Monitoring Program 2022 Final Annual Report

Sacramento Municipal Utility District

Hydro License Implementation • June 2023

Upper American River Project

FERC Project No. 2101

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Acronyms and Abbreviations

Acronym	Definition
7DMAVG	seven day moving average water temperature
CDFW	California Department of Fish and Wildlife
DAVG	daily average water temperature
DWR	California Department of Water Resources
FERC	Federal Energy Regulatory Commission
FYLF	foothill yellow-legged frog
GPS	Global Positioning System
LWD	large woody debris
new license	The FERC License for the Upper American River Project 2101 issued July 2014 for which new flow regimes and other terms and conditions were implemented beginning in October 2014
Plan(s)	Bald Eagle Monitoring Plan, Bear Monitoring Plan, Large Woody Debris Monitoring Plan, and Water Temperature Monitoring Plan
Report	Annual Monitoring Report
SMUD	Sacramento Municipal Utility District
SWRCB	State Water Resources Control Board
UARP	Upper American River Project
USFS	U.S. Department of Agriculture, Forest Service
USFWS	U.S. Fish and Wildlife Service

1.0 INTRODUCTION AND BACKGROUND

This Annual Monitoring Report (Report) addresses monitoring requirements set forth in Sacramento Municipal Utility District's (SMUD's) Bald Eagle Monitoring Plan, Bear Monitoring Plan, Large Woody Debris Monitoring Plan, and Water Temperature Monitoring Plan (Plans).[1] Requirements of the Plans are found in State Water Resources Control Board (SWRCB) Conditions 8 and 10, and U.S. Department of Agriculture, Forest Service (USFS) 4(e) Condition 31 and 35, located in Appendices A and B, respectively, of the Federal Energy Regulatory Commission's (FERC's) Order Issuing New License for the Upper American River Project (UARP; FERC Project No. 2101), dated July 23, 2014 (FERC 2014) and the USFS section 4(e) Conditions 14 and 15 for the Slab Creek Flow Facility Project License Amendment (USFS 2015). The Plans were developed in consultation with the SWRCB, USFS, California Department of Fish and Wildlife (CDFW), and U.S. Fish and Wildlife Service (USFWS). This Report presents the results of implementing the Plans in 2022.

SMUD owns and operates the UARP which is licensed by FERC. The UARP lies within El Dorado and Sacramento counties, primarily within lands of Eldorado National Forest. The UARP consists of three major storage reservoirs: Loon Lake, Union Valley, and Ice House (with a combined capacity of approximately 379,000 acre-feet), eight smaller regulating or diversion reservoirs, and eight powerhouses. The UARP also includes recreation facilities containing over 700 campsites, five boat ramps, hiking paths, and bicycle trails at the reservoirs.

All minimum streamflows required by the 2014 FERC License were implemented in October 2014; therefore, Year 1 as it pertains to the Monitoring Program is 2015. Pre- and post-2014 minimum streamflow requirements (i.e., "old" license and "new" license) are provided in Appendix A1.

This Report summarizes results of Monitoring Year 8 (2022). Refer to Section 1.2 of this report for information about the frequency of resource-specific monitoring efforts required by the License. Some monitoring activities have specific reporting requirements and deadlines in lieu of this Report.

For context in considering the monitoring results, the California Department of Water Resources (DWR) May Bulletin 120 forecast the 2022 water year type as Below Normal. The final 2022 water year type remained classified as Below Normal based on DWR's Full Natural Flow record for the American River at Folsom in October 2022.

[1] Results of implementing the Water Quality Monitoring Plan (SMUD 2021) are provided in the 2022 Water Quality Monitoring Report.

1.1 MONITORING SITES

Monitoring sites are depicted in Figure 1-1 through Figure 1-3 for all 2022 study locations.

1.2 MONITORING FREQUENCY

The Monitoring Program covers monitoring to be conducted during all years until a new license is issued. Table 1-1 describes the monitoring frequencies for the first 12 years of the License. As noted in Section 1.3, some monitoring activities have specific reporting requirements and deadlines in lieu of this Report.

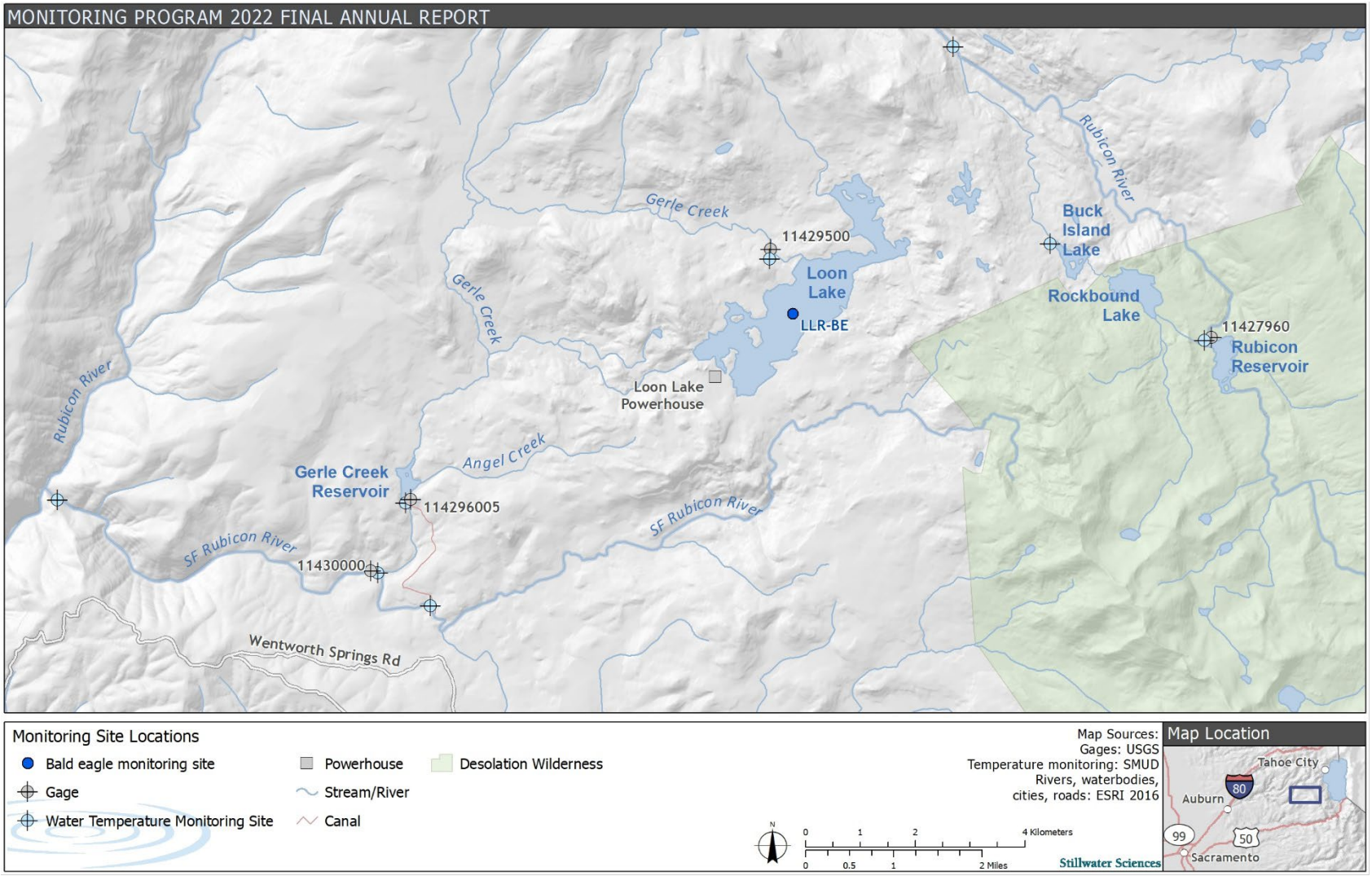

Figure 1-1. Monitoring locations downstream of Rubicon Reservoir, Rockbound Lake, Loon Lake, and Gerle Creek Reservoir.

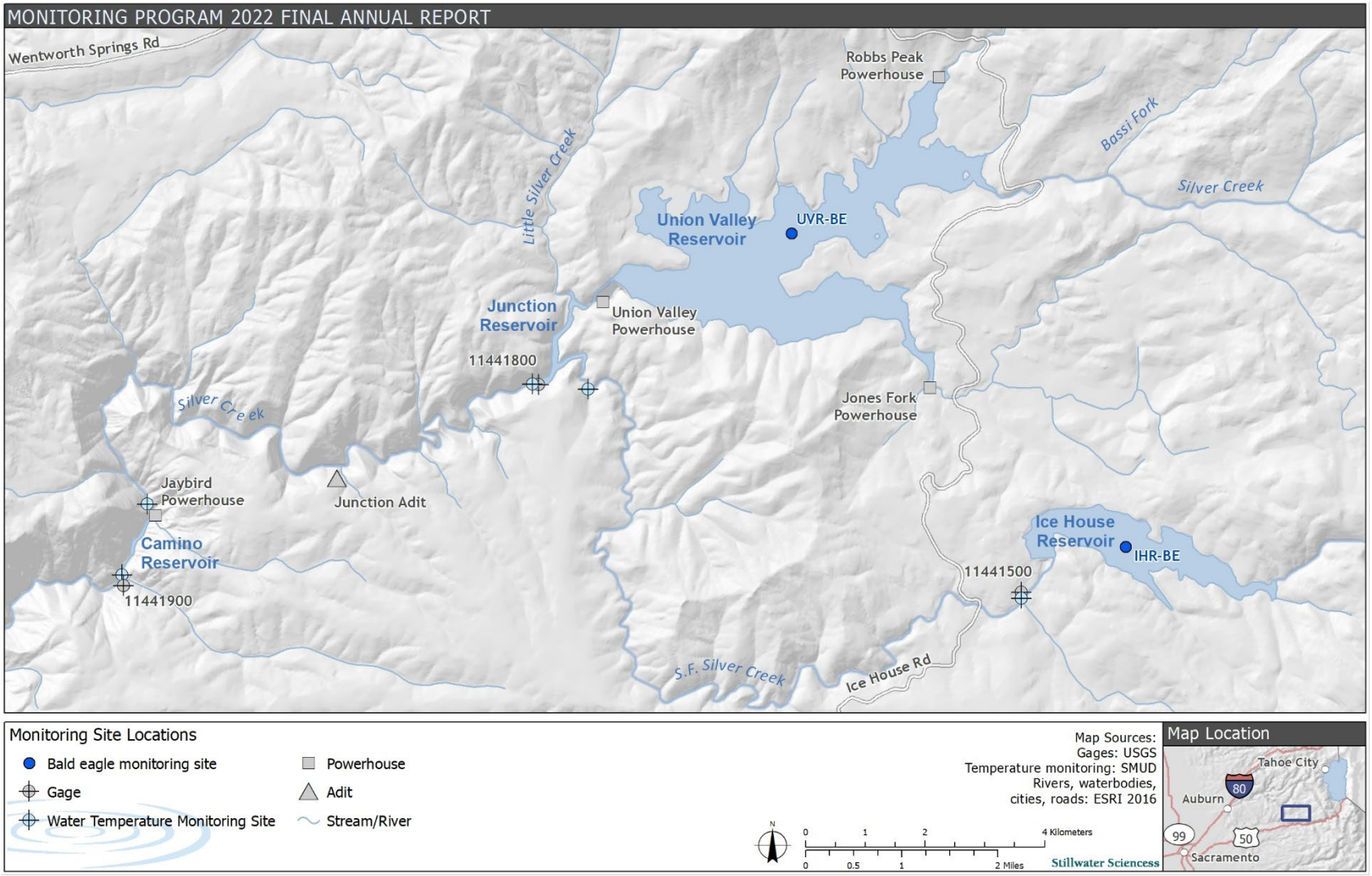

Figure 1-2. Monitoring locations downstream of Ice House Reservoir, Union Valley Reservoir, Junction Reservoir, and Camino Reservoir.

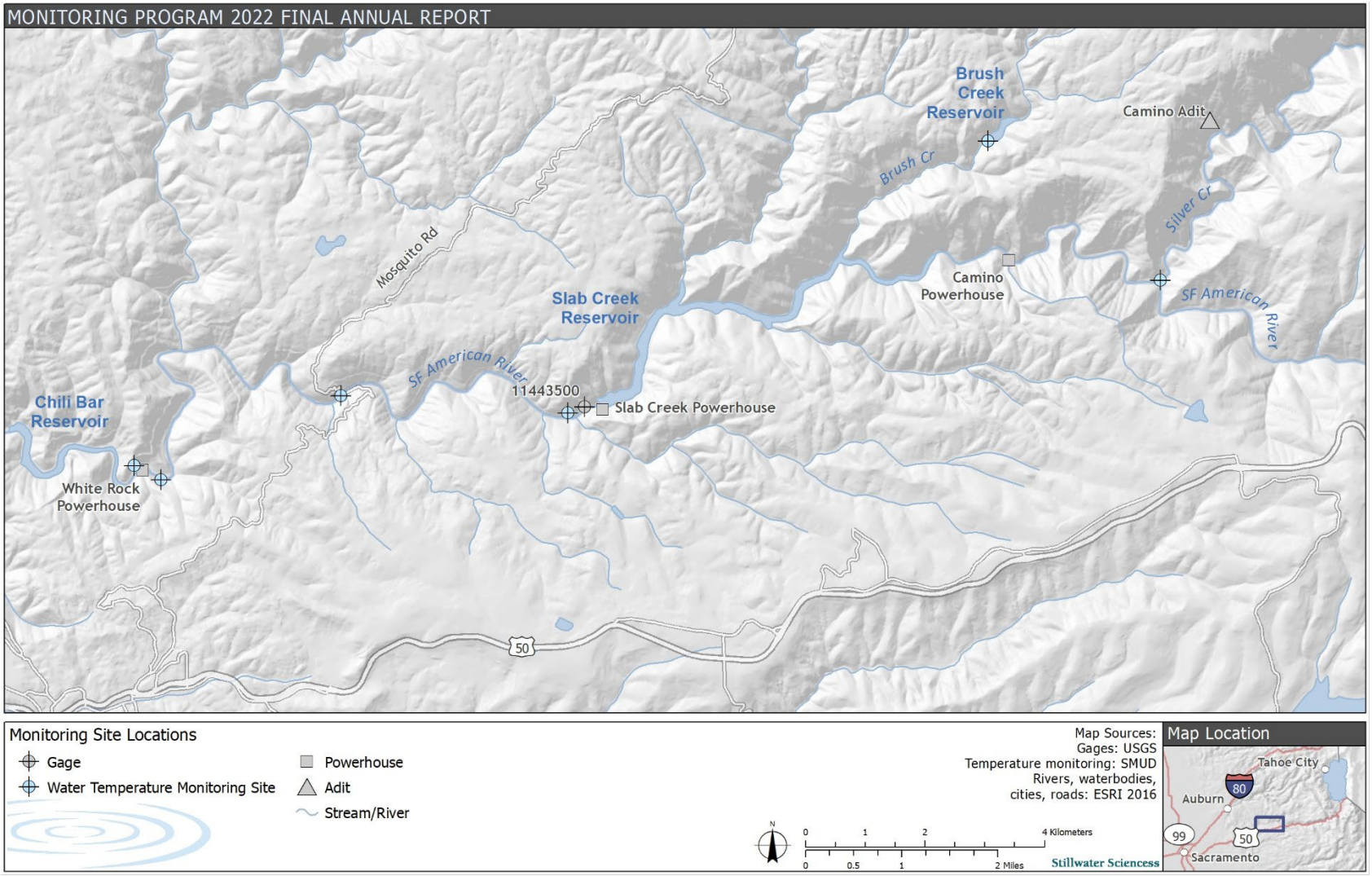

Figure 1-3. Monitoring locations downstream of Camino Reservoir (continued), Brush Creek Reservoir, and Slab Creek Reservoir.

Table 1-1. Monitoring Program Frequency First Twelve Years.

Monitoring Effort	License Monitoring Year											
	1	2	3	4	5	6	7	8	9	10	11	12
	(2015)	**(2016)**	**(2017)**	**(2018)**	**(2019)**	**(2020)**	**(2021)**	**(2022)**	**(2023)**	**(2024)**	**(2025)**	**(2026)**
Trout Population Monitoring					X	X				X	X	
Hardhead Population Monitoring		X	X		X	X				X	X	
Aquatic Macroinvertebrate					X	X				X	X	
Amphibian and Aquatic Reptile Monitoring (including Foothill Yellow-legged Frog) [1]		X	X	X	X	X	X			X	X	
Sierra Nevada Yellow-legged Frog (formerly Mountain Yellow-legged Frog) Monitoring					X					X		
Riparian Vegetation Monitoring					X					X		
Algae Species Identification and Monitoring		X										
Geomorphology (Sensitive Site Investigation and Mitigation Plan Development)	X	X										
Geomorphology (Continuing Evaluation of Representative Channel Areas)					X					X		
Water Temperature		X	X	X	X	X	X	X	X	X	X	X
In Situ Water Quality	X	X	X	X	X	X	X	X	X	X	X	X
Bacteria Monitoring	X	X	X	X	X	X	X	X	X	X	X	X
Metals bioaccumulation		X					X					X
Water General Chemistry			X					X				

Monitoring Effort	License Monitoring Year											
	1	2	3	4	5	6	7	8	9	10	11	12
	(2015)	**(2016)**	**(2017)**	**(2018)**	**(2019)**	**(2020)**	**(2021)**	**(2022)**	**(2023)**	**(2024)**	**(2025)**	**(2026)**
Robbs Peak Powerhouse Entrainment	X	X	X									
Bear Management Monitoring		X	X	X	X	X	X	X	X	X	X	X
Bald Eagle Monitoring		X	X	X	X	X	X	X	X	X	X	X
Large Woody Debris	X	X	X	X	X	X	X	X	X	X	X	X

[1] Amphibian and Aquatic Reptiles Monitoring began in 2016.

1.3 CONSULTATION

The draft Report was submitted to relicensing participants via a secure file transfer website on 9 March 2023. Comments to the draft report and SMUD's replies to those comments are provided in Appendix A2.

1.4 LITERATURE CITED

FERC (Federal Energy Regulatory Commission). 2014. Federal Energy Regulatory Commission Order 148 FERC 62,070 Issuing New License for the Sacramento Municipal Utility District Upper American River Hydroelectric Project No. 2101. Issued July.

SMUD (Sacramento Municipal Utility District). 2021. Water Quality Monitoring Plan. Revision 3. Hydro License Implementation. Upper American River Project, FERC Project No. 2101. March

USFS (U.S. Department of Agriculture, Forest Service). 2015. Final Section 4(e) Terms and Conditions Slab Creek Application of Amendment Project, FERC No. 2101. Issued December.

2.0 BALD EAGLE

2.1 MONITORING PLAN OBJECTIVES

The primary objectives of the bald eagle (*Haliaeetus leucocephalus*) monitoring program are to document bald eagle nesting activity in the study area (see Section 1.0) and ensure that bald eagle nest sites are not adversely affected by activities related to the UARP. Results are intended to inform future bald eagle management in the UARP area (SMUD 2015).

2.2 METHODS

Bald eagle field surveys were conducted during the 2022 breeding season at Union Valley Reservoir, Loon Lake Reservoir, and Ice House Reservoir in accordance with protocols described in the *Protocol for Evaluating Bald Eagle Habitat and Populations in California* (Jackman and Jenkins 2004), *Bald Eagle Breeding Survey Instructions* (CDFG 2010), and UARP Bald Eagle Monitoring Plan (SMUD 2015) (Table 2-1). Access at Loon Lake Reservoir was limited during the first half of the breeding season (February through April) due to snow and road conditions, delaying the first of three required breeding season surveys at this location until early May.

Table 2-1. Bald Eagle Survey and Reproductive Status Check Dates in 2022.

Survey Type	2022 Survey Date		
	Union Valley Reservoir	Ice House Reservoir	Loon Lake Reservoir
Early Breeding Season Survey	18 March	18 March	3 May
Mid-Breeding Season Survey	26 May	26 May	27 May
Late Breeding Season Survey	30 June	28 June	29 June
Reproductive Status Check	29 March, 2 May, 25 May, 27 May	27 May, 26 June, 10 July	28 June

Nest sites documented during previous years of surveys (SMUD 2022) were revisited, and other areas with suitable habitat surrounding each reservoir were evaluated for signs of bald eagle nesting activity. Observations were made using binoculars and/or a spotting scope from a boat and land-based vantage points (Figure 2-1). Detailed information about the location, age class, activity, movement, and behavior of bald eagles was recorded, along with notes on the general level of recreational or other noise-generating activity at each reservoir. Notable features (e.g., bald eagle perches) located during the surveys were mapped using a tablet equipped with a Global Positioning System (GPS). Incidental observations of other avian species were also recorded (Appendix B1). A detailed summary of bald eagle

observations made during field surveys using the California Bald Eagle Nesting Territory Form (CDFG 2010) was submitted to CDFW at the end of the breeding season (Appendix B2).

