

Slab Creek Whitewater Boating Recreation Management Plan

Sacramento Municipal Utility District

Hydro License Implementation • December 2024

Upper American River Project

FERC Project No. 2101

Final

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Acronyms and Abbreviations

Acronym	Definition
ADA	Americans with Disabilities Act
BLM	Bureau of Land Management
CDFW (or CDFG)	California Department of Fish and Wildlife
cfs	cubic feet per second
ENF	Eldorado National Forest
FERC	Federal Energy Regulatory Commission
Forest Service (or USFS)	U.S. Department of Agriculture, Forest Service
License	FERC Order Issuing New License for the Upper American River Project (FERC Project No. 2101), issued July 2014
Plan	Slab Creek Whitewater Boating Recreation Management Plan
SMUD	Sacramento Municipal Utility District
SWRCB	State Water Resources Control Board
UARP	Upper American River Project
USFWS	U.S. Fish and Wildlife Service

1.0 INTRODUCTION AND BACKGROUND

The Upper American River Project (UARP) is owned and operated by Sacramento Municipal Utility District (SMUD) and is located within El Dorado and Sacramento counties, primarily within lands of the Eldorado National Forest (ENF). The UARP consists of three major storage reservoirs (Loon Lake, Union Valley, and Ice House), eight smaller regulating or diversion reservoirs, and eight powerhouses. The UARP also includes recreation facilities containing over 700 campsites, 5 boat ramps, hiking paths, and bicycle trails at the reservoirs.

This Slab Creek Whitewater Recreation Management Plan¹ (Plan) fulfills requirements of the Federal Energy Regulatory Commission's (FERC's) Order Issuing New License for the Upper American River Project (UARP; FERC Project No. 2101), issued July 23, 2014 (License; FERC 2014a) set forth in the State Water Resources Control Board (SWRCB) Section 401 Water Quality Certification, Condition 4A of Appendix A of the License (FERC 2014a), U.S. Department of Agriculture, Forest Service (Forest Service) Section 4(e) Condition 50.1 of Appendix B of the License (FERC 2014a) and subsequent extension orders (FERC 2016, FERC 2020).² Appendix A of this Plan contains excerpts from these documents, as applicable to this Plan.

This Plan was prepared consistent with Section 4.12.1.1 of the Relicensing Settlement Agreement for the UARP and Chili Bar Hydroelectric Project, and the aforementioned SWRCB and Forest Service License conditions. It was informed by 5 years of baseline whitewater boating use data collected in the first 10 years of License implementation.

1.1 MANAGEMENT PLAN GOALS

Consistent with terms of the License and subsequent extension orders, the goals of this Plan are to (1) identify boating use thresholds³ that establish when SMUD will modify the number of days when recreation streamflow releases are provided, and (2) identify recreation measures to address whitewater recreation needs for the Slab Creek Run.

¹ SWRCB Section 401 Water Quality Certification Condition 4A of the License refers to this plan as the Whitewater Boating Recreation Plan, Forest Service Section 4(e) Condition 50.1 refers to this plan as the Whitewater Boating Recreation Plan and recreation management plan. FERC ordered July 14, 2016 that the Condition 50.1 plans be combined into a single Slab Creek Reach Recreation Management Plan. SMUD requested in December 2019, and FERC approved, an extension of time to file the combined Slab Creek Whitewater Boating Recreation Management Plan. SMUD adopts this most recent naming convention for the Plan described herein.

² The 2014 License amendment requires that SMUD prepare a Whitewater Boating Recreation Plan for South Fork American River below Slab Creek Dam within five years of the License if Iowa Hill Pumped Storage Development construction has not commenced. Iowa Hill Pumped Storage Development will not be constructed, but due to frequent Critically Dry and Dry water year types, releases were not required. In July 2016 and January 2020, SMUD filed for, and FERC granted, an extension of time to collect additional years of data to December 24, 2024.

³ Thresholds (referred to as "triggers" in the License) are metrics used to determine any adjustments to the number of recreation streamflow release days.

The Plan includes descriptions of the following elements:

- Whitewater boating recreation sites for the Slab Creek Run designated by FERC and supported by the UARP.
- Whitewater boating use levels during the first 10 years of License implementation and an estimate of future use levels and maximum carrying capacities for the run.
- Boating use thresholds used to determine whether the release schedule will be modified through the term of the License and any extensions.
- Procedures for modifying recreation streamflow release schedules based on any threshold exceedances.

1.2 PLANNING AREA

This Plan addresses whitewater boating use in the section of South Fork American River, referred to as the Slab Creek Run, which includes approximately 6 miles of river between Slab Creek Dam and Rock Creek Powerhouse⁴ (Figure 1-1). The designated put-in for the Slab Creek Run is located on SMUD-owned land adjacent to South Fork Powerhouse. Access to the put-in is through public land managed by ENF. The designated take-out is adjacent to Rock Creek Powerhouse on public land managed by the Bureau of Land Management (BLM). The Slab Creek Run is located approximately 8 miles north of Placerville, the nearest population center. The river flows through a mixture of public land within ENF and private land (Figure 1).

Public access to the river exists at three locations along the Slab Creek Run. Boaters generally launch at South Fork Powerhouse (Figures 1-1 and 1-2) and take out at either Rock Creek Powerhouse (Figures 1-1 and 1-3) or Mosquito Road Bridge (Figure 1-1). During SMUD recreation streamflow releases, boaters who launch at South Fork Powerhouse are permitted to drive down a gravel road past a SMUD gate and temporarily park in the gravel staging area near the powerhouse; the public is not allowed to drive on this road when whitewater boating releases are not occurring (Figure 1-2). After dropping gear at the staging area, boaters drive back up the road, park at the designated parking area near the dam, then hike the road approximately 1/3 to 1/2 mile to the put-in. Boaters who launch at the put-in and take out at Mosquito Road Bridge or Rock Creek Powerhouse usually park in undesignated spaces along Mosquito Road adjacent to Mosquito Road Bridge or in designated spaces adjacent to Rock Creek Powerhouse (Figures 1-2 and 1-3).

⁴ The Rock Creek Powerhouse designated take-out is located on public lands administered by BLM at the confluence of Rock Creek and the South Fork American River, 5.7 miles downstream of Slab Creek Dam. It is adjacent to the powerhouse for the Rock Creek Project No. 3189 (licensed to Rock Creek Hydro, LLC, which is currently owned by Hydroland Omega, LLC).

