Whitewater Boating Monitoring Plan

Sacramento Municipal Utility District

Hydro License Implementation • January 2015

Upper American River Project

FERC Project No. 2101

Powering forward. Together.

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Introduction

Background

The Sacramento Municipal Utility District (SMUD) owns and operates the Upper American River Project (UARP). This project is a series of dams, reservoirs, tunnels, penstocks, and power plants in the South Fork of the American River watershed, along with some headwater diversions from the Middle Fork of the American River. This Monitoring Plan lays out procedures which will be used to assess whitewater recreation use on two runs on UARP diverted reaches. The Slab Creek run is on the diverted reach of the South Fork of the American River between the two downstream-most UARP facilities: Slab Creek Reservoir and White Rock Powerhouse. This run is at an elevation of roughly 1,300 ft. Figure 1 shows the Slab Creek Reach. The Ice House run is downstream of Ice House Dam, which is the upstream-most UARP facility on the South Fork of Silver Creek, a tributary to Silver Creek, a tributary to the South Fork of the American River. This run is at an elevation of roughly 4,900 feet (ft). Figure 2 shows the Ice House Reach.

On July 23, 2014 the Federal Energy Regulatory Commission (FERC) issued an Order Issuing New License for FERC Project No. 2101 (License) for the UARP which incorporates the State Water Resources Control Board (SWRCB) 401 Water Quality Certification and included Conditions as Appendix A and U.S. Forest Service (USFS) 4(e) Conditions as Appendix B. SWRCB Condition 4 and USFS 4(e) Condition 50 include requirements for whitewater recreational flows on the Slab Creek and Ice House Reach runs which specify the number of days flows are required and for clustering of boating flow release events. The License addresses, 1) initial boating release regimes to commence within 90 days of License issuance, 2) processes by which use triggers are to be established that are to be used to determine if and when modifications to initial boating release regimes are to occur; 3) caps on the modified release regimes including streamflow magnitudes, and 4) the number of recreational release days.

Pursuant to the License, SMUD must develop a Monitoring Plan for whitewater boating uses on these two stream reaches. The Monitoring Plan is to be prepared in consultation with the USFS, United States Bureau of Land Management (BLM), SWRCB, and members of the boating community. The License requires several whitewater recreation planning and management activities on the two runs which relate to the whitewater use monitoring efforts addressed by this Monitoring Plan. The relationship between the use monitoring efforts and these other planning and management activities is presented in Appendix C.

As context for the Monitoring Plan Approach described later in this document, the following two sections include summaries of License requirements specific to the Slab Creek and Ice House whitewater boating runs. For full text of the License requirements pertaining to UARP recreation streamflows, the reader is directed to SWRCB Condition 4, and USFS 4(e) Condition 50.

Slab Creek Run – Below Slab Creek Reservoir

Initial Recreational Boating Streamflow Release Regime

Within 3 months of license issuance, the licensee shall provide recreational streamflows in the SFAR below Slab Creek Reservoir Dam as follows. In BN, AN, and Wet water years, the licensee shall spill water from Slab Creek Reservoir to provide streamflows between 850 and 1,500 cfs between the hours of 10:00 am and 4:00 pm for 6 days in no less than three events in the period beginning March 1 and ending May 31. If conditions permit, one of the events will be replaced with a 3-day event on the Memorial Day weekend, in which case the total number of days for the year will be increased to 7 days.

Boating Use Level Triggers

The initial recreational boating streamflow releases are to remain in effect until the Iowa Hill Pumped Storage Project has been constructed, or, if that project is not constructed, 15 years of License issuance. If construction of the Iowa Hill Pumped Storage Project has not started within five years of License issuance, SMUD is to prepare a Five Year Whitewater Boating Recreation Plan that establishes use triggers which would determine if SMUD is to provide an augmented recreational streamflow release regime. Ten years after License issuance and every fifth year thereafter, whitewater use monitoring information is to be evaluated to determine if any to-be-determined trigger thresholds have been met or exceeded.

Upper Cap on Modified Recreational Boating Streamflow Release Regime

Any adjustments to the boating streamflow release regime due to any to-be-determined use triggers could range from kayaking flows of 850-950 cfs on four weekend days and kayak/rafting flows of 850-1,500 cfs on two weekend days in April in Critically Dry water years to kayak/rafting flows of 850-1,500 cfs on twelve weekend/holidays days in March, April, and May in Wet water years. In addition, if environmental conditions permit, boating recreational kayaking streamflows of 850-950 cfs will range from two weekend days in October in Dry water years to six weekend days in October in Below Normal, Above Normal, and Wet water years.

Table 1. Upper cap of recreational streamflow releases for the Slab Creek run.

Water Year Type	March	April	May	June-September	October
CD		850 cfs – 950 cfs kayak flows from 10am to 1pm for 4 weekend days **PLUS** 1,400 cfs – 1500 cfs rafting flows from 10am to 1pm and 850-950 cfs kayak flows from 1:30pm to 4pm for 2 weekend days			
D	850 cfs – 950 cfs kayak flows from 10am to 1pm for 4 weekend days **PLUS** 1400 cfs – 1500 cfs rafting flows from 10am to 1pm and 850 – 950 cfs kayak flows from 1:30pm to 4pm for 6 weekend days.				850 cfs – 950 cfs kayak flows from 10am to 1pm for 2 weekend days.
BN		850 cfs – 950 cfs kayak flows from 10am to 1pm for 3 weekend days[1]/holidays **PLUS** 1400 cfs-1500 cfs rafting flows from 10am to 1pm and 850 – 950 cfs kayak flows from 1:30pm to 4pm for 9 weekend days[1]/holidays.			850 cfs – 950 cfs kayak flows from 10am to 1pm for 6 weekend days.
AN		1400 cfs – 1500 cfs rafting flows from 10am to 1pm and 850 – 950 cfs kayak flows from 1:30pm to 4pm for 12 weekend days[1]/holidays.			850 cfs – 950 cfs kayak flows from 10am to 1pm for 6 weekend days.
W	March 1 through May 31 1400 cfs -1500 cfs rafting flows from 10am to 1pm and 850-950 cfs kayak flows from 1:30pm to 4pm for 12 days, weekend days[1]/holidays.				850 cfs – 950 cfs kayak flows from 10am to 1pm for 6 weekend days.
1. Priority shall be given to providing recreational streamflows on Memorial Day Weekend.					

The October flows are to be provided only if there is a determination by the FS, SWRCB, FWS, and CDFW that such streamflows will not result in unacceptable environmental impacts. That determination is to be based on amphibian monitoring described in USFS 4(e) Condition 31.

In any given year, if operational, environmental, or any other situation precludes October recreational streamflows, the specified flow volumes foregone are to be rolled over to the recreational streamflow releases in the following spring. Such a situation may entail an increase in the number of recreational streamflow days for any given water year type.

Other Relevant License Flow and Resource Requirements

The License requires background minimum flows in the Slab Creek diverted reach during the March through May period of boating recreational streamflow releases at various magnitudes, from 63 cfs in Critically Dry water years to 415 cfs in Wet water years.

The License requires that all large woody debris (LWD) larger than eight inches in diameter and about forty feet in length be passed into the channel below Slab Creek Dam. This provision has the potential to create ongoing boating safety hazards. This is particularly true in wildfire areas, especially in the context of the 2014 King Fire and the resulting elevated potential for LWD recruitment in the watershed over the next several decades.

Monitoring Requirements

The Monitoring Plan is to include, but is not limited to, a complete accounting of all boating users starting their run within the ½ mile below Slab Creek Dam, the boat types used, and, to the extent possible, the take-out locations used. The License requires that within three months of License issuance, SMUD is to monitor all boating use within one-half mile downstream of the Slab Creek Reservoir Dam on all days when recreational streamflows are provided.

Monitoring is to continue through year five of the License. If, by the end of year five, the construction of the Iowa Hill Pumped Storage Project has not started, monitoring is to continue through year ten (through the 2024 boating season). If, by the end of year ten, the construction of the Iowa Hill Pumped Storage Project has not started, and if any boating use triggers developed in the 5-Year Whitewater Boating Recreation Plan are not met, both monitoring and the initial recreational streamflow release schedule are to continue. Every fifth year of the License, a Five-Year Monitoring Report is to be prepared in which the monitoring data will be evaluated for any to-be-determined trigger exceedances.

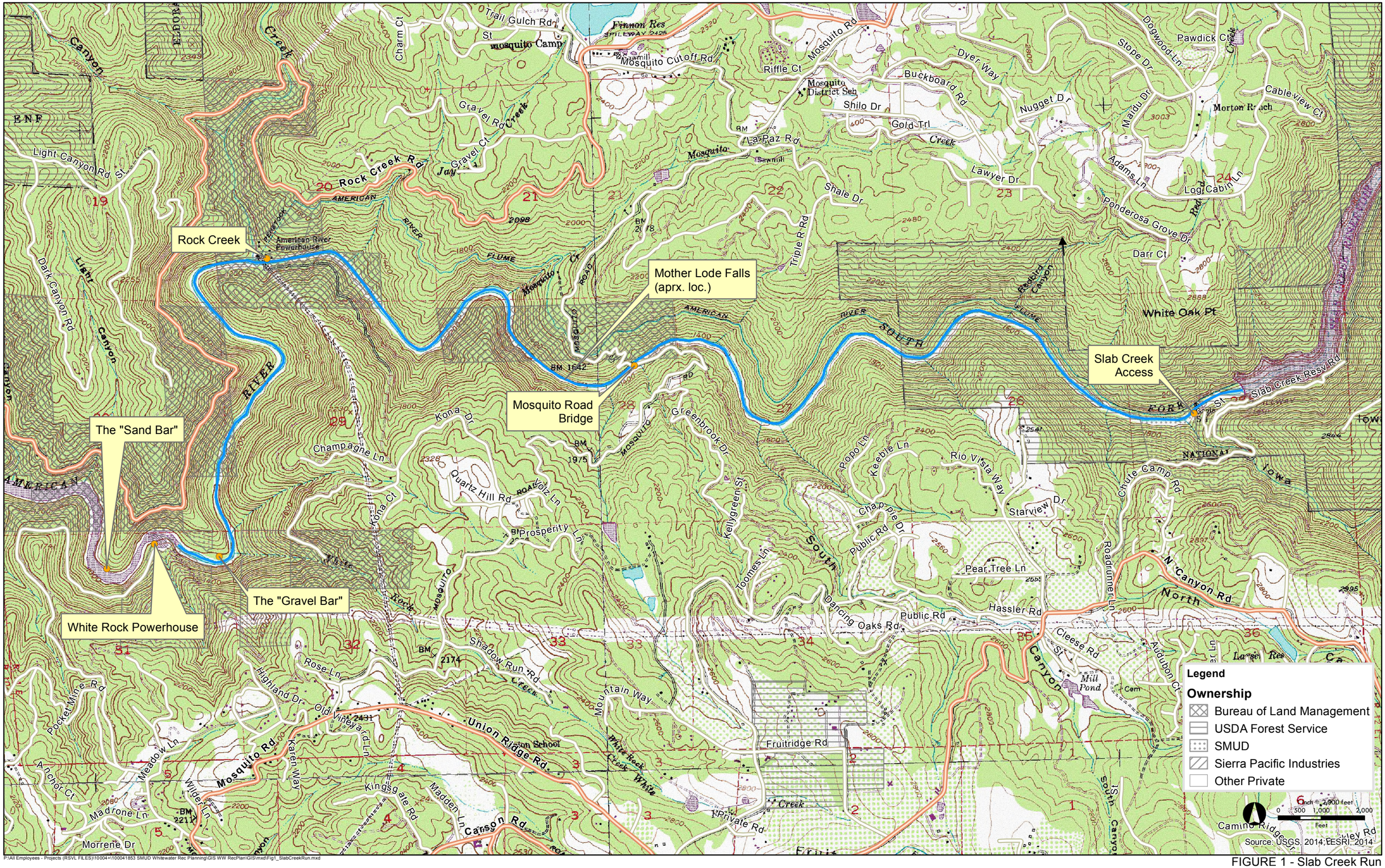

FIGURE 1 - Slab Creek Run

Junction Boat Ramp

Bryant Springs Road Bridge

Ice House Road Bridge

Ice House Dam Access

Silver Creek Camp Ground

Gage Site

Legend

Ownership

- Bureau of Land Management
- USDA Forest Service
- SMUD
- Sierra Pacific Industries
- Other Private

1 inch = 2,500 feet

0 625 1,250 2,500

Feet

Source: USGS, 2014; ESRI, 2014

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FIGURE 2 - Ice House Run

Ice House Run – Below Ice House Reservoir South Fork Silver Creek

Initial Recreational Boating Streamflow Release Regimes

Initial boating flow releases on the Ice House Run to start after License issuance are to range from 300 cfs on one weekend day in May in Critically Dry water years to 400 cfs on four weekend days/holidays or Fridays plus 500 cfs on another five weekend days/holidays or Fridays in May and June in Wet water years. All recreational streamflow releases indicated under this regime are to occur from 10:00 am to 3:00 pm.