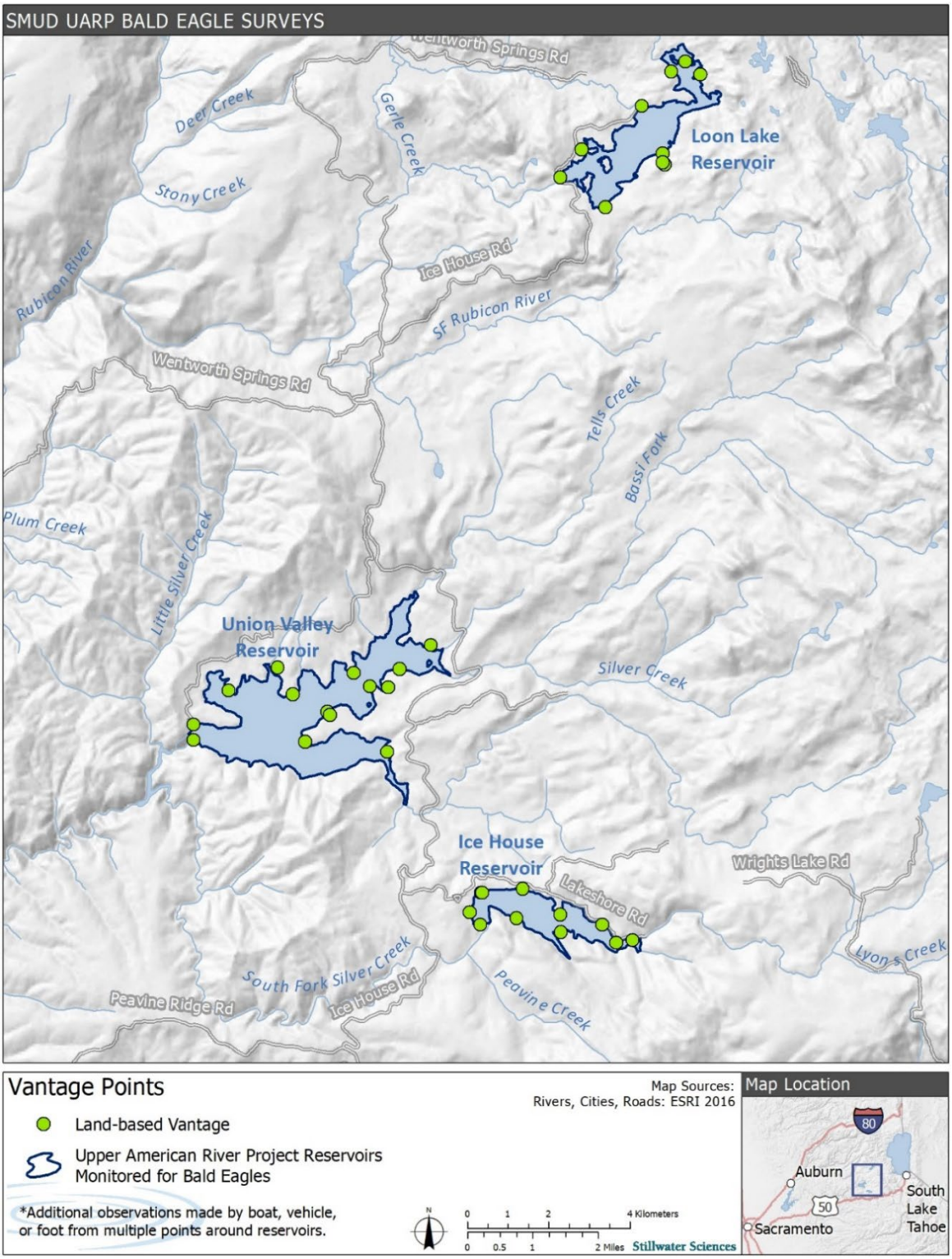

Figure 2-1. Land-based vantage points used for monitoring in the Upper American River Project bald eagle study area.

2.3 RESULTS

2.3.1 Union Valley Reservoir

The early breeding season survey (18 March) and subsequent reproductive status check (29 March) at Union Valley Reservoir indicated occupancy and initiation of reproductive activity at the nest located in Sunset Campground (Table 2-2, Figures 2-2 through 2-4). A nesting attempt has been documented at this location every year since 2016 (SMUD 2022). Observers noted a female on the nest in incubation posture for long periods and a male attending the nest (Table 2-2). Subsequent surveys indicated that the reproductive attempt was not successful. The nest structure was intact during later breeding season surveys and reproductive status checks, but further observations of bald eagle presence in the vicinity of the nest tree were limited to two sightings of adult eagles on 26 May, neither of which were indicative of an active nest (Table 2-2).

No evidence of bald eagle reproductive activity was observed elsewhere on Union Valley Reservoir in 2022. Surveyors visited the historical nest site (SMUD 2015) and nest platform on Granlee's Point but observed no bald eagle activity at either location (Figure 2-2). Additionally, surveyors inspected other suitable habitat via boat and land, increasing observation around Jones Fork compared to previous years due to recent anecdotal reports of bald eagle sightings in the area. While eagles were observed in this area, no indication of reproductive activity was observed. Additional detail regarding surveys and reproductive status checks conducted in 2022 at Union Valley Reservoir is provided in Appendix B2.

Table 2-2. Bald Eagle Observations during the 2022 Breeding Season at Union Valley Reservoir.

Date (Time)	Number of Eagles	Age Class	Notes
03/18/22 (08:55)	1	Adult	Adult (male) observed in nest tree on perch above nest.
03/18/22 (09:03)	1	Adult	Adult (male) flying west from nest tree over reservoir.
03/18/22 (11:15)	1	Adult	Adult (female) on nest, stretching wings – surveyors determined female had been on nest but not visible since their arrival at 06:55.
03/18/22 (14:17)	2	Adult	Adult (male) returned to nest and adult (female) departed nest. Adult (male) stayed in nest for approximately 3 minutes before departing again.
03/18/22 (14:20)	2	Adult	Two adults (male and female) circling the nest tree for approximately 15 minutes.
03/18/22 (14:57)	1	Adult	Adult landed on nest, remaining for approximately 7 minutes before departing to the southeast.
03/18/22 (15:15)	1	Adult	Adult flying northwest and returning to nest.
03/29/22 (14:45)	2	Adult	Adult (male) perched near nest tree for approximately 1 hour. Adult (female) in incubation position within nest, periodically emerging then returning to nest.
05/26/22 (13:15)	1	Adult	Adult flying west while being mobbed by common ravens (*Corvus corax*), briefly landing near the nest tree, then flying east.
05/26/22 (20:20)	2	Adult	Adult (male) departing nest tree to briefly join adult (female) perched nearby before both flew north over Union Valley Reservoir.
5/27/22 (15:00)	2	Adult	Adults (male and female) observed soaring high over Jones Fork Silver Creek inlet.
6/30/22 (07:45)	1	Adult	Adult perched in fir with small snag top on south side of Sunset Peninsula east of boat launch.
6/30/22 (10:40)	1	Adult	Adult soaring over the south side of the reservoir near Jones Fork Campground, landing on peninsula west of Granlee's Point then flying west towards Union Valley Dam.
6/30/22 (12:57)	1	Adult	Adult soaring west of Union Valley Dam toward Junction Valley Reservoir.
6/30/22 (15:02)	2	Adult	Adult pair observed in altercation with osprey (*Pandion haliaetus)* near Sunset Boat Launch.

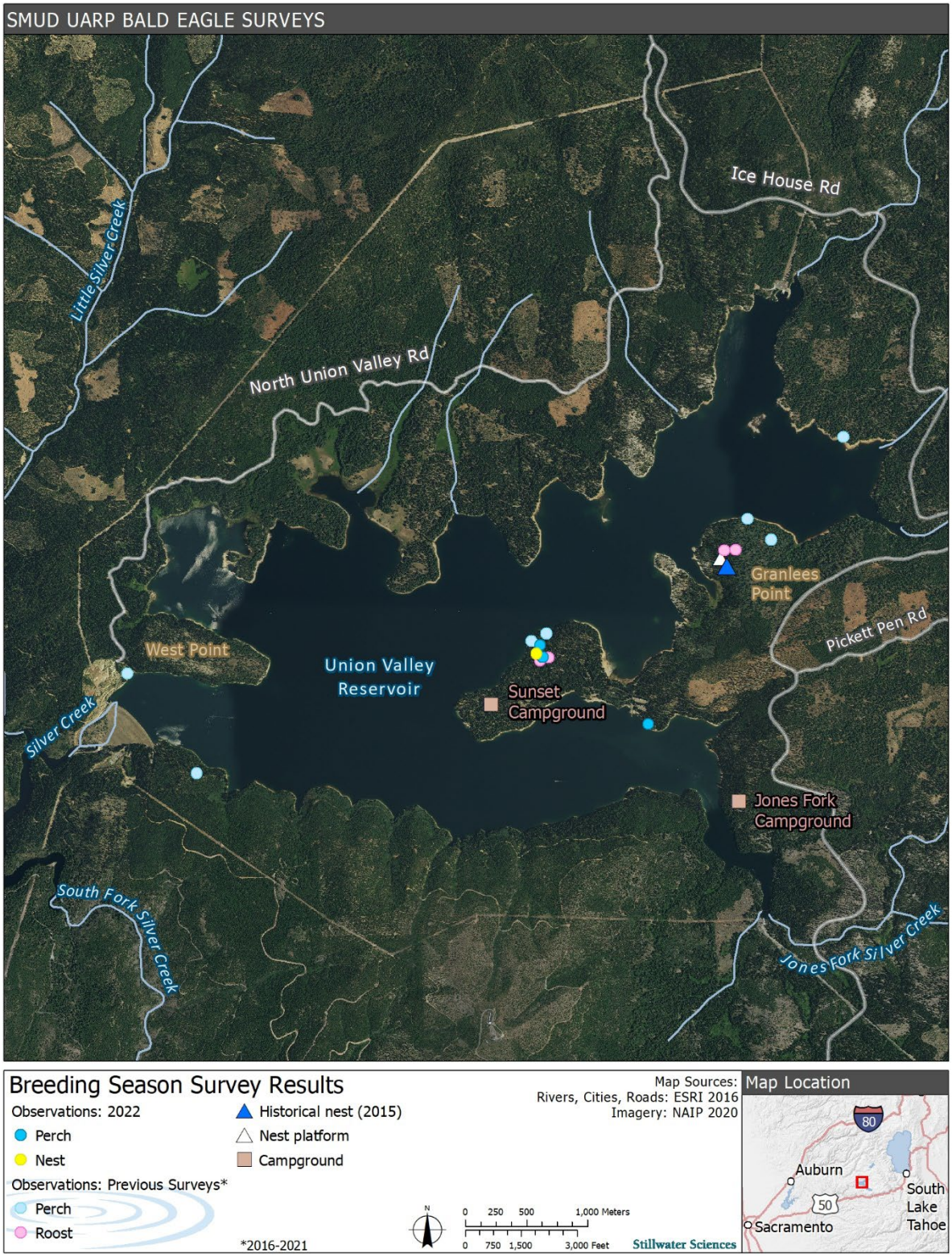

Figure 2-2. Bald eagle activity sites at Union Valley Reservoir.

Figure 2-3. Adult bald eagles at the nest tree in Sunset Campground (March 2022).

Figure 2-4. Adult bald eagle on perch in Sunset Campground (March 2022).

2.3.2 Ice House Reservoir

During the early (18 March) and mid-breeding season surveys (26 May), adult bald eagles were observed multiple times at Ice House Reservoir (Figure 2-5) and, after extensive observation, an active nest with at least one chick was located on the south side of the reservoir (Table 2-3, Figure 2-6). A juvenile eagle was observed branching and exhibiting pre-fledging behavior during subsequent visits, indicating a successful reproductive attempt (Table 2-3, Figures 2-7 and 2-8). Additional detail regarding surveys and reproductive status checks conducted in 2022 at Ice House Reservoir is provided in Appendix B2.

Figure 2-5. Adult (male) bald eagle foraging over Ice House Reservoir (May 2022).

Table 2-3. Bald Eagle Observations during the 2022 Breeding Season Surveys at Ice House Reservoir.

Date (Time)	Number of Eagles	Age Class	Notes
03/18/22 09:30	1	Adult	Adult perched on south side of reservoir for approximately 50 minutes, then flying east.
03/18/22 12:45	1	Adult	Adult foraging low over water west of auxiliary dam.
03/18/22 13:30	1	Adult	Juvenile soaring high over inlet of South Fork Silver Creek, then flying east.
03/18/22 14:45	1	Adult	Adult perched in dead snag on south side of reservoir just east of auxiliary dam for approximately 20 minutes, then flying west along the south shore.
05/26/22 17:20	1	Adult	Adult (male) flying west over boat launch, harassing an osprey with a fish, and continuing east to a Douglas fir (*Pseudotsuga menziesii*) on ridge of the peninsula northeast of Ice House Dam.
05/26/22 17:40	1	Adult	Adult (male) flying west from perch across the reservoir, landing on the shoreline, and returning to perch at 17:50.
05/26/22 18:15	1	Adult	Adult (male) leaving previously observed perch, catching (then dropping) fish near dam, and returning to perch.
05/26/22 18:34	1	Adult	Adult (male) departing previously observed perch, stealing a fish from an osprey, flying east, and returning to perch after approximately 10 minutes.
05/26/22 19:20	2	Adult	Adult (male) departing previously observed perch, stealing a fish from an osprey, and delivering it to adult (female) in newly identified nest in large broken-topped incense cedar (*Calocedrus decurrens*) on south shore of
05/27/22 14:15	3	Adult/chick(s)	Adult (male) delivering food to the nest and adult (female) feeding at least one visible chick.
05/27/22 14:30	2	Adult	Adult (pair) departed nest to shoreline on south side of reservoir to drink and bathe.
06/26/22 15:30	1	Juvenile	Juvenile perched on branch just outside of nest, hopping and flapping wings until observer left at 17:30.
06/28/22 12:40	1	Adult	Adult perched in red fir (*Abies magnifica*) on south shore of reservoir.
06/28/22 15:30	1	Juvenile	Juvenile perched on branch near nest.
07/10/22 16:45	1	Juvenile	Juvenile branching and feeding in nest tree until observer departed at 18:15.

Figure 2-6. Bald eagle activity sites at Ice House Reservoir.

Figure 2-7. Juvenile bald eagle at nest on Ice House Reservoir (June 2022).

Figure 2-8. Juvenile bald eagle at nest on Ice House Reservoir (June 2022).

2.3.3 Loon Lake Reservoir

Bald eagles were only observed at Loon Lake Reservoir during the late breeding season survey conducted on 29 June (Table 2-4). The eagles were not observed in the vicinity of the former nest site, and no evidence of reproductive activity was observed elsewhere on the reservoir. There was no evidence of rebuilding observed at the nest site on the south side of the reservoir that was used from 2016–2018 and in 2020 but destroyed in 2021 (Figures 2-9 and 2-10). Additional detail regarding surveys at Loon Lake Reservoir in 2022 is provided in Appendix B2.

Table 2-4. Bald Eagle Observations during the 2022 Breeding Season Surveys at Loon Lake Reservoir.

Date (Time)	Number of Eagles	Age	Notes
06/29/22 (06:45)	2	Adult	Two adults (male and female) in previously documented perch in ponderosa pine (*Pinus ponderosa*) on east side of Pleasant Lake.
06/29/22 (07:05)	2	Adult	Two adults (male and female) flying west, relocating in separate previously documented perch in ponderosa pine; adult (female) observed feeding.
06/29/22 (07:15)	1	Adult	Adult (male) departed flying northwest.
06/29/22 (07:20)	1	Adult	Adult (female) departed flying southwest.
06/29/22 (10:35)	1	Adult	Adult flying east to west from Pleasant Lake toward Gerle Creek Reservoir.

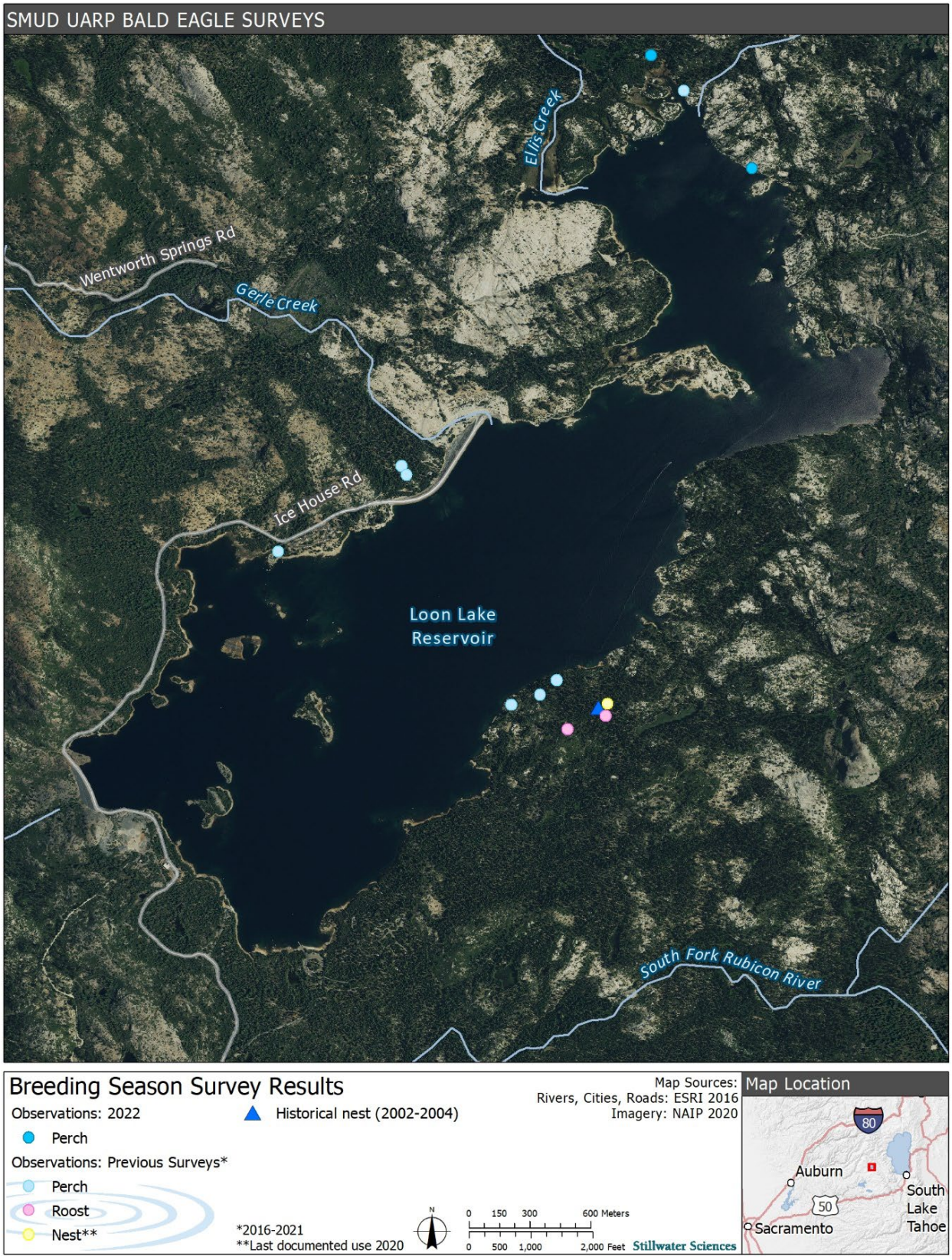

Figure 2-9. Bald eagle activity sites at Loon Lake Reservoir.

Figure 2-10. Location of former bald eagle nest on south side of Loon Lake Reservoir last utilized in 2020 (May 2022).

2.4 DISCUSSION

2.4.1 Union Valley Reservoir

Bald eagles continue to use the habitat surrounding Union Valley Reservoir, although the reproductive attempt in 2022 was unsuccessful. In the early breeding season, bald eagles were frequently observed attending to the nest at Sunset Campground. While bald eagles were observed during subsequent surveys,

sightings around the nest were less frequent and not indicative of successful reproduction (Section 2.3.1).

The 2022 water year was Below Normal with cumulative precipitation in the region at approximately 91% of normal (DWR 2022a, NOAA 2022). This was unlikely to have affected bald eagle nesting success at Union Valley Reservoir in 2022 as reservoir levels remained relatively consistent during the breeding season, gradually increasing from 4,846 feet above mean sea level in mid-February to 4,869 feet in mid-June (DWR 2022b [Station ID: UNV]). The timing of weather events, however, may have been an influential factor. Snowpack (as measured by water content) at Robbs Peak Powerhouse (Figure 1-2) peaked at 16.3 inches in early March and decreased rapidly but did not dissipate entirely until early May due to storms in mid- and late April and minimum air temperatures regularly dropping below freezing through early May (DWR 2022b [Station ID: RBP]). Cumulative precipitation at Robbs Peak Powerhouse during the breeding season was approximately 14 inches, with over half of this occurring during the April storm events. Wind speeds during the breeding season peaked during these events, reaching a maximum of 37 miles per hour at Big Hill, approximately one mile south of Union Valley Reservoir (DWR 2022b [Station ID: BHS]).

Additionally, the bald eagle pair exhibited signs of agitation (e.g., repeated circling, vocalizations) during the early breeding season survey when a California Department of Forestry and Fire Protection (Cal Fire) helicopter repeatedly flew low over the nest at Sunset Campground to fill its bucket in the reservoir. Other activity observed on or around the reservoir during the early breeding season survey was minimal but intensified during subsequent surveys with increased boating and campground activity, including in the vicinity of the nest at Sunset Campground (Appendix B2). Maintenance or construction activities involving noise-generating equipment performed at Union Valley Reservoir during the breeding season included an expansion of the Union Valley Bike Path along the northern perimeter of the reservoir. No observations of bald eagles exhibiting agitation or appearing disturbed as a result of recreational, maintenance, or construction activity at Union Valley Reservoir were made during the surveys, and further Cal Fire helicopter activity was not observed during the mid- or late breeding season.