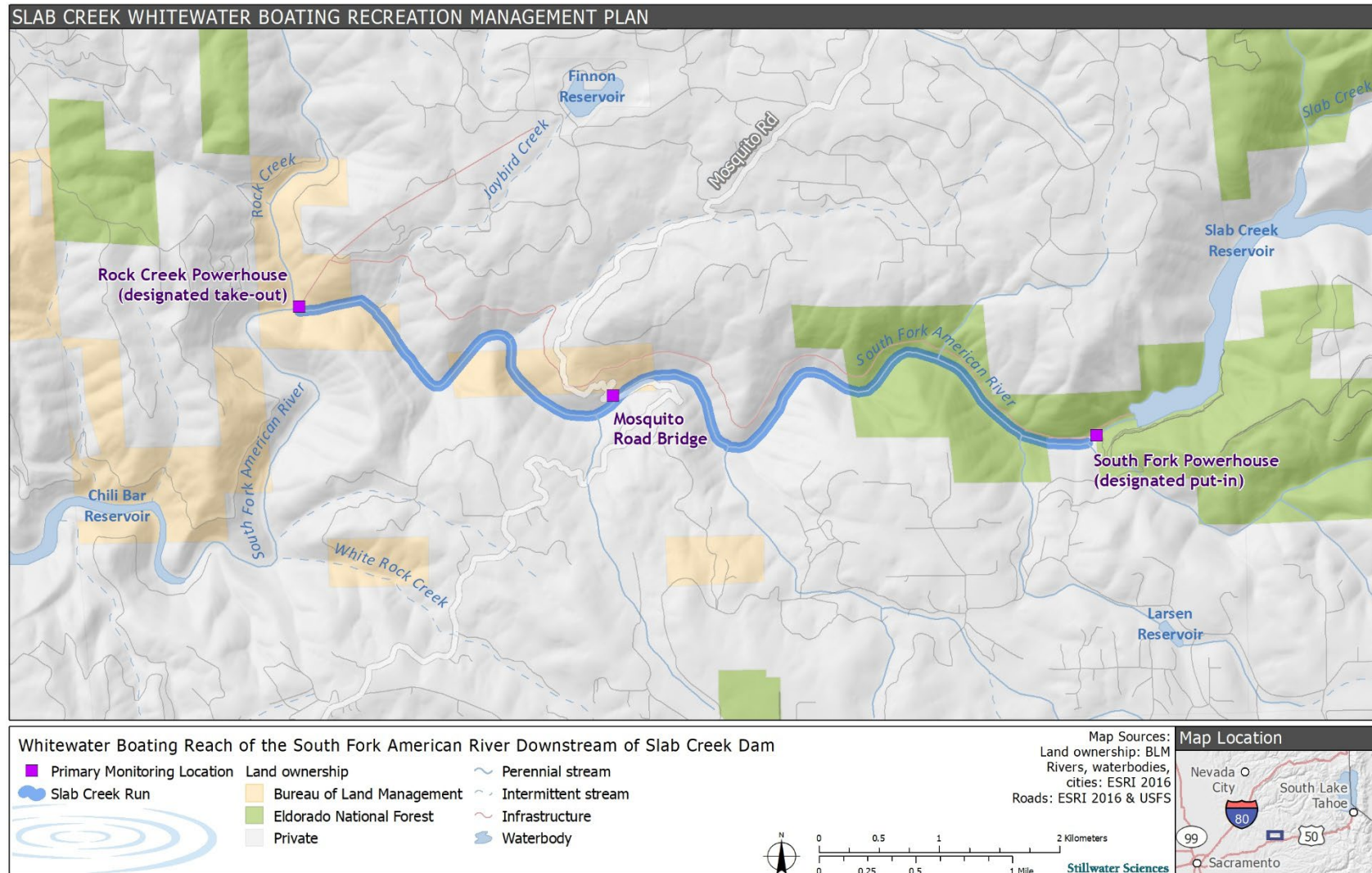


Figure 1-1. Map of the Slab Creek Run (South Fork American River downstream of Slab Creek Dam).



Figure 1-2. Slab Creek Run put-in access and parking locations within 0.5 mile of the designated put-in.

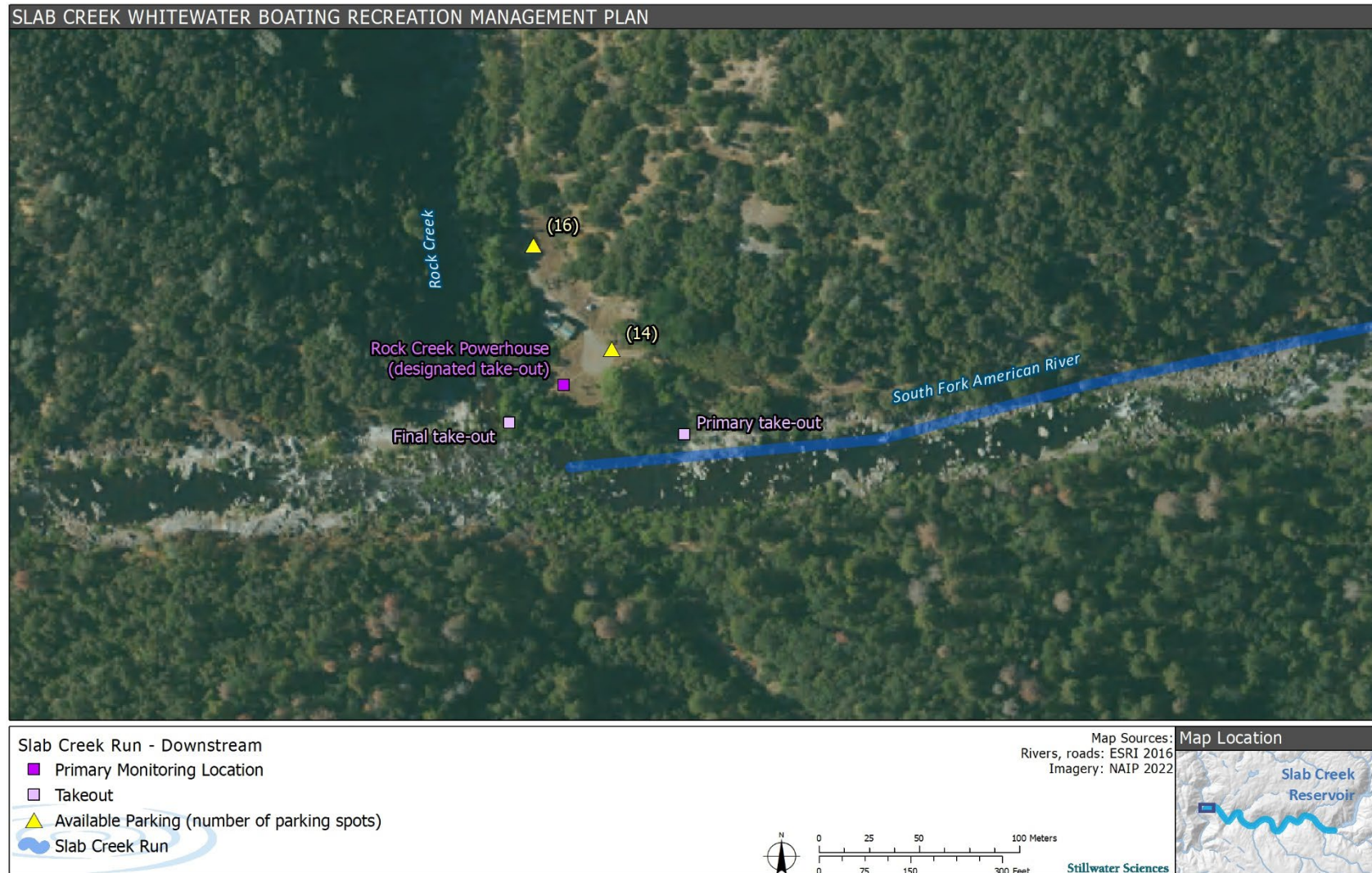


Figure 1-3. Slab Creek Run take-out parking locations within 0.25 mile of the designated take-out.

Mosquito Road Bridge is a public access point to the South Fork American River between Slab Creek Dam and Rock Creek Powerhouse and is not owned or managed by SMUD. Areas near Mosquito Road Bridge have historically been used by recreators as undesignated parking and take-out locations. Beginning in 2022, El Dorado County initiated the Mosquito Road Bridge Replacement Project⁵ which included intermittent closures of Mosquito Road and limited boater access to Mosquito Road Bridge. During one of the 2024 whitewater releases, vehicle access to the bridge was limited by locked gates located on Mosquito Road approximately 0.4 mile east and 0.8 mile northwest of the bridge.

2.0 RECREATION STREAMFLOW RELEASE MODIFICATION THRESHOLD

The threshold for determining if, when, and how the initial recreation streamflow release schedule will be modified is based on several factors including: requirements of the License, social and physical carrying capacity of the run, and boater demand and run quality following five years of baseline monitoring results.

2.1 LICENSE REQUIREMENTS

Upon issuance of the License, SMUD provided the following initial recreation streamflow releases in accordance with License requirements:

In Below Normal, Above Normal, and Wet water years, the Licensee shall spill water from Slab Creek Reservoir to provide streamflows between 850 and 1,500 cubic feet per second (cfs) between the hours of 10:00 am and 4:00 pm for six days in no less than three events in the period beginning March 1 and ending May 31. One of the events may be replaced with a three-day event on the Memorial Day weekend, in which case the total number of days for the year will be increased to seven days.

The License⁶ states that if a usage threshold is not met by Year 10 of the License, boating use will continue to be monitored and a new determination made every 5 years as to whether the threshold defined in this Plan has been met. FERC's January 6, 2020, Order Granting Extension of Time for this Plan revises the requirement to establish thresholds in Year 10 (2024) and monitor recreation streamflow use in Years 11 through 15 (2025–2029) to determine if the threshold has been met by Year 15 (2029). If not met, initial recreation streamflows shall continue to be provided unless and until the Deputy Director, after consultation with SMUD, Forest Service, BLM, and State Water Board, subsequently determines that the usage thresholds for increasing the number of

⁵ Information related to the El Dorado County Mosquito Road Bridge Replacement Project can be found here: [Mosquito Road Bridge Project-Construction - El Dorado County \(ca.gov\)](https://www.el-dorado-county.ca.gov/development/transportation/mosquito-road-bridge-replacement-project).

⁶ This License requirement is applied under the condition that the Iowa Hill Pumped Storage Development is not constructed. The License also requires that facilities should be modified within 15 years of the License. modification. In 2018, a fixed cone boating flow release valve was installed approximately 50 feet downstream from the South Fork Powerhouse to improve SMUD's ability to meet releases specified in the License.

recreation streamflow release days are met. Boating use will continue to be monitored as described in Section 4.0 and a new determination made every 5 years as to whether the threshold defined in this Plan has been met. If met, the recreation streamflow release schedule will be modified as described in Section 3.0 below.

Table 2-1. Potential Recreation Streamflow Release Schedule Modifications for the South Fork American River below Slab Creek Dam.