Table 2. Interim recreational streamflow releases for the Ice House run.

Water Year Type	January-April	May	June	July-December
CD		300 cfs for 1 weekend days.		
D		300 cfs for 3 weekend days.		
BN		400 cfs for 2 weekend days/holidays **PLUS** 500 cfs for 2 weekend days/holidays.		
AN		400 cfs for 2 weekend days/holidays **PLUS** 500 cfs for 4 weekend days/holidays.		
W		400 cfs for 4 weekend days/holidays **PLUS** 500 cfs for 5 weekend days/holidays or Fridays .		

Boating Use Level Triggers

Prior to the end of year four after License issuance, SMUD is to prepare a Four Year Whitewater Recreation Management Plan which is to establish use triggers to determine when SMUD is to augment the initial streamflow release regime. This could include increased flow magnitudes and/or increased number of boating recreation release days. Every fifth year, actual uses and impacts will be used to evaluate if any to-be-determined triggers have been exceeded such that recreation streamflow days should be adjusted.

Upper Cap on Modified Recreational Boating Streamflow Release Regime

Any adjustments to boating flow days due to exceedances of future use triggers could range from 300 cfs on two weekend days in May in Critically Dry water years to 400 cfs on seven weekend days/holidays or Fridays plus 500 cfs on another nine weekend days, holidays, or Fridays in May and June in Wet water years. All recreational streamflow releases indicated under this regime are to occur from 10:00 am to 3:00 pm. With the approval of the USFS and the SWRCB, the frequency and magnitude of the boating flows may be adjusted within the total volume of water as specified by the upper cap release regime.

Table 3. Upper cap of recreational streamflows for the Ice House run.

Water Year Type	January-April	May	June	July-December
CD		300 cfs for 2 weekend days.		
D		300 cfs for 6 weekend days.		
BN		400 cfs for 5 weekend days/holidays **PLUS** 500 cfs for 2 weekend days/holidays.		
AN		400 cfs for 5 weekend days/holidays **PLUS** 500 cfs for 6 weekend days/holidays.		
W		400 cfs for 7 weekend days/holidays **PLUS** 500 cfs for 9 weekend days/holidays or Fridays.		

Other Relevant License Flow and Resource Requirements

The License requires background minimum flows in the Ice House diverted reach during the May-June period of boating recreational streamflow releases at various magnitudes from 25 cfs in Critically Dry water years to 68 cfs in Below Normal, Above Normal, and Wet water years.

Pulse flows are required in this particular reach. These flows are to be five-day long events occurring in December-April in Below Normal, Above Normal, and Wet water years. Pulse flow magnitudes are to vary by water year types, from 450-550 cfs in Below Normal water years to 600-780 cfs in Wet water years, unless limited by the maximum capacity of the outlet works. These pulse flows have the potential for modifying channel and bank conditions and for changing LWD distribution. They therefore also could affect year-to-year whitewater navigational hazard conditions.

Monitoring Requirements

The License states that every fifth year of the License, a Five-Year Monitoring Report be prepared that is to include: 1) a description of whitewater recreation uses and impacts, 2) an assessment of whether whitewater uses have exceeded any threshold triggers developed in the 4-Year Whitewater Recreation Management Plan which could result in adjusted boating flow releases, and 3) recommendations as to whether the initial release regime should be modified based on any to-be-determined triggers. These Five-Year Monitoring Reports are to be prepared in cooperation with the USFS, SWRCB, and the Consultation Group.

Monitoring Plan Approach

Monitoring Plan Objectives

The objectives of this Monitoring Plan are:

- To develop requisite annual data on whitewater boating uses and activities as specified in the License.
- To develop annual data on non-boating recreational activities so that impacts to these users due to boating flows can be evaluated.
- To develop whitewater boating use and user pattern information in sufficient detail as to support management planning efforts, for both the Slab run and the Ice House run.
- To develop annual whitewater use, non-boating use, and resource condition data such that it can be interpreted every five years to determine whether or not to-be-determined trigger thresholds have been met.
- To identify impacts to non-boating users, activities, and resources due to whitewater boating activities that can be used to develop, refine, and implement adaptive management measures such as operational procedures, facility improvements, and/or modified boating flow releases.

Methods Framework

To achieve the objectives, this Monitoring Plan will include two phases.

Phase I is a relatively intensive phase that will include collection of detailed use and user patterns on each run during initial boating flow releases. The purpose of this intensive phase is to support the various elements of ongoing and subsequent management planning efforts.

The planned duration of Phase I monitoring differs between the two runs. For the Slab Creek run, Phase I monitoring will be executed in the first boating season (2015), and may be extended into subsequent years should the Recreation Management Plan deadline for this run be extended by FERC. Because the deadline for the Whitewater Recreation Management Plan pertaining to the Ice House run is four years following License Issuance, Phase I will be executed during the first three boating seasons (2015-2017) on this run.

Phase II will be annual ongoing data collection required by the License. Phase II will collect whitewater use and non-boating use information sufficient to evaluate total whitewater uses and non-boating impacts. This information will be used in the Five-Year Monitoring Reports as necessary to determine whether or not use triggers have been

met or exceeded. Phase II monitoring will begin on each run following Phase I, and extend until ongoing annual monitoring is no longer warranted.

Data Acquisition

Data Instruments

To assess whitewater and non-boating uses and facility issues, the monitoring effort will employ a suite of observation and data collection forms that will be used by the monitoring team to observe and document uses and user patterns at various facilities and feature types on the two runs. Site-type observation forms for each of the facility/feature types are in Appendix C. The site-type observation and data collection forms for particular locations may be adjusted to facilitate accurate and efficient data collection due to site-specific circumstances. Each individual observation site will have a site sketch map produced with enough detail to accurately identify and track activity locations (e.g. parking patterns, access points).

The site-type facility and feature observation and data collection forms include the following:

- Put-in
- Take-out
- On-river
- Non-boating
- Parking
- Post-trip phone interviews

To assess resource impacts that may be due to boating activities, the monitoring effort will employ annual photo documentation at put-in and take-out sites. This photo documentation will be combined with observations and notes taken by the field survey team on boating user behavior at access sites. This will be supplemented by information taken from post-trip interviews.

The following are intended methods by which the field observation data will be collected. The data collection effort will include annual field training of site observers to ensure full understanding of the data collection protocols and periodic oversight reviews during the data collection season. Levels of effort may be adjusted depending on the occurrence of usage.

Collection Procedures

For all observation forms, field observers will record all of the use, user, and user pattern information listed on the forms. Time and motion information will be recorded to the minute. If any data point is missed during the recording, a “best guess” estimate will be entered and noted as “est.” The only exception to the stand-off observation recording approach will be at put-in sites where field observers will contact user groups upon their arrival to solicit contact information for a post-trip phone interview process described

below, and to determine the intended take-out location. The clocks of all the field observers on each run will be synchronized at the start of each monitoring day. Field observer vehicles will be parked at the various facilities but in such locations as to avoid any possible interference with boater and non-boater parking needs.

The post-trip phone interviews will be conducted within five days of the trip date. To the extent possible the interviewees selected will constitute stratified representations of varying user group types (including commercial/non-commercial), boat-type mixes, flow magnitudes, total-day use levels, and time-of-day use densities for the boating recreational streamflow release regime of each particular year.

To maximize consistency and to accurately and fully interpret responses, all of the phone interviews will be conducted by a single individual each year. This individual will be selected by SMUD staff and working in a paid capacity. Required qualifications of the interviewer will include whitewater boating experience and training on the interviewing techniques to be employed. Using a crib-sheet to ensure all questions are covered, phone interviews will be conducted in a conversational style. Immediately following the phone interview, narrative notes will be prepared by the interviewer. As soon as possible, the interview notes will be reduced to a bullet-item format that lists the responses in the order of the crib-sheet.

To collect information on resource impacts, access site conditions will be photo documented at the start and end of the boating release season by field observers. Notes will be taken by the field observers concerning boater access use behavior that could lead to resource impacts and observed impact-potential user patters will be noted on the site sketch maps. Post-trip phone interviews will solicit information on user-observed resource conditions which on a year-to-year basis can be used to identify other possible resource impact concerns.

On each run there are various access locations that could be used by boaters (see Figures 1 and 2) but the usability of many locations are limited due to issues with land ownership and/or steep terrain. On the Slab Creek run, the three most downstream locations indicated on Figure 1 are currently inaccessible to the general public due to landownership preclusion. SMUD expects that for the 2015 boating season, the Rock Creek site and/or the Mosquito Road Bridge will be the designated take-out for the Slab Creek run. On the Ice House run, there are four potential put-in locations that boaters could use to enter the river. Of these four, only the Ice House Dam Access site and the Ice House Road Bridge are accessible to the general public (the Gage site requires access through private property, and the Silver Creek Group Campground requires prior reservation through the USFS or their recreation concessionaire).

Phase I

Slab Creek Run

- **Slab Creek put-in:** One observer will complete the Put-in and Non-boating forms and will photo document, and one observer will complete the Parking form.

- **Mosquito Road:** One observer will complete the Put-in, Take-out, On-river, Non-boating, and Parking forms and will photo document.
- **Mother Lode Falls:** One observer will complete the On-river forms.
- **Designated take-out:** One observer will complete the Take-out and Non-boating forms, and will photo document and one observer will complete the Parking form.
- **Post-trip phone interviews:** For consistency and accuracy, one individual with the qualifications listed above will conduct all interviews.

Ice House Run

- **Designated put-in:** One observer will complete the Put-in, Non-boating, and Parking forms and will photo document.
- **Other three upstream access points:** One observer will complete the Non-boating form at these three locations.
- **Bryant Springs Bridge take-out:** One observer will complete the Take-out, Non-boating, and Parking forms and will photo document.
- **Junction boat ramp:** One observer (Bryant Springs Bridge observer) will conduct a site visit at mid-day to survey vehicle numbers and activities and one observer (put-in observer) will conduct a site visit in the late afternoon/evening hours and will complete Take-out, Non-boating, and Parking forms.
- **Post-trip phone interviews:** For consistency and accuracy, one individual with the qualifications listed above will conduct all interviews.

Phase II

Slab Creek Run

- **Slab Creek put-in:** One observer will complete the Put-in and Non-boating forms and will photo document.
- **Mosquito Road[1]:** One observer will complete the Put-in and Non-boating forms and will photo document.
- **Take-out site(s):** As necessary, but not less than on four year intervals, one observer will complete the Take-out, Non-boating, and Parking forms and will photo document.
- **Post-trip phone interviews:** For consistency and accuracy, one individual with the qualifications listed above will conduct all interviews.

[1] A major road construction project in the vicinity of the Mosquito Bridge is scheduled to occur in in the 2018-2019 timeframe. Monitoring will occur at this site during construction per this Monitoring Plan, so long as whitewater access is permitted during releases of recreational streamflows.

Ice House Run

- **Designated put-in:** One observer will complete the Put-in and Non-boating forms and will photo document.
- **Other three upstream access sites:** One observer will complete the Non-boating form at these three locations.
- **Take-out site(s):** As necessary, but not less than on four year intervals, one observer will complete the Take-out, Non-boating, and Parking forms and will photo document.
- **Post-trip phone interviews:** For consistency and accuracy, one individual with the qualifications listed above will conduct all interviews.