2.4.2 Ice House Reservoir

During the 2022 breeding season, a new nest was located at Ice House Reservoir and subsequent observations were indicative of a successful reproductive attempt, with one fledged juvenile (Section 2.3.2). Neither weather nor reservoir levels appear to have affected bald eagle nesting at Ice House Reservoir during the 2022 breeding season. Reservoir levels remained relatively consistent, ranging from 5,433 to 5,444 feet above mean sea level (DWR 2022b [Station ID: ICS]). Minimum air temperatures regularly dropped below freezing through early May (DWR 2022b), and snowpack (as measured by water content) at Ice House Reservoir peaked at 7.5 inches in late January before dissipating steadily and reaching zero by the end of April (DWR 2022b [Station ID: IHS and RBP]). Cumulative precipitation during the

breeding season at Wrights Lake (the closest gage to Ice House Reservoir with available data) was approximately 15 inches, with the most significant accumulation (approximately 8.5 inches) occurring during the April weather events described in Section 2.4.1 (DWR 2022b [Station ID: WRG]).

Recreational activity observed on or around the reservoir was minimal during the early breeding season survey and increased moderately during the mid- and late breeding season surveys. Heavy recreational activity (e.g., camping, boating, swimming), was noted during the additional reproductive status checks that occurred on weekends (Appendix B2). Maintenance and construction activities involving noise-generating equipment performed at Ice House Reservoir during the 2022 breeding season included improvements to Ice House Campground (Figure 2-6) that began in May and continued through the breeding season. No observations of bald eagles exhibiting agitation or appearing disturbed as a result of recreational or maintenance activity at Ice House Reservoir were made during surveys or additional reproductive status checks.

2.4.3 Loon Lake Reservoir

There was no evidence of a reproductive attempt by bald eagles at Loon Lake Reservoir in 2022, and eagles were only observed at the reservoir during the late breeding season survey (Section 2.3.3). There is a limited season of suitable bald eagle reproductive habitat around Loon Lake Reservoir due to its high elevation (approximately 6,500 feet). The duration of this season varies with weather conditions from year to year. As stated previously, the 2022 water year was Below Normal (DWR 2022a); cumulative precipitation at Loon Lake Reservoir totaled just under 15 inches, with the majority (8.5 inches) occurring in the April period referenced above (DWR 2022b [Station ID: LON]). Snowpack (as measured by water content) at the nearby Van Vleck Gage (DWR 2022b [Station ID: VVL]) peaked at approximately 25 inches in early March and melted slowly to approximately 10 inches by early April. During the mid-April storms snowpack increased sharply to approximately 20 inches and did not melt completely until mid-May. During most of the early and mid-breeding season, significant portions of Loon Lake Reservoir were frozen and minimum temperatures were below freezing, except temporarily during a warmer period that coincided with the initial decrease in snowpack described above (DWR 2022b [Station ID: LON]). Reservoir levels during the 2022 breeding season remained relatively consistent, ranging from 6,375 to 6,409 feet above mean sea level (DWR 2022b [Station ID: LON]), and were therefore unlikely to have affected eagle reproductive activity.

There was no recreational activity observed on or around the reservoir during the early breeding season survey, and surveyors noted a moderate increase in activity during the mid- and late breeding season surveys (Appendix B2). Maintenance activities performed by SMUD during the 2022 breeding season were routine and did not involve significant noise generation. No observations of bald eagles exhibiting agitated behavior or appearing disturbed as a result of recreational or maintenance activity at Loon Lake Reservoir were made during the surveys.

2.5 LITERATURE CITED

CDFG (California Department of Fish and Game). 2010. Bald eagle breeding survey instructions and California bald eagle nesting territory field form. Sacramento, CA.

DWR (California Department of Water Resources). 2022a. Basin Summary of Full Natural Flows: American River below Folsom Reservoir in Water Year 2022 https://cdec.water.ca.gov/reportapp/javareports?name=FNFSUM.

DWR. 2022b. Precipitation, snow water content, temperature, and reservoir level data from the following stations in California: Big Hill Met (Station ID: BHS), Ice House Reservoir (Station ID: ICH and ICS), Loon Lake Reservoir (Station ID: LON), Robbs Powerhouse (Station ID: RBP), Union Valley Reservoir (Station ID: UNV), Van Vleck Bunkhouse (Station ID: VVL), and Wrights Lake (Station ID: WRG). California Data Exchange Center, DWR, Sacramento, California. http://cdec.water.ca.gov/

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3.0 BEAR MANAGEMENT MONITORING

This Bear-Human Interaction Monitoring Report addresses monitoring set forth in Condition Number 31 of Appendix B of USFS section 4(e) conditions of the new license issuance order (FERC 2014) for the UARP, owned and operated by SMUD.

In consultation with stakeholders and the resource agencies, SMUD developed a Bear-Human Interaction Monitoring Plan (Plan; SMUD 2015). The monitoring described by this Plan will be used to determine if the measures (primarily installation of bear-proof food and trash lockers, and public education) implemented by the resource agencies are successful in decreasing the number of bear incidents in the UARP. Additionally, the monitoring will help inform resource managers where there are still problems that may need to be addressed with additional bear management measures. Results of bear-human interaction monitoring conducted during the 2022 recreation season are provided in this report.

3.1 MONITORING PLAN OBJECTIVES

The primary objectives and rationale for the bear management monitoring program, as described in the Plan are:

> *Monitor effectiveness of measures related to bear management using a method acceptable to FS, FWS, and CDFG.*

This monitoring will help determine if bear management measures used to keep bear populations away from recreation sites within the UARP are effective. As described in Settlement Agreement Article 1-6.10:

> *If, over a 5-year period, monitoring indicates that the number of bear/human interaction incidents does not decline or decrease in severity, the licensee shall work with FS, FWS, and CDFG to identify and implement additional measures necessary to reduce such problems.*

Additionally, the results of this monitoring may be useful to SMUD and the USFS when planning and prioritizing locations to install bear-proof food lockers.

3.2 STUDY AREA AND SAMPLING LOCATIONS

As has been done since the program began in 2016, monitoring was carried out at developed, UARP-related, recreation facilities within the Project area (Figure 3-1, Table 3-1). These included both day-use and overnight facilities, hosted and un-hosted.

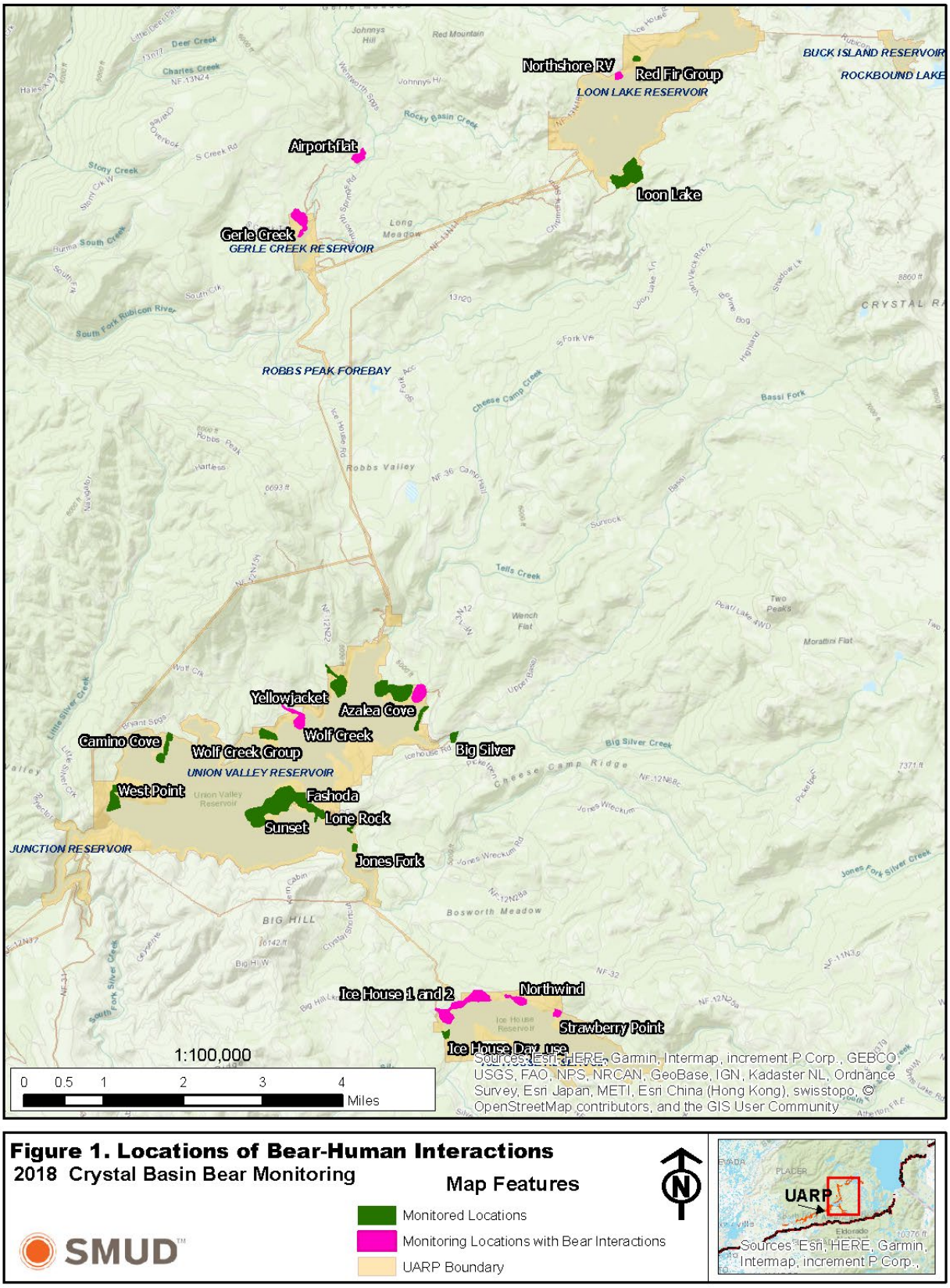

Figure 3-1. Bear-human interaction monitoring locations.

Table 3-1. Sites associated with the Upper American River Project Bear-Human Interaction 2022 Monitoring Program.

Facility	Existing Lockers/ Trash	Hosted Site	Monitored	Comment
Northshore CG	Y	Y	Y	Host supplied with forms
Loon Lake Family CG; Boat Launch RV CG; Equestrian CG; Group CG; and Equestrian Group CG	Y	Y	Y	Host administering multiple LL facilities was responsible for collecting forms
Red Fir CG	Y	N	Y	Monitoring form box installed
Pleasant Boat-in CG	Y	N	N	Monitoring Box not deployed here due to access challenge
Airport Flat CG	Y	N	Y	Monitoring form box installed
Gerle Creek CG	Y	Y	Y	Host supplied with forms
Sunset Family CG	Y	Y	Y	Host supplied with forms
Fashoda CG	Y	Y	Y	Host supplied with forms
West Point CG	Y	N	Y	Host supplied with forms
Yellowjacket CG	Y	Y	N	CG closed for season due to construction
Wench Family and Group CG	Y	Y	Y	Host supplied with forms
Wolf Creek Family CG	Y	Y	Y	Host supplied with forms
Wolf Creek Group CG	Y	Y	N	CG closed for season due to construction
Azalea Cove CG	Y	N	Y	Monitoring form box installed
Big Silver Group CG	Y	N	Y	Monitoring form box installed
Camino Cove CG	Y	N	N	CG closed for season due to construction
Jones Fork CG	Y	N	Y	Monitoring form box installed
Lone Rock CG	Y	N	Y	Monitoring form box installed
Ice House Family CG	Y	Y	N	CG closed for season due to construction
Northwind CG	Y	N	Y	Monitoring form box installed
Strawberry Point CG	Y	N	Y	Monitoring form box installed

Facility	Existing Lockers/ Trash	Hosted Site	Monitored	Comment
Day-Use Areas				
Angel Creek	Y	N	Y	Monitoring form box installed
Gerle Creek	Y	Y	Y	Host supplied with forms
Ice House	Y	Y	N	Closed for season due to construction
Fashoda	Y	Y	Y	Host supplied with forms
Jones Fork Bike Trailhead	N	N	Y	Monitoring form box installed at CG
Big Silver Bike Trailhead	N	N	Y	Monitoring form box installed at CG
Wench Creek Bike Trailhead	Y	Y	Y	Host supplied with forms
Loon Lake – Desolation Wilderness	N	N	Y	Monitoring form box installed at trailhead
Silver Creek Day Use	Y	N	N	New site

CG = campground

3.3 METHODS

The methods of this monitoring program are outlined in the Bear-Human Interaction Monitoring Plan prepared by SMUD in consultation with the USFS and CDFW in 2015. SMUD has prepared a form to be used to collect standardized data. The form is supplied to the USFS at the outset of each recreation season, and the USFS distributes the forms to campground hosts and to form boxes supplied by SMUD for non-hosted sites. Signage that describes the monitoring program is supplied by SMUD and is posted at monitored locations throughout the Crystal Basin. The USFS collects forms from the boxes and from the hosts throughout the season and provides them to SMUD at the end of the season for reporting purposes. Data are provided by the visiting public USFS staff or campground hosts who have interviewed campers. SMUD staff communicates with USFS staff throughout the season to ensure supplies of forms are sufficient.

3.4 RESULTS AND DISCUSSION

The annual kickoff meeting with USFS staff and the recreation concessionaire was not held in 2022 so SMUD was not able to communicate to the concessionaire group to discuss the monitoring program. This meeting is typically a great opportunity to tell all the parties involved in helping collect data about the program and how they are critical to its success. As seen in Table 3-1, most of the facilities were open

throughout the 2022 recreation season except for a few closures related to construction projects at Ice House (campground and day-use reconstruction) and Union Valley (north shore bike trail project) reservoirs. In 2022 the USFS staff stocked the monitoring form boxes and collected forms throughout the year. The concessionaire camp hosts were also supplied with forms which were collected at the end of the season by USFS staff.

SMUD received 16 completed forms (Appendix C1) from the USFS for the 2022 recreation season, the results of which are summarized in the table located in Appendix C2. Completed report forms came from the following designated monitoring sites: Fashoda (1), Jones Fork (5), Northwind (4), Sunset (2), and Northshore (1). In addition, forms were collected from the following locations, which are not part of the monitoring program: Bassi Falls Trailhead (1), Crystal Basin Barracks (1), and Millionaire Camp (1).

Since monitoring started in 2016, the number of reported incidents has fluctuated from a high of 43 in 2017 to 11 in 2020. Reported incidents have come from across the Crystal Basin. Locations of bear interactions appear to fluctuate every year, with new hot spots developing at different locations. Many of the bears described in the interactions seem to be habituated to humans and are not easily deterred, particularly when there are numerous incidents in one area. All campground locations in the monitoring program have bear-resistant trash and food storage containers, and most day-use areas have bear-resistant trash containers (Table 3-1).

In 2022 there were bear interactions at eight different areas across the Crystal Basin (Appendix C2). Aside from the two reports from dispersed camping areas at Bassi Falls and Millionaire Camp, all the sites have bear-proof food storage lockers and trash receptacles. Looking at the report forms as summarized in Appendix C2, at least 9 of the 16 incidents involved food stored outside of the bear lockers, and many of these bears were rewarded with the food they were able to get before moving on. Other incidents involved bears attracted to food odor, trash, or bears passing through camps to other sites with food. With five reports, Jones Fork Campground had the most incidents; however, four of those reports were from a single weekend. No property damage was reported from any of the bear incidents in 2022. As indicated in previous reports, continuing efforts at education and enforcement are always needed so that visitors understand that ***all food, trash, or scented products*** need to be stored in a bear-proof food lockers or trash receptacles. This message needs to be heavily reinforced by the USFS and its concessionaire hosts.

Based on observations and the monitoring results to-date, SMUD makes the following recommendations and suggestions:

1. SMUD, CDFW, and the USFS should continue to present information on the monitoring program to the concessionaire's campground hosts during an annual meeting and emphasize the importance of proper food storage.
2. SMUD and USFS should meet briefly once toward the middle of the recreation season to discuss the need for more forms, cooperation of

concessionaire staff, how often boxes are being checked, and whether signage is adequate, among other things.

3. The USFS should continue to emphasize the need for concessionaire staff to talk to the public about proper food storage and make regular rounds to see if food is being left out. Consider providing a handout about proper food storage that could be given to all campers.
4. The USFS could consider having all guests that make reservations online for campsites sign an acknowledgment regarding complying with food storage.

SMUD will continue to provide the results of the monitoring to the USFS and CDFW, and any management decisions or actions will be at the discretion of those agencies with jurisdiction over the resource. SMUD may assist in any management decisions, as appropriate.

3.5 UPCOMING SURVEY PLANS

In accordance with the Plan, monitoring will continue to occur annually during the recreation season (approximately Memorial Day through the end of September). For 2023, SMUD, with the help of the USFS, will ensure that each site to be monitored, including hosted sites, has adequate signage to educate the public about bears and to inform visitors of the monitoring program. SMUD will attend the annual kick-off meeting (if it occurs) with the recreation concessionaire and the USFS to present the details of the monitoring program and enlist the support and assistance of the camp hosts and USFS recreation staff. At this meeting additional forms will be provided to the USFS. For the monitoring to be effective, it will be imperative to make sure the visiting public knows about the monitoring program and their need to fill out forms following any incidents. It is equally important that all sites have forms available throughout the year and that all forms are collected and returned to SMUD at the close of the season.

3.6 LITERATURE CITED

FERC (Federal Energy Regulatory Commission). 2014. Federal Energy Regulatory Commission Order 148 FERC 62,070 Issuing New License for the Sacramento Municipal Utility District Upper American River Hydroelectric Project No. 2101. Issued July 23, 2014.

SMUD (Sacramento Municipal Utility District). 2015. Bear-Human Interaction Monitoring Plan. Hydro License Implementation for the Upper American River Project (FERC Project No. 2101).

4.0 LARGE WOODY DEBRIS

The large New Year's storm event beginning on 31 December 2022 initiated large woody debris (LWD) movement over the spillway of Slab Creek Dam and continued for several days. The log boom was removed during this event, and all LWD was allowed to pass, regardless of size. There were no LWD meeting size criteria for passage at Robbs Peak Forebay, or Junction or Camino reservoirs in 2022.

5.0 WATER TEMPERATURE

The Water Temperature Monitoring Plan (Plan) was developed in consultation with the SWRCB, USFS, CDFW, and USFWS. FERC approved the monitoring plan on 30 September 2015 (SMUD 2015).

5.1 MONITORING PLAN OBJECTIVES

The primary objectives and rationale for the water temperature monitoring program, as described in the Plan, are as follows:

> *Annual water temperature monitoring at specified stream sites will provide information needed to determine whether cold freshwater resource objectives are being met and will provide an evaluation of breeding conditions for sensitive amphibian species. Stream temperature monitoring results will also be used to determine whether water temperature profiles within the reservoirs are needed to better understand cold water availability. An adaptive approach to water temperature monitoring will allow the removal of specific monitoring sites if results indicate water temperatures are adequate at those specific locations (Condition 8.I.).*

This monitoring will help determine if water temperatures in UARP waters meet the Basin Plan beneficial use of Cold Freshwater Habitat (CVRWQCB 1998) and other identified habitats/species needs. If such a study is inconclusive, reservoir temperature profile monitoring may be required to assist in the decision-making process. Currently, the Plan requires water temperature monitoring in stream reaches throughout the duration of the license term or until *"the Licensee can demonstrate to the satisfaction of the Deputy Director that operation of the UARP reasonably protects the 'cold freshwater' beneficial use at any site for which the Licensee seeks modification to the temperature monitoring requirement*."

These data are also utilized to direct the following requirements of the new license:

- Adaptive management decisions regarding initiation of foothill yellow-legged frog (FYLF) breeding,
- Cancellation of recreational boating releases due to FYLF breeding,
- Temperature monitoring related to the "block of water" releases on Silver Creek,
- Response of aquatic resources to spill events and pulse flows after thresholds have been reached, and
- Requirement of the Basin Plan that "At no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above the natural receiving water temperature."

5.2 METHODS

5.2.1 Study Area and Sampling Locations

Continuous water temperature monitoring of stream reaches occurred in 2022 at 19 sites throughout the UARP area utilizing fixed stations or dataloggers. In general, these sites measured water temperatures in diverted stream reaches downstream of UARP reservoirs. Table 5-1 describes the locations and characteristics of each site. Final site development at a local scale was determined using proximity to release point, presence of isothermal water column, logistics, and channel morphology. Figures 1-1 through 1-3 depict the monitoring site locations relative to the UARP and primary streams and rivers.

Table 5-1. Upper American River Project Water Temperature Monitoring Site Locations.