Water Year Type	Month	Flow (cfs)	Time	Duration
Critically Dry	April	850–950	10am–1pm	4 weekend days
		1,400–1,500 850–950	10am–1pm 1:30pm–4pm	2 weekend days ¹
Dry	March/April	850–950	10am–1pm	4 weekend days
		1,400–1,500 850–950	10am–1pm 1:30pm–4pm	6 weekend days ¹
	October ²	850–950	10am–1pm	2 weekend days
Below Normal	April/May	850–950	10am–1pm	3 weekend days/holidays
		1,400–1,500 850–950	10am–1pm 1:30pm–4pm	9 weekend days ^{1,3}
	October ²	850–950	10am–1pm	6 weekend days
Above Normal	April/May	1,400–1,500 850–950	10am–1pm 1:30pm–4pm	12 weekend days/holidays ^{1,3}
	October ²	850–950	10am–1pm	6 weekend days
Wet	March/April/May	1,400–1,500 850–950	10am–1pm 1:30pm–4pm	12 weekend days/holidays ^{1,3}
	October ²	850–950	10am–1pm	6 weekend days

cfs = cubic feet per second; Source: FERC (2014a)

¹ A split flow release schedule is required in the License to allow the preferred rafting flows (1,400–1,500 cfs) and kayaking flows (850–950 cfs) to occur during the same day.

² October recreation streamflows will be released in a manner consistent with requirements described in Condition 4.A and 50.1 of the License and shall only occur if U.S. Forest Service, State Water Resources Control Board, U.S. Fish and Wildlife Service, and California Department of Fish and Wildlife determine that such streamflows can be provided without unacceptable environmental impact.

³ Priority will be given to Memorial Day weekend which will increase the total number of release days by one day,

2.2 BASELINE USE LEVELS

SMUD monitored whitewater boating use during 5 of the first 10 years of the Project License, consistent with the FERC-approved Whitewater Boating Monitoring Plan (FERC 2015). Recreation streamflow releases were provided on 6 days during each of 2016, 2018, 2019, 2023, and 2024⁷. In accordance with Conditions 4 and 50 of the License, recreation streamflows were not provided in 2017 because of uncontrolled streamflows and in 2020 because of COVID-19 related public health concerns. In 2018 the gate at the access road to Rock Creek Powerhouse could not be opened during the first weekend of whitewater boating streamflow releases which may have impacted use of the designated take-out. Tables 2-2 and 2-3 summarize key results related to level of use for the run.

Table 2-2. Number of Whitewater Boaters and Groups Observed during Baseline Monitoring.¹

Year/No. of Release Days	Total Launches²	Total Number of Boaters³	Total Number of Groups³	Average Number of Launches per Day
2016/6 days	206	198	43	35
2018/6 days ⁴	125	109	28	21
2019/6 days	142	129	23	24
2023/6 days	124	119	24	21
2024/6 days	203	203	50	34
5-Year Average	160	152	34	27
5-Year Total	800	758	168	na

Source: SMUD Whitewater Boating Database (2024)

¹ All boating use observed was non-commercial.

² Total Launches are calculated as number of boaters including those who performed multiple runs in a day.

³ Calculated as the number of individual boaters or groups observed, not including those who performed multiple runs.

⁴ In 2018 the gate at the access road to Rock Creek Powerhouse could not be opened during the first weekend of whitewater boating streamflow releases.

⁷ Water year types are specified in SWRCB Condition 1 and Forest Service 4(e) Condition 27 (Appendices A and B of the License, respectively). Recreation streamflow releases below Slab Creek Dam are only required in Below Normal, Above Normal, and Wet water year types under the initial (minimum) schedule.

Table 2-3. Number of Boats Observed during Baseline Monitoring.¹

Year/No. of Release Days	Number of Kayaks		Number of Rafts			Other Boats	Total
	Hardshell	Inflatable	Paddle	Oar	Oar-Paddle Combo		
2016/6 days	108	0	7	1	0	0	116
2018/6 days ²	83	1	11	0	0	2	97
2019/6 days	73	0	18	0	0	1	92
2023/6 days	76	2	13	0	1	2	94
2024/6 days	123	6	23	1	2	6	161
5-Year Average	93	2	14	<1	1	2	112
5-Year Total	463	9	72	2	3	11	560

Source: SMUD Whitewater Boating Database, updated 2024

¹ All boating use observed was non-commercial.

² In 2018 the gate at the access road to Rock Creek Powerhouse could not be opened during the first weekend of whitewater boating streamflow releases.

Information obtained during 174 post-trip interviews provides insight about boater logistics for the Slab Creek Run and indicates that whitewater boaters find the level of use acceptable in terms of the quantity of streamflow and quality of their experience. Post-trip interview responses and monitoring data indicate:

- All whitewater boaters observed using the Slab Creek Run launched at South Fork Powerhouse, the designated put-in (Figure 1-2).
- Most whitewater boaters ended their trips at Mosquito Road Bridge or Rock Creek Powerhouse unless an unexpected event (e.g., boat damage) occurred which caused a few boaters to take out on private property mid-run. A few boaters frequently take out at their private property downstream of Rock Creek Powerhouse.
- Approximately 95% of whitewater boaters made one run in a day (Table 2-2).
- Whitewater boaters were not constrained by parking availability near Slab Creek Dam (maximum number observed was 20 vehicles in 2024) or at Rock Creek Powerhouse (maximum number observed was 18 vehicles in 2016).
- Hardshell kayaks accounted for approximately 83% of whitewater boating use observed (Table 2-3).
- Most boaters reported a positive experience encountering other boaters who often provided scouting or safety support (Table 2-4). During 5 years of baseline monitoring, 2 of 132 (1.5%) interviewees who encountered other boaters on the river reported a negative effect; these encounters were reported by the same boater who was interviewed after two separate streamflow release dates. On both dates the boater expressed safety concerns at Mother Lode Falls and reported delays associated with clearing debris, portaging, scouting, and providing safety support to the group.

- There were no documented cases of conflict between whitewater boating use and associated parking with non-whitewater recreationists at any monitoring location include the designated put-in and take-out locations.
- Commercial use was not documented.
- Shoreline congestion was not documented at designated put-in and take-out locations.
- All boaters said they would return to boat the flow provided on the day of their trip; however, boaters generally preferred flows in the 1,101 to 1,200 cfs range (Table 2-5).

Table 2-4. On-River Encounters Reported during Baseline Monitoring Post-Trip Interviews.

Year	Number of Interviews	Number of Encounters	Encounter Effect			
			Negative	Positive	None	No Response
2016	24	17	0	0	1	16
2018	12	8	0	6	2	0
2019	45	27	0	19	8	0
2023	33	27	0	15	12	0
2024 ^a	57	53	2 ^b	38	13	0
Total	171	132	2	78	36	16

^a 2024 interview data are preliminary at the time of reporting.

^b Encounters were reported by the same boater who was interviewed after two separate streamflow release dates. On both dates the boater expressed safety concerns at Mother Lode Falls and reported delays associated with clearing debris, portaging, scouting, and providing safety support to the group.

Table 2-5. Number of Post-Trip Survey Responses Assessing Streamflows Released during Baseline Monitoring.¹

Release Flows (cfs)	Number of Responses by Category		
	Too High	Just Right	Too Low
<1000	1	9	10
1001-1100	3	25	10
1101-1200	1	41	14
1201-1300	0	19	2
1301-1400	0	2	0
1401-1500	1	16	1
1501-1600	0	8	1
>1600	0	1	0

cfs = cubic feet per second

¹ 2024 interview data are preliminary at the time of reporting.

2.3 CARRYING CAPACITY AND FUTURE USE LEVELS

Carrying capacity for whitewater boating use of the Slab Creek Run was evaluated for social capacity on the river (e.g., on-river and shoreline crowding) and physical capacity of parking areas at designated put-in and take-outs. Baseline data indicate no perceived crowding on the water (Table 2-4) and no shoreline crowding at put-in or take-out locations. Therefore, on-river capacity limits for the Slab Creek Run could not be determined from the baseline data.

Social carrying capacity for whitewater boating on the Slab Creek Run was estimated in the Whitewater Boating Flow Study for Slab Creek Reach Technical Report (SMUD 2004) by assuming one group comprised of three rafts or six kayakers could launch every 20 to 30 minutes over a 6-hour release period. The study concluded the capacity of the Slab Creek Run was between 102 and 150 launches per day.⁸

SMUD completed facility parking and access improvements to the designated put-in and take-out, respectively, consistent with requirements of the License. Physical parking capacity at the put-in was developed for approximately 39 well-parked vehicles, not including two reserved Forest Service spots and one Americans with Disabilities Act (ADA) accessible spot (Figure 1-2). Parking capacity at the take-out was developed for approximately 30 well-parked vehicles. Baseline data suggest that while all boaters put in at South Fork Powerhouse, boaters used both Rock Creek Powerhouse and Mosquito Road Bridge as take-out locations. These data suggest that physical carrying capacity of the run is most limited at the Slab Creek Dam parking location.

