affecting inflows or outflow to/from Redinger Lake or an ISO emergency (Section 2.1 – 2.5, 3.1).

Forecasting Consultation

If requested by the FERC, USFS, CDFW, SWRCB, Tribes, and/or TRG, the Licensee will schedule a meeting or conference call to discuss SCE's forecasting methods and potential improvements to the methods if forecasting is affecting implementation of the LTOR. This consultation may occur at an annual meeting, described above.

7.0 References

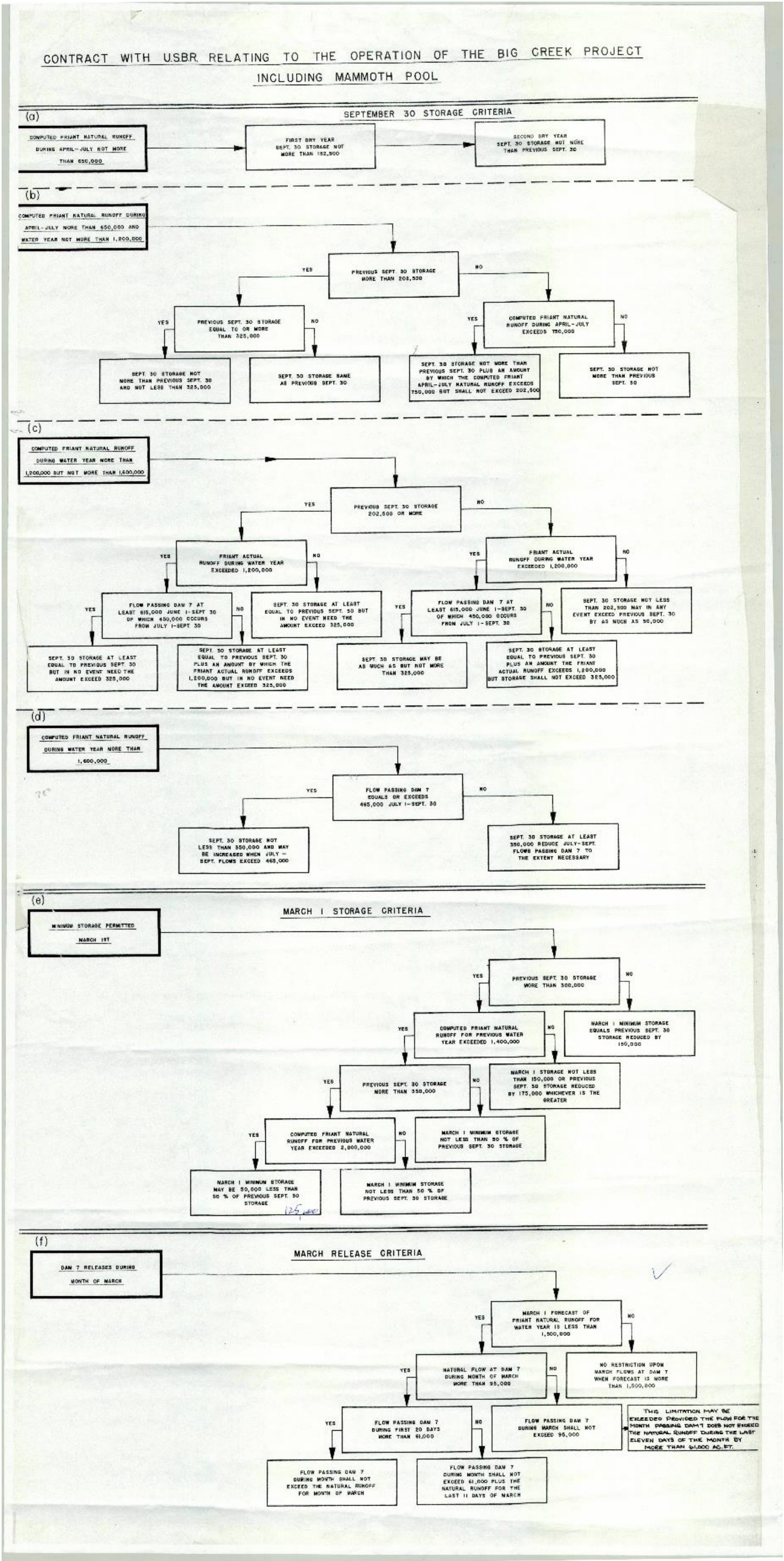
- SCE (Southern California Edison). 2008a. Final Adaptive Management Plan (AMP). Big Creek, California. July 2008.
- SCE. 2008b. Final Native Aquatic Species Management Plan (NASMP). Big Creek, California. July 2008.

Appendix A: List of Technical Studies
Used in Development of the Long-Term
Operating Rules

Report / Study	Reference
A technical report on riverine fishery studies conducted in support of the Big Creek Expansion Project.	BioSystems Analysis, Inc. 1987
Big Creek No. 4 Water Power Project (FERC No. 2017). Application for New License for Major Project Existing Dam.	SCE 1997
CAWG 2 Geomorphology, Technical Study Report.	SCE 2003
Adaptive Management Plan for River Flows and Native Aquatic Species Management Plan. Big Creek No. 4 Hydroelectric Project, FERC Project No. 2017.	SCE 2008
Whitewater Navigability Flow Survey First Rapid, Horseshoe Bend Run San Joaquin River.	SCE 2008
Native Aquatic Species Management Plan. Draft 2007 Data Collection Report. Big Creek No. 4 Hydroelectric Project, FERC Project No. 2017.	SCE 2009
Native Aquatic Species Management Plan. Draft 2008 Data Collection Report. Big Creek No. 4 Hydroelectric Project, FERC Project No. 2017.	SCE 2009
Native Aquatic Species Management Plan. Draft 2009 Data Collection Report. Big Creek No. 4 Hydroelectric Project, FERC Project No. 2017.	SCE 2010
Native Aquatic Species Management Plan. 2010 Data Collection Report. Big Creek No. 4 Hydroelectric Project, FERC Project No. 2017.	SCE 2011
Dam 7 Spill Management Feasibility Study Report, San Joaquin River. Big Creek No. 4, FERC Project No. 2017.	SCE 2012
Native Aquatic Species Management Plan. 2011 Data Collection Report. Big Creek No. 4 Hydroelectric Project, FERC Project No. 2017.	SCE 2012
Native Aquatic Species Management Plan. 2012 Data Collection and Baseline Report. Final. Big Creek No. 4 Hydroelectric Project, FERC Project No. 2017.	SCE 2013
Native Aquatic Species Management Plan and Adaptive Management Plan. 2013 Data Collection Report. Big Creek No. 4, Hydroelectric Project, FERC Project No. 2017.	SCE 2014
Native Aquatic Species Management Plan and Adaptive Management Plan. 2014 Data Collection Report. Big Creek No. 4, Hydroelectric Project, FERC Project No. 2017.	SCE 2015
Native Aquatic Species Management Plan. 2015 Data Collection Report. Big Creek No. 4 Hydroelectric Project, FERC Project No. 2017.	SCE 2016
Hydrographic Analysis of Spills below Dam 7. Technical Memorandum.	SCE 2016
Native Aquatic Species Management Plan. Draft 2016 Data Collection Report. Big Creek No. 4, Hydroelectric Project, FERC Project No. 2017.	SCE 2017
Big Creek 4 Potential Whitewater Boating Opportunity Days Summary Analysis. Technical Memorandum.	SCE 2017
Native Aquatic Species Management Plan. 2017 Data Collection Report. Big Creek No. 4, Hydroelectric Project, FERC Project No. 2017.	SCE 2018
Experimental Flow Management. Technical Memorandum.	SCE 2018
Stage-Discharge Analysis. Technical Memorandum.	SCE 2018
Ramp-Down and Stranding Study in the Horseshoe Bend Reach below Dam 7. Technical Memorandum.	SCE 2018

Appendix B: Mammoth Pool Operating Contract Flow Diagram

Southern California Edison (SCE) operates its Big Creek System (BCS) reservoirs consistent with the Mammoth Pool Operating Contract (MPOC), which specifies cumulative reservoir storage constraints based on the computed natural runoff for the water year at Friant Dam. The MPOC specifies water storage and release requirements for the BCS reservoirs, which are upstream of Friant Dam (Millerton Lake) and the associated Central Valley Project water distribution system operated by U.S. Bureau of Reclamation (Reclamation) on behalf of the downstream irrigators. Millerton Lake is a major irrigation storage facility serving the central San Joaquin Valley agricultural community. Meetings between SCE, Reclamation, and the downstream irrigators are held following the March 1 runoff forecast each year, and periodically as needed, to coordinate and optimize hydropower production consistent with irrigation needs of the downstream agricultural users holding senior water rights and emergency flood control operations of Millerton Lake. The MPOC includes constraints on the annual and seasonal timing and volume of releases from SCE's BCS reservoirs, maximum year-end storage allowed, and minimum seasonal flow to the river downstream. The requirements contained in the MPOC are distinct from the requirements in the BCS FERC licenses.



Appendix C: Whitewater Boating Opportunity Day Definitions

Provided below are definitions for whitewater boating terms that will be used by the Big Creek No. 4 Project Technical Review Group (TRG) to support development of Long-Term Operating Rules (LTOR) to provide boating opportunities in the Horseshoe Bend Reach of the San Joaquin River.

Whitewater Boating User Group:

- Intermediate to advanced whitewater boaters (Class III to Class IV skill levels), for all types of whitewater craft (kayaks, inflatable kayaks, canoes, rafts, inflatable mats, river-boards, etc.).

Whitewater Boating Flow Range:

- The flow range for existing whitewater boating opportunities, or the provision of a whitewater boating opportunity through the management of instream flow is 1,600 cubic feet per second (cfs) to 4,000 cfs as measured at the U.S. Geological Survey (USGS) Gage No. 11242000 (SAN JOAQUIN R AB WILLOW C NR AUBERRY CA). The lower limit of this flow range (1,600 cfs) is the minimum acceptable flow for the target user group. The upper limit of the range (4,000 cfs) is the flow threshold at which the difficulty of the whitewater is above the upper end of the target skill level (Class IV). The target flow range for scheduled whitewater boating release in a non-spill year is 2,000-2,500 cfs.

Flow Timing and Variation:

- For a day to be counted as a boating day, average hourly flow between 9 am and 6 pm must be between 1,600 cfs and 4,000 cfs with a flow variation no greater than 500 cfs.

Boating Season:

- *Existing Whitewater Boating Opportunities*

For the identification of existing whitewater boating opportunities, any day meeting the flow range, flow timing, and flow variability criteria will constitute an existing whitewater boating opportunity day.

- *Flow-managed Whitewater Boating Opportunities*

For whitewater boating opportunities provided through the management of flow, any day meeting the flow range, flow timing, and flow variability criteria from May 1 to August 31 will constitute a whitewater boating opportunity day.

Flow Continuity:

- *Boating Opportunity Day*

A single day meeting the whitewater flow range, flow timing, flow variability, and boating season criteria will constitute a boating opportunity day.

- *Contiguous Opportunity Days*

Consecutively occurring days meeting the whitewater flow range, flow timing, flow variability, and boating season criteria will constitute contiguous opportunity days.

- *2-Day Weekend Opportunity Days*

Contiguous Saturday and Sunday dates meeting the whitewater flow range, flow timing, flow variability, and boating season criteria will constitute weekend opportunity days.

- *3-Day Weekend Opportunity Days*

Contiguous Saturday and Sunday dates, with one additional contiguous day (Friday or Monday), meeting the whitewater flow range, flow timing, flow variability, and boating season criteria will constitute 3-day weekend opportunity days.

Boating Notification:

- Notification of whether it is a projected spill or non-spill year based on the Licensee's forecast will be provided to the U.S. Forest Service (USFS), California Department of Fish and Wildlife (CDFW), State Water Resources Control Board (SWRCB), American Whitewater, Tribes¹ and the TRG no later than May 1 each year. The Licensee will provide forecast information and notification by email and posting on the Licensee's webpage (<http://kna.kisters.net/scepublic/#>). Projected date(s) of boating opportunities will be provided as follows:
 - Spill years: The Licensee will make a good faith effort to estimate the timing, magnitude, and duration of boating flows. Projections and the Licensee's forecast information will be updated weekly from May 1 through August 31, or until no additional boating flows are projected.
 - Non-spill years: Notification will occur a minimum of two weeks prior to the boating flow release. If the Licensee forecasts a potential spill after the boating release occurs, the Licensee will provide notification within two weeks of the projected spill or as soon as possible.

¹ The following Tribes were consulted regarding the LTOR: North Fork Mono Tribe, North Fork Mono Nation, North Fork Rancheria of Mono Indians, and Big Sandy Rancheria Band of Western Mono Indians.

Appendix D: Long-term Operating Rules Monitoring Plan

Southern California Edison

Big Creek No. 4 Hydroelectric Project (FERC Project No. 2017)

**Long-Term Operating Rules
Monitoring Plan**

May 2019

Table of Contents

1.0	Introduction	D-1
2.0	Monitoring Approach	D-1
2.1	Monitoring Locations and Schedule	D-1
2.2	Monitoring Methods and Analysis	D-5
3.0	Reporting and Consultation	D-9
4.0	Literature Cited	D-10

List of Attachments

Attachment 1	List of Technical Studies Used in Development of the Long-Term Operating Rules Monitoring Plan
--------------	--

List of Tables

Table 1	Long-term Operating Rules Monitoring Locations	D-2
---------	--	-----

List of Maps

Map 1	Long-term Monitoring Sites	D-4
-------	----------------------------------	-----

List of Acronyms

CDFW	California Department of Fish and Wildlife
FERC	Federal Energy Regulatory Commission
g	gram
GPS	Global Positioning System
HSBR	Horseshoe Bend Reach
kg	kilogram
LTOR	Long-Term Operating Rules
m	meter
mm	millimeter
NASMP	Native Aquatic Species Management Plan
PIT	Passive Integrated Transponder
SCE	Southern California Edison
SJR	San Joaquin River

SWRCB	State Water Resources Control Board
TL	Total length
TRG	Technical Review Group
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
WPT	Western Pond Turtle
YOY	young-of-the-year

1.0 Introduction

The following provides a description of long-term monitoring associated with implementation of Long-Term Operating Rules (LTOR)¹ for Southern California Edison's (SCE or Licensee) Big Creek No. 4 Hydroelectric Project (Big Creek No. 4 Project), Federal Energy Regulatory Commission (FERC) Project No. 2017. The goal of long-term monitoring is to determine whether implementation of the LTOR support native aquatic species and their habitats. The monitoring approach is to obtain, for comparative purposes, periodic information on water temperature, flow, fish populations, mussels, western pond turtles, and foothill yellow-legged frogs (presence/absence based on sampling for eDNA) within the Horseshoe Bend Reach (HSBR) of the San Joaquin River (SJR). This information will be compared to historic data (BioSystems 1987, SCE 1997) and data collected as part of the Adaptive Management Plan and Native Aquatic Species Management Plan (Attachment 1) to evaluate native aquatic species and habitat trends.

Monitoring will be conducted at each of the monitoring sites in Year 1 and Year 2 following adoption of the LTOR, with a requirement for monitoring in Year 3 if the first two years do not include both a spill and non-spill year. After which, monitoring will occur every 5 years for the term of the license. Details of the long-term monitoring are described below.

2.0 Monitoring Approach

Monitoring in the HSBR includes the following:

- Flow and water temperature;
- Fish population and community characteristics, including species abundance, composition, distribution, population age structure, and condition;
- Western pearlshell mussel (*Margaritifera falcata*) relative abundance;
- Western pond turtles (WPT) (*Emys marmorata*) relative abundance and population size/age structure; and
- Foothill yellow-legged frog (*Rana boylei*) presence/absence (eDNA sampling).

2.1 Monitoring Locations and Schedule

Monitoring locations are shown in Table 1 and Map 1.

Monitoring will be conducted at each location in Year 1 and Year 2, with a requirement for monitoring in Year 3 if the first two years do not include both a spill and non-spill year. After which, monitoring will occur every five years for the term of the license including license extensions.

Monitoring may be deferred to the following year with concurrence from the SWRCB, CDFW, and USFS if sampling conditions are unsuitable or unsafe (e.g., high flows², high turbidity, fire).

¹ The objective of the LTOR is to provide consistent boating opportunities while preserving the native aquatic species assemblage.

² Flows greater than approximately 80 cubic feet per second (cfs).

Table 1 Long-term Operating Rules Monitoring Locations

Monitoring Element	Study Site Name	Location (utm)		
		Zone	Easting	Northing
Flow and Water Temperature	USGS Gage No. 11242000 SJR Downstream of Dam	11S	281982.56 m E	4113705.02 m N
	USGS Gage No. 11246500 Willow Creek near confluence with the SJR	11S	2281496.69 m E	4114390.69 m N
	SJR Upstream of BC Powerhouse No. 4	11S	278833.24 m E	4113154.52 m N
Western Pond Turtle Study	Willow Creek	11S	281479.25 m E	4114438.40 m N
	Confluence of SJR and Willow Creek	11S	281353.42 m E	4113795.26 m N
	SJR Horseshoe Bend East	11S	280725.21 m E	4112034.44 m N
	Confluence of SJR and Backbone Creek	11S	280320.06 m E	4109961.97 m N
Foothill Yellow-legged Frog eDNA Study	Below Dam 7	11S	282100.02 m E	4113696.17 m N
	SJR Upstream of Willow Creek	11S	278883.64 m E	4113038.88 m N
	Willow Creek Near Confluence with SJR	11S	281353.42 m E	4113795.26 m N
	SJR Upstream of Backbone Creek	11S	280328.58 m E	4109986.23 m N
	Backbone Creek near Confluence with SJR	11S	280327.93 m E	4109778.09 m N
	Upstream of Big Creek No. 4 Powerhouse	11S	278883.64 m E	4113038.88 m N
Fish Population Study	Site 1	11S	281819.34 m E	4113761.55 m N
	Site 2	11S	281185.74 m E	4113253.58 m N
	Site 3	11S	280725.21 m E	4112034.44 m N
	Site 4	11S	279177.40 m E	4110287.80 m N
	Site 5	11S	278666.83 m E	4112226.84 m N
	Site 6	11S	278903.33 m E	4112974.37 m N
Mussel Study	Sandbar to Site 5	11S	Confidential	
	Site 5	11S	Confidential	
	Site 6	11S	Confidential	
	Site 7	11S	Confidential	
Potential Additional Water Temperature Monitoring Sites if Infrastructure Repair at Dam 7 occur and instream flows drop below 30 cfs (average daily flow; USGS Gage No. 11242000) for more than 7 days	Below Confluence of SJR and Willow Creek	11S	281353.42 m E	4113795.26 m N
	SJR Horseshoe Bend East	11S	280725.21 m E	4112034.44 m N
	Fish Population Site 5	11S	278666.83 m E	4112226.84 m N

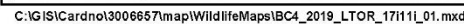
Monitoring Element	Study Site Name	Location (utm)		
		Zone	Easting	Northing
Potential Meteorological Monitoring Site if Infrastructure occur and instream flows drop below 30 cfs (average daily flow; USGS Gage No. 11242000) for more than 7 days	Dam 7	11S	282268.92 m E	4113910.15 m N

Notes:

cfs: cubic feet per second

SJR: San Joaquin River

USGS: U.S. Geological Survey



2.2 Monitoring Methods and Analysis

Physical Data

Continuous Monitoring³

Flows will be monitored in the San Joaquin River downstream of Dam 7 and in Willow Creek at the U.S. Geological Survey (USGS) gages No. 11242000 and No. 11246500, respectively, operated by SCE. Water surface elevation at Redinger Lake will be monitored using USGS Gage No. 11241950.

Water temperature (15-minute data) will be collected in the San Joaquin River downstream of Dam 7 at the existing USGS Gage No. 11242000 and upstream of Big Creek No. 4 Powerhouse following installation of a new temperature monitoring probe. The new temperature probe will be installed within 90 days of approval of the LTORs by FERC. The temperature probe/data logger will be placed in a bedrock portion of the channel and will not require any ground disturbance activities. All necessary permits will be obtained by the licensee prior to the installation of any stream monitoring devices.

Water temperature data will also be collected in Willow Creek at the existing USGS Gage No. 11246500.

Analysis and Reporting

Flow and temperature time series will be plotted for each monitoring year and compared to historical flow and water temperature data. Data will be provided electronically to the USFS, CDFW, SWRCB, Tribes and TRG by January 15 of the year following completion of the flow and temperature data collection. In cases where a gap in the data exists, the Licensee will describe the reason for the missing data. If requested, the Licensee will conduct additional analysis/modeling, as appropriate, to identify the approximate location of the water temperature transition zone (20 °C) within the bypass reach. Additional analysis/modeling may also be used to estimate approximate water temperatures at historic water temperature monitoring sites within the bypass reach, as appropriate.

Fish Population

Fish population sampling will be conducted in September/October at minimum flow, if possible. The Licensee will coordinate with PG&E regarding flows in the sampling timeframe. The Licensee will notify USFS, CDFW, and SWRCB of the outcome of the coordination. Fish population sampling will generally be conducted according to the methods of the Native Aquatic Species Management Plan (NASMP) (SCE 2008) and as implemented in baseline data collections (Attachment 1).

Sampling will use multiple pass depletion electrofishing, snorkeling, and cast net/seine/dip net sampling. Snorkeling will be conducted in water too deep to electrofish. Cast net/seining/dip netting will be used to qualitatively characterize young-of-the-year (YOY) fishes in water too deep to electrofish and/or along channel margins.

³ Data will be collected in 15-minute intervals from January 1 to December 31.

Survey Reaches

Fish sampling will be conducted in the six historic sampling locations within the HSBR (Map 1) used in previous studies (BioSystems 1987, SCE 1997) and the SCE NASMP sampling (2008-2018). At each of the fish sampling locations, an electrofishing site and a snorkel survey site will be selected based on the locations of earlier studies. Generally, electrofishing will be conducted in sites shallower than about 1 meter (m) (3 feet) deep.

Sample Timing

The sampling will be conducted in September/October at minimum flow, if possible.

Electrofishing

Quantitative fish population surveys will be conducted at each sampling location by electrofishing a minimum of 100 meters of habitat shallow enough to sample (e.g., riffle and run habitat). Multiple pass removal population estimates will be conducted within sections of stream that have been block netted on the downstream and upstream end with 0.25-inch mesh netting. A typical electrofishing team will consist of two backpack electrofishers, three net persons, and two net/livecar persons. Electrofishing will generally be conducted as described by Reynolds (1996). Sampling will use multiple pass depletion, where fish are stunned and removed from the site using a minimum of two thorough electrofishing passes (sequential) with equal sampling effort. If depletion does not exceed approximately 65% between pass one and pass two, a third pass will be completed. Sampling will typically be performed in an upstream direction beginning at the downstream block net and finishing at the upstream block net.

All captured fish will be identified to species, measured for length to the nearest millimeter (mm) total length (TL), and weighed to the nearest 0.1 gram (g) for fish up to 2 kilograms (kg), or to the nearest gram for fish over 2 kg. Each fish processed will be examined for disease, or injury and its condition noted on the field data sheets. Fish will be released back into the river. Population estimates will be based on the maximum likelihood technique of Zippin (1958) using the MicroFish computer program (Deventer and Platts 1989) or a comparable method. Length and weight data will be used to compute Fulton's condition factor (Ricker 1975).

Fulton's Condition Factor: $K = (W * X) / L^3$

Where:

- K = Fulton's Condition Factor
- W = Weight (g)
- L = Total length (mm)
- X = 100,000 (a scaling constant)

Snorkeling

Snorkel surveys will be conducted in habitats that are too deep (pools and deep runs >3 ft deep) for effective sampling by electrofishing. Both techniques provide information on fish abundance and length. However, direct observation snorkeling provides lower resolution length information, since lengths are visually estimated in comparison to a target. Length bins for fish species observed during snorkeling are as follows: 0-3 inches (0-76 mm), 3-6 inches (76-152 mm), 6-9 inches (152-228 mm), and fish greater than nine inches (228 mm) in length.

The snorkeled habitat units will be divided into one or more swimming lanes parallel to the direction of stream flow. A minimum of 100 meters of habitat will be snorkeled at each site. Methods generally are similar to those used in SCE (2009a) and presented in Griffith (1972), Platts et al. (1983), Hicks and Watson (1985), Hankin and Reeves (1988), and Hillman et al. (1992). Underwater visibility will be measured by taking a Secchi disk measurement and, also,

by measuring the distance at which a three-inch fishing lure can be viewed under water. The data will be used to determine lane width (e.g., Hillman et al. 1992). Surveys will be performed between 0900 and 1600 hours (Hankin and Reeves 1988) to maximize the likelihood that light intensities are suitable for observing fish. Direct observation surveys will not be conducted on overcast days (Platts et al. 1983).

Divers will enter the water slightly below the downstream end of the sample unit (Hankin and Reeves 1988) and move directly across and slightly below the lowermost boundary of the sample unit into their designated swimming lane. When in position, the divers will move upstream to the lowermost boundary of the sample unit. From a fixed position and prior to moving upstream, the divers will look upstream to locate fish on the fringe of vision (Platts et al. 1983). Divers will then identify and count fish species in their lane, while moving slowly upstream at a uniform, even, pace with no abrupt movements. Fish will be counted as they pass below or to the side of an observer. Cover for fish, such as interstitial spaces between substrate particles, woody debris, bubble screens, crannies in bedrock, and along stream margins will be inspected closely for concealed fish to the best of the divers' abilities (Fausch and White 1981; Hicks and Watson 1985). A bank-side observer will be employed and stationed to monitor and verbally direct diver distribution and sampling rate when possible. Fish lengths will be estimated by comparison with a fish length calibration cord or ruler. The calibration cord is a piece of small-diameter rope with size length categories marked on it. In addition, divers will be trained in estimating fish lengths, so estimates of fish length will be consistent and as accurate as possible.

Small cyprinids in large schools that cannot be adequately identified during snorkel surveys as either hardhead or Sacramento pikeminnow will be classified as "unidentified cyprinids."

Cast Net/Seining/Dip Netting

During sampling in September/October, YOY fish are primarily small juveniles and not larvae. Captures will be made using cast nets, seines, or dip nets and fish will be identified and measured. The data will be combined with snorkel data to determine relative composition of portions of "unidentified cyprinids."

Habitat

Habitat data will be collected at each electrofishing and snorkeling site sampled. Parameters collected at each site include length, width, depth, substrate composition, and mesohabitat type(s) of the sampling site. Also, the coordinates (UTM, WGS84) of the upstream and downstream ends of each unit will be recorded using a Global Positioning System (GPS).

Analysis

Fish abundance (fish/kilometer) for YOY, juvenile and adult fish species will be calculated and compared to historical data (both at each site and for all sites combined). Fish community parameters, such as percent of each species and size/age distribution of each species will be documented and compared to historical data. Individual parameters such as growth (length-frequency histograms), condition factor, and disease will be documented and compared to historical data.

Mussels

Mussel sampling will be conducted in September/October concurrent with fish sampling. Mussel surveys will be conducted in the HSBR at four sites (Sandbar to Site 5, Site 5, Site 6, and Site 7), where western pearlshell mussels have been observed and counted previously (e.g., during 2010-2016 sampling). The locations of mussels will be kept confidential at the request of the North Fork Mono Tribe.

Mussel abundance and distribution varies at the four sampling locations requiring different sampling approaches. At three sites, Sandbar to Site 5 (430 m), Site 5 (100 m), and Site 6 (30 m), mussels are in low abundance and can be fully enumerated. At these sites, surveyors will perform an exhaustive, generalized search of the river bed to count live mussels and shells and to document the locations of mussel clusters.

At Site 7, mussel abundance is higher and density will be estimated based on subsampling. At this site, surveyors will use a modification of the two-phase approach of Vilella and Smith (2005). The downstream headpin established in 2010 will be relocated, and a survey tape will be stretched from the headpin to a willow tree located 50 meters (m) upstream. A reconnaissance snorkel survey will be conducted to differentiate areas of high and low mussel density. The upstream and downstream extents of the high and low-density areas will be recorded, and that information will be used to select three representative survey transects within the high-density area and two survey transects within the low-density area. The wetted width of the river along each selected transect will be divided into three strata (river-left stratum, middle stratum, and river-right stratum), each of which represented one third of the transect width. At each transect, a total of 10 locations will be sampled using a 0.25-m² quadrat, with a minimum of three locations from each stratum. Three quadrats will be located in each stratum to account for nine of the quadrats. The 10th quadrat will be assigned to the three strata at random. The numbers of mussels observed (i.e., surface counts) within each quadrat will be recorded. Percentages of dominant and subdominant substrates and presence of algae will be visually estimated for each quadrat. GPS coordinates will be recorded for each transect end and photographs taken of representative habitats.

Analysis

The abundance of mussels at each site will be compared with historical mussel abundance. At Sandbar to Site 5, Site 5, and Site 6, the total number of mussels will be reported. At Site 7, the density of mussels (mean and standard error) will be reported.

Western Pond Turtle

WPT population abundance and population structure will be assessed based on trapping and marking turtles for two trapping events in August/September. Trapping events will be scheduled at least two weeks apart to allow sufficient time for the population to recover from investigator-caused disturbances. The WPT capture methodology used will be that same as used during past studies.

Four traps will be installed at study sites located in Willow Creek, on the SJR at the confluences with Willow and Backbone creeks, and the HSBR east historic water temperature monitoring site (Map 1). Trapping will be conducted by deploying floating collapsible nylon net hoop traps that are tied off to shoreline anchors and positioned so that entrances are submerged but upper portions of the trap are above water allowing turtles to access air. Turtle traps will be baited with sardines, set in the afternoon or evening, and checked within 24 hours. Trapping data to be collected includes date, time, crew, location, general water, and weather conditions. For each individual turtle captured or recaptured, sex, weight, age, and maximum carapace length,

external signs of disease and lesions will be recorded and each will be photographed. Age will be estimated by counting annuli on one or more scutes of the plastron and/or carapace (Bury and Germano 1998). New captures will be individually marked either with a numerical identification code, notched into the marginal scutes (Holland 1994), or with a Passive Integrated Transponder (PIT) tag. All turtles will be released at the point of capture.

Analysis

The abundance and age/sex distribution of WPTs will be compared to historical abundance and age/sex distribution. Where turtles are recaptured from previous years, an estimate of growth will be calculated and compared to historical growth rates, as applicable. Any signs of disease or unusual observations will be documented.

Foothill Yellow-legged Frog eDNA

An eDNA sample for foothill yellow-legged frogs will be collected at each of six locations during the expected breeding season, typically during late spring/early summer after high flows have receded and water temperature is appropriate. The locations will include: Redinger Reservoir outflow (sample control), SJR above the Willow Creek confluence, Willow Creek near the confluence with the SJR, SJR above the Backbone Creek confluence, Backbone Creek near the confluence with the SJR (if wet), and the SJR above Big Creek No. 4 Powerhouse.

The eDNA sampling method will be consistent with Carim et al. (2016) or the most appropriate methodology current at the time of sampling. The method includes the following:

- Five liters of water will be filtered from the sampling site, taking care not to contaminate the sample water or filter.
- The filter will be dried for 30 seconds and secured in a plastic bag with desiccant beads and protected from water, heat, and sunlight.
- The samples will be immediately (<1 week) sent to a qualified laboratory for processing.

Analysis

eDNA results (detection / non-detection) of foothill yellow-legged frog markers will be reported. If data suggests the potential for presence of foothill yellow-legged frogs at a location (taking into account the control sample from the Redinger Reservoir outflow), then SCE will coordinate with agencies and discuss the potential for focused visual encounter survey (presence and abundance).

3.0 Reporting and Consultation

Annual monitoring reports will be prepared by the Licensee and distributed to the USFS, CDFW, SWRCB, Tribes, and TRG for review and comment by January 15 of the year following completion of the monitoring. A 60-day review period will be provided to the USFS, CDFW, SWRCB, Tribes, and TRG. Based on the results of the monitoring and/or comments received during the review process, the Licensee, USFS, CDFW, SWRCB, Tribes, or the TRG may hold a meeting (or conference call) to discuss the results or potential modifications to the monitoring program. Within 60 days after the review period or 60 days following any meeting regarding the report, whichever is later, comments will be addressed in the final report, which will be filed by the Licensee with the USFS, CDFW, and SWRCB and distributed to the Tribes and TRG.

If modifications to the monitoring program are deemed necessary to meet the goal of the monitoring program, the Licensee will submit any recommended modifications to the monitoring program to the USFS and SWRCB for approval. Following approval from the USFS and SWRCB, the Licensee will submit the proposed modifications to the monitoring program (along with approvals) to FERC for approval. The Licensee will implement the modified monitoring program as approved by FERC.

4.0 Literature Cited

- BioSystems Analysis, Inc. 1987. A technical report on riverine fishery studies conducted in support of the Big Creek Expansion Project. Submitted to Southern California Edison Co., Rosemead, California.
- Bury, R.B. and D.J. Germano. 1998. Annual deposition of scute rings in the western pond turtle (*Clemmys marmorata*). *Chelonian Conservation and Biology* 3:108–109.
- Carim, Kellie J.; McKelvey, Kevin S.; Young, Michael K.; Wilcox, Taylor M.; Schwartz, Michael K. 2016. A protocol for collecting environmental DNA samples from streams. Gen. Tech. Rep. RMRS-GTR-355. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 18 p.
- Deventer, J.S., and W.S. Platts. 1989. Microcomputer Software System for Generating Population Statistics from Electrofishing Data—User's Guide for MicroFish 3.0. USDA-Forest Service Intermountain Research Station General Technical Report INT-254.
- Fausch, K.D., and R.J. White. 1981. Competition between brook trout (*Salvelinus fontinalis*) and brown trout (*Salmo trutta*) for positions in a Michigan stream. *Canadian Journal of Fisheries and Aquatic Sciences* 38:1220-1227.
- Griffith, J.S., Jr. 1972. Comparative behavior and habitat utilization of brook trout (*Salvelinus fontinalis*) and cutthroat trout (*Salmo clarki*) in small streams in northern Idaho. *Journal of Fishery Research Board of Canada* 29:265-273.
- Hankin, D.G., and G.H. Reeves. 1988. Estimation total fish abundance and total habitat area in small streams based on visual estimation methods. *Canadian Journal of Fisheries and Aquatic Sciences* 45:834-844.
- Hicks, B.J., and N.R.N. Watson. 1985. Seasonal changes in abundance of brown trout (*Salmo trutta*) and rainbow trout (*S. gairdnerii*) assessed by drift diving in the Rangitikei River, New Zealand. *New Zealand Journal of Marine and Freshwater Research* 19:1-10.
- Hillman, T.W., J.W. Mullan, and J.S. Griffith. 1992. Accuracy of underwater counts of juvenile Chinook salmon, Coho salmon, and steelhead. *North American Journal of Fisheries Management* 12:596-603.
- Holland, D.C. 1994. The western pond turtle: habitat and history. U.S. Department of Energy, Bonneville Power Administration. Portland, Oregon.
- Platts, W.S., W.F. Megahan, and G.W. Minshall. 1983. Methods for evaluating stream, riparian, and biotic conditions. USDA Forest Service General Technical Report INT-138.
- Reynolds, J.B. 1996. Electrofishing. Chapter 8 in *Fisheries Techniques*, 2nd Edition, B.R. Murphy and D.W. Willis, Eds. American Fisheries Society. Bethesda, Maryland.
- Ricker, W.E. 1975. Computation and Interpretation of Biological Statistics of Fish Populations (Bulletin 191). Department of Environmental fisheries and Marine Sciences.

Southern California Edison Company (SCE). 1997. Big Creek No. 4 Water Power Project (FERC Project No. 2017), Application for New Licensee for Major Project – Existing Dam, Volume 2, Exhibit E. Rosemead, California.

SCE. 2008. Final Native Aquatic Species Management Plan (NASMP). Big Creek, California. July.

Villella, R.F. and D.R. Smith. 2005. Two-phase sampling to estimate river-wide populations of freshwater mussels. *Journal of North American Benthological Society* 24(2):357–368.

Zippin, C. 1958. The removal method of population estimation. *Journal of Wildlife Management* 22(1):82-90.

Attachment 1: List of Technical Studies Used in
Development of the Long-Term Operating
Rules Monitoring Plan

Report / Study	Reference
A technical report on riverine fishery studies conducted in support of the Big Creek Expansion Project.	BioSystems Analysis, Inc. 1987
Big Creek No. 4 Water Power Project (FERC No. 2017). Application for New License for Major Project Existing Dam.	SCE 1997
CAWG 2 Geomorphology, Technical Study Report.	SCE 2003
Adaptive Management Plan for River Flows and Native Aquatic Species Management Plan. Big Creek No. 4 Hydroelectric Project, FERC Project No. 2017.	SCE 2008
Whitewater Navigability Flow Survey First Rapid, Horseshoe Bend Run San Joaquin River.	SCE 2008
Native Aquatic Species Management Plan. Draft 2007 Data Collection Report. Big Creek No. 4 Hydroelectric Project, FERC Project No. 2017.	SCE 2009
Native Aquatic Species Management Plan. Draft 2008 Data Collection Report. Big Creek No. 4 Hydroelectric Project, FERC Project No. 2017.	SCE 2009
Native Aquatic Species Management Plan. Draft 2009 Data Collection Report. Big Creek No. 4 Hydroelectric Project, FERC Project No. 2017.	SCE 2010
Native Aquatic Species Management Plan. 2010 Data Collection Report. Big Creek No. 4 Hydroelectric Project, FERC Project No. 2017.	SCE 2011
Dam 7 Spill Management Feasibility Study Report, San Joaquin River. Big Creek No. 4, FERC Project No. 2017.	SCE 2012
Native Aquatic Species Management Plan. 2011 Data Collection Report. Big Creek No. 4 Hydroelectric Project, FERC Project No. 2017.	SCE 2012
Native Aquatic Species Management Plan. 2012 Data Collection and Baseline Report. Final. Big Creek No. 4 Hydroelectric Project, FERC Project No. 2017.	SCE 2013
Native Aquatic Species Management Plan and Adaptive Management Plan. 2013 Data Collection Report. Big Creek No. 4, Hydroelectric Project, FERC Project No. 2017.	SCE 2014
Native Aquatic Species Management Plan and Adaptive Management Plan. 2014 Data Collection Report. Big Creek No. 4, Hydroelectric Project, FERC Project No. 2017.	SCE 2015
Native Aquatic Species Management Plan. 2015 Data Collection Report. Big Creek No. 4 Hydroelectric Project, FERC Project No. 2017.	SCE 2016
Hydrographic Analysis of Spills below Dam 7. Technical Memorandum.	SCE 2016
Native Aquatic Species Management Plan. Draft 2016 Data Collection Report. Big Creek No. 4, Hydroelectric Project, FERC Project No. 2017.	SCE 2017
Big Creek 4 Potential Whitewater Boating Opportunity Days Summary Analysis. Technical Memorandum.	SCE 2017
Native Aquatic Species Management Plan. 2017 Data Collection Report. Big Creek No. 4, Hydroelectric Project, FERC Project No. 2017.	SCE 2018
Experimental Flow Management. Technical Memorandum.	SCE 2018
Stage-Discharge Analysis. Technical Memorandum.	SCE 2018
Ramp-Down and Stranding Study in the Horseshoe Bend Reach below Dam 7. Technical Memorandum.	SCE 2018

ATTACHMENT B: CONSULTATION RECORD

Contact	Date	Topic of Consultation
CORRESPONDENCE		
TO: Craig Addley, Edward Bianchi, Wayne Lifton FR: Dennis Smith (Forest Service) cc: Philip Choy, Dave Steindorf, Ann Roberts, Theresa (American Whitewater), Jon George, Vicki Davis, Eric Guzman	02-21-2018	Email clarifying what the Forest Service would like to see for recession timing, rate of change and magnitude.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Brian Madigan, Gary Walker, Christina McDonald	02-26-2018	Email acknowledging the action items from TRG meeting.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Brian Madigan, Susan Monheit, Andrew McMillan	03-08-2018	Email containing draft summary from the 2/21 Big Creek 4 TRG meeting in Fresno, and draft agenda for the upcoming 3/22 & 3/23 TRG meeting and field trip.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Brian Madigan, Susan Monheit, Andrew McMillan	03-12-2018	Email containing all four SCE presentations from 2/21 along with revised NASMP section of the summary.
TO: Philip Choy, Jay Kimbler, Wayne Lifton FR: Terra Alpaugh (Kerns & West) cc: Dennis Smith, Ann Roberts, Eric Guzman, Theresa Simsiman, Abimael Leon, Dave Steindorf	03-20-2018	Email thanking Philip for the March 22 agenda and confirming presentation of initial proposal for spills/recession rates.
TO: Dennis Smith FR: Terra Alpaugh (Kerns & West) cc: Jay Martin & Cardno Team	03-20-2018	Email containing proposal for review and TRG discussion.

Contact	Date	Topic of Consultation
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Brian Madigan, Andrew McMillan, Susan Monheit	03-21-2018	Email containing meeting agenda, as well as two documents provided by the TRG members per the discussion at the February meeting; (1) a rationale for 2018 monitoring and (2) a regression analysis proposal.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Brian Madigan; Andrew McMillan, Susan Monheit, Miles Baty, Gina Riley	03-22-2018	Email notifying BC4 TRG field visit is being postponed
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	04-03-2018	Email notifying of action items from the March 22 Big Creek 4 TRG meeting.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Christina McDonald, Brian Madigan	04-18-2018	Email containing proposed agenda for the April 24 Field visit and the April 25 TRG meeting, the meeting summary from March meeting, and the boating day definitions for review so they can be finalized.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Christina McDonald, Brian Madigan	04-19-2018	Email containing updated agenda, and a draft of SCE's LTOR proposal for review and further discussion.
TO: Philip Choy, Jay Kimbler FR: Terra Alpaugh (Kerns & West) cc: Eric Guzman, Abimael Leon, Denis Smith, Ann Roberts, Dave Steindorf, Theresa Simsiman, Martin Ostendorf, Wayne Lifton, Edward Bianchi, Craig Addley, Michael Harty	04-19-2018	Email containing TRG Action Item Documents – 2018 and LTOR: "Provide a written description of their request for 2018 and long-term monitoring, including an explanation of why the already-collected data is not sufficient to meet their needs"
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Christina McDonald, Brian Madigan, Vanessa Martinez	04-25-2018	Email notifying of TRG meeting times and location, containing Big Creek 4 2018 Monitoring Rationale 2, Big Creek 4 LTOR Baseline Monitoring rationale, Whitewater Boating Day Definition, Agenda, and Yearly Down Ramp Presentation

Contact	Date	Topic of Consultation
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Christina McDonald, Brian Madigan, Vanessa Martinez	05-01-2018	Email notifying of action items from the April 24/25 meeting that also contains clean versions of the LTOR proposal and PDF with the Mammoth Pool requirements as requested
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Christina McDonald, Brian Madigan, Vanessa Martinez	05-15-2018	Email containing TRG meeting summary from April for review; comments and corrections requested
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Brian Madigan, Katie Parra, Andrew McMillan, Stephanie Fincher	05-17-2018	Email notifying TRG participants of meeting location that contains the proposed agenda from SCE, and SCE's proposed LTOR.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Brian Madigan, Katie Parra, Andrew McMillan, Stephanie Fincher	05-17-2018	Email containing Ramp Down Stranding Technical Memo (Draft) along with notification of upcoming meeting updates
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Brian Madigan, Katie Parra, Andrew McMillan, Stephanie Fincher	05-17-2018	Email containing Stage-Discharge Technical Memo (Draft) along with notification of upcoming meeting updates
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Brian Madigan, Katie Parra, Andrew McMillan, Stephanie Fincher	05-18-2018	Email notifying of agenda changes of upcoming meeting
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Brian Madigan, Katie Parra, Andrew McMillan, Stephanie Fincher	05-23-2018	Email containing the draft LTOR with edits made in today's meeting. Further edits will be provided by the TRG and SCE.

Contact	Date	Topic of Consultation
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Christina McDonald, Gary Walker	05-31-2018	Email requesting scheduling July and August TRG meeting, notifying TRG Participants of action items from 05-23-2018 meeting, and attachments Schedule Graphic Big Creek 4 Peer Review, Schedule Graphic Big Creek 4 (v2), and Whitewater Boating Day Definition (v2) for review
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Christina McDonald, Gary Walker	06-08-2018	Email containing draft agenda for next TRG meeting, and requesting scheduling for upcoming July and August TRG meetings
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Christina McDonald, Gary Walker	06-11-2018	Email confirming meeting date, time, and location and containing draft of the LTOR updated in response to the TRG's comments. Requesting meeting availability to finalize dates.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Christina McDonald, Gary Walker	06-12-2018	Email containing draft meeting summaries: 1) May TRG meeting, and 2) April TRG meeting
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Christina McDonald, Gary Walker, Andrew McMillan	06-14-2018	Email containing the LTOR draft that was edited at the meeting. SCE/Cardno will be incorporating the changes . . . and recirculating an updated version for review by July 30 (before the August 21 meeting)
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Christina McDonald, Gary Walker, Andrew McMillan	06-19-2018	Email notifying of action items from the June 13 meeting and scheduling of August 21 and 28 meetings
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Christina McDonald, Gary Walker, Andrew McMillan	07-09-2018	Email notifying of action items to review 2018 fish sampling proposal (BC4 NASMP-AMP 2018 Ninth Year Proposal 6-21-18 DRAFT.pdf) and reminder to submit comments on the outstanding 2017 studies
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Christina McDonald, Gary Walker, Andrew McMillan	07-12-2018	Email notifying another item to reference: report submitted by Wayne Lifton, "BC4 Regression Technical Memorandum Draft.pdf"

Contact	Date	Topic of Consultation
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Christina McDonald, Gary Walker, Andrew McMillan	07-19-2018	Email containing draft meeting summary for the 06-13-2018 TRG meeting to review and provide comments/corrections
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Katie Parra, Brian Madigan	08-21-2018	Email containing LTOR and Monitoring Plans
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Brian Madigan	08-24-2018	Email containing revised LTOR and Monitoring Plan documents for review. SCE and Cardno currently working on a list of technical studies used to develop the LTOR (now Appendix A) along with revisions to Map 1 in the LTOR Monitoring Plan.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Brian Madigan	08-27-2018	Email containing TRG draft meeting agenda along with action items from 8/21/ TRG meeting
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Brian Madigan	08-27-2018	Email requesting comments on the LTOR revisions
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Brian Madigan	08-29-2018	Email notifying the TRG Team that the Draft LTOR and 2018 Monitoring Plan documents were edited and that SCE and Cardno will provide further revised version for review. Revised documents attached to email.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Brian Madigan	08-30-2018	Email confirming TRG 8/28 action items list.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	09-11-2018	Email containing the revised version of the agenda for TRG conference call on September 12, 2018. Draft LTOR is still undergoing SCE legal review.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	09-12-2018	Email thanking everyone for sharing their concerns and to brainstorm potential solutions on the final items. Included attachments of the revised Draft LTOR and Monitoring Plans with edits.

Contact	Date	Topic of Consultation
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	09-17-2018	Email confirming 9/12 actions items and October scheduling.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	09-19-2018	Email notifying team of BC4 9/12 action items and reminder to fill out the availability poll for scheduling Oct/Nov next Big Creek 4 TRG meeting.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	09-20-2018	Email notification that SCE has provided the proposal to assess the safety concerns discussed on the 9/12 call.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	09-24-2018	Email requesting participants provide availability for Oct/Nov TRG meeting.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	09-26-2018	Email notifying team to fill out the availability poll for scheduling Oct/Nov next Big Creek 4 TRG meeting
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	10-15-2018	Email containing Meeting Notes for meetings held on Aug 21, Aug 28, and Sep 12 for review before finalizing and recirculating.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	10-29-2018	Email containing TRG agenda and meeting format change for Nov 6 meeting.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	11-03-2018	Email containing final August and September meeting summaries.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	11-14-2018	Email containing the draft LTOR schedule. Action items from last week's call also included; availability needed for Feb and March meetings.

Contact	Date	Topic of Consultation
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	11-27-2018	Email notifying to provide availability for Feb and March meeting.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	12-20-2018	Email containing draft meeting summary from November TRG call. Requesting edits/comments. SCE is finishing the 2018 NASMP report.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	12-31-2018	Southern California Edison Company (SCE) submits the Draft 2018 Data Collection Report to the TRG Participants for review and comment.
TO: Jay Kimbler, Stephanie Fincher FR: Philip Choy cc: Terra Alpaugh, Leon Abimael, Eric Guzman, Ann Roberts, Susan Monheit, Wayne Lifton	01-16-2019	Email confirming comments on 2018 NASMP Fish Monitoring Report
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	01-24-2019	Email notifying TRG participants of Feb 5 meeting to March due to federal government shut down. To review NASMP and discuss outstanding LTOR topics, including safety and temperature monitoring. SCE to circulate the revised LTOR, including safety language in advance of the meeting. SCE completing review of the AMP proposal.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	02-03-2019	Email Part 1 containing the NASMP that was submitted by SWRCB and Part 1 of the 2002 Revised EA for Big Creek 4 that SCE uncovered.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	02-03-2019	Email Part 2 containing of the 2002 Revised EA for Big Creek 4 that SCE uncovered.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	02-07-2019	Email containing the Big Creek 4 AMP 2018 Down Ramp Study Results report for review.

Contact	Date	Topic of Consultation
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: --	03-12-2019	Email notifying participants of TRG meeting on March 19, 2019. It contains the agenda that covers SCE plans to focus on the topic areas in the NASMP and AMP reports. The group will also focus on developing solutions to the outstanding issues in the draft LTOR.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Paul Martzen, Katie Parra	03-18-2019	Email notifying participants of updated agenda including updated LTOR and Monitoring Plan for meeting on March 19, 2019.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Paul Martzen, Katie Parra	04-07-2019	Email notifying of action items from the March 19 Big Creek 4 TRG meeting.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Paul Martzen, Katie Parra	04-09-2019	Email containing the revised LTOR and Monitoring Plan. Edits from previous sessions were accepted and additions from the last TRG meeting are in redline.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Paul Martzen, Katie Parra	04-16-2019	Email containing draft meeting summary, slide deck, and comment log with SCE responses presented at the March 19 TRG meeting.
TO: Terra Alpaugh, TRG Participants FR: Philip Choy cc: Paul Martzen, Katie Parra	04-18-2019	Email containing revised LTOR and clean Monitoring Plan with Philip Choy's edits and comments that SCE agreed to.
TO: Terra Alpaugh, TRG Participants FR: Dagmar Sundermeyer cc: Paul Martzen, Katie Parra	04-18-2019	Email notifying TRG participants that flows from Willow Creek were too high during SCE's 2018 sampling and that the monitoring plan will require SCE to coordinate more closely with PG&E on flows from Willow Creek.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Paul Martzen, Katie Parra	04-18-2019	Email notifying participants to submit additional edits to the LTOR and/or Monitoring Plan before April 24 deadline. SCE and Cardno will incorporate feedback and finalize.