Monitoring Locations, Time-of-day

Phase I

Phase I sampling will occur on each scheduled recreational flow release day. Much of the following time-of-day observation hours depend on the variation of sunset time through the required boating recreational release regime seasons on the two reaches. Sunset varies in time from about 1800 hours on March 1st to about 2030 hours on June 30th. For the following time-of-day observation schedule, June daylight conditions are assumed. Thus, earlier in the season the end of day end time will be earlier that indicated below.

Slab Creek Run

The time-of-day boating flow release schedule calls for prescribed flows between 1000-1600 hrs. Ramping rate requirements allow no more than one foot of changed water elevation per hour. Thus, boatable flow conditions could easily occur at the put-in in as early as 0900 and as late as1700 hrs. Expected boating times from the Slab Creek put-in to various potential take-outs include about one to two hours to Mosquito Road, between four to six hours to Rock Creek, and about four to six hours to the Gravel Bar/White Rock Powerhouse area. The daily time-of-day site observation will accommodate the release schedule, the expected duration of boatable flows at the put-ins, expected desired start-of-trip times for boaters, expected float-times to take-outs, and seasonality. Depending on water year types, interim annual recreational flow release days could range from zero to seven. At this time, SMUD intends to designate one of the three possible downstream access locations as a take-out for recreational whitewater use for the 2015 season. This take-out location has not yet been determined. The following monitoring hours could be adjusted depending on actual observed boating use patterns.

- Put-ins
  - Slab Creek 0900-1700 hrs
  - Mosquito Road 1000-1700 hrs
- Take-outs
  - Mosquito Road 1000-1900 hrs

  - Designated take out 1200-2000 hrs
- On-river
  - Mosquito 1000-1700 hrs
  - Mother Lode Falls 1100-1600 hrs
- Non-boating (on all scheduled release days and on next non-recreation flow weekend day with comparable weather conditions).
  - Slab Creek 0900-1700 hrs
  - Mosquito Road 1000-1900 hrs
  - Designated take out 1200-2000 hrs
- Parking
  - Slab Creek 0900-1700 hrs
  - Mosquito Road 1000-19000 hrs
  - Designated take outs 1200-2000 hrs
- Post-trip phone interviews. 30 interviews will be performed within 5 days of trip date.

Ice House Run

Time-of-day boating flow release schedule calls for prescribed flows between 1000-1500 hrs. Ramping rate requirements allow no more than one foot of changed water elevation per hour. Thus, boatable flow conditions could occur at the designated put-in between 0930 and 1530 hrs. The boating time from the designated put-in to the Bryant Springs Bridge/Junction boat ramp area are expected to in the 5-7 hour range. Daily time-of-day site observations will accommodate the release schedule, the expected duration of boatable flows at the put-in, expected desired start of trip times for boaters, expected float-times to take-outs, and seasonality. Depending on water year types, interim annual recreational flow release days could range from one to nine. SMUD expects to designate one of the four upstream possible access locations as a put-in site for whitewater uses for the 2015 season, but the site has not yet been determined. Data for the Junction boat ramp take-outs will be collected at the Bryant Springs Bridge take-out by recording those groups that float past this take-out and proceed to the Junction Lake boat ramp. The following monitoring hours could be adjusted depending on actual observed boating use patterns.

- Put-in
  - Designated site 0930-1600 hrs
- Take-outs
  - Bryant Springs Bridge 1430-2030 hrs
  - Junction boat ramp 1700-2100 hrs
- Non-boating (on all scheduled release days and on next non-recreation flow weekend day with comparable weather conditions).
  - Ice House Dam 0930-1530 hrs
  - Gage site 0930-1530 hrs
  - Ice House Road 0930-1600 hrs
  - Silver Creek CG 1000-1600 hrs

  - Bryant Springs Bridge 1430-2030 hrs
  - Junction boat ramp 1300-1400 hrs 1700-2100 hrs
- Parking
  - Designated put-in 0930-1600 hrs
  - Bryant Springs Bridge 1430-2100 hrs
  - Junction boat ramp 1300-1400 hrs, 1700-2100 hrs
- Post-trip phone interviews
  - 30 interviews within five days of trip date

Phase II

Phase II monitoring will occur annually on each scheduled recreational flow release day until such time as whitewater use monitoring is no longer required. The scheduling of Phase II monitoring activities follow the same set of criteria and assumptions used in Phase I monitoring on the two runs as described above. For the Slab Creek run, Mosquito Road is included in the non-boating use assessment because, other than the put-in at Slab Creek Dam and the Rock Creek access site, it is the only publicly accessible location on the diverted reach where stream-related non-boating recreation is likely to take place on days in which no boating recreational streamflow releases occur. For the Ice House run, non-boating use assessment is not included for the Bryant Springs Road Bridge/Junction boat ramp area because the License requires that within ten years of License issuance a whitewater take-out site is to be developed at the Bryant Springs Bridge which will include an improved access trail and parking for whitewater user vehicles. The following monitoring hours could be adjusted depending on actual observed boating use patterns.

Slab Creek Run

- Put-ins
  - Slab Creek 0900-1700 hrs
  - Mosquito Road 1000-1700 hrs
- Non-boating (on all scheduled release days and on next non-recreation flow weekend day with comparable weather conditions).
  - Slab Creek 0900-1700 hrs
  - Mosquito Road 1000-1900 hrs
- Post-trip phone interviews
  - 15 interviews within five days of trip date

Ice House Run

- Put-in
  - Designated put-in 0930-1600 hrs
- Non-boating (on all scheduled release days and on next non-recreation flow weekend day with comparable weather conditions).
  - Ice House Dam 0930-1530 hrs
  - Gage site 0930-1530 hrs

  - Ice House Road 0930-1600 hrs
  - Silver Creek CG 1000-1600 hrs
- Post-trip phone interviews
  - 15 interviews within five days of trip date

Monitoring Data Applications

Much of the detailed use and user pattern monitoring information collected in Phase I will be used for the development of the 2-Year Slab Creek run and the 4-Year Ice House run management planning efforts. This information will be used to estimate an initial carrying capacity for each significant facility/feature of each run and an overall total-run carrying capacity for each reach based on user contact-level conditions. This, along with other planning elements, will be used to develop the individual management plans for each of these runs. Part of the carrying capacity findings of these planning efforts will be estimates of put-in user level thresholds that can be used as indicators of whole-run user contact-level condition threshold exceedances.

Some of the Phase I (that which is commensurate with Phase II data) and all of the annual Phase II monitoring data will be used every fifth year in the Five-Year Monitoring Reports on each run. Yet to be produced management plans for each of the two runs will develop and adopt; 1) thresholds for user triggers, 2) decision-rules for assessing trigger exceedance occurrence and significance, and 3) decision-rules for proposing adaptive management actions.

At each Five-Year Monitoring Report interval, the annual Phase II monitoring data of the preceding five years will be used to develop findings based on the procedures adopted in the appropriate management plan.

Annual Data Synthesis and Reporting

The Phase I (that which is commensurate with Phase II data) and Phase II monitoring data for boating and non-boating observations will be maintained by SMUD to query observed use and use-pattern data by individual days of scheduled recreational streamflow release along with the background information on flow magnitude and weather, etc.

The post-trip interview notes and the bullet-item response format sheets will be reduced to a response form which will provide a method of entering interview responses into SMUD's database. Interview notes and the bullet-item response format sheets will be included in the annual report as an appendix.

Resource conditions at each surveyed access location will be addressed by photo documentation, notes developed by field observers on boater use patterns concerning observed or possible resource degradation, and the sketch map of activity patterns.

The annual monitoring data will be summarized as follows:

- Summary of annual uses (from put-in information)

  - Total-season boating users
  - Boat numbers,
    - Boat-type distribution
  - Group numbers (stratified by commercial/non-commercial groups)
    - User number distribution
    - Boat-type distribution
    - Boat-types/user number distribution
  - Seasonal distribution
    - Group numbers
    - User numbers
    - Boat-type mixes
- Summary of user patterns (from put-in and post-trip interview information)
  - Daily use patterns
  - Flow-related uses
  - Weather-related issues
  - Take-outs used
  - User skill-levels
  - Vehicle management approaches
    - Number of vehicles used
    - Parked locations
    - Shuttle patterns
  - Wait times at put-in
- Summary of resource characterizations (from post-trip interview information)
  - On-river group contacts
    - Number
    - Location
    - Significance, etc.
  - On-river hazards
  - Overall trip resource satisfaction
  - Flow magnitude satisfaction
  - Regional river resources considered
  - City-residences
- Summary of non-boating uses (from put-in information – stratified by boating flow release days v. non-boating flow release days)
  - Number of non-boating users by activity-types
  - Daily use patterns
  - Vehicle numbers
    - Parking locations
  - Flow-related use variation
  - Weather-related use variation

Annual Summary of Findings

A brief narrative of the results of annual summaries will be provided. For each surveyed access location a brief description of resource condition changes will be developed supplemented by photo-documentation and field notes of observed or possible resource degradation that may be due to boating activity patterns. Importantly, explanations of any unusual circumstances will be provided in sufficient detail such that the specific data and summary information can be adequately interpreted in subsequent years when the Five-Year Monitoring Reports are prepared.

Any use or user pattern information relevant to significant issues such as carrying capacity, facility/ feature limitations, user conflicts, etc. that are not recordable on the various field observation forms but were noted by field observers will be included as an appendix.

APPENDIX A
SUMMARY OF WHITEWATER BOATING FLOW STUDIES

Appendix A
Summary of Whitewater Boating Flow Studies

As part of its application to FERC for a new License for the UARP, in 2002 SMUD conducted a general review of the whitewater opportunities associated with project features (*Whitewater Boating Feasibility Technical Repor*t, September 2004).

The findings of that assessment included that whitewater boating opportunities existed on the 11.2-mile reach of the South Fork of Silver Creek between Ice House Dam and Junction Reservoir and existed on the 8 mile reach of the South Fork of the American River between Slab Creek Dam and the White Rock Powerhouse. The Recreation and Aesthetics Technical Working Group (TWG), which was a group of stakeholders engaged with SMUD on the Relicensing effort and is no longer an active entity, approved controlled release whitewater boating flow studies on these two reaches to determine boatabilty and range of acceptable flows.

Slab Creek Run

The approved study plan for the whitewater boating flow study for the run included a 3-flow controlled flow test approach (in intended order of occurrence, 1,000, 500, and 1,500 cfs), and the planned approach was based on a consistent team of boaters evaluating each flow level independently and of the three flow levels comparatively (*Whitewater Boating Flow Study Slab Creek Reach Technical Report*, October 2004). The 3-flow controlled flow assessment was to assess various whitewater recreation characteristics at the test flows and to develop estimates of minimum and optimum flows for whitewater recreation. The flow tests were conducted in 2003 on October 31, November 1, and November 2 at reported flows of 616 cfs, 1,068 cfs, and 1,597 cfs respectively.

In total, 27 boaters participated in the controlled flow study; 12 advanced to “elite” kayakers, and 15 intermediate to “elite” rafters. The number of participants on each test flow varied; 616 cfs - 12 kayakers and 2 rafters, 1,068 cfs - 11 kayakers and 10 rafters, 1,597 cfs - 5 kayakers and 11 rafters. Of the 27 participants, 10 were on 1 test flow, 10 were on 2 test flows, and 7 were on all the three test flows (5 kayakers, 2 rafters). Of the 27 participants, 25 completed the flow comparison evaluation.

The results from the boating participants included that; it was a class IV/V run with a tendency towards a class V run at 1,597 cfs; there were up to 2 portages at rapids with a slight tendency for portage occurrences to decrease with increasing flow magnitudes, one portage location was at Mother Lode Falls (class V) which was portaged by most but not all boaters and this portage was considered as “slightly ” or “moderately” difficult, one portage was at Mosquito (class IV+/V) which was portaged by fewer boaters and was considered as an “easy” portage. It was estimated that on a given run typically a total of 30-40 minutes were spent by boaters in scouting and portaging; at the intermediate test flow (1,067 cfs) about half the boaters stated that higher flows would be preferred and about half stated that lower flows would be preferred with a tendency for rafters to prefer higher and kayakers to prefer lower flows, based on the limited participation in each of the 3 test flows (see above). On average the boaters indicated that flows that offered “acceptable” or better whitewater boating characteristics could be in the 950-1,850 cfs range for rafting and 525-1300 cfs for

kayaking, and that on average the best whitewater characteristics could occur in the 1,100-1,546 cfs range for rafting and 717-1,300 cfs for kayaking. (Functional definitions for the classes or portage difficulty and for the categories of on-river whitewater boating characteristics were not provided in the survey instrument.)