Site Name	Site Description	UTM (NAD 83)		Sensor Type	Data	Threshold	Complete
		Easting	Northing				
RR5	Rubicon River immediately below Rubicon Reservoir Dam	740501	4319200	CS450L	Telemetry	None	Yes
LRR3	Little Rubicon River immediately below Buck Island Reservoir Dam	737558	4320907	CS450L	Telemetry	None	Yes
RR1	Rubicon River below confluence of Little Rubicon River at the Project boundary	736593	4323887	Onset data-logger	Manual	None	Yes
GC7	Gerle Creek immediately below Loon Lake Reservoir Dam	732455	4320776	CS450L	Telemetry	None	Yes
GC8	Gerle Creek immediately below Gerle Creek Reservoir	725745	4316219	CS107 or CS450L	Telemetry	None	Yes
SFRR5	South Fork Rubicon River immediately below Robbs Peak Reservoir Dam	726202	4314316	CS450L	Fiber Optic Network	None	Yes

Site Name	Site Description	UTM (NAD 83)		Sensor Type	Data	Threshold	Complete
		Easting	Northing				
SFRR6	SF Rubicon River below confluence of Gerle Creek at the Project boundary	725256	4314907	CS450L	Telemetry	None	Yes
SFRR7	South Fork Rubicon River immediately upstream of the confluence with the Rubicon River	719438	4316236	Onset data-logger	Manual	None	Yes
SFSC7	South Fork Silver Creek immediately below Ice House Reservoir Dam	728745	4299871	CS450L	Telemetry	None	Yes
SFSC8	South Fork Silver Creek immediately upstream of Junction Reservoir	721498	4303358	CS450L	Telemetry	7DMAVG*	Yes
SC5	Silver Creek immediately below Junction Reservoir Dam	720466	4303467	CS 450L	Fiber Optic Network	None	Yes
SC6	Silver Creek immediately above Camino Reservoir Dam	714119	4301407	CS450L	Telemetry	DAVG*	Yes
SC7	Silver Creek immediately below Camino Reservoir Dam	713631	4300155	CS450L	Fiber Optic Network	None	Yes
SC8	Silver Creek immediately upstream of South Fork American River	709310	4296208	CS450L	Telemetry	DAVG*	Yes
BC4	Brush Creek immediately below Brush Creek Reservoir Dam	706407	4298536	CS451	Fiber Optic Network	None	Yes

Site Name	Site Description	UTM (NAD 83)		Sensor Type	Data	Threshold	Complete
		Easting	Northing				
SFAR13	South Fork American River immediately below Slab Creek Reservoir Dam	699644	4294054	CS450L	Fiber Optic Network	None	Yes
SFAR7	South Fork American River at Mosquito Road Bridge	695572	4294304	Onset Data-logger	Manual	None	Yes
SFAR15	South Fork American River approximately 0.5 mile upstream of White Rock Powerhouse	692576	4292875	CS450L	Telemetry	7DMAVG*	Yes
SFAR16	South Fork American River to record White Rock Powerhouse discharge temps	692212	4293046	CS450L	Fiber Optic Network	None	Yes

7DMAVG = seven-day moving average
DAVG = daily average
NAD 83 = North American Datum 1983
UTM = Universal Transverse Mercator

5.2.2 Temperature Data at Fixed Stations

Sixteen of the nineteen sites were monitored for water temperature using fixed stations. Monitoring compliance at these sites was accomplished using gaging stations located at weirs, stilling wells, or powerhouse tailraces. Each fixed station site utilized a Campbell Scientific datalogger and a redundant pair of temperature sensors. Sensor cables were contained inside conduit, and the sensors were placed as close as possible to the stream thalweg where water is well mixed. A solar shield helped prevent exposure to direct sunlight. Depending on the site, power was supplied either by photovoltaic panels and DC batteries or through an existing power supply. Data transfer occurred through radio telemetry or fiber optic network. At the fixed stations, temperature readings were collected at 15-minute intervals and telemetered to SMUD databases, where the data were summarized to hourly means and calculated to daily statistics.

5.2.3 Temperature Data at Datalogger Stations

Simple, non-permanent, calibrated temperature dataloggers (ONSET HOBO Water Temperature Pro V2) were deployed prior to 15 March 2022, at the remaining three sites (“Manual” sites in Table 5-1). The sensors were inserted into perforated metal framed housings that allowed for adequate water movement throughout.

Each housing was secured to large boulders or bedrock using hardened 3/8-inch chain and placed to assure that the sensor remained submerged and was not exposed to direct sunlight (Figure 5-1). Two dataloggers were installed at each site to protect against data loss in the event of equipment failure or drift. Dataloggers were deployed in habitat strata where the water was well mixed, typically at the head of a pool just below a riffle input. Table 5-2 describes the equipment specifications for all sensors selected for water temperature monitoring.

Hourly data from HOBO loggers were manually downloaded using Onset Computer Corporation software. All water temperature data are stored in a database designed for this purpose.

Figure 5-1. Photograph of the water temperature datalogger housing, Rubicon River below confluence of Little Rubicon River.

Table 5-2. Specifications for Monitoring Equipment.

Sampling Equipment	Accuracy	Range	Calibration Interval
Campbell Scientific 107L	<±0.2°C from 0°to 50°C	-35° to +50°C	Annual
Campbell Scientific 450L	±0.2°C from 0°to 50°C	0° to 60°C	Biennial
Onset Computer Corp. HOBO®	±0.2°C from 0° to 50°C	-40° to 50°C	Annual

°C = degrees Celsius

5.3 QUALITY ASSURANCE/QUALITY CONTROL

Raw data were reviewed on a routine basis. Temperature trends inspected include physical range limits, practical range limits, and rates of temperature change. Data obtained from the fixed stations were checked for validity using procedures that run every 24 hours following data download. A report was generated and sent to pertinent SMUD staff via email for any suspected erroneous data. The same procedures were run manually following download from the data loggers. Erroneous temperature values were adjusted manually; however, the original raw data were maintained in the database.

This review, along with graphical analysis and routine equipment inspection, ensured that sensors were functioning and recording properly throughout the monitoring period. For fixed stations, this allowed for a timely response if the need arose. Any equipment malfunction that required a field visit was addressed during normal business hours, under safe conditions. Repairs were made in as timely a manner as possible.

5.4 DECISION-MAKING THRESHOLDS

SMUD will use real-time water temperature information to make efforts to protect endangered species and Cold Freshwater Habitat. Eventually the 12°C seven-day moving average (7DMAVG) temperature trigger thresholds below may be adjusted on a site-specific basis if data from the FYLF monitoring support such a change. In particular, SMUD will:

- Use water temperature thresholds to protect FYLF breeding activities by canceling recreation streamflows in the following reaches when the 7DMAVG exceeds 12°C at:
    - South Fork Silver Creek below Ice House Dam (if FYLF are found in this reach).
    - South Fork American River below Slab Creek Reservoir.
- Monitor for effects to aquatic resources following spills that occur at Camino and Slab Creek reservoirs when the 7DMAVG exceeds 12°C.
- Monitor other temperature thresholds to protect the Cold Freshwater Habitat requirements on Silver Creek, as described in the 401 (SWRCB 2013). This

involves informing the release of an additional “block of water” during wet water year types when the daily average temperature (DAVG) exceeds 20°C.

- Compare water temperature trends over time with other annual climatic conditions collected by SMUD. This will assist in determining whether the UARP is protecting the Basin Plan beneficial use of Cold Freshwater Habitat (CVRWQCB 1998).

5.5 ADAPTIVE MANAGEMENT

Three thresholds that are connected to various UARP Adaptive Management conditions were crossed during the monitoring period (Table 5-3). The exact dates are listed below. One triggered an Adaptive Management action.

For water temperature monitoring at Slab Creek Dam (SFAR13), no spills occurred after the 7DMAVG exceeded the 12°C threshold. For water temperature monitoring at Silver Creek at Camino Gaging Station (SC7), no spills occurred after the 7DMAVG exceeded the 12°C threshold.

Table 5-3. Crossed Thresholds.

Site Name	Site Description	Date Crossed Threshold
SFSC8	South Fork Silver Creek immediately upstream of Junction Reservoir	6 June 2022
SC8	Silver Creek immediately upstream of South Fork American River confluence	5 August 2022
SFAR15	South Fork American River approximately 0.5 mile upstream of White Rock	19 May, 2022

At South Fork Silver Creek immediately upstream of Junction Reservoir (SFSC8), the 7DMAVG exceeded the 12°C threshold on 6 June and remained above the threshold through September except on 20 June when the 7DMAVG was 11.9°C. No FYLF were found in this reach.

At Silver Creek upstream of the South Fork American River confluence (SC8), the DAVG crossed the 20°C threshold on 5 August and hovered around the threshold through the beginning of September; however, it was a Below Normal water year type, so no action was required.

At the South Fork American River approximately 0.5 mile upstream of White Rock (SFAR15), the 7DMAVG exceeded the 12°C threshold on 19 May and remained above for the remainder of the measuring period. This triggered the adaptive management action to cancel 2022 recreation flows below Slab Creek Reservoir. No FYLF were found in this reach.

5.6 RESULTS

Data were analyzed at varying frequencies depending on the format of data retrieval (real-time opposed to manually retrieved/downloaded). All data were summarized to include values for daily mean, minimum, and maximum temperatures. Further analysis included calculating the highest 7DMAVG. In a typical year, sites associated with trigger thresholds (Table 5-1), daily minimum, maximum, average, and 7DMAVG values were determined to notify SMUD staff if these thresholds were being exceeded. These processes are automated in the SMUD License Implementation database, which includes a notification process when threshold triggers have been reached.

Water temperature data are presented graphically in Appendix D. It is impractical to place hourly and daily data for all sites into this report, although these data will be made available upon request.

5.7 LITERATURE CITED

CVRWQCB (Central Valley Regional Water Quality Control Board). 1998. Water Quality Control Plan (Basin Plan) for the Central Valley Region. Sacramento River and San Joaquin River Basins (Basin Plan). Published by the California Regional Water Quality Control Board, Central Valley Region and the State Water Resources Control Board, Sacramento, CA.

SMUD (Sacramento Municipal Utility District). 2015. Temperature Monitoring Plan for the Upper American River Project. Sacramento, CA.

SWRCB (State Water Resources Control Board). 2013. Water Quality Certification for the Upper American River Project. FERC Project No. 2101. State Water Resources Control Board. Sacramento, CA.

APPENDIX A1

Pre- and Post-License Minimum Streamflow Requirements for the Upper American River Project (FERC P-2101)

Table A1-1. Summary of minimum streamflow requirements prior to the 2014 UARP FERC license.

USGS Gaging Station	TYPE 1 - Years when less than 1 million acre-ft annual inflow is forecasted for Folsom Reservoir	FERC Article 29 Ref.	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Comments
11427960	Rubicon River Below Rubicon Dam	(a)	6	6	6	6	6	6	6	6	6	6	6	6	See Note 1
11428400	Little Rubicon River Below Buck Island Dam	(b)	1	1	1	1	1	1	1	1	1	1	1	1	See Note 2
11429500	Gerle Creek below Loon Lake Dam	(c)	8	8	8	8	8	8	8	8	8	8	8	8	
11430000	South Fork Rubicon River below Robbs Peak Dam	(d) (g)	1	1	1	1	1	1	1	1	1	1	1	1	See Notes 3,8
11430000	Gerle Creek below Gerle Creek Dam	(d) (g)	4	4	4	4	4	4	4	4	4	4	4	4	See Notes 3,8
11441500	South Fork Silver Creek below Ice House Dam	(e) (g)	5	5	5	5	5	5	5	5	5	5	5	5	See Note 4
11441800	Silver Creek below Junction Dam	(f) (g)	5	5	5	5	5	5	5	5	5	5	5	5	See Note 3
11441900	Silver Creek below Camino Dam	(g)	5	5	5	5	5	5	5	5	5	5	5	5	See Note 3
11442700	Brush Creek below Brush Creek Dam	(I)	2	4	4	4	4	4	4	4	2	2	2	2	See Notes 5, 6
1143500	South Fork American River below Slab Creek Dam	(h)	36	36/10	10	10	10	10	10	10	36	36	36	36	See Notes 6, 7
USGS Gaging Station	**TYPE 2 - Years when 1.0-1.499 million acre-ft annual inflow is forecasted for Folsom Reservoir**	**FERC Article 29 Ref.**	**OCT**	**NOV**	**DEC**	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**Comments**
11427960	Rubicon River Below Rubicon Dam	(a)	6	6	6	6	6	6	6	6	6	6	6	6	See Note 1
11428400	Little Rubicon River Below Buck Island Dam	(b)	1	1	1	1	1	1	1	1	1	1	1	1	See Note 2
11429500	Gerle Creek below Loon Lake Dam	(c)	8	8	8	8	8	8	8	8	8	8	8	8	
11430000	South Fork Rubicon River below Robbs Peak Dam	(d) (g)	1	1	1	1	1	1	1	1	1	1	1	1	See Notes 3,8

11430000	Gerle Creek below Gerle Creek Dam	(d) (g)	4	4	4	4	4	4	4	4	4	4	4	4	See Notes 3,8
11441500	South Fork Silver Creek below Ice House Dam	(e) (g)	5	5	5	5	5	5	5	5	5	5	5	5	See Note 4
11441800	Silver Creek below Junction Dam	(f) (g)	10	6	6	6	6	6	6	10	10	10	10	10	See Note 3
11441900	Silver Creek below Camino Dam	(g)	10	6	6	6	6	6	6	10	10	10	10	10	See Note 3
11442700	Brush Creek below Brush Creek Dam	(i)	2	4	4	4	4	4	4	4	2	2	2	2	See Notes 5, 6
11443500	South Fork American River below Slab Creek Dam	(h)	36	36/10	10	10	10	10	10	10	36	36	36	36	See Notes 6,7

Notes:

1. 6 cfs or the natural flow, whichever is less, plus storage provided by stream flow maintenance dams of the CDFG in Lakes Clyde, Schmidell, Lois, and Middle Velma.
2. 1 cfs at all times in addition to the storage releases from stream flow maintenance dams of the CDFG in Rockbound and Highland Lakes as determined by that dept.
3. Requirements are based on the 4/1 CDWR Bulletin 120 forecasted "Water Year Unimpaired Runoff" for the Folsom Reservoir (which is deemed to be the same as American River at Fair Oaks).
4. Requirements are based on the CDWR Bulletin 120 forecasted "Water Year Unimpaired Runoff" to Folsom Reservoir, beginning with the 4/1 bulletin and applying in turn the 5/1 bulletin as it is issued.

   The 5/1 bulletin shall apply until 4/1 bulletin of the succeeding year is issued.
5. Requirements are as specified or natural flow, whichever is less.
6. Based on the CDWR Bulletin 120 forecasted "Water Year Unimpaired Runoff" to Folsom Reservoir, beginning with the 3/1 bulletin and applying in turn the 4/1 & 5/1 bulletins as they are issued.

   The 5/1 bulletin shall apply until 3/1 bulletin of the succeeding year is issued.
7. From November 1 - November 15, releases are 10 cfs. From November 16- November 30, releases are 4 cfs.
8. Combined releases should be either 10 cfs or 5 cfs (distributed as noted in this chart), measured on the South Fork Rubicon River below the mouth of Gerle Creek.

Table A1-2. Summary of minimum streamflow requirements included in the current 2014 UARP FERC license.

USGS Gaging Station	Above Normal years when 2.6 to 3.5 MAF water year unimpaired inflow was forecast for Folsom Lake	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Notes
11427690	Rubicon Dam	6*	6*	15	20	35	15	6*	6*	6*	6*	6*	6*	
11428400	Buck Island Dam	1*	1*	3	5	8	3	1*	1*	1*	1*	1*	1*	
11429500	Loon Lake Dam	23	27	37	49	49	27	27	17	17	20	20	22	
	Gerle Creek Dam	6	6	9	9	15	15	15	12	10	10	6	6	(4)
	Robbs Peak Dam	7	8	9	10	13	13	13	11	6	3	3	4	(4)
11441500	Ice House Dam	18	18	24	41	68	46	30	15	15	15	8	11	
11441800	Junction Dam	20	20	25	42	68	59	35	18	18	15	20	20	
11441900	Camino Dam	20	20	25	42	68	59	35	18	18	15	20	20	
11442700	Brush Creek Dam	9*	9*	9*	9*	9*	9*	5*	4*	3*	4*	9*	9*	
11443500	Slab Creek Dam	80	80	110-130-150-180	188-197-213-222	229-236-247-263	228-193-158-123	90	70	70	80	80	80	(2)
USGS Gaging Station	**Wet years when more than 3.5 MAF water year unimpaired inflow was forecast for Folsom Lake**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Notes**
11427690	Rubicon Dam	6*	6*	15	20	35	15	6*	6*	6*	6*	6*	6*	
11428400	Buck Island Dam	1*	1*	3	5	8	3	1*	1*	1*	1*	1*	1*	
11429500	Loon Lake Dam	28	32	44	58	58	32	32	20	20	23	23	26	
	Gerle Creek Dam	6	6	9	9	15	15	15	12	10	10	6	6	(4)
	Robbs Peak Dam	7	8	9	10	13	13	13	11	6	3	3	4	(4)
11441500	Ice House Dam	18	18	24	41	68	46	30	15	15	15	8	11	
11441800	Junction Dam	20	20	25	42	68	59	35	18	18	15	20	20	
11441900	Camino Dam	20	20	25	42	68	59	35	18	18	15	20	20	
11442700	Brush Creek Dam	10*	10*	10*	10*	10*	9*	5*	4*	3*	4*	9*	10*	

11443500	Slab Creek Dam	90	90	110-130-150-180	188-197-213-222	229-236-247-263	228-193-158-123	90	70	70	90	90	90	(2)

* Or natural inflow if less, but in all cases not less than 1 cfs

Notes

1. The water year total volume of unimpaired inflow to Folsom Lake is used to determine the water year. The California DWR makes forecasts of this volume, in units of thousands of acre-feet (TAF). One million acre feet (MAF) equal 1,000 TAF. DWR publishes Bulletin 120 or posts the forecast on its web site several days after February 1, March 1, April 1, and May 1 each year. The value forecasted in May applies until mid October. DWR also computes the actual water year unimpaired inflow and post this value on its web site in mid October. The value posted in October applies until the subsequent February 1 forecast is published.
2. Flows listed for Slab Creek Dam apply during the first five years of the license.
3. MAF denotes million acre-feet. Bulletin 120 gives forecasts in TAF, thousand acre-feet. 1,000 TAF = 1 MAF
4. New USGS gages to be installed in 2008 or 2009

APPENDIX A2

2022 Draft Annual Monitoring Report Comment–Response Summary

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Table A2-1. 2022 Draft Annual Monitoring Report Comment–Response Summary.

#	Page	Section	Comment	Agency	Response
1	5-1	5.0 - Water Temperature	CDFW staff have reviewed the annual O&M and monitoring reports and have no comments or concerns with the results presented. CDFW would however like to request that moving forward the water temperature data that is collected during monitoring be provided to us in a digital format.	CDFW	SMUD will coordinate with CDFW prior to next year's reports to discuss the format of the water temperature data. It is data-intensive time-series format in the raw state.

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APPENDIX B1

Incidental Observations of Avian Species in the Study Area (2016–2022)

Table B1-1. Incidental Observations of Avian Species in the Study Area (2016–2022)

Common Name	Scientific Name
Canada goose	*Branta canadensis*
cinnamon teal	*Spatula cyanoptera*
mallard	*Anas platyrhynchos*
bufflehead	*Bucephala albeola*
common merganser	*Mergus merganser*
mountain quail	*Oreortyx pictus*
pied-billed grebe	*Podilymbus podiceps*
red-necked grebe	*Podiceps grisegena*
eared grebe	*Podiceps nigricollis*
western grebe	*Aechmophorus occidentalis*
band-tailed pigeon	*Patagioenas fasciata*
mourning dove	*Zenaida macroura*
common nighthawk	*Chordeiles minor*
Vaux's swift	*Chaetura vauxi*
killdeer	*Charadrius vociferus*
spotted sandpiper	*Actitis macularius*
California gull	*Larus californicus*
common loon	*Gavia immer*
turkey vulture	*Cathartes aura*
osprey	*Pandion haliaetus*
sharp-shinned hawk	*Accipiter striatus*
Cooper's hawk	*Accipiter cooperii*
northern goshawk	*Accipiter gentillis*
red-tailed hawk	*Buteo jamaicensis*
great-horned owl	*Bubo virginianus*
California spotted owl	*Strix occidentalis occidentalis*
red-breasted sapsucker	*Sphyrapicus ruber*
downy woodpecker	*Dryobates pubescens*
hairy woodpecker	*Dryobates villosus*
white-headed woodpecker	*Dryobates albolarvatus*
northern flicker	*Colaptes auratus*
pileated woodpecker	*Dryocopus pileatus*
American kestrel	*Falco sparverius*
peregrine falcon	*Falco peregrinus*
olive-sided flycatcher	*Contopus cooperi*
western wood-pewee	*Contopus sordidulus*
dusky flycatcher	*Empidonax oberholseri*
Pacific-slope flycatcher	*Empidonax difficilis*
black phoebe	*Sayornis nigricans*
Cassin's vireo	*Vireo cassinii*
warbling vireo	*Vireo gilvus*

Common Name	Scientific Name
Steller's jay	*Cyanocitta stelleri*
Clark's nutcracker	*Nucifraga columbiana*
American crow	*Corvus brachyrhynchos*
common raven	*Corvus corax*
mountain chickadee	*Poecile gambeli*
tree swallow	*Tachycineta bicolor*
violet-green swallow	*Tachycineta thalassina*
northern rough-winged swallow	*Stelgidopteryx serripennis*
barn swallow	*Hirundo rustica*
bushtit	*Psaltriparus minimus*
golden-crowned kinglet	*Regulus satrapa*
red-breasted nuthatch	*Sitta canadensis*
white-breasted nuthatch	*Sitta carolinensis*
brown creeper	*Certhia americana*
rock wren	*Salpinctes obsoletus*
American dipper	*Cinclus mexicanus*
mountain bluebird	*Sialia currucoides*
Townsend's solitaire	*Myadestes townsendi*
hermit thrush	*Catharus guttatus*
American robin	*Turdus migratorius*
evening grosbeak	*Coccothraustes vespertinus*
purple finch	*Haemorhous purpureus*
Cassin's finch	*Haemorhous cassinii*
pine siskin	*Spinus pinus*
chipping sparrow	*Spizella passerina*
fox sparrow	*Passerella iliaca*
dark-eyed junco	*Junco hyemalis*
California towhee	*Melozone crissalis*
rufous-crowned sparrow	*Aimophila ruficeps*
green-tailed towhee	*Pipilo chlorurus*
spotted towhee	*Pipilo maculatus*
red-winged blackbird	*Agelaius phoeniceus*
brown-headed cowbird	*Molothrus ater*
Brewer's blackbird	*Euphagus cyanocephalus*
orange-crowned warbler	*Leiothlypis celata*
Nashville warbler	*Leiothlypis ruficapilla*
MacGillivray's warbler	*Geothlypis tolmiei*
yellow warbler	*Setophaga petechia*
yellow-rumped warbler	*Setophaga coronata*
hermit warbler	*Setophaga occidentalis*
Wilson's warbler	*Cardellina pusilla*
western tanager	*Piranga ludoviciana*
black-headed grosbeak	*Pheucticus melanocephalus*

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APPENDIX B2

Bald Eagle Nesting Survey Forms

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STATE OF CALIFORNIA THE
RESOURCE AGENCY
DEPARTMENT OF FISH AND GAME

BALD EAGLE BREEDING SURVEY INSTRUCTIONS

The breeding season of bald eagles in California extends primarily from February through July. Each year cooperating agencies, organizations, and private individuals participate in a statewide monitoring program to document nesting activities at each nesting territory. In 1997, 160 recently active breeding territories were surveyed, and the number increases yearly.