Contact	Date	Topic of Consultation
TO: Philip Choy, Jay Kimbler FR: Terra Alpaugh cc: Eric Guzman, Abimael Leon, Dennis Smith, Ann Roberts, Dave Steindorf, Theresa Simsiman, Martin Ostendorf, Wayne Lifton, Edward Bianchi, Craig Addley, Michael Harty	04-19-2019	Email thanking Philip Choy for his updates to the revised LTOR and clean Monitoring Plan; copied the Martin Ostendorf and the Cardno team for their review.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Paul Martzen, Katie Parra	04-26-2019	Email notifying TRG Participants of final reminder to submit comments on the LTOR and Monitoring Plan. SCE will incorporate comments, finalize the documents, and send them to the regulating agencies for approval.
TO: TRG Participants FR: Terra Alpaugh (Kerns & West) cc: Paul Martzen, Katie Parra	05-06-2019	Email containing final meeting summary from the March 19 TRG meeting.
MEETING / CONFERENCE CALL NOTES		
BC4 NASMP/AMP Technical Review Group (TRG) Long Term Operating Rules (LTOR) Meeting	01-22-2018	Meeting Notes
BC4 NASMP/AMP Technical Review Group (TRG) Long Term Operating Rules (LTOR) Meeting	02-21-2018	Meeting Notes
BC4 NASMP/AMP Technical Review Group (TRG) Long Term Operating Rules (LTOR) Meeting	02-21-2018	Meeting Notes V2
BC4 NASMP/AMP Technical Review Group (TRG) Long Term Operating Rules (LTOR) Meeting	03-22-2018	Meeting Notes
BC4 NASMP/AMP Technical Review Group (TRG) Long Term Operating Rules (LTOR) Meeting	04-24-2018 04-25-2018	Meeting Notes

Contact	Date	Topic of Consultation
BC4 NASMP/AMP Technical Review Group (TRG) Long Term Operating Rules (LTOR) Meeting	05-23-2018	Meeting Notes
BC4 NASMP/AMP Technical Review Group (TRG) Long Term Operating Rules (LTOR) Meeting	06-13-2018	Meeting Notes
BC4 NASMP/AMP Technical Review Group (TRG) Long Term Operating Rules (LTOR) Meeting	08-21-2018	Meeting Notes
BC4 NASMP/AMP Technical Review Group (TRG) Long Term Operating Rules (LTOR) Meeting	08-28-2018	Meeting Notes
BC4 NASMP/AMP Technical Review Group (TRG) Long Term Operating Rules (LTOR) Meeting	09-12-2018	Meeting Notes
BC4 NASMP/AMP Technical Review Group (TRG) Long Term Operating Rules (LTOR) Conference Call	11-06-2018	Meeting Notes
BC4 NASMP/AMP Technical Review Group (TRG) Long Term Operating Rules (LTOR) Meeting	03-19-2019	Meeting Notes

CORRESPONDENCE

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: Presentation on NF Yuba and American Rivers recession rates
Date: Wednesday, May 8, 2019 12:56:14 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[spring_recsn_overview.pdf](#)

Please add to BC4

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE
PRINCIPAL - AQUATIC ECOLOGY
CARDNO

Direct +1 925 988 1216 Mobile +1 925 890 3675
Address 2999 Oak Road Suite 720, Walnut Creek, California 94597
Email wayne.lifton@cardno.com Web www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Smith, Dennis E -FS <dennissmith@fs.fed.us>
Sent: Wednesday, February 21, 2018 12:28 PM
To: Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Wayne Lifton <Wayne.Lifton@cardno.com>
Cc: Choy, Philip@Waterboards <Philip.Choy@Waterboards.ca.gov>; Dave Steindorf (dave@americanwhitewater.org) <dave@americanwhitewater.org>; Roberts, Ann R -FS <annrroberts@fs.fed.us>; theresa@americanwhitewater.org; George, Jon -FS <jongearge@fs.fed.us>; Davis, Vicki - FS <vickidavis@fs.fed.us>; Eric.Guzman@wildlife.ca.gov
Subject: Presentation on NF Yuba and American Rivers recession rates

All,

What the FS would like to see for recession timing , rate of change and magnitude. Obviously this would change based upon water year type. Also the AGC control would complicate SCE's control of the daily magnitude changes. Ideally if the diel rate of change were to mirror upstream diel rates that would be ideal but AGC may make that infeasible.

Thanks,
Dennis



Dennis Smith, B.S., M.S. E.M.
Regional Hydropower Assistance Team
Forest Service
Pacific Southwest Region Public Services

p: 707-562-9176
c: 916-849-8039
dennissmith@fs.fed.us

1323 Club Drive
Vallejo, CA 94596

www.fs.fed.us



Caring for the land and serving people

This electronic message contains information generated by the USDA solely for the intended recipients. Any unauthorized interception of this message or the use or disclosure of the information it contains may 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: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Monday, February 26, 2018 5:59 PM

To: cmcdonald@nfr-nsn.gov; aondrea_bartoo@fws.gov; A1O3@pge.com; Jay Kimbler <Jay.Kimbler@sce.com>; dmitchellclovis@aol.com; gwalker@nfr-nsn.gov; David Martinez <Dave.Martinez@cardno.com>; Craig Addley <Craig.Addley@cardno.com>; efink@northforkrancheria-nsn.gov; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; theresa@americanwhitewater.org; canyondog@alum.mit.edu; aotto@fs.fed.us; Philip.Choy@Waterboards.ca.gov; annroberts@fs.fed.us; Eric.Guzman@wildlife.ca.gov; cam5j@aol.com; Edward Bianchi <Ed.Bianchi@cardno.com>; paul_martzen@yahoo.com; Michael Harty <jmharty@kearnswest.com>; vickidavis@fs.fed.us; patnlou@netptc.net; remerson@usbr.gov; jongearge@fs.fed.us; rgonzalez@usbr.gov; Abimael.leon@wildlife.ca.gov; martin.ostendorf@sce.com; greyes@usbr.gov; arc_natres@hotmail.com; smonheit@waterboards.ca.gov; pcstrand@fs.fed.us; alind@fs.fed.us; Steven_Schoenberg@fws.gov; dennissmith@fs.fed.us; d5sk@pge.com; dalvarez@fs.fed.us; monomuseum@gmail.com; dave@americanwhitewater.org; alison_willy@fws.gov; RWgoode911@hotmail.com; kparra@nfr-nsn.gov; RXYY@pge.com; Wayne Lifton <Wayne.Lifton@cardno.com>; dagould@fs.fed.us

Cc: Madigan, Brian <B4M0@pge.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>

Subject: Big Creek 4 TRG Meeting Action Items from 2/21

Hi all –

Below are the actions items from last week's TRG meeting. Please let me know if you think I've missed (or mis-captured) anything.

- **SCE will:**
 - Perform a regression to determine whether particular abiotic/biotic elements are closely correlated with fish populations, looking at each individual species (dependent variable = fish population; independent variables = temperature, date of spill, magnitude of spill, sampling timing, etc)
 - **TRG members will** provide a list of inputs they would like included in the model
 - Re: NASMP:
 - Include in the NASMP a discussion of historic conditions in the Big Creek 4 area and how they have changed in ways that are now sustaining bass populations.
 - Verify that sampling frequency is included in the NASMP and add it if it is missing.
 - Circulate the revised NASMP to the Water Board and Forest Service to request approval before filing with FERC.
 - Re: Stage Discharge:
 - Incorporate the detailed explanations of the Stage Discharge Study that Craig provided verbally into the written report.
 - Finalize draft Stage Discharge report and distribute it to the TRG within three weeks (March 14).
 - Re: draft LTOR proposal:
 - Refine and present a draft LTOR proposal to the TRG at the March meeting. Aim to distribute proposal to TRG 5 days in advance of meeting.
 - On the graph showing various ramping rates compared to historical spills, shade the area on the graph that is beneficial for riparian species/habitat (so it is distinguished from the tail end of some of the ramp downs that is not necessarily beneficial to biota).

- On the table summarizing the water cost/impact of various ramping rates, include statistics on whitewater days provided out of season.
- Re: 2018 monitoring:
 - Revisit this item on the March agenda.
 - Make a final decision regarding 2018 monitoring by May in order to submit the plans to FERC before implementation.
- Assess the likely impacts of the flow releases proposed under the relicensing for the upper project on in-stream flows in the Big Creek 4 reach. Will report back at March meeting.
- Burn a copy of the 2010 NASMP report and provide to Forest Service.
- Re: 2018 Experimental Spill Proposal:
 - If a spill looks likely to happen, notify the TRG members, particularly American Whitewater, so they can inform boaters.
 - Touch base with Ron Goode to get his feedback on the proposal before submitting to FERC.
 - Provide draft to Water Board for review and approval by management.
 - Provide an estimate of the cost of the 2017 spill recession at March meeting.
 - Investigate whether investments in infrastructure or software would minimize the long term cost of implementing spill recession (e.g. allow both AGC and a spill recession).
- Re: schedule:
 - Revise negotiation schedule to reflect enough time for peer review of the LTOR.
 - Schedule the next TRG meeting at Big Creek 4 and include a site visit; investigate the possibility of using the Forest Service conference room.
 - Provide draft March TRG agenda ASAP.
- **TRG members will:**
 - (From above) Provide a list of inputs they would like included in the regression model.
 - Caucus on their proposal for long-term monitoring and report back at the March meeting.
 - Provide a written proposal for 2018 monitoring, including justification on the timing, by the March meeting.
- **Forest Service will:**
 - Look at SCE's proposed locations for eDNA sampling and confirm they make sense historically.
 - Share information on the latest best practices in eDNA sampling with Cardno.

Terra Alpaugh
 Associate, Kearns & West
 Davis, CA
 Office: 530.298.7113, ext 1403
 Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Thursday, March 8, 2018 10:05 AM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwggoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; smonheit@waterboards.ca.gov; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; alind@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongeorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Jay Kimbler <Jay.Kimbler@sce.com>

Cc: Madigan, Brian <B4M0@pge.com>; Monheit, Susan@Waterboards <Susan.Monheit@waterboards.ca.gov>; Andrew McMillan <Andrew.Mcmillan@sce.com>

Subject: Big Creek 4 TRG 2/21 Meeting Summary + 3/22-23 Draft Agenda

Hi all –

Attached you'll find two items:

- (1) A draft summary from the 2/21 Big Creek 4 TRG meeting in Fresno. Please let me know if you see anything I've mis-captured and should be corrected.
- (2) A draft agenda for the upcoming 3/22 & 3/23 TRG meeting and field trip. There may be small adjustments to this agenda over the next two weeks, but it should give you a good idea of what SCE hopes to cover. The Thursday meeting will be at the Piccadilly Inn per usual, and we will reconvene Friday morning for a field visit at Big Creek 4.

Please let me know if you have any questions or concerns.

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: Big Creek 4 TRG 2/21 Meeting Summary + 3/22-23 Draft Agenda
Date: Wednesday, May 8, 2019 12:37:03 PM
Attachments: [Big Creek 4 Feb 22 DRAFT Summary v2.docx](#)
[Feb2018 TRGPpresentations.pdf](#)

Please add to BC4

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE
PRINCIPAL - AQUATIC ECOLOGY
CARDNO

Direct +1 925 988 1216 Mobile +1 925 890 3675
Address 2999 Oak Road Suite 720, Walnut Creek, California 94597
Email wayne.lifton@cardno.com Web www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Monday, March 12, 2018 11:47 AM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; smonheit@waterboards.ca.gov; Philip.ChoY@Waterboards.ca.gov; dagould@fs.fed.us; alind@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkkrancheria-nsn.gov>; Christina McDonald <cmcdonald@northforkkrancheria-nsn.gov>; Jay Kimbler <Jay.Kimbler@sce.com>

Cc: Madigan, Brian <B4M0@pge.com>; Monheit, Susan@Waterboards <Susan.Monheit@waterboards.ca.gov>; Andrew McMillan <Andrew.Mcmillan@sce.com>

Subject: RE: Big Creek 4 TRG 2/21 Meeting Summary + 3/22-23 Draft Agenda

Hi all –

I received a request for the meeting slides from February. You will find all four SCE presentations from 2/21 compiled in the attached PDF.

I also received a few edits to the NASMP section of the summary, so an updated version is attached.

As always, please let me know if you have any questions or concerns.

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh

Sent: Thursday, March 8, 2018 10:05 AM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com' <RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'smonheit@waterboards.ca.gov' <smonheit@waterboards.ca.gov>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'alind@fs.fed.us' <alind@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us'

<dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>;
'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov'
<aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>;
'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; Michael Harty
<jmharty@kearnswest.com>; 'craig.addley@cardno.com' <craig.addley@cardno.com>;
'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; 'Gary Walker' <walker@northforkrancheria-nsn.gov>; 'Christina McDonald' <cmcdonald@northforkrancheria-nsn.gov>; 'Jay Kimbler'
<Jay.Kimbler@sce.com>
Cc: Madigan, Brian <B4M0@pge.com>; Monheit, Susan@Waterboards
<Susan.Monheit@waterboards.ca.gov>; Andrew McMillan <Andrew.Mcmillan@sce.com>
Subject: Big Creek 4 TRG 2/21 Meeting Summary + 3/22-23 Draft Agenda

Hi all –

Attached you'll find two items:

- (1) A draft summary from the 2/21 Big Creek 4 TRG meeting in Fresno. Please let me know if you see anything I've mis-captured and should be corrected.
- (2) A draft agenda for the upcoming 3/22 & 3/23 TRG meeting and field trip. There may be small adjustments to this agenda over the next two weeks, but it should give you a good idea of what SCE hopes to cover. The Thursday meeting will be at the Piccadilly Inn per usual, and we will reconvene Friday morning for a field visit at Big Creek 4.

Please let me know if you have any questions or concerns.

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Tuesday, March 20, 2018 3:43 PM

To: Choy, Philip@Waterboards <Philip.Choi@Waterboards.ca.gov>; Jay Kimbler <Jay.Kimbler@sce.com>; Wayne Lifton <Wayne.Lifton@cardno.com>

Cc: Smith, Dennis E -FS <dennis.smith@fs.fed.us>; Roberts, Ann R -FS <annrroberts@fs.fed.us>; Guzman, Eric@Wildlife <Eric.Guzman@wildlife.ca.gov>; Theresa Simsiman <theresa@americanwhitewater.org>; Leon, Abimael@Wildlife <Abimael.Leon@wildlife.ca.gov>; Dave Steindorf (dave@americanwhitewater.org) <dave@americanwhitewater.org>

Subject: RE: Big Creek 4 - 2018 monitoring rationale and clarification on March 22 agenda

Hi Philip,

Thank you for this document; I'll have it on hand so we can pull it up for discussion on Thursday.

I believe that SCE's plan for the "Update on the draft LTOR Proposal" agenda item is to present their initial proposal for spills/recession rates going forward, as opposed to focusing in depth on 2017.

I look forward to seeing you on Thursday.

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Choy, Philip@Waterboards [<mailto:Philip.Choi@Waterboards.ca.gov>]

Sent: Tuesday, March 20, 2018 3:08 PM

To: Terra Alpaugh <talpaugh@kearnswest.com>; Jay Kimbler <Jay.Kimbler@sce.com>; 'Wayne Lifton' <wayne.lifton@cardno.com>

Cc: Smith, Dennis E -FS <dennis.smith@fs.fed.us>; Roberts, Ann R -FS <annrroberts@fs.fed.us>; Guzman, Eric@Wildlife <Eric.Guzman@wildlife.ca.gov>; Theresa Simsiman <theresa@americanwhitewater.org>; Leon, Abimael@Wildlife <Abimael.Leon@wildlife.ca.gov>; Dave Steindorf (dave@americanwhitewater.org) <dave@americanwhitewater.org>

Subject: Big Creek 4 - 2018 monitoring rationale and clarification on March 22 agenda

Hi Terra and Jay,

Please see attached to view the TRG's rational for 2018 monitoring for Big Creek 4. In regards to the proposed agenda, does SCE intend to discuss the 2017 Spill Recession Memo during the "update of SCE draft LTOR Proposal"? If so, would it be possible to have SCE operators present?

Please let me know if you have any questions. See you Thursday.

Thanks,
Philip Choy

Philip Choy
Environmental Scientist
State Water Resources Control Board
Water Quality Certification Program
1001 I St., 14th floor Sacramento, CA 95814
(916) 341-5408

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: TRG Proposal for Multiple Regression Analysis for Big Creek 4
Date: Wednesday, May 8, 2019 12:31:15 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[regression analysis proposal \(005\).DOCX](#)

Please add to BC4

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE
PRINCIPAL - AQUATIC ECOLOGY
CARDNO

Direct +1 925 988 1216 **Mobile** +1 925 890 3675
Address 2999 Oak Road Suite 720, Walnut Creek, California 94597
Email wayne.lifton@cardno.com **Web** www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Terra Alpaugh <talpaugh@kearnswest.com>
Sent: Tuesday, March 20, 2018 5:10 PM
To: Smith, Dennis E -FS <dennissmith@fs.fed.us>
Cc: Roberts, Ann R -FS <annrroberts@fs.fed.us>; Choy, Philip@Waterboards <Philip.Choy@Waterboards.ca.gov>; Otto, Anae -FS <aotto@fs.fed.us>; Davis, Vicki - FS <vickidavis@fs.fed.us>; Guzman, Eric@Wildlife <Eric.Guzman@wildlife.ca.gov>; Theresa Simsiman <theresa@americanwhitewater.org>; Dave Steindorf (dave@americanwhitewater.org) <dave@americanwhitewater.org>; Alvarez, Dawn -FS <dalvarez@fs.fed.us>; 'Martin Ostendorf' <Martin.Ostendorf@sce.com>; Jay Kimbler <Jay.Kimbler@sce.com>; Wayne Lifton <Wayne.Lifton@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Craig Addley <Craig.Addley@cardno.com>; Michael Harty <jmharty@kearnswest.com>; David Martinez <Dave.Martinez@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>
Subject: RE: TRG Proposal for Multiple Regression Analysis for Big Creek 4

Thank you, Dennis.

I've copied Martin, Jay, and the Cardno team here, so they can review the proposal and the TRG can discuss as needed on Thursday.

Terra Alpaugh

Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Smith, Dennis E -FS [<mailto:dennis-smith@fs.fed.us>]
Sent: Tuesday, March 20, 2018 4:47 PM
To: Terra Alpaugh <talpaugh@kearnswest.com>
Cc: Roberts, Ann R -FS <annrroberts@fs.fed.us>; Choy, Philip@Waterboards <Philip.Choy@Waterboards.ca.gov>; Otto, Anae -FS <aotto@fs.fed.us>; Davis, Vicki - FS <vickidavis@fs.fed.us>; Guzman, Eric@Wildlife <Eric.Guzman@wildlife.ca.gov>; Theresa Simsiman <theresa@americanwhitewater.org>; Dave Steindorf (dave@americanwhitewater.org) <dave@americanwhitewater.org>; Alvarez, Dawn -FS <dalvarez@fs.fed.us>
Subject: TRG Proposal for Multiple Regression Analysis for Big Creek 4

Hi Terra,

This is the proposal that we talked about at the last BC4 TRG meeting for a multiple regression analysis to see if we can determine what parameters are the most important determinant on fish population size. Please forward on to Martin and his group for consideration.

Thanks,
Dennis



Dennis Smith, B.S., M.S. E.M.
Regional Hydropower Assistance Team
Forest Service
Pacific Southwest Region Public Services

p: 707-562-9176
c: 916-849-8039
dennis-smith@fs.fed.us

1323 Club Drive
Vallejo, CA 94596
www.fs.fed.us



Caring for the land and serving people

This electronic message contains information generated by the USDA solely for the intended recipients. Any unauthorized interception of this message or the use or disclosure of the

information it contains may 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: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: 3/22, 3/23 Big Creek 4 TRG Meeting Details
Date: Wednesday, May 8, 2019 12:31:15 PM
Attachments: [Big Creek 4 2018 Monitoring Rationale.pdf](#)
[regression analysis proposal \(005\).DOCX](#)
[BC4 TRG March 22,23 Mtg Agenda_DRAFT_v2.doc](#)

Please add to BC4

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE
PRINCIPAL - AQUATIC ECOLOGY
CARDNO

Direct +1 925 988 1216 **Mobile** +1 925 890 3675
Address 2999 Oak Road Suite 720, Walnut Creek, California 94597
Email wayne.lifton@cardno.com **Web** www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Terra Alpaugh <talpaugh@kearnswest.com>
Sent: Wednesday, March 21, 2018 12:14 PM
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwggoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; smonheit@waterboards.ca.gov; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongeorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Jay Kimbler <Jay.Kimbler@sce.com>
Cc: Madigan, Brian <B4M0@pge.com>; Andrew McMillan <Andrew.Mcmillan@sce.com>; Monheit, Susan@Waterboards <Susan.Monheit@waterboards.ca.gov>
Subject: 3/22, 3/23 Big Creek 4 TRG Meeting Details

Hi all –

Just a quick update before tomorrow's meeting and Friday's site visit!

Attached is the meeting agenda, as well as two documents provided by the TRG members per the discussion at the February meeting – (1) a rational for 2018 monitoring and (2) a regression analysis proposal. If there are any additional edits to the agenda before the meeting, I will redistribute to attendees who are calling in, as well as providing paper copies for those coming to Fresno.

Lunch at the Piccadilly on Thursday is provided. Please bring a picnic lunch for the Friday field visit. Jay will bring an ice chest and bottled water.

On Friday, appropriate field clothing is required: long pants, long sleeved shirt, sturdy footwear, fleece, **raingear** and a hat. We will not be getting in the water, so wading gear is not needed. We may encounter mosquitoes and poison oak, so please bring bug spray and Tecnu, Ivy Off or similar products.

I have updated the calendar invite for Friday with driving instructions to the Powerhouse, since your mapping app may not take you to the right location.

Please let me know if you have any questions! Mike and I look forward to seeing you all soon.

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; martin.ostendorf@sce.com; [Michael Harty](#); [Craig Addley](#); [Edward Bianchi](#); [Gary Walker](#); [Christina McDonald](#); [Jay Kimbler](#)
Cc: [Madigan, Brian](#); [Andrew McMillan](#); [Monheit, Susan@Waterboards](#); [Miles Baty](#); [Gina Riley](#)
Subject: RE: Big Creek 4 TRG Field Visit
Date: Thursday, March 22, 2018 8:49:16 PM

THIS EVENT IS BEING POSTPONED UNTIL THE APRIL TRG MEETING. MORE DETAILS WILL BE FORTHCOMING.

THANKS!!

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, February 6, 2018 2:10 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; martin.ostendorf@sce.com; [Michael Harty](#); craig.addley@cardno.com; ed.bianchi@cardno.com; [Gary Walker](#); [Christina McDonald](#); [Jay Kimbler](#)

Cc: [Madigan, Brian](#); [Andrew McMillan](#); [Monheit, Susan@Waterboards](#); [Miles Baty](#); [Gina Riley](#)

Subject: Big Creek 4 TRG Field Visit

When: Friday, March 23, 2018 9:00 AM-12:30 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Powerhouse, 58188 Rd 235, North Fork CA (directions and coordinates below)

The address for the Powerhouse is 58188 Rd 235, North Fork CA. Most map apps put that location out in the bushes near the powerhouse but it gets you on the right road.

Here are the coordinates for the location: 37.143767, -119.492343

FROM FRESNO:

Take 168 East toward Prather/Auberry

At the traffic circle in Prather take the first exit (right) to continue on 168 East/Auberry Road

Continue about 1 mile and turn left onto Auberry Road toward the town of Auberry
Continue about 3 miles through the town of Auberry and veer left at the fork onto Powerhouse Rd.
Continue about 7.5 miles and cross the bridge over Kerckhoff Lake.
Just after the bridge turn right onto Rd 235 (Redinger Lake Rd.)
Entrance to BC4 is about .75 miles in on 235, at beginning of Horseshoe Bend trail.

Appropriate field clothing is required – long pants, long sleeved shirt, sturdy footwear, fleece, **raingear** and a hat. We will not be getting in the water, so wading gear is not needed. We may encounter mosquitoes and poison oak, so please bring bug spray and Tecnu, Ivy Off or similar products.

Jay will bring an ice chest and bottled water. Please bring a lunch.

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greves@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton; Katie.Ross-Smith; David.Martinez; cam5j@aol.com; dmitchelclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimble; martin.ostendorf@sce.com; Michael.Harty; Craig.Addley; Edward.Bianchi; Christina.McDonald; Andrew.McMillan
Subject: BC4 TRG 3/20 Action Items & Slides
Date: Tuesday, April 3, 2018 2:41:54 PM
Attachments: [BC4 March 22 Mtg.pdf](#)

Hi all—

Below are the action items from the 3/22 Big Creek 4 TRG meeting. I attached the PPT presentations combined as a single PDF.

Thanks!

3/22 ACTION ITEMS:

- Kearns & West will:
 - Reschedule the Big Creek 4 site visit for April 24 and provide instructions for a meet-up location. **DONE**
 - Distribute meeting slides. **ATTACHED TO THIS EMAIL**
- SCE will:
 - Distribute all the remaining data – including stranding and stage discharge memos— before the next meeting and include discussion of how/when to submit it to FERC as an agenda item for the April meeting.
 - Perform regression analysis and follow up with Dennis on any questions about his requests
 - Re: LTOR PROPOSAL--
 - Distribute the draft LTOR proposal text (with understanding that it is still in progress)
 - Create a visual showing the variables impacting how much water is released via “one click” (and how much variability each factor can cause)
 - Find out the capacity of the lower level outlet at the dam
 - Send a list of which years, 1994-present, fall into each of the Mammoth Pool schedule categories A-D
 - Model the conditions for each category
 - Follow-up with SCE marketing to determine what cost/revenue values they can share with the TRG
- TRG members will:
 - Provide a written description of their request for 2018 and long-term monitoring, including an explanation of why the already-collected data is not sufficient to meet their needs

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: Big Creek 4 TRG Meeting, April 24-25
Date: Wednesday, May 8, 2019 12:32:48 PM
Attachments: [BC4 TRG April 2425 Mtg Agenda.pdf](#)
[Whitewater Boating Day Definition.docx](#)
[Big Creek 4 March 22 DRAFT Summary_v1.docx](#)

Please add to BC4

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE
PRINCIPAL - AQUATIC ECOLOGY
CARDNO

Direct +1 925 988 1216 Mobile +1 925 890 3675
Address 2999 Oak Road Suite 720, Walnut Creek, California 94597
Email wayne.lifton@cardno.com Web www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Terra Alpaugh <talpaugh@kearnswest.com>
Sent: Wednesday, April 18, 2018 9:44 AM
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwggoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongeorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; Michael Harty <jmharty@kearnswest.com>; martin.ostendorf@sce.com; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>
Cc: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Madigan, Brian <B4M0@pge.com>
Subject: Big Creek 4 TRG Meeting, April 24-25

Hi all –

A few updates in advance of next week's TRG meeting:

- (1) Attached is the proposed agenda for the Tues April 24 Field Visit and the Wed April 25 TRG Meeting. If you have any comments or additional agenda items you were hoping to see covered, please let me know.
 - a. For the field visit, we will meet at 12:30 pm at the Forest Service's High Sierra District Ranger Station in Prather (just past the new round-about at the junction of 168 and Auberry Rd), and then caravan from there to Big Creek 4. Please plan to eat lunch in advance of the meet up. **Appropriate field clothing is required (long pants, long sleeved shirt, sturdy footwear, fleece, raingear and a hat).** We may encounter mosquitoes and poison oak, so please bring bug spray and Tecnu, Ivy Off or similar products. **If you plan to attend the field visit, please accept the calendar invite, so we know who to wait for at the rendezvous point.**
 - b. The second day's meeting, 9am-4pm, will be held at the Piccadilly Inn in Fresno per usual.
- (2) Attached is the meeting summary from the March meeting. Please feel free to send correction or comments. I will incorporate any changes sent before Wed 4/25 at 9am, at which point I will consider the summary final.
- (3) Also attached are the boating day definitions. **Please review them in advance of the meeting.** We would like to *finally* address and finalize these, so if you can come prepared with any additions/tweaks that still need to be made, that would be appreciated!

Please send me any comments or questions. We look forward to seeing you next week!

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: Big Creek 4 TRG Meeting, April 24-25
Date: Wednesday, May 8, 2019 12:37:04 PM
Attachments: [BC4 TRG April 2425 Mtg Agenda v2.pdf](#)
[BC4 draft LTOR 4-18-18 .docx](#)

Please add this to BC4.

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE
PRINCIPAL - AQUATIC ECOLOGY
CARDNO

Direct +1 925 988 1216 Mobile +1 925 890 3675
Address 2999 Oak Road Suite 720, Walnut Creek, California 94597
Email wayne.lifton@cardno.com Web www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Terra Alpaugh <talpaugh@kearnswest.com>
Sent: Thursday, April 19, 2018 7:57 AM
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwggoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongeorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; Michael Harty <jmharty@kearnswest.com>; martin.ostendorf@sce.com; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>
Cc: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Madigan, Brian <B4M0@pge.com>
Subject: RE: Big Creek 4 TRG Meeting, April 24-25

Hi all –

Per the agencies' request, I've made a few small tweaks to the agenda. Please find an updated copy

attached. If anyone else has additions or changes, please let me know before Monday at NOON.

Also attached is a draft of SCE's LTOR proposal for your review in advance of further discussion next Wednesday.

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh
Sent: Wednesday, April 18, 2018 9:44 AM
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; Michael Harty <jmharty@kearnswest.com>; martin.ostendorf@sce.com; craig.addley@cardno.com; ed.bianchi@cardno.com
Cc: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Madigan, Brian <B4M0@pge.com>
Subject: Big Creek 4 TRG Meeting, April 24-25

Hi all –

A few updates in advance of next week's TRG meeting:

- (1) Attached is the proposed agenda for the Tues April 24 Field Visit and the Wed April 25 TRG Meeting. If you have any comments or additional agenda items you were hoping to see covered, please let me know.

- a. For the field visit, we will meet at 12:30 pm at the Forest Service's High Sierra District Ranger Station in Prather (just past the new round-about at the junction of 168 and Auberry Rd), and then caravan from there to Big Creek 4. Please plan to eat

lunch in advance of the meet up. **Appropriate field clothing is required (long pants, long sleeved shirt, sturdy footwear, fleece, raingear and a hat).** We may encounter mosquitoes and poison oak, so please bring bug spray and Tecnu, Ivy Off or similar products. **If you plan to attend the field visit, please accept the calendar invite, so we know who to wait for at the rendezvous point.**

- b. The second day's meeting, 9am-4pm, will be held at the Piccadilly Inn in Fresno per usual.
- (2) Attached is the meeting summary from the March meeting. Please feel free to send correction or comments. I will incorporate any changes sent before Wed 4/25 at 9am, at which point I will consider the summary final.
- (3) Also attached are the boating day definitions. **Please review them in advance of the meeting.** We would like to *finally* address and finalize these, so if you can come prepared with any additions/tweaks that still need to be made, that would be appreciated!

Please send me any comments or questions. We look forward to seeing you next week!

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh <talpaugh@kearnswest.com>
Sent: Thursday, April 19, 2018 5:27 PM
To: Choy, Philip@Waterboards <Philip.Choy@Waterboards.ca.gov>; Jay Kimbler <Jay.Kimbler@sce.com>
Cc: Guzman, Eric@Wildlife <Eric.Guzman@wildlife.ca.gov>; Leon, Abimael@Wildlife <Abimael.Leon@wildlife.ca.gov>; Smith, Dennis E -FS <dennis-smith@fs.fed.us>; Roberts, Ann R -FS <ann-roberts@fs.fed.us>; Dave Steindorf <dave@americanwhitewater.org>; Theresa Simsiman <theresa@americanwhitewater.org>; martin.ostendorf@sce.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Craig Addley <Craig.Addley@cardno.com>; Michael Harty <jmharty@kearnswest.com>
Subject: RE: TRG BC4 March 22, 2018 Action Item documents

Thank you, Phillip!

I've copied Martin and the Cardno team, so they can also take a look at the documents.

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Choy, Philip@Waterboards [<mailto:Philip.Choy@Waterboards.ca.gov>]
Sent: Thursday, April 19, 2018 5:16 PM
To: Terra Alpaugh <talpaugh@kearnswest.com>; Jay Kimbler <Jay.Kimbler@sce.com>
Cc: Guzman, Eric@Wildlife <Eric.Guzman@wildlife.ca.gov>; Leon, Abimael@Wildlife <Abimael.Leon@wildlife.ca.gov>; Smith, Dennis E -FS <dennis-smith@fs.fed.us>; Roberts, Ann R -FS <ann-roberts@fs.fed.us>; Dave Steindorf <dave@americanwhitewater.org>; Theresa Simsiman <theresa@americanwhitewater.org>
Subject: TRG BC4 March 22, 2018 Action Item documents

Hi Terra,

Following the Big Creek 4 LTOR meeting on March 22, 2018, the TRG members were tasked with the following action item:

- Provide a written description of their request for 2018 and long-term monitoring, including an explanation of why the already-collected data is not sufficient to meet their needs

Please see attached to review two documents (2018 and LTOR) that complete the TRG action item.

Thanks,
Philip Choy

Philip Choy
Environmental Scientist
State Water Resources Control Board
Water Quality Certification Program
1001 I St., 14th floor Sacramento, CA 95814
(916) 341-5408

From: [Terra Alpaugh](#)
To: [theresa@americanwhitewater.org](#); [dave@americanwhitewater.org](#); [paul_martzen@yahoo.com](#); [remerson@usbr.gov](#); [rgonzalez@usbr.gov](#); [greyes@usbr.gov](#); [Abimael.leon@wildlife.ca.gov](#); [Eric.Guzman@wildlife.ca.gov](#); [arc_natres@hotmail.com](#); [Wayne Lifton](#); [Katie Ross-Smith](#); [David Martinez](#); [cam5j@aol.com](#); [dmitchellclovis@aol.com](#); [patnlou@netptc.net](#); [cmcdonald@nfr-nsn.gov](#); [efink@northforkrancheria-nsn.gov](#); [kparra@nfr-nsn.gov](#); [gwalker@nfr-nsn.gov](#); [Rwgoode911@hotmail.com](#); [A1O3@pge.com](#); [d5sk@pge.com](#); [RXY@pge.com](#); [canyondog@alum.mit.edu](#); [monomuseum@gmail.com](#); [Philip.Choy@Waterboards.ca.gov](#); [dagould@fs.fed.us](#); [dennissmith@fs.fed.us](#); [aotto@fs.fed.us](#); [annroberts@fs.fed.us](#); [jongeorge@fs.fed.us](#); [vickidavis@fs.fed.us](#); [dalvarez@fs.fed.us](#); [alison_willy@fws.gov](#); [Steven_Schoenberg@fws.gov](#); [aondrea_bartoo@fws.gov](#); [pcstrand@fs.fed.us](#); [Jay Kimbler](#); [Michael Harty](#); [martin.ostendorf@sce.com](#); [Craig Addley](#); [Edward Bianchi](#)
Cc: [Christina McDonald](#); [Madigan, Brian](#); [Vanessa Martinez](#)
Subject: Big Creek 4 TRG Meeting, Day 2 (full day)
Start: Wednesday, April 25, 2018 9:00:00 AM
End: Wednesday, April 25, 2018 4:00:00 PM
Location: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, California 93727; Call-in: 1-719-955-1371; PW: 383738#
Attachments: [Big Creek 4 2018 Monitoring Rationale 2 april2018.docx](#)
[Big Creek 4 LTOR Baseline Monitoring Rationale.docx](#)
[Whitewater Boating Day Definition.docx](#)
[BC4_TRG April 2425 Mtg Agenda.pdf](#)
[Yearly DownRamp Presentation.pptx](#)

Webinar: <https://join.me/kearnswest> <https://urldefense.proofpoint.com/v2/url?u=https-3A__join.me_kearnswest&d=DwMFAw&c=QSj8pw-Dfe-PLjj4Ds2WCg&r=ZalcMauR3QvIMqwBuGQSozpas-DRy3QB9ZAWDR1xW-g&m=XQjPmSLf3_oXUmPNrbiCde3us7Y5Js7U5jmJdCjBW8M&s=lz5pas5NTou8ls21wm5VSvVQdspikIEvGMaNswv0eo&e=>>

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton; Katie.Ross-Smith; David.Martinez; cam5j@aol.com; dmitcheilclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimble; Michael.Harty; martin.ostendorf@sce.com; Craig.Addley; Edward.Bianchi
Cc: [Christina McDonald](#); [Madigan, Brian](#); [Vanessa Martinez](#)
Subject: Big Creek 4 TRG April Action Items
Date: Tuesday, May 1, 2018 10:06:19 AM
Attachments: [BC4 draft LTOR 4-18-18_ca.docx](#)
[MPA Summary.pdf](#)

Hi all –

It was good to see many of you last week! Below are the action items from the April 24/25 meeting. Please let me know if you think I missed anything.

Attached to this email you will find a clean version of the LTOR proposal and a PDF with the Mammoth Pool requirements as requested.

I'll be in touch soon with an updated schedule and the April meeting summary.

Thanks,
Terra

April Action Items

- SCE will:
 - Provide the approximate percentage difference in price paid for AGC vs. baseload power
 - Pull license application on FERC website to provide a list of studies done during the last relicensing
 - Distribute a separate PDF outlining the Mammoth Pool requirements (ATTACHED HERE)
 - Graph the spill spikes seen in the Merced and San Joaquin flow analysis on a smaller timestep
 - Update the Whitewater Boating Definitions based on the feedback provided in the afternoon session and recirculate to the TRG.
 - For LTOR proposal:
 - Add a compliance section for subsequent spills
 - Send out a clean version ASAP (ATTACHED HERE)
 - Follow-up with Ann and Phil about study submission deadlines for FERC and what documentation is needed from the Forest Service and Water Board
 - Add presentation of the regression analysis data to the May agenda
- The TRG will:
 - Review the LTOR proposal internally and provide a single redline version to SCE by

May 15

- KW will:
 - Update schedule and distribute to the TRG.

Terra Alpaugh

Associate, Kearns & West

Davis, CA

Office: 530.298.7113, ext 1403

Cell: 626.222.8299

talpaugh@kearnswest.com

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimbler@fws.gov; Michael.Harty@fws.gov; martin.ostendorf@sce.com; Craig.Addley@fws.gov; Edward.Bianchi@fws.gov
Cc: [Christina McDonald](#); [Madigan, Brian](#); [Vanessa Martinez](#)
Subject: RE: Big Creek 4 TRG April Action Items
Date: Tuesday, May 15, 2018 5:18:57 PM
Attachments: [Big Creek 4 April 24.25DRAFT Summary v1.docx](#)

Hi all –

The TRG meeting summary from April is attached for your review. Please provide any comments/corrections before next Tuesday's (5/22) meeting; at that point, I'll incorporate any changes and finalize the summary.

Please look for an agenda for next week from me within the next couple days. I look forward to seeing you all in Fresno.

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh
Sent: Tuesday, May 1, 2018 10:03 AM
To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitHELLclovis@aol.com' <dmitHELLclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXYY@pge.com' <RXYY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>;

'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>; Michael Harty <jmharty@kearnswest.com>; martin.ostendorf@sce.com; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>
Cc: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Madigan, Brian <B4M0@pge.com>; Vanessa Martinez <Vanessa.Martinez@cardno.com>

Subject: Big Creek 4 TRG April Action Items

Hi all –

It was good to see many of you last week! Below are the action items from the April 24/25 meeting. Please let me know if you think I missed anything.

Attached to this email you will find a clean version of the LTOR proposal and a PDF with the Mammoth Pool requirements as requested.

I'll be in touch soon with an updated schedule and the April meeting summary.

Thanks,
Terra

April Action Items

- SCE will:
 - Provide the approximate percentage difference in price paid for AGC vs. baseload power
 - Pull license application on FERC website to provide a list of studies done during the last relicensing
 - Distribute a separate PDF outlining the Mammoth Pool requirements (**ATTACHED HERE**)
 - Graph the spill spikes seen in the Merced and San Joaquin flow analysis on a smaller timestep
 - Update the Whitewater Boating Definitions based on the feedback provided in the afternoon session and recirculate to the TRG.
 - For LTOR proposal:
 - Add a compliance section for subsequent spills
 - Send out a clean version ASAP (**ATTACHED HERE**)
 - Follow-up with Ann and Phil about study submission deadlines for FERC and what documentation is needed from the Forest Service and Water Board
 - Add presentation of the regression analysis data to the May agenda

- The TRG will:
 - Review the LTOR proposal internally and provide a single redline version to SCE by May 15
- KW will:
 - Update schedule and distribute to the TRG.

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: 5/23 Big Creek 4 TRG Meeting
Date: Wednesday, May 8, 2019 12:35:47 PM
Attachments: [BC4 TRG May23 Mtg Agenda v1.pdf](#)
[BC4 draft LTOR 4-18-18 ca PC043018 TS051018.docx](#)

Please add to BC4

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE
PRINCIPAL - AQUATIC ECOLOGY
CARDNO

Direct +1 925 988 1216 Mobile +1 925 890 3675
Address 2999 Oak Road Suite 720, Walnut Creek, California 94597
Email wayne.lifton@cardno.com Web www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Thursday, May 17, 2018 11:23 AM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwggoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongeorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Jay Kimbler <Jay.Kimbler@sce.com>

Cc: Madigan, Brian <B4M0@pge.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>; Andrew McMillan <Andrew.Mcmillan@sce.com>; Stephanie Fincher <Stephanie.Fincher@sce.com>

Subject: 5/23 Big Creek 4 TRG Meeting

Hi everyone –

I look forward to seeing you all next week. A few updates:

Please note: the meeting is **being held at the Piccadilly Inn on West Shaw Avenue** (NOT the airport one as usual). Please come to the correct location!!

I have attached the proposed agenda from SCE. We currently have calendar holds for a half day meeting on Tuesday and a full day on Wednesday. **Based on the discussion topics, SCE would like to propose that we meet for the full day on Wednesday, but eliminate the half day on Tuesday.** If you have thoughts or concerns about this change, feel free to reach out to Mike or me. If everyone is ok with this change, I'll go ahead and remove the Tuesday calendar hold from the calendar as of COB today.

The focus of conversation on Wednesday will be SCE's proposed LTOR and the comments submitted by the TRG. I have attached a copy here for everyone's reference.

SCE has provided the Ramp Down Stranding Technical Memo and the Stage Discharge Technical Memo for me to distribute. They are large files; as a result, I will send them in subsequent emails for those of you whose email clients will accept them, and they are also available to download from [my Google Drive here](#).

Please reach out with any questions or concerns in advance of the meeting. See you in Fresno!

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, February 6, 2018 2:13 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov;

efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov;
Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com;
canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov;
dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us;
jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov;
Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us;
martin.ostendorf@sce.com; Michael Harty; craig.addley@cardno.com; ed.bianchi@cardno.com;
Gary Walker; Christina McDonald; Jay Kimbler

Cc: Madigan, Brian; Katie Parra; Andrew McMillan; Stephanie Fincher

Subject: Big Creek 4 TRG Meeting

When: Wednesday, May 23, 2018 9:00 AM-4:30 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Hotel Piccadilly, 2305 West Shaw Avenue, Fresno (NOTE LOCATION CHANGE -- THE PICCADILLY ON WEST SHAW)

PLEASE NOTE THE CHANGED LOCATION – THIS MEETING WILL BE HELD AT THE PICCADILLY INN ON WEST SHAW AVENUE, instead of the usual location at the airport branch.

<< File: BC4 draft LTOR 4-18-18_ca_PC043018 TS051018.docx >> << File: Ramp Down Stranding Tech Memo_TRG Draft.pdf >> << File: Stage Discharge Level_Tech Memo_TRG Draft.pdf >> << File: BC4_TRG May23 Mtg Agenda_v1.pdf >>

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; martin.ostendorf@sce.com; Michael.Harty@kearnswest.com; Craig.Addley@cardno.com; Edward.Bianchi@cardno.com; Gary.Walker@nfr-nsn.gov; Christina.McDonald@nfr-nsn.gov; Jay.Kimbler@sce.com
Cc: [Madigan, Brian](#); [Katie Parra](#); [Andrew McMillan](#); [Stephanie Fincher](#)
Subject: RE: 5/23 Big Creek 4 TRG Meeting
Date: Thursday, May 17, 2018 11:28:40 AM
Attachments: [Ramp Down Stranding Tech Memo TRG Draft.pdf](#)

Attached: Ramp Down Stranding Technical Memo

From: Terra Alpaugh
Sent: Thursday, May 17, 2018 11:23 AM
To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXYY@pge.com' <RXYY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongearge@fs.fed.us' <jongearge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; Michael Harty <jmharty@kearnswest.com>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; 'Gary Walker' <gwalker@northforkrancheria-nsn.gov>; 'Christina McDonald' <cmcdonald@northforkrancheria-nsn.gov>; 'Jay Kimbler' <Jay.Kimbler@sce.com>
Cc: Madigan, Brian <B4M0@pge.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>; 'Andrew McMillan' <Andrew.Mcmillan@sce.com>; Stephanie Fincher <Stephanie.Fincher@sce.com>
Subject: 5/23 Big Creek 4 TRG Meeting

Hi everyone –

I look forward to seeing you all next week. A few updates:

1. Please note: the meeting is **being held at the Piccadilly Inn on West Shaw Avenue** (NOT the airport one as usual). Please come to the correct location!!
2. I have attached the proposed agenda from SCE. We currently have calendar holds for a half day meeting on Tuesday and a full day on Wednesday. **Based on the discussion topics, SCE would like to propose that we meet for the full day on Wednesday, but eliminate the half day on Tuesday.** If you have thoughts or concerns about this change, feel free to reach out to Mike or me. If everyone is ok with this change, I'll go ahead and remove the Tuesday calendar hold from the calendar as of COB today.
3. The focus of conversation on Wednesday will be SCE's proposed LTOR and the comments submitted by the TRG. I have attached a copy here for everyone's reference. << File: BC4_TRG May23 Mtg Agenda_v1.pdf >>
4. SCE has provided the Ramp Down Stranding Technical Memo and the Stage Discharge Technical Memo for me to distribute. They are large files; as a result, I will send them in subsequent emails for those of you whose email clients will accept them, and they are also available to download from [my Google Drive here](#).

Please reach out with any questions or concerns in advance of the meeting. See you in Fresno!

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

<< File: BC4 draft LTOR 4-18-18_ca_PC043018 TS051018.docx >>

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, February 6, 2018 2:13 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org;

paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgooode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; martin.ostendorf@sce.com; Michael Harty; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Christina McDonald; Jay Kimbler

Cc: Madigan, Brian; Katie Parra; Andrew McMillan; Stephanie Fincher

Subject: Big Creek 4 TRG Meeting

When: Wednesday, May 23, 2018 9:00 AM-4:30 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Hotel Piccadilly, 2305 West Shaw Avenue, Fresno (NOTE LOCATION CHANGE -- THE PICCADILLY ON WEST SHAW)

PLEASE NOTE THE CHANGED LOCATION – THIS MEETING WILL BE HELD AT THE PICCADILLY INN ON WEST SHAW AVENUE, instead of the usual location at the airport branch.

<< File: BC4 draft LTOR 4-18-18_ca_PC043018 TS051018.docx >> << File: Ramp Down Stranding Tech Memo_TRG Draft.pdf >> << File: Stage Discharge Level_Tech Memo_TRG Draft.pdf >> << File: BC4_TRG May23 Mtg Agenda_v1.pdf >>

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; martin.ostendorf@sce.com; [Michael Harty](#); [Craig Addley](#); [Edward Bianchi](#); [Gary Walker](#); [Christina McDonald](#); [Jay Kimbler](#)
Cc: [Madigan, Brian](#); [Katie Parra](#); [Andrew McMillan](#); [Stephanie Fincher](#)
Subject: RE: 5/23 Big Creek 4 TRG Meeting
Date: Thursday, May 17, 2018 11:30:04 AM
Attachments: [Stage Discharge Level Tech Memo TRG Draft.pdf](#)

Attached: Stage Discharge Technical Memo

From: Terra Alpaugh
Sent: Thursday, May 17, 2018 11:25 AM
To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A1O3@pge.com' <A1O3@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXYY@pge.com' <RXYY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongearge@fs.fed.us' <jongearge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; Michael Harty <jmharty@kearnswest.com>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; 'Gary Walker' <gwalker@northforkrancheria-nsn.gov>; 'Christina McDonald' <cmcdonald@northforkrancheria-nsn.gov>; 'Jay Kimbler' <Jay.Kimbler@sce.com>
Cc: 'Madigan, Brian' <B4M0@pge.com>; 'Katie Parra' <kparra@northforkrancheria-nsn.gov>; 'Andrew McMillan' <Andrew.Mcmillan@sce.com>; 'Stephanie Fincher'

<Stephanie.Fincher@sce.com>

Subject: RE: 5/23 Big Creek 4 TRG Meeting

Attached: Ramp Down Stranding Technical Memo

From: Terra Alpaugh

Sent: Thursday, May 17, 2018 11:23 AM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>;
'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com'
<paul_martzen << File: Ramp Down Stranding Tech Memo_TRG Draft.pdf >> @yahoo.com>;
'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>;
'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov'
<Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>;
'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com'
<wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>;
'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>;
'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>;
'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkkrancheria-nsn.gov'
<efink@northforkkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-
nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>;
'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com'
<RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>;
'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov'
<Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>;
'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>;
'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>;
'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>;
'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov'
<Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>;
'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'martin.ostendorf@sce.com'
<martin.ostendorf@sce.com>; Michael Harty <jmharty@kearnswest.com>;
'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com'
<ed.bianchi@cardno.com>; 'Gary Walker' <gwalker@northforkkrancheria-nsn.gov>; 'Christina
McDonald' <cmcdonald@northforkkrancheria-nsn.gov>; 'Jay Kimbler' <Jay.Kimbler@sce.com>
Cc: Madigan, Brian <B4M0@pge.com>; Katie Parra <kparra@northforkkrancheria-nsn.gov>; 'Andrew
McMillan' <Andrew.Mcmillan@sce.com>; Stephanie Fincher <Stephanie.Fincher@sce.com>
Subject: 5/23 Big Creek 4 TRG Meeting

Hi everyone –

I look forward to seeing you all next week. A few updates:

1. Please note: the meeting is being held at the Piccadilly Inn on West Shaw Avenue (NOT the

airport one as usual). Please come to the correct location!!

2. I have attached the proposed agenda from SCE. We currently have calendar holds for a half day meeting on Tuesday and a full day on Wednesday. **Based on the discussion topics, SCE would like to propose that we meet for the full day on Wednesday, but eliminate the half day on Tuesday.** If you have thoughts or concerns about this change, feel free to reach out to Mike or me. If everyone is ok with this change, I'll go ahead and remove the Tuesday calendar hold from the calendar as of COB today.
3. The focus of conversation on Wednesday will be SCE's proposed LTOR and the comments submitted by the TRG. I have attached a copy here for everyone's reference. << File: BC4_TRG May23 Mtg Agenda_v1.pdf >>
4. SCE has provided the Ramp Down Stranding Technical Memo and the Stage Discharge Technical Memo for me to distribute. They are large files; as a result, I will send them in subsequent emails for those of you whose email clients will accept them, and they are also available to download from [my Google Drive here](#).

Please reach out with any questions or concerns in advance of the meeting. See you in Fresno!

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

<< File: BC4 draft LTOR 4-18-18_ca_PC043018 TS051018.docx >>

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, February 6, 2018 2:13 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com;

canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov;
dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us;
jongeorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov;
Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us;
martin.ostendorf@sce.com; Michael Harty; craig.addley@cardno.com; ed.bianchi@cardno.com;
Gary Walker; Christina McDonald; Jay Kimbler

Cc: Madigan, Brian; Katie Parra; Andrew McMillan; Stephanie Fincher

Subject: Big Creek 4 TRG Meeting

When: Wednesday, May 23, 2018 9:00 AM-4:30 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Hotel Piccadilly, 2305 West Shaw Avenue, Fresno (NOTE LOCATION CHANGE -- THE
PICCADILLY ON WEST SHAW)

PLEASE NOTE THE CHANGED LOCATION – THIS MEETING WILL BE HELD AT THE PICCADILLY INN ON
WEST SHAW AVENUE, instead of the usual location at the airport branch.

<< File: BC4 draft LTOR 4-18-18_ca_PC043018 TS051018.docx >> << File: Ramp Down Stranding
Tech Memo_TRG Draft.pdf >> << File: Stage Discharge Level_Tech Memo_TRG Draft.pdf >> << File:
BC4_TRG May23 Mtg Agenda_v1.pdf >>

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven.Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; martin.ostendorf@sce.com; [Michael Harty](#); [Craig Addley](#); [Edward Bianchi](#); [Gary Walker](#); [Christina McDonald](#); [Jay Kimbler](#)
Cc: [Madigan, Brian](#); [Katie Parra](#); [Andrew McMillan](#); [Stephanie Fincher](#)
Subject: Updated Agenda: 5/23 Big Creek 4 TRG Meeting
Date: Friday, May 18, 2018 10:44:14 AM
Attachments: [BC4 TRG May23 Mtg Agenda v2.pdf](#)

Hi all –

I received a TRG request to reorder some items in the agenda, and SCE was happy to rearrange things, so I've attached an updated agenda for next Wednesday. Same content, different order.

Look forward to seeing you next week.

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh
Sent: Thursday, May 17, 2018 11:23 AM
To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXYY@pge.com' <RXYY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongearge@fs.fed.us' <jongearge@fs.fed.us>;

'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>;
'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov'
<Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>;
'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'martin.ostendorf@sce.com'
<martin.ostendorf@sce.com>; Michael Harty <jmharty@kearnswest.com>;
'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com'
<ed.bianchi@cardno.com>; 'Gary Walker' <gwalker@northforkrancheria-nsn.gov>; 'Christina
McDonald' <cmcdonald@northforkrancheria-nsn.gov>; 'Jay Kimbler' <Jay.Kimbler@sce.com>
Cc: Madigan, Brian <B4M0@pge.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>; 'Andrew
McMillan' <Andrew.Mcmillan@sce.com>; Stephanie Fincher <Stephanie.Fincher@sce.com>
Subject: 5/23 Big Creek 4 TRG Meeting

Hi everyone –

I look forward to seeing you all next week. A few updates:

1. Please note: the meeting is **being held at the Piccadilly Inn on West Shaw Avenue** (NOT the airport one as usual). Please come to the correct location!!
2. I have attached the proposed agenda from SCE. We currently have calendar holds for a half day meeting on Tuesday and a full day on Wednesday. **Based on the discussion topics, SCE would like to propose that we meet for the full day on Wednesday, but eliminate the half day on Tuesday.** If you have thoughts or concerns about this change, feel free to reach out to Mike or me. If everyone is ok with this change, I'll go ahead and remove the Tuesday calendar hold from the calendar as of COB today.
3. The focus of conversation on Wednesday will be SCE's proposed LTOR and the comments submitted by the TRG. I have attached a copy here for everyone's reference. << File: BC4_TRG May23 Mtg Agenda_v1.pdf >>
4. SCE has provided the Ramp Down Stranding Technical Memo and the Stage Discharge Technical Memo for me to distribute. They are large files; as a result, I will send them in subsequent emails for those of you whose email clients will accept them, and they are also available to download from [my Google Drive here](#).