Based on these participant responses, the study concluded that "minimum acceptable flows" are approximately 400 cfs for kayaking and approximately 700 cfs for rafting. This was based on the assumption that boaters would return for flows that were rated by participants as providing "marginal" or better whitewater boating characteristics (the study adopted the functional definition for "minimum flow" as the lowest flow at which at least 50% of the boaters would return). The optimum flows, considered as those providing the best combination of whitewater flow conditions, were found to be approximately 700 to 1,100 cfs for kayaking and approximately 1,100 to 1,500 cfs for rafting. The final kayak optimum flow range (700-1,100 cfs) was reduced from the optimum flow range developed by the boater responses (717-1,300 cfs) by eliminating the responses of 2 "elite" kayakers whose responses were considered as outliers.

Ice House Run

The approved study plan for the whitewater boating flow study included a 3-flow controlled test flow approach (200, 300, and 500 cfs) (*Ice House Reach Whitewater Boating Flow Study Technical Report*, September 2004). However, after a review of the potential magnitude of LWD (due to tree-fall following the 1992 Cleveland Fire) impediments to navigability on the 11 mile run and the implications to run difficulties and possibly extended on-river float-time, particularly at low flows, the TWG approved a single test flow approach (at 400 cfs). The flow test was conducted on May 1, 2004 on a reported flow of 396 cfs. Participants included 6 advanced and expert kayakers who had not previously boated this run.

The results of the single-flow test were predicated on the impressions of these 6 boaters based the one-trip experience on this run at 400 cfs with the 2004 LWD conditions. The results included that under 2004 conditions at 400 cfs; it was a class III/IV run with possibly one class V- rapid, 5 different rapids were portaged by boaters but each individual boater reported only portaging 1 or 2 rapids and the portages were rated as ranging from "not at all difficult" to "moderately difficult," therefore there could be one or two rapids on the run that may be portaged by class IV boaters. LWD conditions made the run unsuitable for rafting (suitable only for kayaks and WW canoes; LWD conditions made the run unsafe for class III boaters.

On the single test float, the boaters did not inventory or report on the amount or prevalence of LWD but all boaters portaged 3 LWD hazards and one boater portaged another 3 LWD hazards. Of the 6 boaters 5 agreed with the statement that the amount of LWD was "unacceptable." However, the boater's impressions of the degree of LWD issues and how much LWD management would be required to make the "run acceptable" to the participant were highly varied. Four participants indicated that the number of logs which would need to be removed ranged from 5 to 20 and 2 participants indicated that 2% and 5% of the LWD would need to be removed. One participant indicated that the removal of 15-20 logs would make the run more "boatable" to class III paddlers. (At another point in the study report; "removing 5-15 logs would improve the safety of the run and make to run more acceptable for class III boaters".) Under the existing LWD conditions, all participants responded that

the 400 cfs test flow was optimum (as opposed to either lower of higher flows), and that 2 boaters would “possibly” return, 3 would “probably” return, and 1 would “definitely” return at 400 cfs. (Functional definitions of “unacceptable,” “acceptable,” and “boatable,” etc. were not provided in the survey instrument.)

Should LWD management actions be undertaken such that “acceptable” conditions were achieved, the impressions of these 6 boaters based on the one-trip experience on this run at 400 cfs included; that it should remain a class III/IV run (overall reduced difficulty by about ½ class) with possibly one class V- rapid, that there could be one or two rapids on the run that may be portaged by class IV boaters, that it could be suitable for class III boaters should they portage the approximately six class IV and one class V- rapids and, that it could be marginally suitable for some rafts. Although only one test flow was conducted, boaters completed a flow comparison assessment of possible whitewater conditions (for their boat-type and skill level), considering all flow-dependent characteristics, over a 150-700 cfs flow range as if there were an “acceptable amount” of LWD on the run. Their responses included; that the lowest navigable flow could be 300 cfs, that the lowest flow at which “marginal” or better conditions occur could at about 300 cfs (5 of 6 respondents), and the lowest flow with “acceptable” or better conditions could be at about 350 cfs (5 of 6 respondents), that the range over which “totally acceptable” conditions occur could be in the 400-550 cfs range, that the “optimal” flow range could be 400-500 cfs, and the highest safe flows could be about 600 cfs. All of the participants responded that they would “definitely” return at 400 cfs if the LWD had been reduced to an “acceptable” level.

The study interpreted these responses to indicate that for advanced to expert kayakers, under “acceptable” LWD conditions, the identified “minimum acceptable flow” (functionally defined the lowest flow at which at least 50% of the boaters would return) is approximately 300 cfs and the “optimum flow” range (functionally defined as the flows that provide the best combination of whitewater characteristics), is 400-550 cfs. In the report Summary, the study indicated that the “minimum acceptable flow” was 350 cfs; no reasoning was presented as to why the minimum flow findings in the Summary were different than in Analysis section. (Note; that the functional definition for “minimum acceptable flow” indicates that the study interpreted “marginal” conditions as indicating more than 50% of the boaters would return and “unacceptable” conditions as indicating less than 50% of the boater would return but these interpretations were not explicitly stated as such.)

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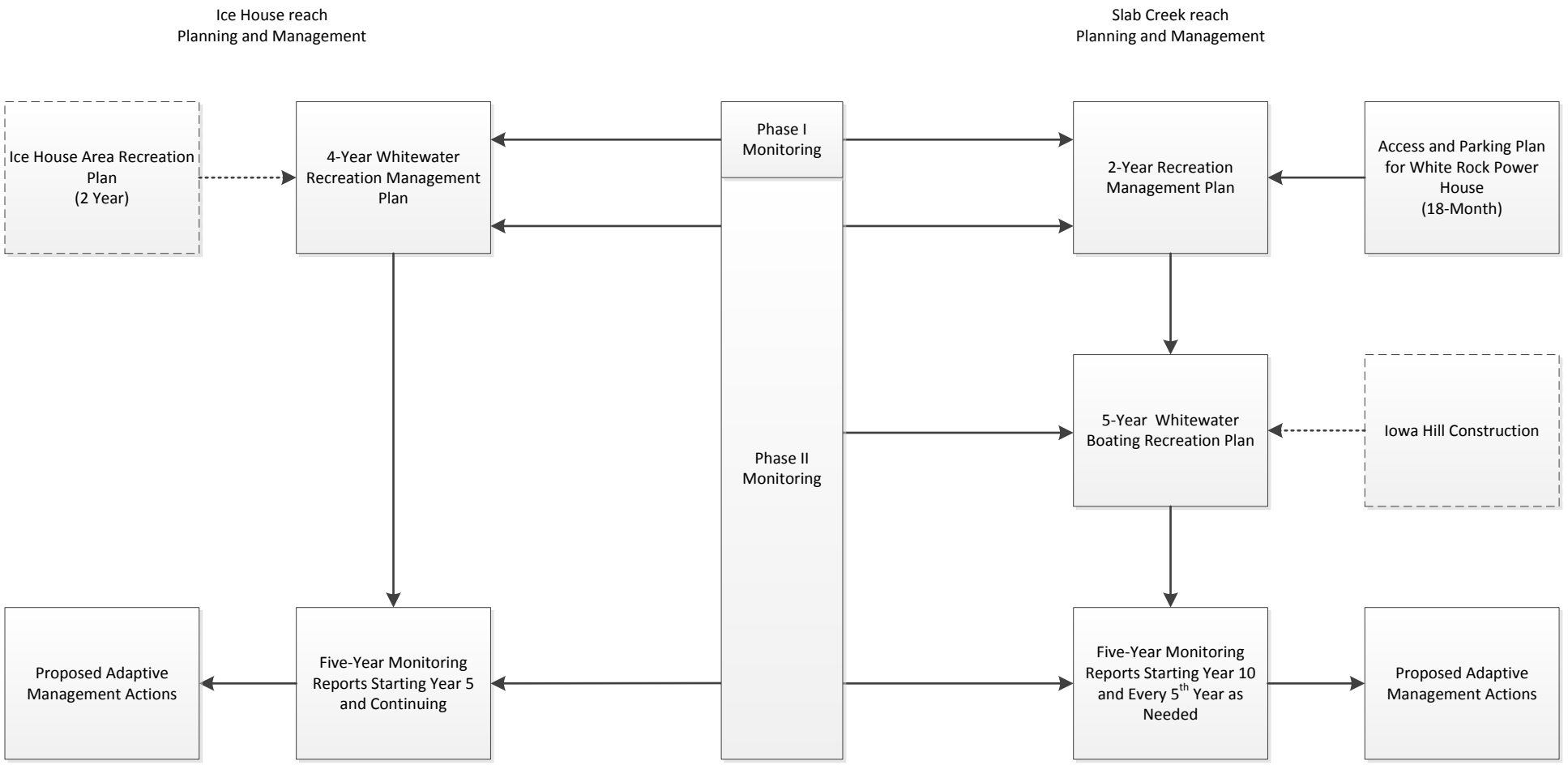
APPENDIX B
PLANNING AND MANAGEMENT CONTEXT OF THE MONITORING PLAN

Appendix B
Planning and Management Context of the Monitoring Plan

The License requires a suite of whitewater recreation management planning and assessment activities on both runs. The License and its incorporated conditions identify several planning assessment efforts but entitle these efforts inconsistently and sometimes inappropriately with respect to their intended objectives. Figure B-1 represents the required planning sequences for each run and their inter-relationships, using titles from the License and its incorporated conditions. The whitewater use monitoring efforts on the two runs integrate with these other required planning activities. A brief review of the whitewater planning and management actions required on the two runs is provided below.


Ice House reach
Planning and Management
Slab Creek reach
Planning and Management
Ice House Area Recreation Plan (2 Year)
4-Year Whitewater Recreation Management Plan
Phase I Monitoring
Phase II Monitoring
2-Year Recreation Management Plan
Access and Parking Plan for White Rock Power House (18-Month)
5-Year Whitewater Boating Recreation Plan
Iowa Hill Construction
Proposed Adaptive Management Actions
Five-Year Monitoring Reports Starting Year 5 and Continuing
Five-Year Monitoring Reports Starting Year 10 and Every 5th Year as Needed
Proposed Adaptive Management Actions

Slab Creek Run

Access and Parking Plan for White Rock Powerhouse

SMUD will, in cooperation with U.S. Forest Service, State Water Resources Control Board, U.S. Bureau of Land Management, and the Consultation Group, prepare, implement, and update as necessary, a plan that will provide easement for access and parking in the immediate vicinity of White Rock Powerhouse for recreational streamflows below Slab Creek Dam within 18 months of License Issuance. The License requires SMUD to make a good faith effort to purchase at fair market value suitable real property as such property becomes available, or to obtain a long-term lease or easement for recreational use of such property, if necessary for whitewater boating take-out facilities. If, after a good faith effort, necessary property remains unavailable for recreational use, SMUD will work with the stakeholders mentioned above to identify alternatives. This Access and Parking Plan will be incorporated into the 2-year Recreation Management Plan described below.

2-Year Recreation Management Plan

Prior to the end of the second License year SMUD will complete a recreation management plan that addresses whitewater recreation needs for the Slab Creek run. Elements of the 2-Year Recreation Management Plan are to include: 1) use levels and projected use levels, 2) carrying capacity, 3) user conflicts, 4) river corridor whitewater boating activity impacts including to private lands, 5) whitewater access facility and parking requirements, 6) demand for commercial guiding and shuttle services, 7) necessary emergency resource protection measures, 8) public safety needs, and 9) on-river patrol needs.

The results of Phase I monitoring will be used to develop much of use inventory and use pattern information that will be the basis for many of the components of the 2-Year Recreation Management Plan.

The 2-Year Recreation Management Plan will develop user, user pattern, and carrying capacity estimates, etc. in sufficient detail and in such a manner that defensible use triggers can be developed in the 5-Year Whitewater Boating Recreation Plan.