Because parking use near Slab Creek Dam did not approach capacity during the baseline monitoring period (Section 2.2), regression analysis was used to quantify the number of launches per day expected when Slab Creek Dam parking is at capacity. A significant relationship was found between launches per day and parking occupancy at the put-in location ($F_{1,27}=26.3$; $p<0.01$; $R^2=0.47$) (Figure 2-1, Appendix B).⁹ Variability in the model may be due to the small sample size, use of the parking area by boater and non-boater recreationist, and use of shuttle vehicles. This relationship suggests that total daily launches can be predicted from the maximum parking occupancy at Slab Creek Dam. The parking capacity at the Slab Creek put-in is approximately 39 well-parked vehicles and trailers, which correlates to approximately 95 launches per day at South Fork Powerhouse (Figure 2-1).

⁸ The Whitewater Boating Flow Study for Slab Creek Reach Technical Report (SMUD 2004) describes this capacity as “users”; however, the assessment did not consider multiple launches in one day. Because multiple launches can contribute to the level of parking and on-river use, it is reasonable to assume carrying capacity would be based on launches per day rather than individual users per day. Launches per day is defined as the total number of boaters who use a run in a day, including those who perform multiple runs. For example, if one boater uses the run twice in a day, that boater is counted as two launches.

⁹ Parking data collected 5/1/2016 could not be verified and was excluded from the model.

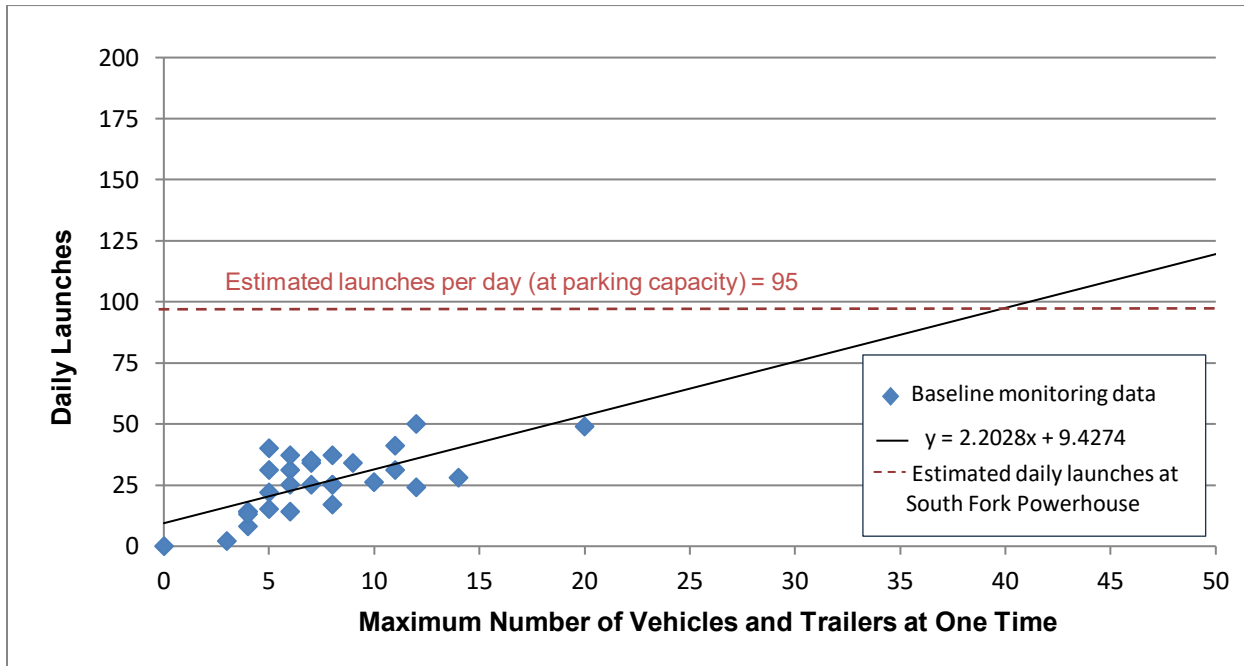


Figure 2-1. Linear regression of the daily launches at South Fork Powerhouse and the number of vehicles and trailers parked at Slab Creek Dam during the baseline monitoring period (p -value<0.001; $R^2=0.47$).

During the first 10 years of License implementation, the total number of boaters on the Slab Creek Run remained generally static from year to year (Table 2-2) suggesting future use levels can be expected similar to those observed during baseline monitoring. However, SMUD conservatively assumes that as local populations increase and as the Slab Creek Run becomes more known, future use levels could increase. SMUD will monitor use levels by adjusting recreation streamflow release days as described in Section 4.0 below.

2.4 THRESHOLD METRIC AND VALUE FOR THE SLAB CREEK RUN

SMUD considered several possible threshold metrics (e.g., indicators) of demand and run quality for the Slab Creek Run (Table 2-6). Metrics were evaluated based on the following criteria:

- Comparability to baseline boating use levels and patterns.
- Accuracy for determining whitewater boating use over a 5-year monitoring period.
- Reproducibility in monitoring and analytical reporting efforts.
- Cost efficiency for data collection and analysis.

Table 2-6. Metrics Considered for Boating Use Thresholds.

Threshold Metric	Strength	Weakness
Demand Indicator Metrics		
Daily average number of boaters using the run	Easily compared to baseline data	Requires intensive observation for data collection
Daily average number of boaters launching (including those who make multiple trips)	- Simple data collection and analysis - Easily compared to baseline data	Potentially underestimates use if boaters launch at unmonitored location
Daily average number of boaters taking out	- Simple data collection and analysis - Easily compared to baseline data	Potentially underestimates use if boaters take out at unmonitored location
Average peak parking occupancy	- Easily compared to baseline data - Measures the most likely potential use constraint	- High potential for data collection error because assumes vehicles associated with boating and non-boating use can be distinguished - Rigorous monitoring effort in terms of staffing for data collection
Run Quality Indicator Metrics		
Wait time at put-in, take-out, or rapids that requires scouting	- Simple (binary) data collection and analysis - Strong correlation to run quality	- Tolerance for waiting and crowding is not consistent among all boaters - Wide range of possible thresholds - Requires many post-trip interviews - Requires reanalysis of baseline data for comparability
Perceived crowding		

5-year daily average number of launches, measured at South Fork Powerhouse put-in, is the best explanatory variable to characterize the threshold for the Slab Creek Run because baseline monitoring results indicate that all boaters put in at South Fork Powerhouse, whereas, about half take out at Rock Creek Powerhouse. Additionally, this metric:

- Reflects demand in terms of the actual number of boaters using the run.
- Allows direct comparison to baseline and ongoing monitoring data.
- Provides accurate, cost-efficient data collection and analysis.
- Allows for consistent interpretation of monitoring results to determine whether modifying recreational streamflow releases is necessary based on demand.

The threshold value for the Slab Creek Run was identified based on the approximate capacity of the run as reflected by a constraining factor, such as parking capacity (Section 2.3). On-river encounter results and parking data collected during baseline monitoring (Table 2-4, Figure 2-1) suggest no perceived crowding. It is reasonable to

assume the run could accommodate significantly higher boating use than was observed during the first 10 years of License implementation without affecting run quality.

Parking capacity at Slab Creek Dam is estimated to accommodate approximately 95 launches per day, and the social carrying capacity of the run is estimated to accommodate 102 to 150 launches per day (Section 2.3). For the purposes of establishing a capacity threshold for the Slab Creek Run, a 5-year daily average of 95 boater launches per release day is a justifiable estimate for requiring additional boating flows below Slab Creek Dam without creating congestion at the put-in or on the river. Baseline monitoring indicated 90 percent of launches occur within a 4-hour peak period from about 9 a.m. to 1 p.m. At a use level of 95 boater launches per day, approximately 24 launches per hour could be expected during the peak launch window which is less than the maximum launch rate (32 launches per hour) observed during baseline monitoring. Considering that this capacity can be accommodated at both the put-in and take-out locations, a level of use of up to 95 launches per day should not create crowding or congestion during scheduled recreation streamflow releases.

Although baseline monitoring was only conducted during spring months (March through May), it is assumed that the same physical and social carrying capacity of the run would exist in October. However, the License states that October recreation releases specified in Table 2-1 shall only be provided if the Deputy Director determines that releases can be provided in compliance with water quality standards and without unacceptable environmental impact to aquatic resources, particularly the foothill yellow-legged frog (*Rana boylei*). Procedures for adjusting recreation streamflow release schedules based on threshold exceedances are described in Section 3.0 below.