Please reach out with any questions or concerns in advance of the meeting. See you in Fresno!

Best,
Terra

Terra Alpaugh
Associate, Kearns & West

Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

<< File: BC4 draft LTOR 4-18-18_ca_PC043018 TS051018.docx >>

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, February 6, 2018 2:13 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgooode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; martin.ostendorf@sce.com; Michael Harty; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Christina McDonald; Jay Kimbler

Cc: Madigan, Brian; Katie Parra; Andrew McMillan; Stephanie Fincher

Subject: Big Creek 4 TRG Meeting

When: Wednesday, May 23, 2018 9:00 AM-4:30 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Hotel Piccadilly, 2305 West Shaw Avenue, Fresno (NOTE LOCATION CHANGE -- THE PICCADILLY ON WEST SHAW)

PLEASE NOTE THE CHANGED LOCATION – THIS MEETING WILL BE HELD AT THE PICCADILLY INN ON WEST SHAW AVENUE, instead of the usual location at the airport branch.

<< File: BC4 draft LTOR 4-18-18_ca_PC043018 TS051018.docx >> << File: Ramp Down Stranding Tech Memo_TRG Draft.pdf >> << File: Stage Discharge Level_Tech Memo_TRG Draft.pdf >> << File: BC4_TRG May23 Mtg Agenda_v1.pdf >>

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: Big Creek 4 TRG Meeting
Date: Wednesday, May 8, 2019 12:37:47 PM
Attachments: [BC4 draft LTOR edited5-23-18.docx](#)

Please add to BC4

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE
PRINCIPAL - AQUATIC ECOLOGY
CARDNO

Direct +1 925 988 1216 Mobile +1 925 890 3675
Address 2999 Oak Road Suite 720, Walnut Creek, California 94597
Email wayne.lifton@cardno.com Web www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Wednesday, May 23, 2018 2:20 PM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwggoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongeorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkkrancheria-nsn.gov>; Christina McDonald <cmcdonald@northforkkrancheria-nsn.gov>; Jay Kimbler <Jay.Kimbler@sce.com>

Cc: Madigan, Brian <B4M0@pge.com>; Katie Parra <kparra@northforkkrancheria-nsn.gov>; Andrew McMillan <Andrew.Mcmillan@sce.com>; Stephanie Fincher <Stephanie.Fincher@sce.com>

Subject: RE: Big Creek 4 TRG Meeting

Hi all –

Attached is the draft LTOR with the edits made in today's meeting for your reference. Further edits will be provided by the TRG and SCE.

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, February 6, 2018 2:13 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; martin.ostendorf@sce.com; Michael Harty; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Christina McDonald; Jay Kimbler

Cc: Madigan, Brian; Katie Parra; Andrew McMillan; Stephanie Fincher

Subject: Big Creek 4 TRG Meeting

When: Wednesday, May 23, 2018 9:00 AM-4:30 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Executive Room, Hotel Piccadilly, 2305 West Shaw Avenue, Fresno (NOTE LOCATION CHANGE -- THE PICCADILLY ON WEST SHAW)

Call in & webinar:

1-719-955-1371; PW: 383738#

<https://join.me/kearnswest>

PLEASE NOTE THE CHANGED LOCATION – THIS MEETING WILL BE HELD AT THE PICCADILLY INN ON WEST SHAW AVENUE, instead of the usual location at the airport branch.

Updated agenda attached.

[BC4 draft LTOR 4-18-18_ca_PC043018 TS051018.docx](#) [BC4_TRG May23 Mtg Agenda_v2.pdf](#)

<< File: BC4 draft LTOR 4-18-18_ca_PC043018 TS051018.docx >> << File: BC4_TRG May23 Mtg Agenda_v2.pdf >>

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton; Katie.Ross-Smith; David.Martinez; cam5j@aol.com; dmitchelclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimble; martin.ostendorf@sce.com; Michael.Harty; Craig.Addley; Edward.Bianchi; Stephanie.Fincher@sce.com
Cc: [Christina McDonald](#); [Gary Walker](#)
Subject: May Big Creek 4 TRG Meeting Action Items + Scheduling
Date: Thursday, May 31, 2018 2:01:23 PM
Attachments: [ScheduleGraphicBigCreek4_peerreview.pdf](#)
[ScheduleGraphicBigCreek4_v2.pdf](#)
[Whitewater Boating Day Definition_v2.ca.eb.docx](#)

Hi all –

Below are the action items from May 23. Please let me know if you feel like I missed anything!

Also a few other items:

- (1) I committed to scheduling July and August TRG meetings. [Please indicate your availability here – both for July AND August dates.](#)
- (2) Last week, at Ron's request, we discussed shifting the meeting from Wed June 13 to Thurs June 14. Unfortunately, since then, Mike realized he has an unshiftable conflict on the 14th. We consulted with Ron and he graciously agreed to make a June 13 date work. Does June 13 still work for all of you? **If I don't hear from anyone by 12pm tomorrow, I'll assume I can go ahead a confirm at June 13 TRG date.**
- (3) I've attached both schedules presented at the meeting (with and without peer review) for your reference.
- (4) I've also attached revised Whitewater Boating definitions from SCE and Cardno. Please take a look and see if these changes align with your understanding of the group's conversation in April – and let me know if you have any concerns.

-

Action Items for May 23

- [TRG] will
 - Review the change from May 1 to May 15 as the first date of possible scheduled spill in a non-spill year; confirm it make sense.
 - Provide additional edits on the SCE's revised LTOR by June 7.
 - Further research minimum instream flows (MIF) and come prepared to present their position.
 - Decide whether they want to pursue peer review of the LTOR.
 - Provide all comments on the Experimental Flow Management Report, Stage Discharge Analysis, and Ramp Down and Stranding Technical Memo by June 29.
- [Ruth Sundermeyer] will:
 - Ask PG&E hydrographers if the upstream PG&E gauges on Willow Creek are representative of the Willow Creek flows coming into Horseshoe Bend.
- [SCE] will :
 - Research the following questions:

- If downstream water users demand a hold on water, can SCE meet the boating flows during a non-spill year? If downstream water users want a different storage than that outlined in the schedule we identify for the year, what schedule do we use for releases?
 - When spikes occur during the recession at a point when flows are below 1200 cfs, would SCE be willing to implement a “subsequent spill” recession down from the spike to be protective against stranding?
 - What happens if SCE goes out of compliance when they are not in the boating range?
 - How to best calculate the daily average to accurately maintain flows in the established compliance range?
 - For outages through mid-October, would SCE be willing to down ramp by 150 cfs from either 3500 cfs or 1600 cfs? Or can they determine other ways to accommodate the TRG’s interest in boaters’ opportunistic use of outages and protect against stranding at the tail end of those spills?
- Consider what components to include in LTOR introduction to provide context.
- Include the functional purpose of the flows outlined in each schedule in the document.
- Prepare analysis of when Willow Creek hydrology impacts Big Creek flows, and whether it can be expected to substantially impact flows during the period of interest.
 - Distribute spreadsheet showing how the proposed down ramping will be modified by Willow Creek inputs.
- File the NASMP, 2018 AMP, and Forest Service letter of concurrence with FERC; then file a quarterly report by June 15.
- [Kearns & West] will:
 - Add the following items to the June agenda:
 - MIFs
 - Long term and 2018 monitoring
 - review of the next round of LTOR revisions
 - the conclusion of the presentation on the regression analysis
 - Willow Creek hydrology analysis
 - Distribute LTOR negotiation schedules discussed during the meeting.
 - Distribute the regression slides from Wayne’s presentation.
 - Schedule July and August meetings.

Terra Alpaugh
 Associate, Kearns & West
 Davis, CA
 Office: 530.298.7113, ext 1403
 Cell: 626.222.8299
talpaugh@kearnswest.com

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitchelcllovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimble@fws.gov; martin.ostendorf@sce.com; Michael.Harty@sce.com; Craig.Addley@sce.com; Edward.Bianchi@sce.com; Stephanie.Fincher@sce.com
Cc: [Christina McDonald](#); [Gary Walker](#)
Subject: June BC4 TRG Meeting Agenda + SCHEDULING
Date: Friday, June 8, 2018 11:36:59 AM
Attachments: [BC4 TRG June 13 Mtg Agenda.pdf](#)

Hi all –

Attached is a draft agenda for next week's TRG meeting. Please let me know if you have other items you'd like to see discussed.

SCE and Cardno have made edits to the LTOR based on the conversation at the last meeting and are working on addressing the additional feedback the TRG provided this week. You can expect an updated draft to be circulated Monday.

I have only received two responses to my poll for July and August TRG meetings – [please indicate your availability in this Doodle Poll by 12pm Tues 6/12.](#)

As always, please reach out with questions or concerns in advance of Wednesday's meeting.

Many thanks,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh
Sent: Thursday, May 31, 2018 1:58 PM
To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com'

<wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>;
'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>;
'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>;
'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov'
<efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-
nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>;
'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXYX@pge.com'
<RXYX@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>;
'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov'
<Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>;
'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>;
'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>;
'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>;
'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov'
<Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>;
'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>;
martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; 'craig.addley@cardno.com'
<craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>;
'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>

Cc: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Gary Walker
<gwalker@northforkrancheria-nsn.gov>

Subject: May Big Creek 4 TRG Meeting Action Items + Scheduling

Hi all –

Below are the action items from May 23. Please let me know if you feel like I missed anything!

Also a few other items:

- (1) I committed to scheduling July and August TRG meetings. [Please indicate your availability here – both for July AND August dates.](#)
- (2) Last week, at Ron's request, we discussed shifting the meeting from Wed June 13 to Thurs June 14. Unfortunately, since then, Mike realized he has an unshiftable conflict on the 14th. We consulted with Ron and he graciously agreed to make a June 13 date work. Does June 13 still work for all of you? **If I don't hear from anyone by 12pm tomorrow, I'll assume I can go ahead a confirm at June 13 TRG date.**
- (3) I've attached both schedules presented at the meeting (with and without peer review) for your reference.
- (4) I've also attached revised Whitewater Boating definitions from SCE and Cardno. Please take a look and see if these changes align with your understanding of the group's conversation in April – and let me know if you have any concerns.

-

Action Items for May 23

- [TRG] will
 - Review the change from May 1 to May 15 as the first date of possible scheduled spill in a non-spill year; confirm it make sense.

- Provide additional edits on the SCE's revised LTOR by June 7.
 - Further research minimum instream flows (MIF) and come prepared to present their position.
 - Decide whether they want to pursue peer review of the LTOR.
 - Provide all comments on the Experimental Flow Management Report, Stage Discharge Analysis, and Ramp Down and Stranding Technical Memo by June 29.
- [Ruth Sundermeyer] will:
 - Ask PG&E hydrographers if the upstream PG&E gauges on Willow Creek are representative of the Willow Creek flows coming into Horseshoe Bend.
- [SCE] will :
 - Research the following questions:
 - If downstream water users demand a hold on water, can SCE meet the boating flows during a non-spill year? If downstream water users want a different storage than that outlined in the schedule we identify for the year, what schedule do we use for releases?
 - When spikes occur during the recession at a point when flows are below 1200 cfs, would SCE be willing to implement a "subsequent spill" recession down from the spike to be protective against stranding?
 - What happens if SCE goes out of compliance when they are not in the boating range?
 - How to best calculate the daily average to accurately maintain flows in the established compliance range?
 - For outages through mid-October, would SCE be willing to down ramp by 150 cfs from either 3500 cfs or 1600 cfs? Or can they determine other ways to accommodate the TRG's interest in boaters' opportunistic use of outages and protect against stranding at the tail end of those spills?
 - Consider what components to include in LTOR introduction to provide context.
 - Include the functional purpose of the flows outlined in each schedule in the document.
 - Prepare analysis of when Willow Creek hydrology impacts Big Creek flows, and whether it can be expected to substantially impact flows during the period of interest.
 - Distribute spreadsheet showing how the proposed down ramping will be modified by Willow Creek inputs.
 - File the NASMP, 2018 AMP, and Forest Service letter of concurrence with FERC; then file a quarterly report by June 15.
- [Kearns & West] will:
 - Add the following items to the June agenda:
 - MIFs
 - Long term and 2018 monitoring
 - review of the next round of LTOR revisions
 - the conclusion of the presentation on the regression analysis
 - Willow Creek hydrology analysis
 - Distribute LTOR negotiation schedules discussed during the meeting.
 - Distribute the regression slides from Wayne's presentation.

- Schedule July and August meetings.

Terra Alpaugh

Associate, Kearns & West

Davis, CA

Office: 530.298.7113, ext 1403

Cell: 626.222.8299

talpaugh@kearnswest.com

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: June BC4 TRG Meeting Agenda + SCHEDULING
Date: Wednesday, May 8, 2019 12:38:49 PM
Attachments: [BC4 draft LTOR 6-13-18.docx](#)

Please add to BC4

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE

PRINCIPAL - AQUATIC ECOLOGY

CARDNO

Direct +1 925 988 1216 Mobile +1 925 890 3675

Address 2999 Oak Road Suite 720, Walnut Creek, California 94597

Email wayne.lifton@cardno.com Web www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Monday, June 11, 2018 4:09 PM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgooode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Stephanie.Fincher@sce.com

Cc: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Gary Walker <gwalker@northforkrancheria-nsn.gov>

Subject: RE: June BC4 TRG Meeting Agenda + SCHEDULING

Hi all –



We look forward to seeing you **Wednesday at 9:30am at the Piccadilly Airport Hotel** (remember, we're back at the Airport Piccadilly this month!) for the TRG meeting.

Attached is a draft of the LTOR updated in response to the TRG's comments sent around last week. I also attached it, along with the agenda, to the meeting invite for easy reference.

And remember, I will be finalizing meeting dates for July and August tomorrow afternoon. If you haven't already, **please indicate your availability in this Doodle Poll by 12pm Tues 6/12.**

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh

Sent: Friday, June 8, 2018 11:34 AM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com' <RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>;

'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; Michael Harty
<jmharty@kearnswest.com>; 'craig.addley@cardno.com' <craig.addley@cardno.com>;
'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; 'Stephanie.Fincher@sce.com'
<Stephanie.Fincher@sce.com>

Cc: 'Christina McDonald' <cmcdonald@northforkrancheria-nsn.gov>; 'Gary Walker'
<gwalker@northforkrancheria-nsn.gov>

Subject: June BC4 TRG Meeting Agenda + SCHEDULING

Hi all –

Attached is a draft agenda for next week's TRG meeting. Please let me know if you have other items you'd like to see discussed.

SCE and Cardno have made edits to the LTOR based on the conversation at the last meeting and are working on addressing the additional feedback the TRG provided this week. You can expect an updated draft to be circulated Monday.

I have only received two responses to my poll for July and August TRG meetings – [please indicate your availability in this Doodle Poll by 12pm Tues 6/12.](#)

As always, please reach out with questions or concerns in advance of Wednesday's meeting.

Many thanks,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh

Sent: Thursday, May 31, 2018 1:58 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>;
'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com'
<paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov'
<rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov'
<Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>;
'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com'
<wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>;
'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>;
'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>;

'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A1O3@pge.com' <A1O3@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com' <RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; 'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>

Cc: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Gary Walker <gwalker@northforkrancheria-nsn.gov>

Subject: May Big Creek 4 TRG Meeting Action Items + Scheduling

Hi all –

Below are the action items from May 23. Please let me know if you feel like I missed anything!

Also a few other items:

- (1) I committed to scheduling July and August TRG meetings. [Please indicate your availability here – both for July AND August dates.](#)
- (2) Last week, at Ron's request, we discussed shifting the meeting from Wed June 13 to Thurs June 14. Unfortunately, since then, Mike realized he has an unshiftable conflict on the 14th. We consulted with Ron and he graciously agreed to make a June 13 date work. Does June 13 still work for all of you? **If I don't hear from anyone by 12pm tomorrow, I'll assume I can go ahead a confirm at June 13 TRG date.**
- (3) I've attached both schedules presented at the meeting (with and without peer review) for your reference.
- (4) I've also attached revised Whitewater Boating definitions from SCE and Cardno. Please take a look and see if these changes align with your understanding of the group's conversation in April – and let me know if you have any concerns.

Action Items for May 23

- [TRG] will
 - Review the change from May 1 to May 15 as the first date of possible scheduled spill in a non-spill year; confirm it make sense.
 - Provide additional edits on the SCE's revised LTOR by June 7.
 - Further research minimum instream flows (MIF) and come prepared to present their position.

- Decide whether they want to pursue peer review of the LTOR.
 - Provide all comments on the Experimental Flow Management Report, Stage Discharge Analysis, and Ramp Down and Stranding Technical Memo by June 29.
- [Ruth Sundermeyer] will:
 - Ask PG&E hydrographers if the upstream PG&E gauges on Willow Creek are representative of the Willow Creek flows coming into Horseshoe Bend.
- [SCE] will :
 - Research the following questions:
 - If downstream water users demand a hold on water, can SCE meet the boating flows during a non-spill year? If downstream water users want a different storage than that outlined in the schedule we identify for the year, what schedule do we use for releases?
 - When spikes occur during the recession at a point when flows are below 1200 cfs, would SCE be willing to implement a “subsequent spill” recession down from the spike to be protective against stranding?
 - What happens if SCE goes out of compliance when they are not in the boating range?
 - How to best calculate the daily average to accurately maintain flows in the established compliance range?
 - For outages through mid-October, would SCE be willing to down ramp by 150 cfs from either 3500 cfs or 1600 cfs? Or can they determine other ways to accommodate the TRG’s interest in boaters’ opportunistic use of outages and protect against stranding at the tail end of those spills?
 - Consider what components to include in LTOR introduction to provide context.
 - Include the functional purpose of the flows outlined in each schedule in the document.
 - Prepare analysis of when Willow Creek hydrology impacts Big Creek flows, and whether it can be expected to substantially impact flows during the period of interest.
 - Distribute spreadsheet showing how the proposed down ramping will be modified by Willow Creek inputs.
 - File the NASMP, 2018 AMP, and Forest Service letter of concurrence with FERC; then file a quarterly report by June 15.
- [Kearns & West] will:
 - Add the following items to the June agenda:
 - MIFs
 - Long term and 2018 monitoring
 - review of the next round of LTOR revisions
 - the conclusion of the presentation on the regression analysis
 - Willow Creek hydrology analysis
 - Distribute LTOR negotiation schedules discussed during the meeting.
 - Distribute the regression slides from Wayne’s presentation.
 - Schedule July and August meetings.

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: BC4 TRG Meeting Summary
Date: Wednesday, May 8, 2019 12:39:33 PM
Attachments: [Big Creek 4 May 23 DRAFT Summary v1.docx](#)
[Big Creek 4 April 2425DRAFT Summary v2FINAL.docx](#)

Please add to BC4

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE
PRINCIPAL - AQUATIC ECOLOGY
CARDNO

Direct +1 925 988 1216 Mobile +1 925 890 3675
Address 2999 Oak Road Suite 720, Walnut Creek, California 94597
Email wayne.lifton@cardno.com Web www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Terra Alpaugh <talpaugh@kearnswest.com>
Sent: Tuesday, June 12, 2018 6:34 PM
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwggoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongeorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Stephanie.Fincher@sce.com
Cc: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Gary Walker <gwalker@northforkrancheria-nsn.gov>
Subject: BC4 TRG Meeting Summary

Hi all –

I'm sorry for this late delivery of the May TRG meeting summary! As always, please review and let me know if you identify any additions or corrections

I have also attached the final version of the April TRG summary. I got a couple comments back, so I incorporated those and am considering this final.

Look forward to seeing many of you tomorrow.

Best,
Terra

From: Terra Alpaugh

Sent: Monday, June 11, 2018 4:10 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com' <RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>; 'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; Michael Harty <jmharty@kearnswest.com>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; 'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>

Cc: 'Christina McDonald' <cmcdonald@northforkrancheria-nsn.gov>; 'Gary Walker' <gwalker@northforkrancheria-nsn.gov>

Subject: RE: June BC4 TRG Meeting Agenda + SCHEDULING

Hi all –

We look forward to seeing you **Wednesday at 9:30am at the Piccadilly Airport Hotel** (remember, we're back at the Airport Piccadilly this month!) for the TRG meeting.

Attached is a draft of the LTOR updated in response to the TRG's comments sent around last week. I also attached it, along with the agenda, to the meeting invite for easy reference.

And remember, I will be finalizing meeting dates for July and August tomorrow afternoon. If you haven't already, **please indicate your availability in this Doodle Poll by 12pm Tues 6/12.**

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh

Sent: Friday, June 8, 2018 11:34 AM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com' <RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>;

'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; Michael Harty
<jmharty@kearnswest.com>; 'craig.addley@cardno.com' <craig.addley@cardno.com>;
'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; 'Stephanie.Fincher@sce.com'
<Stephanie.Fincher@sce.com>

Cc: 'Christina McDonald' <cmcdonald@northforkrancheria-nsn.gov>; 'Gary Walker'
<gwalker@northforkrancheria-nsn.gov>

Subject: June BC4 TRG Meeting Agenda + SCHEDULING

Hi all –

Attached is a draft agenda for next week's TRG meeting. Please let me know if you have other items you'd like to see discussed.

SCE and Cardno have made edits to the LTOR based on the conversation at the last meeting and are working on addressing the additional feedback the TRG provided this week. You can expect an updated draft to be circulated Monday.

I have only received two responses to my poll for July and August TRG meetings – [please indicate your availability in this Doodle Poll by 12pm Tues 6/12.](#)

As always, please reach out with questions or concerns in advance of Wednesday's meeting.

Many thanks,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh

Sent: Thursday, May 31, 2018 1:58 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>;
'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com'
<paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov'
<rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov'
<Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>;
'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com'
<wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>;
'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>;
'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>;

'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A1O3@pge.com' <A1O3@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXYX@pge.com' <RXYX@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; 'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>

Cc: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Gary Walker <gwalker@northforkrancheria-nsn.gov>

Subject: May Big Creek 4 TRG Meeting Action Items + Scheduling

Hi all –

Below are the action items from May 23. Please let me know if you feel like I missed anything!

Also a few other items:

- (1) I committed to scheduling July and August TRG meetings. [Please indicate your availability here – both for July AND August dates.](#)
- (2) Last week, at Ron's request, we discussed shifting the meeting from Wed June 13 to Thurs June 14. Unfortunately, since then, Mike realized he has an unshiftable conflict on the 14th. We consulted with Ron and he graciously agreed to make a June 13 date work. Does June 13 still work for all of you? **If I don't hear from anyone by 12pm tomorrow, I'll assume I can go ahead a confirm at June 13 TRG date.**
- (3) I've attached both schedules presented at the meeting (with and without peer review) for your reference.
- (4) I've also attached revised Whitewater Boating definitions from SCE and Cardno. Please take a look and see if these changes align with your understanding of the group's conversation in April – and let me know if you have any concerns.

Action Items for May 23

- [TRG] will
 - Review the change from May 1 to May 15 as the first date of possible scheduled spill in a non-spill year; confirm it make sense.
 - Provide additional edits on the SCE's revised LTOR by June 7.
 - Further research minimum instream flows (MIF) and come prepared to present their position.

- Decide whether they want to pursue peer review of the LTOR.
 - Provide all comments on the Experimental Flow Management Report, Stage Discharge Analysis, and Ramp Down and Stranding Technical Memo by June 29.
- [Ruth Sundermeyer] will:
 - Ask PG&E hydrographers if the upstream PG&E gauges on Willow Creek are representative of the Willow Creek flows coming into Horseshoe Bend.
- [SCE] will :
 - Research the following questions:
 - If downstream water users demand a hold on water, can SCE meet the boating flows during a non-spill year? If downstream water users want a different storage than that outlined in the schedule we identify for the year, what schedule do we use for releases?
 - When spikes occur during the recession at a point when flows are below 1200 cfs, would SCE be willing to implement a “subsequent spill” recession down from the spike to be protective against stranding?
 - What happens if SCE goes out of compliance when they are not in the boating range?
 - How to best calculate the daily average to accurately maintain flows in the established compliance range?
 - For outages through mid-October, would SCE be willing to down ramp by 150 cfs from either 3500 cfs or 1600 cfs? Or can they determine other ways to accommodate the TRG’s interest in boaters’ opportunistic use of outages and protect against stranding at the tail end of those spills?
 - Consider what components to include in LTOR introduction to provide context.
 - Include the functional purpose of the flows outlined in each schedule in the document.
 - Prepare analysis of when Willow Creek hydrology impacts Big Creek flows, and whether it can be expected to substantially impact flows during the period of interest.
 - Distribute spreadsheet showing how the proposed down ramping will be modified by Willow Creek inputs.
 - File the NASMP, 2018 AMP, and Forest Service letter of concurrence with FERC; then file a quarterly report by June 15.
- [Kearns & West] will:
 - Add the following items to the June agenda:
 - MIFs
 - Long term and 2018 monitoring
 - review of the next round of LTOR revisions
 - the conclusion of the presentation on the regression analysis
 - Willow Creek hydrology analysis
 - Distribute LTOR negotiation schedules discussed during the meeting.
 - Distribute the regression slides from Wayne’s presentation.
 - Schedule July and August meetings.

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; RWgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimbley@fws.gov; martin.ostendorf@sce.com; Michael.Harty@sce.com; Craig.Addley@sce.com; Edward.Bianchi@sce.com; Stephanie.Fincher@sce.com
Cc: [Christina McDonald](#); [Gary Walker](#); [Andrew McMillan](#)
Subject: RE: Big Creek 4 TRG Meeting
Date: Thursday, June 14, 2018 9:39:32 AM
Attachments: [BC4 draft LTOR 6-13-18 meeting edit version.docx](#)

Hi all—

Nice to see many of you yesterday!

For your records, attached is the LTOR draft we edited together in the meeting. SCE/Cardno will be incorporating the changes here, as well as the other items discussed for inclusion, and recirculating an updated version for review by July 30th (in advance of the Aug 21 meeting).

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Sunday, January 21, 2018 2:04 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; RWgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us;

jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov;
Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler;
martin.ostendorf@sce.com; Michael Harty; craig.addley@cardno.com; ed.bianchi@cardno.com;
Stephanie.Fincher@sce.com

Cc: Christina McDonald; Gary Walker; Andrew McMillan

Subject: Big Creek 4 TRG Meeting

When: Wednesday, June 13, 2018 9:30 AM-4:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, 93727

CALL IN NUMBER & WEBINAR:

1-719-955-1371; PW:

383738#

<https://join.me/kearnswest>

<< File: BC4 draft LTOR 6-13-18.docx >> << File: BC4_TRG June 13 Mtg Agenda.pdf >>

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: June 13 Big Creek 4 TRG Meeting Action Items
Date: Wednesday, May 8, 2019 12:37:34 PM

Please add to BC4

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE
PRINCIPAL - AQUATIC ECOLOGY
CARDNO

Direct +1 925 988 1216 **Mobile** +1 925 890 3675
Address 2999 Oak Road Suite 720, Walnut Creek, California 94597
Email wayne.lifton@cardno.com **Web** www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Terra Alpaugh <talpaugh@kearnswest.com>
Sent: Tuesday, June 19, 2018 4:44 PM
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongeorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Stephanie.Fincher@sce.com
Cc: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Andrew McMillan <Andrew.Mcmillan@sce.com>
Subject: June 13 Big Creek 4 TRG Meeting Action Items

Hi all –

Below is a list of action items from last Wednesday's BC4 TRG meeting. Please let me know if

you think I missed anything.

I will distribute a meeting summary from last week's meeting soon and will continue to be in touch about deadlines. **Remember: the TRG owes SCE comments on all the outstanding studies by Friday June 29.**

Please remember that we will be skipping a meeting in July to give Cardno more time for revisions to the LTOR and the TRG more time to review the revised document thereafter. We will then have TWO meetings in August in order to refine and finalize the LTOR document. Those meetings are now scheduled and calendar invites have been sent for **August 21 and 28.**

ACTION ITEMS:

SCE will:

Compete and distribute regression analysis report (WAYNE, *eta by July 9*)

Revise boater day definitions so that the values in the "Acceptable Average Hourly Flow Variation" table match those in the LTOR. (ED/CRAIG)

Revise LTOR, including all the inline edits discussed during the meeting as well as the following items (CRAIG/ED, *new draft to TRG by July 30*):

Introduction text

Refined language on emergency release for flushing woody debris

Language confirming that if/when the Dam 7 infrastructure is fixed to allow lower MIFs, SCE will install temperature probes, monitor, and reopen consultation with the TRG

Language outlining long term monitoring plan

Provide Ann Roberts with details on SCE's eDNA methods and site selection for monitoring.

Develop a model of water temperature throughout Horseshoe Bend to determine whether it rises linearly between Dam 7 and Plant 4 (ED/CRAIG)

Draft a 2018 Fish Population Study Proposal (WAYNE)

Circulate to TRG by June 27

TRG comments by July 18

File NASMP, 2018 Experimental Spill Recession Proposal, and USFS letter with FERC *by 6/23*

Water Board will:

Finish letter for NASMP submission to FERC

Begin a letter for 2018 Study Plan submission to FERC

TRG will:

Provide comments on all outstanding studies *by June 29*

Provide all comments on Fish Pop Study Proposal *by July 18*

Review July 30 Draft LTOR before August 21 Meeting; if possible, provide comments to SCE in advance

Terra Alpaugh

Associate, Kearns & West

Davis, CA

Office: 530.298.7113, ext 1403

Cell: 626.222.8299

talpaugh@kearnswest.com

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitchelclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimbley@fws.gov; martin.ostendorf@sce.com; Michael.Harty@sce.com; Craig.Addley@sce.com; Edward.Bianchi@sce.com; Stephanie.Fincher@sce.com
Cc: [Christina McDonald](#); [Gary Walker](#); [Andrew McMillan](#)
Subject: Distribution: Big Creek 4 2018 Fish Sampling Proposal
Date: Monday, July 9, 2018 1:53:19 PM
Attachments: [BC4 NASMP-AMP 2018 Ninth Year Proposal 6-21-18 DRAFT.pdf](#)

Hi all –

A couple action item follow-ups for your attention:

1. Attached is the 2018 fish sampling proposal for Big Creek 4. **Please review and send me any comments for SCE by Aug 3.**
2. As a reminder, all comments on the outstanding 2017 studies were due June 29. I only received comments from the Water Board; **if anyone else has comments, please let me know to expect them by COB TODAY.** Otherwise, SCE and Cardno will address only the comments they have received thus far before submitting the studies to FERC.

Thanks,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh
Sent: Tuesday, June 19, 2018 4:44 PM
To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>;

'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>;
'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>;
'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov'
<efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-
nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>;
'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com'
<RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>;
'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov'
<Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>;
'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>;
'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>;
'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>;
'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov'
<Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>;
'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>;
martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; 'craig.addley@cardno.com'
<craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>;
'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>

Cc: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Gary Walker
<gwalker@northforkrancheria-nsn.gov>; Andrew McMillan <Andrew.Mcmillan@sce.com>

Subject: June 13 Big Creek 4 TRG Meeting Action Items

Hi all –

Below is a list of action items from last Wednesday's BC4 TRG meeting. Please let me know if you think I missed anything.

I will distribute a meeting summary from last week's meeting soon and will continue to be in touch about deadlines. **Remember: the TRG owes SCE comments on all the outstanding studies by Friday June 29.**

Please remember that we will be skipping a meeting in July to give Cardno more time for revisions to the LTOR and the TRG more time to review the revised document thereafter. We will then have TWO meetings in August in order to refine and finalize the LTOR document. Those meetings are now scheduled and calendar invites have been sent for **August 21 and 28.**

ACTION ITEMS:

- SCE will:
 - Compete and distribute regression analysis report (WAYNE, *eta by July 9*)
 - Revise boater day definitions so that the values in the "Acceptable Average Hourly Flow Variation" table match those in the LTOR. (ED/CRAIG)
 - Revise LTOR, including all the inline edits discussed during the meeting as well as the following items (CRAIG/ED, *new draft to TRG by July 30*):

- Introduction text
- Refined language on emergency release for flushing woody debris
- Language confirming that if/when the Dam 7 infrastructure is fixed to allow lower MIFs, SCE will install temperature probes, monitor, and reopen consultation with the TRG
 - Language outlining long term monitoring plan
- Provide Ann Roberts with details on SCE's eDNA methods and site selection for monitoring.
- Develop a model of water temperature throughout Horseshoe Bend to determine whether it rises linearly between Dam 7 and Plant 4 (ED/CRAIG)
- Draft a 2018 Fish Population Study Proposal (WAYNE)
 - *Circulate to TRG by June 27*
 - *TRG comments by July 18*
- File NASMP, 2018 Experimental Spill Recession Proposal, and USFS letter with FERC by 6/23
- Water Board will:
 - Finish letter for NASMP submission to FERC
 - Begin a letter for 2018 Study Plan submission to FERC
- TRG will:
 - Provide comments on all outstanding studies by *June 29*
 - Provide all comments on Fish Pop Study Proposal by *July 18*
 - Review July 30 Draft LTOR before August 21 Meeting; if possible, provide comments to SCE in advance

Terra Alpaugh
 Associate, Kearns & West
 Davis, CA
 Office: 530.298.7113, ext 1403
 Cell: 626.222.8299
talpaugh@kearnswest.com

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimbley@fws.gov; martin.ostendorf@sce.com; Michael.Harty@sce.com; Craig.Addley@sce.com; Edward.Bianchi@sce.com; Stephanie.Fincher@sce.com
Cc: [Christina McDonald](#); [Gary Walker](#); [Andrew McMillan](#)
Subject: Distribution: Big Creek 4 Regression Analysis Report
Date: Thursday, July 12, 2018 3:57:25 PM
Attachments: [BC4 Regression Technical Memorandum Draft.pdf](#)

Hi all –

Another item for your reference: attached is the report Wayne Lifton put together on the regression analysis initially presented at the May meeting.

Thanks,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh
Sent: Monday, July 9, 2018 1:52 PM
To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitHELLclovis@aol.com' <dmitHELLclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXYY@pge.com' <RXYY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>;

'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>; 'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; Michael Harty <jmharty@kearnswest.com>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; 'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>

Cc: 'Christina McDonald' <cmcdonald@northforkrancheria-nsn.gov>; 'Gary Walker' <gwalker@northforkrancheria-nsn.gov>; 'Andrew McMillan' <Andrew.Mcmillan@sce.com>

Subject: Distribution: Big Creek 4 2018 Fish Sampling Proposal

Hi all –

A couple action item follow-ups for your attention:

1. Attached is the 2018 fish sampling proposal for Big Creek 4. **Please review and send me any comments for SCE by Aug 3.**
2. As a reminder, all comments on the outstanding 2017 studies were due June 29. I only received comments from the Water Board; **if anyone else has comments, please let me know to expect them by COB TODAY.** Otherwise, SCE and Cardno will address only the comments they have received thus far before submitting the studies to FERC.

<< File: BC4_NASMP-AMP_2018 Ninth Year Proposal_6-21-18 DRAFT.pdf >>

Thanks,

Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh

Sent: Tuesday, June 19, 2018 4:44 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>;
'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com'
<paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov'
<rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov'
<Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>;
'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com'
<wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>;
'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>;
'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>;
'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov'
<efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-
nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>;
'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com'
<RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>;
'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov'
<Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>;
'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>;
'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>;
'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>;
'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov'
<Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>;
'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>;
martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; 'craig.addley@cardno.com'
<craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>;
'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>
Cc: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Gary Walker
<gwalker@northforkrancheria-nsn.gov>; Andrew McMillan <Andrew.Mcmillan@sce.com>
Subject: June 13 Big Creek 4 TRG Meeting Action Items

Hi all –

Below is a list of action items from last Wednesday's BC4 TRG meeting. Please let me know if you think I missed anything.

I will distribute a meeting summary from last week's meeting soon and will continue to be in touch about deadlines. **Remember: the TRG owes SCE comments on all the outstanding studies by Friday June 29.**

Please remember that we will be skipping a meeting in July to give Cardno more time for revisions to the LTOR and the TRG more time to review the revised document thereafter. We will then have TWO meetings in August in order to refine and finalize the LTOR document. Those meetings are now scheduled and calendar invites have been sent for **August 21 and 28.**

ACTION ITEMS:

- SCE will:
 - Compete and distribute regression analysis report (WAYNE, *eta by July 9*)
 - Revise boater day definitions so that the values in the “Acceptable Average Hourly Flow Variation” table match those in the LTOR. (ED/CRAIG)
 - Revise LTOR, including all the inline edits discussed during the meeting as well as the following items (CRAIG/ED, *new draft to TRG by July 30*):
 - Introduction text
 - Refined language on emergency release for flushing woody debris
 - Language confirming that if/when the Dam 7 infrastructure is fixed to allow lower MIFs, SCE will install temperature probes, monitor, and reopen consultation with the TRG
 - Language outlining long term monitoring plan
 - Provide Ann Roberts with details on SCE’s eDNA methods and site selection for monitoring.
 - Develop a model of water temperature throughout Horseshoe Bend to determine whether it rises linearly between Dam 7 and Plant 4 (ED/CRAIG)
 - Draft a 2018 Fish Population Study Proposal (WAYNE)
 - *Circulate to TRG by June 27*
 - *TRG comments by July 18*
 - File NASMP, 2018 Experimental Spill Recession Proposal, and USFS letter with FERC *by 6/23*
- Water Board will:
 - Finish letter for NASMP submission to FERC
 - Begin a letter for 2018 Study Plan submission to FERC
- TRG will:
 - Provide comments on all outstanding studies *by June 29*
 - Provide all comments on Fish Pop Study Proposal *by July 18*
 - Review July 30 Draft LTOR before August 21 Meeting; if possible, provide comments to SCE in advance

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; katie.ross-smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimbley@fws.gov; martin.ostendorf@sce.com; Michael.Harty@sce.com; Craig.Addley@sce.com; Edward.Bianchi@sce.com; Stephanie.Fincher@sce.com
Cc: [Christina McDonald](#); [Gary Walker](#); [Andrew McMillan](#)
Subject: Distribution: Big Creek 4 June Meeting Summary
Date: Thursday, July 19, 2018 8:28:28 PM
Attachments: [Big Creek 4 June 13 DRAFT Summary v1.docx](#)

Hi all –

Attached is the draft meeting summary for the June TRG meeting. Please review and **provide comments/corrections by Friday, August 3 COB**. At that point, I will incorporate changes and circulate the final version.

Also, please remember to review the 2018 fish sampling proposal distributed on July 9 and provide any comments also by Aug 3.

Thank you!

Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh
Sent: Thursday, July 12, 2018 3:57 PM
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us;

annrroberts@fs.fed.us; jongeorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us;
alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov;
pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty
<jmharty@kearnswest.com>; craig.addley@cardno.com; ed.bianchi@cardno.com;
Stephanie.Fincher@sce.com

Cc: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Gary Walker
<gwalker@northforkrancheria-nsn.gov>; Andrew McMillan <Andrew.Mcmillan@sce.com>

Subject: Distribution: Big Creek 4 Regression Analysis Report

Hi all –

Another item for your reference: attached is the report Wayne Lifton put together on the regression analysis initially presented at the May meeting.

<< File: BC4 Regression Technical Memorandum_Draft.pdf >>

Thanks,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh

Sent: Monday, July 9, 2018 1:52 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>;
'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com'
<paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov'
<rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov'
<Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>;
'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com'
<wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>;
'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>;
'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>;
'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov'
<efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-
nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>;
'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXYX@pge.com'
<RXYX@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>;

'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>; 'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; Michael Harty <jmharty@kearnswest.com>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; 'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>

Cc: 'Christina McDonald' <cmcdonald@northforkrancheria-nsn.gov>; 'Gary Walker' <gwalker@northforkrancheria-nsn.gov>; 'Andrew McMillan' <Andrew.Mcmillan@sce.com>

Subject: Distribution: Big Creek 4 2018 Fish Sampling Proposal

Hi all –

A couple action item follow-ups for your attention:

1. Attached is the 2018 fish sampling proposal for Big Creek 4. **Please review and send me any comments for SCE by Aug 3.**
2. As a reminder, all comments on the outstanding 2017 studies were due June 29. I only received comments from the Water Board; **if anyone else has comments, please let me know to expect them by COB TODAY.** Otherwise, SCE and Cardno will address only the comments they have received thus far before submitting the studies to FERC.

<< File: BC4_NASMP-AMP_2018 Ninth Year Proposal_6-21-18 DRAFT.pdf >>

Thanks,

Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh

Sent: Tuesday, June 19, 2018 4:44 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>;
'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com'
<paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov'
<rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov'
<Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>;
'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com'
<wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>;
'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>;
'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>;
'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov'
<efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-
nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>;
'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com'
<RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>;
'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov'
<Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>;
'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>;
'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>;
'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>;
'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov'
<Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>;
'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>;
martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; 'craig.addley@cardno.com'
<craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>;
'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>
Cc: Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Gary Walker
<gwalker@northforkrancheria-nsn.gov>; Andrew McMillan <Andrew.Mcmillan@sce.com>
Subject: June 13 Big Creek 4 TRG Meeting Action Items

Hi all –

Below is a list of action items from last Wednesday's BC4 TRG meeting. Please let me know if you think I missed anything.

I will distribute a meeting summary from last week's meeting soon and will continue to be in touch about deadlines. **Remember: the TRG owes SCE comments on all the outstanding studies by Friday June 29.**

Please remember that we will be skipping a meeting in July to give Cardno more time for revisions to the LTOR and the TRG more time to review the revised document thereafter. We will then have TWO meetings in August in order to refine and finalize the LTOR document. Those meetings are now scheduled and calendar invites have been sent for **August 21 and 28.**

ACTION ITEMS:

- SCE will:
 - Compete and distribute regression analysis report (WAYNE, *eta by July 9*)
 - Revise boater day definitions so that the values in the “Acceptable Average Hourly Flow Variation” table match those in the LTOR. (ED/CRAIG)
 - Revise LTOR, including all the inline edits discussed during the meeting as well as the following items (CRAIG/ED, *new draft to TRG by July 30*):
 - Introduction text
 - Refined language on emergency release for flushing woody debris
 - Language confirming that if/when the Dam 7 infrastructure is fixed to allow lower MIFs, SCE will install temperature probes, monitor, and reopen consultation with the TRG
 - Language outlining long term monitoring plan
 - Provide Ann Roberts with details on SCE’s eDNA methods and site selection for monitoring.
 - Develop a model of water temperature throughout Horseshoe Bend to determine whether it rises linearly between Dam 7 and Plant 4 (ED/CRAIG)
 - Draft a 2018 Fish Population Study Proposal (WAYNE)
 - *Circulate to TRG by June 27*
 - *TRG comments by July 18*
 - File NASMP, 2018 Experimental Spill Recession Proposal, and USFS letter with FERC *by 6/23*
- Water Board will:
 - Finish letter for NASMP submission to FERC
 - Begin a letter for 2018 Study Plan submission to FERC
- TRG will:
 - Provide comments on all outstanding studies *by June 29*
 - Provide all comments on Fish Pop Study Proposal *by July 18*
 - Review July 30 Draft LTOR before August 21 Meeting; if possible, provide comments to SCE in advance

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimbley@fws.gov; martin.ostendorf@sce.com; Michael.Harty@sce.com; Christina.McDonald@sce.com; Craig.Addley@cardno.com; Edward.Bianchi@cardno.com; Gary.Walker@cardno.com; Stephanie.Fincher@sce.com; Andrew.McMillan@sce.com
Cc: [Katie Parra](#); [Madigan, Brian](#)
Subject: RE: Big Creek 4 TRG Aug Part 1
Date: Tuesday, August 21, 2018 6:25:48 PM
Attachments: [BC4 LTOR 073018 pc081018 CDFW eg.ca eb trg EDITED IN MEETING.docx](#)
[BC4 MonitoringPlan 073018 pc081018 CDFW ca eb TRG EDITED IN MEETING.DOCX](#)

Hi all –

Thanks for a productive meeting today! Attached for your reference are the LTOR and Monitoring Plans we edited in the meeting. Look forward to seeing you next Tuesday. If you have any questions or thoughts in advance of that meeting, please reach out to Mike or me.

Best,

Terra

-----Original Appointment-----

From: Terra Alpaugh

Sent: Wednesday, June 13, 2018 3:49 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimbley@fws.gov; martin.ostendorf@sce.com; Michael.Harty@sce.com; Christina.McDonald@sce.com; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary.Walker@cardno.com; Stephanie.Fincher@sce.com; Andrew.McMillan@sce.com

Cc: [Katie Parra](#); [Madigan, Brian](#)

Subject: Big Creek 4 TRG Aug Part 1

When: Tuesday, August 21, 2018 9:30 AM-4:15 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, 93727

1-719-955-1371; PW: 383738#

<https://join.me/kearnswest>

Hi all –

Attached is a draft agenda for next week. Please review and let us know if you see items you feel are missing.

Look forward to seeing you all on Tuesday!

Best,

Terra

<< File: BC4_TRG Aug 21 Mtg DRAFT Agenda_v5.pdf >>

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimbley@fws.gov; martin.ostendorf@sce.com; Michael.Harty@sce.com; Christina.McDonald@sce.com; Craig.Addley@sce.com; Edward.Bianchi@sce.com; Gary.Walker@sce.com; Stephanie.Fincher@sce.com; Andrew.McMillan@sce.com
Cc: [Madigan, Brian](#)
Subject: RE: Big Creek 4 TRG Aug Meeting Part 2
Date: Friday, August 24, 2018 10:26:39 AM
Attachments: [BC4 LTOR 082318 PostTRG.docx](#)
[BC4 MonitoringPlan 082318 PostTRG.docx](#)

Hi everyone,

Based on Tuesday's TRG conversations, SCE and Cardno have revised the LTOR. Please find them attached for your review before Tuesday's meetings; the changes are indicated in track changes. If you have the opportunity send comments in advance, the team would appreciate it! Otherwise please bring your thoughts with you to the meeting.

Please note that they are currently working on a list of technical studies used in development of the LTOR (now Appendix A) and revisions to Map 1 contained in the LTOR Monitoring Plan.

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, June 12, 2018 2:13 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com;

canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov;
dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us;
jongeorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov;
Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler;
martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com;
ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan

Cc: Madigan, Brian

Subject: Big Creek 4 TRG Aug Meeting Part 2

When: Tuesday, August 28, 2018 9:00 AM-5:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Fresno, CA

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Monday, August 27, 2018 8:58 AM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwggoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongeorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>

Cc: Madigan, Brian <B4M0@pge.com>

Subject: Big Creek 4 TRG Mtg -- Agenda & Action Items

Hi everyone –

Attached is a draft agenda for tomorrow's meeting. Please let me know if there are additional topics you'd like to see covered.

For your reference, I've also listed the action items from last week's meeting below.

I look forward to seeing you tomorrow in Fresno!

Best,
Terra

ACTION ITEMS from 8/21 TRG MEETING

[Kearns & West]

Provide TRG list, including tribal representatives, to Cardno (DONE).

[SCE]

Review timeline for FERC submission, including approval letters from USFS and SWRCB.

[Cardno]

Provide graph of water temperatures down the reach for another water year type (2016 was shown in the meeting).

Provide revised LTOR to TRG by Friday (DONE).

Draft a rationale for why the LTOR do not need CEQA analysis.

[TRG]

Review revised LTORs and provide comments in advance of 8/28 meeting.

[USFS]

Determine whether a license amendment is needed for 4(e)s.

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Terra Alpaugh

Sent: Friday, August 24, 2018 10:22 AM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com'

<wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>;
'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>;
'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>;
'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov'
<efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-
nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>;
'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com'
<RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>;
'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov'
<Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>;
'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>;
'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>;
'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>;
'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov'
<Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>;
'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>;
martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald
<cmcdonald@northforkrancheria-nsn.gov>; 'craig.addley@cardno.com'
<craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; Gary Walker
<gwalker@northforkrancheria-nsn.gov>; 'Stephanie.Fincher@sce.com'
<Stephanie.Fincher@sce.com>; Andrew McMillan <Andrew.Mcmillan@sce.com>

Cc: Madigan, Brian <B4M0@pge.com>

Subject: RE: Big Creek 4 TRG Aug Meeting Part 2

Hi everyone,

Based on Tuesday's TRG conversations, SCE and Cardno have revised the LTOR. Please find them attached for your review before Tuesday's meetings; the changes are indicated in track changes. If you have the opportunity send comments in advance, the team would appreciate it! Otherwise please bring your thoughts with you to the meeting.

Please note that they are currently working on a list of technical studies used in development of the LTOR (now Appendix A) and revisions to Map 1 contained in the LTOR Monitoring Plan.

Best,

Terra

<< File: BC4_LTOR_082318_PostTRG.docx >> << File: BC4_MonitoringPlan_082318_PostTRG.docx

>> Terra Alpaugh

Associate, Kearns & West

Davis, CA

Office: 530.298.7113, ext 1403

Cell: 626.222.8299

talpaugh@kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, June 12, 2018 2:13 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler; martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan

Cc: Madigan, Brian

Subject: Big Creek 4 TRG Aug Meeting Part 2

When: Tuesday, August 28, 2018 9:00 AM-5:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Fresno, CA

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimbler@sce.com; martin.ostendorf@sce.com; Michael.Harty@sce.com; Christina.McDonald@sce.com; Craig.Addley@sce.com; Edward.Bianchi@sce.com; Gary.Walker@sce.com; Stephanie.Fincher@sce.com; Andrew.McMillan@sce.com
Cc: [Madigan, Brian](#)
Subject: RE: Big Creek 4 TRG Mtg -- Agenda & Action Items
Date: Monday, August 27, 2018 3:08:34 PM

Hi all –

One last reminder: **if any of you have comments or any initial thoughts you feel ready to share on the LTOR revisions, please send them over!** The SCE team always appreciates being able to meditate on your concerns in advance of the meeting in order to make as much progress as possible.

Many thanks,
Terra

From: Terra Alpaugh
Sent: Monday, August 27, 2018 8:58 AM
To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitHELLclovis@aol.com' <dmitHELLclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXYY@pge.com' <RXYY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongearge@fs.fed.us' <jongearge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay.Kimbler@sce.com' <Jay.Kimbler@sce.com>;

'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; Michael Harty
<jmharty@kearnswest.com>; 'Christina McDonald' <cmcdonald@northforkrancheria-nsn.gov>;
'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com'
<ed.bianchi@cardno.com>; 'Gary Walker' <gwalker@northforkrancheria-nsn.gov>;
'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>; 'Andrew McMillan'
<Andrew.Mcmillan@sce.com>

Cc: 'Madigan, Brian' <B4M0@pge.com>

Subject: Big Creek 4 TRG Mtg -- Agenda & Action Items

Hi everyone –

Attached is a draft agenda for tomorrow's meeting. Please let me know if there are additional topics you'd like to see covered.

For your reference, I've also listed the action items from last week's meeting below.

I look forward to seeing you tomorrow in Fresno!

Best,
Terra

ACTION ITEMS from 8/21 TRG MEETING

- [Kearns & West]
 - Provide TRG list, including tribal representatives, to Cardno (DONE).
- [SCE]
 - Review timeline for FERC submission, including approval letters from USFS and SWRCB.
- [Cardno]
 - Provide graph of water temperatures down the reach for another water year type (2016 was shown in the meeting).
 - Provide revised LTOR to TRG by Friday (DONE).
 - Draft a rationale for why the LTOR do not need CEQA analysis.
- [TRG]
 - Review revised LTORs and provide comments in advance of 8/28 meeting.
- [USFS]
 - Determine whether a license amendment is needed for 4(e)s.

<< File: BC4_TRG Aug 28 Mtg DRAFT Agenda_v1.pdf >> Terra Alpaugh

Associate, Kearns & West

Davis, CA

Office: 530.298.7113, ext 1403

Cell: 626.222.8299

talpaugh@kearnswest.com

From: Terra Alpaugh

Sent: Friday, August 24, 2018 10:22 AM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com' <RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>; 'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; 'Michael Harty' <jmharty@kearnswest.com>; 'Christina McDonald' <cmcdonald@northforkrancheria-nsn.gov>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; 'Gary Walker' <gwalker@northforkrancheria-nsn.gov>; 'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>; 'Andrew McMillan' <Andrew.Mcmillan@sce.com>

Cc: Madigan, Brian <B4M0@pge.com>

Subject: RE: Big Creek 4 TRG Aug Meeting Part 2

Hi everyone,

Based on Tuesday's TRG conversations, SCE and Cardno have revised the LTOR. Please find them attached for your review before Tuesday's meetings; the changes are indicated in track changes. If you have the opportunity send comments in advance, the team would appreciate it! Otherwise please bring your thoughts with you to the meeting.