5-Year Whitewater Boating Recreation Plan

By the end of the fifth year of the License, SMUD will complete a Whitewater Boating Recreation Plan, which is to include: 1) a description of whitewater uses and impacts, and 2) the establishment of boating use level triggers that would determine if a modified boating streamflow release regime is to be provided.

The 5-Year Whitewater Boating Recreation Plan will be developed based on the various findings of the 2-Year Recreation Management Plan, adding information collected during Phase I and Phase II monitoring. The 5-Year Whitewater Boating Recreation Plan will include decision-rules to be used to assess historical use trends, the degree and specifics of particular threshold trigger exceedance occurrences, and to guide adaptive management actions.

Five-Year Monitoring Reports

Starting in the tenth year of the License and every fifth year thereafter, until such time as the modified recreational streamflow release regime is provided, a Five-Year Monitoring Report will be prepared to determine if a modified release regime is warranted.

The findings of these Five-Year Monitoring Reports will be based on the decision-rules adopted in the 5-year Whitewater Boating Recreation Plan and the results of Phase II monitoring.

Ice House Run

4-Year Whitewater Recreation Management Plan

Under the requirements for the Ice House Area Recreation Plan, contained in the license and its incorporated conditions, a Whitewater Recreation Management Plan must be completed for the Ice House run. This 4-Year Whitewater Recreation Management Plan is meant to address whitewater recreational needs of this run and is to include; 1) carrying capacity, 2) user conflicts, 3) whitewater access facility and parking requirements, 4) necessary emergency resource protection measures, 5) on-river patrol needs, 6) adopted boating use level triggers that would determine if a modified boating streamflow release regime is to be provided, and 7) decision-rules to be used to assess historical use trends, the degree and specifics of particular threshold trigger exceedance occurrences, and to guide adaptive management actions.

The results of Phase I and Phase II monitoring will be used to develop much of the use and use pattern information that will be the basis for many of the components of the 4-Year Whitewater Recreation Management Plan.

Five-Year Monitoring Reports

Starting in the fifth year of the License and every fifth year thereafter, a Five-Year Monitoring Report will be prepared that describes whitewater recreation use and impacts, determines if any adopted use triggers have been exceeded, and provides recommendations as to whether the initial recreational streamflow release regime should be modified.

The findings of these Five-Year Monitoring Reports will be based on the decision-rules adopted in the 4-Year Whitewater Recreation Management Plan and the results of Phase II monitoring.

APPENDIX C
OBSERVATION AND DATA COLLECTION FORMS

Appendix C
Observation and Data Collection Forms

Included in this appendix are the site-type Observation and Data Collection Forms that will be used for both Phase I and Phase II use monitoring. The forms include all of the site-type observation elements intended by the Monitoring Plan but their structures may be modified to accommodate site specific circumstances so that data collection efficiencies are optimized. Also, each specific site will include a sketch map that identifies site-specific activity locations so that uses and user patterns can be adequately identified and tracked on the observation forms.

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1. Put-In Locations

Surveyor Name:
Location:
Date and Day of Week:
Observation: **Start Time:**
End Time:
Water Year Type:
Flow Magnitude:

Morning Conditions

Sky Conditions: *crl* *p-cld* *cld*
Precipitation: *none* *driz* *light* *heavy*
Wind: *calm* *slight* *strong*
Temp: *hot* *warm* *cool* *cold*

Afternoon Conditions

Sky Conditions: *crl* *p-cld* *cld* *cld*
Precipitation: *none* *driz* *light* *heavy*
Wind: *calm* *slight* *strong*
Temp: *warm* *cool* *cold*

	BOATING																															NON-BOATING						
	MISC				Numbers By Boat-Type							Contact Information						Staging						Launch						Vehicle		Miscellaneous						
Group #	Put-In or Float-By? (P/F)	Arrival Time	Vehicle Number	Other Vehicles Number On-Site	Comm/N-Comm	Kay/PEO	Inf Kay/PEO	P-Raft/PEO	O-Raft/PEO	P/O-Raft	Other/PEO	Name	Phone #	Day or Evening #? (D/E)	Run of the Day (1st, 2nd, 3rd)	Intended TO	Number of Vehicles @ Take-Out	Location	Number of Boats @ Location	Wait to Start? (Y/N)	Start Time	End Time	Total Wait/Delay Time	Location	Number of Boats @ Location	Wait to Water? (Y/N)	Time 1st Boat to Water	Time Last Boat to Launch	Total Wait/Delay Time	Parking Locations	Time Left Site	Time of Arrival	Vehicle Number	Other Vehicle Numbers On-Site	Vehicle Parking Location	Number of People	Activity	Time of Departure

2. Take-Out Locations

Surveyor Name:	
Location:	
Date and Day of Week:	
Observation:	**Start Time:**
	End Time:
Water Year Type:	
Flow Magnitude:	

Morning Conditions				
Sky Conditions:	*crl*	*p-cld*	*cld*	
Precipitation:	*none*	*driz*	*light*	*heavy*
Wind:	*calm*	*slight*	*strong*	
Temp:	*warm*	*cool*	*cold*	

Afternoon Conditions				
Sky Conditions:	*crl*	*p-cld*	*cld*	
Precipitation:	*none*	*driz*	*light*	*heavy*
Wind:	*calm*	*slight*	*strong*	
Temp:	*warm*	*cool*	*cold*	

	BOATING																														**NON-BOATING**						
	On-River Arrival				**Wait Time**			**Landing**						**Numbers By Boat-Type**							**Staging**						**Departed Staging Area By**				**Miscellaneous**						
Group #	Take-Out or Float-By? (T/F)	On-River Arrival	Time of Arrival in Area	Number of Boats @ Landing	Wait to Land? (Y/N)	Wait Time to Landing (Whole Group)	Location of Wait	Location	Time 1st Boat to Shore	Time Last Boat to Shore	Number of Boats at Staging Location	Wait to Depart? (Y/N)	Total Wait/Delay Time	Comm/N-Comm	Kay/PEO	Inf Kay/PEO	Pad Raft/PEO	Oar Raft/PEO	Pad-Oar/PEO	Other/PEO	Location	Number of Boats @ Location	Wait to Start? (Y/N)	Start Time	End Time	Total Wait/Delay Time	Carry	Vehicle	Vehicle Number	Time Vehicle Departed	Time of Arrival	Vehicle Number	Other Vehicles Number On-Site	Vehicle Parking Location	Number of People	Activity	Time of Departure

3. On-River Locations

Surveyor Name:
Location:
Date and Day of Week:
Observation: **Start Time:**
End Time:
Water Year Type:
Flow Magnitude:

	BOATING																																							
	Misc.	**Numbers By Boat-Type**							**Approach**			**Landing**				**Scout Landing**											**Portage Landing**													
Group #	Time of On-River Arrival	Comm/N-Comm	Kay/PEO	Inf Kay/PEO	Pad Raft/PEO	Oar Raft/PEO	Pad-Oar/PEO	Other/PEO	River Scout By Boat Types/Number	Bank Scout By Boat Types/Number	Portage By Boat Types/Number	Wait to Land? (Y/N)	Number of Boats @ Landing	Wait Time to Land (Whole Group)	Location of Wait	Location	Time First Boat to Shore	Time Last Boat to Shore	Scout Time? (Y/N)	Scout Time Start	Scout Time End	# of Boats On-River @ Departure	Wait to Depart? (Y/N)	Total Wait/Delay Time	Time 1st Boat Left Shore	Time Last Boat Left Shore	Location	Time 1st Boat to Shore	Time Last Boar to Shore	Number of Boats on Portage	Scout Time? (Y/N)	Scout Time Start Time	Scout Time End Time	Wait on Portage? (Y/N)	Number of Boats at Portage Site	Total Wait/Delay Time	Time 1st Boat Left Landing	Time Last Boat Left Landing	Time 1st Boat Launched	Time Last Boat Launched

4. Vehicle/Parking Monitoring

Surveyor Name:
Location:
Date and Day of Week:
Observation: **Start Time:**
End Time:
Water Year Type:
Flow Magnitude:

	BOATING														NON-BOATING							Rotating Vehicle Inventory (15-Min Cycles)				
	Arrival			Arrived Trip- Start Shuttle				Arrived to Stage			Arrived Trip-End Shuttle?				Arrival				Misc.			Time	Locations			
Group #	Arrival Time	Other Vehicles On-Site	Group Vehicle #	Arrived Trip-Start Shuttle? (Y/N)	Vehincle # Parked	Location	Time Departed	Arrived to Stage? (Y/N)	Vehicle # Parked	Location	Arrived Trip-End Shuttle? (Y/N)	Vehicle # Parked During Run	Location	Time Departed	Arrival Time	Other Vehicles On-Site	Group Vehicle # Parked	Location	People #	Activities	Time of Vehicle Departure	Time (15-Min Cycles)	Location A	Location B	Location C	Location D	Location E

5. Non-Boating Uses

Surveyor Name:	
Location:	
Date and Day of Week:	
Observation:	**Start Time:**
	End Time:
Water Year Type:	
Boating Flow? (Y/N)	
Flow Magnitude:	
Water Temperature? (C/F)	

	Rotating Use Inventory (30-Min Cycles)						
	Misc.		In/On Water			Additional in Area	
Time	Angling	On Bank	Wading	Swimming	Floating	Camping	Other

6. Post-Trip Interviews

Background (From Put-In Forms)
Surveyor:
Location:
Date of Trip:
Day-Type:
Group Number:
Group Boat-Type Mix:
Comm/Non-Comm:
Flow Magnitude:
Boating Weather:
Day Total Trip Starts
Group Number:
Boat Number:
User Number:
Launch Time
Launches Within +/- 0.25 hr:
Group Number:
Boat Number:
User Number:
Launches Within +/- 0.5 hr:
Group Number:
Boat Number:
User Number:
Launches Within +/- 1 hr:
Group Number:
Boat Number:
User Number:
Stratification Parameters:

Interview Questions

1. Skill level of group members?

2. Single Day-Run or Repeat Runs in a Single Day?

3. Stayed for Multiple Runs Over Multi-Day Releases?

Consultation Record

Comment #	Page	Par.	Comment	Response
AW= American Whitewater; USFS= United States Forest Service; SWRCB= State Water Resources Control Board				
AW-1			Overall, American Whitewater is pleased with the amount of work and detail that has gone into the draft whitewater boating monitoring plan thus far and we suggest the following:	
AW-2	2 & 5		Instead of providing license language for the recreational flows in Appendix B and rewording license condition 4 and Article 50 regarding initial flow, triggers & "upper cap" flows on these pages for Slab Creek and Ice House river sections, for clarity and consistency delete the rewording and provide the license language and tables here instead of in the appendix.	It is intended to be a summary of boating release flow regime and language has been added indicating as much. Flow tables that were previously in Appendix B are now in the body of the document.

Comment #	Page	Par.	Comment	Response
AW-3	2	Last Paragraph	American Whitewater does not believe the provision for LWD as detailed in the license has the potential to create new year over year safety hazards, thus we suggest this statement should be removed. We believe that in normal situations movement of LWD is a natural process critical to ecological functions and the physical features of every river. However, we do acknowledge concern over having more than normal LWD and it should be clarified that the concern is not the LWD license condition but the impact of the King Fire. The monitoring plan surveys should thus include watching for "hot spots" on Slab Creek that have the potential to become a safety hazard with the build up of extra LWD from the King Fire allowing SMUD and the consultation group to manage accordingly.	Statement on potential LWD hazards is retained, but language has been modified. Responses to the post-trip interviews will alert development of any new hazards, including an associated with LWD.
AW-4	9	3	American Whitewater supports the idea of phone interviews by one "experienced whitewater boater" but what will be the parameters for this individual i.e. will they be paid staff, a volunteer, experience on the reach or just experience on similar Class rivers, will this individual be trained on phone survey taking, who will select this individual?	Attributes of the phone interviewer, including qualifications and selection, have been clarified in the document. See revisions.