3.0 RECREATION STREAMFLOW RELEASE MODIFICATIONS

The License states that boating use thresholds will be used to determine when the recreational flows outlined in Table 2-1 become effective (see Section 2.1 and Appendix A). Beginning in 2029 (Year 15 after License issuance) and every 5 years thereafter (e.g., 2034, 2039) SMUD will determine whether whitewater boating use has met or exceeded the threshold for modifying the release schedule for the next 5-year interval by calculating daily average number of launches for the most recent 5 years in which releases occurred. If the 5-year daily average number of launches is less than the threshold value, initial recreation streamflows described in Section 2.1 will be implemented for the next 5-year interval. If the 5-year daily average number of launches

meets or exceeds the threshold value, recreation streamflows described in Table 2-1 will be implemented for the subsequent 5-year interval.¹⁰

3.1 OTHER RELEASE SCHEDULE MODIFICATIONS

Other modifications to the recreation streamflow release schedule may be necessary to address emergency conditions or, if approved by the Forest Service and SWRCB, improve cost efficiency while continuing to provide quality whitewater boating in the run by adjusting the frequency and magnitude of flows in the release schedule within the total volume of water necessary to provide the releases specified in Table 2-1 or as modified in the future. This section explains the actions associated with adjusting the release schedule that are unrelated to achieving thresholds.

3.1.1 Modifications, Cancellations, and Safety Concerns

SMUD will make a good faith effort to maintain UARP operability and schedule outages so recreation streamflows can be provided as specified in Table 2-1 or as modified in the future. SMUD will make a good faith effort to provide recreation streamflow releases consistent with the schedule it develops at the beginning of each season identifying specific release dates. However, it may be necessary to change the frequency, duration, magnitude, day of the release or cancel flow releases and the flow schedule may be temporarily modified under the following circumstances:

- State or federal electrical emergencies where specific orders are issued or specific actions are mandated by an appropriate authority, requiring the Licensee to produce electricity outside normal planned operations.
- System events that cause the operating reserves to drop below the Western Energy Coordinating Council Minimum Operating Reliability Criteria.
- Equipment malfunction, public safety emergency, or law enforcement activity.¹¹
- Short-term non-emergency conditions, if approved by the Forest Service and SWRCB.
- The Licensee determines expected inflows from the South Fork American River into Slab Creek Reservoir are not controllable to 1,500 cfs.

3.1.2 Release Magnitude and Duration

The License includes a provision to adjust, if approved by FERC, Forest Service, and SWRCB, release flows within the total volume of water necessary to deliver the releases specified in Table 2-1 or as modified in the future. Such adjustments provide

¹⁰ October recreation streamflows depicted in Table 2-1 will be released in a manner consistent with requirements described in Condition 4.A and 50.1 of the License and shall only occur if Forest Service, SWRCB, U.S. Fish and Wildlife Service, and CDFW determine that such streamflows can be provided without unacceptable environmental impact.

¹¹ This includes road closures that may prevent access.

flexibility in the future to address needs such as whitewater boater preferences (e.g., higher or lower flows, longer or shorter duration).

4.0 MONITORING

The License specifies that if the threshold is not met by Year 15, boating use will continue to be monitored and a new determination will be made every 5 years thereafter as to whether the threshold has been met. SMUD submitted to FERC, on January 23, 2015, a Whitewater Boating Monitoring Plan (FERC 2015) and included Phase I and Phase II monitoring methodology for the Slab Creek Run.¹² SMUD revised the Whitewater Boating Monitoring Plan in 2020, following FERC approval of the Whitewater Recreation Management Plan for South Fork Silver Creek downstream of Ice House Dam. SMUD proposes to update the 2020 Whitewater Boating Monitoring Plan to reflect the methodology proposed for Phase II below.

4.1 METHODS

The following monitoring methods reflect lessons learned from baseline monitoring during five years of whitewater release flows in the Slab Creek Run and are intended to replace and supersede all applicable South Fork American River sections of the updated Whitewater Boating Monitoring Plan (FERC 2020). Data collection methods described here will directly inform the monitoring metric used to determine threshold exceedances described in Section 2 of this Plan.

4.1.1 Boating Use

Monitoring will occur during each scheduled recreation streamflow release day for the term of the license and any extensions. This Plan identifies a 5-year daily average number of launches at Slab Creek Dam (designated put-in location) as the most informative monitoring metric for evaluating use and demand on the Slab Creek Run. On each streamflow release day, one observer will collect data at Slab Creek Dam from 08:45 to 17:00. Data collection at Slab Creek Dam will include number of boats, boat types, number of boaters, number of boater groups, commercial status, number of runs, number of vehicles and trailers by parking location (1-hour sampling interval), non-boating recreation use by activity type, and photo documentation.

Post-trip interviews will be conducted within five days of each streamflow release date to collect crowding and user experience information. A minimum of 15 interviews (if available) will be attempted following each recreation streamflow release date. For consistency, the same researcher will conduct all interviews in a monitoring year whenever possible. Post-trip data collection will include skill level, shuttle approach, facility satisfaction (scale of 1–10), multiple runs (yes/no), safety issues (yes/no), large woody debris location, encounter effects (yes/no), flow satisfaction (scale of 1–10), and

¹² The License requires that SMUD monitor all boating use on the South Fork American River downstream of Slab Creek Dam when recreational boating flows are provided, from within three months of License issuance to at least Year 5.

run quality (scale of 1–10). Appendix C contains a detailed set of the questions and topics the researcher uses to conduct the post-trip interviews.

Photos will be obtained on the first and last day of streamflow releases in each season to identify potential environmental impacts of whitewater boating use. Photos will be taken at areas where boaters put in and take out at Slab Creek Dam and Rock Creek Powerhouse. The intent of the photos is to document any impacts such as bare soil, erosion, or vegetation removal or damage. Photos will be taken at similar locations each year to facilitate comparison.

All data will be entered into the SMUD Whitewater Boating Database following each streamflow release weekend. Photos will be catalogued by location, survey date, and captioned with noteworthy observations (e.g., bank erosion), if present.

5.0 CONSULTATION AND NOTIFICATION PROCEDURES

SMUD will consult with agencies and other members of the Consultation Group regarding monitoring results and release schedule adjustments. SMUD will also notify agencies and other members of the Consultation Group about any implemented changes to the release schedule.

5.1 FIVE YEAR MONITORING REPORT

Beginning in 2029 (year 15 after License issuance) and every five years thereafter, SMUD will prepare a report that summarizes monitoring results, elements described in Condition 50 of the License (Section 6 below), and a determination of whether whitewater boating use has achieved a threshold for modifying the release schedule (see Section 3.0). Following consultation, SMUD will file the report with FERC. If monitoring data result in changes to the release schedule, SMUD will implement the modified schedule beginning the subsequent spring.

5.2 NOTIFICATION OF RELEASE SCHEDULE ADJUSTMENTS

SMUD will notify FERC, agencies, and other members of the Consultation Group if scheduled releases are modified or canceled because of any unexpected events including but not limited to those listed in Section 3.1.1.¹³ SMUD will provide notification as soon as possible but no later than 10 days after such an event occurs.

SMUD will request approval from the Forest Service and SWRCB for any temporary modification of the release schedule for a non-emergency reason. If approved and the schedule is modified, including release cancelations, SMUD will notify FERC and the

¹³ This includes road closures that may prevent access.

Consultation Group as soon as possible. Notifications will also be provided on SMUD's website that provides streamflow and reservoir level information.¹⁴

6.0 OTHER RECREATION MEASURES

6.1 USE LEVELS AND PROJECTED FUTURE USE LEVELS

See Section 2.0 above.

6.2 CARRYING CAPACITY

See Section 2.3 above.

6.3 SANITATION AND GARBAGE

Sanitation and garbage will be provided to whitewater boaters at the designated put-in and take-out locations. Slab Creek Dam (the designated put-in for the Slab Creek Run), is located on land owned by SMUD and public land managed by the Forest Service (Figure 1-1). Vault toilets and garbage receptacles are provided and maintained by the Forest Service and SMUD. Rock Creek Powerhouse (the designated take-out for the Slab Creek Run) is located on public land managed by BLM (Figure 1-1). During whitewater boating release dates BLM provides and maintains portable toilets and garbage receptacles for boater use. If boater use increases, maintenance of these facilities will increase to ensure facilities are appropriate for use.

6.4 USER CONFLICTS

SMUD pays the Forest Service annually to provide operation, maintenance, and administration of developed recreation sites, facilities, or use within and immediately adjacent to the Project Boundary. Work to be completed under this agreement consists of managing for the whitewater and streamside use, conducting river and other patrols, picking up litter, providing public information, enforcing rules and regulations, rehabilitating impacted areas, addressing sanitation, maintaining day-use sites (such as concentrated-use areas), maintaining information signs, responding to emergencies, and assisting in search and rescue. Similarly, under BLM Section 4(e) Condition REC-1, SMUD must pay BLM to manage any whitewater boating take-outs that occur on BLM land, which applies to the designated Rock Creek Powerhouse take-out. Under this agreement, Forest Service and BLM agree to be on site during each scheduled recreation streamflow release day to manage potential use conflicts at the designated put-in and take-out locations and mitigate boater launch rates to avoid on-river congestion. If an incident occurs, authorities will be contacted by Forest Service or BLM staff.