Please note that they are currently working on a list of technical studies used in development of the LTOR (now Appendix A) and revisions to Map 1 contained in the LTOR Monitoring Plan.

Best,
Terra

<< File: BC4_LTOR_082318_PostTRG.docx >> << File: BC4_MonitoringPlan_082318_PostTRG.docx
>> Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, June 12, 2018 2:13 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongeorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler; martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan

Cc: Madigan, Brian

Subject: Big Creek 4 TRG Aug Meeting Part 2

When: Tuesday, August 28, 2018 9:00 AM-5:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Fresno, CA

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; RWgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimbley@fws.gov; martin.ostendorf@sce.com; Michael.Harty@sce.com; Christina.McDonald@sce.com; Craig.Addley@sce.com; Edward.Bianchi@sce.com; Gary.Walker@sce.com; Stephanie.Fincher@sce.com; Andrew.McMillan@sce.com
Cc: [Madigan, Brian](#)
Subject: RE: Big Creek 4 TRG Aug Meeting Part 2
Date: Wednesday, August 29, 2018 10:12:25 AM
Attachments: [BC4 LTOR_082818_IN MEETING EDITS.docx](#)
[BC4 MonitoringPlan_082818_IN MEETING EDITS.docx](#)

Hi all,

For your records, attached are the Draft LTOR and 2018 Monitoring Plan documents that were edited in yesterday's meeting.

SCE/Cardno will provide further revised versions of both documents for your review prior to the September 12 TRG call.

Best,
Terra

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, June 12, 2018 2:13 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; RWgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov;

Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler; martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan

Cc: Madigan, Brian

Subject: Big Creek 4 TRG Aug Meeting Part 2

When: Tuesday, August 28, 2018 9:30 AM-4:15 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, 93727

1-719-955-1371; PW: 383738#

<https://join.me/kearnswest>

<< File: BC4_TRG Aug 28 Mtg DRAFT Agenda_v1.pdf >>

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: Big Creek 4 TRG 8/28 Action Items
Date: Wednesday, May 8, 2019 12:41:01 PM

Please add to BC4

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE
PRINCIPAL - AQUATIC ECOLOGY
CARDNO

Direct +1 925 988 1216 **Mobile** +1 925 890 3675
Address 2999 Oak Road Suite 720, Walnut Creek, California 94597
Email wayne.lifton@cardno.com **Web** www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Terra Alpaugh <talpaugh@kearnswest.com>
Sent: Thursday, August 30, 2018 2:06 PM
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongeorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>
Cc: Madigan, Brian <B4M0@pge.com>
Subject: Big Creek 4 TRG 8/28 Action Items

Hi all—

Below are the Action Item's coming out of Tuesday's meeting. Please review and let me know if anything needs to be updated.

Thanks!

8/28 ACTION ITEMS

SCE will:

Coordinate with PG&E to reduce flows during the monitoring period this year.
Discuss the feasibility of ramp up rates with SCE management
Send letter requesting concurrence on 5 outstanding studies from USFS and SWRCB
Provide SWRCB a rationale statement for their use to determine if new CEQA analysis is necessary

Cardno will:

Make the following updates to the draft LTOR and circulate updated draft:
Address concerns about safety during ramp ups.
Add reporting section.
Make sure the usages of "average flow" (hourly, daily, etc) are clear and consistent.
Address when the May to Aug timeline and when the May to Oct timeline applies to bullets in the Large Woody Debris section.
Check all footnote numbering in the document
Add a list of studies as Appendix A
Confirm that literature cited in document is consistent with references list.
Develop an alternative proposal for how to monitor water temperature in the reach that addresses TRG and SCE concerns
In the 2018 Monitoring Proposal, include agreement to defer monitoring for the year if flows are greater than 100cfs during the monitoring period.

KW will:

Send USFS the 5 outstanding studies they need to comment on [DONE].
Schedule Sept TRG call [DONE]

USFS will:

Review the 5 outstanding studies they need to comment on.

TRG will:

Review the updated draft LTOR (once they are circulated) and provide initial comments in advance of the 9/12 meeting

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, June 12, 2018 2:13 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler; martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan

Cc: Madigan, Brian

Subject: Big Creek 4 TRG Aug Meeting Part 2

When: Tuesday, August 28, 2018 9:30 AM-4:15 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, 93727

1-719-955-1371; PW: 383738#

<https://join.me/kearnswest>

<< File: BC4_TRG Aug 28 Mtg DRAFT Agenda_v1.pdf >>

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Tuesday, September 11, 2018 5:22 PM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgooode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongeorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Subject: RE: DISTRIBUTION: Materials for BC4 TRG Conference Call

Hi all –

Since a few of you will be delayed in joining tomorrow's call, we rearranged the agenda just a bit to push the meat of the conversation slightly later.

Also, one caveat I did not add to my earlier distribution: this draft of the LTOR is still undergoing SCE legal review, but they do not foresee any issues.

Thanks!

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Tuesday, September 11, 2018 1:12 PM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Subject: DISTRIBUTION: Materials for BC4 TRG Conference Call

Hi all –

Attached are the latest version of the revised LTOR and Monitoring Plan for discussion tomorrow.

Also, an agenda.

I look forward to hearing from you on the call.

Best,

Terra << File: BC4_LTOR_091118.docx >> << File: BC4_MonitoringPlan_091118.docx >> << File: BC4_TRG Sept 12 Mtg DRAFT Agenda_v1.pdf >>

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, August 28, 2018 3:26 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler; martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan; Madigan, Brian

Subject: BC4 TRG Conference Call

When: Wednesday, September 12, 2018 9:30 AM-12:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: 1-719-955-1371; PW: 383738#

1-719-955-1371; PW: 383738#

<https://join.me/kearnswest>

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimbley@fws.gov; martin.ostendorf@sce.com; Michael.Harty@sce.com; Christina.McDonald@sce.com; Craig.Addley@sce.com; Edward.Bianchi@sce.com; Gary.Walker@sce.com; Stephanie.Fincher@sce.com; Andrew.McMillan@sce.com; Madigan.Brian@sce.com
Subject: RE: BC4 TRG Conference Call
Date: Wednesday, September 12, 2018 12:00:48 PM
Attachments: [BC4 LTOR 091118 edited on call.docx](#)
[BC4 MonitoringPlan 091118 edited on call.docx](#)

Hi all—

Thank you to everyone who joined today's call. We appreciated everyone's willingness to share their concerns and to brainstorm potential solutions on these final items.

Attached are the draft LTOR and Monitoring Plan with the edits from today's meeting.

I'll be in touch again later this week to schedule our next call.

Best,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, August 28, 2018 3:26 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; [wayne.lifton@cardno.com](mailto:Wayne.Lifton@cardno.com); katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov;

Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler; martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan; Madigan, Brian

Subject: BC4 TRG Conference Call

When: Wednesday, September 12, 2018 9:30 AM-12:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: 1-719-955-1371; PW: 383738#

1-719-955-1371; PW: 383738#

<https://join.me/kearnswest>

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Monday, September 17, 2018 11:45 AM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; RWgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Subject: BC4 9/12 Action Items & October Scheduling

Hi all –

A few follow-up items from last week's call:

1. We agreed to schedule another meeting in late October/early November. **Please share your availability in this Doodle Poll by this Friday 9/21 COB.** At this point, I'm assuming that it will be a full day meeting in person in Fresno, but we can adjust as needed depending on where we are in a month.
2. Below are the action items for last week. Please review and let me know if you see any additions/corrections that need to be made.

BC4 TRG ACTION ITEMS 9/12

- SCE will:
 - Send out letter requesting concurrence on outstanding studies [SENT 9/13].
 - Develop a proposed approach/methodology for how they could evaluate safety concerns/solutions around stage-discharge/ramp up rates and share it with the TRG in ~1 week (~9/21). (*Note: SCE will make its best effort to meet this deadline but could be delayed*)
- Cardno:
 - Will update the LTOR and Monitoring Plan with the edits discussed and recorded on the call.

- USFS and SWRCB will:
- Provide letters of concurrence on outstanding studies.
- Philip Choy will:
- Vet the timeline for CEQA with SWRCB management (both (a) how long SCE would have to provide rationale after filing the LTOR with FERC, and (b) how long the CEQA process would take if SWRCB determined that the rationale is inadequate)
- Provide proposed language for Section 3.2 to make it consistent with the extended May to October 31 timeframe.
- Send all his edits to the updated draft in track changes.

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, August 28, 2018 3:26 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler; martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan; Madigan, Brian

Subject: BC4 TRG Conference Call

When: Wednesday, September 12, 2018 9:30 AM-12:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: 1-719-955-1371; PW: 383738#

1-719-955-1371; PW: 383738#

<https://join.me/kearnswest>

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven.Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimbley@fws.gov; martin.ostendorf@sce.com; Michael.Harty@sce.com; Christina.McDonald@sce.com; Craig.Addley@sce.com; Edward.Bianchi@sce.com; Gary.Walker@sce.com; Stephanie.Fincher@sce.com; Andrew.McMillan@sce.com; Madigan.Brian@sce.com
Subject: RE: BC4 9/12 Action Items & October Scheduling
Date: Wednesday, September 19, 2018 4:19:08 PM

Hi all –

A friendly reminder to **fill out the poll** for scheduling an Oct/Nov Big Creek 4 TRG meeting **by FRIDAY COB.**

Thanks!

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Monday, September 17, 2018 11:45 AM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXYY@pge.com' <RXYY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>;

'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>;
'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>;
'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov'
<Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>;
'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>;
martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald
<cmcdonald@northforkrancheria-nsn.gov>; 'craig.addley@cardno.com'
<craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; Gary Walker
<gwalker@northforkrancheria-nsn.gov>; 'Stephanie.Fincher@sce.com'
<Stephanie.Fincher@sce.com>; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian
<B4M0@pge.com>

Subject: BC4 9/12 Action Items & October Scheduling

Hi all –

A few follow-up items from last week's call:

1. We agreed to schedule another meeting in late October/early November. **Please share your availability in this Doodle Poll by this Friday 9/21 COB.** At this point, I'm assuming that it will be a full day meeting in person in Fresno, but we can adjust as needed depending on where we are in a month.
2. Below are the action items for last week. Please review and let me know if you see any additions/corrections that need to be made.

BC4 TRG ACTION ITEMS 9/12

- SCE will:
 - Send out letter requesting concurrence on outstanding studies [SENT 9/13].
 - Develop a proposed approach/methodology for how they could evaluate safety concerns/solutions around stage-discharge/ramp up rates and share it with the TRG in ~1 week (~9/21). *(Note: SCE will make its best effort to meet this deadline but could be delayed)*
- Cardno:
 - Will update the LTOR and Monitoring Plan with the edits discussed and recorded on the call.
- USFS and SWRCB will:
 - Provide letters of concurrence on outstanding studies.
- Philip Choy will:
 - Vet the timeline for CEQA with SWRCB management (both (a) how long SCE would have to provide rationale after filing the LTOR with FERC, and (b) how long the CEQA process would take if SWRCB determined that the rationale is inadequate)
 - Provide proposed language for Section 3.2 to make it consistent with the extended May to October 31 timeframe.
 - Send all his edits to the updated draft in track changes.

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, August 28, 2018 3:26 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler; martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan; Madigan, Brian

Subject: BC4 TRG Conference Call

When: Wednesday, September 12, 2018 9:30 AM-12:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: 1-719-955-1371; PW: 383738#

1-719-955-1371; PW: 383738#

<https://join.me/kearnswest>

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Thursday, September 20, 2018 8:25 AM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <imharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Subject: BC4 TRG Proposal - Safety Approach for Planned Releases

Hi all –

SCE has provided the proposal below to assess the safety concerns discussed on the 9/12 call.

As always, please let me know if you have any questions or comments.

TRG Proposal - Safety Approach for Planned Releases

As discussed at the 9/12 TRG call, the following presents an approach to evaluate and address safety concerns to recreationists that may be in the reach during controlled releases. SCE proposes to present the information outlined below with the TRG group in November.

In preparation for that meeting, SCE will summarize the river elevation (stage) data associated with controlled flow releases from Dam 7 in 2017. The Willow Creek Confluence Pool site is the primary access point for recreation including both fishing, wading, and whitewater boating. We will look at potential safety measures during the planned releases (rises in river stage) at this site (as well as other sites) and prepare safety recommendations.

In addition, to better assess what may be considered “safe” flow release rates and other protective practices, SCE will assess existing practices in place at other projects to see if there is useful guidance or a general industry standard that can be applied. We welcome information on this topic from the TRG.

SCE will also review some of the possible alternatives for operational controls for planned releases in terms of timing of the releases (time of day), operating procedures, effect on operational flexibility, and overall potential impacts to operations and be prepared to discuss these issues in November.

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Monday, September 24, 2018 8:48 AM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; RWgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennisSMITH@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Subject: AVAILABILITY NEEDED: BC4 Oct/Nov Mtg

Happy Monday, everyone --

Please fill out [the poll here](#) with your availability for an Oct/Nov BC4 TRG meeting [by this Wed 9/26 COB](#).

Thank you in advance!

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Wednesday, September 19, 2018 4:19 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitHELLclovis@aol.com' <dmitHELLclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>;

'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkkrancheria-nsn.gov' <efink@northforkkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com' <RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>; 'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; Michael Harty <jmharty@kearnswest.com>; 'Christina McDonald' <cmcdonald@northforkkrancheria-nsn.gov>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; 'Gary Walker' <gwalker@northforkkrancheria-nsn.gov>; 'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>; 'Andrew McMillan' <Andrew.Mcmillan@sce.com>; 'Madigan, Brian' <B4M0@pge.com>

Subject: RE: BC4 9/12 Action Items & October Scheduling

Hi all –

A friendly reminder to **fill out the poll** for scheduling an Oct/Nov Big Creek 4 TRG meeting **by FRIDAY COB**.

Thanks!

Terra Alpaugh
Associate
Kearns & West
p: (530) 298-7113
c: (626) 222-8299
w: www.kearnswest.com

From: Terra Alpaugh
Sent: Monday, September 17, 2018 11:45 AM
To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>;

'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkkrancheria-nsn.gov' <efink@northforkkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com' <RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkkrancheria-nsn.gov>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; Gary Walker <gwalker@northforkkrancheria-nsn.gov>; 'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Subject: BC4 9/12 Action Items & October Scheduling

Hi all –

A few follow-up items from last week's call:

1. We agreed to schedule another meeting in late October/early November. **Please share your availability in this Doodle Poll by this Friday 9/21 COB.** At this point, I'm assuming that it will be a full day meeting in person in Fresno, but we can adjust as needed depending on where we are in a month.
2. Below are the action items for last week. Please review and let me know if you see any additions/corrections that need to be made.

BC4 TRG ACTION ITEMS 9/12

- SCE will:
 - Send out letter requesting concurrence on outstanding studies [SENT 9/13].
 - Develop a proposed approach/methodology for how they could evaluate safety concerns/solutions around stage-discharge/ramp up rates and share it with the TRG in ~1 week (~9/21). (*Note: SCE will make its best effort to meet this deadline but could be delayed*)
- Cardno:

- Will update the LTOR and Monitoring Plan with the edits discussed and recorded on the call.
- USFS and SWRCB will:
- Provide letters of concurrence on outstanding studies.
- Philip Choy will:
- Vet the timeline for CEQA with SWRCB management (both (a) how long SCE would have to provide rationale after filing the LTOR with FERC, and (b) how long the CEQA process would take if SWRCB determined that the rationale is inadequate)
- Provide proposed language for Section 3.2 to make it consistent with the extended May to October 31 timeframe.
- Send all his edits to the updated draft in track changes.

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, August 28, 2018 3:26 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitcheilclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler; martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan; Madigan, Brian

Subject: BC4 TRG Conference Call

When: Wednesday, September 12, 2018 9:30 AM-12:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: 1-719-955-1371; PW: 383738#

1-719-955-1371; PW: 383738#

<https://join.me/kearnswest>

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton; Katie.Ross-Smith; David.Martinez; cam5j@aol.com; dmitchelclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimble; martin.ostendorf@sce.com; Michael.Harty; Christina.McDonald; Craig.Addley; Edward.Bianchi; Gary.Walker; Stephanie.Fincher@sce.com; Andrew.McMillan; Madigan.Brian
Subject: RE: AVAILABILITY NEEDED: BC4 Oct/Nov Mtg
Date: Wednesday, September 26, 2018 8:45:39 AM
Importance: High

One last reminder!

Please fill out the poll for an Oct/Nov BC4 TRG meeting TODAY.

Thank you!

From: Terra Alpaugh
Sent: Monday, September 24, 2018 8:48 AM
Subject: AVAILABILITY NEEDED: BC4 Oct/Nov Mtg

Happy Monday, everyone --

Please fill out the poll here with your availability for an Oct/Nov BC4 TRG meeting by this Wed 9/26 COB.

Thank you in advance!

Terra Alpaugh
Associate
Kearns & West
p: (530) 298-7113
c: (626) 222-8299
w: www.kearnswest.com

From: Terra Alpaugh
Sent: Wednesday, September 19, 2018 4:19 PM
To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov'

<Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>;
'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com'
<wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>;
'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>;
'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>;
'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov'
<efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-
nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>;
'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com'
<RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>;
'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov'
<Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>;
'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>;
'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>;
'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>;
'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov'
<Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>;
'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>;
'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; Michael Harty
<jmharty@kearnswest.com>; 'Christina McDonald' <cmcdonald@northforkrancheria-nsn.gov>;
'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com'
<ed.bianchi@cardno.com>; 'Gary Walker' <gwalker@northforkrancheria-nsn.gov>;
'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>; 'Andrew McMillan'
<Andrew.Mcmillan@sce.com>; 'Madigan, Brian' <B4M0@pge.com>

Subject: RE: BC4 9/12 Action Items & October Scheduling

Hi all –

A friendly reminder to **fill out the poll** for scheduling an Oct/Nov Big Creek 4 TRG meeting **by FRIDAY COB.**

Thanks!

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Monday, September 17, 2018 11:45 AM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>;
 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com'
 <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov'
 <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov'
 <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>;
 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com'
 <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>;
 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>;
 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>;
 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov'
 <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-
 nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>;
 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com'
 <RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>;
 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov'
 <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>;
 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>;
 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>;
 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>;
 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov'
 <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>;
 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>;
martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald
 <cmcdonald@northforkrancheria-nsn.gov>; 'craig.addley@cardno.com'
 <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; Gary Walker
 <gwalker@northforkrancheria-nsn.gov>; 'Stephanie.Fincher@sce.com'
 <Stephanie.Fincher@sce.com>; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian
 <B4M0@pge.com>

Subject: BC4 9/12 Action Items & October Scheduling

Hi all –

A few follow-up items from last week's call:

1. We agreed to schedule another meeting in late October/early November. **Please share your availability in this Doodle Poll by this Friday 9/21 COB.** At this point, I'm assuming that it will be a full day meeting in person in Fresno, but we can adjust as needed depending on where we are in a month.
2. Below are the action items for last week. Please review and let me know if you see any additions/corrections that need to be made.

BC4 TRG ACTION ITEMS 9/12

- SCE will:

Send out letter requesting concurrence on outstanding studies [SENT 9/13].

- Develop a proposed approach/methodology for how they could evaluate safety concerns/solutions around stage-discharge/ramp up rates and share it with the TRG in ~1 week (~9/21). *(Note: SCE will make its best effort to meet this deadline but could be delayed)*
- Cardno:
 - Will update the LTOR and Monitoring Plan with the edits discussed and recorded on the call.
- USFS and SWRCB will:
 - Provide letters of concurrence on outstanding studies.
- Philip Choy will:
 - Vet the timeline for CEQA with SWRCB management (both (a) how long SCE would have to provide rationale after filing the LTOR with FERC, and (b) how long the CEQA process would take if SWRCB determined that the rationale is inadequate)
 - Provide proposed language for Section 3.2 to make it consistent with the extended May to October 31 timeframe.
 - Send all his edits to the updated draft in track changes.

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Tuesday, August 28, 2018 3:26 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler; martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan; Madigan, Brian

Subject: BC4 TRG Conference Call

When: Wednesday, September 12, 2018 9:30 AM-12:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: 1-719-955-1371; PW: 383738#

1-719-955-1371; PW: 383738#

<https://join.me/kearnswest>

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greves@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton; Katie.Ross-Smith; David.Martinez; cam5j@aol.com; dmitchelclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimble; martin.ostendorf@sce.com; Michael.Harty; Christina.McDonald; Craig.Addley; Edward.Bianchi; Gary.Walker; Stephanie.Fincher@sce.com; Andrew.McMillan; Madigan.Brian
Subject: DISTRIBUTION: August & September BC4 TRG Meeting Summaries
Date: Monday, October 15, 2018 8:56:31 AM
Attachments: [Big Creek 4 Sept 12 DRAFT Summary v2.docx](#)
[Big Creek 4 Aug 21 DRAFT Summary v2.DOCX](#)
[Big Creek 4 Aug 28 DRAFT Summary v2.docx](#)

Happy Monday, all!

Attached are draft meeting summaries for the August 21, 28, and September 12 Big Creek 4 TRG meetings.

Please **provide any comments or corrections by Monday, Oct 29th COB**. At that point, I will incorporate changes, finalize, and recirculate.

Many thanks,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: BC4 TRG Agenda + Meeting Format Change
Date: Wednesday, May 8, 2019 12:54:47 PM
Attachments: [Big Creek 4 Nov 6 Agenda_v3.pdf](#)

Please add to BC4

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE

PRINCIPAL - AQUATIC ECOLOGY

CARDNO

Direct +1 925 988 1216 Mobile +1 925 890 3675

Address 2999 Oak Road Suite 720, Walnut Creek, California 94597

Email wayne.lifton@cardno.com Web www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Monday, October 29, 2018 6:42 AM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgooode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo, Aondrea <aondrea_bartoo@fws.gov>; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Subject: BC4 TRG Agenda + Meeting Format Change

Hi all –

Attached is a proposed agenda for our November 6 Big Creek 4 meeting. The agenda aims to establish agreement on two items: (1) an approach for assessing how to be protective of public safety in the reach and (2) a timeline completing the safety analysis, LTOR negotiations, and any needed CEQA/NEPA analysis.

With these targeted objectives in mind, SCE has proposed that we hold the meeting on 11/6 as a 1.5 hour call/webinar from 9:30-11:00 am and wait to meet in person until they have the information needed to discuss and assess the safety question thoroughly.

Please reach out to us with any questions or concerns you may have about the proposed meeting agenda or format. **If I don't hear from you today by COB Mon 10/29, I will assume that the change is acceptable and adjust the meeting invite accordingly.**

Best,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: BC4 Distribution: Final August and September Meeting Summaries
Date: Wednesday, May 8, 2019 12:49:35 PM
Attachments: [Big Creek 4 Aug 21 Summary FINAL.DOCX](#)
[Big Creek 4 Aug 28 Summary FINAL.docx](#)
[Big Creek 4 Sept 12 Summary FINAL.docx](#)

Please add to BC4

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE
PRINCIPAL - AQUATIC ECOLOGY
CARDNO

Direct +1 925 988 1216 Mobile +1 925 890 3675
Address 2999 Oak Road Suite 720, Walnut Creek, California 94597
Email wayne.lifton@cardno.com Web www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Saturday, November 3, 2018 2:41 PM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo, Aondrea <aondrea_bartoo@fws.gov>; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.McMillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Subject: BC4 Distribution: Final August and September Meeting Summaries

Hi all –

Thank you to those of you who provided edits to the August and September Big Creek 4 TRG Meeting Summaries. I have made revisions accordingly.

For your records, please find the finalized summaries for the 8/21, 8/28, and 9/12 meetings attached.

I look forward to hearing from you on Tuesday!

Best,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: Big Creek 4 TRG 11/6 Action Items + AVAILABILITY NEEDED
Date: Wednesday, May 8, 2019 12:54:48 PM
Attachments: [BC4 TRG LTOR Proposed Milestones_rev110218.xlsx](#)

Please add to BC4

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE

PRINCIPAL - AQUATIC ECOLOGY

CARDNO

Direct +1 925 988 1216 Mobile +1 925 890 3675

Address 2999 Oak Road Suite 720, Walnut Creek, California 94597

Email wayne.lifton@cardno.com Web www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Wednesday, November 14, 2018 12:52 PM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgooode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo, Aondrea <aondrea_bartoo@fws.gov>; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Subject: Big Creek 4 TRG 11/6 Action Items + AVAILABILITY NEEDED

Hi all,

Below are action items from last week's call. I've attached the draft LTOR schedule we discussed on

the call and will send along Craig's safety presentation materials as soon as I get them.

Please share your availability for February and March BC4 TRG meetings [in this poll](#)—remember to indicate availability for both February and March dates! **Responses due by Tues 11/27 COB.**

ACTION ITEMS

SCE will:

Provide an updated LTOR proposal by end of January. This will include updated safety language and supporting analysis and identify sections of the reach where stage change could be dangerous, characterize access into those sections, and if possible, quantify recreation use in those areas historically.

Develop a methodology for assessing the safety consequences in the identified "danger" areas during a test flow, if a test flow could be accomplished.

Provide 2018 NASMP/AMP reports in late December.

KW will:

Schedule February and March TRG meetings.

Distribute LTOR schedule and Craig's safety presentation.

TRG will:

Provide feedback on the draft negotiation schedule.

Many thanks,

Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Tuesday, November 27, 2018 4:40 PM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo, Aondrea <aondrea_bartoo@fws.gov>; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Subject: AVAILABILITY NEEDED: Big Creek 4 TRG Mtgs -- Feb and March

Importance: High

Hi everyone,

I am missing availability for many of you for February and March TRG meetings. **Please share in this poll—** and remember to indicate availability for both February and March dates. **Responses due by Thurs COB.**

Thank you!!

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Wednesday, November 14, 2018 12:52 PM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald

<cmcdonald@northforkrancheria-nsn.gov>; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>
Subject: Big Creek 4 TRG 11/6 Action Items + AVAILABILITY NEEDED

Hi all,

Below are action items from last week's call. I've attached the draft LTOR schedule we discussed on the call and will send along Craig's safety presentation materials as soon as I get them.

Please share your availability for February and March BC4 TRG meetings [in this poll](#)—remember to indicate availability for both February and March dates! **Responses due by Tues 11/27 COB.**

ACTION ITEMS

- SCE will:
 - Provide an updated LTOR proposal by end of January. This will include updated safety language and supporting analysis and identify sections of the reach where stage change could be dangerous, characterize access into those sections, and if possible, quantify recreation use in those areas historically.
 - Develop a methodology for assessing the safety consequences in the identified "danger" areas during a test flow, if a test flow could be accomplished.
 - Provide 2018 NASMP/AMP reports in late December.
- KW will:
 - Schedule February and March TRG meetings.
 - Distribute LTOR schedule and Craig's safety presentation.
- TRG will:
 - Provide feedback on the draft negotiation schedule.

<< File: BC4 TRG_LTOR_Proposed_Milestones_rev110218.xlsx >>

Many thanks,

Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton; Katie.Ross-Smith; David.Martinez; cam5j@aol.com; dmitchelclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo_Aondrea; pcstrand@fs.fed.us; Jay.Kimble; martin.ostendorf@sce.com; Michael.Harty; Christina.McDonald; Craig.Addley; Edward.Bianchi; Gary.Walker; Stephanie.Fincher@sce.com; Andrew.McMillan; Madigan.Brian
Subject: DISTRIBUTION: Nov Big Creek 4 TRG Summary
Date: Thursday, December 20, 2018 11:15:00 AM
Attachments: [Big Creek 4 Nov 6 Summary_v1.docx](#)

Hi everyone –

I've attached a draft meeting summary from our November Big Creek 4 TRG call. **Please provide edits/comments by Monday, January 7 COB.** At that point, I'll incorporate changes and circulate the final version.

Another update: SCE is in the midst of finishing up the 2018 NASMP report, and I expect to circulate it before the end of the year.

Happy holidays all!

Best,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton; Katie.Ross-Smith; David.Martinez; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo_Aondrea; pcstrand@fs.fed.us; Jay.Kimble; martin.ostendorf@sce.com; Michael.Harty; Christina.McDonald; Craig.Addley; Edward.Bianchi; Gary.Walker; Stephanie.Fincher@sce.com; Andrew.McMillan; Madigan.Brian
Subject: DISTRIBUTION: Big Creek 4 NASMP
Date: Monday, December 31, 2018 12:30:09 PM
Attachments: [BC4 Draft 2018 Data Collection Report 12-31-2018 TRG Review.pdf](#)

Dear TRG members,

Southern California Edison Company (SCE) is providing for your review and comment the *Draft Native Aquatic Species Management Plan 2018 Data Collection Report* that presents the results of the 2018 fish sampling. The fish sampling was conducted consistent with the Native Aquatic Species Management Plan (NASMP) for the Big Creek No. 4 Project (FERC Project No. 2017). The 2018 studies were implemented as described in the Ninth Year Adaptive Management Proposal (Ninth Year Proposal) that was reviewed and approved by the TRG. **SCE is requesting that you please provide any comments or questions regarding this report to me by January 31, 2019 for discussion at the upcoming 2019 TRG meeting.**

On February 5, 2019, SCE will convene a formal TRG meeting from 9:00 am to 5:00 pm at the Piccadilly Airport Hotel located at 5115 East McKinley Avenue, Fresno, CA 93727. *Please make sure you've accepted my calendar invite to RSVP your intent to attend the TRG meeting.* At this meeting, SCE will review monitoring and survey methods, summarize results of the 2018 fish data collection activities, and present the proposed studies for 2018. Please come prepared to discuss your comments and questions on the attached report at this meeting.

Happy New Year to you all!

Best,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Choy, Philip@Waterboards <Philip.Choi@Waterboards.ca.gov>
Sent: Wednesday, January 16, 2019 9:27 AM
To: Jay Kimbler <Jay.Kimbler@sce.com>; Stephanie Fincher <Stephanie.Fincher@sce.com>
Cc: Terra Alpaugh <talpaugh@kearnswest.com>; Leon, Abimael@Wildlife <Abimael.Leon@wildlife.ca.gov>;
Guzman, Eric@Wildlife <Eric.Guzman@wildlife.ca.gov>; to: Roberts, Ann R -FS <annrroberts@fs.fed.us>;
Monheit, Susan@Waterboards <Susan.Monheit@waterboards.ca.gov>; Wayne Lifton
<Wayne.Lifton@cardno.com>
Subject: SWRCB comments on BC4 2018 Fish Monitoring Report

Jay and Stephanie,

Please see below for my comments on the Big Creek 4 2018 NASMP Fish Monitoring Report (Report), which I received via email on December 31, 2018. Based on phone conversations with you, the other portion of the Adaptive Management Plan 2018 Proposal (ramp-down off spill) will be provided to stakeholders for review and comment soon. I will submit comments on the “ramp-down off spill” component in a separate email/letter, as necessary. (**Terra**- Can you attach this email to the upcoming TRG meeting invite when you add an agenda? Thanks)

Comment 1:

Figure 12A displays population estimates including young of the year (YOY), while Figure 12B displays population estimates without including YOY. Including YOY should make the counts larger. Please confirm the displayed hardhead data is correct, as the hardhead densities in Figure 12B are higher than Figure 12A at each site.

Comment 2:

In Table 8, please clarify if the numbers for hardhead YOY and Sacramento pikeminnow YOY are estimates from only electrofishing (if so, please clarify this with a footnote).

Comment 3:

On page 4-24, the Report states that “YOY spotted bass numbers at Site 2 in 2018 were the highest observed at a single site since 2010 (Figure 27).” This language could suggest that larger abundances of YOY bass were observed prior to 2010, which is incorrect according to Figure 24. Please rephrase this sentence for clarity.

Comment 4:

Please update Figure 27 to include all years monitored (including 1995 and 1985). Since not all years (i.e., colors) are displayed on the graph, it may be more clear to footnote years that did not observe any YOY bass. This would remove the interpretation that certain lines are completely covered by other lines.

Comment 5:

Please create additional tables similar to Table 13 that display relative abundances and densities for each species over the sampling years (for both “not including YOY cyprinids”, and “including YOY cyprinids with extrapolation from cast net/electrofishing/dip net proportions”). These tables would supplement/summarize the information provided in Table 11.

Comment 6:

Figure 24 displays greater abundances of YOY spotted bass in 2014, 2016, 2017, and 2018. Per the Addendum to the 2016 Adaptive Management Proposal, SCE conducted bass nesting surveys in the Horseshoe Bend Reach and did not observe spawning spotted bass. As suggested by those results, Willow Creek may be a source of YOY spotted bass (as well as other life stages of bass). Please evaluate if any trends exist between YOY spotted bass abundance and Willow Creek flows.

Comment 7:

At the April 25, 2018 Long-Term Operating Rule meeting, the Technical Review Group (TRG) provided rationale for the implementation of fish population monitoring in 2018. Water year 2017 included a prolonged spill that prompted TRG questions regarding overwintering mortality of native fishes (rational 1) and spotted bass resilience (rational 2). Please discuss the results and findings of the 2018 fish population data in the context of rational 1 and rational 2.

Feel free to contact me if you have any questions.

Thank you,
Philip Choy

Philip Choy
Environmental Scientist
State Water Resources Control Board
Water Quality Certification Program
1001 I St., 14th floor Sacramento, CA 95814
(916) 341-5408

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Thursday, January 24, 2019 4:12 PM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; RWgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo, Aondrea <aondrea_bartoo@fws.gov>; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Subject: UPDATE: Big Creek 4 TRG Meeting

Hello TRG Members,

In light of the continuing federal government shut down and the key role USFS staff have in the LTOR discussions, *SCE has decided to defer our planned February 5th meeting to March*. We already have a meeting on the calendar for March 19, which (we hope!) should allow enough time for the government to reopen and USFS to get back online.

At that meeting, we will plan to review the NASMP as usually done in February and to discuss the outstanding LTOR topics, including safety and temperature monitoring. SCE will be circulating the revised LTOR, including safety language in advance of that meeting.

SCE is also completing review of the AMP proposal, and I will be circulating that document soon.

If you have any questions or concerns about this approach, please don't hesitate to reach out to Mike or me.

Best,

Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo_Aondrea@fws.gov; pcstrand@fs.fed.us; Jay.Kimbler@fws.gov; martin.ostendorf@sce.com; Michael.Harty@sce.com; Christina.McDonald@sce.com; Craig.Addley@sce.com; Edward.Bianchi@sce.com; Gary.Walker@sce.com; Stephanie.Fincher@sce.com; Andrew.McMillan@sce.com; Madigan.Brian@sce.com
Subject: DISTRIBUTION Big Creek 4 TRG
Date: Sunday, February 3, 2019 3:25:15 PM
Attachments: [SWRCB comments on BC4 2018 Fish Monitoring Report.msg](#)
[20020331 USFS Revised EA4eConditions_pt1.pdf](#)

Dear TRG –

As you know, we've deferred our next TRG meeting until March. However, I had a few documents I wanted to distribute to you in the meantime:

- SWRCB submitted comments on the NASMP, which I've attached for your reference.
- In our conversations with some of you in January, you expressed interest in seeing the 2002 Revised EA for Big Creek 4 that SCE recently uncovered from its files. In order to send it via email, we've divided it into two parts. Part 1 is attached here. My subsequent email will contain Part 2.

As always, please reach out to Mike and me about anything that may arise prior to our next meeting.

Best,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Thursday, January 24, 2019 4:12 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitHELLclovis@aol.com' <dmitHELLclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>;

'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXYX@pge.com' <RXYX@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; 'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Subject: UPDATE: Big Creek 4 TRG Meeting

Hello TRG Members,

In light of the continuing federal government shut down and the key role USFS staff have in the LTOR discussions, *SCE has decided to defer our planned February 5th meeting to March*. We already have a meeting on the calendar for March 19, which (we hope!) should allow enough time for the government to reopen and USFS to get back online.

At that meeting, we will plan to review the NASMP as usually done in February and to discuss the outstanding LTOR topics, including safety and temperature monitoring. SCE will be circulating the revised LTOR, including safety language in advance of that meeting.

SCE is also completing review of the AMP proposal, and I will be circulating that document soon.

If you have any questions or concerns about this approach, please don't hesitate to reach out to Mike or me.

Best,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitcheilclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo_Aondrea@fws.gov; pcstrand@fs.fed.us; Jay.Kimbler@sce.com; martin.ostendorf@sce.com; Michael.Harty@sce.com; Christina.McDonald@sce.com; Craig.Addley@sce.com; Edward.Bianchi@sce.com; Gary.Walker@sce.com; Stephanie.Fincher@sce.com; Andrew.McMillan@sce.com; Madigan.Brian@sce.com
Subject: DISTRIBUTION Part 2: Big Creek 4 TRG
Date: Sunday, February 3, 2019 3:33:42 PM
Attachments: [20020331_USFS_Revised_EA4eConditions_pt2.pdf](#)

Attached is Part 2 of the 2002 Revised EA.

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Sunday, February 3, 2019 3:18 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitcheilclovis@aol.com' <dmitcheilclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXYY@pge.com' <RXYY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongearge@fs.fed.us' <jongearge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay.Kimbler' <Jay.Kimbler@sce.com>; 'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; Michael Harty

<jmharty@kearnswest.com>; 'Christina McDonald' <cmcdonald@northforkrancheria-nsn.gov>;
'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com'
<ed.bianchi@cardno.com>; 'Gary Walker' <gwalker@northforkrancheria-nsn.gov>;
'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>; 'Andrew McMillan'
<Andrew.Mcmillan@sce.com>; 'Madigan, Brian' <B4M0@pge.com>

Subject: DISTRIBUTION Big Creek 4 TRG

Dear TRG –

As you know, we've deferred our next TRG meeting until March. However, I had a few documents I wanted to distribute to you in the meantime:

- SWRCB submitted comments on the NASMP, which I've attached for your reference.
- In our conversations with some of you in January, you expressed interest in seeing the 2002 Revised EA for Big Creek 4 that SCE recently uncovered from its files. In order to send it via email, we've divided it into two parts. Part 1 is attached here. My subsequent email will contain Part 2.

As always, please reach out to Mike and me about anything that may arise prior to our next meeting.

Best,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Thursday, January 24, 2019 4:12 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>;
'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com'
<paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov'
<rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov'
<Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>;
'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com'
<wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>;
'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>;
'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>;
'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov'
<efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-
nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>;
'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com'
<RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>;

'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; 'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Subject: UPDATE: Big Creek 4 TRG Meeting

Hello TRG Members,

In light of the continuing federal government shut down and the key role USFS staff have in the LTOR discussions, *SCE has decided to defer our planned February 5th meeting to March*. We already have a meeting on the calendar for March 19, which (we hope!) should allow enough time for the government to reopen and USFS to get back online.

At that meeting, we will plan to review the NASMP as usually done in February and to discuss the outstanding LTOR topics, including safety and temperature monitoring. SCE will be circulating the revised LTOR, including safety language in advance of that meeting.

SCE is also completing review of the AMP proposal, and I will be circulating that document soon.

If you have any questions or concerns about this approach, please don't hesitate to reach out to Mike or me.

Best,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; katie.ross-smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo_Aondrea@fws.gov; pcstrand@fs.fed.us; Jay.Kimble@sce.com; martin.ostendorf@sce.com; Michael.Harty@kearnswest.com; Christina.McDonald@northforkrancheria-nsn.gov; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary.Walker@northforkrancheria-nsn.gov; Stephanie.Fincher@sce.com; Andrew.McMillan@sce.com; Madigan.Brian@pge.com
Subject: DISTRIBUTION: Big Creek 4 2018 AMP Results
Date: Thursday, February 7, 2019 10:41:29 AM
Attachments: [BC4 AMP downramp study results 2018 spill_020619.docx](#)

Good morning everyone,

Attached is the Big Creek 4 AMP 2018 Study Results report for your review. Happy reading!

Best,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Sunday, February 3, 2019 3:25 PM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay.Kimble@sce.com; martin.ostendorf@sce.com; Michael.Harty@kearnswest.com; Christina.McDonald@northforkrancheria-nsn.gov; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary.Walker@northforkrancheria-nsn.gov; Stephanie.Fincher@sce.com; Andrew.McMillan@sce.com; Madigan.Brian@pge.com

Subject: DISTRIBUTION Big Creek 4 TRG

Dear TRG –

As you know, we've deferred our next TRG meeting until March. However, I had a few documents I wanted to distribute to you in the meantime:

- SWRCB submitted comments on the NASMP, which I've attached for your reference.
- In our conversations with some of you in January, you expressed interest in seeing the 2002 Revised EA for Big Creek 4 that SCE recently uncovered from its files. In order to send it via email, we've divided it into two parts. Part 1 is attached here. My subsequent email will contain Part 2.

As always, please reach out to Mike and me about anything that may arise prior to our next meeting.

Best,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Thursday, January 24, 2019 4:12 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com' <RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>;

martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; 'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Subject: UPDATE: Big Creek 4 TRG Meeting

Hello TRG Members,

In light of the continuing federal government shut down and the key role USFS staff have in the LTOR discussions, *SCE has decided to defer our planned February 5th meeting to March*. We already have a meeting on the calendar for March 19, which (we hope!) should allow enough time for the government to reopen and USFS to get back online.

At that meeting, we will plan to review the NASMP as usually done in February and to discuss the outstanding LTOR topics, including safety and temperature monitoring. SCE will be circulating the revised LTOR, including safety language in advance of that meeting.

SCE is also completing review of the AMP proposal, and I will be circulating that document soon.

If you have any questions or concerns about this approach, please don't hesitate to reach out to Mike or me.

Best,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greves@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton; Katie.Ross-Smith; David.Martinez; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo_Aondrea; pcstrand@fs.fed.us; Jay.Kimbler; martin.ostendorf@sce.com; Michael.Harty; Christina.McDonald; Craig.Addley; Edward.Bianchi; Gary.Walker; Stephanie.Fincher@sce.com; Andrew.McMillan; Madigan.Brian; Paul.Martzen; Katie.Parra
Subject: Big Creek 4 TRG 3/19/19 Agenda
Date: Tuesday, March 12, 2019 4:43:08 PM
Attachments: [BC4_TRG_0319_Mtg_Agenda.pdf](#)

Hi all –

We look forward to seeing you all at next Tuesday's Big Creek 4 TRG Meeting at the Piccadilly Inn Airport from 9 am to 4pm.

The draft agenda is attached. Two items to think about in advance:

- *Please have reviewed the NASMP and AMP reports (distributed in Jan/Feb) in advance of the meeting. SCE plans to focus their presentation on the topic areas in which they have received comments thus far, rather than reviewing every study result as part of the meeting.*
- *In the afternoon, the group will focus on developing solutions to the outstanding issues in the draft LTOR. If there are topic areas outside of safety and temperature monitoring that you want to address, please let me know in advance, so we can budget time accordingly and adjust the agenda.*

We know it has been awhile since we scheduled this meeting: **Please email me by Friday (3/15) COB to confirm whether your organization will be represented at Tuesday's meeting.**

Many thanks,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo_Aondrea@fws.gov; pcstrand@fs.fed.us; Jay.Kimbley@fws.gov; martin.ostendorf@sce.com; Michael.Harty@sce.com; Christina.McDonald@sce.com; Craig.Addley@sce.com; Edward.Bianchi@sce.com; Gary.Walker@sce.com; Stephanie.Fincher@sce.com; Andrew.McMillan@sce.com; Madigan.Brian@sce.com
Cc: [Paul Martzen](#); [Katie Parra](#)
Subject: Materials for 3/19 Big Creek 4 TRG Meeting
Date: Monday, March 18, 2019 3:30:48 PM
Attachments: [BC4 LTOR 031819.docx](#)
[BC4 MonitoringPlan 031819.docx](#)
[BC4 TRG 0319 Mtg Agenda REVISED.pdf](#)

Hi all –

Attached are the updated LTOR and Monitoring Plan for discussion tomorrow. We also reordered the agenda a little – same content, different order (new version attached).

Look forward to seeing you all at the Piccadilly!

Best,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Thursday, December 6, 2018 2:15 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbley;

martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan; Madigan, Brian

Cc: Paul Martzen; Katie Parra

Subject: Big Creek 4 TRG Meeting

When: Tuesday, March 19, 2019 9:00 AM-5:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, 93727; Call In: 1-719-955-1371; PW: 383738#

1-719-955-1371; PW:

383738#

<https://join.me/kearnswest>

<< File: BC4_TRG 0319 Mtg Agenda.pdf >>

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton; Katie.Ross-Smith; David.Martinez; cam5j@aol.com; dmitchelclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo_Aondrea; pcstrand@fs.fed.us; Jay.Kimble; martin.ostendorf@sce.com; Michael.Harty; Christina.McDonald; Craig.Addley; Edward.Bianchi; Gary.Walker; Stephanie.Fincher@sce.com; Andrew.McMillan; Madigan.Brian
Cc: [Paul Martzen](#); [Katie Parra](#)
Subject: Big Creek 4 TRG Meeting Action Items
Date: Sunday, April 7, 2019 3:47:09 PM

Hi all –

Below are the action items I captured at our last TRG meeting. Please review and send any additions or corrections.

Please be on the lookout for further distributions from me later this week.

Best,
Terra

BC4 3/19 Action Items

- SCE/Cardno to:
 - Make edits to NASMP and AMP in response to comments; circulate revised version along with a request for concurrence letter to conditioning agencies by 4/9.
 - Send LTORs & monitoring plan with red line edits made in the meeting to the TRG ASAP; allow 2 weeks for comment; incorporate additional edits; send final version along with request for concurrence letter to conditioning agencies.
 - Work with Phil to determine and fulfill Board's CEQA needs.
 - Once both concurrence letters are received, submit (along with consultation record) to FERC.
 - Ask Cardno CEQA experts their opinion on whether the LTOR are eligible for a Class 1 CEQA exemption.
 - Look into the feasibility of making the BC4 gage data available on CDEC.
- USFS to:
 - Confirm that the Forest Supervisor feels the safety language in the LTOR is adequate for USFS approval of the document.
- Phil (SWRCB) to:
 - Review his LTOR comment #1 to ensure he does not have any additional follow up.
 - Determine whether the LTOR are eligible for a Class 1 CEQA exemption.
- Craig/Wayne to provide their slide presentations to Terra for distribution.
- Wayne to provide his comment table to Terra.

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Thursday, December 6, 2018 2:15 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler; martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan; Madigan, Brian

Cc: Paul Martzen; Katie Parra

Subject: Big Creek 4 TRG Meeting

When: Tuesday, March 19, 2019 9:00 AM-5:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, 93727; Call In: 1-719-955-1371; PW: 383738#

1-719-955-1371; PW:

383738#

<https://join.me/kearnswest>

<< File: BC4_TRG 0319 Mtg Agenda_REVISED.pdf >> << File: BC4_LTOR_031819.docx >> << File: BC4_MonitoringPlan_031819.docx >>

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo_Aondrea@fws.gov; pcstrand@fs.fed.us; Jay.Kimble@fws.gov; martin.ostendorf@sce.com; Michael.Harty@sce.com; Christina.McDonald@sce.com; Craig.Addley@sce.com; Edward.Bianchi@sce.com; Gary.Walker@sce.com; Stephanie.Fincher@sce.com; Andrew.McMillan@sce.com; Madigan.Brian@sce.com
Cc: [Paul Martzen](#); [Katie Parra](#)
Subject: DISTRIBUTION Big Creek 4 TRG LTOR Revised
Date: Tuesday, April 9, 2019 7:15:06 PM
Attachments: [BC4 LTOR 03 Apr 2019 clean version w highlights.docx](#)
[BC4 MonitoringPlan 03 Apr 2019 clean version w highlights.docx](#)

Hi all –

Attached are the revised LTOR and Monitoring Plan. Edits from previous sessions were accepted and additions from the last TRG meeting are in red line. **Please provide any additional edits to me within two weeks, by April 24 COB.**

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Sunday, April 7, 2019 3:47 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A1O3@pge.com' <A1O3@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXYY@pge.com' <RXYY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>;

'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>;
'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>;
'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>;
'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov'
<Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>;
'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>;
martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald
<cmcdonald@northforkrancheria-nsn.gov>; 'craig.addley@cardno.com'
<craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; Gary Walker
<gwalker@northforkrancheria-nsn.gov>; 'Stephanie.Fincher@sce.com'
<Stephanie.Fincher@sce.com>; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian
<B4M0@pge.com>

Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>

Subject: Big Creek 4 TRG Meeting Action Items

Hi all –

Below are the action items I captured at our last TRG meeting. Please review and send any additions or corrections.

Please be on the lookout for further distributions from me later this week.

Best,
Terra

BC4 3/19 Action Items

- SCE/Cardno to:
 - Make edits to NASMP and AMP in response to comments; circulate revised version along with a request for concurrence letter to conditioning agencies by 4/9.
 - Send LTORs & monitoring plan with red line edits made in the meeting to the TRG ASAP; allow 2 weeks for comment; incorporate additional edits; send final version along with request for concurrence letter to conditioning agencies.
 - Work with Phil to determine and fulfill Board's CEQA needs.
 - Once both concurrence letters are received, submit (along with consultation record) to FERC.
 - Ask Cardno CEQA experts their opinion on whether the LTOR are eligible for a Class 1 CEQA exemption.
 - Look into the feasibility of making the BC4 gage data available on CDEC.
- USFS to:
 - Confirm that the Forest Supervisor feels the safety language in the LTOR is adequate for USFS approval of the document.
- Phil (SWRCB) to:
 - Review his LTOR comment #1 to ensure he does not have any additional follow up.
 - Determine whether the LTOR are eligible for a Class 1 CEQA exemption.

Craig/Wayne to provide their slide presentations to Terra for distribution.

- Wayne to provide his comment table to Terra.

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Thursday, December 6, 2018 2:15 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler; martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan; Madigan, Brian

Cc: Paul Martzen; Katie Parra

Subject: Big Creek 4 TRG Meeting

When: Tuesday, March 19, 2019 9:00 AM-5:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, 93727; Call In: 1-719-955-1371; PW: 383738#

1-719-955-1371; PW:

383738#

<https://join.me/kearnswest>

<< File: BC4_TRG 0319 Mtg Agenda_REVISED.pdf >> << File: BC4_LTOR_031819.docx >> << File: BC4_MonitoringPlan_031819.docx >>

From: [Terra Alpaugh](#)
To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne.Lifton@cardno.com; Katie.Ross-Smith@cardno.com; David.Martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo_Aondrea@fws.gov; pcstrand@fs.fed.us; Jay.Kimbler@fws.gov; martin.ostendorf@sce.com; Michael.Harty@sce.com; Christina.McDonald@sce.com; Craig.Addley@sce.com; Edward.Bianchi@sce.com; Gary.Walker@sce.com; Stephanie.Fincher@sce.com; Andrew.McMillan@sce.com; Madigan.Brian@sce.com
Cc: [Paul Martzen](#); [Katie Parra](#)
Subject: Big Creek 4 TRG Draft Meeting Summary
Date: Tuesday, April 16, 2019 10:33:28 AM
Attachments: [Big Creek 4 March 19 Summary v2.docx](#)
[2019 TRG Draft DataCollection Only 3-18-19.pdf](#)
[RTC from BC4 Draft 2018 Data Collection Report.pdf](#)

Good morning all –

Attached is the draft meeting summary as well as the slides and comment log with SCE responses presented at the March 19 TRG meeting. **Please review the summary and send me any comments and corrections by April 25 COB.** At that point, I will integrate your changes and finalize the document.

Best,

Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Sunday, April 7, 2019 3:47 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>;

'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com' <RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; 'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>

Subject: Big Creek 4 TRG Meeting Action Items

Hi all –

Below are the action items I captured at our last TRG meeting. Please review and send any additions or corrections.

Please be on the lookout for further distributions from me later this week.

Best,
Terra

BC4 3/19 Action Items

- SCE/Cardno to:
 - Make edits to NASMP and AMP in response to comments; circulate revised version along with a request for concurrence letter to conditioning agencies by 4/9.
 - Send LTORs & monitoring plan with red line edits made in the meeting to the TRG ASAP; allow 2 weeks for comment; incorporate additional edits; send final version along with request for concurrence letter to conditioning agencies.
 - Work with Phil to determine and fulfill Board's CEQA needs.
 - Once both concurrence letters are received, submit (along with consultation record) to FERC.
 - Ask Cardno CEQA experts their opinion on whether the LTOR are eligible for a Class 1 CEQA exemption.
 - Look into the feasibility of making the BC4 gage data available on CDEC.
- USFS to:
 - Confirm that the Forest Supervisor feels the safety language in the LTOR is adequate

for USFS approval of the document.