Annual breeding season surveys are an important part of the population recovery effort. Survey information is used by resource agencies to aid breeding territory management or protection activities. Additionally, population status and trends must be monitored annually to provide the data needed for assessing population recovery.

Specific assignments and scheduling of observer time are usually handled at the agency district or regional office level. In general, agencies are responsible for surveys or territories on or near their own lands, with Department of Fish and Game also surveying on private lands. Field personnel should coordinate with other agencies or volunteers to avoid duplication of effort or to arrange for survey help.

The bald eagle breeding population is increasing annually. So, it is important that suspected new nesting territories be adequately checked, especially early in the breeding season.

Territories should be checked at least three times during the nesting season, although more frequent checking is preferred. Emphasis should be placed on checking during incubation and early nesting periods.

1. **Early March (early incubation)** – Territories in northern California should be checked in the first half of March, if possible, or as soon thereafter as road or weather conditions allow. The purpose of the first check is to determine whether a territory is occupied (record presence of adults, courtship behavior, evidence of nest repair or construction, incubation).
2. **Late April or early May (early nesting period)** – This check is needed to confirm that a territory is unoccupied, or if occupied in March, to determine whether the breeding pair is still tending the nest (incubating eggs or tending young nestlings).
3. **Mid-June (late nesting period)** – The main purpose of this check is to determine how many nestlings are approaching fledgling age.

Survey dates maybe modified from these recommended time periods if the territories can be checked more frequently or if particular breeding pairs are known to begin nesting especially early or late in the season.

We recommend that observers report the stage of development of nestlings in accordance with An Illustrated Guide for Identifying Developmental Stages of Bald Eagle Nestlings in the Field, by G.P. Carpenter (April 1990). This booklet is available from the San Francisco Zoological Society, Sloat Blvd. At the Pacific Ocean, San Francisco, CA 94132 (415-753-7080).

SUBMITTAL OF SURVEY FORMS

Please report observations on the **CALIFORNIA BALD EALGE NESTING TERRITORY FORM (revised 4/2010)**.

Please mail all completed forms by September 1 of the survey year to:

California Department of Fish and Game
Wildlife Branch
1812 Ninth St.
Sacramento, CA 95814
ATTN: Carie Battistone

Forms will be maintained in Department files and annual survey results will be compiled on the basis of these reports. If you have any questions, please contact Carie Battistone at the above address or at cbattistone@dfg.ca.gov. Electronic forms can be found at http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html.

California Department of Fish and Game
CALIFORNIA BALD EAGLE NESTING

TERRITORY SURVEY FORM

Revised 4/2010

Territory Code: UVR

County: El Dorado **Survey Year:** 2022

Property Owner: USFS **If USFS:** Eldorado National Forest

Name (or general location of territory): Union Valley Reservoir

Name of nearest water body: Union Valley Reservoir

Location of Nest Site:

UTM E: 725334 **UTM N**: 4305602 **Zone:** 10S

No. of nests in territory - **Intact:** 1 **Remnant:** 0

Nest Tree: Species: Ponderosa Pine **Year Last Used:** 2021

NOTE: Please attach a map showing the location of any newly documented nest tree.

Describe tree and nest condition and size and add other remarks: Dominant Ponderosa Pine located NW of site #19 in Sunset Campground with nest in good condition.

For each visit to a territory, note, in detail, the times, number and age of birds, behavior of birds (lying, perching, etc.), evidence of nesting (nest maintenance, courtship, incubation posture), disturbances, and other pertinent information:

Observers	Date	Observations/Notes
Cooper Walton Steven Wood	03.18.22 (06:55 to 15:45)	Early Breeding Season Survey: • 08:55: Adult BAEA (male) observed in nest tree on perch above nest. • 09:03: Adult BAEA (male) flew W from perch over reservoir. • 11:15: Adult BAEA (female) observed on nest, stretching wings (surveyors determined female had been on nest but not visible since their arrival). • 14:17: Adult BAEA (male) returned to nest and female BAEA departed nest upon his arrival. Male stayed in nest for approximately 3 minutes before departing again. • 14:20–14:35: Adult BAEA pair circling nest tree. • 14:50–14:57: Adult BAEA approached nest tree repeatedly, eventually landing on nest. • 15:04: Adult BAEA departed nest flying SE along shoreline. • 15:08–15:15: Adult BAEA observed circling nest tree, eventually landing on nest. • 15:45: Surveyors depart (Adult BAEA remained on nest). • Recreational activity low (~5 boats); no related BAEA disturbance observed. Cal Fire Helicopter observed repeatedly filling from reservoir, flying low over the nest; adult BAEA pair exhibited agitated behavior in response.

Observers	Date	Observations/Notes
Krista Orr Cooper Walton Emily Applequist Avi Kertesz	03.29.22 (14:45 to 15:50)	Additional reproductive status check during early breeding season: • While in the area for other surveys, biologists visited the nest tree and surrounding area on Sunset Fashoda Peninsula. • 14:45–15:50: Adult BAEA (male) observed in nearby perch (sugar pine). • 15:00–15:40: Adult BAEA (female) emerged from nest twice, each time briefly taking flight and then returning to nest in incubation posture. • 15:45: Adult BAEA (female) emerged from nest again, briefly joining male BAEA in nearby perch. • 15:48: Adult BAEA (female) returned to nest, remaining in incubation posture as surveyors departed. • No recreational activity observed.
Marissa Montjoy Steven Wood	05.02.22 (18:00 to 20:00)	Reproductive status check prior to mid breeding season survey: • While in the area for the early breeding season survey at Loon Lake (offset due to snow level), surveyors visited Sunset Fashoda Peninsula. • No BAEA activity observed in or around the nest tree or in surrounding roost trees. • No BAEA vocalizations or other indication of presence observed. • No recreational activity observed.
Krista Orr Cooper Walton Emily Applequist	05.25.22 (19:45 to 21:00)	Additional reproductive status check prior to mid breeding season survey: • Surveyors monitored the nest tree and surrounding roost trees at Sunset Campground until nightfall (no BAEA activity observed, or vocalizations heard). • Recreational activity moderate (~20 campers).

Observers	Date	Observations/Notes
Cooper Walton Emily Applequist Krista Orr	05.26.22 (07:20 to 21:15)	Mid Breeding Season Survey: • 07:20–16:15: One surveyor (alternating) stationed at Sunset Campground near previously active nest tree. While feathers and copious amounts of whitewash were found under multiple nearby roost and/or perch trees and BAEA were observed in the area, no BAEA activity was observed at the nest tree. Surveyors determined the reproductive attempt initiated earlier in the season was unsuccessful. • 12:00–15:00: Surveyors observed at Jones Fork inlet and at Granlees Point, checking previously documented roost trees and scanning the reservoir for BAEA activity (none observed). • 13:15: Adult BAEA observed at Sunset Campground flying W being mobbed by ravens; BAEA landed briefly in large ponderosa pine E of nest tree, then flew back E to avoid ravens. • 20:20: One surveyor returned to Sunset Campground at dusk, observing an adult BAEA (male) on the nest tree upon arrival and an adult BAEA (female) in a nearby perch. The male departed the nest tree, joining the female briefly before the pair flew N over reservoir. • Recreational activity moderate (~20 campers); no BAEA disturbance observed.
Emily Applequist Krista Orr	05.27.22 (15:00 to 16:30)	Additional visit during mid-season breeding survey: • Following completion of survey at Loon Lake, surveyors revisited Union Valley Reservoir, observing the Jones Fork area where anecdotal observations of BAEA were reported by members of the public. • 16:00: Pair of adult BAEA observed soaring high over W side of inlet.

Observers	Date	Observations/Notes
Emily Applequist Bruce Hitch Cameron McLaughlin Bethany Leach	06.30.22 (07:00 to 15:15)	Late Breeding Season Survey: • 07:00 to 15:15: Surveyors monitored Union Valley Reservoir for BAEA activity and potential alternate or additional nests from boat and multiple land-based vantage points. • 07:45–08:05: Adult BAEA perched in fir with small snag top on S side of Sunset Fashoda Peninsula E of boat launch. • 10:40–10:52: Adult BAEA observed in distance soaring N over Jones Fork, landing on peninsula W of Granlees Point. • 11:00: Adult BAEA soaring W from Jones Fork toward Union Valley Dam. • 12:57: Adult BAEA soaring W of Union Valley Dam along ridgeline towards Junction Valley Reservoir. • 15:02: Pair of adult BAEA observed in altercation with osprey near boat launch on Sunset Fashoda Peninsula. • No BAEA activity observed at Sunset Campground during survey. • Recreational activity moderate to high (~10 boats and >25 campers and/or swimmers); no BAEA disturbance observed.

SUMMARY:

A. Successful Nestings: 0 **No. of young known fledged:** 0 **or probably fledged:** 0

B. If no fledglings were produced this season please answer the following:

How many adults seen in the territory? At least two. A pair of adults continue to frequent Sunset Fashoda Peninsula and the surrounding area; additional observations of adult BAEA elsewhere on Union Valley Reservoir may be independent.

Was there evidence of nest repair or construction? Nest maintained, but active repair not observed.

Were adults seen in the nest? Yes, during the early breeding season only.

Were adults in incubating posture? Yes.

Number of nestlings observed? 0

Failed during incubation or nesting stage? Unknown, but suspected incubation.

Other remarks: Successful nesting in 2016 and 2017 with two fledged juveniles in each year; failed attempt in 2018 (courtship and nesting building observed in early breeding season, but no activity during subsequent visits); failed attempts in years 2019–2021 (nest building and/or adult in incubation posture observed via nest camera), but no subsequent reproductive activity recorded.

Observer Contact Information:
Surveys conducted by Stillwater Sciences, contractors for the Sacramento Municipal Utility District. For additional information contact Ethan Koenigs, SMUD Project Manager (Ethan.Koenigs@smud.org).

STATE OF CALIFORNIA THE
RESOURCE AGENCY
DEPARTMENT OF FISH AND GAME

BALD EAGLE BREEDING SURVEY INSTRUCTIONS

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3. **Mid-June (late nesting period)** – The main purpose of this check is to determine how many nestlings are approaching fledgling age.

Survey dates maybe modified from these recommended time periods if the territories can be checked more frequently or if particular breeding pairs are known to begin nesting especially early or late in the season.

We recommend that observers report the stage of development of nestlings in accordance with An Illustrated Guide for Identifying Developmental Stages of Bald Eagle Nestlings in the Field, by G.P. Carpenter (April 1990). This booklet is available from the San Francisco Zoological Society, Sloat Blvd. At the Pacific Ocean, San Francisco, CA 94132 (415-753-7080).

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California Department of Fish and Game
CALIFORNIA BALD EAGLE NESTING

TERRITORY SURVEY FORM

Revised 4/2010

Territory Code: IHR

County: El Dorado **Survey Year:** 2022

Property Owner: USFS **If USFS:** Eldorado National Forest

Name (or general location of territory): Ice House Reservoir

Name of nearest water body: Ice House Reservoir

Location of Nest Site:

UTM E: 729950 **UTM N**: 4300602 **Zone:** 10S

No. of nests in territory - **Intact:** 1 **Remnant:** 0

Nest Tree: Species: Incense Cedar **Year Last Used:** Unknown if used previously

NOTE: Please attach a map showing the location of any newly documented nest tree.

Describe tree and nest condition and size and add other remarks: Large incense cedar with broken top (nest just below the remaining snag).

For each visit to a territory, note, in detail, the times, number and age of birds, behavior of birds (lying, perching, etc.), evidence of nesting (nest maintenance, courtship, incubation posture), disturbances, and other pertinent information:

Observers	Date	Observations/Notes
Krista Orr Emily Applequist	03.18.22 (09:30 to 17:00)	Early Breeding Season Survey: • 09:30–11:30: Surveyors monitored from auxiliary dam and boat launch. • 9:40: Adult BAEA observed in perch (pine with snag top) on S side of reservoir. • 10:40: Adult BAEA departed perch, flying E. • 11:30: Surveyors launched boat from launch at NW end of reservoir. • 12:45: Adult BAEA observed foraging low over water W of auxiliary dam. • 13:30: Juvenile BAEA (estimated 2nd year) observed soaring high over inlet of SF Silver Creek, disappearing to the E. • 14:45: Adult BAEA perched in a dead snag on S side of reservoir just E of auxiliary dam. • 15:05: Adult BAEA departed perch, flying low and heading W along S shore of reservoir. • Recreational activity low (1 person fishing from shore, 2 kayaks, and 1 boat); no BAEA disturbance observed.

Observers	Date	Observations/Notes
Krista Orr Emily Applequist Cooper Walton	05.26.22 (07:15 to 11:45) (16:45 to 20:15)	Mid Breeding Season Survey: • 07:15–08:15: Surveyors observed from auxiliary dam. • 08:45–09:30: Surveyors monitored from three land-based vantage points along NE end of reservoir. • 09:30–11:00: Surveyors hiked up SF Silver Creek in vicinity of juvenile bald eagle observation during early breeding season survey. • 11:00–11:45: Surveyors observed from three land-based vantage points along NE end of reservoir. • No BAEA observations during morning portion of survey. • 16:45–20:15: Surveyors monitored from land-based vantage points (dam, auxiliary dam, and several along NE end of reservoir). • 17:20: Adult BAEA (male) observed flying in from W over boat launch, harassing an osprey with a fish, and continuing E. • 17:24: Adult BAEA (male) relocated by surveyors in perch (Douglas fir) on E side of peninsula near Ice House Dam. • 17:40: Adult BAEA (male) flew from perch across reservoir to W shore, landing on the ground or very low in branches. • 17:50: Adult BAEA (male) returned to Douglas fir perch. • 18:15–18:35: Multiple observations of adult BAEA (male) fishing and harassing an osprey, ultimately stealing a fish and flying E. • 18:46: Adult BAEA (male) returned to Douglas fir perch. • 19:19: Adult BAEA (male) departed Douglas fir perch flying W and intercepting fish from osprey, then flying E. • 19:20: Adult BAEA (male) observed from spillway flying E with fish, briefly landing in snag on S shore of reservoir, and carrying fish to adult BAEA (female) in nest within large, broken-topped incense cedar on S shore. • Recreation activity low (3–4 people fishing, 2 SUPs, and 2 kayaks); no BAEA disturbance observed.

Observers	Date	Observations/Notes
Krista Orr Emily Applequist Cooper Walton	05.27.22 (14:00 to 15:00)	Additional reproductive status check during mid breeding season survey: • Following completion of survey at Loon Lake, surveyors stopped at Ice House Reservoir. • 14:15: Adult BAEA (male) delivered food to the nest and adult BAEA (female) observed feeding at least one chick. • 14:30: BAEA (male and female) both left nest and were observed drinking and bathing in shallow water along shoreline near nest. • Recreational activity low to moderate (~3 fishing boats and several groups of swimmers along northern shoreline); no BAEA disturbance observed.
Cooper Walton	06.26.22 (15:30 to 17:30)	Additional reproductive status check during late breeding season: • While in the area for personal recreation, surveyor visited Ice House Reservoir. • 15:30–17:30: Single BAEA juvenile observed on branch just outside of nest, hopping and flapping wings. No adult BAEA observed, and juvenile did not leave nest tree. • Recreation activity high (~15 motor and sailboats, >30 people swimming and/or fishing); no BAEA disturbance observed.
Krista Orr Emily Applequist	06.28.22 (11:30 to 17:00)	Late Season Breeding Survey: • Surveyors observed from the spillway, while in a boat on the reservoir, and from vantages on the S shore. • 12:40: Adult BAEA observed in perch (red fir) on S shore. • 15:30–16:00: Single juvenile observed in nest tree near nest. • Recreation activity moderate (~5 sailboats, >15 people fishing and/or swimming); no BAEA disturbance observed.

Observers	Date	Observations/Notes
Krista Orr	7.10.22 (16:45 to 18:15)	Additional reproductive status check during late breeding season: • While in the area for personal recreation, surveyor visited Ice House Reservoir. • 16:45-18:15: Juvenile observed feeding, branching, and hopping around nest tree (estimated fledging likely within days). No adult BAEA observed, but food delivery likely prior to surveyor arrival. • Recreation activity high (~5 boats, 3 SUPs, and >25 people swimming and/or fishing from shore); no BAEA disturbance observed.

SUMMARY:

A. Successful Nestlings: 1 **No. of young known fledged:** 0 **or probably fledged:** 1

B. If no fledglings were produced this season please answer the following:

How many adults seen in the territory? N/A

Was there evidence of nest repair or construction? N/A

Were adults seen in the nest? N/A

Were adults in incubating posture? N/A

Number of nestlings observed? N/A

Failed during incubation or nesting stage? N/A

Other remarks: Ice House Reservoir last surveyed in 2019 in accordance with frequency outlined in SMUD's monitoring plan; reservoir will be surveyed annually for next three years because active nest was located in 2022.

Observer Contact Information:

Surveys conducted by Stillwater Sciences, contractors for the Sacramento Municipal Utility District. For additional information contact Ethan Koenigs, SMUD Project Manager (Ethan.Koenigs@smud.org).


CDFW CALIFORNIA BALD EAGLE NESTING TERRITORY SURVEY
Ice House Reservoir
Ice House Reservoir Nest
South Fork Silver Creek
Map Sources:
Rivers, Cities, Roads: ESRI 2019
Imagery: ESRI 2021
Icehouse Reservoir BAEA Nest 2022
Bald Eagle Nest
N
0 50 100 200 Meters
0 150 300 600 Feet
Stillwater Sciences
Map Location
80
Auburn
50
Sacramento
South Lake Tahoe

STATE OF CALIFORNIA THE
RESOURCE AGENCY
DEPARTMENT OF FISH AND GAME

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California Department of Fish and Game
Wildlife Branch
1812 Ninth St.
Sacramento, CA 95814
ATTN: Carie Battistone

Forms will be maintained in Department files and annual survey results will be compiled on the basis of these reports. If you have any questions, please contact Carie Battistone at the above address or at cbattistone@dfg.ca.gov. Electronic forms can be found at http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html.

California Department of Fish and Game
CALIFORNIA BALD EAGLE NESTING

TERRITORY SURVEY FORM

Revised 4/2010

Territory Code: LLR

County: El Dorado **Survey Year:** 2022

Property Owner: USFS **If USFS:** Eldorado National Forest

Name (or general location of territory): Loon Lake Reservoir

Name of nearest water body: Loon Lake Reservoir

Location of Nest Site:

UTM E: 733613 **UTM N**: 4319278 **Zone:** 10S

No. of nests in territory - **Intact:** _____ **Remnant:** 1

Nest Tree: Species: Jeffrey Pine **Year Last Used:** 2020

NOTE: Please attach a map showing the location of any newly documented nest tree.

Describe tree and nest condition and size and add other remarks: Nest in dominant Jeffrey Pine on south side of reservoir that was used in 2018 and 2020 was likely blown out by high winds in 2021. No evidence of rebuilding was observed during 2022 surveys.