¹⁴ Required by the Forest Service 4(e) Condition 51, Public Information Services and SWRCB Condition 7, Streamflow and Reservoir Level Information.

6.5 RESOURCE EFFECTS ALONG THE RIVER INCLUDING EFFECTS ON PRIVATE LAND

Effects along the river or on private or public lands have not been observed during the first 10 years of License implementation. No measures are suggested.

6.6 NECESSARY PUT-IN, TAKE-OUT, AND PARKING FOR WHITEWATER ACTIVITIES.

Improvements to the designated put-in path and parking areas at Slab Creek Dam were completed in 2018 and at the designated Rock Creek Powerhouse take-out location in 2023. SMUD will maintain these improvements for proper functionality for the term of the License and any extensions.

6.7 PUBLIC SAFETY, SEARCH AND RESCUE, AND OTHER EMERGENCY RESPONSE NEEDS

Public safety and search and rescue response are the responsibility of El Dorado County. Additionally, Forest Service and BLM are present at the designated put-in and take-out locations during release days and provide a point of contact and other support for emergency incident response (see Section 6.4).

6.8 EMERGENCY RESOURCE PROTECTION MEASURES

Forest Service and BLM are responsible for responding to emergencies involving natural resources that occur on their respective lands. See Section 6.4 above.

6.9 INFORMATION AND EDUCATIONAL SIGNING NEEDS

Signs to inform the public of potential, sudden increases in streamflow and swift water hazards downstream have been installed at Slab Creek Dam. Signs notifying boaters of the take-out at Rock Creek Powerhouse have been installed at several locations leading up to the point of exit.

6.10 DEMAND FOR COMMERCIAL SERVICES OR OUTFITTING, INCLUDING SHUTTLE SERVICES AND GUIDING

No commercial use has been documented during the first 10 years of License implementation.

6.11 ON-RIVER BOAT PATROL

Only non-commercial use was documented during the first 10 years of License implementation; therefore, boaters are responsible for using the run at their own risk. However, SMUD provides funding annually to the Forest Service for on-river boat patrols if deemed necessary in the future.

7.0 LITERATURE CITED

FERC (Federal Energy Regulatory Commission). 2014a. Order Issuing New License, to Sacramento Municipal Utility District for Upper American River Project, FERC No. 2101-084. Accession no. 20140723-3046. July 23.

FERC. 2014b. Order Granting Rehearing in part, Denying Rehearing in part, and Amending License, to Sacramento Municipal Utility District for Upper American River Project, FERC No. 2101-095. Accession no. 20141016-3008. October 16.

FERC. 2015. Whitewater Boating Monitoring Plan, Sacramento Municipal Utility District Upper American River Project, FERC Project No. 2101. January 23.

FERC. 2016. Order Granting Extensions of Time, to Sacramento Municipal Utility District for Upper American River Project, FERC Project No. 2101-084. Accession no. 20160727-3037. July 27.

FERC. 2020. Order Granting Extensions of Time, to Sacramento Municipal Utility District for Upper American River Project, FERC Project No. 2101-084. Accession no. 20200106-3016. January 6.

SMUD (Sacramento Municipal Utility District). 2004. Whitewater Boating Flow Study for Slab Creek Reach Technical Report. October

Appendix A

Excerpts from the FERC License and Subsequent Orders Related to the Slab Creek Whitewater Boating Recreation Management Plan

**State Water Resources Control Board Section 401 Water Quality Certification,
Condition 4 of the License (FERC 2014a)****4.A. South Fork American River below Slab Creek Reservoir Dam***Initial Period*

Within three months of license issuance, the Licensee shall provide recreational streamflows in the SF American River 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 six days in no less than three events in the period beginning March 1 and ending May 31. One of the events may be replaced with a three-day event on the Memorial Day weekend, in which case the total number of days for the year will be increased to seven days.

These recreational streamflows shall be provided until Iowa Hill is constructed, or if Iowa Hill is not constructed, until Year 15 after License issuance. If Iowa Hill is not constructed and the boating usage triggers (see the section “Following Year 5 of License Issuance” below) for increasing the number of recreational streamflow days and facility modification have not been met by Year 15 after License issuance, the initial recreational streamflows defined above shall continue to be provided through the term of the license and any extensions unless and until the Deputy Director, after consultation with the Licensee and BLM, subsequently determines that the usage triggers for increasing the number of recreational streamflow days and facility modification are met.

*Consultation and Monitoring***Directly following License Issuance:**

Consultation shall take place among the Licensee, USFS, BLM, State Water Board 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 shall take place as necessary, and final notification of the number of recreational flow days for that year shall 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 shall provide the Deputy Director with any comments provided during the consultation process.

Within three-months of license issuance and continuing at least through Year 5, the Licensee shall monitor all boating use taking place on days when recreational streamflows are provided. A recreational boating use monitoring plan shall be developed within 90 days of license issuance, in consultation with USFS, State Water Board, BLM, and members of the boating community. The monitoring plan shall clearly define the monitoring objectives and identify metrics to be used for analysis of the data

collected. The data collected shall include, but are not limited to: a complete accounting of all boating users entering the SF 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.

Following Year 5 of License Issuance:

If Iowa Hill construction has not commenced at the end of Year 5 after license issuance, monitoring shall continue and the Licensee shall, in cooperation with USFS, State Water Board, BLM, and members of the boating community, prepare a Whitewater Boating Recreation Plan (Boating Plan) that describes whitewater recreation use and impacts, and establishes triggers based on actual boating use that would determine if the Licensee shall install a valve or make other facility modifications in order to deliver the recreational streamflows described in Table 17 in a controlled fashion. The boating usage triggers will also determine when the recreational flows outlined in Table 17 become effective. If preparation of the Boating Plan is required, the Licensee shall submit the Boating Plan to the Deputy Director for approval no later than five and a half years following license issuance. The Deputy Director may require modifications as part of the approval. The Licensee shall file the Deputy Director's approval, together with any required modifications, with the Commission. The Licensee shall implement the Boating Plan upon approval by the Deputy Director and upon receipt of any other necessary regulatory approvals.

Following Year 10 of License Issuance:

If construction of Iowa Hill has not commenced at the end of Year 10 after license issuance, the Licensee shall, in cooperation with USFS, State Water Board, BLM, and members of the boating community, based on data and triggers identified in the Boating Plan, determine if the facility must be modified to provide the flows in Table 17. Based on the determination of whether the facility shall be modified, the Licensee shall do one of the following:

- If Iowa Hill is not constructed and the boating usage triggers in the Boating Plan are met by Year 10, the facilities shall be modified and functional within 15 years of license issuance. Once the facilities are modified and functional, the recreational streamflows in Table 17 shall be implemented through the term of the license and any extensions. The plan for facility modification shall be submitted to the Deputy Director for approval. The Licensee shall provide the Deputy Director with at least 90 days to review and approve the plan for modification prior to submittal to the Commission, if applicable. The Deputy Director may require modification of the plan as part of the approval. The Licensee shall file the Deputy Director's approval, together with any required determination of facility modification, with the Commission.
- If the boating usage triggers specified in the Boating Plan are not met by Year 10, boating use will continue to be monitored and a new determination will be

made every 5 years thereafter as to whether the triggers are met. If a determination is made that the triggers are met, the facilities shall be modified. Once the facilities are modified and functional, the recreational streamflows described in Table 17 shall be implemented through the term of the license and any extensions. The plan for facility modification shall be submitted to the Deputy Director for approval as described in the bullet above.

If the Licensee cannot provide recreational streamflows due to construction activities associated with Iowa Hill or other facility modifications, the Licensee shall meet with USFS, BLM, State Water Board and members of the boating community to develop an interim plan to address recreation streamflows. The Licensee shall provide the Deputy Director with any comments provided by the agencies during the consultation process. The interim plan shall be submitted to the Deputy Director for review and approval. The Deputy Director may require modifications of the interim plan as part of the approval. The Licensee shall implement the interim plan and any required modifications upon Deputy Director approval and any other necessary regulatory approvals.

Future Recreational Streamflows

The Licensee shall provide recreational streamflows in the SF American River below Slab Creek Reservoir Dam as shown in Table 17 either: (1) after Iowa Hill is constructed; or (2) if the boating usage triggers identified in the Boating Plan are met.