- Phil (SWRCB) to:
 - Review his LTOR comment #1 to ensure he does not have any additional follow up.
 - Determine whether the LTOR are eligible for a Class 1 CEQA exemption.
- Craig/Wayne to provide their slide presentations to Terra for distribution.
- Wayne to provide his comment table to Terra.

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Thursday, December 6, 2018 2:15 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler; martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan; Madigan, Brian

Cc: Paul Martzen; Katie Parra

Subject: Big Creek 4 TRG Meeting

When: Tuesday, March 19, 2019 9:00 AM-5:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, 93727; Call In: 1-719-955-1371; PW: 383738#

1-719-955-1371; PW:

383738#

<https://join.me/kearnswest>

<< File: BC4_TRG 0319 Mtg Agenda_REVISED.pdf >> << File: BC4_LTOR_031819.docx >> << File:
BC4_MonitoringPlan_031819.docx >>

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: DISTRIBUTION Big Creek 4 TRG LTOR Revised
Date: Wednesday, May 8, 2019 12:57:08 PM
Attachments: [BC4 MonitoringPlan_03_Apr_2019_clean_version_w_highlights_pc041519.docx](#)
[BC4 LTOR_03_Apr_2019_clean_version_w_highlights_pc041519.docx](#)

Please add to BC4

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE
PRINCIPAL - AQUATIC ECOLOGY
CARDNO

Direct +1 925 988 1216 Mobile +1 925 890 3675
Address 2999 Oak Road Suite 720, Walnut Creek, California 94597
Email wayne.lifton@cardno.com Web www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Choy, Philip@Waterboards <Philip.Choi@Waterboards.ca.gov>

Sent: Thursday, April 18, 2019 1:49 PM

To: Terra Alpaugh <talpaugh@kearnswest.com>; theresa@americanwhitewater.org;
dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov;
rgonzalez@usbr.gov; greyes@usbr.gov; Leon, Abimael@Wildlife <Abimael.Leon@wildlife.ca.gov>;
Guzman, Eric@Wildlife <Eric.Guzman@wildlife.ca.gov>; arc_natres@hotmail.com; Wayne Lifton
<Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez
<Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net;
cmcdonald@nfr-nsn.gov; efink@northforkkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-
nsn.gov; Rwggoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com;
canyondog@alum.mit.edu; monomuseum@gmail.com; dagould@fs.fed.us; dennissmith@fs.fed.us;
aotto@fs.fed.us; annrroberts@fs.fed.us; jongeorge@fs.fed.us; vickidavis@fs.fed.us;
dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo, Aondrea
<aondrea_bartoo@fws.gov>; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>;
martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald
<cmcdonald@northforkkrancheria-nsn.gov>; Craig Addley <Craig.Addley@cardno.com>; Edward
Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkkrancheria-nsn.gov>;
Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian
<B4M0@pge.com>

Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkkrancheria-nsn.gov>

Subject: RE: DISTRIBUTION Big Creek 4 TRG LTOR Revised

Hi Terra,

Please see attached to view my minor tweaks/comments to the BC4 LTOR and Monitoring Plan documents. I briefly spoke with SCE, and they are receptive of the changes. Assuming incorporation of these changes and no additional TRG comments, I believe these LTOR documents are ready to be submitted for Deputy Director approval.

Thanks,
Phil

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Tuesday, April 09, 2019 7:12 PM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Leon, Abimael@Wildlife <Abimael.Leon@wildlife.ca.gov>; Guzman, Eric@Wildlife <Eric.Guzman@wildlife.ca.gov>; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Choy, Philip@Waterboards <Philip.Choy@Waterboards.ca.gov>; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkkrancheria-nsn.gov>; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker <gwalker@northforkkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkkrancheria-nsn.gov>

Subject: DISTRIBUTION Big Creek 4 TRG LTOR Revised

Hi all –

Attached are the revised LTOR and Monitoring Plan. Edits from previous sessions were accepted and additions from the last TRG meeting are in red line. **Please provide any additional edits to me within two weeks, by April 24 COB.**

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Sunday, April 7, 2019 3:47 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com' <RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; 'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>
Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>
Subject: Big Creek 4 TRG Meeting Action Items

Hi all –

Below are the action items I captured at our last TRG meeting. Please review and send any additions or corrections.

Please be on the lookout for further distributions from me later this week.

Best,
Terra

BC4 3/19 Action Items

SCE/Cardno to:

Make edits to NASMP and AMP in response to comments; circulate revised version along with a request for concurrence letter to conditioning agencies by 4/9.

Send LTORs & monitoring plan with red line edits made in the meeting to the TRG ASAP; allow 2 weeks for comment; incorporate additional edits; send final version along with request for concurrence letter to conditioning agencies.

Work with Phil to determine and fulfill Board's CEQA needs.

Once both concurrence letters are received, submit (along with consultation record) to FERC.

Ask Cardno CEQA experts their opinion on whether the LTOR are eligible for a Class 1 CEQA exemption.

Look into the feasibility of making the BC4 gage data available on CDEC.

USFS to:

Confirm that the Forest Supervisor feels the safety language in the LTOR is adequate for USFS approval of the document.

Phil (SWRCB) to:

Review his LTOR comment #1 to ensure he does not have any additional follow up.

Determine whether the LTOR are eligible for a Class 1 CEQA exemption.

Craig/Wayne to provide their slide presentations to Terra for distribution.

Wayne to provide his comment table to Terra.

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Thursday, December 6, 2018 2:15 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennismith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler;

martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan; Madigan, Brian

Cc: Paul Martzen; Katie Parra

Subject: Big Creek 4 TRG Meeting

When: Tuesday, March 19, 2019 9:00 AM-5:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, 93727; Call In: 1-719-955-1371; PW: 383738#

1-719-955-1371; PW:

383738#

<https://join.me/kearnswest>

<< File: BC4_TRG 0319 Mtg Agenda_REVISED.pdf >> << File: BC4_LTOR_031819.docx >> << File: BC4_MonitoringPlan_031819.docx >>

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: DISTRIBUTION Big Creek 4 TRG LTOR Revised
Date: Wednesday, May 8, 2019 12:58:06 PM

Please add to BC4

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE
PRINCIPAL - AQUATIC ECOLOGY
CARDNO

Direct +1 925 988 1216 **Mobile** +1 925 890 3675
Address 2999 Oak Road Suite 720, Walnut Creek, California 94597
Email wayne.lifton@cardno.com **Web** www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Sundermeyer, Dagmar <D5SK@pge.com>
Sent: Thursday, April 18, 2019 3:32 PM
To: Terra Alpaugh <talpaugh@kearnswest.com>; Choy, Philip@Waterboards <Philip.Choi@Waterboards.ca.gov>; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Leon, Abimael@Wildlife <Abimael.Leon@wildlife.ca.gov>; Guzman, Eric@Wildlife <Eric.Guzman@wildlife.ca.gov>; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwggoode911@hotmail.com; A1O3@pge.com; Young, Riley <RXYY@pge.com>; canyondog@alum.mit.edu; monomuseum@gmail.com; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongeorge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo, Aondrea <aondrea_bartoo@fws.gov>; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkkrancheria-nsn.gov>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>
Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkkrancheria-nsn.gov>
Subject: RE: DISTRIBUTION Big Creek 4 TRG LTOR Revised

Hi Terra,

I have no additional comments.

For your information, I've let our Crane Valley Project generation supervisor know that flows from Willow Creek were too high during SCE's 2018 sampling, and that the monitoring plan will require SCE to coordinate more closely with PG&E on flows from Willow Creek, as follows:

Fish population sampling will be conducted in September/October at minimum flow, if possible. The Licensee will coordinate with PG&E regarding flows in the sampling timeframe. The Licensee will notify USFS, CDFW, and SWRCB of the outcome of the coordination.

Ruth

Ruth Sundermeyer

Aquatic Biologist

Environmental Management Energy Supply

Pacific Gas and Electric Company

3401 Crow Canyon Road, Rm 149C

San Ramon, CA 94583

Dagmar.sundermeyer@pge.com

925 200-1638 (cell)

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Thursday, April 18, 2019 2:12 PM

To: Choy, Philip@Waterboards <Philip.Choy@Waterboards.ca.gov>;
theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com;
remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Leon, Abimael@Wildlife
<Abimael.Leon@wildlife.ca.gov>; Guzman, Eric@Wildlife <Eric.Guzman@wildlife.ca.gov>;
arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com;
dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net;
cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov;
Rwgoode911@hotmail.com; A1O3@pge.com; Sundermeyer, Dagmar <D5SK@pge.com>;
Young, Riley <RXYY@pge.com>; canyondog@alum.mit.edu; monomuseum@gmail.com;
dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us;
jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov;
Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler
<Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>;
Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; craig.addley@cardno.com;
ed.bianchi@cardno.com; Gary Walker <gwalker@northforkrancheria-nsn.gov>;
Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian
<B4M0@pge.com>

Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>

Subject: RE: DISTRIBUTION Big Creek 4 TRG LTOR Revised

*******CAUTION: This email was sent from an EXTERNAL source. Think before clicking links or opening attachments.*******

Thank you, Phil!

Everyone else, *please let us know this week if you plan to submit additional edits to the LTOR and/or monitoring plan before the April 24 deadline.* Otherwise, Cardno and SCE will get Phil's feedback incorporated and move the process along.

Many thanks,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Choy, Philip@Waterboards [<mailto:Philip.Choy@Waterboards.ca.gov>]

Sent: Thursday, April 18, 2019 1:49 PM

To: Terra Alpaugh <talpaugh@kearnswest.com>; theresa@americanwhitewater.org;
dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov;
rgonzalez@usbr.gov; greyes@usbr.gov; Leon, Abimael@Wildlife <Abimael.Leon@wildlife.ca.gov>;
Guzman, Eric@Wildlife <Eric.Guzman@wildlife.ca.gov>; arc_natres@hotmail.com;
wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com;
cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov;
efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov;
Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com;
canyondog@alum.mit.edu; monomuseum@gmail.com; dagould@fs.fed.us; dennissmith@fs.fed.us;
aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us;
dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov;
pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty
<jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>;
craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker <gwalker@northforkrancheria-nsn.gov>;
Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan,
Brian <B4M0@pge.com>

Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>

Subject: RE: DISTRIBUTION Big Creek 4 TRG LTOR Revised

Hi Terra,

Please see attached to view my minor tweaks/comments to the BC4 LTOR and Monitoring Plan documents. I briefly spoke with SCE, and they are receptive of the changes. Assuming incorporation of these changes and no additional TRG comments, I believe these LTOR documents are ready to be submitted for Deputy Director approval.

Thanks,
Phil

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Tuesday, April 09, 2019 7:12 PM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Leon, Abimael@Wildlife <Abimael.Leon@wildlife.ca.gov>; Guzman, Eric@Wildlife <Eric.Guzman@wildlife.ca.gov>; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Choy, Philip@Waterboards <Philip.Choy@Waterboards.ca.gov>; dagould@fs.fed.us; dennismith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>

Subject: DISTRIBUTION Big Creek 4 TRG LTOR Revised

Hi all –

Attached are the revised LTOR and Monitoring Plan. Edits from previous sessions were accepted and additions from the last TRG meeting are in red line. **Please provide any additional edits to me within two weeks, by April 24 COB.**

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Sunday, April 7, 2019 3:47 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com'

<wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>;
'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>;
'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>;
'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov'
<efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-
nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>;
'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXYY@pge.com'
<RXYY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>;
'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov'
<Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>;
'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>;
'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>;
'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>;
'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov'
<Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>;
'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>;
martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald
<cmcdonald@northforkrancheria-nsn.gov>; 'craig.addley@cardno.com'
<craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; Gary Walker
<gwalker@northforkrancheria-nsn.gov>; 'Stephanie.Fincher@sce.com'
<Stephanie.Fincher@sce.com>; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian
<B4M0@pge.com>

Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>

Subject: Big Creek 4 TRG Meeting Action Items

Hi all –

Below are the action items I captured at our last TRG meeting. Please review and send any additions or corrections.

Please be on the lookout for further distributions from me later this week.

Best,
Terra

BC4 3/19 Action Items

SCE/Cardno to:

Make edits to NASMP and AMP in response to comments; circulate revised version along with a request for concurrence letter to conditioning agencies by 4/9.

Send LTORs & monitoring plan with red line edits made in the meeting to the TRG ASAP; allow 2 weeks for comment; incorporate additional edits; send final version along with request for concurrence letter to conditioning agencies.

Work with Phil to determine and fulfill Board's CEQA needs.

Once both concurrence letters are received, submit (along with consultation record) to FERC.

Ask Cardno CEQA experts their opinion on whether the LTOR are eligible for a Class 1 CEQA exemption.

Look into the feasibility of making the BC4 gage data available on CDEC.

USFS to:

Confirm that the Forest Supervisor feels the safety language in the LTOR is adequate for USFS approval of the document.

Phil (SWRCB) to:

Review his LTOR comment #1 to ensure he does not have any additional follow up.

Determine whether the LTOR are eligible for a Class 1 CEQA exemption.

Craig/Wayne to provide their slide presentations to Terra for distribution.

Wayne to provide his comment table to Terra.

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Thursday, December 6, 2018 2:15 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler; martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan; Madigan, Brian

Cc: Paul Martzen; Katie Parra

Subject: Big Creek 4 TRG Meeting

When: Tuesday, March 19, 2019 9:00 AM-5:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, 93727; Call In: 1-719-955-1371; PW: 383738#

1-719-955-1371; PW:

383738#

<https://join.me/kearnswest>

<< File: BC4_TRG 0319 Mtg Agenda_REVISED.pdf >> << File: BC4_LTOR_031819.docx >> << File:
BC4_MonitoringPlan_031819.docx >>

From: [Terra Alpaugh](#)
To: [Choy, Philip@Waterboards](#); [theresa@americanwhitewater.org](#); [dave@americanwhitewater.org](#); [paul_martzen@yahoo.com](#); [remerson@usbr.gov](#); [rgonzalez@usbr.gov](#); [greyes@usbr.gov](#); [Leon, Abimael@Wildlife](#); [Guzman, Eric@Wildlife](#); [arc_natres@hotmail.com](#); [Wayne Lifton](#); [Katie Ross-Smith](#); [David Martinez](#); [cam5j@aol.com](#); [dmitchellclovis@aol.com](#); [patnlou@netptc.net](#); [cmcdonald@nfr-nsn.gov](#); [efink@northforkrancheria-nsn.gov](#); [kparra@nfr-nsn.gov](#); [gwalker@nfr-nsn.gov](#); [Rwgoode911@hotmail.com](#); [A1O3@pge.com](#); [d5sk@pge.com](#); [RXY@pge.com](#); [canyondog@alum.mit.edu](#); [monomuseum@gmail.com](#); [dagould@fs.fed.us](#); [dennissmith@fs.fed.us](#); [aotto@fs.fed.us](#); [annrroberts@fs.fed.us](#); [jongeorge@fs.fed.us](#); [vickidavis@fs.fed.us](#); [dalvarez@fs.fed.us](#); [alison_willy@fws.gov](#); [Steven_Schoenberg@fws.gov](#); [Bartoo, Aondrea](#); [pcstrand@fs.fed.us](#); [Jay Kimbler](#); [martin.ostendorf@sce.com](#); [Michael Harty](#); [Christina McDonald](#); [Craig Addley](#); [Edward Bianchi](#); [Gary Walker](#); [Stephanie.Fincher@sce.com](#); [Andrew McMillan](#); [Madigan, Brian](#)
Cc: [Paul Martzen](#); [Katie Parra](#)
Subject: RE: DISTRIBUTION Big Creek 4 TRG LTOR Revised
Date: Thursday, April 18, 2019 2:12:12 PM

Thank you, Phil!

Everyone else, *please let us know this week if you plan to submit additional edits to the LTOR and/or monitoring plan before the April 24 deadline.* Otherwise, Cardno and SCE will get Phil's feedback incorporated and move the process along.

Many thanks,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Choy, Philip@Waterboards [mailto:Philip.Choi@Waterboards.ca.gov]
Sent: Thursday, April 18, 2019 1:49 PM
To: Terra Alpaugh <talpaugh@kearnswest.com>; [theresa@americanwhitewater.org](#); [dave@americanwhitewater.org](#); [paul_martzen@yahoo.com](#); [remerson@usbr.gov](#); [rgonzalez@usbr.gov](#); [greyes@usbr.gov](#); [Leon, Abimael@Wildlife](#) <Abimael.Leon@wildlife.ca.gov>; [Guzman, Eric@Wildlife](#) <Eric.Guzman@wildlife.ca.gov>; [arc_natres@hotmail.com](#); [wayne.lifton@cardno.com](#); [katie.ross-smith@cardno.com](#); [dave.martinez@cardno.com](#); [cam5j@aol.com](#); [dmitchellclovis@aol.com](#); [patnlou@netptc.net](#); [cmcdonald@nfr-nsn.gov](#); [efink@northforkrancheria-nsn.gov](#); [kparra@nfr-nsn.gov](#); [gwalker@nfr-nsn.gov](#); [Rwgoode911@hotmail.com](#); [A1O3@pge.com](#); [d5sk@pge.com](#); [RXY@pge.com](#); [canyondog@alum.mit.edu](#); [monomuseum@gmail.com](#); [dagould@fs.fed.us](#); [dennissmith@fs.fed.us](#); [aotto@fs.fed.us](#); [annrroberts@fs.fed.us](#); [jongeorge@fs.fed.us](#); [vickidavis@fs.fed.us](#); [dalvarez@fs.fed.us](#); [alison_willy@fws.gov](#); [Steven_Schoenberg@fws.gov](#); [aondrea_bartoo@fws.gov](#); [pcstrand@fs.fed.us](#); [Jay Kimbler](#) <Jay.Kimbler@sce.com>; [martin.ostendorf@sce.com](#); [Michael Harty](#) <jmharty@kearnswest.com>; [Christina McDonald](#) <cmcdonald@northforkrancheria-nsn.gov>; [craig.addley@cardno.com](#); [ed.bianchi@cardno.com](#); [Gary Walker](#) <gwalker@northforkrancheria-nsn.gov>; [Stephanie.Fincher@sce.com](#); [Andrew McMillan](#) <Andrew.Mcmillan@sce.com>; [Madigan, Brian](#) <B4M0@pge.com>
Cc: [Paul Martzen](#) <paul.martzen@gmail.com>; [Katie Parra](#) <kparra@northforkrancheria-nsn.gov>

Subject: RE: DISTRIBUTION Big Creek 4 TRG LTOR Revised

Hi Terra,

Please see attached to view my minor tweaks/comments to the BC4 LTOR and Monitoring Plan documents. I briefly spoke with SCE, and they are receptive of the changes. Assuming incorporation of these changes and no additional TRG comments, I believe these LTOR documents are ready to be submitted for Deputy Director approval.

Thanks,
Phil

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Tuesday, April 09, 2019 7:12 PM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Leon, Abimael@Wildlife <Abimael.Leon@wildlife.ca.gov>; Guzman, Eric@Wildlife <Eric.Guzman@wildlife.ca.gov>; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; RWgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Choy, Philip@Waterboards <Philip.Choi@Waterboards.ca.gov>; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkkrancheria-nsn.gov>; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker <gwalker@northforkkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkkrancheria-nsn.gov>

Subject: DISTRIBUTION Big Creek 4 TRG LTOR Revised

Hi all –

Attached are the revised LTOR and Monitoring Plan. Edits from previous sessions were accepted and additions from the last TRG meeting are in red line. **Please provide any additional edits to me within two weeks, by April 24 COB.**

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Sunday, April 7, 2019 3:47 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com' <RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>; 'martin.ostendorf@sce.com'; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; 'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>
Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>
Subject: Big Creek 4 TRG Meeting Action Items

Hi all –

Below are the action items I captured at our last TRG meeting. Please review and send any additions or corrections.

Please be on the lookout for further distributions from me later this week.

Best,

Terra

BC4 3/19 Action Items

SCE/Cardno to:

Make edits to NASMP and AMP in response to comments; circulate revised version along with a request for concurrence letter to conditioning agencies by 4/9.

Send LTORs & monitoring plan with red line edits made in the meeting to the TRG ASAP; allow 2 weeks for comment; incorporate additional edits; send final version along with request for concurrence letter to conditioning agencies.

Work with Phil to determine and fulfill Board's CEQA needs.

Once both concurrence letters are received, submit (along with consultation record) to FERC.

Ask Cardno CEQA experts their opinion on whether the LTOR are eligible for a Class 1 CEQA exemption.

Look into the feasibility of making the BC4 gage data available on CDEC.

USFS to:

Confirm that the Forest Supervisor feels the safety language in the LTOR is adequate for USFS approval of the document.

Phil (SWRCB) to:

Review his LTOR comment #1 to ensure he does not have any additional follow up.

Determine whether the LTOR are eligible for a Class 1 CEQA exemption.

Craig/Wayne to provide their slide presentations to Terra for distribution.

Wayne to provide his comment table to Terra.

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Thursday, December 6, 2018 2:15 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us;

jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov;
Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler;
martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com;
ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan; Madigan,
Brian

Cc: Paul Martzen; Katie Parra

Subject: Big Creek 4 TRG Meeting

When: Tuesday, March 19, 2019 9:00 AM-5:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, 93727; Call In: 1-719-955-1371; PW:
383738#

1-719-955-1371; PW:

383738#

<https://join.me/kearnswest>

<< File: BC4_TRG 0319 Mtg Agenda_REVISED.pdf >> << File: BC4_LTOR_031819.docx >> << File:
BC4_MonitoringPlan_031819.docx >>

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Thursday, April 19, 2018 5:27 PM

To: Choy, Philip@Waterboards <Philip.Choy@Waterboards.ca.gov>; Jay Kimbler <Jay.Kimbler@sce.com>

Cc: Guzman, Eric@Wildlife <Eric.Guzman@wildlife.ca.gov>; Leon, Abimael@Wildlife <Abimael.Leon@wildlife.ca.gov>; Smith, Dennis E -FS <dennismith@fs.fed.us>; Roberts, Ann R -FS <annrroberts@fs.fed.us>; Dave Steindorf <dave@americanwhitewater.org>; Theresa Simsiman <theresa@americanwhitewater.org>; martin.ostendorf@sce.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Craig Addley <Craig.Addley@cardno.com>; Michael Harty <jmharty@kearnswest.com>

Subject: RE: TRG BC4 March 22, 2018 Action Item documents

Thank you, Phillip!

I've copied Martin and the Cardno team, so they can also take a look at the documents.

Terra Alpaugh
Associate, Kearns & West
Davis, CA
Office: 530.298.7113, ext 1403
Cell: 626.222.8299
talpaugh@kearnswest.com

From: Choy, Philip@Waterboards [<mailto:Philip.Choy@Waterboards.ca.gov>]

Sent: Thursday, April 19, 2018 5:16 PM

To: Terra Alpaugh <talpaugh@kearnswest.com>; Jay Kimbler <Jay.Kimbler@sce.com>

Cc: Guzman, Eric@Wildlife <Eric.Guzman@wildlife.ca.gov>; Leon, Abimael@Wildlife <Abimael.Leon@wildlife.ca.gov>; Smith, Dennis E -FS <dennismith@fs.fed.us>; Roberts, Ann R -FS <annrroberts@fs.fed.us>; Dave Steindorf <dave@americanwhitewater.org>; Theresa Simsiman <theresa@americanwhitewater.org>

Subject: TRG BC4 March 22, 2018 Action Item documents

Hi Terra,

Following the Big Creek 4 LTOR meeting on March 22, 2018, the TRG members were tasked with the following action item:

- Provide a written description of their request for 2018 and long-term monitoring, including an explanation of why the already-collected data is not sufficient to meet their needs

Please see attached to review two documents (2018 and LTOR) that complete the TRG action item.

Thanks,
Philip Choy

Philip Choy
Environmental Scientist
State Water Resources Control Board
Water Quality Certification Program
1001 I St., 14th floor Sacramento, CA 95814
(916) 341-5408

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Friday, April 26, 2019 4:13 PM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; RWgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennisSMITH@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo, Aondrea <aondrea_bartoo@fws.gov>; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>

Subject: REMINDER: Big Creek 4 TRG LTOR Comments

Hi all –

This is a final reminder that *today is your final opportunity to submit comments on the LTOR and Monitoring Plan*. As of Monday morning, SCE will incorporate the comments they have received thus far, finalize the documents, and send them to the regulating agencies for approval.

Let us know if you are still planning to submit comments so we can be on the lookout!

Best,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Tuesday, April 9, 2019 7:12 PM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com;

patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A103@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>
Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>
Subject: DISTRIBUTION Big Creek 4 TRG LTOR Revised

Hi all –

Attached are the revised LTOR and Monitoring Plan. Edits from previous sessions were accepted and additions from the last TRG meeting are in red line. **Please provide any additional edits to me within two weeks, by April 24 COB.**

<< File: BC4_LTOR_03_Apr_2019 clean version w highlights.docx >> << File: BC4_MonitoringPlan_03_Apr_2019 clean version w highlights.docx >>

Terra Alpaugh
Associate
Kearns & West
p: (530) 298-7113
c: (626) 222-8299
w: www.kearnswest.com

From: Terra Alpaugh
Sent: Sunday, April 7, 2019 3:47 PM
To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXYY@pge.com' <RXYY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>;

'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; 'Stephanie.Fincher@sce.com' <Stephanie.Fincher@sce.com>; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>
Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>
Subject: Big Creek 4 TRG Meeting Action Items

Hi all –

Below are the action items I captured at our last TRG meeting. Please review and send any additions or corrections.

Please be on the lookout for further distributions from me later this week.

Best,
Terra

BC4 3/19 Action Items

- SCE/Cardno to:
 - Make edits to NASMP and AMP in response to comments; circulate revised version along with a request for concurrence letter to conditioning agencies by 4/9.
 - Send LTORs & monitoring plan with red line edits made in the meeting to the TRG ASAP; allow 2 weeks for comment; incorporate additional edits; send final version along with request for concurrence letter to conditioning agencies.
- Work with Phil to determine and fulfill Board's CEQA needs.
- Once both concurrence letters are received, submit (along with consultation record) to FERC.
- Ask Cardno CEQA experts their opinion on whether the LTOR are eligible for a Class 1 CEQA exemption.
- Look into the feasibility of making the BC4 gage data available on CDEC.
- USFS to:
 - Confirm that the Forest Supervisor feels the safety language in the LTOR is adequate for USFS approval of the document.

- Phil (SWRCB) to:
- Review his LTOR comment #1 to ensure he does not have any additional follow up.
- Determine whether the LTOR are eligible for a Class 1 CEQA exemption.
- Craig/Wayne to provide their slide presentations to Terra for distribution.
- Wayne to provide his comment table to Terra.

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Thursday, December 6, 2018 2:15 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitHELLclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; RWgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler; martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan; Madigan, Brian

Cc: Paul Martzen; Katie Parra

Subject: Big Creek 4 TRG Meeting

When: Tuesday, March 19, 2019 9:00 AM-5:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, 93727; Call In: 1-719-955-1371; PW: 383738#

1-719-955-1371; PW:

383738#

<https://join.me/kearnswest>

<< File: BC4_TRG 0319 Mtg Agenda_REVISED.pdf >> << File: BC4_LTOR_031819.docx >> << File: BC4_MonitoringPlan_031819.docx >>

From: [Wayne Lifton](#)
To: [Iris Eschen](#)
Subject: FW: Big Creek 4 TRG Final Meeting Summary
Date: Monday, May 6, 2019 3:48:05 PM
Attachments: [Big Creek 4 March 19 Summary FINAL.docx](#)

Iris:

Please add to the BC4 consultation documentation. Thank you.

Cheers,

Wayne Lifton

SENIOR AQUATIC ECOLOGIST | HYDROELECTRIC LICENSING AND COMPLIANCE
PRINCIPAL - AQUATIC ECOLOGY
CARDNO

Direct +1 925 988 1216 Mobile +1 925 890 3675
Address 2999 Oak Road Suite 720, Walnut Creek, California 94597
Email wayne.lifton@cardno.com Web www.cardno.com

This email and its attachments may contain confidential and/or privileged information for the sole use of the intended recipient(s). All electronically supplied data must be checked against an applicable hardcopy version which shall be the only document which Cardno warrants accuracy. If you are not the intended recipient, any use, distribution or copying of the information contained in this email and its attachments is strictly prohibited. If you have received this email in error, please email the sender by replying to this message and immediately delete and destroy any copies of this email and any attachments. The views or opinions expressed are the author's own and may not reflect the views or opinions of Cardno.

From: Terra Alpaugh <talpaugh@kearnswest.com>

Sent: Monday, May 6, 2019 2:38 PM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; Wayne Lifton <Wayne.Lifton@cardno.com>; Katie Ross-Smith <Katie.Ross-Smith@cardno.com>; David Martinez <Dave.Martinez@cardno.com>; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; Bartoo, Aondrea <aondrea_bartoo@fws.gov>; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; Craig Addley <Craig.Addley@cardno.com>; Edward Bianchi <Ed.Bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>

Subject: Big Creek 4 TRG Final Meeting Summary

Hi all –

For your records, attached is the finalized meeting summary from the March 19 TRG meeting. It integrates edits provided by SWRCB.

Many thanks,
Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

This email may contain information that is privileged and confidential. Unless you are the addressee (or authorized to receive email for the addressee), you may not use, copy, or disclose this email or any information herein. If you have received this email in error, please delete and notify me at the address above. Thank you.

From: Terra Alpaugh

Sent: Tuesday, April 16, 2019 10:33 AM

To: theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler <Jay.Kimbler@sce.com>; martin.ostendorf@sce.com; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker <gwalker@northforkrancheria-nsn.gov>; Stephanie.Fincher@sce.com; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>

Subject: Big Creek 4 TRG Draft Meeting Summary

Good morning all –

Attached is the draft meeting summary as well as the slides and comment log with SCE responses

presented at the March 19 TRG meeting. **Please review the summary and send me any comments and corrections by April 25 COB.** At that point, I will integrate your changes and finalize the document.

<< File: Big Creek 4 March 19 Summary_v2.docx >> << File: 2019_TRG_Draft DataCollection_Only 3-18-19.pdf >> << File: RTC from BC4_Draft 2018 Data Collection Report.pdf >>

Best,

Terra

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

From: Terra Alpaugh

Sent: Sunday, April 7, 2019 3:47 PM

To: 'theresa@americanwhitewater.org' <theresa@americanwhitewater.org>; 'dave@americanwhitewater.org' <dave@americanwhitewater.org>; 'paul_martzen@yahoo.com' <paul_martzen@yahoo.com>; 'remerson@usbr.gov' <remerson@usbr.gov>; 'rgonzalez@usbr.gov' <rgonzalez@usbr.gov>; 'greyes@usbr.gov' <greyes@usbr.gov>; 'Abimael.leon@wildlife.ca.gov' <Abimael.leon@wildlife.ca.gov>; 'Eric.Guzman@wildlife.ca.gov' <Eric.Guzman@wildlife.ca.gov>; 'arc_natres@hotmail.com' <arc_natres@hotmail.com>; 'wayne.lifton@cardno.com' <wayne.lifton@cardno.com>; 'katie.ross-smith@cardno.com' <katie.ross-smith@cardno.com>; 'dave.martinez@cardno.com' <dave.martinez@cardno.com>; 'cam5j@aol.com' <cam5j@aol.com>; 'dmitchellclovis@aol.com' <dmitchellclovis@aol.com>; 'patnlou@netptc.net' <patnlou@netptc.net>; 'cmcdonald@nfr-nsn.gov' <cmcdonald@nfr-nsn.gov>; 'efink@northforkrancheria-nsn.gov' <efink@northforkrancheria-nsn.gov>; 'kparra@nfr-nsn.gov' <kparra@nfr-nsn.gov>; 'gwalker@nfr-nsn.gov' <gwalker@nfr-nsn.gov>; 'Rwgoode911@hotmail.com' <Rwgoode911@hotmail.com>; 'A103@pge.com' <A103@pge.com>; 'd5sk@pge.com' <d5sk@pge.com>; 'RXY@pge.com' <RXY@pge.com>; 'canyondog@alum.mit.edu' <canyondog@alum.mit.edu>; 'monomuseum@gmail.com' <monomuseum@gmail.com>; 'Philip.Choy@Waterboards.ca.gov' <Philip.Choy@Waterboards.ca.gov>; 'dagould@fs.fed.us' <dagould@fs.fed.us>; 'dennissmith@fs.fed.us' <dennissmith@fs.fed.us>; 'aotto@fs.fed.us' <aotto@fs.fed.us>; 'annrroberts@fs.fed.us' <annrroberts@fs.fed.us>; 'jongeorge@fs.fed.us' <jongeorge@fs.fed.us>; 'vickidavis@fs.fed.us' <vickidavis@fs.fed.us>; 'dalvarez@fs.fed.us' <dalvarez@fs.fed.us>; 'alison_willy@fws.gov' <alison_willy@fws.gov>; 'Steven_Schoenberg@fws.gov' <Steven_Schoenberg@fws.gov>; 'aondrea_bartoo@fws.gov' <aondrea_bartoo@fws.gov>; 'pcstrand@fs.fed.us' <pcstrand@fs.fed.us>; 'Jay Kimbler' <Jay.Kimbler@sce.com>; 'martin.ostendorf@sce.com' <martin.ostendorf@sce.com>; Michael Harty <jmharty@kearnswest.com>; Christina McDonald <cmcdonald@northforkrancheria-nsn.gov>; 'craig.addley@cardno.com' <craig.addley@cardno.com>; 'ed.bianchi@cardno.com' <ed.bianchi@cardno.com>; Gary Walker <gwalker@northforkrancheria-nsn.gov>; 'Stephanie.Fincher@sce.com'

<Stephanie.Fincher@sce.com>; Andrew McMillan <Andrew.Mcmillan@sce.com>; Madigan, Brian <B4M0@pge.com>

Cc: Paul Martzen <paul.martzen@gmail.com>; Katie Parra <kparra@northforkrancheria-nsn.gov>

Subject: Big Creek 4 TRG Meeting Action Items

Hi all –

Below are the action items I captured at our last TRG meeting. Please review and send any additions or corrections.

Please be on the lookout for further distributions from me later this week.

Best,
Terra

BC4 3/19 Action Items

SCE/Cardno to:

Make edits to NASMP and AMP in response to comments; circulate revised version along with a request for concurrence letter to conditioning agencies by 4/9.

Send LTORs & monitoring plan with red line edits made in the meeting to the TRG ASAP; allow 2 weeks for comment; incorporate additional edits; send final version along with request for concurrence letter to conditioning agencies.

Work with Phil to determine and fulfill Board's CEQA needs.

Once both concurrence letters are received, submit (along with consultation record) to FERC.

Ask Cardno CEQA experts their opinion on whether the LTOR are eligible for a Class 1 CEQA exemption.

Look into the feasibility of making the BC4 gage data available on CDEC.

USFS to:

Confirm that the Forest Supervisor feels the safety language in the LTOR is adequate for USFS approval of the document.

Phil (SWRCB) to:

Review his LTOR comment #1 to ensure he does not have any additional follow up.

Determine whether the LTOR are eligible for a Class 1 CEQA exemption.

Craig/Wayne to provide their slide presentations to Terra for distribution.

Wayne to provide his comment table to Terra.

Terra Alpaugh

Associate

Kearns & West

p: (530) 298-7113

c: (626) 222-8299

w: www.kearnswest.com

-----Original Appointment-----

From: Terra Alpaugh

Sent: Thursday, December 6, 2018 2:15 PM

To: Terra Alpaugh; theresa@americanwhitewater.org; dave@americanwhitewater.org; paul_martzen@yahoo.com; remerson@usbr.gov; rgonzalez@usbr.gov; greyes@usbr.gov; Abimael.leon@wildlife.ca.gov; Eric.Guzman@wildlife.ca.gov; arc_natres@hotmail.com; wayne.lifton@cardno.com; katie.ross-smith@cardno.com; dave.martinez@cardno.com; cam5j@aol.com; dmitchellclovis@aol.com; patnlou@netptc.net; cmcdonald@nfr-nsn.gov; efink@northforkrancheria-nsn.gov; kparra@nfr-nsn.gov; gwalker@nfr-nsn.gov; Rwgoode911@hotmail.com; A1O3@pge.com; d5sk@pge.com; RXYY@pge.com; canyondog@alum.mit.edu; monomuseum@gmail.com; Philip.Choy@Waterboards.ca.gov; dagould@fs.fed.us; dennissmith@fs.fed.us; aotto@fs.fed.us; annrroberts@fs.fed.us; jongearge@fs.fed.us; vickidavis@fs.fed.us; dalvarez@fs.fed.us; alison_willy@fws.gov; Steven_Schoenberg@fws.gov; aondrea_bartoo@fws.gov; pcstrand@fs.fed.us; Jay Kimbler; martin.ostendorf@sce.com; Michael Harty; Christina McDonald; craig.addley@cardno.com; ed.bianchi@cardno.com; Gary Walker; Stephanie.Fincher@sce.com; Andrew McMillan; Madigan, Brian

Cc: Paul Martzen; Katie Parra

Subject: Big Creek 4 TRG Meeting

When: Tuesday, March 19, 2019 9:00 AM-5:00 PM (UTC-08:00) Pacific Time (US & Canada).

Where: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, 93727; Call In: 1-719-955-1371; PW: 383738#

1-719-955-1371; PW:

383738#

<https://join.me/kearnswest>

<< File: BC4_TRG 0319 Mtg Agenda_REVISED.pdf >> << File: BC4_LTOR_031819.docx >> << File: BC4_MonitoringPlan_031819.docx >>

MEETING NOTES

TRG MEETING NOTES
JANUARY 22, 2018

**Southern California Edison
BIG CREEK 4 NASMP/AMP TECHNICAL REVIEW GROUP (TRG)
Long Term Operating Rules (LTOR) Call
January 22, 2018**

Meeting Summary

Time: 9:00 am – 12:00 pm
Location: Webinar & Conference Call
Attendees: Martin Ostendorf, SCE
Jay Kimbler, SCE
Dave Martinez, Cardno
Katie Ross-Smith, Cardno
Wayne Lifton, Cardno
Craig Addley, Cardno
Ed Bianchi, Cardno
Theresa Simsiman, American Whitewater
Dave Steindorf, American Whitewater
Paul Martzen, American Whitewater/San Joaquin Paddlers Club
Abimael Leon, CDFW
Eric Guzman, CDFW
Philip Choy, Water Board
Ruth Sundermeyer, PG&E
Riley Young, PG&E
Mike Harty, Kearns & West
Terra Alpaugh, Kearns & West
*NOTE: Forest Service representatives were unable to attend due to a Federal Government shut down.

SCE Action Items

- [SCE] Revise and recirculate the “boating day definition” document.
 - As an additional bullet or as part of the flow timing definition, address “flow variation” (the amount of variation in flows within the flow timing window).
 - Possible addition: bullet on “flow predictability” = the amount of advance notice of a day with whitewater boating flows people must be given in order for the day to qualify as a boating opportunity day
- [SCE] Prepare presentation explaining why 2017 and 2011 spill cessations look different. Describe operations for both those years.
 - [KW] Add this item to February agenda.
 - [Dave, AW] Send snapshot of hydrology for both years to the full group. [DONE]
- [SCE] Prepare 2018 experimental spill management proposal to present at Feb meeting.
- [SCE] Prepare long-term monitoring proposal (including types and frequency of studies) for Feb meeting.

[SCE/KW] Follow-up with the Forest Service on Jan meeting topics (specifically their interest in eDNA)
[TRG members] Collect information re: monitoring timelines in other licenses and provide, along with their perspectives on the various options, at the Feb meeting
[KW] Make all meetings in person. Schedule March and May meetings.

Meeting Convened/Introductions

Martin Ostendorf, SCE, acknowledged that study results were delayed due to the large spill year in 2017, which in turn slowed the progress of negotiations. SCE now aims to file the new LTOR with FERC in September 2018 in order to begin implementation in 2019. Given this ambitious timeline, SCE has added new consultants to its team in order to ensure timely delivery of work products. Martin expressed his interest in transparency and asked the group to share their expectations of the negotiation process.

Terra Alpaugh, Kearns & West, introduced the agenda items and thanked the TRG members she spoke to in advance of the call for sharing their priorities and concerns, which helped shape the day's agenda.

Brief Review of Documents Distributed Since November

Jay Kimbler, SCE, gave a brief summary of each document SCE has distributed and received initial feedback from the TRG members.

- *Historical Boating Opportunities Analysis*: The analysis looked for any occasion when flows were measured between 1500 and 4000 cfs, the agreed upon boatable range, within a 24 hour period. There were more opportunities during wet years, but natural spills also occurred in drier years. There were 47 opportunity days in below normal water years; 14 in dry years; and 18 in critical dry years. These represent a combination of natural spills and outages/experimental spills. The key takeaways from this analysis were (1) there are already opportunity days occurring, and (2) SCE needs to provide advance notification of these spills, so boaters can take advantage of them.
 - Theresa Simsiman, American Whitewater, pointed out that the study did not consider the ramping rate of these spills, which impacts whether it is safe to boat or not. This should be taken into account when determining whether a day counts as a boater day.
 - Dave Steindorf, American Whitewater, emphasized the need to look at the raw hydrology data to see whether the ramping rate is too extreme to actually boat (e.g. large change over a short window). The boater day definitions need to be amended to reflect the importance of flow timing.
- *Experimental Spill Management*: SCE's key takeaway from the study was the need to improve their forecasting, so that they can provide advance notice to the public and adjust operations to provide a steady ramp down as they come out of a spill.
- *Proposed Boater Day Definition Language*: This document was based on prior TRG discussions. (Discussed in detail below)
- *NASMP Study Report*: Will be discussed in detail at February meeting.
- *TRG Negotiation Schedule*: The schedule attempted to lay out all the topics that need to be addressed in coming months; the order may shift a bit.

- Philip Choy, SWRCB, advocated for more, longer in-person meetings in order to allow TRG members to caucus. SCE agreed to support the request to make all meetings in person. (ACTION ITEM)

Looking Forward: Process Discussion

Martin Ostendorf, SCE, posed two key questions at the heart of the negotiations: (1) how will the TRG determine the appropriate number of boating days and (2) what does the TRG want the ramping rate/recession rate to look like? He suggested that these need to be negotiated as a package. First, the group needs to establish their desired recession rate and then determine how that impacts the achievable number of boating days. Martin asked all the parties to be very clear about where they want to end up, so the group can focus on where there may be differences in opinion/approach.

SCE wants to base the recession rate on the biology and geomorphology in the reach. Martin noted that a standard 30-day recession may not be appropriate for this reach. Craig Addley, Cardno, added that the negotiation package also needs to include how much pre-notification of boater days is needed.

Several TRG members offered their perspectives and asked questions, which are summarized below, along with questions and comments from SCE:

- Philip Choy, SWRCB, shared that he is looking for as close to a natural recession rate as possible given SCE operational constraints (including the small size of the reservoir and the influence of upstream operations). He suggested the possibility of a bench around the boating range in the middle of the recession (e.g. ~1700 cfs for a weekend) and then going all the way down to base flow. He proposed defining the number of boating days for each water year type, prescriptions which SCE could meet by operating through spill with the bench or, in dry years, via a pulse. He expressed his interest in exploring the Experimental Spill Management Study memo with SCE to better understand what SCE is capable of operationally. Philip also shared that, based on his conversations with the Forest Service, they strongly support as natural a recession rate as possible and in the future, coordinating upstream operations.
- Dave Steindorf, American Whitewater, reiterated that they understand there are operational constraints but requested more information on them.
- Eric Guzman, CDFW, asked for information on the license timing of the upstream facilities, since ultimately, they would like the whole system's operations to reflect the natural hydrograph.

Ed Bianchi, Cardno, asked TRG members what they think a natural recession rate looks like. He asked the TRG to define their biological objectives, especially in the Horseshoe Bend Reach. Dave Steindorf suggested that the group read two papers on natural recession before having this discussion. Martin explained that SCE would like to identify what the management objective/biological driver is for choosing a particular recession rate – i.e. SCE wants to understand how that recession rate is providing measureable, focused benefit to the aquatic community.

Martin explained that they may be able to achieve the same biological benefit that would occur under a natural hydrograph by analyzing the stage discharge relationships and identifying benches/appropriate step functions; he is not convinced that a natural hydrograph will provide additional biological benefit.

- Dave Steindorf suggested framing the conversation differently, i.e. how can we improve spill cessation (and provide some in-season pulse flows) to provide multiple benefits in a way that

doesn't break the bank for SCE? At this point, the TRG needs to understand the operational parameters of this project. Dave pointed to this year's spill management, which was a vast improvement on the past, and asked how SCE achieved that. Martin concurred that they do need to improve spill cessation, but clarified that he wants to better understand what the TRG wants to manage the reach for in order to establish the appropriate ramping rate.

- Ed Bianchi observed that both SCE and the TRG members are asking for the same thing, albeit in different words, i.e. a spill cessation rate that SCE can support operationally, is biologically protective, and ideally meets other stakeholder goals as well.
- Both the Water Board and CDFW agreed with the premise that they would like the recession to be as natural as possible, with the understanding that they are unlikely to get all the way there given operational needs.
- Paul Martzen, American Whitewater/San Joaquin Paddlers Club, expressed his discomfort with SCE's position; he believes SCE thinks their current operations are the best for the native fish and any changes to operations will be hazardous to the native species. Therefore, their objection to a natural spill recession is consistent with that belief. He thought that the studies were supposed to establish the importance of a long recession; if they conclude that a recession is not important, they should go back to simply having some boating days. Martin clarified that he does not believe a recession rate will be harmful to the fish; his question is focused on the appropriate ramp down, whether that is a natural 30 day recession or something more specific to the biological needs of the reach.
- Dave Steindorf observed that they have proposed a ramp down around 10 percent per day, which is what SCE did this year, suggesting that is an achievable recession. He requested that the group discuss what SCE did differently operationally this year as compared to other years (e.g. 2011).

Review of Boater Day Definitions

Mike Harty and Terra Alpaugh, Kearns & West, asked if the group had issues with any of the elements in the boater day definition document besides the question of "flow timing."

Dave Martinez, Cardno, asked for clarification. Flow timing, as described in the document, is the period that there would be boatable flows during the day (e.g. 9am-4pm), whereas Theresa objected to the change in flows over that time. The group agreed to refer to that as "flow variation," the amount of variation in flows that is acceptable during the flow timing window.

Dave Martinez said that his understanding was the 1500 to 5000 cfs range was intended for intermediate boaters. Dave Steindorf explained that when the flows vary quickly across that range, the level of experience required is too varied to be useable. Therefore, flows either need to be predictable, or there need to be better notifications. Flows can fluctuate, but ideally no more than 10-15% over the course of the day. The group discussed that the low end of boatability was established as 1500 cfs for all craft types by a navigability study.

Martin Ostendorf suggested that the boater day definitions acknowledge the variation in the system and commit to trying to stabilize at 2500 cfs during the flow timing window in order to provide some consistency to boaters.

American Whitewater, CDFW, and the Water Board agreed that adding a flow variation bullet and committing to minimizing fluctuation to the definitions is a good approach to resolving the issue, and

that further detail could be added in the future. American Whitewater suggested a limit of 15% flow variation and the other parties agreed to consider that proposal. Paul Martzen and Craig Addley also suggested a bullet on “flow predictability” establishing the need for advance notice of boating days in order for them to qualify as boater opportunity days. SCE committed to revising and recirculating definitions (ACTION ITEM).

Dave Steindorf made a formal request to SCE to explain why the 2017 and 2011 spill cessations looked so different and to describe the difference in operations. SCE committed to presenting that at the February meeting. (ACTION ITEM)

Discussion of 2018 Monitoring Plan

SCE opened the discussion by explaining their belief that the studies to-date have provided enough data to make informed decisions about the LTOR; they asked what studies would benefit the current decision-making process.

Philip Choy, SWRCB, requested SCE do another spill recession, prioritizing slowing down the lower end of the hydrograph. He noted that (1) the NASMP shows that the spill recession was beneficial to native species, and (2) the Experimental Spill Management Memo states that SCE needs to improve their forecasting and suggests that there are still lots of grey areas in their understanding. If SCE did a spill recession this year, the data could fill in a more detailed flow recession table, which would better inform the forecasting model.

- Jay Kimbler restated SCE’s commitment to improving its forecasting, a long process which is already underway.
- Martin Ostendorf clarified that SCE is willing to implement a recession but only off a natural spill; SCE will not create spill in order to do the test. SCE will work on a proposal to share at the February meeting. (ACTION ITEM)
- The group will need a spill recession proposal to send to FERC by mid-March. TRG members will come to the February meeting with an initial recession proposal in mind that SCE could test this year. (ACTION ITEM)

Philip asked for fish population monitoring in 2018-- specifically fishing and snorkel surveys (not the full suite of studies normally done as part of the NASMP). He argued that the late spill in 2017 may have impacted native spawning/survival, and another year of monitoring could help disentangle impacts of the spill recession vs. impacts of the late spill. Also, the results from 2017 suggest that the spill forced out some of bass population; another year could determine how fast they rebound in the reach. Eric Guzman, CDFW, concurred that continuous year-after-year data is helpful to evaluate fishery conditions and develop the LTOR.

- Given that negotiations should be complete by September and the studies would be completed in October, Martin argued that any fish monitoring from this year will not support additional decision-making. He encouraged the TRG to revisit past data sets from dry years that followed wet ones to better understand what may be happening this year.
- Martin suggested that fish monitoring could be incorporated as part of a long-term monitoring program to inform adaptive management under the LTOR. The LTOR will be developed to meet the TRG’s management objectives; then the group will determine a set of focused ongoing studies to monitor the success of the rules on the prioritized species or conditions and whether they then need to be adjusted. Jay suggested discussing a long term monitoring schedule – e.g. monitoring the first two years and then every five years thereafter.

- Eric reminded the group that there was a major collapse of the fishery and while conditions appear to have improved, another year of data would improve confidence that new management strategies are working. He reminded the group that, while they are managing for the survival of the native species, the bass populations impact that survival, so they are never monitoring a single metric.
- Philip suggested that they pursue LTOR negotiations and build in a caveat that changes might need to be made pending the results of the 2018 monitoring. Phil and Eric agreed with SCE that monitoring will not be needed on an annual basis, but explained that 2018 will capture a gap in existing data, because bass have not been established long and the 2017 flows pushed them out, but it is unknown for how long.
- Martin reminded the TRG that 2017 was an outlier year and will likely not be repeated operationally on a regular basis. He will consider the requests, put together a proposal, and revisit the discussion at the February meeting (ACTION ITEM). SCE & TRG agreed to make a decision at the February meeting, so that any proposal can get the required approvals to be executed on time.

Philip reported that in his conversation with the Forest Service, they were interested in doing eDNA for amphibian species, but he was unsure whether that was in 2018 or in future years.

Long Term Monitoring Preview

Martin requested that parties share their vision for long-term monitoring to serve as a basis for ongoing discussion in February. As a starting point, he suggested a five or ten year cycle for monitoring and described his desire to design monitoring around evaluating TRG management objectives.

- Philip agreed with SCE's premise: he envisions initial baseline monitoring to ensure the new rules are benefiting the native species, followed by five to ten year check-ins. He also suggested that the group refer to other FERC licenses to see how long their baselines have been and periodicity of subsequent monitoring. (ACTION ITEM)
- Eric asked that the group explore how other licenses have dealt with sediment management (i.e. accumulation in the reservoir) and ideally, to link that into operations in the rest of the system.
- Martin clarified that he would like the LTOR to be negotiated before a long term monitoring proposal is set in stone.