For each visit to a territory, note, in detail, the times, number and age of birds, behavior of birds (lying, perching, etc.), evidence of nesting (nest maintenance, courtship, incubation posture), disturbances, and other pertinent information:

Observers	Date	Observations/Notes
Steven Wood Marissa Montjoy	05.03.22 (06:05 to 12:00)	Early Breeding Season Survey: • 06:05–08:00: Surveyors observed from spillway. • 08:30: Surveyors departed Loon Lake Campground on foot and hiked along Rubicon Trail toward nest tree. • 09:15: Nest tree determined to be empty, with remnants of previous nest structure at base. (Adult bear and two cubs observed in adjacent tree.) • 09:45–12:00: Surveyors observed from vantage points along south shore, dam, and spillway, noting high winds. • No BAEA observations during survey. • No recreational activity observed.

Observers	Date	Observations/Notes
Krista Orr Emily Applequist Cooper Walton	05.27.22 (07:45 to 13:45)	<u>Mid Breeding Season Survey:</u> • 07:45–10:00: Surveyors monitored from spillway and boat ramp. • No BAEA activity observed over lake or at former nest site. • 10:30: Two surveyors launched boat and monitored from the water-based vantage points, returning to shore ~12:00 due to high winds. • 10:45: Single surveyor departed Loon Lake Campground on foot, hiking along Rubicon Trail toward nest tree and checking perches occupied during previous year's surveys. • 11:30: Nest determined to remain unoccupied with no evidence of nest repair in or around nest tree. Evidence of heavy winds (i.e., many fallen limbs and trees) observed along trail near nest tree. No sign of whitewash or other indication of use found at base of nest tree or at previously documented perches along the Rubicon Trail. • 12:15–13:45: Surveyors observed from spillway, dam, and land-based vantage points on south shore • No BAEA activity observed during survey. • Recreational activity: moderate to high (~5 fishing boats and ~10–15 jeepers, with most campsites at North Shore campground occupied); no BAEA disturbance observed.

Observers	Date	Observations/Notes
Emily Applequist Krista Orr	06.29.22 (05:30 to 12:00)	Late Breeding Season Survey: 6.28.22 • 18:45: Surveyors boated to NE side of reservoir, monitoring for BAEA activity. • 20:00: Surveyors observed from Pleasant Campground, setting up camp for the evening. • No BAEA activity observed while boating across lake or while at camp site. 6.29.22 • 05:30: Surveyors initiated survey, observing from land-based vantage points accessible from Pleasant Campground. • 06:25: Surveyors launched boat from campground, heading N along Pleasant Lake. • 06:45: Adult BAEA pair observed in previously documented perch (ponderosa pine on E side of Pleasant Lake). • 07:00–07:05: Adult BAEA pair both flew W and were subsequently relocated in a separate previously documented perch (ponderosa pine) • 07:10: Adult BAEA (female) observed feeding in perch • 07:15: Adult BAEA (male) departed flying NW • 07:20: Adult BAEA (female) departed flying SW • 08:00–08:30: Surveyors hiked to perch to inspect for potential evidence of nesting or roosting (none observed). • 09:30: Surveyors departed Pleasant Campground via boat, monitoring for BAEA activity over lake. • 10:15: Surveyors landed boat and observed from spillway • 10:35: Adult BAEA flying E to W from Pleasant Lake towards Gerle Creek Reservoir • No further BAEA activity observed during survey. • Recreational activity moderate (~2 fishing boats, ~10 jeepers, and ~4 parties of campers); no BAEA disturbance observed.

SUMMARY:

A. Successful Nestings: 0 **No. of young known fledged:** 0 **or probably fledged:** N/A

B. If no fledglings were produced this season please answer the following:

How many adults seen in the territory? 2

Was there evidence of nest repair or construction? No

Were adults seen in the nest? No

Were adults in incubating posture? No

Number of nestlings observed. 0

Failed during incubation or nesting stage? N/A

Other remarks: No sign of nest repair, or nesting attempts observed

Observer Contact Information:

Surveys conducted by Stillwater Sciences, contractors for the Sacramento Municipal Utility District. For additional information contact Ethan Koenigs, SMUD Project Manager (Ethan.Koenigs@smud.org).

APPENDIX C1

Bear Encounter Forms

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JFCG

KEEP ME WILD

BEAR ENCOUNTER FORM

Bear Management Monitoring
Crystal Basin Recreation Area

Use a separate form for each individual incident. For example, if the same bear enters two campsites while people are present, a person from each campsite should report the specifics of their encounter. Give completed forms to campground hosts. If your recreation site has no host, forms should be placed in the appropriate receptacle at the site or dropped off at the Crystal Basin Information Station on Ice House Road between Ice House Reservoir and Union Valley Reservoir. Forms also can be dropped off at the Pacific Ranger Station at 7887 Highway 50, Pollock Pines, CA 95726.

1. Person(s) involved:

Name: ___

Add ___

City: ___ State: CA

Zip code: ___ Phone: (a) ___

Country: ___

2. Describe yourself:

(a) Visitor
b. Camp host
c. USFS employee
d. Contractor
e. Other ___

3. Visitor activity:

(a) Camping – developed campground
(b) Camping – undeveloped campsite/wilderness
c. Day use area
d. Hiking on maintained trail
e. Other ___

4. Group size: 3 Unit 8
(number of people who encountered the bear)

5. Time of encounter: Month: 8 Day: 30 Year: 2022 Time: approx 10:00 - 11:00 pm am/pm

KEEP ME WILD

For office use only:

Report collected by: ___ (USFS/camp host)

Date: ___

6. Location of encounter:

a. Airport Flat campground
b. Angel Creek day use area
c. Azalea Cove campground
d. Big Silver group campground
e. Camino Cove campground
f. Fashoda campground
g. Gerle Creek campground complex
h. Ice House campground/ boat launch/day use area
i. Jones Fork campground
j. Junction Reservoir boat launch
k. Lone Rock campground
l. Loon Lake campground/boat ramp
m. Loon Lake chalet
n. Northshore campground
o. Northshore RV campground
p. Pleasant campground
q. Red Fir group campground
r. Strawberry Point campground
s. Sunset campground/boat launch
t. Union Valley bike trail
u. Wench Creek campground
v. Wench Creek group campground
w. West Point campground/boat launch
x. Wolf Creek campground
y. Wolf Creek group campground
z. Yellowjacket campground/boat launch
Other _____

7. Number and description of bears (how many, what color, size, adult or cub, sex?):

1 Bear, believe it was brown, adult, size unknown but large gender unknown

8. Did the bear(s) harm anyone?

a. No b. Yes* (describe) _____

9. What were you doing before you saw the bear?

We had just retired for the night when bear came into our site and opened ice chest. Took milk

10. What was the bear doing when you first saw it?

walking alongside trailer

* If there was a physical encounter with the bear or a bear was harmed in the incident, please report to the USFS Ranger and California Department of Fish and Wildlife.

11. How did the bear react to you?

Just kept going about it's business. Not aggressive. Seemed unafraid of people

12. What did you do then?

Stayed inside and let it do it's thing

13. How did the bear react to your response?

N/A

14. How close did you come to the bear (how many feet)**?**

30-40 ft

15. Was human food present?

a. Food not in bear resistant container
b. Food in bear resistant container
c. Food odor only
d. Food hung in tree
e. No food present
f. Unknown

2 ice chests - one bear proof and one not. Rest of food was in bear box. only drinks outside.

16. Did the bear eat any human food?

a. No b. Yes (what?) carton of milk
c. Unknown

17. Did the bear damage property?

a. No b. Yes (list property and estimate costs) _____

18. Details of bear-human interaction (optional):

later (moments) he approached other campers while they were sitting around. Came right behind a lady. Not aggressive, not afraid of people. They were in site next to bathroom. We were in site #8

For office use only:

Report collected by: PWestphal (USFS/camp host)

Date: 7-26-22

NWCG

BEAR ENCOUNTER FORM

Bear Management Monitoring
Crystal Basin Recreation Area

Use a separate form for each individual incident. For example, if the same bear enters two campsites while people are present, a person from each campsite should report the specifics of their encounter. Give completed forms to campground hosts. If your recreation site has no host, forms should be placed in the appropriate receptacle at the site or dropped off at the Crystal Basin Information Station on Ice House Road between Ice House Reservoir and Union Valley Reservoir.

1. Person(s) involved:

Name: [redacted] 7

2. Describe yourself:

a. Visitor
b. Camp host
c. USFS employee
d. Contractor
e. Other _____

3. Visitor activity:

(a) Camping – developed campground
b. Camping – undeveloped campsite/wilderness
c. Day use area
d. Hiking on maintained trail
e. Other _____

4. Group size: 3
(number of people who encountered the bear)

5. Time of encounter: Month: 7 Day: 23 Year: 2022 Time: 1:30 (am)/pm

6. Location of encounter:

a. Airport Flat campground
b. Angel Creek day use area
c. Azalea Cove campground
d. Big Silver group campground
e. Camino Cove campground
f. Fashoda campground
g. Gerle Creek campground complex
h. Ice House campground/ boat launch/day use area
i. Jones Fork campground
j. Junction Reservoir boat launch
k. Lone Rock campground
l. Loon Lake campground/boat ramp
m. Loon Lake chalet
n. Northshore campground
o. Northshore RV campground
p. Pleasant campground
q. Red Fir group campground
r. Strawberry Point campground
s. Sunset campground/boat launch
t. Union Valley bike trail
u. Wench Creek campground
v. Wench Creek group campground
w. West Point campground/boat launch
x. Wolf Creek campground
y. Wolf Creek group campground
z. Yellowjacket campground/boat launch
Other north wind campground

7. Number and description of bears (how many, what color, size, adult or cub, sex?):
1 Bear adult Dark color

8. What was the bear doing when you first saw it?
walking around campground

9. Did you react to the bear?
went into tent

10. How did the bear react to your response?
no

11. Was human food present?

a. Some food/trash NOT in bear resistant container
b. All food/trash in bear resistant container
c. No food present/ordor only
d. Food hung in tree
e. Unknown
f. Some food in vehicle

12. Did the bear eat any human food?

a. No b. Yes (what?)
c. Unknown

13. Did the bear damage property?

a. No b. Yes (list property and estimate costs)

14. Did the bear(s) harm anyone?

a. No b. Yes* (describe)

15. Details of bear-human interaction (optional):

* If there was a physical encounter with the bear or a bear was harmed in the incident, please report to the USFS Ranger and California Department of Fish and Wildlife.

For office use only:

Report collected by: _____ (USFS/camp host)

Date: _____

BEAR ENCOUNTER FORM

Bear Management Monitoring
Crystal Basin Recreation Area

Use a separate form for each individual incident. For example, if the same bear enters two campsites while people are present, a person from each campsite should report the specifics of their encounter. Give completed forms to campground hosts. If your recreation site has no host, forms should be placed in the appropriate receptacle at the site or dropped off at the Crystal Basin Information Station on Ice House Road between Ice House Reservoir and Union Valley Reservoir.

1. Person(s) involved:

Name: _____

2. Describe yourself:

a. Visitor
b. Camp host
c. USFS employee
d. Contractor
e. Other _____

3. Visitor activity:

a. Camping – developed campground
b. Camping – undeveloped campsite/wilderness
c. Day use area
d. Hiking on maintained trail
e. Other _____

4. Group size: 4
(number of people who encountered the bear)

5. Time of encounter: Month: 6 Day: 27 Year: 2022 Time: 16:08 am/pm

6. Location of encounter:

a. Airport Flat campground
b. Angel Creek day use area
c. Azalea Cove campground
d. Big Silver group campground
e. Camino Cove campground
f. Fashoda campground
g. Gerle Creek campground complex
h. Ice House campground/ boat launch/day use area
i. Jones Fork campground
j. Junction Reservoir boat launch
k. Lone Rock campground
l. Loon Lake campground/boat ramp
m. Loon Lake chalet
n. Northshore campground
o. Northshore RV campground
p. Pleasant campground
q. Red Fir group campground
r. Strawberry Point campground
s. Sunset campground/boat launch
t. Union Valley bike trail
u. Wench Creek campground
v. Wench Creek group campground
w. West Point campground/boat launch
x. Wolf Creek campground
y. Wolf Creek group campground
z. Yellowjacket campground/boat launch
Other Crystal Basin Barracks

7. Number and description of bears (how many, what color, size, adult or cub, sex?):

1 bear, black bear, brown fur

8. What was the bear doing when you first saw it?

Bear was running by, noticed us & ran away.

9. Did you react to the bear? and kept it in my field of vision

I shouted @ bear ~~and waited to see if~~

10. How did the bear react to your response?

The bear ran away

11. Was human food present?

a. Some food/trash NOT in bear resistant container
b. All food/trash in bear resistant container
c. No food present/ordor only
d. Food hung in tree
e. Some food in vehicle
(f.) Unknown

12. Did the bear eat any human food?

a. No b. Yes (what?)_____
(c.) Unknown

13. Did the bear damage property?

a. No (b.) Yes (list property and estimate costs) Maybe barracks rail

14. Did the bear(s) harm anyone?

(a. No) b. Yes* (describe)_____

15. Details of bear-human interaction (optional):

* If there was a physical encounter with the bear or a bear was harmed in the incident, please report to the USFS Ranger and California Department of Fish and Wildlife.

KEEP ME WILD

For office use only:

Report collected by: P. Westphal (USFS/camp host)

Date: 7-15-22

JUNES FOR CG-

KEEP ME WILD

BEAR ENCOUNTER FORM

Bear Management Monitoring

Crystal Basin Recreation Area

Use a separate form for each individual incident. For example, if the same bear enters two campsites while people are present, a person from each campsite should report the specifics of their encounter. Give completed forms to campground hosts. If your recreation site has no host, forms should be placed in the appropriate receptacle at the site or dropped off at the Crystal Basin Information Station on Ice House Road between Ice House Reservoir and Union Valley Reservoir. Forms also can be dropped off at the Pacific Ranger Station at 7887 Highway 50, Pollock Pines, CA 95726.

1. Person(s) involved:

Name: Kah

Address: _____

City: _____ State: _____

Zip code: _____ Phone: _____

Country: _____

2. Describe yourself:

(a.) Visitor
b. Camp host
c. USFS employee
d. Contractor
e. Other _____

3. Visitor activity:

(a.) Camping – developed campground
b. Camping – undeveloped campsite/wilderness
c. Day use area
d. Hiking on maintained trail
e. Other _____

4. Group size: 4
(number of people who encountered the bear)

5. Time of encounter: Month: 7 Day: 10 Year: 2022 Time: 1205 ~~am~~/pm

6. Location of encounter:

a. Airport Flat campground
b. Angel Creek day use area
c. Azalea Cove campground
d. Big Silver group campground
e. Camino Cove campground
f. Fashoda campground
g. Gerle Creek campground complex
h. Ice House campground/ boat launch/day use area
(i. Jones Fork campground)
j. Junction Reservoir boat launch
k. Lone Rock campground
l. Loon Lake campground/boat ramp
m. Loon Lake chalet
n. Northshore campground
o. Northshore RV campground
p. Pleasant campground
q. Red Fir group campground
r. Strawberry Point campground
s. Sunset campground/boat launch
t. Union Valley bike trail
u. Wench Creek campground
v. Wench Creek group campground
w. West Point campground/boat launch
x. Wolf Creek campground
y. Wolf Creek group campground
z. Yellowjacket campground/boat launch
Other _____

7. Number and description of bears (how many, what color, size, adult or cub, sex?):

1 Black bear adult

8. Did the bear(s) harm anyone?

(a.) No b. Yes* (describe) _____

9. What were you doing before you saw the bear?

putting my child to sleep

10. What was the bear doing when you first saw it?

reaching into the cooler

* If there was a physical encounter with the bear or a bear was harmed in the incident, please report to the USFS Ranger and California Department of Fish and Wildlife.

11. How did the bear react to you?

ate the cheese down by the lake

12. What did you do then?

throw rocks at it

13. How did the bear react to your response?

ran off

14. How close did you come to the bear (how many feet)**?**

20 Feet

15. Was human food present?

(a.) Food not in bear resistant container
b. Food in bear resistant container
c. Food odor only
d. Food hung in tree
e. No food present
f. Unknown

16. Did the bear eat any human food?

a. No (b.) Yes (what?) cheese or butter
c. Unknown

17. Did the bear damage property?

a. No b. Yes (list property and estimate costs) _____

18. Details of bear-human interaction (optional):

FCG

BEAR ENCOUNTER FORM

Bear Management M o itoring

B s' R cr at'o

Use a separate form for each individual incident. For example, if the same bear enters two campsites while people are present, a person from each campsite should report the specifics of their encounter. Give completed forms to campground hosts. If your recreation site has no host, forms should be placed in the appropriate receptacle at the site or dropped off at the Crystal Basin Information Station on Ice House Road between Ice House Reservoir and Union Valley Reservoir. Forms also can be dropped off at the Pacific Ranger Station at 7887 Highway 50, Pollock Pines, CA 95726.

1. Person(s) involved:

Zip code: _____ Phone: _____

Country: US

2. Describe yourself:

a. (Visitor)
b. Camp host
c. USFS employee
d. Contractor
e. Other _____

3. Visitor activity:

a. Camping – developed campground
b. Camping – undeveloped campsite/wilderness
c. Day use area
d. Hiking on maintained trail
e. Other _____

4. Group size: _____
(number of people who encountered the bear)

5. Time of encounter: Month: 7 Day: 9 Year: 22 Time: 11 30 am/pm
~ 20

For office use only:

Report collected by: P. Westphal (USFS/camp host)

Date: 7-10-22

6. Location of encounter:

a. Airport Flat campground
b. Angel Creek day use area
c. Azalea Cove campground
d. Big Silver group campground
e. Camino Cove campground
f. Fashoda campground
g. Gerle Creek campground complex
h. Ice House campground/ boat launch/day use area
(i.) Jones Fork campground [circled]
j. Junction Reservoir boat launch
k. Lone Rock campground
l. Loon Lake campground/boat ramp
m. Loon Lake chalet
n. Northshore campground
o. Northshore RV campground
p. Pleasant campground
q. Red Fir group campground
r. Strawberry Point campground
s. Sunset campground/boat launch
t. Union Valley bike trail
u. Wench Creek campground
v. Wench Creek group campground
w. West Point campground/boat launch
x. Wolf Creek campground
y. Wolf Creek group campground
z. Yellowjacket campground/boat launch
Other ______________________

7. Number and description of bears (how many, what color, size, adult or cub, sex?):

2 BLACK BEAR ADULTS

8. Did the bear(s) harm anyone?

a. (No) [circled] b. Yes* (describe) ______________________

9. What were you doing before you saw the bear?

GOING TO BED / SLEEPING IN TENT

10. What was the bear doing when you first saw it?

WALKING TOWARDS CAMP

* If there was a physical encounter with the bear or a bear was harmed in the incident, please report to the USFS Ranger and California Department of Fish and Wildlife.

11. How did the bear react to you?

WALKED PAST / STARED AT ME

12. What did you do then?

WENT INTO TENT

13. How did the bear react to your response?

? WALKED AWAY? TOWARDS OTHER CAMPS/ GARBAGE AREA

14. How close did you come to the bear (how many feet)?

APPROX 10 FEET

15. Was human food present?

a. Food not in bear resistant container
(b.) Food in bear resistant container [circled]
c. Food odor only
d. Food hung in tree
e. No food present
f. Unknown

16. Did the bear eat any human food?

(a.) No [circled] b. Yes (what?) ______________________
c. Unknown

17. Did the bear damage property?

(a.) No [circled] b. Yes (list property and estimate costs) ______________

18. Details of bear-human interaction (optional):

LOWER CAMPGROUND GUESTS SHOT FIREARMS MULTIPLE TIMES TO SCARE BEARS - BEARS CONTINUED TO GO AFTER GARBAGE, MULTIPLE INSTANCES OF THAT.

JFCG

KEEP ME WILD

BEAR ENCOUNTER FORM

Bear Management Monitoring

Crystal Basin Recreation Area

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1. _____

_____

_____

2. Describe yourself:

(a) Visitor
b. Camp host
c. USFS employee
d. Contractor
e. Other _____

3. Visitor activity:

(a) Camping – developed campground
b. Camping – undeveloped campsite/wilderness
c. Day use area
d. Hiking on maintained trail
e. Other _____

4. Group size: 5
(number of people who encountered the bear)

5. Time of encounter: Month: 7 Day: 9 Year: 22 Time: 11:30 am/pm
2:56am

KEEP ME WILD

For office use only:

Report collected by: D. Westphal (USFS/camp host)

Date: 7-10-22

6. Location of encounter:

a. Airport Flat campground
b. Angel Creek day use area
c. Azalea Cove campground
d. Big Silver group campground
e. Camino Cove campground
f. Fashoda campground
g. Gerle Creek campground complex
h. Ice House campground/ boat launch/day use area
i. Jones Fork campground
j. Junction Reservoir boat launch
k. Lone Rock campground
l. Loon Lake campground/boat ramp
m. Loon Lake chalet
n. Northshore campground
o. Northshore RV campground
p. Pleasant campground
q. Red Fir group campground
r. Strawberry Point campground
s. Sunset campground/boat launch
t. Union Valley bike trail
u. Wench Creek campground
v. Wench Creek group campground
w. West Point campground/boat launch
x. Wolf Creek campground
y. Wolf Creek group campground
z. Yellowjacket campground/boat launch
Other _____

7. Number and description of bears (how many, what color, size, adult or cub, sex?):

2 Adult black bears

8. Did the bear(s) harm anyone?

a. No b. Yes* (describe) _____

9. What were you doing before you saw the bear?

_____

10. What was the bear doing when you first saw it?

Looking in cooler

* If there was a physical encounter with the bear or a bear was harmed in the incident, please report to the USFS Ranger and California Department of Fish and Wildlife.