Comment #	Page	Par.	Comment	Response
AW-5	9	4th bullet under Phase 1 Slab Creek Run	Since we may not have a designated take-out site ready during Phase 1, American Whitewater suggests monitoring all potential take-out sites to glean as much information as possible i.e. while Rock Creek will not be the official take-out provided by SMUD per the license many folks may still opt to take out or put in here.	SMUD will have observers at the two legal public access points for the 2015 Slab Creek boating releases (Rock Creek and Mosquito Bridge)
AW-6	9	5th bullet under Phase 1 Slab Creek Run	Add boater level i.e. solid class V boater versus class IV - a boater's level of paddling will influence the recreational experience & survey answers i.e. a hazard to a class IV boater may not be a hazard to a class V boater	Information on the skill levels of users will be solicited during the post-trip interview process and will keep in mind that responses received may vary with the skill level of respondents.
AW-7	10	1st bullet	see comment above	See response above.

Comment #	Page	Par.	Comment	Response
AW-8	Appendix D	Put-In Locations	While individuals or groups that may do multiple runs on Slab Creek will be counted for each run - an important element that will have impact on various take-outs (especially Mosquito Road Bridge) are how many extra cars are being left at take-out to accommodate the extra runs. Thus the put in survey should include a yes/no column for planned multiple trips and a column to record how many extra cars where left at take-out by the same group. We can anticipate that the initial years may have fewer folks doing laps but as boaters learn and get comfortable with the runs this number may increase.	The put-in forms have been modified to incorporate these concerns.
AW-9			Mosquito Road Bridge is tentatively slated for replacement by El Dorado County in 2018 & 2019 - how will the monitoring at this site be managed/adjusted during construction of a new bridge.	If construction site conditions permit whitewater boating put-in or take-out access at this location, Mosquito Road Bridge will be monitored during construction.

Comment #	Page	Par.	Comment	Response
AW-10			While the monitoring plan outlines monitoring data applications, annual data synthesis/reporting and annual summary of findings it does not outline a protocol for how SMUD will consult with the Consultation Group regarding the monitoring results, subsequent adaptive management and eventual discussion for trigger development. i.e. Will there be a consultation after phase 1 to provide feedback and adjustments for phase 2.	The Consultation Group has an identified role in both planning/scheduling releases and as such can be informed of SMUD's plan for monitong at the same time. Additionally, the CG has a role in the Annual Review of Ecological Conditions meeting where results from the previous year can be discussed, at the least.
AW-11			Are we missing pages 3 & 4 or is that a typo.	This has been corrected.

Comment #	Page	Par.	Comment	Response
SWRCB-1	NA	NA	The State Water Resources Control Board (State Water Board) initial staff review of the draft Whitewater Boating Monitoring Plan (Plan) finds the Plan to be in keeping with the requirements of conditions 4.A. and 4.B. of the water quality certification (certification) for the Upper American River Hydroelectric Project (UARP). Notwithstanding, State Water Board staff submits the following comments regarding the Plan. [All initial comments are based upon staff review of the draft Plan submitted by the Sacramento Municipal Utility District (SMUD) and the applicable requirements outlined in the UARP certification. Review and approval of a final Plan by the State Water Board, Deputy Director of Water Rights, as required under the terms and conditions of the UARP certification, may require modification, as outlined in the UARP certification.]	A review of the UARP water quality certification does not indicated a requirement for Deputy Director approval of this Whitewater Boating Monitoring.
SWRCB-2	2	3	To be consistent with the requirements of the certification, the sentence that reads, “In addition, if environmental conditions permit, boating recreational kayaking streamflows of 850-950 cfs will range from two weekend days in October in Dry water years to six weekend days in October in Wet water years” should be modified. The final sentence should read (additions underlined), “In addition, if environmental conditions permit, boating recreational kayaking streamflows of 850-950 cfs will range from two weekend days in October in Dry water years to six weekend days in October in Below Normal, Above Normal, and Wet water years.	Changes made.

Comment #	Page	Par.	Comment	Response
SWRCB-3	2	5	The Plan reads, "This provision has the potential to create new year-over-year boating safety hazards." The phrase "year-over-year" seems awkward and should be rephrased as something similar to (see strikeout and underlined for proposed modifications), "This provision has the potential to create ~~new year-over-year~~ ongoing boating safety hazards."	Changes made.
SWRCB-4	2, 5	NA	The page number after page 2, jumps to page 5 instead of page 3. The page numbers after page 2 should be renumbered correctly. NOTE: The page numbers referenced for each comment hereafter reflect the page numbers listed in the draft plan.	Changes made.
SWRCB-5	5	2	To provide additional clarity, the following sentence should be modified to read (additions underlined): "If, by the end of year ten, the construction of the Iowa Hill Pumped Storage Project has not started, and if any boating use triggers developed in the Five Year Whitewater Boating Recreation Plan are not met, monitoring and the initial recreational streamflow release schedule is to continue."	Changes made.
SWRCB-6	5	3	To be consistent with the language in the certification, the following sentence should be modified to read (additions underlined): "Initial boating flow releases on the Ice House Run to start after License issuance are to range from 300 cfs on one weekend day in May in Critically Dry water years to 400 cfs on four weekend days/holidays or Fridays plus 500 cfs on another five weekend days/holidays or Fridays in May and June in Wet water years."	Changes made.

Comment #	Page	Par.	Comment	Response
SWRCB-7	5	5	To be consistent with the language in the certification, the following sentence should be modified to read (additions underlined): "Any adjustments to boating flow days due to exceedance of future use triggers could range from 300 cfs on two weekend days in May in Critically Dry water years to 400 cfs on seven weekend days/holidays or Fridays plus 500 cfs on another nine weekend days/ holidays or Fridays in May and June in Wet water years."	Changes made.
SWRCB-8	6	1	To be consistent with the requirements of the certification, the following sentence should be modified to read (additions underlined): "The License requires background minimum flows in the Ice House diverted reach during the May-June period of boating recreational streamflow releases at various magnitudes from 25 cfs in Critically Dry water years to 68 cfs in Below Normal, Above Normal, and Wet water years."	Changes made.
SWRCB-9	6	2	The Plan states, "Pulse flow magnitudes are to vary by water year types, from 450-550 cfs in Below Normal water years to 600-780 cfs in Wet water years." The plan should include the language of the footnote associated with the 780 cfs pulse flow requirement in the certification which states, "*Or maximum capacity of outlet works, whichever is less."	Changes made.

Comment #	Page	Par.	Comment	Response
SWRCB-10	7	NA	As stated in the Monitoring Plan Objectives, "The objectives of this Monitoring Plan are: To develop annual data on non-boating recreational activities such that impacts to these users due to boating flows can be evaluated." The Plan should clarify to what ends the collection of non-boating data will be put to. Would non-boating data be used to develop targets for the modification the existing recreation flows?	1) Note that there has been some changes made to the "Objectives" statements. 2) The purpose of the Phase I monitoring effort is to collect data that may be required to assess impacts to be used in the subsequent management planning efforts (like developing triggers).
SWRCB-11	8	2	The Plan should be modified to clearly describe the location specific nature of the collected data and associated monitoring forms. The language used in Appendix D better describes the data to be gathered as "site-type observation elements." For clarity, the language of following sentences should be modified to read (additions underlined): "The monitoring effort will employ a suite of <u>site-type</u> observation and data collection forms that will be used by the monitoring team to observe and document uses and user patterns at various facilities and feature types on the two runs." "<u>Site-type</u> facility and feature observation and data collection forms include the following:"	Changes made.

Comment #	Page	Par.	Comment	Response
SWRCB-12	12	1	For clarity, the Plan should define “float-bys.”	Changes made.
SWRCB-13	A-1	2	The word “reach” is misspelled as “each.”	Changes made.
SWRCB-14	A-1	2	The Plan should define the members of the Technical Working Group.	Changes made.
SWRCB-15	A-2	3	TWG is incorrectly spelled TWC.	Changes made.
SWRCB-16	B-1	NA	The cells for both Dry and Wet water years in the Upper Cap chart should be extended to include the full month of March.	1) This table was taken directly from the License and the wet water year error was carried over. This error has been corrected. 2) The License indicates that while under the initial boating flow release regime the season of releases starts on March 1st, the capped release regime indicates the start of the release season is mid- March.
SWRCB-17	B-2	1	The first sentence should be changed to either “The October flow <u>is</u> to be provided…” or “The October <u>flows</u> are to be provided…”	Changes made.

Comment #	Page	Par.	Comment	Response
SWRCB-18	B-2	1	The sentence omits the word “the”: “…the specified flow volumes foregone are to rolled over to the recreational streamflow releases in the following spring and may entail...”	Changes made.
SWRCB-19	B-2	NA	The cells in both the Interim and Upper Cap charts for Below Normal, Above Normal, and Wet water years are all missing footnote 1 which states, “Flows shall be provided between the hours of 10:00 am and 3:00pm.	Changes made.
SWRCB-20	B-2	NA	The cells in both the Interim and Upper Cap charts are missing the inclusion of Fridays to the schedule for recreational flows in Wet water years. The cells should read (additions underlined), "weekend days/holidays or Fridays" in both cells of the Interim and Upper Cap charts for Wet water years.	Changes made.
USFS-1	2 or 3		Having the plan re-describe the caps, but using different language leaves some confusion - probably best to just refer to clauses and paragraphs or to Appendix B.	Tables in Appendix B have been incorporated into the body of the text and clarrification language has been added.

Comment #	Page	Par.	Comment	Response
USFS-2	2		How does the Slab Creek license amendment affect the streamflows and timing for whitewater monitoring? What about the closure for drilling etc for Iowa Hill in 2015?	SMUD will release recreational streamflows per License requirements, and will monitor whitewater boating activities per this Monitoring Plan, independent of construction activities related to the Slab Creek Powerhouse or the Iowa Hill Pumped-Storage Projects.
USFS-3	5	5	Upper Cap: The statement made is not consistent with the license condition, which specifies that the total volume of water is capped, but that the frequency and magnitude of boating flows may be adjusted. The description in Appendix B is better.	Changes made.

Comment #	Page	Par.	Comment	Response
USFS-4	Map 1		Suggest Labeling the Maps as to which WW run is depicted. What is the purpose of the maps here? It is not clear if the put ins and take outs are "Potential" or "Planned". There are some issues with some of these. There could be some conflicts with using Silver Creek Campground as a Put-In or Take Out site if it is rented at the time. For it to be taken off the National Reservation Service the dates would need to be prescheduled. There are right of way acquisition needs associated with the Ice House Dam Put in, Gage Site Put in and Ice House Road Put in sites.	Changes made to both maps and text.
USFS-5	Map 2		Suggest Labeling the Maps as to which WW run is depicted. What is the purpose of the maps here? It is not clear if the put ins and take outs are "Potential" or "Planned". Map shows potential Rock Cr take out - need to discuss. This is a very long haul for carrying boats. Also shows Mosquito Road take out - is there agreement on this with County road staff? Gravel Bar potential take-out has right of way issues (private and sometimes locked). Should the potential combined takeout near White Rock (shared with PG&E Chili Bar Project) be depicted separate from White Rock Powerhouse?	Changes made to both maps and text.

Comment #	Page	Par.	Comment	Response
USFS-6	7	1	Objectives: Impacts should also identify impacts from WWB users, such as impacts at take-outs and put ins, shoreline impacts, sanitation issues, etc. Another Objective is to identify other facilities or improvements needed for the safe and reasonable use of the boating flows (put-in/take-outs, parking, access needs, etc.)	Applicable changes made. The proposed objective "to identify other facilities or improvements needed for the safe and reasonable use of the boating flows (put-in/take-outs, parking, access needs, etc.)" is a management issue and will be addressed in subsequent management planning phases.