TRG MEETING NOTES
FEBRUARY 21, 2018

**Southern California Edison (SCE)
BIG CREEK 4 NASMP/AMP TECHNICAL REVIEW GROUP (TRG)
Long Term Operating Rules (LTOR) Call
February 21, 2018**

Meeting Summary

Time: 9am – 5pm
Location: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, California 93727
Attendees: *In person:*
Jay Kimbler, SCE
Wayne Lifton, Cardno
Ed Bianchi, Cardno
Ron Goode, North Fork Mono Tribe
Theresa Simsiman, American Whitewater
Abimael Leon, CDFW
Eric Guzman, CDFW
Philip Choy, Water Board
Ruth Sundermeyer, PG&E
Ann Roberts, USFS
Jon George, USFS
Dennis Smith, USFS
Mike Harty, Kearns & West
Terra Alpaugh, Kearns & West
On phone:
Martin Ostendorf, SCE
Craig Addley, Cardno
Dave Steindorf, American Whitewater
Vicki Davis, USFS

**SCE Action
Items**

SCE will:

- Perform a regression to determine whether particular abiotic/biotic elements are closely correlated with fish populations, looking at each individual species (dependent variable = fish population; independent variables = temperature, date of spill, magnitude of spill, sampling timing, etc)
 - **TRG members will** provide a list of inputs they would like included in the model
- Re: NASMP:
 - Include in the NASMP a discussion of historic conditions in the Big Creek 4 area and how they have changed in ways that are now sustaining bass populations.
 - Verify that sampling frequency is included in the NASMP and add it if it is missing.
 - Circulate the revised NASMP to the Water Board and Forest Service to request approval before filing with FERC.
- Re: Stage Discharge:
 - Incorporate the detailed explanations of the Stage Discharge Study that Craig provided verbally into the written report.
 - Finalize draft Stage Discharge report and distribute it to the TRG within three weeks (March 14).
- Re: draft LTOR proposal:

- Refine and present a draft LTOR proposal to the TRG at the March meeting. Aim to distribute proposal to TRG 5 days in advance of meeting.
- On the graph showing various ramping rates compared to historical spills, shade the area on the graph that is beneficial for riparian species/habitat (so it is distinguished from the tail end of some of the ramp downs that is not necessarily beneficial to biota).
- On the table summarizing the water cost/impact of various ramping rates, include statistics on whitewater days provided out of season.
- Re: 2018 monitoring:
 - Revisit this item on the March agenda.
 - Make a final decision regarding 2018 monitoring by May in order to submit the plans to FERC before implementation.
- Assess the likely impacts of the flow releases proposed under the relicensing for the upper project on in-stream flows in the Big Creek 4 reach. Will report back at March meeting.
- Burn a copy of the 2010 NASMP report and provide to Forest Service.
- Re: 2018 Experimental Spill Proposal:
 - If a spill looks likely to happen, notify the TRG members, particularly American Whitewater, so they can inform boaters.
 - Touch base with Ron Goode to get his feedback on the proposal before submitting to FERC.
 - Provide draft to Water Board for review and approval by management.
 - Provide an estimate of the cost of the 2017 spill recession at March meeting.
 - Investigate whether investments in infrastructure or software would minimize the long term cost of implementing spill recession (e.g. allow both AGC and a spill recession).
- Re: schedule:
 - Revise negotiation schedule to reflect enough time for peer review of the LTOR.
 - Schedule the next TRG meeting at Big Creek 4 and include a site visit; investigate the possibility of using the Forest Service conference room.
 - Provide draft March TRG agenda ASAP.

TRG members will:

- (From above) Provide a list of inputs they would like included in the regression model.
- Caucus on their proposal for long-term monitoring and report back at the March meeting.
- Provide a written proposal for 2018 monitoring, including justification on the timing, by the March meeting.

Forest Service will:

- Look at SCE's proposed locations for eDNA sampling and confirm they make sense historically.
- Share information on the latest best practices in eDNA sampling with Cardno.

Meeting Convenes & Introductions

Mike Harty, Kearns & West, introduced the meeting objectives and agenda items. He asked TRG members for any additional items they wanted to address. Dennis Smith, USFS, requested that the group discuss how to integrate the Big Creek 4 operations with those of the upper Big Creek facilities in order to create a more natural system throughout the entire project area.

Presentation and Discussion of Study Data and Analysis

Item #1: New Aquatic Species Management Plan (NASMP) Report

Jay Kimbler, SCE, reminded the TRG that the NASMP is the same report the group discusses every February. Data collection activities focused on physical conditions, Western Pond Turtles (WPT), freshwater mussels, and San Joaquin River (SJR) fish populations. Jay requested feedback from the TRG, after which SCE will make revisions and circulate the report to the Water Board and USFS for review. He asked the TRG to keep in mind how the 2017 wet water year impacted the community below Dam 7 and how different conditions may be this water year, given the lack of precipitation thus far.

Wayne Lifton, Cardno, introduced the NASMP report, noting that the impacts of the wet water year are pervasive in the data. He started by describing the physical habitat data collection activities, which included monitoring water temperature at four winter sites and eight summer sites in SJR and Willow Creek as well as one in Redinger Lake; measuring summer water temperature, dissolved oxygen (DO), and specific conductance profiles at one site in the deepest part of Redinger Lake; collecting air temperature and relative humidity measurements at the dam; and utilizing daily flows data collected by SCE. Temperature sites are all walk-in sites; Cardno does not measure temperature at the center of Horseshoe Bend because it is inaccessible except by helicopter.

Wayne presented study results, starting with daily flow and temperature data. Starting in late December 2016/January 2017, there were frequently daily flows of 8000 cfs or more, resulting in cool water temperatures. Wayne described a highly variable year in terms of air temperatures: May was cooler than average; June, July, and August were very warm, with August ranking as one of the hottest on record; September was average; October was one of the coldest on record. High flows through July, however, kept the reach cool through most of the summer, with some warming in August but then another decline thereafter. Wayne reviewed the temperature profiles done at a deep site in Redinger Lake in June, August, and November. Though there was some surface warming during the summer, stratification did not occur and a thermocline never developed, because of sustained high flows and cool overall water temperatures.

Wayne described some of the impacts of the high flows, including large amounts of sand deposition from sand introduced from Willow Creek along the banks and covering the bottom in some areas. As a result, the team noted changes in depth of habitat occurring in the Horseshoe Bend, and especially at Willow Creek Confluence Pool.

Wayne described the study results on the status of (1) Western Pond Turtles (WPT), (2) freshwater mussels, and (3) fish. For WPT, the team's objectives were to collect information on distribution, age and size structure, population health, and habitat conditions. He reminded the TRG that the habitat in lower Willow Creek was significantly impacted by the sand deposition and that trapping started later in the year than usual due to the high flows. The team caught 25 WPTs (12 females, 11 males, and 2 juveniles; 17 recaptures). One female that was captured 2012-2016 at Willow Creek Confluence Pool

was found far downstream this year, likely moved by high flows. There were no signs of disease. Since the team traps the turtles with bait rather than visually counting them, they know they are actively feeding. Wayne reported that growth rates ranged from 0-9 mm/year this year; this gives them some insight into the variability of growth in WPT. He also noted that turtles over 12 tend to have worn rings on their shells (from which age is estimated), so they could be older than the team's recorded estimates.

For the mussel surveys, the team sampled the same mussel beds as in previous years, comparing population numbers and velocities. The conditions for sampling were not ideal: flows were approximately three times higher than usual with high velocity and turbidity, making it challenging to get good counts. At two sites, they were unable to do counts because of unsafe velocities. At Site 7, the site with the densest concentration of mussels, the count was lower than in 2016 but within the range of year-to-year variability. Wayne noted that changing counts between years is normal due to shifting sands changing which mussels are visible. Cardno found no trend in the data: while they sample quantitatively, the counts are more a function of what is visible as opposed to changes in population. Ron Goode, North Fork Mono Tribe, observed that the counts reflect more about the water year and sedimentation patterns. For instance, 2011 was another high water year, but that year sediment was moved out of the mussel beds so very high counts were observed.

While sediment moves every year, the influx of sediment from Willow Creek seen this year was unusual. Ruth Sundermeyer, PG&E, observed that there is a lot of sand in the South Fork but not in the North Fork. It is not clear where this sand is originating, but it is likely upstream of the project.

TRG members wondered whether the mussels are moving downstream. Wayne explained that early parasitic lifestages of mussels historically attached to salmon and trout and were transported that way, but with the absence of those fish, there is less transport from outside of the HSB Reach, and they are now consistently found in specific spots throughout the reach. Eric Guzman, CDFW, observed that another reason mussels are not as broadly distributed is because the dams prevent additional mussels from migrating from upstream. Eric asked about whether turbidity measurements could be associated with the mussel counts. Wayne said the team did Secchi disk measurements, but that turbidity was generally not an issue in most years – the mussels are either covered or uncovered. Ann Roberts, USFS, asked whether this lack of movement could result in a loss of genetic diversity. TRG members agreed that it could; the fish, particularly suckers, needed to transport the mussels have been absent from the small creeks for almost 30 years, though they are now moving back in.

Lastly, Wayne reported on the fish studies. Snorkelers counted fish at the same six sites as in previous years, reporting on species composition, abundance, distribution, age structure, recruitment, growth, and condition. Results are provided in more detail in the PowerPoint. High level takeaways included: native species continue to dominate the community. The spotted bass percentage contribution to the community decreased to about one-third of that found in 2016. Sacramento suckers made up 53.3% of total fish -- or 77.5% when unidentified minnows were removed from the count; sucker density was almost twice that of 2016 mainly due to high young-of-year (YOY) recruitment. Hardhead density increased two and a half times from 2016 and was the highest since 1985. Sacramento pikeminnow density was one-third of 2016. The density of unidentified minnows was very low compared to average densities. Wayne explained that there has been good recruitment to reproductive age fish, and lower counts were likely, in part, the result of not being able to see fish because of high flows as opposed to them being absent.

Spotted bass contribution to overall composition increased from 2010 to 2015 but decreased in 2016 and 2017. In 2016, the decrease was due to increased abundance of native fish, and in 2017, it was due to lower spotted bass densities and relatively high abundance of native fish. Wayne reported that spotted bass nests have only been found in Willow Creek; later in the fall, they found YOY in the main stem, but it is not clear whether they spawned there or were washed down. The main stem does not seem to have ideal nesting spots. The bass largely eat bullfrogs, tadpoles, and small fish; they do not know whether they also eat rainbow trout since trout abundance is so low. At the request of Ann Roberts, SCE agreed to revise the NASMP to include a discussion of historic conditions in the Big Creek 4 area and how, or if, they have changed in ways that are now sustaining bass populations. Wayne noted that they are one of the most adaptable species, which is why they are stocked in reservoirs with fluctuating levels of water.

Eric Guzman asked whether the fact that sampling timing and conditions were different this year impacted Cardno's confidence in the comparability of their results. Wayne acknowledged that fish could have been undercounted because they were still so small due to the late spawning.

Dennis Smith, USFS, asked whether the TRG thought it would be valuable to perform a regression to determine whether particular abiotic/biotic elements are closely correlated with fish populations, looking at each individual species. The regression could provide insight into project effects on fish populations and confirm whether the flows/pulses have been the factor keeping the spotted bass population in check. The dependent variable would be fish population; independent variables could include temperature, date of spill, magnitude of spill, sampling timing, and predation. SCE agreed to do the analysis, though they noted that the data is very noisy. TRG members agreed to provide SCE with a list of inputs they would like included in the model. SCE will complete the analysis by the summer, so that TRG members can take that information into account as they make decisions on the LTOR.

Philip Choy, Water Board, requested the inclusion of sampling frequency in the report; Wayne recalled that they had added it in the past at his request. They will verify that it is included. Jay stated that the NASMP report will be circulated to the two approving agencies in two weeks; after their approval, it will be filed with FERC.

Item #2: Building a LTOR Proposal:

(a) Stage Discharge Study & Experimental Spill Management

Craig Addley, Cardno, described the objectives of the stage-discharge study: monitor the stage at four study locations during the 2017 experimental flows; use that information to develop stage-discharge relationships; determine the change in stage for a 3,500 cfs down ramp using Dam 7 gates; and determine the lag time for releases from Dam 7 to monitoring sites downstream.

Cardno installed automated stage recorders at four sites, two potential fish stranding sites (Willow Creek Confluence Pool (WCCP) and Backbone Creek) and two sites representative of the boulder channel morphology (Horseshoe Bend East (HSBE) and Site 5). Craig provided a detailed description of the study methodology outlined in the PowerPoint and how the data was fitted to stage-discharge equations using third order polynomial regression. The equation provided a very good fit for the low flow data; the fit was a little less accurate for high flow.

The study clarified two key elements: (1) Channel shape impacts how much the water surface elevation at a given location changes for a given change in flow (i.e. change in stage). For instance, the WCCP was the widest site, so for an increase from zero to 4000 cfs, the stage changes about 6 ft. For the same flow change at Backbone Creek, the most confined site, the stage changes 15 ft. Since these two sites represented the shallowest and steepest rating curves, they were used to bracket the analysis. (2) At lower flows, it takes almost an hour for water released at the dam to reach Site 5. At higher flows, the releases arrive in less than 30 minutes.

Dennis Smith, USFS, notes that Yarnell's scholarship shows the importance of all three variables in a recession rate (rate of change, magnitude, and timing); he wondered whether Cardno was using the weighted usable area as a surrogate for those other factors. Craig responded in the negative; instead, they will look at a combination of the ramping and stranding data to understand how faster down ramps can impact fish stranding and riparian vegetation. This study gives them the information needed to determine the appropriate ramping rate, e.g. if they want no more than one foot/hour change, how much can they drop a given flow and still achieve that at all the cross sections?

The draft Stage-Discharge study will be finalized and distributed within the next few weeks. The discussion and detail Craig provided in his presentation will be included in the report.

(b) Operational Constraints and Proposal Building

Jay Kimbler, SCE, confirmed that SCE is working on a draft proposal and will aim to present it at the March meeting. Today, he and Cardno will walk through SCE's approach, and he requested that the TRG make note of any key factors they think are missing.

SCE identified categories of factors that can impact their ability to implement a spill recession at Big Creek 4: (1) operational/mechanical factors, including powerhouse outages, automated grid control, diurnal flow fluctuations, and anything else that impacts upstream flow; (2) type of water year (wetter, drier, and non-spill), and (3) Mammoth Pool Agreement stipulations.

Craig Addley, Cardno, presented historical spills and explained why many of them did not include a smooth ramp down. These reasons included:

- SCE provides automated grid control (AGC) to CalISO, giving CalISO control of the Big Creek facilities to generate power precisely when it is needed on the grid. This means the flows fluctuate frequently (in ~1000 cfs pulses), particularly at Powerhouse 3. AGC is implemented frequently during the summer. In 2017, SCE took the system off AGC and were able to implement relatively steady down ramps.
- There are diurnal fluctuations in the flow of around 500 cfs.
- Controlling spills at low flow requires reducing generation in Powerhouse 4 and artificially increasing the duration and amount of the spill.
- Powerhouses can go offline suddenly due to many factors. When people are boating and flows suddenly fall, these outages can leave them stranded.
- Managing the end of a spill can be difficult. Forecasting is often insufficient to know how to best end a spill smoothly.
- Large spills have biological benefits. However, the very low flows at the tail end of a spill contribute very little biologically. Understanding how to attenuate the flow to maximize benefits will be crucial.

In order to make down ramps even, SCE will need to coordinate gate openings, forego generation, and stop providing AGC to CalISO in order to maintain control of the Powerhouses.

To better understand possible ramping rates, SCE compared possible rates to historical spills. They plotted flows over time during historical spills; on top of that, they plotted multiple down ramps, including a 10% down ramp, an 8% down ramp, a 10% down ramp in two-day time steps, and 1 in/hour, 2.4 in/day, and 1.6 in/day down ramps controlling at Willow Creek. Craig pointed out the area at the tail end of the recession curve, which is difficult to implement operationally and not particularly beneficial to biota. TRG members requested that a future iteration of the graph shade the area of the recession that is beneficial to riparian areas. Craig also reminded the TRG that the base flow down to which SCE is ramping differs for wet and dry years.

Craig next presented a table listing each ramping scenario, the water costs of implementation, boating days it would provide, and daily steps in cfs. Theresa Simsiman, American Whitewater, requested that they add another column with boating days provided out-of-season.

Craig discussed how the Mammoth Pool Contract between USBR and SCE could impact how SCE implements releases. USBR is responsible for distributing water from the Friant Dam, downstream of SCE's Big Creek Project; SCE has pass-through rights for the water but is subject to certain rules for holding and releasing water outlined in the contract. Since Friant holds very little water and operates largely for flood control purposes, the contract requires SCE to maintain certain amounts of aggregate storage (both minimum and maximum) at Big Creek 4, and there are different scenarios for different water year types. If SCE releases water for a spill early in the season, they need to make sure the Big Creek system has enough storage to meet contractual requirements later in the season. In the case of multiple sequential dry years, SCE cannot store more than they did the year before; therefore, they tend to be cautious about releasing too much. This impacts how they plan to down ramp in dry years, when a down ramp could demand up to 25% of the water released.

Based on these constraints, SCE is developing a proposal that will have separate down ramps for wet years, drier years, non-spill years, and for short (operational) spills. Each of these down ramps will be associated with a certain number of boating opportunities. They will aim to distribute that draft proposal at least five days before the March meeting.

Draft Long Term Monitoring Proposal

SCE presented its proposed Long Term Aquatic Monitoring Plan. The ongoing monitoring will confirm that the implementation of the LTORs effectively supports native aquatic species and their habitats. The SCE proposes monitoring in Year 1 (following approval of the LTOR by FERC) and then monitoring every five years thereafter, doing the traditional suite of fish, mussel, and WPT studies. In response to requests, they will add in eDNA for Foothill Yellow-legged Frogs at six locations. They will continue collecting 15 minute flow and water temperature data at the SJR gage above Willow Creek every year. Following each monitoring year, they will report back to the TRG to assess the results of the LTOR on the native communities. SCE expects to draft a formal proposal after hearing TRG feedback.

The TRG supported the studies SCE is proposing, but they voiced a number of questions and concerns about the timing, summarized below:

- Philip Choy, Water Board, asked for the rationale behind a single year of monitoring and wondered how a single year can establish a baseline, especially with three different operational types (wet, dry, and non-spill years). He noted that usually with a relicensing a new baseline gets established, only after which monitoring is completed every five years. SCE explained that the proposed “one year” will just be an additional year added to the baseline data SCE has collected for the past ten years. Eric Guzman, CDFW, pointed out that if SCE does not complete 2018 monitoring, that will be an additional year of baseline data lost.
- Ann Roberts, USFS, pointed out that additional baseline monitoring is important as long as SCE is still experimenting with operations. A record of the impacts of those adjustments is needed.
- Philip and Eric expressed concern that five year gaps between monitoring could be too long to arrest any negative changes that result from the LTORs.
- Philip pointed out that with 18 years left in the license, SCE’s proposal yields four total years of monitoring, which may not be enough to make informed adaptive management decisions.
- Dennis Smith, USFS, pointed out that they do not know when operational changes for the upstream Big Creek facilities will be implemented and how much they may change the baseline. Jay Kimbler, SCE, replied that most of the proposed increases in flows rely on infrastructure changes that will require one to five years before operational. Ed Bianchi, Cardno, also clarified that in general there will not be a wave of higher in-stream flows; releases are constrained by the capabilities of the power houses. However, Ed will confirm and report back at the Mach meeting.

TRG members will caucus on their own long term monitoring proposal and be prepared to present it at the March meeting.

2018 Monitoring Plan

Jay Kimbler, SCE, stated that SCE does not feel another year of monitoring will inform the LTOR negotiations. TRG members strongly support 2018 fish monitoring in order to evaluate the over-winter mortality given the late spawning and to observe whether the bass continue to be deterred after the high pulses or whether they recolonize the area. This year’s data will be important to confirming the TRG’s hypotheses about what is happening in the reach to foster the survival of natives and reduce bass populations. Jay questioned whether this year’s data will be useful, since the ramp down (if there is a spill) will not necessarily be the same as that SCE ultimately proposes in the LTOR.

Philip Choy, Water Board, noted that more information on survival after 2017’s late spawning could inform how the LTOR treat the timing of the recession – the TRG may need to consider shortening the recession to end before or in early August. Eric Guzman, CDFW, observed that last year’s data on spotted bass populations cannot be verified, so 2018 monitoring would confirm those numbers, essentially adding two years of data to the record. In contrast, if SCE waits another year before monitoring again, they lose the tight cause-and-effect relationship to explain the data.

Ann Roberts, USFS, said that 2018 monitoring would not necessarily have to include eDNA, though it could be a good opportunity to scope out survey spots. Wayne Lifton, Cardno, said he would provide her with a copy of the report detailing the surveys done in 2010. Ann offered to send Wayne information on eDNA best practices, including the collection of two samples to improve accuracy.

Dennis Smith, USFS, would like to approach CDFW to implement a spotted bass control and removal plan downstream. Ed Bianchi, Cardno, suggested focusing on Willow Creek and approaching PG&E with the possibility of sharing resources. Ruth Sundermeyer, PG&E, said they might be willing to contribute.

SCE and the TRG members agreed that the long term monitoring proposal and the 2018 monitoring plan are interrelated and both require more discussion. The TRG members will provide a written proposal for 2018 monitoring with justifications to SCE by the March meeting. Wayne Lifton, Cardno, confirmed that the 2018 monitoring proposal can be filed with FERC after the rest of the 2018 report; it will need USFS and Water Board approval prior to implementation. 2018 monitoring will be on the March agenda with the intention of coming to a final decision by May.

AMP Proposal (aka 2018 Experimental Spill Management)

SCE presented their proposal for a potential 2018 spill down ramp. Their goals included: (1) if a spill occurs, test SCE's operations and facility capability to down ramp a spill in controlled, incremental steps; (2) down ramp from 2,000 cfs to base flow or from the maximum flow if it is less than 2,000 cfs; (3) down ramp in 400 cfs steps; (4) attempt to hold down ramp steps relatively steady during each flow step. Ultimately, they would like to be able to hold these steps steady for a specific period of time, but for this test, they would be trying to preserve water.

Dennis Smith, USFS, asked if they were including a boaters bench; he also observed that most recession curves in the Sierras start out faster and slow down at the end to save water. Craig Addley, Cardno, clarified that this is not a proposal for boating opportunities or long term recession; it is simply a test. SCE agreed to provide forecasts if this spill looks like a possibility so American Whitewater can notify boaters. SCE also emphasized that for their implementation of spill recessions in the long term they will need to improve their short to mid-range forecasting, especially if there is any possibility of continuing to provide AGC. Dennis encouraged SCE to investigate whether hardware or software upgrades would enable them to overlay AGC and a recession.

Philip Choy, Water Board, asked for an estimate of the cost of the 2017 spill recession and more explanation of the Experimental Spill Management Memo; SCE will provide at the next meeting.

Jay Kimbler, SCE, asked whether TRG members approved of this proposal. USFS and American Whitewater gave their approval. CDFW gave approval pending Water Board approval. Philip will need to Water Board management to review the final draft before granting approval. SCE will check with Ron Goode for his feedback.

Resource Management Objectives

TRG members present in the afternoon shared their primary resource management objectives in the LTOR negotiations.

Forest Service priorities are:

- Implementing base flows and a recession curve that make a regulated river look as much like a non-regulated river as possible (note: based on the 2011 and 2015 Yarnell papers, which outline the benefits of a recession curve, detailed in 50 parameters);
- Managing from the ecosystem perspective rather than trying to control for any one objective (other than elimination of spotted bass);
- While USFS is not prioritizing FYBF, if FYBF are listed under ESA, they will return with license amendments.

Water Board priorities are:

- Conforming to the Basin Plan and EPA criteria for temperature;
- Implementing an ecosystem approach to benefit natives in the reach through natural recession and maintaining base flows to assist spotted bass from expanding;
- Having a bench in the recession to provide an adequate number of whitewater boating.

CDFW priorities are:

- Returning to a natural regime within operational constraints;
- Collecting reliable information to inform adaptive management;
- Improving the fishery;
- Doing due diligence to make sure FYLF aren't present;
- Ensuring the group has considered all options to allow SCE to operate as cost effectively as possible while achieving environmental and recreational objectives (even if it means a front end investment).

Next Steps

Dennis Smith requested that the final LTOR document undergo peer review by a group of scientists (possibilities include the Department of Conservation Biology at Davis, Humboldt, or Fresno State). SCE agreed but reminded the group that they will need to come to agreement sooner, in order to allow time for that review.

The TRG requested that part of the March meeting be a site visit to Big Creek 4. They discussed the possibility of using the nearby USFS conference room for the meeting (contact Jon George). SCE will send a draft agenda early in order to facilitate TRG planning.

TRG MEETING NOTES
FEBRUARY 21, 2018 (V2)

Southern California Edison (SCE)
BIG CREEK 4 NASMP/AMP TECHNICAL REVIEW GROUP (TRG)
Long Term Operating Rules (LTOR) Call
February 21, 2018

Meeting Summary

Time: 9am – 5pm
Location: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, California 93727
Attendees: *In person:*
Jay Kimbler, SCE
Wayne Lifton, Cardno
Ed Bianchi, Cardno
Ron Goode, North Fork Mono Tribe
Theresa Simsiman, American Whitewater
Abimael Leon, CDFW
Eric Guzman, CDFW
Philip Choy, Water Board
Ruth Sundermeyer, PG&E
Ann Roberts, USFS
Jon George, USFS
Dennis Smith, USFS
Mike Harty, Kearns & West
Terra Alpaugh, Kearns & West
On phone:
Martin Ostendorf, SCE
Craig Addley, Cardno
Dave Steindorf, American Whitewater
Vicki Davis, USFS

**SCE Action
Items**

SCE will:

- Perform a regression to determine whether particular abiotic/biotic elements are closely correlated with fish populations, looking at each individual species (dependent variable = fish population; independent variables = temperature, date of spill, magnitude of spill, sampling timing, etc)
 - **TRG members will** provide a list of inputs they would like included in the model
- Re: NASMP:
 - Include in the NASMP a discussion of historic conditions in the Big Creek 4 area and how they have changed in ways that are now sustaining bass populations.
 - Verify that sampling frequency is included in the NASMP and add it if it is missing.
 - Circulate the revised NASMP to the Water Board and Forest Service to request approval before filing with FERC.
- Re: Stage Discharge:
 - Incorporate the detailed explanations of the Stage Discharge Study that Craig provided verbally into the written report.
 - Finalize draft Stage Discharge report and distribute it to the TRG within three weeks (March 14).
- Re: draft LTOR proposal:

- Refine and present a draft LTOR proposal to the TRG at the March meeting. Aim to distribute proposal to TRG 5 days in advance of meeting.
- On the graph showing various ramping rates compared to historical spills, shade the area on the graph that is beneficial for riparian species/habitat (so it is distinguished from the tail end of some of the ramp downs that is not necessarily beneficial to biota).
- On the table summarizing the water cost/impact of various ramping rates, include statistics on whitewater days provided out of season.
- Re: 2018 monitoring:
 - Revisit this item on the March agenda.
 - Make a final decision regarding 2018 monitoring by May in order to submit the plans to FERC before implementation.
- Assess the likely impacts of the flow releases proposed under the relicensing for the upper project on in-stream flows in the Big Creek 4 reach. Will report back at March meeting.
- Burn a copy of the 2010 NASMP report and provide to Forest Service.
- Re: 2018 Experimental Spill Proposal:
 - If a spill looks likely to happen, notify the TRG members, particularly American Whitewater, so they can inform boaters.
 - Touch base with Ron Goode to get his feedback on the proposal before submitting to FERC.
 - Provide draft to Water Board for review and approval by management.
 - Provide an estimate of the cost of the 2017 spill recession at March meeting.
 - Investigate whether investments in infrastructure or software would minimize the long term cost of implementing spill recession (e.g. allow both AGC and a spill recession).
- Re: schedule:
 - Revise negotiation schedule to reflect enough time for peer review of the LTOR.
 - Schedule the next TRG meeting at Big Creek 4 and include a site visit; investigate the possibility of using the Forest Service conference room.
 - Provide draft March TRG agenda ASAP.

TRG members will:

- (From above) Provide a list of inputs they would like included in the regression model.
- Caucus on their proposal for long-term monitoring and report back at the March meeting.
- Provide a written proposal for 2018 monitoring, including justification on the timing, by the March meeting.

Forest Service will:

- Look at SCE's proposed locations for eDNA sampling and confirm they make sense historically.
- Share information on the latest best practices in eDNA sampling with Cardno.

Meeting Convenes & Introductions

Mike Harty, Kearns & West, introduced the meeting objectives and agenda items. He asked TRG members for any additional items they wanted to address. Dennis Smith, USFS, requested that the group discuss how to integrate the Big Creek 4 operations with those of the upper Big Creek facilities in order to create a more natural system throughout the entire project area.

Presentation and Discussion of Study Data and Analysis

Item #1: New Aquatic Species Management Plan (NASMP) Report

Jay Kimbler, SCE, reminded the TRG that the NASMP is the same report the group discusses every February. Data collection activities focused on physical conditions, Western Pond Turtles (WPT), freshwater mussels, and San Joaquin River (SJR) fish populations. Jay requested feedback from the TRG, after which SCE will make revisions and circulate the report to the Water Board and USFS for review. He asked the TRG to keep in mind how the 2017 wet water year impacted the community below Dam 7 and how different conditions may be this water year, given the lack of precipitation thus far.

Wayne Lifton, Cardno, introduced the NASMP report, noting that the impacts of the wet water year are pervasive in the data. He started by describing the physical habitat data collection activities, which included monitoring water temperature at four winter sites and eight summer sites in SJR and Willow Creek as well as one in Redinger Lake; measuring summer water temperature, dissolved oxygen (DO), and specific conductance profiles at one site in the deepest part of Redinger Lake; collecting air temperature and relative humidity measurements at the dam; and utilizing daily flows data collected by SCE. Temperature sites are all walk-in sites; Cardno does not measure temperature at the center of Horseshoe Bend because it is inaccessible except by helicopter.

Wayne presented study results, starting with daily flow and temperature data. Starting in late December 2016/January 2017, there were frequently daily flows of 8000 cfs or more, resulting in cool water temperatures. Wayne described a highly variable year in terms of air temperatures: May was cooler than average; June, July, and August were very warm, with August ranking as one of the hottest on record; September was average; October was one of the coldest on record. High flows through July, however, kept the reach cool through most of the summer, with some warming in August but then another decline thereafter. Wayne reviewed the temperature profiles done at a deep site in Redinger Lake in June, August, and November. Though there was some surface warming during the summer, stratification did not occur and a thermocline never developed, because of sustained high flows and cool overall water temperatures.

Wayne described some of the impacts of the high flows, including large amounts of sand deposition from sand introduced from Willow Creek along the banks and covering the bottom in some areas. As a result, the team noted changes in depth of habitat occurring in the Horseshoe Bend, and especially at Willow Creek Confluence Pool.

Wayne described the study results on the status of (1) Western Pond Turtles (WPT), (2) freshwater mussels, and (3) fish. For WPT, the team's objectives were to collect information on distribution, age and size structure, population health, and habitat conditions. He reminded the TRG that the habitat in lower Willow Creek was significantly impacted by the sand deposition and that trapping started later in the year than usual due to the high flows. The team caught 25 WPTs (12 females, 11 males, and 2 juveniles; 17 recaptures). One female that was captured 2012-2016 at Willow Creek Confluence Pool

was found far downstream this year, likely moved by high flows. There were no signs of disease. Since the team traps the turtles with bait rather than visually counting them, they know they are actively feeding. Wayne reported that growth rates ranged from 0-9 mm/year this year; this gives them some insight into the variability of growth in WPT. He also noted that turtles over 12 tend to have worn rings on their shells (from which age is estimated), so they could be older than the team's recorded estimates.

For the mussel surveys, the team sampled the same mussel beds as in previous years, comparing population numbers and velocities. The conditions for sampling were not ideal: flows were approximately three times higher than usual with high velocity and turbidity, making it challenging to get good counts. At two sites, they were unable to do counts because of unsafe velocities. At Site 7, the site with the densest concentration of mussels, the count was lower than in 2016 but within the range of year-to-year variability. Wayne noted that changing counts between years is normal due to shifting sands changing which mussels are visible. Cardno found no trend in the data: while they sample quantitatively, the counts are more a function of what is visible as opposed to changes in population. Ron Goode, North Fork Mono Tribe, observed that the counts reflect more about the water year and sedimentation patterns. For instance, 2011 was another high water year, but that year sediment was moved out of the mussel beds so very high counts were observed.

While sediment moves every year, the influx of sediment from Willow Creek seen this year was unusual. Ruth Sundermeyer, PG&E, observed that there is a lot of sand in the South Fork but not in the North Fork. It is not clear where this sand is originating, but it is likely upstream of the project.

TRG members wondered whether the mussels are moving downstream. Wayne explained that early parasitic lifestyles of mussels historically attached to salmon and trout and were transported that way, but with the absence of those fish, there is less transport from outside of the HSB Reach, and they are now consistently found in specific spots throughout the reach. Eric Guzman, CDFW, observed that another reason mussels are not as broadly distributed is because the dams prevent additional mussels from migrating from upstream. Eric asked about whether turbidity measurements could be associated with the mussel counts. Wayne said the team did Secchi disk measurements, but that turbidity was generally not an issue in most years – the mussels are either covered or uncovered. Ann Roberts, USFS, asked whether this lack of movement could result in a loss of genetic diversity. TRG members agreed that it could; the fish, particularly suckers, needed to transport the mussels have been absent from the small creeks for almost 30 years, though they are now moving back in.

Lastly, Wayne reported on the fish studies. Snorkelers counted fish at the same six sites as in previous years, reporting on species composition, abundance, distribution, age structure, recruitment, growth, and condition. Results are provided in more detail in the PowerPoint. High level takeaways included: native species continue to dominate the community. The spotted bass percentage contribution to the community decreased to about one-third of that found in 2016. Sacramento suckers made up 53.3% of total fish -- or 77.5% when unidentified minnows were removed from the count; sucker density was almost twice that of 2016 mainly due to high young-of-year (YOY) recruitment. Hardhead density increased two and a half times from 2016 and was the highest since 1985. Sacramento pikeminnow density was one-third of 2016. The density of unidentified minnows was very low compared to average densities. Wayne explained that there has been good recruitment to reproductive age fish, and lower counts were likely, in part, the result of not being able to see fish because of high flows as opposed to them being absent.

Spotted bass contribution to overall composition increased from 2010 to 2015 but decreased in 2016 and 2017. In 2016, the decrease was due to increased abundance of native fish, and in 2017, it was due to lower spotted bass densities and relatively high abundance of native fish. Wayne reported that spotted bass nests have only been found in Willow Creek; later in the fall, they found YOY in the main stem, but it is not clear whether they spawned there or were washed down. The main stem does not seem to have ideal nesting spots. The bass largely eat bullfrogs, tadpoles, and small fish; they do not know whether they also eat rainbow trout since trout abundance is so low. At the request of Ann Roberts, SCE agreed to revise the NASMP to include a discussion of historic conditions in the Big Creek 4 area and how, or if, they have changed in ways that are now sustaining bass populations. Wayne noted that they are one of the most adaptable species, which is why they are stocked in reservoirs with fluctuating levels of water.

Eric Guzman asked whether the fact that sampling timing and conditions were different this year impacted Cardno's confidence in the comparability of their results. Wayne acknowledged that fish could have been undercounted because they were still so small due to the late spawning.

Dennis Smith, USFS, asked whether the TRG thought it would be valuable to perform a regression to determine whether particular abiotic/biotic elements are closely correlated with fish populations, looking at each individual species. The regression could provide insight into project effects on fish populations and confirm whether the flows/pulses have been the factor keeping the spotted bass population in check. The dependent variable would be fish population; independent variables could include temperature, date of spill, magnitude of spill, sampling timing, and predation. SCE agreed to do the analysis, though they noted that the data is very noisy. TRG members agreed to provide SCE with a list of inputs they would like included in the model. SCE will complete the analysis by the summer, so that TRG members can take that information into account as they make decisions on the LTOR.

Philip Choy, Water Board, requested the inclusion of sampling frequency in the report; Wayne recalled that they had added it in the past at his request. They will verify that it is included. Jay stated that the NASMP report will be circulated to the two approving agencies in two weeks; after their approval, it will be filed with FERC.

Item #2: Building a LTOR Proposal:

(a) Stage Discharge Study & Experimental Spill Management

Craig Addley, Cardno, described the objectives of the stage-discharge study: monitor the stage at four study locations during the 2017 experimental flows; use that information to develop stage-discharge relationships; determine the change in stage for a 3,500 cfs down ramp using Dam 7 gates; and determine the lag time for releases from Dam 7 to monitoring sites downstream.

Cardno installed automated stage recorders at four sites, two potential fish stranding sites (Willow Creek Confluence Pool (WCCP) and Backbone Creek) and two sites representative of the boulder channel morphology (Horseshoe Bend East (HSBE) and Site 5). Craig provided a detailed description of the study methodology outlined in the PowerPoint and how the data was fitted to stage-discharge equations using third order polynomial regression. The equation provided a very good fit for the low flow data; the fit was a little less accurate for high flow.

The study clarified two key elements: (1) Channel shape impacts how much the water surface elevation at a given location changes for a given change in flow (i.e. change in stage). For instance, the WCCP was the widest site, so for an increase from zero to 4000 cfs, the stage changes about 6 ft. For the same flow change at Backbone Creek, the most confined site, the stage changes 15 ft. Since these two sites represented the shallowest and steepest rating curves, they were used to bracket the analysis. (2) At lower flows, it takes almost an hour for water released at the dam to reach Site 5. At higher flows, the releases arrive in less than 30 minutes.

Dennis Smith, USFS, notes that Yarnell's scholarship shows the importance of all three variables in a recession rate (rate of change, magnitude, and timing); he wondered whether Cardno was using the weighted usable area as a surrogate for those other factors. Craig responded in the negative; instead, they will look at a combination of the ramping and stranding data to understand how faster down ramps can impact fish stranding and riparian vegetation. This study gives them the information needed to determine the appropriate ramping rate, e.g. if they want no more than one foot/hour change, how much can they drop a given flow and still achieve that at all the cross sections?

The draft Stage-Discharge study will be finalized and distributed within the next few weeks. The discussion and detail Craig provided in his presentation will be included in the report.

(b) Operational Constraints and Proposal Building

Jay Kimbler, SCE, confirmed that SCE is working on a draft proposal and will aim to present it at the March meeting. Today, he and Cardno will walk through SCE's approach, and he requested that the TRG make note of any key factors they think are missing.

SCE identified categories of factors that can impact their ability to implement a spill recession at Big Creek 4: (1) operational/mechanical factors, including powerhouse outages, automated grid control, diurnal flow fluctuations, and anything else that impacts upstream flow; (2) type of water year (wetter, drier, and non-spill), and (3) Mammoth Pool Agreement stipulations.

Craig Addley, Cardno, presented historical spills and explained why many of them did not include a smooth ramp down. These reasons included:

- SCE provides automated grid control (AGC) to CalISO, giving CalISO control of the Big Creek facilities to generate power precisely when it is needed on the grid. This means the flows fluctuate frequently (in ~1000 cfs pulses), particularly at Powerhouse 3. AGC is implemented frequently during the summer. In 2017, SCE took the system off AGC and were able to implement relatively steady down ramps.
- There are diurnal fluctuations in the flow of around 500 cfs.
- Controlling spills at low flow requires reducing generation in Powerhouse 4 and artificially increasing the duration and amount of the spill.
- Powerhouses can go offline suddenly due to many factors. When people are boating and flows suddenly fall, these outages can leave them stranded.
- Managing the end of a spill can be difficult. Forecasting is often insufficient to know how to best end a spill smoothly.
- Large spills have biological benefits. However, the very low flows at the tail end of a spill contribute very little biologically. Understanding how to attenuate the flow to maximize benefits will be crucial.

In order to make down ramps even, SCE will need to coordinate gate openings, forego generation, and stop providing AGC to CalISO in order to maintain control of the Powerhouses.

To better understand possible ramping rates, SCE compared possible rates to historical spills. They plotted flows over time during historical spills; on top of that, they plotted multiple down ramps, including a 10% down ramp, an 8% down ramp, a 10% down ramp in two-day time steps, and 1 in/hour, 2.4 in/day, and 1.6 in/day down ramps controlling at Willow Creek. Craig pointed out the area at the tail end of the recession curve, which is difficult to implement operationally and not particularly beneficial to biota. TRG members requested that a future iteration of the graph shade the area of the recession that is beneficial to riparian areas. Craig also reminded the TRG that the base flow down to which SCE is ramping differs for wet and dry years.

Craig next presented a table listing each ramping scenario, the water costs of implementation, boating days it would provide, and daily steps in cfs. Theresa Simsiman, American Whitewater, requested that they add another column with boating days provided out-of-season.

Craig discussed how the Mammoth Pool Contract between USBR and SCE could impact how SCE implements releases. USBR is responsible for distributing water from the Friant Dam, downstream of SCE's Big Creek Project; SCE has pass-through rights for the water but is subject to certain rules for holding and releasing water outlined in the contract. Since Friant holds very little water and operates largely for flood control purposes, the contract requires SCE to maintain certain amounts of aggregate storage (both minimum and maximum) at Big Creek 4, and there are different scenarios for different water year types. If SCE releases water for a spill early in the season, they need to make sure the Big Creek system has enough storage to meet contractual requirements later in the season. In the case of multiple sequential dry years, SCE cannot store more than they did the year before; therefore, they tend to be cautious about releasing too much. This impacts how they plan to down ramp in dry years, when a down ramp could demand up to 25% of the water released.

Based on these constraints, SCE is developing a proposal that will have separate down ramps for wet years, drier years, non-spill years, and for short (operational) spills. Each of these down ramps will be associated with a certain number of boating opportunities. They will aim to distribute that draft proposal at least five days before the March meeting.

Draft Long Term Monitoring Proposal

SCE presented its proposed Long Term Aquatic Monitoring Plan. The ongoing monitoring will confirm that the implementation of the LTORs effectively supports native aquatic species and their habitats. The SCE proposes monitoring in Year 1 (following approval of the LTOR by FERC) and then monitoring every five years thereafter, doing the traditional suite of fish, mussel, and WPT studies. In response to requests, they will add in eDNA for Foothill Yellow-legged Frogs at six locations. They will continue collecting 15 minute flow and water temperature data at the SJR gage above Willow Creek every year. Following each monitoring year, they will report back to the TRG to assess the results of the LTOR on the native communities. SCE expects to draft a formal proposal after hearing TRG feedback.

The TRG supported the studies SCE is proposing, but they voiced a number of questions and concerns about the timing, summarized below:

- Philip Choy, Water Board, asked for the rationale behind a single year of monitoring and wondered how a single year can establish a baseline, especially with three different operational types (wet, dry, and non-spill years). He noted that usually with a relicensing a new baseline gets established, only after which monitoring is completed every five years. SCE explained that the proposed “one year” will just be an additional year added to the baseline data SCE has collected for the past ten years. Eric Guzman, CDFW, pointed out that if SCE does not complete 2018 monitoring, that will be an additional year of baseline data lost.
- Ann Roberts, USFS, pointed out that additional baseline monitoring is important as long as SCE is still experimenting with operations. A record of the impacts of those adjustments is needed.
- Philip and Eric expressed concern that five year gaps between monitoring could be too long to arrest any negative changes that result from the LTORs.
- Philip pointed out that with 18 years left in the license, SCE’s proposal yields four total years of monitoring, which may not be enough to make informed adaptive management decisions.
- Dennis Smith, USFS, pointed out that they do not know when operational changes for the upstream Big Creek facilities will be implemented and how much they may change the baseline. Jay Kimbler, SCE, replied that most of the proposed increases in flows rely on infrastructure changes that will require one to five years before operational. Ed Bianchi, Cardno, also clarified that in general there will not be a wave of higher in-stream flows; releases are constrained by the capabilities of the power houses. However, Ed will confirm and report back at the March meeting.

TRG members will caucus on their own long term monitoring proposal and be prepared to present it at the March meeting.

2018 Monitoring Plan

Jay Kimbler, SCE, stated that SCE does not feel another year of monitoring will inform the LTOR negotiations. TRG members strongly support 2018 fish monitoring in order to evaluate the over-winter mortality given the late spawning and to observe whether the bass continue to be deterred after the high pulses or whether they recolonize the area. This year’s data will be important to confirming the TRG’s hypotheses about what is happening in the reach to foster the survival of natives and reduce bass populations. Jay questioned whether this year’s data will be useful, since the ramp down (if there is a spill) will not necessarily be the same as that SCE ultimately proposes in the LTOR.

Philip Choy, Water Board, noted that more information on survival after 2017’s late spawning could inform how the LTOR treat the timing of the recession – the TRG may need to consider shortening the recession to end before or in early August. Eric Guzman, CDFW, observed that last year’s data on spotted bass populations cannot be verified, so 2018 monitoring would confirm those numbers, essentially adding two years of data to the record. In contrast, if SCE waits another year before monitoring again, they lose the tight cause-and-effect relationship to explain the data.

Ann Roberts, USFS, said that 2018 monitoring would not necessarily have to include eDNA, though it could be a good opportunity to scope out survey spots. Wayne Lifton, Cardno, said he would provide her with a copy of the report detailing the surveys done in 2010. Ann offered to send Wayne information on eDNA best practices, including the collection of two samples to improve accuracy.

Dennis Smith, USFS, would like to approach CDFW to implement a spotted bass control and removal plan downstream. Ed Bianchi, Cardno, suggested focusing on Willow Creek and approaching PG&E with the possibility of sharing resources. Ruth Sundermeyer, PG&E, said they might be willing to contribute.

SCE and the TRG members agreed that the long term monitoring proposal and the 2018 monitoring plan are interrelated and both require more discussion. The TRG members will provide a written proposal for 2018 monitoring with justifications to SCE by the March meeting. Wayne Lifton, Cardno, confirmed that the 2018 monitoring proposal can be filed with FERC after the rest of the 2018 report; it will need USFS and Water Board approval prior to implementation. 2018 monitoring will be on the March agenda with the intention of coming to a final decision by May.

AMP Proposal (aka 2018 Experimental Spill Management)

SCE presented their proposal for a potential 2018 spill down ramp. Their goals included: (1) if a spill occurs, test SCE's operations and facility capability to down ramp a spill in controlled, incremental steps; (2) down ramp from 2,000 cfs to base flow or from the maximum flow if it is less than 2,000 cfs; (3) down ramp in 400 cfs steps; (4) attempt to hold down ramp steps relatively steady during each flow step. Ultimately, they would like to be able to hold these steps steady for a specific period of time, but for this test, they would be trying to preserve water.

Dennis Smith, USFS, asked if they were including a boaters bench; he also observed that most recession curves in the Sierras start out faster and slow down at the end to save water. Craig Addley, Cardno, clarified that this is not a proposal for boating opportunities or long term recession; it is simply a test. SCE agreed to provide forecasts if this spill looks like a possibility so American Whitewater can notify boaters. SCE also emphasized that for their implementation of spill recessions in the long term they will need to improve their short to mid-range forecasting, especially if there is any possibility of continuing to provide AGC. Dennis encouraged SCE to investigate whether hardware or software upgrades would enable them to overlay AGC and a recession.

Philip Choy, Water Board, asked for an estimate of the cost of the 2017 spill recession and more explanation of the Experimental Spill Management Memo; SCE will provide at the next meeting.

Jay Kimbler, SCE, asked whether TRG members approved of this proposal. USFS and American Whitewater gave their approval. CDFW gave approval pending Water Board approval. Philip will need to Water Board management to review the final draft before granting approval. SCE will check with Ron Goode for his feedback.

Resource Management Objectives

TRG members present in the afternoon shared their primary resource management objectives in the LTOR negotiations.

Forest Service priorities are:

- Implementing base flows and a recession curve that make a regulated river look as much like a non-regulated river as possible (note: based on the 2011 and 2015 Yarnell papers, which outline the benefits of a recession curve, detailed in 50 parameters);
- Managing from the ecosystem perspective rather than trying to control for any one objective (other than elimination of spotted bass);
- While USFS is not prioritizing FYBF, if FYBF are listed under ESA, they will return with license amendments.

Water Board priorities are:

- Conforming to the Basin Plan and EPA criteria for temperature;
- Implementing an ecosystem approach to benefit natives in the reach through natural recession and maintaining base flows to assist spotted bass from expanding;
- Having a bench in the recession to provide an adequate number of whitewater boating.

CDFW priorities are:

- Returning to a natural regime within operational constraints;
- Collecting reliable information to inform adaptive management;
- Improving the fishery;
- Doing due diligence to make sure FYLF aren't present;
- Ensuring the group has considered all options to allow SCE to operate as cost effectively as possible while achieving environmental and recreational objectives (even if it means a front end investment).

Next Steps

Dennis Smith requested that the final LTOR document undergo peer review by a group of scientists (possibilities include the Department of Conservation Biology at Davis, Humboldt, or Fresno State). SCE agreed but reminded the group that they will need to come to agreement sooner, in order to allow time for that review.

The TRG requested that part of the March meeting be a site visit to Big Creek 4. They discussed the possibility of using the nearby USFS conference room for the meeting (contact Jon George). SCE will send a draft agenda early in order to facilitate TRG planning.

TRG MEETING NOTES
MARCH 22, 2018

Southern California Edison (SCE)
BIG CREEK 4 NASMP/AMP TECHNICAL REVIEW GROUP (TRG)
Long Term Operating Rules (LTOR) Call
March 22, 2018

Meeting Summary

Time: 9am – 5pm

Location: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno, California 93727

Attendees: *In person:*

Jay Kimbler, SCE

Martin Ostendorf, SCE

Andrew McMillian, SCE

Craig Addley, Cardno

Wayne Lifton, Cardno

Ed Bianchi, Cardno

Theresa Simsiman, American Whitewater

Abimael Leon, CDFW

Eric Guzman, CDFW

Philip Choy, Water Board

Ann Roberts, USFS

Vicki Davis, USFS

Jon George, USFS

Asami Osato, PG&E

Mike Harty, Kearns & West

Terra Alpaugh, Kearns & West

On phone:

Dave Steindorf, American Whitewater

Dennis Smith, USFS

Ruth Sundermeyer, PG&E

**SCE Action
Items**

- Kearns & West will:
 - Reschedule the Big Creek 4 site visit for April 24 and provide instructions for a meet-up location. **DONE**
 - Distribute meeting slides. **DONE**
- SCE will:
 - Distribute all the remaining data – including stranding and stage discharge memos—before the next meeting and include discussion of how/when to submit it to FERC as an agenda item for the April meeting.
 - Perform regression analysis and follow up with Dennis on any questions about his requests
 - Re: LTOR PROPOSAL--
 - Distribute the draft LTOR proposal text (with understanding that it is still in progress)
 - Create a visual showing the variables impacting how much water is released via “one click” (and how much variability each factor can cause)
 - Find out the capacity of the lower level outlet at the dam
 - Send a list of which years, 1994-present, fall into each of the Mammoth Pool schedule categories A-D
 - Model the conditions for each category

- Follow-up with SCE marketing to determine what cost/revenue values they can share with the TRG
- TRG members will:
 - Provide a written description of their request for 2018 and long-term monitoring, including an explanation of why the already-collected data is not sufficient to meet their needs

Meeting Convenes & Introductions

Mike Harty, Kearns & West, introduced the meeting objectives and agenda items. He asked TRG members for any additional items they wanted to address. Philip Choy, SWRCB, asked when the remaining 2017 study memos (e.g. stage discharge, stranding) will be filed with FERC. Jay Kimbler, SCE, agreed to distribute the final memos for review and discuss their contents and schedule for FERC submission at the April meeting. Jay also acknowledged the receipt of the TRG's request for a regression analysis and promised to follow up with Dennis Smith, USFS, with several clarifications. Mike reminded the group that they needed to review past action items to clarify their status.

Presentation: Stranding Data

Wayne Lifton, Cardno, presented study results from the Ramp Down and Stranding Study. During the April 13-18, 2018, ramp down from 3,500 cfs to minimum instream flows, the team monitored the stream stage at selected locations in order to verify the amount of time required for flow to respond to a "one-click" change of the Dam 7 gates and to run through the system. For each incremental decrease, they also assessed potential and actual stranding/trapping sites (e.g. potholes or very flat areas) at study locations once the flows had drained off.

The study helped SCE assess their ability to control releases from Dam 7 during non-spill conditions and how much control is potentially available given the limits of the existing infrastructure and latencies within the system. Wayne explained that the minimum change that can be made to flow at the dam is described as "one click." A click is a virtual button that sends a signal down to Dam 7 and tells the dam gate to open or close one increment. Generally, this increment is about 1/10th of a foot but can be up to 2/10ths— a small difference that can be caused by how the gate cable is spooled around the drum or how temperature impacts the gate machinery. On average, a click changes flows by 150-300 cfs, depending on the head.

Several latencies exist within the system: the signal itself can be delayed because parts of the system do not have fiber-optic cable, which can slow the electrical signal's arrival by 15 seconds to 20 minutes. If the signal is delayed long enough that the operator assumes it was not executed and sends another click, it can result in a gate opening of two increments. A second latency can manifest in that the water does not always respond immediately to the gate change. Finally, the downstream flow gauge only measures every 15 minutes, so flows may not register immediately.

Ann Roberts, USFS, asked if Cardno could create a visual showing the variables that impact how much water is released via "one click" and how much variability each factor can cause. Ed Bianchi, Cardno, clarified that their LTOR proposal builds in ranges to account for the fact that they do not have a way to control these small differences in flows.

Wayne described the four study site locations: Willow Creek Confluence Pool (WCCP) and Backbone Creek (BBCCP) are known to be potential fish stranding prone sites; Horseshoe Bend East and Site 5 are

more representative of the highly entrenched reach as a whole — vertical walls and boulder channel morphology. Wayne reminded the TRG that the highly entrenched regions of the river see more stage change with any given change in flow and have less potential for stranding than the wider, more gradually sloping areas like WCCP and BBCCP.