Table 17. Recreation Flows: South Fork American River below Slab Creek Dam					
Water Year Type	Month	Flow (cfs)	Time	Duration	Purpose
CD	April	850-950 Plus* 1400-1500 850-950	10 am- 1 pm Plus* 10 am- 1 pm 1:30 pm- 4 pm	4 weekend days Plus* 2 weekend days	Kayak Plus Rafting Kayak
D	March/April	850-950 Plus* 1400-1500 850-950	10 am- 1 pm Plus* 10 am- 1 pm 1:30 pm- 4 pm	4 weekend days Plus* 6 weekend days	Kayak Plus Rafting Kayak
	October**	850-950	10 am- 1 pm	2 weekend days	Kayak
BN	April/May	850-950 Plus* 1400-1500 850-950	10 am- 1 pm Plus* 10 am- 1 pm 1:30 pm- 4 pm	3 weekend days*/holidays Plus* 9 weekend days***/holidays	Kayak Plus Rafting Kayak
	October**	850-950	10 am- 1 pm	6 weekend days	Kayak
AN	April/May	1400-1500 850-950	10 am- 1 pm	12 weekend days***/holidays	Rafting Kayak
	October**	850-950	10 am- 1 pm	6 weekend days	Kayak
W	March/April/ May	1400-1500 850-950	10 am- 1 pm	12 weekend days***/holidays	Rafting Kayak
	October**	850-950	10 am- 1 pm	6 weekend days	Kayak

* During CD, D and BN water years, a split flow schedule is required to allow the preferred rafting flow and kayaking flow to occur during the same day, which is in addition to the requirement to provide the specified kayak flows.

** Refer to October Flows section below.

*** Priority shall be given to recreational streamflows on Memorial Day weekend.

October Flows

The Licensee shall only provide the October recreation streamflows specified above in Table 17 upon a determination by the Deputy Director that such streamflows can be provided in compliance with water quality standards and without unacceptable environmental impact. The determination made by the Deputy Director shall be based on an investigation of the potential for ecologically suitable recreational streamflow based on monitoring identified in Condition 8.C.– Amphibian and Reptile Monitoring. The initial evaluation and determination shall be made within five years of license issuance. Absent a determination that such streamflows can be provided without harm, the Licensee shall annually request that the subject be re-evaluated by USFS, USFWS, CDFW, and the State Water Board for the first ten years after the initial determination.

If October flows specified in Table 17 cannot be provided for operational, environmental, or other reasons, the equivalent flow volume will be provided in addition to the specified recreational streamflows for the following spring upon Deputy Director approval. Scheduled boating days shall not exceed the total displayed in Table 17. However, if October flows are provided the following spring, the boating days in the spring may exceed those displayed in Table 17. In addition, the frequency and magnitude of the boating flows may be adjusted within the total volume of water displayed in Table 17 after consultation with USFS, CDFW, USFWS, BLM, State Water Board staff and members of the boating community and upon Deputy Director approval. The Licensee shall provide the Deputy Director with any comments provided during the consultation process.

Modification of Recreational Flows

Recreational streamflows may be modified or suspended in response to the following events:

- State or federal electrical emergencies where specific orders are issued or specific actions are mandated by an appropriate authority, requiring the Licensee to produce electricity outside normal planned operations;
- System events that cause SMUD's Operating Reserves to drop below the Western Energy Coordinating Council Minimum Operating Reliability Criteria;
- Equipment malfunction, public safety emergency, or law enforcement activity;

- Control of spill events at Slab Creek Reservoir Dam that may cause the Licensee to spill Loon Lake, Union Valley, or Ice House Reservoirs within seven days of the recreational spill event; or
- The Licensee determines expected inflows from SF American River into Slab Creek Reservoir are not controllable to 1,500 cfs.

In the event boating days are modified or suspended, the Licensee shall reschedule days as soon as practicable. However, the Licensee shall not be obligated to provide such days if weather or other operational conditions do not permit such days to be rescheduled by May 31. Preference for rescheduled days shall be weekend days; however, weekdays may be substituted if there are not sufficient weekend days prior to May 31.

U.S. Department of Agriculture, Forest Service Section 4(e) Condition 50 of the License (FERC 2014a)

50 - Recreation Streamflows

1. SFAR Below Slab Creek Reservoir Dam

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.

These recreational streamflows shall be provided until the Iowa Hill Pumped Storage Project is constructed, or if the Iowa Hill Pumped Storage Project is not constructed, until year 15 after license issuance. If the Iowa Hill Pumped Storage Project is not constructed, and the triggers described below for increase in recreational streamflow days have not been met by year 15 after license issuance, these recreational streamflows shall continue to be provided after year 15.

After either (1) the Iowa Hill Pumped Storage Project is constructed or (2) in year 15 of license issuance if the triggers described below for increase in recreational streamflow days have been met, the licensee shall provide recreational streamflows in the SFAR below Slab Creek Reservoir Dam as follows.

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 1400 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
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 licensee shall only provide the October recreation streamflows specified above upon a determination by the *FS, SWRCB, FWS, and CDFG* that such streamflows can be provided without unacceptable environmental impact. The determination made by *FS, SWRCB, FWS, and CDFG* shall be based on an investigation of the potential for ecologically suitable recreational streamflow based on monitoring identified in Condition No. 31. The initial evaluation and determination shall be made within 5 years of license issuance. Absent a determination that such streamflows can be provided, the licensee shall annually request that the subject be reconsidered by the *FS, SWRCB, FWS, and CDFG* for 10 years after the initial determination.

If October flows cannot be provided for operational, aquatic, or other reasons, the equivalent flow volume will be provided in addition to the specified recreational streamflows for the following spring upon approval of *FS, SWRCB, FWS, BLM, and CDFG*. Scheduled boating days shall not exceed the total displayed in the table above; however, if October flows are provided the following spring, the boating days in the spring may exceed those displayed in the table. In addition, the frequency and magnitude of the boating flows may be adjusted within the total volume of water displayed in the table after consultation with *FS, SWRCB, CDFG, FWS, BLM, and the Consultation Group provided under Section 4.12.1 of the Relicensing Settlement Agreement and upon approval of FS, SWRCB, CDFG, BLM, and FWS*.

Recreational streamflows may be modified or suspended in the event: (1) State or Federal electrical emergencies declared by an appropriate authority where specific orders are issued or specific actions are mandated by said authority that require the licensee to produce electricity outside normal planned operations; (2) of system events that cause SMUD's Operating Reserves to drop below the Western Energy Coordinating Council Minimum Operating Reliability Criteria; (3) of equipment malfunction, public safety emergency, or law enforcement activity; (4) control of spill events at Slab Creek Reservoir Dam may cause the licensee to spill Loon Lake, Union Valley, or Ice House Reservoirs within 7 days of the recreational spill event; or (5) the licensee determines expected inflows from SFAR into Slab Creek Reservoir are not controllable to 1,500 cfs. In the event boating days are modified or suspended, the licensee shall reschedule days as soon as practicable; however, the licensee shall not be obligated to provide such days if weather or other operational conditions do not permit such days to be rescheduled by May 31. Preference for rescheduled days shall be weekend days; however, weekdays may be substituted if there are not sufficient weekend days prior to May 31.

Consultation shall take place among licensee, *FS, BLM and the Consultation Group* no later than February 15 each year to determine a preliminary flow

schedule, if any. Additional consultation shall take place as necessary and final notification of days of flow will be made no less than 3 days in advance.

Within 3 months of license issuance and continuing at least through year 5, the licensee shall monitor all boating use taking place on days provided for recreational streamflows. The monitoring plan shall include but is not limited to a complete accounting of all boating users entering the SFAR in the 1/2 mile below Slab Creek Reservoir Dam, a description of the type of watercraft being used, and to the extent possible, a determination of where the boaters are ending their trip.

At the end of year 5 after license issuance, if the Iowa Hill Pumped Storage Project construction has not commenced, monitoring shall continue and the licensee shall, in cooperation with *FS, SWRCB, BLM, and the Consultation Group*, prepare a Whitewater Boating Recreation Plan describing whitewater recreation use and impacts and establishing triggers that would determine if the licensee shall install a valve or make other facility modifications sufficient to deliver the recreational streamflows described in the table above.

At the end of year 10 after license issuance, if construction of the Iowa Hill Pumped Storage Project has not commenced, the licensee shall, in cooperation with *FS, SWRCB, BLM, and the Consultation Group*, based on the information collected as a result of the Whitewater Boating Recreation Plan, determine if the facility shall be modified. This determination shall be filed with FERC, following FS approval.

If the Iowa Hill Pumped Storage Project is not constructed, and the triggers specified in the Whitewater Boating Recreation Plan have been met, the facilities shall be modified and functional within 15 years of license issuance. If the triggers have not been met by year 10, use will continue to be monitored and a new determination will be made every 5 years as to whether the triggers have been met. Once they are met, the facilities will be modified and the recreational streamflows described in the table above shall be implemented through the term of the license.

If the licensee cannot provide recreation streamflows due to construction activities associated with the Iowa Hill Pumped Storage Project or other facility modifications, the licensee shall meet with *FS, SWRCB, BLM, and the Consultation Group* to develop an interim plan to address recreation streamflows. The licensee shall implement the interim plan upon approval of *FS, SWRCB, and BLM*.