Comment #	Page	Par.	Comment	Response
USFS-7	7		Methods Framework: Why is Phase 1 for one boating season only? Seems like there are few enough monitoring days per year that Phase 1 could take place 2 years to provide more data for development of management plans. It would be helpful to have another season of take out and parking monitoring that is not shown in Phase II.	Phase I monitoring is more intensive to support the License required recreation management planning efforts. Phase I monitoring periods are set by the management planning deadlines in the License.
USFS-7 (follow-up)	pg 7 in draft; 9 in Final		Original Comment # 7: Methods Framework: Why is Phase 1 for one boating season only? Seems like there are few enough monitoring days per year that Phase 1 could take place 2 years to provide more data for development of management plans. It would be helpful to have another season of take out and parking monitoring that is not shown in Phase II. SMUD Response: Phase I monitoring is more intensive to support the License required recreation management planning efforts. Phase I monitoring periods are set by the management planning deadlines in the License. Followup Comment: If the time periods for Phase I monitoring are fixed, then	Please see response to USFS-16 (follow-up)

Comment #	Page	Par.	Comment	Response
USFS-8	8		Data Acquisition: Great to have sketch maps of sites - be sure the sketch maps are adequate to identify where folks are parking, particularly at undeveloped sites. Some of the parking may be spread out. Would like to identify how far off the road folks are parking (information for future development needs).	Additional language has been added to the plan clarifying the level of detail site sketches will contain.
USFS-9	8		Data Acquisition: Besides data collected from users and/or at put-ins and take-outs, some level of monitoring (observation) is needed regarding impacts to vegetation, sanitation issues, fire start potential, etc. Could be collected from patrollers, area administrators and/or on-river observers at the end of the season (for both Phase 1 and Phase 2 monitoring).	Resource impact monitoring has been added. During the execution of the Monitoring effort, should resource impacts become apparent at locations other than put-ins and take-outs, the Monitoring activities may be adjusted to assess those sites and conditions.

Comment #	Page	Par.	Comment	Response
USFS-10	9		Slab Creek Run: Refers to Mother Lode Falls, but not shown on Map. As stated above, in the Data collection section On River - would like to collect data on user impacts, so may need some observation monitoring, not just asking others.	1) Changes made. 2) During Phase I Monitoring there will be an on-site field observer at Mother Lode and notes on observed or possible resource impacts will be collected.
USFS-11	9		Ice House Run: What about monitoring at Junction Reservoir take out? There are other recreation facilities planned for this site and some information on whitewater parking etc could be helpful in designing the other future boating facilities	1) Some changes have been made to Monitoring at Junction boat ramp. 2) Data on take-outs will be collected at the put-in and additional information as to vehicle management approaches will be collected during post-trip interviews. This will provide information on boater vehicles at the Junction site.

Comment #	Page	Par.	Comment	Response
Continued: USFS-11				3) If during the execution of the Monitoring effort, should ww boater use of the Junction boat ramp create problems and conflicts, monitoring may be adjusted to assess that issue.
USFS-12	9 and 10		Silver Cr CG put-in/take-out. This CG is usually open from Memorial Day Weekend to Labor Day Weekend. For the field season 2015 it is open and already on the NRRS website for reservation from May 22 - Sept 7, 2014. As of Today (11/24/14) it is currently reserved for May 22-24 and avail May 25-July 9. The road is typically closed when not rented. When it is rented there could be conflicts in use. SMUD would need to work with the Pacific District staff and the Concessionaire in advance to coordinate which days the WW flows will be scheduled and ensure the site is reserved for that use if it is occurring within the period the campground is open to the public on the NRRS reservation system website.	This is a management planning issue that will be addressed by the 4-Year Ice House Whitewater Recreation Management Plan.

Comment #	Page	Par.	Comment	Response
USFS-13	9 and 10		What about monitoring at Junction Boat Ramp take-out for Phase 1? Will want to conduct site observations at Bryant Springs Bridge in Phase 2 to identify if other issues/use patterns are developing. Also potential for take-out locations developing within the private land upstream of Bryant Springs Bridge.	1) Changes made. 2) See response for Comment #11 concerning monitoring at Junction boat ramp.
USFS-14	9		Phase I: There is potential for fisherman hiking down to the River at Rock Creek and travelling up or down river to be trapped by fast fluctuation in river flows. Signing need to be placed to warn fishermen. Will this be monitored?	See response to Comment USFS- 19
USFS-15	10		Phase 2 monitoring for Slab Cr Run: at least within the first 5 years or so, should have one monitoring person drive along Rock Cr Road to identify if there are other places people are starting to take out or other use patterns developing over time.	Intended take-out information is collected at the put-in.

Comment #	Page	Par.	Comment	Response
USFS-15 (follow-up)	pg 10 in draft; 12 - 13 in final		Original Comment # 15: Phase 2 monitoring for Slab Cr Run: at least within the first 5 years or so, should have one monitoring person drive along Rock Cr Road to identify if there are other places people are starting to take out or other use patterns developing over time. SMUD Response: Intended take-out information is collected at the put-in. Followup Comment: The purpose of monitoring this type of takeout activity in phase 2 would be to identify any concerns or impacts from users taking out at unanticipated locations (on both runs), and whether any issues need to be included in the 5 year monitoring reports to be addressed through adaptive management. This could only be accomplished by looking on the ground. See Followup Comment to USFS-16.	Please see response to USFS-16 (follow-up)
USFS-16	10		Phase II Monitoring: Does not include monitoring at take outs or of parking. Since it will be a number of years before the put in and take out sites are developed and availability of boating opportunities becomes well known, it would seem like much of the use will not be captured in the first year of monitoring. It seems like we should add in some monitoring of Take out sites and of parking later on as well. If not every year, perhaps at certain intervals?	1) See response to Comment USFS-7. 2) Take-out location and take-out vehicle information is collected at the put-ins and post-trip interviews will collect vehicle management approaches used by groups.

Comment #	Page	Par.	Comment	Response
USFS-16 (follow-up)	pg 10 in draft; 12 - 13 in final		Original Comment # 16 Phase II Monitoring: Does not include monitoring at take outs or of parking. Since it will be a number of years before the put in and take out sites are developed and availability of boating opportunities becomes well known, it would seem like much of the use will not be captured in the first year of monitoring. It seems like we should add in some monitoring of take out sites and of parking later on as well. If not every year, perhaps at certain intervals? SMUD Response: Phase I monitoring is more intensive to support the License required recreation management planning efforts. Phase I monitoring periods are set by the management planning deadlines in the License. Followup Comment: Monitoring is not only for the purpose of writing the recreation management plans. Monitoring results will also be used to assess resource impacts due to boating activities. These impacts may not be evident in the first year or two since use patterns and take-outs will not yet be fully developed, and only one water year type may be represented. On page 16 this report describes how phase II monitoring data will be used to prepare five-year monitoring reports and propose adaptive management actions. Takeouts and parking should be included in the Phase II monitoring per our original comment.	pg 11, par 4 in final describes the collection procedure for photo documentation and observations that will be used to assess resource impacts due to boating activities at access locations.

Comment #	Page	Par.	Comment	Response
Continued: USFS-16 (follow-up)				Phase II procedures for both runs have been modified to include the following language: "Take-out site(s): As necessary, but not less than on four year intervals, one observer will complete the Take-out, Non-boating, and Parking forms and will photo document."
USFS-17	11		Parking survey times: 1600 seems like a pretty late time to start at the Designated take-out at the lower end of the Slab Cr run in the event people start putting in at Mosquito for a shorter trip. May need to adjust time, depending on info gained from monitoring.	Changes made: Now starts at 1200 hrs.
USFS-18	11, 12		Need data for Junction in regards to vehicle numbers, impacts, adequacy of parking, etc.	See response to Comment USFS-11.

Comment #	Page	Par.	Comment	Response
USFS-19	12		Address collecting info on impacts to anglers - Junction Boat Ramp - any other sites? How does opening day of fishing season coincide with monitoring days?	1) Signage will be in place at common access points alerting stream anglers and other users to recreational streamflow releases. 2) See response to Comment USFS-11.

Comment #	Page	Par.	Comment	Response
Continued: USFS-19				3) Recreational streamflow realeases will be scheduled in advance and will likely be scheduled so as not to conflict with the opening day of fishing season. 4)Information regarding various releases (inc. WWB) will also be posted on the Public Information website.
USFS-20	12		Refers to non-boating surveys at Mosquito Bridge - but issue is not just impacts on recreationists, but also road users/residents. I don't see that the survey questions/forms will capture information regarding this issue (other than in comments or on sketch maps) (the issue is parking conflicts and road safety at Mosquito Bridge). Also, is there monitoring that will pick up parking issues at locations where parking was not anticipated (locations other than put in sites previously identified?)	See changes to monitoring for resource impacts.
USFS-21	12		Consider adding monitoring of Resource impacts from boating at the end of each use season, at put -ins , take outs, and along the river.	See changes to monitoring for resource impacts.

Comment #	Page	Par.	Comment	Response
USFS-22	13		Phase 2 monitoring at Junction Res'v parking for non-boating impacts on fisherman recommended at least for first 3-5 years.	See response to Comment USFS-11.
USFS-23	13 (and 7)		Plan states that Phase 1 will be used in developing Rec Plans, but phase 1 level of detail is only collected in Year 1. This seems inadequate, since different water years may have different impacts or needs. Not necessarily calling for intense monitoring in each year, but need to consider how to address data from different water-year types and effects as users learn about the new runs. First year may be unique as users start to become familiar or runs become more popular/well known. Text is pretty brief on this issue.	See response to Comment USFS-7.
USFS-24	13		Monitoring Data Applications and Annual Data Synthesis and Reporting: Data should be kept on when the release days occurred and how they were derived or scheduled for the purpose of planning how to manage multiple use put in sites (such as Silver Creek CG).	This will occur.
USFS-25	13		Annual Data Synthesis and Reporting: What about Phase I data - not mentioned here?	Changes made.
USFS-26	14		Reference to commercial/non-commercial. No previous mention of collecting info from any commercial operators or Agency permit administrators.	1) Changes made. 2) Data on commercial trips v. non-commercial groups will be one of several factors by which responses will be stratified.

Comment #	Page	Par.	Comment	Response
USFS-27	15		Include in Summary Report a summary of resource impacts identified or observed as to type and magnitude of impact, cause or source (i.e.: boater take out, sanitation, portage trail developing, etc.)	Changes made.
USFS-28	C-3	3	User triggers should read **use** triggers	Changes made.
USFS-29	C-3		Slab Cr Run - should probably be reference to White Rock PH access planning and relationship of use data.	Changes made.
USFS-30	D-3		Should include name or identifier of who is doing the monitoring (include for all types of sites). If it is not being collected, we should identify the number of people in boats or number of people in each group. (not quite sure form the form if we will have for each group; the number of people, number of boats, number of cars).	Changes made to forms.
USFS-31	D-3		Will there be a way to identify boaters that are taking multiple trips in a day (not over counting)?	Changes made to put-in form.
USFS-32	pg 15 in final	2	Text: For the Slab Creek run, Mosquito Road is included in the non-boating use assessment because, other than the put-in at Slab Creek Dam, it is the only publicly accessible location on the diverted reach where stream related non-boating recreation is likely to take place on days in which no boating recreational streamflow releases occur. Comment: Fishermen also use the Rock Creek access for fishing, hiking down the trail to the river and along the river to fish.	Text has been added to clarify that the Rock Creek access site is used by the public to access the river.

151 FERC ¶ 62,034
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Sacramento Municipal Utility District Project No. 2101-099

ORDER MODIFYING AND APPROVING WHITEWATER BOATING MONITORING PLAN

(Issued April 16, 2015)

1. On January 26, 2015, Sacramento Municipal Utility District (licensee), licensee for the Upper American River Hydroelectric Project (project) (FERC No. 2101), filed a Whitewater Boating Monitoring Plan (plan) for the project. The plan was filed for Commission approval pursuant to article 401 (a) of the project license and was developed to comply with the U.S. Forest Service Section 4(e) Condition 50; State Water Quality Control Board Water Quality Certification Condition 4; and Section 4.12.1 of the project relicensing Settlement Agreement (SA).[1]

2. The project currently consists of seven developments located on the Rubicon River, Silver Creek, and South Fork American River in El Dorado and Sacramento Counties in central California. These seven developments occupy 6,190.2 acres of federal land within the Eldorado National Forest, managed by the U.S. Department of Agriculture - Forest Service (Forest Service), and 53.9 acres of federal land administered by the U.S. Department of Interior Bureau of Land Management (BLM). The new license authorizes the construction of the Iowa Hill Development as part of the project, and it will be located in El Dorado County, and will occupy 185 acres of federal land within the Eldorado National Forest.