Flows generally ran off within two and half to three hours of a change at Dam 7. Stranding/trapping features were marked by survey pins to indicate the stage at which they became isolated. Sand deposited after high flows provided more potential trapping sites than are typically present. Wayne provided a cross section of the each study site showing the location and elevation of each potential and actual stranding site recorded, as well as stage at various flows. Potential trapping sites were present over a large range of elevations and flows. Potential stranding sites far outnumbered sites where actual stranding occurred; many fish followed the flow back into the river. No stranded fish were recorded; only trapping occurred. The most trapped fish (95 total, 61% of all the trapped fish) were found at WCCP, largely at very low flow ranges.

Presentation: Update on SCE Draft Proposal

Craig Addley, Cardno, presented SCE's initial proposal for Long Term Operating Rules (LTOR). He started by reminding the TRG of how historical spills compared to various possible down ramps and explained that the 2017 Stranding Study had implemented a 1 in/hr down ramp at Willow Creek. Dennis Smith reminded the TRG that USFS is interested in the ecosystem benefits associated with longer down ramps (~0.04-0.08 in/day) in the literature, not simply whether a down ramp is slow enough to avoid stranding fish. Craig acknowledged Dennis' interest and explained that he was just setting the context and would discuss longer down ramps.

Next, Craig reviewed the constraints that SCE has to consider in new LTOR, including the challenges of instituting an ecologically-beneficial down ramp in the face of diurnal fluctuations, dam gate control, low flow spill control, powerhouse outages, FERC minimum pool and minimum instream flow requirements, and contractual requirements for storage and minimum/maximum flows under the Mammoth Pool Agreement, as well as the economic consequences of forgoing automated grid control (AGC). At the last meeting, TRG members asked whether SCE could institute a down ramp without forgoing AGC. Andy McMillian, SCE, confirmed that with the granularity of control the TRG is interested in, there is no way to remain on AGC. However, Jay Kimbler reminded the group that SCE can still bid into the market, even if they are not on AGC.

Craig explained that SCE's proposal is based on water year type as defined by the Mammoth Pool Agreement, outlined in Schedules A to D. He noted that these are slightly different than water years as defined by DWR (e.g. critical, dry). The Mammoth schedules, designed to ensure downstream farmers get water when they need it, emphasize timing of runoff. Craig provided analysis of how many days of spill were typical in each schedule type (A-D) based on water years 1994-2018. Schedule A years averaged 0-5 spill days; Schedule B ranged from 0-20 spill days; Schedule C years all had at least 10 spill days but ranged as high as 40 days; Schedule D years had 60-140 spill days. He emphasized the high variability of years that fall into Schedule B or C. He also provided the distribution of year types in the study period: 40% of years were Schedule D, 23% Schedule C, 14% Schedule B, and 23% Schedule A.

Craig next outlined the basic tenets of the SCE proposal:

- In wet years (with long duration spills), the proposed LTORs focus on down ramping of spills to mimic the natural hydrograph, enhancing the aquatic community, and increase whitewater boating opportunities.
- In drier years (with short duration spills), the proposed LTORS focus on managing the spill to provide whitewater boating opportunities and prevent fish stranding by down ramping the spill.
- In the driest years (non-spill years), the proposed LTORs focus on releasing flows on a scheduled weekend to provide whitewater opportunities and prevent stranding by down ramping the release.

Craig presented a table showing the amount of water available for down ramping under each Schedule type, the proposed duration of the down ramp in days, and the guaranteed number of boating days. He clarified that in wet years, there would be many other days of down ramping and therefore boating opportunities; the days in the chart are a minimum number of guaranteed days.

Vicki Davis, USFS, wondered what the impact of atmospheric rivers and climate change would be on the distribution of year types. Andy explained that there will likely be more spills overall due to rain on snow events, but ultimately, it depends on the timing of precipitation.

Theresa Simsiman, American Whitewater, asked Craig to add a column to the chart with the number of boating days required under the license for easy comparison. He agreed with the caveat that they will not align perfectly since the proposed LTORs are based on Mammoth Pool water year types not DWR water year types.

Philip Choy pointed out that these boating days are boating days off of spill, i.e. water that was already going to come down the system, whereas the license referred to times when SCE would be creating an out-of-season boating release, taking water from storage. Craig made three clarifications: (1) the days in the chart are the days where SCE is managing the recession— any days of unmanaged natural spill would be on top of these guaranteed days; (2) the days promised under Schedule A and part of Schedule B would all be created from SCE releasing water from storage; and (3) the 401 only provides boating days, without any consideration of a down ramp.

Craig presented some of Cardno's analysis of how they would have managed the flow under these rules over the study years. The group agreed that there needs to be further discussion of how to ramp down following a spike in flows (e.g. a rainstorm), so as to maintain the ramp down but not lose excessive amounts of water.

Cardno has begun to draft a document outlining what this proposal would look like; SCE management has approved the concept but has not yet reviewed this text, particularly as it relates to CallSO. It has sections outlining the water year types and what a down ramp looks like in each water year type, including non-spill years. The water year type determination for the Mammoth Pool Agreement is made in April. He also explained that flow ranges are provided to accommodate for the imprecise control of releases from the gates (described earlier). Philip asked whether there is any way to use the lower level outlet to buffer flows at the very low flows. SCE explained that outlet must be manually opened and was not designed to be operated often; however, they will look at what its capacity is when fully opened.

Other comments on the proposal as currently written, included:

- Philip requested that SCE provide which years of the study period (1994-present) fall into each schedule, so the TRG can compare it to the spill memo.

- Philip wondered whether scheduled releases could start earlier than May as indicated in their outline; SCE confirmed that they could implement as soon as the schedule type is determined in April.
- Philip wondered what would happen if there was double peak in the hydrograph. SCE responded that if they had already fulfilled a long down ramp, they would probably want to default to one of the shorter recessions (to protect for stranding but not more) after the second peak.
- SCE clarified that their compliance point is upstream of Willow Creek, because PG&E controls flows down Willow Creek. Therefore, below Willow Creek, boaters would have to plan for possible additional flows not under SCE's control.
- Dave Steindorf, American Whitewater, pointed out that B and C Schedules are unpredictable in terms of knowing whether they will be spill or non-spill year. SCE acknowledged they need to think more about when and how (i.e. using what data points) to determine that, in order to know if they should schedule a spill. Late April to mid-May is likely the right window to make a decision.
- Theresa asked SCE to model each of the possible scenarios for each schedule. Cardno committed to providing that modeling.
- Philip wondered what the loss of revenue was in 2017 from implementing the recession; Martin Ostendorf, SCE, committed to following up with SCE Marketing to find out what information can be shared.
- SCE asserted that the projects upstream coming online will not have much impact on Big Creek 4 operations.
- SCE will polish the proposal text and build in hypotheticals (e.g. CallSO heat storms); they agreed to share the high level text with the recognition that it is subject to revision.

SCE asked TRG members to identify their concerns and what components of the proposal they would like adjusted. They do not have to provide an alternative proposal; bullets or comments linked to this proposal would be most helpful. Martin reminded the TRG that SCE must comply with the Mammoth Pool Contract; therefore, any proposal will be analyzed within that framework.

Explore Priorities for Long Term Monitoring Proposal

The TRG characterized their proposal as similar to what SCE proposed. They would like to establish a baseline by monitoring continually until there has been a spill year and a non-spill year. Continuous monitoring is important because the prior year's data informs the analysis of the current year. The baseline studies should include the full suite of species. By sampling in both spill and non-spill years, the TRG can confirm whether the new operations are indeed benefiting the biota. Once the baseline is established, they would request monitoring every five years.

TRG rationale included for more monitoring include:

- They want to see the impact of SCE's new operations on fish and other biota and ensure that they are protective of existing populations.
- Spotted bass numbers have increased recently so CDFW wants to better understand what is impacting their survival. The general hypothesis is that bass increase in a dry year, and decrease in spill years or whenever faced with some kind of perturbation. Sampling before and after high flow years could contribute to that understanding. SCE noted that regression analysis of past data could also yield insights.

Martin Ostendorf expressed his concern that the TRG's proposed monitoring model could lock SCE into many years of monitoring before they get the required years (similar to what happened during the last drought). Based on this concern, the TRG is willing to put a cap on three years of baseline monitoring once the new rules are implemented.

Martin feels that (1) the existing 10 years of data can be used to extrapolate out and (2) the native aquatic communities are not threatened at present and while the new operations will provide a benefit, it may be difficult to tease out. Philip wondered whether Big Creek 4 biotic data has ever been compared to an unimpaired reference reach; Wayne explained that there are very few, possibly no, unimpaired reaches comparable to the community in Horseshoe Bend.

The TRG agreed to provide SCE with a written explanation of why they do not feel the past data will be relevant to understanding the health of the Horseshoe Bend reach under the new operations. They will include what analysis the past data is relevant for and what analysis will require new data.

TRG MEETING NOTES
APRIL 24 & 25, 2018

**Southern California Edison (SCE)
BIG CREEK 4 NASMP/AMP TECHNICAL REVIEW GROUP (TRG)
Long Term Operating Rules (LTOR) Call
April 24 & 25. 2018**

Meeting Summary

Time & 12:30pm – 5pm, Big Creek 4 Field Visit

Location: 9am – 5pm, Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno

Attendees: *For Field Visit:*

Jay Kimbler, SCE
Martin Ostendorf, SCE
Ann Roberts, USFS
Vicki Davis, USFS
Abimael Leon, CDFW
Eric Guzman, CDFW
Philip Choy, Water Board
Terra Alpaugh, Kearns & West

In person at Meeting:

Jay Kimbler, SCE
Martin Ostendorf, SCE
Craig Addley, Cardno
Ed Bianchi, Cardno
Ron Goode, North Fork Mono Tribe
Ann Roberts, USFS
Abimael Leon, CDFW
Eric Guzman, CDFW
Philip Choy, Water Board
Vicki Davis, USFS
Jon George, USFS
Ruth Sundermeyer, PG&E
Mike Harty, Kearns & West
Terra Alpaugh, Kearns & West

On phone:

Wayne Lifton, Cardno
Vanessa Martinez, Cardno
Theresa Simsiman, American Whitewater
Dave Steindorf, American Whitewater
Dennis Smith, USFS
Ruth Sundermeyer, PG&E

**SCE Action
Items**

April Action Items

- SCE will:
 - Provide the approximate percentage difference in price paid for AGC vs. baseload power
 - Pull license application on FERC website to provide a list of studies done during the last relicensing
 - Distribute a separate PDF outlining the Mammoth Pool requirements (DONE)
 - Graph the spill spikes seen in the Merced and San Joaquin flow analysis on a smaller timestep
 - Update the Whitewater Boating Definitions based on the feedback provided in the afternoon session and recirculate to the TRG.
 - For LTOR proposal:
 - Add a compliance section for subsequent spills

- Send out a clean version ASAP (**DONE**)
 - Follow-up with Ann and Phil about study submission deadlines for FERC and what documentation is needed from the Forest Service and Water Board
 - Add presentation of the regression analysis data to the May agenda
- The TRG will:
 - Review the LTOR proposal internally and provide a single redline version to SCE by May 15
- KW will:
 - Update schedule and distribute to the TRG.

DAY 1: Field Visit Key Topics

The following briefly summarizes the main stops on the field visit and key topics discussed:

- (1) **Big Creek 4 Powerhouse:** The field visit began at the Big Creek 4 Powerhouse, approximately six miles south of Dam 7. Operations at Dam 7 and Powerhouse 4 are largely controlled by dispatch at Big Creek Headquarters (approximately 15 miles upstream), and signals are transmitted via a combination of copper wire and fiber-optic cables. If needed, the load can be adjusted at the Powerhouse. Martin Ostendorf gave a brief explanation of how SCE sells its power: it bids in the amount of generation it can offer and a price, as well as ancillary services like AGC. There are different price tier structures depending on what is being bid in; for instance, AGC helps CalISO ensure voltage stabilization, important because of unpredictability of other renewables, so the price is higher. Otherwise, SCE's power is priced as baseload. CalISO then builds a "deck" of the power suppliers they will use based on availability, reliability, and price. SCE tries to target its highest power generation for the summer, because prices are high, and the pool is generally depleted by fall. They do have to keep competing resource interests in mind, since some reservoirs are prioritized for recreation during the same period.
- (2) **Willow Creek at the SCE gauge:** The flows down Willow Creek are PG&E water; therefore, SCE has no control over their amount or timing. Under the current license's 4e and 401 conditions, SCE can count 5 cfs of Willow Creek water toward its 20 cfs minimum instream flow requirement in dry years. They have never actually done that and have always released 20 cfs at Dam 7. Therefore, rather than continue to do maintenance on the gauge, SCE is considering removing it from the license. Traditionally, they would do a license amendment, but they could also make the change part of the LTORs by adding a rule committing SCE to releasing 20 cfs at Dam 7.
- (3) **Dam 7 at Redinger Lake:** There is a (currently broken) fish water generator for low elevation, small volume (40 cfs) releases. The Forest Service was curious why it was not screened; SCE clarified that screening was not required under the license, and they could reference the license application for which studies were done to determine that it was not a significant danger. Under the current license, SCE has the right to fix and operate the generator, so any amendments to that would need to be part of the LTOR. Dispatch changed flows at the dam by 1 click, so that the group could watch the impact on the dam's gauge and flows coming out of the dam.
- (4) **Whitewater Boater Trail near Bishop Creek**

DAY 2: TRG Meeting

Introductions & Field Visit Takeaways

Mike Harty, Kearns & West, asked TRG members to share key takeaways from the field visit. TRG members confirmed that visiting the powerhouse and dam helped them better understand the facility's layout and its operational constraints. They explained that watching the gauge on the dam in real time revealed the amount of variability in water released by "one click." Philip Choy, Water Board, suggested that the LTOR use the language "150 cfs or one click" in order to ensure SCE stays in compliance.

Philip asked about the accuracy of the discharge curve, which shows how much is released from Dam 7 at a given lake elevation and gate height. Jay Kimbler, SCE, explained that it is not very accurate and can vary as much as 100 cfs. It is accurate enough for dispatchers to manage the reservoir elevation, but with the focus shifting to downstream flows, they will need to be more precise and base their releases off measurements taken at the compliance point gauge.

Philip was also curious about the flushing of woody debris caught behind the dam. Jay explained that typically SCE has flushed debris with a "blind release," by opening the gate wide until the dispatchers assume it has passed through; under the new LTOR, they will need to be much more conservative about how far they open the gate, and flushes will require cooperation between an SCE employee at dispatch and one at the dam.

Mike introduced the meeting objectives and agenda items. Jay asked the TRG to voice any interests or questions they have, particularly with regards to the LTOR proposal.

Jay provided an update on an action item from the previous meeting: the capacity of the low level outlet at the dam ranges from 200 to 400 cfs and has to be either fully open or fully closed, which does not allow for finer adjustments in flow.

Presentation: Update of SCE Draft LTOR Proposal

Craig Addley, Cardno, gave a high level overview of the LTOR proposal he presented at the March meeting. It provides long duration down ramps that somewhat mimic the natural hydrograph in wet years; shorter duration spills with a bench for boating and down ramping for stranding thereafter in intermediate years; and a scheduled whitewater boating release with down ramping to protect against stranding in the driest years. He reminded the group of the 2017 stranding study presented by Wayne Lifton in March, which recorded minimal stranding using a recession rate of about 1 in/hr at Willow Creek; SCE's proposed rate to protect against stranding is slightly slower than that.

The SCE proposal is organized based on Schedules A-D in the Mammoth Pool Agreement and for each schedule, states the acre feet of water SCE would allocate to releases and the number of boating days provided during the spill. Craig clarified that the acre feet of water quantifies the maximum amount they could have to use for releases; the total would usually be lower, often half that amount, because they would be filling in on top of other spills. Schedule D years would guarantee 8 days of boating, Schedule C and B (high storage) 6 days of boating, and Schedule B (low storage) and A 2 days of boating.

Craig walked through the organization of the proposal; sections include definitions of spill and non-spill years, descriptions of the schedule types, explanations of how SCE would down ramp in each schedule

type, and compliance language for each schedule type. He explained that they would also include a testing phase during the first spill and non-spill years, in which they would report back to the TRG on whether the rules as written can be realistically implemented; at that point, the group can revise them as needed.

Craig presented Cardno's analysis of what down ramping would have looked like in past years given their proposal. He started by explaining that there are instances where flows begin to recede and then bounce back up again. Craig wanted to see the frequency of these kinds of jumps, so Cardno plotted the natural hydrology May through September for 1995-2017 using (a) the calculated unimpaired San Joaquin flow and for perspective, (b) the Merced River at Happy Isles. They examined flows below 5000 cfs to focus on flows SCE would be responsible for down ramping. Over the study period, they saw many bouncy years, whether due to snowmelt or rain events.

Their initial plan had been to start the down ramp from the new high after any bounce up but realized that given the frequency of these occurrences, it would require too much water and be impractical. Therefore, if a bounce up in the hydrograph occurs after the down ramp has started, they will wait until flows fall back down to the initial level and then begin the down ramp again from that point. Philip requested these graphs shown at a daily or smaller timestep for the spiking portions.

Using this approach, Cardno took the hydrology below Dam 7 for each year 1995-2017 and plotted what the down ramp would look like given the LTOR proposal. Those plots are available in the PowerPoint presentation emailed to the TRG. Craig explained that the blue line, the proposed down ramp, signifies operational control. Therefore, if the gray line, the actual hydrology, is below that line, SCE has operational control of spills; if the gray line is above it, SCE does not have control.

Questions and comments from the TRG about this analysis included:

- Comment (C) (Philip): In most relicensings, the Water Board prefers to see biological benefit in at least 50% of years. Historically (1995-2017), Schedule D years, where releases would be targeted for biological benefit, only make up 43%.
- Question (Q) (Philip): Would additional water being released above and beyond the natural spill be a hit to storage or generation?
 - R: If the natural flow is below the proposed down ramp for any extended period, it will be taken out of generation; SCE has storage requirements it must meet, and Redinger Lake only stores 26,000 acre feet.
- Q (Philip): On other projects, do they also do a ramp up for a whitewater boating spill?
 - R: Not usually, or if they do, it is very fast.
- Q (Theresa): The proposal says that if it is a non-spill year, based on the May 1 forecast, SCE will provide a boating spill but does not specify a date/time. Would they provide a date ahead of time?
 - R: SCE has very limited forecasting but could probably give 1-2 weeks' notice. A communication protocol needs to be included as part of the LTOR.
- Q (Philip): Why is the recession proposal the same for Schedules C and High B?
 - R: The water availability in those schedules is similar. It is storage requirements that differ. SCE will distribute a PDF with the Mammoth Pool requirements for reference.
- Q (Eric): How much water is used to flush out wood?
 - R: Between 12k and 15k cfs. It is not usually an issue in a low storage year, because woody debris do not build up in low flow conditions.

- Q (Philip): Schedule D prescribes 3 days at 3500-2500 cfs. Could that block of time or acre-footage be moved to a lower cfs?
 - R: At 3500-2500 cfs, there is less of a gap between what is spilling and what is being provided by SCE. At lower recession levels, SCE has to provide more water, so it is more costly.
- C (Philip): Suggestion to revise language to give SCE more leeway in terms of maintaining compliance (e.g. “at least 10 hours”) and suggest “good faith” operations to maximize benefit of flows (“a target of 3250 cfs”).

The group acknowledged that, since water for the recession would be taken from generation, this proposal would likely decrease SCE’s revenues. The Water Board and CDFW were curious about the total revenue loss, which they felt would be a useful barometer to compare their requests to those made in other licenses. SCE did not feel that revenue loss was a useful way to assess the proposal for two primary reasons: they do not believe that the biological benefit is predicated on revenue reduction; and the proposal is not designed solely around cost, but also around SCE’s legal obligation to fulfill the Mammoth Pool Contract and deliver downstream water rights. If the TRG’s proposed LTOR cost too much or will mean the violation of the Mammoth Contract, SCE will have to revert back to the original rules under the license. This might not preclude regulatory agencies from requiring in-season flows/ramping rates, but would likely reduce collaboration, which impacts the overall acceptability of the new LTORs for all stakeholders. Dave Steindorf, American Whitewater, suggested that even though the LTOR will change the flow schedule, he believes they can improve the ecology with a minimal revenue hit through the current collaborative process.

SCE shared their initial estimate of how much implementation of the proposal would reduce revenue based on the water year type: in Schedule D years, revenue reduction would be \$670k; in C and B years, revenue reduction would be \$320k, and in A years, revenue reduction would be \$290k. Martin emphasized that these are rough estimates, and actual revenue reduction could be higher or lower. He also clarified that subsequent spills, which occur after the initial down ramp is done, are not built into these estimates, because they do not know how often they might happen.

SCE plans to add a compliance section for subsequent spills and will then distribute a clean version of the updated proposal. The TRG intends to confer internally and provide a single redline version of the proposal by May 15.

Review of 2018 Spill Down Ramping

Jay reported that, due to early April rain on snow events, the spill has started. They started tapering off the spill in 400 cfs steps after it reached 2000 cfs, but then flows jumped back up. Flows were at 2600 cfs during the field visit, so SCE expects to begin down ramping again soon. The initial steps varied a good deal in length, lasting from half a day to two days. SCE will report back at the next meeting.

Study Submission & Approval

USFS and Water Board reported on the progress of their 2017 NASMP study approvals. USFS’ letter has been drafted but remains in the approval process. Ann Roberts said she could draft an email articulating USFS approval and explaining the progress of the official letter.

The Water Board consulted with SCE management about whether they should prioritize the ALP 401 or the LTOR letter and were told to prioritize the ALP. Philip can also draft a letter stating that SCE has

addressed his comments and that the Water Board Management will send an official letter as time permits.

Jay explained SCE's plan to file the 2017 NASMP and 2018 Study Plan with the understanding that the other studies (e.g. stage discharge and stranding) are still pending and will need to be filed at a later date. Jay will follow up with Ann and Philip about filing deadlines and documentation he may need from them.

Discussion on Future Monitoring

Martin explained that their understanding, upon starting the LTOR process, was that they would do five years of monitoring, decide on the LTOR, and then start monitoring again five years out. Now, the TRG have requested monitoring in 2018, and then, once LTOR flows are implemented, monitoring annually to sample the first spill year and non-spill year (but for no more than 3 years) and every 5 years thereafter. SCE read the justification provided by the TRG for their monitoring proposal and do not agree with their reasoning for when and how much monitoring they want. SCE believes they have provided 10 years of baseline data, five of which show bass populations increasing and include spill years after which bass populations still rebounded.

SCE is offering six years of monitoring at whatever junctures the TRG decides upon, between now and 2039.

The TRG reviewed the reasons for their request for 2018 monitoring, namely that 2018 data could help answer questions that current data cannot, including:

1. What is the potential impact to native aquatic species from a high magnitude and prolonged spill with the presence of an established spotted bass population?
2. Does an established spotted bass population immediately (e.g., the next year) recolonize following a high magnitude/prolonged spill year?
3. Does the high magnitude/prolonged spill year provide the appropriate conditions to promote bass spawning the following year (fine sediments)? SCE conducted a bass spawning study in 2016 and found no bass nests. 2016 conditions did not have as much fine sediment available. Instead of requiring an additional bass spawning study in 2018, the TRG could use 2018 population data and numbers of YOY bass as a surrogate (understanding its limitations).

The TRG also reviewed the reasons for their request for LTOR monitoring.

Ron Goode, North Fork Mono Tribe, opined that the difference between the SCE and TRG proposals lies in what SCE believes its responsibility to be. The TRG's priority is the health of the natural resources not maximizing profit. Craig noted that most of the TRG's questions can be answered via studies next year; the difference is a matter of resolution – studies next year will not provide the same level of granular detail but will provide surety on whether the fish populations are staying steady.

Ann asked about the cost of fish monitoring as opposed to the full suite of studies. Martin explained that the fish population studies cost \$250,000, 75% of the total cost. Theresa Simsiman pointed out that the new LTOR eliminated SCE's obligation to monitor for whitewater boating, which reduces their costs.

Mike Harty pointed out that the difference in the two proposals is \$250,000 and legitimate technical differences of opinion on the added value of 2018 monitoring.

Philip noted that the license includes a 401 component that allows the Water Board, under TRG advisement, to extend the monitoring and evaluation period until they have sufficient data (License language: *If results of the first five years of monitoring, evaluation, and initial implementation are inconclusive due to insufficient observations during a range of water year types, the SWRCB may extend the monitoring and evaluation period until sufficient data are collected.*)

Craig floated the possibility of doing multiple years of only fish monitoring, since mussels and turtles have had less variability and can be tracked with much coarser scale data. Tiered monitoring scheduled have been used in other licensing agreements. Philip also observed that the more questions they can answer now, the fewer will need to be addressed during the next relicensing.

The group agreed that they have a clear understanding of the important issues with regards to monitoring from both SCE and the TRG perspectives. They agreed to put the issue aside for the time being and focus on the LTOR. SCE committed to sending out an updated schedule.

Whitewater Boating Definitions

The group edited the Whitewater Boating definitions in real time. The following issues were addressed:

- A bullet defining “flow variability” and prohibiting fluctuations in excess of 500 cfs within a day will be added.
- The need for boating opportunities to adhere to “flow variability” criteria will be added throughout the document.
- The bottom of the Whitewater Boating Flow Range will be revised to reflect the 2004 Navigability Study’s determination of what flows will support all craft types.
- Flow timing will be specified as measured at USGS 11242000 SAN JOAQUIN R AB WILLOW C NR AUBERRY CA.
- A bullet on “boating notifications” will be added with the following language:
 - In spill years, SCE will strive to provide notification two weeks prior to the start of the spill based on best available forecasting, as well as when SCE expects flows to enter the boating range.
 - In non-spill years, notification will occur as soon as possible but no later than two week prior to the release.
 - SCE website: <http://kna.kisters.net/scepublic/#>

Schedule Review & Next Steps

Wayne Lifton, Cardno, reported on progress on the regression analysis and committed to presenting results at the May meeting.

TRG MEETING NOTES
MAY 23, 2018

**Southern California Edison (SCE)
BIG CREEK 4 NASMP/AMP TECHNICAL REVIEW GROUP (TRG)
Long Term Operating Rules (LTOR) Call
May 23, 2018**

Meeting Summary

Time: 9am – 4:30pm

Location: Hotel Piccadilly, 2305 West Shaw Avenue, Fresno

Attendees: *In person:*

Jay Kimbler, SCE
Martin Ostendorf, SCE
Andrew McMillian, SCE
Stephanie Fincher, SCE
Craig Addley, Cardno
Wayne Lifton, Cardno
Ed Bianchi, Cardno
Theresa Simsiman, American Whitewater
Paul Martzen, Fresno Whitewater
Abimael Leon, CDFW
Eric Guzman, CDFW
Ron Goode, North Fork Mono Tribe
Philip Choy, Water Board
Ruth Sundermeyer, PG&E
Mike Harty, Kearns & West
Terra Alpaugh, Kearns & West

On phone:

Dave Steindorf, American Whitewater
Dennis Smith, USFS
Ann Roberts, USFS

**SCE Action
Items**

Action Items for May 23

- [TRG] will
 - Review the change from May 1 to May 15 as the first date of possible scheduled spill in a non-spill year; confirm it make sense.
 - Provide additional edits on the SCE's revised LTOR by June 7.
 - Further research minimum instream flows (MIF) and come prepared to present their position.
 - Decide whether they want to pursue peer review of the LTOR.
 - Provide all comments on the Experimental Flow Management Report, Stage Discharge Analysis, and Ramp Down and Stranding Technical Memo by June 29.
- [Ruth Sundermeyer] will:
 - Ask PG&E hydrographers if the upstream PG&E gauges on Willow Creek are representative of the Willow Creek flows coming into Horseshoe Bend.
- [SCE] will :
 - Research the following questions:
 - If downstream water users demand a hold on water, can SCE meet the boating flows during a non-spill year? If downstream water users want a different storage than that outlined in the

- schedule we identify for the year, what schedule do we use for releases?
 - When spikes occur during the recession at a point when flows are below 1200 cfs, would SCE be willing to implement a “subsequent spill” recession down from the spike to be protective against stranding?
 - What happens if SCE goes out of compliance when they are not in the boating range?
 - How to best calculate the daily average to accurately maintain flows in the established compliance range?
 - For outages through mid-October, would SCE be willing to down ramp by 150 cfs from either 3500 cfs or 1600 cfs? Or can they determine other ways to accommodate the TRG’s interest in boaters’ opportunistic use of outages and protect against stranding at the tail end of those spills?
 - Consider what components to include in LTOR introduction to provide context.
 - Include the functional purpose of the flows outlined in each schedule in the document.
 - Prepare analysis of when Willow Creek hydrology impacts Big Creek flows, and whether it can be expected to substantially impact flows during the period of interest.
 - Distribute spreadsheet showing how the proposed down ramping will be modified by Willow Creek inputs.
 - File the NASMP, 2018 AMP, and Forest Service letter of concurrence with FERC; then file a quarterly report by June 15.
- [Kearns & West] will:
 - Add the following items to the June agenda:
 - MIFs
 - Long term and 2018 monitoring
 - review of the next round of LTOR revisions
 - the conclusion of the presentation on the regression analysis
 - Willow Creek hydrology analysis
 - Distribute LTOR negotiation schedules discussed during the meeting.
 - Distribute the regression slides from Wayne’s presentation.
 - Schedule July and August meetings.

Meeting Convenes & Introductions

Mike Harty, Kearns & West, introduced the meeting objectives and agenda items, asking if the TRG would be open to reorganizing the agenda to discuss the LTOR comments first. The TRG agreed and added that they would like to address the time period covered by the LTOR (currently May 1 to Aug 31) as an additional item after walking through the draft LTOR.

Discussion of Draft LTOR Comments

Since the last meeting, the TRG reviewed SCE’s initial draft LTOR and provided comments, and SCE has made edits in response. Mike Harty asked TRG members to confirm that they are prepared to negotiate around a single text going forward; all the parties agreed.

The group walked through the draft LTOR document and discussed the suggested changes. Key questions and topics of discussion included the following:

- Cardno asked to start the period for releases on May 15, rather than May 1. They pointed out that, since they are basing the Schedule type on the May 1 forecast and providing two weeks notification to boaters before a planned release, the earliest they could provide a release would be May 15.
- Cardno clarified that non-spill years are based on the May 1 forecast; there is no way to know definitively whether it will actually be a non-spill year.
- Ron Goode, North Fork Mono Tribe, noted that there have been years where downstream water rights holders demanded water be held in storage and not released until later in the year. He asked whether, if that occurred, SCE would still be able to meet the boating flow commitments during a non-spill year. SCE clarified that that situation would not impact a spill year will research whether it could impact SCE's discretion during a non-spill year. They noted that long-term the changes in crops being grown could have impacts on when farmers call for water.
- TRG members suggested adding context about operations, so people reading the document in the future could more easily understand the system and its constraints. Cardno agreed to add an introduction with that kind of information. Similarly, the TRG felt it was important to clearly document the purpose of the flows outlined for each Schedule (e.g. for biota, boating, stranding protection).
- Mike Harty pointed out that there could be confusion over the word "schedule," since it is used in the document to refer to Mammoth Pool Schedule Types, to describe the planned timing for down ramping, and to describe planned ("scheduled") releases. He suggested clearly distinguishing these uses.
- The group worked to clarify language on notifications. They distinguished between notifications for spill and non-spill years: starting May 1, SCE will send weekly forecasts via email in all year types; for non-spill year releases, SCE will provide notice two weeks in advance. Notifications will be provided to both the whitewater boating community, agencies (so they can ensure compliance), and all other TRG members. The group agreed not to include FERC in the distributions, since to do so would make every notification an official filing. The notification language will be consistent with and link to the boating day definitions agreed on by the group.
- SCE described the reasoning behind their language describing how to down ramp in each schedule: (a) they used a range of flows to make it clear there is not a single compliance point; (b) the ranges differ in order to maintain a ramping rate of 1 in/hr at Willow Creek, which requires smaller steps at lower flows; (c) the schedule is designed to give boaters more days in the middle of the boating range, but SCE is happy to adjust flows in days 1-3 as desired – they simply do not want to be off AGC for more than 21 days. Paul Martzen, Fresno Whitewater, asked to maximize days in the 2500 to 2000 cfs range.
- Philip Choy, State Water Board, requested an addition to the LTOR: when there is a spike in flows during a recession at levels less than 1200 cfs, SCE will implement the subsequent spill recession as a protection for stranding. SCE and Cardno agreed to consider the addition after looking at historical hydrology to see how often a spike occurs in that range.
- Philip asked for the rationale for not down ramping spills under 500 cfs. Cardno explained that they needed some cut off point, and 500 cfs seemed reasonable. Paul Martzen agreed that 500 cfs is a safe number and that spill events that small are very uncommon.
- The document states that *"During down ramping within the boatable flow range (3,500- 1600 cfs), mean hourly flow between 9am - 4pm cannot drop below the minimum flow within each*

flow step.” The group wondered what happens if SCE goes out of compliance when they are not in the boating range. Cardno needed to consider the implications of that language.

- For the non-spill year section, the group added a bullet committing that any unanticipated spills outside the planned release will be ramped down according to the “Subsequent Spill” prescriptions.
- There was discussion of whether the “Subsequent Spill” recession should be initiated at 1600 cfs or 1200 cfs.
- The group struggled with how to best calculate the daily average to accurately maintain flows in the established compliance range at any given time. SCE/Cardno will develop a proposal.
- In response to concerns about releases to clear large woody debris, SCE added a section committing to provide 2 days advance notice for safety of boaters and to down ramp for stranding protection below 1600/1200 cfs.

Cardno committed to ensuring that all the edits were carried throughout the document as appropriate. The TRG will provide additional edits by June 7.

The TRG raised an additional item of concern: the draft LTOR currently covers the time period from May 1 to Aug 31 but not the rest of the year. During powerhouse outages, boaters often see the high flows and go out on the river; if those flows are cut off suddenly, they can be stranded. The TRG is particularly concerned about the period from September to mid-October, and would like to propose a 150 cfs per hour down ramp off outages that occur during this time period. TRG members identified language in the original license language (page 50) that suggests a 100 cfs down ramp in these kinds of cases; Wayne Lifton, Cardno, explained that after gate testing in 2011, 100 cfs was found to be impractical given the level of control of the gates.

Martin Ostendorf, SCE, reminded the TRG that if it is a planned outage, SCE would notify boaters so they know the time parameters when boating will be available and can avoid stranding. Therefore, he would not support a ramp down from 3000 cfs in October; however, he supported the idea of a ramp down from 1600/1200 cfs for biota/stranding. SCE and Cardno agreed to discuss the issue further to see how they can best accommodate the TRG’s interests.

Minimum Instream Flows (MIFs)

Philip Choy asked to discuss MIFs. He noted that the spills in the new LTORs address his main concerns, which were the relatively flat, unperturbed flows throughout the entire year (e.g. as seen in 2013, 2015). However, he would like to delve into the hydrology more before taking the issue off the table entirely. Ed Bianchi, Cardno, asked whether the TRG has additional information that would substantiate reevaluating the MIFs set during the last relicensing. Prior to that, MIFs were 10 cfs. He asked what the biological benefit of changing the MIFs would be.

Martin Ostendorf asked the TRG if they think there is a need for additional revision of the MIFs. SCE would like to keep the MIFs at 20 cfs. They also propose to remove the Willow Creek gauge and commit to releasing the full 20 cfs at Dam 7 (as measured at the gauge below the dam). Any flows from Willow Creek would be additional to the MIF. Martin reminded the group that any changes to the MIFs have significant cost implications; therefore, SCE will not be able to commit to the rest of the package agreement without resolution on the MIFs.

Paul Martzen noted that boaters use the combination of the Willow Creek and Dam 7 gauges to estimate flows in Horseshoe Bend. Without a Willow Creek gauge, it could be very difficult to make that assessment at certain times of year. Ruth Sundermeyer, PG&E, agreed to ask PG&E hydrographers if the upstream PG&E gauges are representative of Willow Creek flows as they come into Horseshoe Bend (i.e. whether or not they could be used as a substitute for the SCE Willow Creek gauge).

The TRG agreed to research MIFs more and to come back to the next meeting with a more defined position.

Long-Term/2018 Monitoring

Martin Ostendorf asked to defer further discussion on long term monitoring until the TRG has presented a MIF proposal, so that SCE can consider their requests in the context of the full package. He expressed his willingness to negotiate on long term monitoring and reminded the group they have until August to initiate the study process for 2018 with FERC. They can file a letter saying they are discussing fish studies and then file an amendment at a later date outlining the actual studies. Martin confirmed his understanding of the TRG's 2018 monitoring request as fish population studies (snorkeling and electroshocking) at the same six transects as in the past. He also noted that they could maintain the four temperature probes in place now (located below Redinger, in Willow Creek, below Willow Creek, and near BC4 Powerhouse) for continuous temperature measurements.

Eric Guzman, CDFW, expressed his disappointment that 2018 monitoring was being combined with long-term monitoring and MIFs. He described 2018 monitoring as important because of the unusually high flows of 2017, the rise in predatory fish, and the generally poor condition of the fish in the reach. Martin agreed to discuss the issue further at the June meeting.

Eric also noted that the discussions thus far have not given the TRG an accurate understanding of the actual hydrology in Horseshoe Bend, because the LTOR only account for water released at Dam 7, not any additional flows coming down Willow Creek. SCE reminded the TRG that they have no control over flows from Willow Creek, so they cannot plan for them. Paul Martzen said that, based on his personal experience with Willow Creek flows, it is much preferable for SCE to base their operations off readings at the Dam 7 gauge.

Ed Bianchi suggested that Cardno provide analysis in June identifying when Willow Creek flows are influential on hydrology in the reach and when they are not. Craig Addley said it would not be a factor most years, but could be influential in dry years; he committed to providing a spreadsheet showing how down ramped flows could be modified by Willow Creek inputs.

Schedule

SCE reported that they have done outreach to FERC about the LTOR, so FERC is aware of the process. SCE's current goal is to have general agreement on the LTOR by July, so that final edits can be made for a September submission.

SCE acknowledged that USFS requested peer review of the LTOR, but explained that process would significantly extend the implementation timeline, so that the new rules could not be executed until 2020 at the earliest. Philip Choy asked whether peer review was a FERC requirement in the license; Wayne Lifton clarified that it is offered as an option but is not a mandate. Ed Bianchi asked the group whether experts, approaching this process without context on objectives and constraints, could be expected to

develop a better set of rules than the TRG itself. The TRG agreed to make a decision about whether or not to proceed with peer review before the June meeting.

SCE reported on the status of other reports:

- For the NASMP and 2018 AMP, they have the USFS concurrence letter and are waiting for a letter from the Water Board.
- Since they missed the May 15 deadline, they must provide a quarterly update on the progress of review. They plan to file the first report June 15.
- They will wait and file all the reports—Experimental Flow Management Report, Stage Discharge Analysis, and Ramp Down and Stranding Technical Memo—together. The agencies committed to providing all comments by June 29.

Regression Analysis

Wayne Lifton presented the preliminary results from the regression analysis requested by the TRG. He used stepwise regression to see which of the independent variables best describes fish abundance and density. Wayne explained that site by year analysis of the data (9 years of data across six sites) provided the most insight and described the challenges of working with such highly correlated data. In his conclusion, Wayne emphasized the crucial importance of water temperature on survival and identified spill as a factor of secondary importance. He said he would share his final conclusions at the June meeting. For more details, see PowerPoint slides.

TRG MEETING NOTES
JUNE 13, 2018

**Southern California Edison (SCE)
BIG CREEK 4 NASMP/AMP TECHNICAL REVIEW GROUP (TRG)
Long Term Operating Rules (LTOR) Call
June 13, 2018**

Meeting Summary

Time: 9:30 am – 4:00 pm
Location: Piccadilly Inn Airport, 5115 E. McKinley Ave, Fresno 93727
Attendees: *In person:* Jay Kimbler, SCE
Martin Ostendorf, SCE
Andrew McMillian, SCE
Craig Addley, Cardno
Ed Bianchi, Cardno
Theresa Simsiman, American Whitewater
Paul Martzen, Fresno Whitewater
Abimael Leon, CDFW
Eric Guzman, CDFW
Dennis Smith, USFS
John George, USFS
Philip Choy, Water Board
Mike Harty, Kearns & West
Terra Alpaugh, Kearns & West
On phone: Ruth Sundermeyer, PG&E
Wayne Lifton, Cardno
Stephanie Fincher, SCE

**SCE Action
Items**

- SCE will:
 - Compete and distribute regression analysis report (WAYNE, *eta by July 9*)
 - Revise boater day definitions so that the values in the “Acceptable Average Hourly Flow Variation” table match those in the LTOR. (ED/CRAIG)
 - Revise LTOR, including all the inline edits discussed during the meeting as well as the following items (CRAIG/ED, *new draft to TRG by July 30*):
 - Introduction text
 - Refined language on emergency release for flushing woody debris
 - Language confirming that if/when the Dam 7 infrastructure is fixed to allow lower MIFs, SCE will install temperature probes, monitor, and reopen consultation with the TRG
 - Language outlining long term monitoring plan
 - Provide Ann Roberts with details on SCE’s eDNA methods and site selection for monitoring.
 - Develop a model of water temperature throughout Horseshoe Bend to determine whether it rises linearly between Dam 7 and Plant 4 (ED/CRAIG)
 - Draft a 2018 Fish Population Study Proposal (WAYNE)
 - *Circulate to TRG by June 27*
 - *TRG comments by July 18*
 - File NASMP, 2018 Experimental Spill Recession Proposal, and USFS letter with FERC *by 6/23*
- Water Board will:

- Finish letter for NASMP submission to FERC
- Begin a letter for 2018 Study Plan submission to FERC
- TRG will:
 - Provide comments on all outstanding studies by *June 29*
 - Provide all comments on Fish Pop Study Proposal by *July 18*
 - Review July 30 Draft LTOR before August 21 Meeting; if possible, provide comments to SCE in advance

Introductions and Welcome

Mike Harty, Kearns & West, introduced the agenda items. He noted that there are currently two versions of the draft LTOR – a May version with TRG comments and a revised-since-May SCE version. The goal is to produce a unified document leaving today’s meeting.

Regression Analysis

Wayne Lifton, Cardno, reviewed the key takeaways from the regression analysis presented at the last meeting. The analysis revealed that, in general, the density of native species had a positive coefficient with warm summer temperatures. Wayne noted that some species’ numbers were positively correlated with spotted bass, which he said does not suggest that spotted bass are good for the native species but rather that both are positively correlated with something else.

Wayne is finishing up a report on the regression analysis and expects to distribute it within a few weeks.

Discussion of Draft LTOR Comments/Revisions

Since the last meeting, the TRG reviewed SCE’s draft LTOR and provided comments, and in parallel, SCE made edits based on conversations at the May meeting. The group agreed to walk through the two documents side by side to discuss SCE’s revisions and make additional changes to the SCE draft based on TRG comments.

Key questions and topics of discussion included the following:

- Cardno has added section numbers and a placeholder for introductory text, which will include descriptions of operations, average San Joaquin River runoff, Big Creek aggregate storage capacity, the Mammoth pool contract, and the purpose/intent of each flow schedule and down ramping event in the subsequent sections.
- Section 2 (2.0-2.5) now covers all spill and down ramping schedules.
- The previous version’s language allowed for situations where a small spill early in the year would be down ramped with the extended recession but given its size, might not provide boating flows. A larger second spill would then be down ramped according to the faster “subsequent spill” schedule – thereby resulting in no boating days. Cardno has added language in all the spill schedules to ensure that the longer down ramping schedule will be applied to the larger projected spill. They have renamed the “subsequent spill” schedule to “stranding protection down ramping” to reflect that, on some occasions, it will be applied to a first, smaller spill.
- The Water Board requested that the bullets defining spill and non-spill years within Section 2.0 be grouped separately with clarifying sub-headers.
- In Section 2, Cardno specified that a spill year requires that average daily flow below Dam 6 be projected to exceed 500 cfs AND that a spill of more than 500 cfs actually occurs. TWG members

asked how they are categorizing years where a spill is projected but ultimately, one does not occur. Cardno believes those years are covered within the language for non-spill years.

- The group agreed to add clarifying language to the notifications bullet, confirming that notifications will be available publicly on SCE's website and that any successor paddling organization to American Whitewater on the TRG will be added to the distribution list.
- Cardno noted that there was concern that as flows are falling, SCE could let the flows drop too low before they notice the error; this was largely a concern at the lower flow ranges. They made several adjustments to address this concern:
 - They added language that if the flow drops below the minimum flow in a down ramping flow step, then the Licensee shall increase flows as soon as possible, maintain flow for that day, and repeat the down ramping step according to the schedule for the following day. The group requested a clarifying footnote that "The total number of days within each step and flow range will be maintained such that each day that is out of the flow range will be repeated."
 - In addition, if a Schedule A-D spill does not provide boating days, SCE will augment the releases to provide them. SCE will make a good faith effort to provide the boating flow at the beginning of the spill.
 - In Section 2.5 for Stranding Protection Down Ramping, SCE will initiate a down ramp once daily average flows decline below 1,600 cfs and will make their best faith effort to do so before the flows decline below 1200 cfs.
- The Water Board asked for clarification regarding the time step for the compliance point. Cardno explained that the language is confusing: data arrives at 15 min intervals, but SCE will use an average of four measurements for an hourly compliance point. They will add language explaining this at the beginning of the document.
- Cardno added Section 3.1, which defines a down ramping schedule for spills between September 1 and October 5 in order to address concerns about stranding of fish and boaters. Paul Martzen, Fresno Whitewater, noted that he would prefer the prescriptions be applicable to any spill event. Philip Choy, State Water Board, suggested extending the end date to October 31 to protect late spawning fish after a wet year. SCE agreed to consider that in their next round of revisions.
- Cardno revised section 3.2 for Large Woody Debris (LWD) Spills to include emergency notifications. The TRG discussed including an emergency clause that states the SCE will always attempt to do these releases outside the ramping periods, but in emergency cases, it might release during potential boating hours. Cardno agreed to revise this section accordingly.
- Cardno will add a section outlining monitoring commitments, including timing and methods.

Cardno will incorporate the changes discussed at the meeting and ensure that all the changes are reflected consistently throughout the document. They will provide this updated document by July 30.

CDFW and USFS noted that the State is required to make a determination on whether to list the Foothill Yellow-Legged Frog (FYLF) as a threatened species under the California Endangered Species Act by June 27. If FYLF is listed and Big Creek is identified as critical habitat, it would affect the agencies' approach to ramping rates, which tend to be much slower in areas protective of the frogs. Another concern, the May releases in non-spill years described in the LTOR would be during the spawning period. Martin Ostendorf, SCE, asked whether they would be exempt if they did surveys and did not find FYLF in the area. Dennis Smith, USFS, explained that CDFW will consider transplanting FYLF into listed critical habitat even if they are not currently present.

Finalize and Agree on Boater Day Definitions

The TRG agreed that the changes to the Boater Day Definitions reflect their earlier discussions. The only revision still remaining is to make the values in the “Acceptable Average Hourly Flow Variation” table match those in the LTOR.

Minimum Instream Flows

Ed Bianchi and Craig Addley, Cardno, explained that minimum instream flows (MIFs) defined by the current license are 20 cfs, 15 cfs of which must be released at the dam and 5 cfs of which can come from Willow Creek outflows. Prior to this license, MIFs were set at 3 cfs. In response to TRG questions, Cardno explained the genesis of the 20 cfs standard. In 1985-1986, SCE considered adding additional generation to the Big Creek system, so they did numerous fisheries, instream flow, and water temperature studies. While SCE ultimately decided that the changes were uneconomical, they were able to use the instream flow and water temperature data to inform the relicensing application filed in 1994.

At that time, there were hardhead in the bottom of the reach and trout in the top, and the resource agencies wanted to manage to maintain both those populations. Therefore, they needed cooler water temperatures at the top of the reach and warmer temperatures at the bottom. SCE used a temperature model to determine what temperature conditions to expect down the reach at different flows (e.g. 20 cfs vs 40 cfs); that model suggested that 20 cfs allowed average temperatures at the bottom of the reach to rise above 20 degrees C. They also did an instream flow study to generate suitability curves for hardhead and pikeminnow; they found that habitat increases with flow for adult fish, but for juvenile fish, habitat decreased with higher flows. They consulted Peter Moyle and the work of several other researchers, including Knight, Thompson, and Check, which generally suggested that hardhead prefer average temperatures above 20 degrees C. Therefore, their goal was to establish average temperatures at the center of the reach of about 20 degrees – cooler above and warmer below. These analyses formed the basis for their decision to set MIFs at 20cfs.

Craig also observed that the spotted bass should like even higher water temperatures than hardhead; therefore, for controlling bass populations, lower temperatures are likely better, but they cannot be too low or the hardhead habitat will disappear.

Craig described plots of 2017 average water temperatures. Just below the dam, temperatures in August averaged 16-18 degrees C; halfway down Horseshoe Bend East, they were 20 degrees; and at Powerhouse 4, they were 21-22 degrees. He observed that high flow events tend to cool the whole reach.

The TRG shared the following initial perspectives and questions:

- The Forest Service would like to manage the stream for native species and to decrease spotted bass populations. While some of that can be done via temperature management, spotted bass can handle cooler temperatures, so they are unlikely to be eliminated completely. CDFW noted that the key is to make conditions as ideal as possible for native species, since you cannot eliminate spotted bass. Cardno believes that the new ramping prescriptions will be creating those best case conditions.
- TRG members agreed that they wanted the top of the reach to stay hospitable to trout and then to transition to a mixed species fishery. SCE observed that, under the current MIFs, they are

meeting that objective. Dennis Smith, USFS, noted that tools now exist that would allow SCE to fine tune releases for droughts and heat storms by adjusting magnitude, timing, and duration of releases.

- Typically, CDFW's recommendations for MIFs are 20-30% of mean annual flow.
- USFS felt that retaining the 20 cfs MIF does not allow SCE to effectively manage for temperature. Rather than setting a constant MIF, SCE could manage for thermal mass, i.e. vary the flow depending on the weather in order to maintain desired water temperatures. They shared that in other relicensings, they are setting MIFs for six different water year types. CDFW agreed that a baseline flow is not ideal and that instream flow should follow the natural hydrograph to be beneficial to the fishery. Paul observed that, given that side streams add insignificant flow to this reach during the summer, water year type (e.g. drought) might not make a huge difference here. Instead, air temperature would be the driver for water temperature.
- USFS noted that a key question is where to put the set point in the river so that it is cold above and warm below. They wondered whether the license identified a set point in the river at which to maintain 20 degrees. No one present knew. However, Paul Martzen, Fresno Whitewater representative, observed that there is a temperature transition zone that shifts depending on the season.
- CDFW asked whether trout spawn in the reach. Cardno explained that there could be spawning in the reach, but it is not clear. Trout do come over from Redinger Lake and regularly come down Willow Creek.

Paul Martzen, Fresno Whitewater, observed that while the license-mandated MIF is 20cfs, SCE has consistently released more. SCE agreed that since 2007 to 2013, MIFs averaged 30 cfs and since 2013, they have averaged 40 cfs. They have released more than necessary because of the condition of the bypass pipe which can only operate in a fully open or fully closed position. Ultimately, SCE does plan to fix the pipe so it can make 20 cfs releases. The TRG asked about the fish water generator as a way to make MIF releases, but SCE explained that it relies on electricity to run, so if it trips, they would go out of compliance.

The TRG observed that all the recent temperature data is based on higher releases than the 20 cfs MIF. If releases were 20 cfs, the reach could get too warm, especially in drought years, to maintain the target fishery.

The TRG and SCE agreed to postpone any revision of the MIFs until SCE fixes the bypass pipe. Those infrastructure repairs will trigger temperature monitoring with five temperature probes; after several years of monitoring, including drought years, the TRG will consult on the need for revisions to the MIF. Cardno will draft language to this effect for the TRG to review for inclusion in the LTOR.

Other Items of Discussion

Philip Choy, Water Board, asked about the potential public safety need to moderate ramp up rates, pointing to the recent drowning in the Kerckhoff reach. Jay Kimbler, SCE, said that SCE is reviewing the issue, including appropriate flows and notifications to downstream members of the public, internally as a component of their emergency action plans. Paul Martzen observed that that issue is more of a concern at Kerkhoff, because it has a fast initial release (i.e. the gates tend to over release) and is a very narrow reach.

Long Term Monitoring and 2018 Study Plan

SCE asked for a confirmation of their understanding of the TRG monitoring request. The TRG have requested fish population monitoring in 2018, and then, once LTOR flows are implemented, monitoring annually to sample the first spill year and non-spill year (but for no more than 3 years) and every 5 years thereafter. Once the LTORs are implemented, all the monitoring will consist of a full suite of studies and eDNA. Ann Roberts, USFS, asked for the opportunity to review the eDNA methods and sites.