The licensee shall, in cooperation with *FS, SWRCB, BLM, 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 described above. The licensee shall 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 use of such property, if necessary for these facilities. If easements cannot be obtained, licensee shall consult with *FS, SWRCB, BLM, and the Consultation Group* to determine an alternate location for access. The plan shall be approved by FS, SWRCB, BLM, and the Consultation Group and implemented no later than year 2 after license issuance.

Within 2 years of license issuance, the licensee shall prepare a recreation management plan, to be approved by *FS and BLM* that addresses the whitewater recreation needs in the Slab Creek Dam to White Rock Powerhouse. The licensee shall be responsible for the development of sites and/or implementation of measures identified in this plan after approval of the plan on a schedule that is developed in the plan. The following elements shall be addressed:

- a) Use levels and projected future use levels.
- b) Carrying capacity.
- c) Sanitation and garbage.
- d) User conflicts.
- e) Resource effects along the river and including effects to private land.
- f) Necessary put-ins, take-outs and parking for whitewater activities.
- g) Emergency resource protection measures.
- h) Public safety, search and rescue needs and other emergency response needs.
- i) Information and educational signing needs.
- j) Demand for commercial services or outfitting, including shuttle services and guiding.
- k) On-river boat patrol.

FERC Order Granting Extensions of Time, Issued July 27, 2016 (FERC 2016)

Forest Service Condition No. 50

- 2. Condition 50 requires the licensee to develop a Slab Creek Reach Recreation Management Plan, to address the whitewater needs in the Slab Creek Dam to the White Rock Powerhouse Reach. The plan is to be developed using data from recreational stream releases below the Slab Creek Dam, and address items such as user levels and conflicts, carrying capacity, location for boating put-ins and take-outs, as well as parking.
- 3. The licensee is requesting an additional three years to complete the monitoring for the data needed to complete the Slab Creek Reach Recreation Management Plan. The licensee states that there was a delay in collecting data as the first

year following license issuance, 2015, was classified as critically dry it could not release recreation streamflows. This year, 2016, is classified as normal, streamflows were released and monitoring occurred.

4. The licensee states that it discussed the need for an extension with the Consultation Group, including the Forest Service, and there is unanimous support for the additional time. The licensee submitted a formal extension request to the Forest Service on May 10, 2016, extending the due date to file the Slab Creek Reach Recreation Management Plan. The licensee also states in its request to the Forest Service that the location of the put-ins and take-outs would be addressed in the White Rock Parking and Access Easement Plan. The Forest Service responded approving the extension on July 11, 2016.

Discussion and Conclusion

8. The licensee has consulted with the projects Consultation Group for approval of the extension requests for condition nos. 50 and 51.3, and received the group's concurrence with the request. The Forest Service approved the extension requests in its letter dated July 11, 2016. The additional time to complete the Slab Creek Reach Recreation Management Plan will allow the licensee to perform the necessary whitewater boating monitoring, which is needed to develop the comprehensive plan. As such, this extension should be approved. The licensee's request for additional time to complete the Interpretive, Education, and Public Information Plan is to ensure it receives and addresses comments from the Forest Service in the plan for final approval. As such, this extension should be approved.

The Director orders:

- (A) The extension of time request filed by Sacramento Municipal Utility District, on July 14, 2016, pursuant to Article 401 and the United States Forest Service 4(e) condition 50 of the license for the Upper American River Hydroelectric Project No. 2101 is approved. The due date to file the Slab Creek Reach Recreation Management Plan is extended to July 23, 2019.

FERC Order Granting Extension of Time, Issued January 6, 2020 (FERC 2020)

1. On December 17, 2019, Sacramento Municipal Utility District (SMUD), licensee for the Upper American River Hydroelectric Project No. 2101, requested an extension of time to file a plan required by U.S. Forest Service Section 4(e) Condition No. 50 (Recreation Streamflows) of the project license. The Upper American River Project consists of eight developments located on the Rubicon River, Silver Creek, and South Fork American River in El Dorado and Sacramento counties, California. The project occupies, in part, federal lands within the Eldorado National Forest, managed by the U.S. Forest Service (Forest

Service), and federal lands administered by the U.S. Bureau of Land Management.

2. In pertinent part, Forest Service Condition No. 50 requires SMUD to develop both a Whitewater Boating Recreation Plan and a Recreation Management Plan for the river below the Slab Creek Dam (Slab Run). Condition No. 50 also requires specific recreation streamflow releases based on water year types.
3. In 2016, the Forest Service approved combining the plans into a single Slab Run Whitewater Recreation Plan and syncing the due dates to the end of year five (2019). The Slab Run Whitewater Recreation Plan is to be developed using data acquired during recreational streamflow releases below Slab Creek Dam.
4. High runoff in 2017 precluded SMUD from being able to control spill greater than 1,500 cubic feet per second during March, April, and May, resulting in no recreation streamflows being released that year. A complication with opening the take-out at Rock Creek Powerhouse during the first weekend of 2018 also may have impacted usage.
5. SMUD discussed the need for an extension due to the lack of data with the Consultation Group, including State Water Resources Control Board and Forest Service staff. Support for an extension of time until December 31, 2024 to develop the plan was unanimous; documentation of consultation is included in the December 17 filing.
6. SMUD's request provides adequate justification for the extension of time to file the Slab Run Whitewater Recreation Plan (combined Whitewater Boating Recreation Plan and a Recreation Management Plan for the Slab Run), required by Forest Service Condition No. 50, and should be granted. The new due date to file the Slab Run Whitewater Recreation Plan is December 24, 2024.

The Director orders:

- (A) Sacramento Municipal Utility District's December 17, 2019 extension of time request, to file the Slab Run Whitewater Recreation Plan (combined Whitewater Boating Recreation Plan and Recreation Management Plan) pursuant to U.S. Forest Service Condition No. 50, is granted. The new due date to file the Slab Run Whitewater Recreation Plan is December 24, 2024.

Appendix B

Slab Creek Dam Parking and Boater Data

Table B-1. Slab Creek Dam Parking and Boater Data Documented during Baseline Monitoring

Release Date	Maximum Number of Vehicles and Trailers at One Time	Total Daily Launches (includes multiple runs)	Total Daily Boaters (first run only)
4/23/2016	5	40	40
4/24/2016	7	34	34
4/30/2016	6	31	26
5/1/2016	5	53	53
5/14/2016	9	34	31
5/15/2016	4	14	14
4/21/2018	5	22	20
4/22/2018	4	8	5
4/28/2018	5	31	28
4/29/2018	5	15	15
5/5/2018	7	35	27
5/6/2018	4	14	14
4/13/2019	11	41	34
4/14/2019	8	37	31
4/27/2019	4	13	13
4/28/2019	6	14	14
5/4/2019	0	0	0
5/5/2019	6	37	37
3/25/2023	8	17	17
3/26/2023	12	24	22
4/1/2023	8	25	25
4/2/2023	7	25	22
4/22/2023	11	31	31
4/23/2023	3	2	2
4/13/2024	6	25	25
4/14/2024	12	50	50
4/20/2024	10	26	26
4/21/2024	14	28	28
4/27/2024	8	25	25
4/28/2024	20	49	49
Total	220.00	800.00	758.00
Average	7.33	26.67	24.31

Appendix C

Questions and Discussion Topics Used to Conduct Post-Trip Interviews with Boaters

Information from Data Sheet:

Run:

Run date:

Flow (cfs):

No. in Group:

Name:

Phone:

Questionnaire:

1. Boater Information
 - a. What is your residence city?
 - b. Craft?
2. Shuttle Approach
 - a. What did you do for shuttle (e.g., vehicle drop/bike/shuttle driver)?
 - b. How many vehicles did you leave at each location (put-in & take-out):
3. Put-in/Take-out Logistics
 - a. Where did you put-in?
 - i. Did you have to wait to launch? Why?
 - ii. On a scale of 1 to 10, were you satisfied with the Put-in? If less than 6 – Why?
 - b. Where did you take-out?
 - i. Did you have to wait to take-out? Why?
 - ii. On a scale of 1 to 10, were you satisfied with the take-out? If less than 6 – Why?
4. Multiple Runs
 - a. How many runs did you make?
 - b. Other runs on other reaches or rivers that weekend?
 - c. Other runs on other reaches or rivers considered?
5. Safety Issues
 - a. Did you have any safety issues? (What/Where)
 - b. Did you have any portages? How many and why?
 - c. Did you have any scouts? How many and why?
6. Encounter Information
 - a. Did you see anyone else when you were on the river?
 - b. Did it positively or negatively affect your experience, or have no effect?
7. Individual Skill Level
 - a. Class III: Intermediate; Class IV: Advanced; Class V: Expert
8. Flow Satisfaction
 - a. Based on your personal skill level, was the flow too high, too low, or just right? Why?
 - b. Would you return at the flows you experienced?
 - c. On a scale of 1 to 10, how was the over-all quality of the run? If less than 6 – Why?
 - d. Did the run meet your expectations?
9. Other Information
 - a. Any other information you'd like to provide?