BACKGROUND

3. The project is a series of dams, reservoirs, tunnels, penstocks, and power plants in the South Fork of the American River watershed, along with some headwater diversions from the Middle Fork of the American River. The Slab Creek run is on the diverted reach of the South Fork of the American River between the two downstream-most facilities: Slab Creek Reservoir and White Rock Powerhouse. This run is at an elevation of about 1,300 feet. The Ice House run is downstream of Ice House Dam, which is the

[1] *See* Order Issuing New License, issued July 23, 2014 (148 FERC ¶ 62,070).

upstream-most facility on the South Fork of Silver Creek, a tributary to Silver Creek, a tributary to the South Fork of the American River. This run is at an elevation of about 4,900 feet.

4. As part of its application to the Commission for a new license for the project, in 2002 the licensee conducted a general review of the whitewater opportunities associated with the project features. The findings of that assessment included that whitewater boating opportunities existed on the 11.2-mile reach of the South Fork of Silver Creek between Ice House Dam and Junction Reservoir and existed on the 8 mile reach of the South Fork of the American River between Slab Creek Dam and the White Rock Powerhouse. The Recreation and Aesthetics Technical Working Group, which was a group of stakeholders engaged with the licensee on the relicensing effort and is no longer an active entity, approved controlled release whitewater boating flow studies on these two reaches to determine boatabilty and range of acceptable flows. The Whitewater Boating Feasibility Technical Report, that was prepared in September 2004, reflects the results of this study and was used for establishing the amounts of water used in the controlled releases for whitewater boating flows.

5. Article 401 (a) requires the licensee to prepare plans and to implement specific measures found in the California State Water Resources Control Board's (SWRCB) section 401 Water Quality Certification conditions and the Forest Service's section 4(e) conditions for the project. Each plan is to be submitted to the Commission, and may not be implemented prior to Commission approval. The licensee is to include documentation that the licensee developed the plan in consultation with the agencies identified. The Commission reserves the right to make changes to any plans submitted. Upon Commission approval, a plan will become a requirement of the license, and the licensee is to implement the plan, or changes in project operations or facilities, including any changes required by the Commission.

6. Along with many other requirements, article 401 (a) requires that within 6 months of license issuance, the licensee is to develop a plan to monitor recreational boating in consultation with the Forest Service, BLM, SWRCB, boating community, and the Consultation Group pursuant to SWRCB Condition 4 and Forest Service 4(e) Condition 50.[2] SWRCB Condition 4 and Forest Service 4(e) Condition 50 include requirements for whitewater recreational flows on the Slab Creek and Ice House Reach runs which

[2] The Consultation Group consists of the signators to the SA, including: American Whitewater, American River Recreation Association, BLM, California Parks and Recreation, California Fish and Wildlife, California Outdoors, California Sportfishing Protection Alliance, Camp Lotus, Foothill Conservancy, U.S. Forest Service, Friends of the River, U.S. Fish and Wildlife Service, Interior, U.S. National Park Service, PG&E, Rich Platt, Hilde Schweitzer, Theresa Simsiman, and the licensee.

specify the number of days flows are required and for clustering of boating flow release events. Consultation is to take place among the licensee, Forest Service, BLM, SWRCB and members of the boating community, no later than February 15 of each year to determine a preliminary recreational flow schedule based on the water year types identified in this certification. Additional consultation is to take place as necessary, and final notification of the number of recreational flow days for that year are to be provided to the agencies no less than three days in advance of the first recreational flow releases. At the time of final notification, the licensee is to provide the SWRCB and the Forest Service with any comments provided during the consultation process.

7. SWRCB Condition 4 and Forest Service 4(e) Condition 50 also require that a recreational boating use monitoring plan be developed within 90 days of license issuance, in consultation with Forest Service, SWRCB, BLM, and members of the boating community. Within three-months of license issuance and continuing at least through Year 5, the licensee is to monitor all boating use taking place on days when recreational streamflows are provided. The monitoring plan is to clearly define the monitoring objectives and identify metrics to be used for analysis of the data collected. The data collected is to include, but are not limited to: a complete accounting of all boating users entering the South Fork American River in the ½ mile below Slab Creek Reservoir Dam; a description of the type of watercraft being used; and, to the extent possible, a determination of the location where the boaters are ending their trip.

THE LICENSEE'S PLAN

8. The licensee outlines the objectives of the plan: (1) develop requisite annual data on whitewater boating uses and activities as specified in the license; (2) develop annual data on non-boating recreational activities so that impacts to these users due to boating flows can be evaluated; (3) develop whitewater boating use and user pattern information in sufficient detail as to support management planning efforts, for both the Slab run and the Ice House run; (4) develop annual whitewater use, non-boating use, and resource condition data such that it can be interpreted every five years (i.e. Five-Year Monitoring Reports) to determine whether or not to-be determined trigger thresholds have been met; and (5) identify impacts to non-boating users, activities, and resources due to whitewater boating activities that can be used to develop, refine, and implement adaptive management measures such as operational procedures, facility improvements, and/or modified boating flow releases.

9. To achieve the objectives, this plan will include two phases. Phase I is a relatively intensive phase that will include collection of detailed use and user patterns on each run during initial boating flow releases. The purpose of this intensive phase is to support the various elements of ongoing and subsequent management planning efforts. The planned duration of Phase I monitoring differs between the two runs. For the Slab Creek run, Phase I monitoring will be executed in the first boating season (2015), and

may be extended into subsequent years should the Recreation Management Plan deadline for this run be extended by Commission. Phase II will be annual ongoing data collection required by the license. Phase II will collect whitewater use and non-boating use information sufficient to evaluate total whitewater uses and non-boating impacts. This information will be used in the proposed Five-Year Monitoring Reports as necessary to determine whether or not use triggers have been met or exceeded. Phase II monitoring will begin on each run following Phase I, and extend until ongoing annual monitoring is no longer warranted.

10. The plan includes monitoring of all boating users starting their run within the ½ mile below Slab Creek Dam, the boat types used, and, to the extent possible, the take-out locations used. The license will monitor all boating use within ½ mile downstream of the Slab Creek Reservoir Dam on all days when recreational streamflows are provided. Monitoring is to continue through year five of the license. If, by the end of year five, the construction of the Iowa Hill Pumped Storage Project has not started, monitoring is to continue through year ten (through the 2024 boating season). If, by the end of year ten, the construction of the Iowa Hill Pumped Storage Project has not started, and if any boating use triggers developed in the 5-Year Whitewater Boating Recreation Plan are not met, both monitoring and the initial recreational streamflow release schedule are to continue. Every fifth year of the license, a Five-Year Monitoring Report is to be prepared in which the monitoring data will be evaluated for any to-be-determined trigger exceedances.

11. To assess whitewater and non-boating uses and facility issues, the monitoring effort will employ a suite of observation and data collection forms that will be used by the monitoring team to observe and document uses and user patterns at various facilities and feature types on the two runs. Site-type observation forms for each of the facility/feature types have been developed. The site-type observation and data collection forms for particular locations may be adjusted to facilitate accurate and efficient data collection due to site-specific circumstances. Each individual observation site will have a site sketch map produced with enough detail to accurately identify and track activity locations (e.g. parking patterns, access points).

12. The site-type facility and feature observation and data collection forms in the plan include put-in, take-out, on-river, non-boating, parking, and post-trip phone interviews. To assess resource impacts that may be due to boating activities, the monitoring effort will employ annual photo documentation at put-in and take-out sites. This photo documentation will be combined with observations and notes taken by the field survey team on boating user behavior at access sites. This will be supplemented by information taken from post-trip interviews. Data collection procedures are detailed in the plan**.**

13. Prior to the end of year four after license issuance, the licensee will prepare a Four Year Whitewater Recreation Management Plan which is to establish use triggers to determine when the licensee is to augment the initial streamflow release regime. This

could include increased flow magnitudes and/or increased number of boating recreation release days. Every fifth year, actual uses and impacts will be used to evaluate if any to be-determined triggers have been exceeded such that recreation streamflow days should be adjusted. Any adjustments to boating flow days due to exceedances of future use triggers could range from 300 cfs on two weekend days in May in critically dry water years to 400 cfs on seven weekend days/holidays or Fridays plus 500 cfs on another nine weekend days, holidays, or Fridays in May and June in wet water years. With the approval of the Forest Service and the SWRCB, the frequency and magnitude of the boating flows may be adjusted within the total volume of water as specified by the upper cap release regime.

CONSULTATION

14. The proposed plan was prepared in consultation with agencies and other interested parties as specified in article 401 (a). By a group email, dated October 21, 2014, the licensee notified the Consultation Group, agencies, and other interested parties, that the draft Whitewater Boating Monitoring Plan for the Upper American River Project was posted for their review at a web link that was provided. The 30-day review and comment period ended on November 20, 2014. The Forest Service provided 32 comments to the draft plan. SWRCB provided 20 comments to the draft plan and American Whitewater provided 11 comments to the draft plan. Each of these comments is detailed in a spreadsheet included within the plan. The U.S. Fish and Wildlife Service said in a November 24, 2014 email that they support the comments submitted by the Forest Service. No other comments on the draft plan were received from other interested parties or agencies.

15. Most comments addressed minor corrections or the need to clarification language. The licensee detailed their response to each comment, with most resulting in changes that were incorporated into the body of the final text of the plan. The licensee's response to each comment appeared adequate and there are no outstanding issues.

DISCUSSION

16. The plan meets the requirements of article 401 (a) and details how all the monitoring will be conducted and reported. The licensee's plan addresses: (1) initial boating release regimes to commence within 90 days of license issuance; (2) processes by which use triggers are to be established that are to be used to determine if and when modifications to initial boating release regimes are to occur; (3) caps on the modified release regimes including streamflow magnitudes; and (4) the number of recreational release days. The licensee has developed good planning sequences for each run and their inter-relationships with other license conditions. The whitewater use monitoring efforts on the two runs integrate well with other required planning activities.

17. The plan proposes to monitor boating use on release dates beginning in 2015, and on every fifth year of the license, a Five-Year Monitoring Report is to be prepared in which the monitoring data will be evaluated for any to-be-determined trigger exceedances. In order to ensure that the resource agencies outlined in article 401 are given an opportunity to review the monitoring results, the licensee should also consult with these agencies on the Five-Year Monitoring Report. The report should be filed for Commission approval. The licensee should include with the report documentation of consultation with these entities, including copies of comments and recommendations on the monitoring report after the report has been prepared and provided to the entities, and specific descriptions of how the entities' comments are accommodated by the report, including any recommended changes to the flow releases. The licensee is to allow a minimum of 30 days for the entities to comment before filing the monitoring reports with the Commission. If the licensee does not adopt a recommendation, the filing is to include the licensee's reasons, based on project-specific information.

18. Overall, the Whitewater Boating Monitoring Plan fully addresses the requirements of article 401 (a) and provides commitments that exceed the article requirements. The plan details each of the study area perimeters and surveys, recreational access, documenting study flows, fishery and aquatic resources, and consultation with agencies and other interested parties. The implementation of the monitoring plan should begin during the 2015 boating season. The plan will provide annual data on whitewater boating uses to be used in the management of whitewater flows. The proposed plan, as modified above, should be approved.

The Director orders:

(A) The Sacramento Municipal Utility District's Whitewater Boating Monitoring Plan, filed on January 26, 2015, pursuant to article 401(a), is approved, as modified by ordering paragraph (B).

(B) Beginning on December 31, 2020, and every five years thereafter, the licensee must file, for Commission approval, the Five-Year Monitoring Reports identified in the approved plan. The report must evaluate the monitoring data for any to-be-determined trigger exceedances of flow releases and be prepared in consultation with the U.S. Forest Service, Bureau of Land Management, California State Water Resources Control Board, boating community, and the Settlement Agreement's Consultation Group. The licensee must include with the report, documentation of consultation with these entities, including copies of comments and recommendations on the monitoring report after the report has been prepared and provided to the entities, and specific descriptions of how the entities' comments are accommodated by the report, including any recommended changes to the flow releases. The licensee is to allow a minimum of 30 days for the entities to comment before filing the monitoring report with the Commission. If the licensee does not adopt a recommendation, the filing is to include the licensee's reasons, based on project-specific

information.

(C) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the FPA, 16 U.S.C. § 825*l* (2012), and the Commission's regulations at 18 C.F.R. § 385.713 (2014). The filing of a request for rehearing does not operate as a stay of the effective date of this order, or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Robert J. Fletcher
Chief, Land Resources Branch
Division of Hydropower
Administration and Compliance

Document Content(s)