11. How did the bear react to you?

_____

12. What did you do then?

_____

13. How did the bear react to your response?

_____

14. How close did you come to the bear (how many feet)**?**

_____

15. Was human food present?

a. Food not in bear resistant container
b. Food in bear resistant container
c. Food odor only
d. Food hung in tree
e. No food present
f. Unknown

16. Did the bear eat any human food?

a. No b. Yes (what?) _____
c. Unknown

17. Did the bear damage property?

a. No b. Yes (list property and estimate costs) _____

18. Details of bear-human interaction (optional):

_____
_____
_____

KEEP ME WILD

For office use only:

Report collected by: _____ (USFS/camp host)

Date: _____

KEEP ME WILD

BEAR ENCOUNTER FORM

Bear Management Monitoring
Crystal Basin Recreation Area

Use a separate form for each individual incident. For example, if the same bear enters two campsites while people are present, a person from each campsite should report the specifics of their encounter. Give completed forms to campground hosts. If your recreation site has no host, forms should be placed in the appropriate receptacle at the site or dropped off at the Crystal Basin Information Station on Ice House Road between Ice House Reservoir and Union Valley Reservoir.

1. Person(s) involved:

Name: [illegible]

2. Describe yourself:

(a.) Visitor
b. Camp host
c. USFS employee
d. Contractor
e. Other _____

3. Visitor activity:

a. Camping – developed campground
(b.) Camping – undeveloped campsite/wilderness
c. Day use area
d. Hiking on maintained trail
e. Other _____

4. Group size: 4
(number of people who encountered the bear)

5. Time of encounter: Month: 07 Day: 27 Year: 22 Time: 2:00 (a)/pm

6. Location of encounter:

a. Airport Flat campground
b. Angel Creek day use area
c. Azalea Cove campground
d. Big Silver group campground
e. Camino Cove campground
f. Fashoda campground
g. Gerle Creek campground complex
h. Ice House campground/ boat launch/day use area
i. Jones Fork campground
j. Junction Reservoir boat launch
k. Lone Rock campground
l. Loon Lake campground/boat ramp
m. Loon Lake chalet
(n.) Northshore campground
o. Northshore RV campground
p. Pleasant campground
q. Red Fir group campground
r. Strawberry Point campground
s. Sunset campground/boat launch
t. Union Valley bike trail
u. Wench Creek campground
v. Wench Creek group campground
w. West Point campground/boat launch
x. Wolf Creek campground
y. Wolf Creek group campground
z. Yellowjacket campground/boat launch
Other _____

7. Number and description of bears (how many, what color, size, adult or cub, sex?):

NA

8. What was the bear doing when you first saw it?

Eating food

9. Did you react to the bear?

No

10. How did the bear react to your response?

NA

11. Was human food present?

a. Some food/trash NOT in bear resistant container
b. All food/trash in bear resistant container
c. No food present/ordor only
d. Food hung in tree
(e.) Some food in vehicle
f. Unknown

12. Did the bear eat any human food?

a. No b. Yes (what?) Bagel
c. Unknown

13. Did the bear damage property?

a. No b. Yes (list property and estimate costs) No

14. Did the bear(s) harm anyone?

a. No b. Yes* (describe) No

15. Details of bear-human interaction (optional):

* If there was a physical encounter with the bear or a bear was harmed in the incident, please report to the USFS Ranger and California Department of Fish and Wildlife.

For office use only:

Report collected by: _____ (USFS/camp host)

Date: _____

BEAR ENCOUNTER FORM

Bear Management Monitoring
Crystal Basin Recreation Area

Use a separate form for each individual incident. *For example, if the same bear enters two campsites while people are present, a person from each campsite should report the specifics of their encounter. Give completed forms to campground hosts. If your recreation site has no host, forms should be placed in the appropriate receptacle at the site or dropped off at the Crystal Basin Information Station on Ice House Road between Ice House Reservoir and Union Valley Reservoir.*

1. Person(s) involved:

Name: N/A

2. Describe yourself:

(a. Visitor)

b. Camp host

c. USFS employee

d. Contractor

e. Other _____

3. Visitor activity:

a. Camping – developed campground

b. Camping – undeveloped campsite/wilderness

c. Day use area

d. Hiking on maintained trail

e. Other _____

4. Group size: 4 + child + Dog.
(number of people who encountered the bear)

5. Time of encounter: Month: 8 Day: 26 Year: 22 Time: 2:00 am/(pm)

6. Location of encounter:

a. Airport Flat campground
b. Angel Creek day use area
c. Azalea Cove campground
d. Big Silver group campground
e. Camino Cove campground
f. Fashoda campground
g. Gerle Creek campground complex
h. Ice House campground/ boat launch/day use area
i. Jones Fork campground
j. Junction Reservoir boat launch
k. Lone Rock campground
l. Loon Lake campground/boat ramp
m. Loon Lake chalet
n. Northshore campground
o. Northshore RV campground
p. Pleasant campground
q. Red Fir group campground
r. Strawberry Point campground
s. Sunset campground/boat launch
t. Union Valley bike trail
u. Wench Creek campground
v. Wench Creek group campground
w. West Point campground/boat launch
x. Wolf Creek campground
y. Wolf Creek group campground
z. Yellowjacket campground/boat launch
Other Millionaire Campgrd.

7. Number and description of bears (how many, what color, size, adult or cub, sex?):

1

8. What was the bear doing when you first saw it?

Approached the 4 people + 1 child AND dog.

9. Did you react to the bear?

yelled.

10. How did the bear react to your response?

Went Down to Creek ~~Nar~~ Near CG

11. Was human food present?

a. Some food/trash NOT in bear resistant container
b. All food/trash in bear resistant container N/A
c. No food present/ordor only
d. Food hung in tree
e. Unknown
f. Some food in vehicle

12. Did the bear eat any human food?

a. (No, circled) b. Yes (what?)
c. Unknown

13. Did the bear damage property?

a. No b. Yes (list property and estimate costs) NO

14. Did the bear(s) harm anyone?

a. No b. Yes* (describe) NO

15. Details of bear-human interaction (optional):

Reported by
Jim Shattuck
USFS
Crystal Basin

* If there was a physical encounter with the bear or a bear was harmed in the incident, please report to the USFS Ranger and California Department of Fish and Wildlife.

KEEP ME WILD

For office use only:

Report collected by: _____ (USFS/camp host)

Date: _____

KEEP ME WILD

BEAR ENCOUNTER FORM

Bear Management Monitoring
Crystal Basin Recreation Area

Use a separate form for each individual incident. *For example, if the same bear enters two campsites while people are present, a person from each campsite should report the specifics of their encounter. Give completed forms to campground hosts. If your recreation site has no host, forms should be placed in the appropriate receptacle at the site or dropped off at the Crystal Basin Information Station on Ice House Road between Ice House Reservoir and Union Valley Reservoir.*

_____

2. Describe yourself:

(a) Visitor
b. Camp host
c. USFS employee
d. Contractor
e. Other _____

3. Visitor activity:

(a) Camping – developed campground
b. Camping – undeveloped campsite/wilderness
c. Day use area
d. Hiking on maintained trail
e. Other _____

4. Group size: 2.
(number of people who encountered the bear)

5. Time of encounter: Month: 7 Day: 29 Year: 2024 Time: 11:30 am (pm)

6. Location of encounter:

a. Airport Flat campground
b. Angel Creek day use area
c. Azalea Cove campground
d. Big Silver group campground
e. Camino Cove campground
f. Fashoda campground
g. Gerle Creek campground complex
h. Ice House campground/ boat launch/day use area
i. Jones Fork campground
j. Junction Reservoir boat launch
k. Lone Rock campground
l. Loon Lake campground/boat ramp
m. Loon Lake chalet
n. Northshore campground
o. Northshore RV campground
p. Pleasant campground
q. Red Fir group campground
r. Strawberry Point campground
(s) Sunset campground/boat launch
t. Union Valley bike trail
u. Wench Creek campground
v. Wench Creek group campground
w. West Point campground/boat launch
x. Wolf Creek campground
y. Wolf Creek group campground
z. Yellowjacket campground/boat launch
Other _____

7. Number and description of bears (how many, what color, size, adult or cub, sex?):
Single large bear (not sure what gender/color)

8. What was the bear doing when you first saw it?
Tearing down garbage bag near the dumpster (somebody left 6 trash bags full of garbage outside the dumpster!)

9. Did you react to the bear?
I turned on the panic mode on my car parked nearby

10. How did the bear react to your response?
It went away but it kept coming back every 30-60 minutes

11. Was human food present?

(a) Some food/trash NOT in bear resistant container
b. All food/trash in bear resistant container
c. No food present/ordor only
d. Food hung in tree
e. Some food in vehicle
f. Unknown

12. Did the bear eat any human food?
a. No (b) Yes (what?) shrimps, meat leftovers
(c) Unknown

13. Did the bear damage property?
(a) No b. Yes (list property and estimate costs) _____

14. Did the bear(s) harm anyone?
(a) No b. Yes* (describe)_____

15. Details of bear-human interaction (optional):
The bear was spooked by the car alarm, but kept coming back

* If there was a physical encounter with the bear or a bear was harmed in the incident, please report to the USFS Ranger and California Department of Fish and Wildlife.

For office use only:

Report collected by: _____ (USFS/camp host)

Date: _____

BEAR ENCOUNTER FORM

Bear Management Monitoring
Crystal Basin Recreation Area

Use a separate form for each individual incident. For example, if the same bear enters two campsites while people are present, a person from each campsite should report the specifics of their encounter. Give completed forms to campground hosts. If your recreation site has no host, forms should be placed in the appropriate receptacle at the site or dropped off at the Crystal Basin Information Station on Ice House Road between Ice House Reservoir and Union Valley Reservoir.

2. Describe yourself:

a. Visitor
b. Camp host
c. USFS employee
d. Contractor
e. Other _____

3. Visitor activity:

a. Camping – developed campground
b. Camping – undeveloped campsite/wilderness
c. Day use area
d. Hiking on maintained trail
e. Other _____

4. Group size: 3
(number of people who encountered the bear)

5. Time of encounter: Month: 8 Day: 6 Year: 22 Time: 1:20 am/pm

6. Location of encounter:

a. Airport Flat campground
b. Angel Creek day use area
c. Azalea Cove campground
d. *Big Silver group campground*
e. Camino Cove campground
f. Fashoda campground
g. Gerle Creek campground complex
h. Ice House campground/ boat launch/day use area
i. Jones Fork campground
j. Junction Reservoir boat launch
k. *Lone Rock campground*
l. Loon Lake campground/boat ramp
m. Loon Lake chalet
n. Northshore campground
o. *Northshore RV campground*
p. Pleasant campground
q. Red Fir group campground
r. Strawberry Point campground
s. Sunset campground/boat launch
t. Union Valley bike trail
u. Wench Creek campground
v. Wench Creek group campground
w. *West Point campground/boat launch*
x. Wolf Creek campground
y. Wolf Creek group campground
z. Yellowjacket campground/boat launch
Other NORTH WIND

7. Number and description of bears (how many, what color, size, adult or cub, sex?)**:**

1 BLACK ADULT APP 300 LB

8. What was the bear doing when you first saw it?

TRYING TO OPEN METAL CONTAINER

9. Did you react to the bear?

LIGHTS - YELLING

10. How did the bear react to your response?

WALKING AWAY SLOWLY (NO CARE)

11. Was human food present?

X a. Some food/trash NOT in bear resistant container
b. *All food/trash in bear resistant container*
c. No food present/ordor only
d. Food hung in tree
e. Unknown
f. Some food in vehicle

12. Did the bear eat any human food?

a. No b. Yes (what?)
X c. Unknown

13. Did the bear damage property?

(a. No) b. Yes (list property and estimate costs) NO

14. Did the bear(s) harm anyone?

(a. No) b. Yes* (describe)

15. Details of bear-human interaction (optional)**:**

* If there was a physical encounter with the bear or a bear was harmed in the incident, please report to the USFS Ranger and California Department of Fish and Wildlife.

KEEP ME WILD

For office use only:

Report collected by: _____ (USFS/camp host)

Date: _____

KEEP ME WILD

BEAR ENCOUNTER FORM

Bear Management Monitoring
Crystal Basin Recreation Area

Use a separate form for each individual incident. For example, if the same bear enters two campsites while people are present, a person from each campsite should report the specifics of their encounter. Give completed forms to campground hosts. If your recreation site has no host, forms should be placed in the appropriate receptacle at the site or dropped off at the Crystal Basin Information Station on Ice House Road between Ice House Reservoir and Union Valley Reservoir.

1. Person(s) i

2. Describe yourself:

a. Visitor

b. Camp host

c. USFS employee

d. Contractor

e. Other _____

. Visitor activity:

a. Camping – developed campground

b. Camping – undeveloped campsite/wilderness

c. Day use area

d. Hiking on maintained trail

e. Other _____

4. Group size: 6
(number of people who encountered the bear)

5. Time of encounter: Month: 8 Day: 7 Year: 22 Time: 11:30 am/pm

6. Location of encounter:

a. Airport Flat campground
b. Angel Creek day use area
c. Azalea Cove campground
d. Big Silver group campground
e. Camino Cove campground
f. Fashoda campground
g. Gerle Creek campground complex
h. Ice House campground/ boat launch/day use area
i. Jones Fork campground
j. Junction Reservoir boat launch
k. Lone Rock campground
l. Loon Lake campground/boat ramp
m. Loon Lake chalet
n. Northshore campground
o. Northshore RV campground
p. Pleasant campground
q. Red Fir group campground
r. Strawberry Point campground
s. Sunset campground/boat launch
t. Union Valley bike trail
u. Wench Creek campground
v. Wench Creek group campground
w. West Point campground/boat launch
x. Wolf Creek campground
y. Wolf Creek group campground
z. Yellowjacket campground/boat launch
Other NORTH WIND

7. Number and description of bears (how many, what color, size, adult or cub, sex?):
1 BEAR 300 LBS ADULT

8. What was the bear doing when you first saw it?
TOOK BAG OFF TABLE
HAD COOKING POTS/PANS

9. Did you react to the bear?
LIGHT - YELLING

10. How did the bear react to your response?
WALKED AWAY

11. Was human food present?

a. Some food/trash NOT in bear resistant container
b. All food/trash in bear resistant container
c. No food present/ordor only
d. Food hung in tree
e. Unknown
f. Some food in vehicle

12. Did the bear eat any human food?
a. No b. Yes (what?)
c. Unknown

13. Did the bear damage property?
a. No b. Yes (list property and estimate costs)

14. Did the bear(s) harm anyone?
a. No b. Yes* (describe)

15. Details of bear-human interaction (optional):

* If there was a physical encounter with the bear or a bear was harmed in the incident, please report to the USFS Ranger and California Department of Fish and Wildlife.

KEEP ME WILD

For office use only:

Report collected by: _____ (USFS/camp host)

Date: _____

KEEP ME WILD

BEAR ENCOUNTER FORM

Bear Management Monitoring
Crystal Basin Recreation Area

Use a separate form for each individual incident. For example, if the same bear enters two campsites while people are present, a person from each campsite should report the specifics of their encounter. Give completed forms to campground hosts. If your recreation site has no host, forms should be placed in the appropriate receptacle at the site or dropped off at the Crystal Basin Information Station on Ice House Road between Ice House Reservoir and Union Valley Reservoir. Forms also can be dropped off at the Pacific Ranger Station at 7887 Highway 50, Pollock Pines, CA 95726.

1. Person(s) involved:

Name: PAUA

_____ State: Ca

Country: _____

2. Describe yourself:

a. Visitor
b. Camp host
c. USFS employee
d. Contractor
e. Other _____

3. Visitor activity:

a. Camping – developed campground
b. Camping – undeveloped campsite/wilderness
c. Day use area
d. Hiking on maintained trail
e. Other _____

4. Group size: 4
(number of people who encountered the bear)

5. Time of encounter: Month: 7 Day: 11 Year: 22 Time: 12:00 am/pm

6. Location of encounter:

a. Airport Flat campground
b. Angel Creek day use area
c. Azalea Cove campground
d. Big Silver group campground
e. Camino Cove campground
f. Fashoda campground
g. Gerle Creek campground complex
h. Ice House campground/ boat launch/day use area
i. Jones Fork campground
j. Junction Reservoir boat launch
k. Lone Rock campground
l. Loon Lake campground/boat ramp
m. Loon Lake chalet
n. Northshore campground
o. Northshore RV campground
p. Pleasant campground
q. Red Fir group campground
r. Strawberry Point campground
s. Sunset campground/boat launch
t. Union Valley bike trail
u. Wench Creek campground
v. Wench Creek group campground
w. West Point campground/boat launch
x. Wolf Creek campground
y. Wolf Creek group campground
z. Yellowjacket campground/boat launch
Other _____

7. Number and description of bears (how many, what color, size, adult or cub, sex?):

1

8. Did the bear(s) harm anyone?

a. No b. Yes* (describe) _____

9. What were you doing before you saw the bear?

_____

10. What was the bear doing when you first saw it?

snooping / exploring

* If there was a physical encounter with the bear or a bear was harmed in the incident, please report to the USFS Ranger and California Department of Fish and Wildlife.

11. How did the bear react to you?

walked away

12. What did you do then?

made noise turn on light

13. How did the bear react to your response?

stayed local for 2 hours

14. How close did you come to the bear (how many feet)**?**

6ft

15. Was human food present?

a. Food not in bear resistant container
b. Food in bear resistant container
c. Food odor only
d. Food hung in tree
e. No food present
f. Unknown

16. Did the bear eat any human food?

a. No b. Yes (what?) _____
c. Unknown

17. Did the bear damage property?

a. No b. Yes (list property and estimate costs) _____

18. Details of bear-human interaction (optional):

_____

_____

_____

For office use only:

Report collected by: _____ (USFS/camp host)

Date: _____

BEAR ENCOUNTER FORM

Bear Management Monitoring
Crystal Basin Recreation Area

_____

2. Describe yourself:

- a. Visitor
- b. Camp host
- c. USFS employee
- d. Contractor
- e. Other _____

3. Visitor activity:

- a. Camping – developed campground
- b. Camping – undeveloped campsite/wilderness
- c. Day use area
- d. Hiking on maintained trail
- e. Other _____

4. Group size: 2
(number of people who encountered the bear)

5. Time of encounter: Month: 8 Day: 6 Year: 2021 Time: 3:00 am/pm

6. Location of encounter:

a. Airport Flat campground
b. Angel Creek day use area
c. Azalea Cove campground
d. Big Silver group campground
e. Camino Cove campground
f. Fashoda campground
g. Gerle Creek campground complex
h. Ice House campground/ boat launch/day use area
i. Jones Fork campground
j. Junction Reservoir boat launch
k. Lone Rock campground
l. Loon Lake campground/boat ramp
m. Loon Lake chalet
n. Northshore campground
o. Northshore RV campground
p. Pleasant campground
q. Red Fir group campground
r. Strawberry Point campground
s. Sunset campground/boat launch
t. Union Valley bike trail
u. Wench Creek campground
v. Wench Creek group campground
w. West Point campground/boat launch
x. Wolf Creek campground
y. Wolf Creek group campground
z. Yellowjacket campground/boat launch
Other NORTHWOODS C.G

7. Number and description of bears (how many, what color, size, adult or cub, sex?):
1 CINAMON COLOR 400 T LBS

8. What was the bear doing when you first saw it?
CREEPING UP BEHIND ME & SMACK DOG
10'

9. Did you react to the bear?
WENT INTO CAMPER.

10. How did the bear react to your response?
NOT AFRAID OF VOICES OR LIGHTS

11. Was human food present?

a. Some food/trash NOT in bear resistant container
b. All food/trash in bear resistant container
c. No food present/ordor only
d. Food hung in tree
e. Some food in vehicle
f. Unknown

12. Did the bear eat any human food?

a. No b. Yes (what?)_____
c. Unknown

13. Did the bear damage property?

a. No b. Yes (list property and estimate costs) NO

14. Did the bear(s) harm anyone?

a. No b. Yes* (describe)_____

15. Details of bear-human interaction (optional):

* If there was a physical encounter with the bear or a bear was harmed in the incident, please report to the USFS Ranger and California Department of Fish and Wildlife.

For office use only:

Report collected by: _____ (USFS/camp host)

Date: _____

BEAR ENCOUNTER FORM

Bear Management Monitoring
Crystal Basin Recreation Area

Use a separate form for each individual incident. For example, if the same bear enters two campsites while people are present, a person from each campsite should report the specifics of their encounter. Give completed forms to campground hosts. If your recreation site has no host, forms should be placed in the appropriate receptacle at the site or dropped off at the Crystal Basin Information Station on Ice House Road between Ice House Reservoir and Union Valley Reservoir. Forms also can be dropped off at the Pacific Ranger Station at 7887 Highway 50, Pollock Pines, CA 95726.