For water temperature monitoring, SCE will do continuous monitoring at the existing gauge at the top of the reach and at an additional location above Powerhouse 4 for an entire year. They will have to obtain a permit for the lower site and use a self-contained unit. From this data, they will be able to extrapolate a model for temperature within the entire reach. They will need to assess whether past temperature data from throughout the reach reflects a linear response from top to bottom. Based on that information, they can determine whether spot checks in the middle of the reach are needed occasionally to assess the accuracy of the model.

SCE agreed to the TRG's monitoring requests. The long term monitoring agreement will be integrated into the LTOR text, along with commitments to an annual report and consultation, including meetings in the monitoring years. The 2018 study plan will be filed as a separate document. Martin Ostendorf, SCE, did clarify that implementation of long term monitoring will start along with implementation of the spill recession, which could be delayed to 2020 depending on the speed of FERC approval.

Schedule

The TRG decided not to pursue peer review at this time, but to leave the option in the LTOR language in case they see any significant changes in the future, particularly evidence of frogs.

SCE reported that they plan to file the NASMP, 2018 Experimental Spill Recession proposal, USFS letter, and progress update to FERC by June 22. Philip Choy reported that the Water Board letter is almost ready to send.

Wayne Lifton will draft a 2018 Fish Population Study Proposal and circulate it to the group within 2 weeks. SCE will then ask for TRG review by the end of July. The Water Board will provide an additional letter for the 2018 Fish Study. SCE will plan to file the study proposal along with all the other outstanding studies in August.

Cardno will provide a new draft of the LTOR to the TRG by July 30.

TRG MEETING NOTES
AUGUST 21, 2018

**Southern California Edison (SCE)
BIG CREEK 4 NASMP/AMP TECHNICAL REVIEW GROUP (TRG)
Long Term Operating Rules (LTOR)
August 21, 2018**

Meeting Summary

Time: 9:30 am – 4:00 pm
Location: Piccadilly Inn Airport, 5115 E. McKinley Ave, Fresno 93727
Attendees: *In person:* Abimael Leon, CDFW
Jay Kimbler, SCE Eric Guzman, CDFW
Martin Ostendorf, SCE Dennis Smith, USFS
Andrew McMillian, SCE John George, USFS
Stephanie Fincher, SCE Ron Goode, North Fork Mono Tribe
Craig Addley, Cardno Philip Choy, Water Board
Ed Bianchi, Cardno Mike Harty, Kearns & West
Wayne Lifton, Cardno Terra Alpaugh, Kearns & West
Theresa Simsiman, American Whitewater
Ruth Sundermeyer, PG&E *On phone:*
Paul Martzen, Fresno Whitewater Dave Steindorf, American Whitewater

- Action Items**
- [Kearns & West]
 - Provide TRG list, including tribal representatives, to Cardno (DONE).
 - [SCE]
 - Review timeline for FERC submission, including approval letters from USFS and SWRCB.
 - [Cardno]
 - Provide graph of water temperatures down the reach for another water year type (2016 was shown in the meeting).
 - Provide revised LTOR to TRG by Friday (DONE).
 - Draft a rationale for why the LTOR do not need CEQA analysis.
 - [TRG]
 - Review revised LTORs and provide comments in advance of 8/28 meeting.
 - [USFS]
 - Determine whether a license amendment is need for 4(e)s.

Introductions and Welcome

Mike Harty, Kearns & West, introduced the agenda items. Dennis Smith, USFS, explained that key USFS staff have been on fire duty; as a result, he is not prepared to make any final commitments today before they all have the opportunity review the latest LTOR language.

Jay Kimbler, SCE, explained that the newest draft of the LTOR do not address the Willow Creek stream gage, because SCE has decided to continue to maintain it as-is, rather than pursuing removal or other changes.

Discussion of Draft LTOR Comments/Revisions

Since the last meeting, SCE circulated revised LTOR, and the TRG provided comments. Craig Addley, Cardno, presented an LTOR version with those comments as well as additional SCE edits in response.

Key questions and topics of discussion included the following:

- Cardno plans to include a reference table that includes all the titles of the studies done as part of the Big Creek 4 LTOR efforts.
- SCE clarified the infrastructure for minimum releases: the fish water generator can release via the tailrace or a bypass pipe in order to provide minimum releases. Currently, all releases are being made via the bypass pipe.
- TRG members pointed out that defining spill/non-spill years is heavily dependent on SCE forecasting, so forecasts should be identified as a Project constraint and the forecasting methodology should be explained. SCE agreed to list inflow forecasting as a constraint; they preferred not to describe detailed methodology in the document since their methods continue to evolve. SWRCB instead asked to include language in the consultation section stating that as part of compliance, SCE will report annually on how accurate its forecasting has been, so that the TRG can request further consultation on the topic if SCE forecasts are inaccurate.
- SWRCB encouraged SCE to include the concept of doing adaptive management via ongoing consultation; the concept has significant internal support at both SWRCB and FERC. Cardno and SCE were concerned that there is not a single accepted definition for “adaptive management”, so it could be easily misinterpreted, but agreed to address it somehow in the consultation section.
- SWRCB pointed out that the introductory language in Section 2.0 appears to be missing one potential scenario. I.e., if a spill is not projected but a spill does occur, the year is still categorized as a non-spill year and a scheduled spill will be provided; the natural spill that occurs afterward will be down ramped according to the stranding spill criteria. SCE agreed to provide a footnote explaining that scenario and pointing readers to the schedules outlined in Sections 2.4 and 2.5.
- Safety. SCE described their planned web and email notifications for spills. In addition, they usually post signage and have an annunciator that alerts users directly below the dam; however, it does not sound all the way down the reach. USFS explained that their #1 priority is public safety, and they are concerned that non-boating users (e.g. fishermen) will not look at the website and be caught in a ramp up for a boating release. USFS noted that when they close an area for fire, they do a full physical sweep of the area looking at known use areas, parking areas, etc. SCE explained that the topic of public safety is being discussed throughout SCE: they are considering installing additional sirens and signage along general access points for reaches with high recreational use. SCE clarified that precautions like signage are useful for planned releases but not for unplanned spills (e.g. those due to an unplanned outage or Cal ISO cycling).
- Similarly, the TRG asked that safety notification language be added to Section 3.2, Large Woody Debris. SCE agreed to notify via email and website, as well as signage or personnel at the parking lot in advance of large woody releases that occur during a scheduled spill period.
- The North Fork Mono Tribes asked for the local tribes to be added explicitly to the notification distribution list (rather than simply as part of the TRG).
- SWRCB requested an adjustment to the stranding recession: as flows reach the bottom end of the down ramp, they occasionally can bounce back up above 1600 cfs. Currently, SCE’s proposal is to let them fall back to the point from which they bounced up and then resume the down ramp. SWRCB would like SCE to catch the flows at 1600 cfs and downramp again from that

point. SCE voiced their concern that flows could be difficult to catch, which would put them out of compliance. They are required to report every compliance violation to FERC. CDFW asked if there is a way to integrate a “good faith effort” to catch spikes at 1600 cfs and down ramp without triggering a compliance violation if SCE cannot operationally implement this. SCE also questioned the biological benefit of the SWRCB’s request and observed that the SCE proposal reflects the natural hydrograph, which can include abrupt spikes in flow. SCE and TRG agreed to a test period of a year or two to (a) see if they can implement the rules agreed to thus far, (b) examine any subject spikes and the rate of recession, and (c) reconvene to adjust the rules for biological impacts if needed. They will add language to the consultation section to reflect this.

- SCE agreed to extend the fall down ramp schedule outlined in Section 3.2 through October 31.
- Since the process for any changes to the Minimum Instream Flows will remain consistent under the LTORs, SWRCB believes that they can get approval from their Deputy Director to bypass a License amendment under 401s. USFS needs to confirm whether they have a similar option or whether the 4(e)s will need to be amended.

Discussion of Monitoring Plan

Since the last meeting, SCE circulated a LTOR Monitoring Plan, and the TRG provided comments.

Cardno described some of the water temperature relationships observed in the reach: the water immediately below the dam warms slowly throughout the year; temperatures increase where Willow Creek flows into the reach; just upstream of Powerhouse 4, temperatures tend to vary. The amount of warming as the water goes down the reach changes depending on the water year and the season. In the summer, temperatures increase quickly down the reach, but at other times of year, the temperatures are relatively constant. Because of these variable relationships, SCE is proposing continuously monitoring water temperature at the gage below the dam and placing additional temperature gauges at appropriate spots throughout the reach during monitoring years.

Cardno listed the sites they have monitored for water temperature in the past: the gage below the dam, in Willow Creek, below Willow Creek, at Horseshoe Bend East, at Site 4, and above Powerhouse 4.

Cardno observed that the period between May 1 and October 31 is the most important to characterize the growing season for fish. This is the period they would like to target with their recorders (though they will leave them in during the wintertime, the data is not as reliable).

Key questions and topics of discussion included the following:

- SWRCB would like a second site logging continuous water temperature data to be located just above Powerhouse 4. Annual water temperature monitoring at the top and bottom of the reach will allow them to accurately monitor whether the new operations change temperature in the reach as a whole.
- Abbreviations throughout the document and the reference section need to be updated.

Outstanding Items & Schedule

SCE reported on their call with Steve Hawking at FERC on July 23rd regarding the need for NEPA analysis of the LTOR. On that call, SCE described how NEPA analysis was completed during the original relicensing and 4(e)s and 401s were established. Mr. Hawking agreed on a preliminarily basis that the LTORs will not create any additional adverse conditions to evaluate above and beyond those analyzed in

the original NEPA documents; as such, the completed NEPA analysis is adequate. SCE intends to make its filing of the LTOR along with a robust consultation record and a statement about why the operational changes will have no adverse impacts.

Dennis Smith, USFS, noted that he will need to talk to his management to determine whether a license amendment is necessary to change the 4(e)s.

Philip Choy, SWRCB, informed the group that his management believes that CEQA analysis is necessary and that they would act as the lead agency. However, Phil is willing to present his management with rationale for why CEQA is not necessary given that the project changes are intended to be more protective of the environment than the status quo. SCE agreed to support the effort and draft a rationale document for SWRCB. If SWRCB agrees that CEQA is not necessary, SCE will share the same document with FERC.

At the next meeting, SCE will confirm the deadline for approval letters on the LTOR and study concurrence to FERC.

TRG MEETING NOTES
AUGUST 28, 2018

**Southern California Edison (SCE)
BIG CREEK 4 NASMP/AMP TECHNICAL REVIEW GROUP (TRG)
Long Term Operating Rules (LTOR)
August 28, 2018**

Meeting Summary

Time: 9:30 am – 4:00 pm

Location: Piccadilly Inn Airport, 5115 E. McKinley Ave, Fresno 93727

Attendees: *In person:*

Jay Kimbler, SCE

Martin Ostendorf, SCE

Andrew McMillian, SCE

Stephanie Fincher, SCE

Ed Bianchi, Cardno

Wayne Lifton, Cardno

Theresa Simsiman, American Whitewater

Paul Martzen, Fresno Whitewater

Abimael Leon, CDFW

Eric Guzman, CDFW

Dennis Smith, USFS

John George, USFS

Ron Goode, North Fork Mono Tribe

Philip Choy, Water Board

Mike Harty, Kearns & West

Terra Alpaugh, Kearns & West

On phone:

Dave Steindorf, American Whitewater

Ruth Sundermeyer, PG&E

Craig Addley, Cardno

Action Items

- SCE will:
 - Coordinate with PG&E to reduce flows during the monitoring period this year.
 - Discuss the feasibility of ramp up rates with SCE legal and operations.
 - Send letter requesting concurrence on 5 outstanding studies from USFS and SWRCB
 - Send SWRCB draft language justifying why new CEQA analysis is not necessary
- Cardno will
 - Make the following updates to the draft LTOR:
 - Address concerns about safety during ramp ups.
 - Add reporting section.
 - Make sure the usages of “average flow” (hourly, daily, etc) are clear and consistent.
 - Address when the May to Aug timeline and when the May to Oct timeline applies to bullets in the Large Woody Debris section.
 - Check all footnote numbering in the document
 - Add a list of studies as Appendix A
 - Confirm that literature cited in document is consistent with references list.
 - Develop an alternative proposal for how to monitor water temperature in the reach that addresses TRG and SCE concerns
 - In the 2018 Monitoring Proposal, include agreement to defer monitoring for the year if flows are greater than 100cfs during the monitoring period.
- KW will:

- Send USFS the 5 outstanding studies they need to comment on [DONE].

Discussion of Draft LTOR Comments/Revisions

Since the last meeting, SCE circulated revised LTOR, and the TRG provided comments. Craig Addley, Cardno, presented an LTOR version with those comments as well as additional SCE edits in response.

Jay Kimbler, SCE, explained that the newest draft of the LTOR do not address the Willow Creek stream gage, because SCE has decided to continue to maintain it as is, rather than pursuing removal or other changes.

SCE walked the group through the various potential spill year/non-spill year scenarios covered by the LTOR. As they approach the start of the water year, SCE can (1) forecast a spill, make a decision about the water year type, and use the schedule for that year type to down ramp from the spill; (2) forecast a spill of less than 2000 cfs, increases flow during the spill to get above 2000 cfs to provide two days of boating opportunities, and then down ramp according to the schedule for that water year type; (3) forecast no spill, schedule a boating spill between May 15 and June 15, and down ramp using the non-spill year down ramp; or (4) forecast no spill and provide a boating opportunity spill, but then experience a natural spill and down ramp according to the stranding protection criteria. The fifth potential scenario is if SCE forecasts a spill but it does not occur by June 15, at which point SCE is out of the spill period during which they could provide a boating flow. At that point, they would need to examine their forecasting methodology and revise LTORs as appropriate.

SCE described their notification protocol for increased flows: in a non-spill year, where all releases are scheduled, there will be at least a week of advance notification. SCE can also commit to posting signs a week in advance. In a spill year, where SCE is augmenting natural spills to meet the 2000 cfs boating threshold, there is considerably less notice because exact volume of flows can be hard to predict in advance. Therefore, in spill years, they may not be able to adhere to seven days advance notice.

USFS raised concern that the safety precautions in the LTOR are not sufficiently protective of recreationists who might be in the reach during a ramping up event. They feel emails and signage are not adequate to warn all types of recreationists of the danger. USFS would prefer if SCE committed to checking all parking lots and access points before beginning a spill/ramp up. They clarified that they are not asking SCE to guarantee that no one is in the reach, just to do a broader sweep. Tribal and Cardno representatives observed that there are private access points on the South side where SCE cannot put up signs or check for cars. Ron Goode, North Fork Mono Tribe, suggested that SCE post signage about spills on the road at the San Joaquin River Bridge in order to notify all communities around the area.

SCE committed to reviewing these requests with their legal department and presenting options at the next meeting. USFS also suggested starting increases at night when no one is in the reach. CDFW suggested mandating slower ramp up rates; a local Fresno boating representative noted that only the first couple hours of ramping (i.e. MIFs to somewhat higher flows) impact safety. SCE clarified that changing ramp up rates would require going back to SCE management and legal since that would constitute a major change in operations.

Other questions and topics of discussion included the following:

- SCE clarified that the TRG and boating stakeholders will provide weekly notification by posting to a website the potential for a spill.

- Footnotes need to be checked for consistency.
- SCE reminded TRG members that some of the time steps in the ramping schedules are inconsistent, because they were lengthened where there were opportunities to extend the boating day.
- There are many references to “average hourly flow”, “daily average flow over/during a time step,” etc. These need to be made consistent throughout the document with clear definitions.
- SCE agreed to extend the LWD down ramp through October 31, though it does not anticipate having releases in the fall. The LWD section needs to be revised to reflect this extended time frame.
- SCE agreed to include a reporting section which will outline how SCE will track compliance of the LTOR. The TRG requested an annual report describing the accuracy of the the forecast, the prior year’s performance according to the rules, flow and temperature data for the year, dates of notifications, and any general issues/challenges with compliance.

Discussion of Monitoring Plan

The TRG’s discussion regarding the monitoring plan focused on the location and timing of proposed water temperature monitoring. SCE proposed monitoring water temperature continuously at the gage below the dam and during years 1, 2, 3, and 5 and at five year intervals thereafter at the other selected locations along the reach. SWRCB requested continuous annual monitoring at one additional site – the proposed logger above Powerhouse 4.

Philip Choy, SWRCB, referenced Cardno’s description of water temperature in the reach, in which they said it can be hard to establish a consistent linear relationship between upstream and downstream temperature. Without the downstream data, SWRCB believes it will be difficult to understand how water temperature may be impacting whatever changes are seen in the biota. Data every five years will not be sufficient for understanding the impacts of climate change and changes to upstream project operations on the reach’s biota. Ron Goode, North Fork Mono Tribe, observed that the reason climate change projections continue to vague at a local resolution is the lack of good local data. Eric Guzman, CDFW, reminded the group that the FYLF could be listed, and temperature is a limiting factor for frog species.

SCE noted that, under this plan, they will be collecting data in years 1, 2, 3, and 5. At that point, the TRG has the opportunity to reevaluate this monitoring schedule and whether it is delivering relevant information and make adjustments accordingly. Based on the water temperature data collected as part of these proceedings, SCE does not see evidence that water temperature in the reach is impacting fish survival, and the proposed operational changes in the LTOR will only impact 1/12th of the total year. SCE does not want to make a 30 year commitment without more information on the basis for the requirement or how useful this additional monitoring may prove.

TRG members would like SCE to make the commitment to downstream temperature collection for the remainder of the license. SWRCB and USFS stated that up and downstream, annual water temperature monitoring is now the norm in most of their licenses. Though they believe that the LTOR will benefit the reach, the water temperature data will help them confirm.

SCE proposed doing annual monitoring at the top and bottom of the reach but removing the proposed middle sites in the monitoring years. The TRG was concerned that this would eliminate important

information about changes in the middle of the reach. Cardno agreed to assess solutions that will provide the most resolution on water temperature at the lowest cost and present at the next meeting.

The group also agreed that they will defer fish sampling if the conditions are not suitable (i.e., flows are greater than 100 cfs) in a designated monitoring year. In this situation, they will get concurrence to defer from SWRCB, USFS, and CDFW and notify the full TRG. In order to avoid these situations whenever possible, they will make a good faith effort to coordinate with PG&E. Jay Kimbler, SCE, agreed to reach out to PG&E to discuss flows for monitoring this fall.

Outstanding Items & Schedule

The TRG discussed the timeline for an LTOR submission. USFS and SWRCB stated that they could provide letters of concurrence by late September. The LTOR package will need to include LTOR, rationale to address NEPA, the consultation record, approval letters from the conditioning agencies, and SWRCB's CEQA rationale. SCE will send SWRCB an explanation of why they do not believe the LTOR will result in adverse impacts and trigger CEQA analysis. If SWRCB agrees, they will file with FERC at the end of October. If they do have to do an official negative declaration under CEQA, it will probably require an additional two to six months to process.

USFS will review and comment on the five outstanding studies.

The TRG will convene again in early September to discuss the final edits to the LTOR and the two major outstanding items, safety notifications and water temperature monitoring.

TRG MEETING NOTES
SEPTEMBER 12, 2018

**Southern California Edison (SCE)
BIG CREEK 4 NASMP/AMP TECHNICAL REVIEW GROUP (TRG)
Long Term Operating Rules (LTOR)
September 12, 2018**

Meeting Summary

Time: 9:30 am – 12:00 pm

Location: Call & Webinar

Participants:	Jay Kimbler, SCE	Abimael Leon, CDFW
	Martin Ostendorf, SCE	Eric Guzman, CDFW
	Stephanie Fincher, SCE	Dennis Smith, USFS
	Ed Bianchi, Cardno	Ann Roberts, USFS
	Craig Addley, Cardno	John George, USFS
	Wayne Lifton, Cardno	Ron Goode, North Fork Mono Tribe
	Ruth Sundermeyer, PG&E	Philip Choy, Water Board
	Theresa Simsiman, American Whitewater	Terra Alpaugh, Kearns & West

- Action Items**
- SCE will:
 - Send out letter requesting concurrence on outstanding studies [SENT 9/13].
 - Develop a proposed approach/methodology for how they could evaluate safety concerns/solutions around stage-discharge/ramp up rates and share it with the TRG in ~1 week (~9/21). *(Note: SCE will make its best effort to meet this deadline but could be delayed)* [DONE]
 - Cardno:
 - Will update the LTOR and Monitoring Plan with the edits discussed and recorded on the call.
 - USFS and SWRCB will:
 - Provide letters of concurrence on outstanding studies.
 - Philip Choy will:
 - Vet the approach with SWRCB management that the approval letter for the LTOR to FERC include language that their approval is contingent on CEQA rationale (or CEQA document, if required) to be submitted later
 - Vet the timeline for CEQA with SWRCB management (both (a) how long SCE would have to provide rationale after filing the LTOR with FERC, and (b) how long the CEQA process would take if SWRCB determined that the rationale is inadequate)
 - Provide proposed language for Section 3.2 to make it consistent with the extended May to October 31 timeframe. [DONE]
 - Send all his edits to the updated draft in track changes. [DONE]

CEQA Next Steps + 2017 NASMP Documents

SCE reported that a letter requesting USFS and SWRCB concurrence on the 2017 studies is in the process of being signed and will be distributed this week. USFS and SWRCB comments have all been addressed, and a link to the compiled reports will be provided in the letter. Emails with copies of this letter will be sent to Ann Roberts and Philip Choy. SCE requested agency responses as soon as possible, since they will be part of the larger LTOR package submitted to FERC.

SCE explained that they have not yet begun a CEQA rationale document. Since the last meeting, SCE received the draft water quality certification for the upper six Big Creek projects with a 60 day review period; they have diverted staff to review the CEQA documents for that certification and will not be able to prioritize the rationale for the LTOR CEQA until mid-October. They asked whether some of that work could be done internally at SWRCB. Philip explained that the licensee generally provides the rationale for whether CEQA is required or not.

Philip believes that, if the TRG approves the LTOR, he could include language in the SWRCB letter that their approval is contingent on CEQA rationale to be submitted later; this would allow SCE to file the LTOR with FERC immediately and provide the rationale at some point prior to FERC's March approval. Philip committed to vetting this course of action with his management [ACTION ITEM]. SCE wondered what the timeline would look like if SWRCB rejects their rationale and mandates them to complete CEQA – which they would likely approach as a focused negative declaration. Philip acknowledged that completing a CEQA filing before March would be tight timeline, but he would try to expedite review.

Final LTOR Review

Since the August TRG meetings, SCE has revised and circulated edits to the LTOR. An area of disagreement remains around how to address safety of downstream recreationists when releases are ramped up from MIF to provide boating flows. SCE proposed adding additional signage and making a good faith effort to contact recreationists downstream; they are still vetting this exact language through their legal team.

The following perspectives were offered as part of the discussion:

- USFS asked for a fully developed safety communication plan (outlining who, what, when, where, why) that could be disseminated at the parking area, on the website, and via social media.
 - USFS questioned how far SCE would go to locate someone in the channel if there was a car in the parking lot, particularly if the person was not located near the access point.
 - SCE noted that a full sweep of the reach takes four to five hours, at which point other people could have entered the cleared portion of the reach.
 - USFS wondered how SCE would determine if there were recreationists accessing the river off private lands.
 - The North Fork Mono Tribe agreed that there needs to be a plan, including signage and notification of major organizations. However, they stated that there is no need to walk the river to ensure the safety of locals utilizing other access points; locals understand the dangers of rising water; those most likely to be injured are non-local visitors using the parking lot.
- PG&E pointed to an educational flyer they distribute to teach people how to protect themselves in areas where there could be rising water. SCE agreed that kind of signage is important, but it should not be incorporated solely as part of the LTORs; instead, it should be part of SCE's larger safety efforts across their facilities.
- SCE is unsure of how much they can promise. They are doing outreach to other utilities to better understand how they are addressing similar safety concerns.
- American Whitewater advocated implementing a reasonable ramping rate, so that ramp ups are not sudden and catastrophic. Notifications paired with a ramp up rate are the best way to ensure safety of recreationists. American Whitewater would prefer to delay implementation of the LTOR than proceed without establishing ramp up rates.

- USFS agreed that ramping rates are likely the most effective way to ensure safety. They liked the pairing of an administrative solution to safety (i.e. signage) with a physical solution (i.e. ramp up rate). They acknowledged that ramp up rates would cost SCE water and said they would try to compensate for lost water elsewhere in the agreed-upon flows.
- SCE explained that they are not interested in implementing ramping rates on up-ramps.
- USFS acknowledged that, if SCE implements ramp up rates from boating spills but not for flow changes mandated by Cal ISO or on other projects, it could put them at risk of liability.
- Numerous TRG members pointed out that if Cal ISO or other water rights holders call for water, SCE does not have control of ramping rates. Any discussion needs to acknowledge when SCE can and cannot implement ramp up rates.
- SCE pointed out that requiring ramp up rates in all circumstances would make it impossible to provide AGC at Powerhouse 4, which lowers the value of hydropower electricity to customers as well as SCE's contribution to grid reliability. This discussion needs to be limited to scheduled or planned releases.
- SCE thanked the TRG for being willing to consider the water cost of a ramp up. If the TRG wants to pursue ramp up rates, SCE will need to study/review appropriate rates, the cost, and where they could make up that water cost within the larger package. They can start with the data from the stage discharge study to understand how their releases relate to stage change from MIF to 10k cfs and then establish what a "safe" stage change on the reach would be. In addition, factors like how fast the water rises and its velocity impact safety. This kind of analysis will slow down LTOR implementation.
 - CDFW asked if there is a standard "safe" ramping rate. Cardno explained that they vary widely and tend to be reach specific due to factors like water velocity. American Whitewater clarified that some reaches have very strict rates, but they are not suggesting something that slow for this reach.
 - Cardno referenced the stage discharge study protocol as a potential model: they used flows based on what was outlined in the 401 permit, starting at midnight and up ramping at 150 to 200 cfs per hour. This also started flows in the middle of the night when people would not be expected to recreate.
 - CDFW asked whether the LTOR could include language committing to researching and implementing a rate in consultation with the TRG.
 - American Whitewater suggested that since the concern is about recreational flows in dry years, they could agree to hold off implementation of those flows until a ramping rate is determined. Cardno asked about years where the flows do not quite meet 2000 cfs and SCE up ramps to provide boating flows, though those years would not constitute the same level of safety hazard.
 - Cardno observed that any commitment to ramp up rates on this reach will have to be carefully worded due to its implications for other reaches and SCE's ability to provide AGC.
- SCE agreed to look at their options for evaluating potential ramping rates and to return to the TRG with a proposal, ideally within a week [ACTION ITEM].
- SWRCB asked whether the group might be overemphasizing safety: changes in releases from MIF to 2000 cfs results in an approximately a 4 ft stage change. Equivalent releases were made in the past without signage or sweeps and without any safety incidents.
 - SCE agreed that under the LTOR, the magnitude and significance of changes in flow within the reach will be less than they were historically given that the LTORs aim to

minimize all incidental spills. However, there will always be a safety risk in these situations.

The group discussed several other changes to be addressed in the next round of revisions, including:

- The definition of average flow per time step is still confusing; it needs to incorporate time steps of more than 24 hours in sections 2.2, 2.3, and 2.4.
- Section 3.2 needs to be extended to address a May to October timeframe as discussed at the last meeting. This is confusing, because some of the bullets still apply only to the May to August timeframe. Phil agreed to provide edits to the language. [ACTION ITEM]

Discussion of Monitoring Plan

Since the August meetings, SCE has revised and circulated edits to the monitoring proposal. SCE's proposal was to monitor for water temperature, fish populations, and biota in years one, two, three (if needed), and five as well as every five years thereafter; in addition, they planned to monitor water temperature at the top of the reach in every year of the license.

An area of disagreement remains around the TRG's desire for an SCE commitment to providing water temperature monitoring at the site above Powerhouse 4 for the life of the license. The TRG presented their rationale as follows: (a) there are five year gaps in biota monitoring, and temperature acts as a surrogate for that data in the intervening years; (b) the upper reach is a cold water fishery and the lower reach a warm water fishery, so they need to understand how temperature changes across the reach; (c) the cost of a single probe should be minimal; and (d) the TRG is interested in project impacts (e.g. the upper projects coming online, climate change), not simply impacts of the LTOR, so long term data is crucial. Another benefit of ongoing monitoring: if consistent monitoring is done throughout this license, there will be adequate data to inform the next license period without unnecessary additional studies.

SCE countered the TRG's assessment that the cost of the additional probe would be minimal: with one probe, monitored quarterly for calibration by two field staff, the cost would be \$15 to \$20k annually, totaling \$200 to \$400k over the life of the project.

SCE offered to modify their proposal to monitor temperature at the downstream site in each one of the first five years and then in year five, to assess in consultation with the TRG whether the LTOR changes have had an effect on temperatures in the reach. If operations under the LTOR have had an effect, SCE will agree to continue ongoing monitoring throughout the license term. If not, they will default to monitoring at that site every five years.

SWRCB observed that SCE's definition of project effects is limited to effects of the LTOR. In contrast, the TRG is looking at changes from the historic baseline conditions; while climate change and timing of runoff may be outside SCE's control, the Project does impact how those changes interact to effect biota in the reach.

SCE asked the TRG to seriously consider the prior comprehensive proposal. USFS noted that the upstream projects will likely be online within five years, so any impacts from those changes would be covered in the initial monitoring period; however, if the valve at the dam were upgraded after the initial monitoring period, they would want monitoring to understand the impacts of that infrastructure change on water temperatures.

The TRG also pointed out that Cardno had forgotten to integrate the group's discussion on deferring monitoring if flows were too high. Cardno agreed to make the addition.

TRG MEETING NOTES
NOVEMBER 6, 2018

**Southern California Edison (SCE)
BIG CREEK 4 NASMP/AMP TECHNICAL REVIEW GROUP (TRG)
Long Term Operating Rules (LTOR)
November 6, 2018**

Meeting Summary

Time: 9:30 am – 12:00 pm

Location: Call & Webinar

Participants:

Jay Kimbler, SCE	Abimael Leon, CDFW
Martin Ostendorf, SCE	Eric Guzman, CDFW
Andy McMillian, SCE	Dennis Smith, USFS
Ed Bianchi, Cardno	Philip Choy, Water Board
Craig Addley, Cardno	Ruth Sundermeyer, PG&E
Wayne Lifton, Cardno	Brian Madigan, PG&E
Ruth Sundermeyer, PG&E	Terra Alpaugh, Kearns & West
Theresa Simsiman, American Whitewater	Mike Harty, Kearns & West
Dave Steindorf, American Whitewater	

- Action Items**
- SCE will:
 - Provide an updated LTOR proposal by end of January. This will include updated safety language and supporting analysis and identify sections of the reach where stage change could be dangerous, characterize access into those sections, and if possible, quantify recreation use in those areas historically.
 - Develop a methodology for assessing the safety consequences in the identified “danger” areas during a test flow, if a test flow could be accomplished.
 - Provide 2018 NASMP/AMP reports in late December.
 - KW will:
 - Schedule February and March TRG meetings. [DONE]
 - Distribute LTOR schedule and Craig’s safety presentation. [DONE]
 - TRG will:
 - Provide feedback on the draft negotiation schedule.

Discussion of Outstanding Issues

SCE presented their understanding that they and the TRG agree on the majority of the content in the LTOR, but that there are three outstanding topics that need to be resolved. These are: (1) safety concerns during recreational flows, (2) water temperature monitoring, and (3) the schedule for FERC filing, including the potential for CEQA and NEPA analysis.

SCE restated their current proposal for water temperature monitoring. They propose to:

- Monitor water temperature continuously for rest of the license period at Station 125S just below the dam;
- Monitor water temperature at a station just upstream of Powerhouse 4 for the first five years of LTOR implementation, at which time they would convene with the TRG to reevaluate whether there are temperature changes that make it worthwhile to continue monitoring;

- Monitor water temperature at four additional sites along the reach during biota study years (which are the first three years and every five years thereafter).

American Whitewater asked what changes in the first five years of water temperature monitoring would persuade SCE that additional monitoring is needed. SCE explained that they would be looking to determine whether implementation of the LTOR had an impact on water temperature; they would compare the five years of data under the LTOR flows to the previous 13 years of water temperature measurements to see if there is a change in late summer temperature trends.

SWRCB explained that their interest is how water temperatures in the reach are changing over the life of the license, not only because of the implementation of the LTOR. Cardno suggested that using the five years of new data in conjunction with historical data, they may be able determine the relationship between upstream and downstream temperatures – enabling them to estimate temperatures at the bottom of the reach using the single upstream measurement.

American Whitewater asked the group to establish what the threshold will be for continuing or not continuing with downstream water temperature monitoring after year five; those parameters need to be clearly defined in the LTOR.

Outline of Safety Proposal

In response to concerns about safety of recreationists in the reach during boating flows, Cardno presented a proposal for more slowly ramping up those flows. The most dangerous time for recreationists is the period during which flows are increased from base flow up to 2000 cfs. Cardno acknowledged that there is no single accepted “safe” ramp up rate but cited one foot per hour as a rate used in many highly trafficked recreation areas.

Therefore, they propose to implement a one foot per hour (500 cfs/hr) ramp up rate as measured at Willow Creek-- selected because that area has the most recreation. Water would rise faster in some areas: for instance at Horseshoe Bend East, the rate would be just over one foot per hour and at Backbone Creek, the narrowest cross-section, the change would be three feet per hour.

SCE asked whether this approach met the TRG’s safety criteria. USFS explained that the Forest Supervisor wants assurance that no one could get trapped in any part of the reach due to the implementation of boating flows (e.g. if a person is at Backbone Creek and 500 cfs flows arrive, can they get out?). They requested that SCE identify constrained reaches and provide a demonstration flow to ensure that no one could become stranded in those narrow reaches.

SCE agreed to identify sections of the reach that could be dangerous at the 500 cfs/hr ramping rate, catalogue potential access into those sections, quantify recreational use in those sections historically, and characterize the risk. Cardno proposed analyzing the ramping rates as part of adaptive management during their first year of implementation, but USFS explained that they will want surety of safety before signing the LTOR. They also suggested doing the ramp up in the middle of the night when no one should be in the reach.

SCE and Cardno will develop and distribute a proposal to address safety concerns by January.

Negotiation Schedule

SCE will distribute the 2018 NASMP/AMP reports by the end of the year, according to their usual schedule. They will share a safety proposal by the end of January. All materials will be discussed as part of the early February TRG meeting. They hope to finalize the LTOR in mid-March in order to leave time for potential CEQA and/or NEPA analysis before a 2020 implementation. Based on SCE's initial consultation with FERC, SCE does not believe they will need to complete NEPA analysis, but it remains a possibility. The schedule diagram reflects these possible contingencies.

TRG MEETING NOTES
MARCH 19, 2019

Southern California Edison (SCE)
BIG CREEK 4 NASMP/AMP TECHNICAL REVIEW GROUP (TRG)
Long Term Operating Rules (LTOR)
March 19, 2019

Meeting Summary

Time: 9:30 am – 12:00 pm
Location: Piccadilly Inn Airport, 5115 E. McKinley Ave., Fresno
Participants:

Jay Kimbler, SCE	Abimael Leon, CDFW
Martin Ostendorf, SCE	Eric Guzman, CDFW
Ed Bianchi, Cardno	Dennis Smith, USFS
Craig Addley, Cardno	Ann Roberts, USFS
Wayne Lifton, Cardno	Philip Choy, Water Board
Ruth Sundermeyer, PG&E	Terra Alpaugh, Kearns & West
Theresa Simsiman, American Whitewater	Mike Harty, Kearns & West
Paul Martzen, interested citizen	PHONE:
Ron Goode, North Fork Mono Tribe	Dave Steindorf, American Whitewater
James Bethel, North Fork Rancheria	Brian Madigan, PG&E

- Action Items**
- **SCE/Cardno to:**
 - Make edits to NASMP and AMP in response to comments; circulate revised version along with a request for concurrence letter to conditioning agencies by 4/9.
 - Send LTORs & monitoring plan with red line edits made in the meeting to the TRG ASAP [DONE]; allow 2 weeks for comment; incorporate additional edits; send final version along with request for concurrence letter to conditioning agencies.
 - Work with Phil to determine and fulfill Board's CEQA needs.
 - Once both concurrence letters are received, submit (along with consultation record) to FERC.
 - Ask Cardno CEQA experts their opinion on whether the LTOR are eligible for a Class 1 CEQA exemption.
 - Look into the feasibility of making the BC4 gage data available on CDEC.
 - **USFS to:**
 - Confirm that the Forest Supervisor feels the safety language in the LTOR is adequate for USFS approval of the document.
 - **Phil (SWRCB) to:**
 - Review his NASMP comment #1 to ensure he does not have any additional follow up. [DONE]
 - Determine whether the LTOR are eligible for a Class 1 CEQA exemption.
 - **Craig/Wayne to provide their slide presentations to Terra for distribution.**
 - **Wayne to provide his comment table to Terra.**

AMP & NASMP Reports

Craig Addley presented the results of SCE's work on experimental ramping down of flows from spill, which was performed under the Adaptive Management Plan, Craig reminded the TRG that since last year was a spill year, SCE used it as an opportunity to test their ability to down ramp a spill from 2000 cfs to base flow in 400 cfs steps. While SCE operators did not implement a complete down ramp (i.e. every single step), they executed a numbers of steps and were able to hold them at the appropriate flow. SCE is now confident they will be able to downramp according to the criteria established in the draft LTOR in the future.

The 2018 Adaptive Management Plan (AMP) and NASMP Fish Monitoring Reports were distributed prior to the meeting, and TRG members were asked for comments. SCE received comments from the State Water Resources Control Board (SWRCB). At the meeting, Wayne Lifton, Cardno, reviewed those comments and presented SCE's proposed responses. Wayne provided detailed responses in a table format (in attached PDF), which will be appended to the NASMP report. Key topics of discussion are summarized below.

In his remarks on the NASMP Fish Monitoring Report, Wayne responded to the SWRCB's question of what the 2018 monitoring could tell the group about overwintering mortality of native fishes and spotted bass resilience. To address overwintering mortality, Wayne summarized from the scientific literature and for data collected in the Horseshoe Bend, compared the number of juveniles to young-of-year from the previous year. He noted that during the period of analysis, 2010-2018, there was a wide range of survivals. Overwintering mortality did not appear to correlate well with the other factors he examined, including summer water temperature.

Wayne explained that spotted bass decreased due to the high flows in 2017; because they produce comparatively few young-of-the-year, it will take their population longer to recover than the native fishes with higher reproductive capabilities.

Wayne will integrate the proposed changes into the reports and circulate the revised versions to the conditioning agencies.

LTOR Revisions: Safety

There are two situations in which the up-ramping of flows could result in a safety concern for recreationists in the reach when the release starts: (1) non-spill years in which SCE provides a boating flow and (2) small spills (e.g. 500 cfs) which SCE increases to 2000 cfs for boating before subsequently downramping. SCE proposes to mitigate safety risks in those instances by adding more signage before the releases, notifying via email and on the website a day in advance, and initiating the release so that flows increase to 2000 cfs prior to 5:30 am. The LTOR language will specify that flow will be at or above 2000 cfs by 5:30 am, as measured at the gage immediately below the dam. SCE explained that the signage will be posted a week in advance of the release and will specify that flows will rise quickly at a specific date and time; this signage will be in addition to already existing signs that remind users that "flows may rise unexpectedly" and to "remain aware."

American Whitewater, North Fork Mono Tribe, and CDFW confirmed that they thought this approach was adequate. Jay Kimbler, SCE, explained that he discussed this proposal with Jon George, USFS, who plans to present it to the Forest Supervisor with the recommendation that it adequately protects public safety. The USFS staff at the meeting approved of the approach pending the Forest Supervisor's endorsement.

Cardno committed to finalizing the LTOR language. They will recirculate a new draft for any final TRG comments, integrate those, and then send the final version to the conditioning agencies for approval.

Monitoring Plan Revisions: Long Term Temperature Monitoring

SCE presented their updated proposal for temperature monitoring: they will do continuous monitoring at the gage below the dam, in Willow Creek, and upstream of Powerhouse 4. Cardno noted that the temperatures at the gage and in Willow Creek can be averaged together to estimate the temperature at the confluence.

Cardno described the typical trends in water temperature throughout the reach: when water and air temperatures are similar, there is a linear increase in water temperature down the reach. In summer, when air temperatures are higher, 50 percent of the increase in water temperature occurs before Horseshoe Bend East and then is more gradual thereafter. Air temperature is available on CDEC. SWRCB asked whether that information could be used to identify the point in the reach that divides the cold and warm water fisheries. Cardno explained that the cutoff is around 20 degrees; the reach is only that warm in the area immediately adjacent to the Powerhouse. SWRCB is interested in whether that transition point will change due to operations or climate change. USFS observed that knowing the temperature at the Powerhouse will provide clues about whether that point might be moving upstream. SCE agreed to include language committing to identify the location of the transition zone if requested by the TRG in a given year. SCE also agreed to include language to model temperatures at historic water temperature monitoring sites in the bypass reach.

SWRCB approved of SCE's proposed temperature monitoring locations as long as they are confident that they can estimate the temperature at sites within the reach based on this data and their understanding of the temperature trends. SCE confirmed that they can reliably estimate those temperatures.

The Plan currently includes language about deferring monitoring if conditions are unsuitable (i.e. flows are too high) in a given year. The TRG decided to define exactly what constitutes "unsuitable" flows (e.g., 80 or 85 cfs). Also, the language should state that SCE will coordinate with PG&E regarding flows in the sampling timeframe and notify the TRG agencies of the outcome of that coordination.

USFS suggested adjusting the language used for eDNA methodology from "limited-scope" visual encounter survey to "focused-scope" and specifying that they are looking for information on "potential presence and abundance."

American Whitewater asked whether the gage at BC4 could be posted on CDEC. SCE committed to look into what that would entail.

Cardno will double check all references to notifying the TRG parties and confirm they include the tribes. They will finalize all the discussed changes to the Monitoring Plan language and then recirculate a new draft along with the revised LTOR for any final TRG comments. The final version will then be sent to the conditioning agencies for approval.

NASMP Fish Long Term Trend Presentation

Craig Addley discussed the fish population data collected since 2008 for long term trends based on an analysis in part prepared by Wayne. Craig presented detailed slides (in attached PDF) on trends for each species.

The population numbers of native species (hardhead, pikeminnow, Sacramento suckers, and rainbow trout) have bounced up and down but overall, they exhibit a relatively level trend line. Craig commented on spotted bass, which first appeared in 2012: their population increased significantly during the drought and then fell during the 2017 high flows. Craig suggested that there could be an inverse relationship between high flows and numbers of bass, which are not as well adapted to riverine systems. He also noted that even as spotted bass increased in numbers, there did not appear to be any immediate impact on adults of other species; he hypothesized that the bass might be filling a niche in the San Joaquin that is not displacing natives, but it could take many more years of data to be sure.

The North Fork Mono Tribe expressed interest in seeing more rainbow trout in the reach; sucker and rainbow trout used to live on all the reaches of the San Joaquin. CDFW observed that this is not a spawning reach so any new fish would have to come from upstream areas. Rainbow trout were planted in Redinger Lake several years ago but have not been planted since; CDFW was not able to confirm future plans.

CEQA Next Steps

Philip Choy, SWRCB, reported that his management will likely expect some CEQA coverage. He has suggested that the SWRCB could pursue a Class 1 exemption based on the precedent set by use of an exemption at Santa Felicia; he is waiting to hear from SWRCB counsel on whether that would be an appropriate path and asked Cardno to present the idea to their CEQA team for feedback. If they pursued an exemption, there would be a 30 day period for anyone to petition. If someone did petition, SWRCB would likely prepare a focused negative declaration (through a consultant funded by SCE); he estimated that process would take five to eight months. The TRG and SCE supported the Class 1 exemption to fulfill CEQA because interested stakeholders helped develop the agreed-upon CEQA Project; therefore, there is a low likelihood of petition.

Once SCE has approval from both conditioning agencies, SCE can file the LTOR with FERC; FERC typically takes 60 to 90 days to issue an authorization.

ATTACHMENT C: STATE WATER BOARD APPROVAL LETTER



ORIGINAL

FILED
SECRETARY OF THE
COMMISSIONGAVIN NEWSOM
GOVERNORJARED BLUMENFELD
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

AUG 16 2019

2019 AUG 21 P 2:51

FEDERAL ENERGY
REGULATORY COMMISSION

Mr. Wayne Allen
Southern California Edison Company
1515 Walnut Grove Avenue
Rosemead, CA 91770

**Big Creek No. 4 Hydroelectric Project
Federal Energy Regulatory Commission Project No. 2017
Fresno and Madera Counties**

SUBJECT: CONDITIONAL APPROVAL OF LONG-TERM OPERATING RULES

Dear Mr. Allen:

Thank you for your letter, dated May 23, 2019, requesting approval of the Long-Term Operating Rules (LTORs) for the Big Creek No. 4 Hydroelectric Project (Project). The LTORs were developed by Southern California Edison Company (SCE), in consultation with the Adaptive Management Technical Review Group (TRG)¹, in accordance with Condition 12 of the Project water quality certification² (certification). SCE submitted documentation of TRG consultation with its letter requesting State Water Resources Control Board (State Water Board) Deputy Director of the Division of Water Rights (Deputy Director) approval of the LTORs.

The objective of the LTORs is to provide consistent whitewater boating opportunities and promote the native aquatic species assemblage in the Horseshoe Bend Reach of the San Joaquin River (i.e., Project bypass reach) while balancing Project operational constraints. The LTORs are based on ten years of post-license study and analysis,

¹ TRG members include staff representatives from: State Water Resources Control Board (State Water Board), U.S Forest Service, California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, National Park Service, Crane Valley Project Licensee, Tribal Governments, non-governmental organizations, and other interested parties.

² The State Water Board issued a water quality certification for the Project on June 20, 2003.

Mr. Allen

-2-

AUG 16 2019

conducted in accordance with the Native Aquatic Species Management Plan (NASMP)³ and Adaptive Management Plan (AMP)⁴.

The LTORs include:

1. Whitewater boating flows in spill and non-spill years and down ramping rates which more closely align with the natural hydrograph (during wet water years) and prevent fish stranding (during drier water years);
2. Testing and reporting on spill and non-spill year operational constraints;
3. Large woody debris management;
4. Long term monitoring of aquatic biota, water temperature, instream flow, and meteorological conditions;
5. Ongoing TRG consultation;
6. Public safety considerations;
7. Reporting, notification, consultation, and adaptive management requirements; and
8. Potential peer review in the future, as appropriate.

The LTORs are Project requirements for the remaining term of the Project license⁵ and any extensions thereto.

California Environmental Quality Act

The State Water Board is the lead agency for purposes of compliance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, div. 13 [§ 21000 et seq.]). The State Water Board determined that approval of the LTORs is categorically exempt from CEQA requirements under section 15301 (Existing Facilities) and 15306 (Information Collection) of the CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.). The State Water Board will file a Notice of Exemption with the State Clearinghouse within five days of issuance of this conditional approval letter.

³ The NASMP is required by Condition 13 of the certification. The NASMP provides a framework for the protection and preservation of existing refugium for native transition-zone fish, amphibians, and reptiles in and around Redinger Lake and the Project bypassed reach. The Deputy Director approved the NASMP on January 7, 2008.

⁴ The AMP is required by Condition 12 of the certification. The AMP provides a framework for developing flows for whitewater recreation while simultaneously considering the protection and preservation of existing refugium for native transition-zone fish, amphibians, and reptiles. The Deputy Director approved the AMP on January 7, 2008.

⁵ The license expiration date is December 4, 2039.

Mr. Allen

-3-

AUG 16 2019

All documents and other information that constitute the public record for this Project are maintained and available for public review at the State Water Board, Division of Water Rights, 1001 I Street, Sacramento, California 95814.

Deputy Director Determination

State Water Board staff appreciates the collaboration that went into development of the LTORs. SCE and the TRG contributed a significant amount of effort and time to reach agreement on the LTORs. State Water Board staff reviewed the LTORs and finds them consistent with the Project certification. The LTORs are hereby approved with the following conditions:

1. The Deputy Director reserves authority to modify the LTORs: (1) to incorporate changes in technology, sampling, or methodologies; (2) if monitoring results indicate that continued operation of the Project could violate water quality objectives or impair beneficial uses; (3) to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act, including total maximum daily load allocations developed by the State Water Board or a Regional Water Quality Control Board; (4) to coordinate the operations of this Project and other hydrologically connected water development projects, where coordination of operations is reasonably necessary to achieve water quality standards or protect beneficial uses of water; (5) require additional monitoring and/or other measures, as needed, to verify that Project operations meet water quality objectives and protect beneficial uses in response to future changes in climate that significantly alter the baseline assumptions used to develop the LTORs; and (6) whenever Project-related potential impacts or newly-listed species in the Project-affected area are identified or introduced, to ensure adequate protection of water quality objectives and beneficial uses identified in the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins* (Basin Plan) and amendments thereto.
2. The Deputy Director reserves authority to require SCE to develop and conduct studies to evaluate potential impacts to water quality and Basin Plan water quality objectives and beneficial uses if: (1) new Project-related potential impacts or newly-listed species in the Project-affected area are identified or introduced; and/or (2) infrastructure repairs at Dam 7 occur and instream flows drop below 30 cubic feet per second (measured as average daily flow at United States Geological Survey Gage No. 11242000) for more than seven days. The studies shall be developed in consultation with the TRG.
3. The Deputy Director reserves authority to modify or approve modifications to minimum instream flow requirements (Condition 11) of the certification.

Within 15 days of the date of this letter, SCE shall submit the LTORs and a copy of this conditional approval letter to the Federal Energy Regulatory Commission. SCE shall implement the LTOR requirements upon receipt of all necessary approvals.

Mr. Allen

-4-

AUG 16 2019

If you have questions regarding this letter, please contact Mr. Allan Laca, Project Manager, at: (916) 322-8469, or by email at: allan.laca@waterboards.ca.gov. Written correspondence should be addressed as follows:

State Water Recourses Control Board
Division of Water Rights
Attn: Mr. Allan Laca
P.O. Box 2000
Sacramento, CA 95812-2000

Sincerely,



Erik Ekdahl, Deputy Director
Division of Water Rights

Enclosure: 1) Copy of Notice of Exemption

cc: Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Mr. Dean Gould
Forest Supervisor
Sierra National Forest
1600 Tollhouse Road
Clovis, CA 93611

Mr. Adam Laputz
Assistant Executive Officer
Central Valley Regional Water Quality Control
Board
11020 Sun Center Drive
Rancho Cordova, CA 95670

ec: Mr. Martin Ostendorf, Southern California Edison Company
Martin.Ostendorf@sce.com

Mr. Jay Kimbler, Southern California Edison Company
Jay.Kimbler@sce.com

Ms. Ann Roberts, United States Forest Service
Annroberts@fs.fed.us

Mr. Abimael Leon, California Department of Fish and Wildlife
Abimael.Leon@wildlife.ca.gov

Notice of Exemption**Appendix E**

To: Office of Planning and Research
P.O. Box 3044, Room 113
1400 Tenth Street
Sacramento, CA 95812-3044

From (Public Agency):
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812-2000

Project Title: Big Creek 4 Long Term Operating Rules (Project)

Project Applicant: Southern California Edison Company

Project Location - Specific: The Project is located on the San Joaquin River, approximately five miles north of Auberry in Fresno and Madera counties.

Project Location - City: N/A **Project Location - County:** Fresno and Madera counties

Description of Nature, Purpose, and Beneficiaries of Project:

The Project is a requirement of the Big Creek 4 Hydroelectric Project water quality certification. The purpose of the Project is to provide consistent whitewater boating opportunities while promoting the native aquatic species assemblage in the Horseshoe Bend Reach of the San Joaquin River (i.e., Project bypass reach). The Project prescribes whitewater boating flows, down ramping of flows, and monitoring of aquatic biota, water temperature, instream flow, and meteorological conditions.

Name of Public Agency Approving Project: State Water Resources Control Board

Name of Person or Agency Carrying Out Project: Southern California Edison Company

Exempt Status: (check one):

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
☒ Categorical Exemption. Class 1, § 15301 and Class 6, § 15306
☐ Statutory Exemptions. State code number: _____

Reasons why project is exempt:

The Class 1 categorical exemption applies because the Project involves minor operational alterations to an existing facility with no construction or expansion of use. The Project involves flow prescriptions and ramping rates from Dam 7 into the San Joaquin River for the benefit of aquatic species and recreation. The Class 6 exemption applies to the long-term monitoring, which will not result in a serious or major disturbance to an environmental resource. There is no reasonable possibility that the Project will have a significant effect due to unusual circumstances.

Contact Person: Allan Laca

Area Code/Telephone/Extension: (916) 322-8469

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project?
☐ Yes ☐ No

Signature: 

Title: Deputy Director for Water Rights

State's Office of Planning & Research
AUG 16 2019
STATE OF CALIFORNIA

Date received for filing at OPR: _____

Document Content(s)

15332363.tif.....1-5