1. Person(s) involved:

State: _____

Zip code: 95758 Phone: _____

Country: USA

2. Describe yourself:

a. Visitor
b. Camp host
c. USFS employee
d. Contractor
e. Other _____

3. Visitor activity:

a. Camping – developed campground
(b) Camping – undeveloped campsite/wilderness
c. Day use area
d. Hiking on maintained trail
e. Other _____

4. Group size: 4
(number of people who encountered the bear)

5. Time of encounter: Month: 7 Day: 4 Year: 2022 Time: 3:00 (am)/pm

6. Location of encounter:

a. Airport Flat campground
b. Angel Creek day use area
c. Azalea Cove campground
d. Big Silver group campground
e. Camino Cove campground
f. Fashoda campground
g. Gerle Creek campground complex
h. Ice House campground/ boat launch/day use area
i. Jones Fork campground
j. Junction Reservoir boat launch
k. Lone Rock campground
l. Loon Lake campground/boat ramp
m. Loon Lake chalet
n. Northshore campground
o. Northshore RV campground
p. Pleasant campground
q. Red Fir group campground
r. Strawberry Point campground
s. Sunset campground/boat launch
t. Union Valley bike trail
u. Wench Creek campground
v. Wench Creek group campground
w. West Point campground/boat launch
x. Wolf Creek campground
y. Wolf Creek group campground
z. Yellowjacket campground/boat launch
Other Bassi Falls trail head

7. Number and description of bears (how many, what color, size, adult or cub, sex?):

8. Did the bear(s) harm anyone?

a (No) b. Yes* (describe)

9. What were you doing before you saw the bear?

sleeping

10. What was the bear doing when you first saw it?

We did not see the bear

* If there was a physical encounter with the bear or a bear was harmed in the incident, please report to the USFS Ranger and California Department of Fish and Wildlife.

11. How did the bear react to you?

It ate our food as we slept

12. What did you do then?

nothing

13. How did the bear react to your response?

N/A

14. How close did you come to the bear (how many feet)**?**

5-10 ft

15. Was human food present?

(a.) Food not in bear resistant container
b. Food in bear resistant container
c. Food odor only
d. Food hung in tree
e. No food present
f. Unknown

16. Did the bear eat any human food?

a. No (b.) Yes (what?) watermelon, Hot chocolate powder, Condiments
c. Unknown

17. Did the bear damage property?

(a.) No b. Yes (list property and estimate costs)

18. Details of bear-human interaction (optional):

KEEP ME WILD

For office use only:

Report collected by: Jim Shattuck (USFS/camp host)

Date: 7-11-22 Rec 555

KEEP ME WILD

BEAR ENCOUNTER FORM

Bear Management Monitoring
Crystal Basin Recreation Area

Use a separate form for each individual incident. *For example, if the same bear enters two campsites while people are present, a person from each campsite should report the specifics of their encounter. Give completed forms to campground hosts. If your recreation site has no host, forms should be placed in the appropriate receptacle at the site or dropped off at the Crystal Basin Information Station on Ice House Road between Ice House Reservoir and Union Valley Reservoir. Forms also can be dropped off at the Pacific Ranger Station at 7887 Highway 50, Pollock Pines, CA 95726.*

1. Person(s) involved:

Name: Did not want to give name (Reported Verbally)

Address: _____

City: _____ State: AT Crystal Basin Vis. Station

Zip code: _____ Phone: _____

Country: _____

2. Describe yourself:

~~a. Visitor~~
b. Camp host
c. USFS employee
d. Contractor
e. Other _____

3. Visitor activity:

~~a. Camping – developed campground~~
b. Camping – undeveloped campsite/wilderness
c. Day use area
d. Hiking on maintained trail
e. Other _____

4. Group size: 2
(number of people who encountered the bear)

5. Time of encounter: Month: 07 Day: 11 Year: 2022 Time: 11:00 am/pm

6. Location of encounter:

a. Airport Flat campground
b. Angel Creek day use area
c. Azalea Cove campground
d. Big Silver group campground
e. ~~Camino Cove campground~~
f. Fashoda campground
g. ~~Gerle Creek campground complex~~
h. Ice House campground/ boat launch/day use area
i. Jones Fork campground
j. Junction Reservoir boat launch
k. Lone Rock campground
l. Loon Lake campground/boat ramp
m. Loon Lake chalet
n. Northshore campground
o. Northshore RV campground
p. Pleasant campground
q. Red Fir group campground
r. Strawberry Point campground
s. Sunset campground/boat launch
t. Union Valley bike trail
u. Wench Creek campground
v. Wench Creek group campground
w. West Point campground/boat launch
x. Wolf Creek campground
y. Wolf Creek group campground
z. Yellowjacket campground/boat launch
Other _____

7. Number and description of bears (how many, what color, size, adult or cub, sex?):

2 - ADULT & CUB BEAR

8. Did the bear(s) harm anyone?

a. No b. Yes* (describe) _____

9. What were you doing before you saw the bear?

Sleeping in Tent

10. What was the bear doing when you first saw it?

Going thru garbage Near

* If there was a physical encounter with the bear or a bear was harmed in the incident, please report to the USFS Ranger and California Department of Fish and Wildlife.

Restrooms!

11. How did the bear react to you?

RAN off After

12. What did you do then?

The noise w/ pots & PAN

13. How did the bear react to your response?

No Answer!

14. How close did you come to the bear (how many feet)**?**

30'

15. Was human food present?

a. Food not in bear resistant container
b. Food in bear resistant container
c. Food odor only
d. Food hung in tree
e. No food present
f. Unknown

BAGS were FOUND ~~AT~~ ~~BY~~ NEAR

16. Did the bear eat any human food?

a. No b. Yes (what?) _____
c. Unknown

GARBAGE Dumpsters GARBAGE CANS were FULL

17. Did the bear damage property?

a. No b. Yes (list property and estimate costs) NO

18. Details of bear-human interaction (optional):

APPENDIX C2

Bear Encounter Summary

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Bear Encounter Form - Bear Management Monitoring, Crystal Basin Recreation Area - UARP, Eldorado National Forest

2022 Results Summary - Compiled by Ethan Koenigs, SMUD

1. Name	2. Description	3. Visitor Activity	4. Group Size	5. Date/Time of Encounter	6. Location	7. Number / description of bear(s)	8-14 - Description of interaction w/ bear	15. Food Present	16.Consumption by Bear	17. Property Damage	Comments
Angelind Vicente	Visitor	Camping - undeveloped	4	7/4/2022	Bassi Falls TH	Unknown	Bear ate food while campers slept	Yes - no container	Yes	No	Bear ate watermelon, hot chocolate and condiments that were left out. Campers never saw bear.
Nick Kozial	USFS Employee	Other	4	8/27/2022	Crystal Basin Barracks	1 brown	Bear ran through barracks area	unknown	unknown	No	Bear ran off
NA	Visitor	Camping - developed	2	7/11/2022	Fashoda CG	2 - adult and cub	Bear going through garbage near restrooms; ran off after making noise.	Yes - no container	Yes	No	Bear was observed going through garbage bags near the dumpster which was full.
Meghan Reed	Visitor	Camping - developed	5	7/9/2022	Jones Fork CG	2 adults	Bear got into cooler at night	Yes - no container	Yes	No	Bear ate some cake; Other campers were shooting and shouting to scare off bears for 3 hours.
Crystal B.	Visitor	Camping - developed	4	7/9/2022	Jones Fork CG	2 adults	Bear walked through camp	Yes - Contained	No	No	Same incident as above; bears going after garbage; people shooting.
ahakeuwila James Sha	Visitor	Camping - developed	4	7/10/2022	Jones Fork CG	1 adult black	Bear got into cooler and ate food; ran off	Yes - no container	Yes	No	Bear ate some cheese/butter; camper threw rocks and bear ran off.
Salina Young	Visitor	Camping - developed	3	8/20/2022	Jones Fork CG	1 adult; large brown	Bear walked into camp and opened cooler; campers in camp stayed inside trailer.	Yes - no container	Yes	No	Bear was unphased by people; not aggressive; Some food was properly stored some was not; Bear consumed milk; moved
Paua	Visitor	Camping - developed	4	7/11/2022	Jones Fork CG	1	Bear snooping around camp	No food	No	No	Bear came into camp/ campers made noise and turned on lights; bear walked away but stayed nearby for a couple hours.
Jim Shatluch	USFS Employee	Camping - undeveloped	5	8/26/2022	Millionaire Camp	1	Bear approached people and people yelled at it; bear moved on.	NA	No	No	People yelled at bear and it moved on.
Andrew Hunter	Visitor	Camping - undeveloped	4	8/27/2022	Northshore	Unknown	Bear ate a bagel	Yes - no container	Yes	No	Bear ate bagel; Food was in vehicle; no other description.
Vita Oksana	Visitor	Camping - developed	3	7/23/2022	Northwind	1 adult; dark	Bear walking around CG	Food odor only	No	No	Bear was seen waking through CG
Don Neely	Visitor	Camping - developed	3	8/6/2022	Northwind	1 - adult; black	Bear in camp trying to open metal container.	Yes - no container	unknown	No	Bear tried to get into container at night; camper yelled and turned on lights; bear walked away; some food was not in bear proof container.
Don Neely	Visitor	Camping - developed	3	8/7/2022	Northwind	1 - adult; black	Bear took bag full of pots and pans off table.	Food odor only	No	No	Back to back incidents (see previous). Bear walked away when camper shouted and turned on lights.
Tammy Danz	Visitor	Camping - developed	2	8/6/2022	Northwind	1 adult; cinnamon	Bear crept up behind campers.	No food	No	No	Bear came within 10 feet of camper. Not afraid of voices or lights; campers retreated to camper.
Chaina Wade	Visitor	Camping - developed	6	7/6/2020	Sunset CG	Unknown	Bear ate all of the camper's food	Yes - no container	Yes	Yes	Bear was not observed but all of the food was consumed by the bear; plastic container holding food was damaged
Mathew Toubin	Visitor	Camping - developed	2	7/29/2022	Sunset CG	1 large adult	Bear getting into garbage left near dumpster.	Yes - no container	Yes	No	Bear was going through garbage left outside of dumpster; person turned on panic alarm in car; bear left but returned multiple times

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APPENDIX D

2022 Water Temperature Graphs

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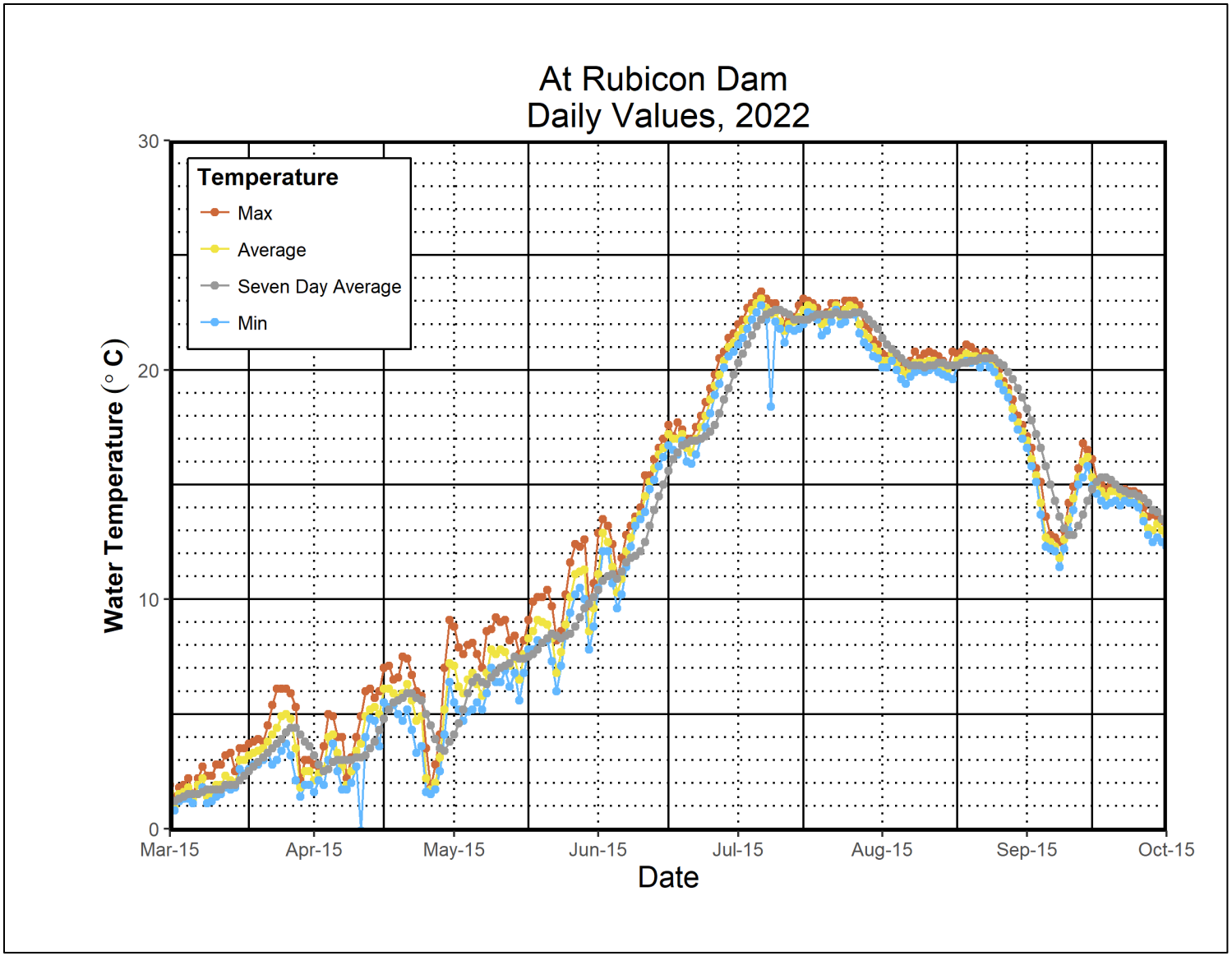

Figure D-1. Rubicon River immediately below Rubicon Reservoir Dam (Site RR5).

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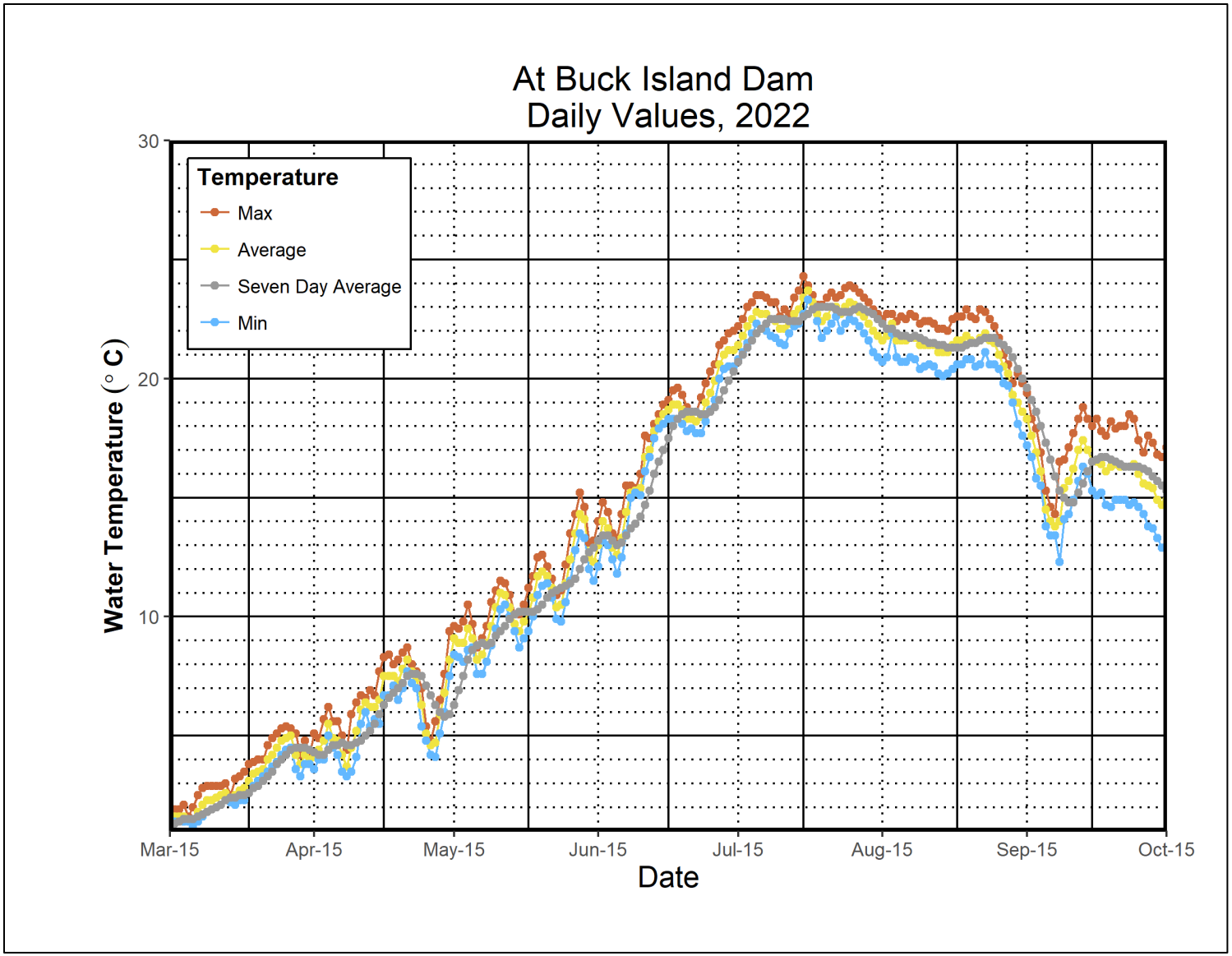

Figure D-2. Little Rubicon River Immediately below Buck Island Reservoir Dam (Site LRR3).

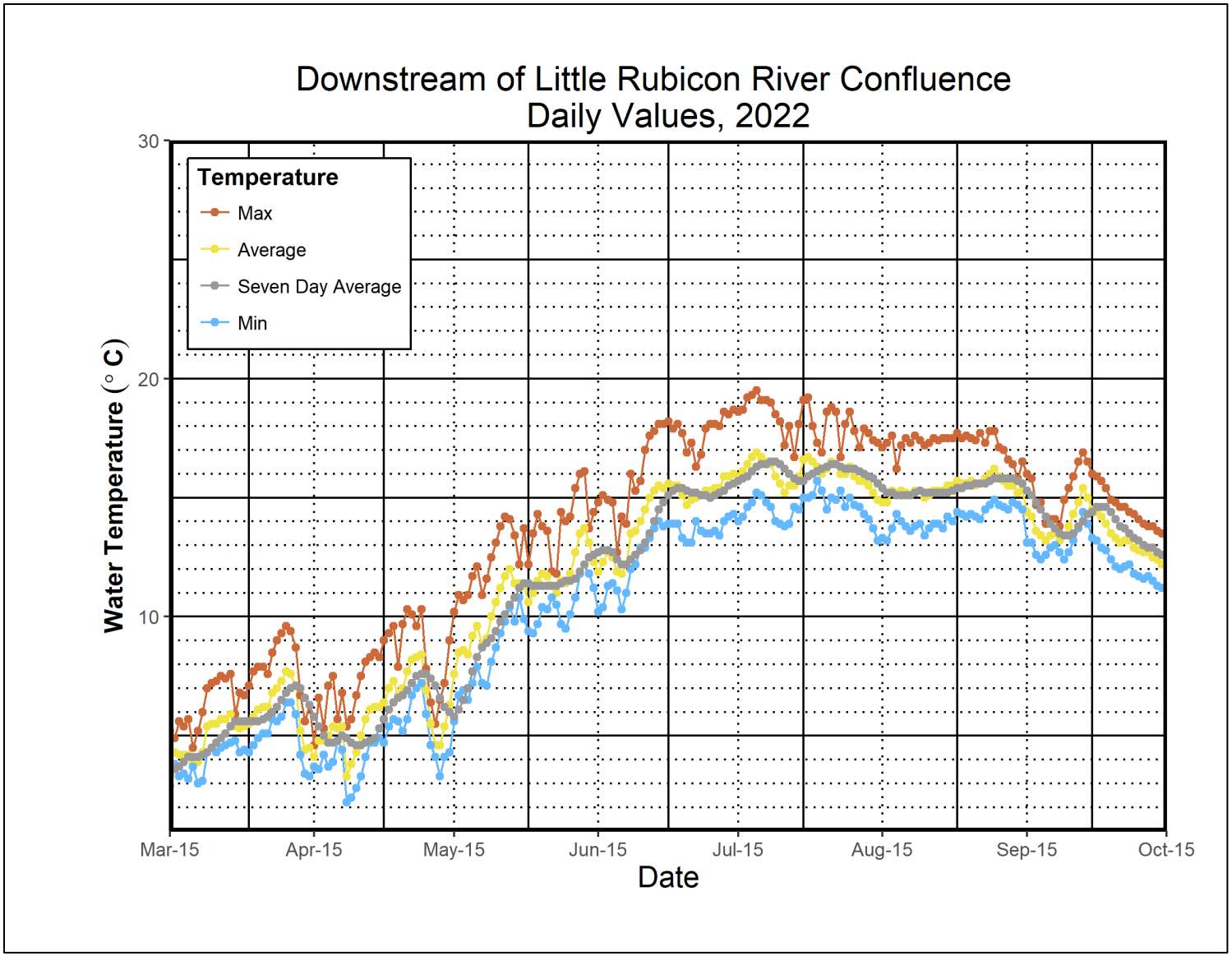

Figure D-3. Rubicon River below confluence of Little Rubicon River at the Project boundary (Site RR1).

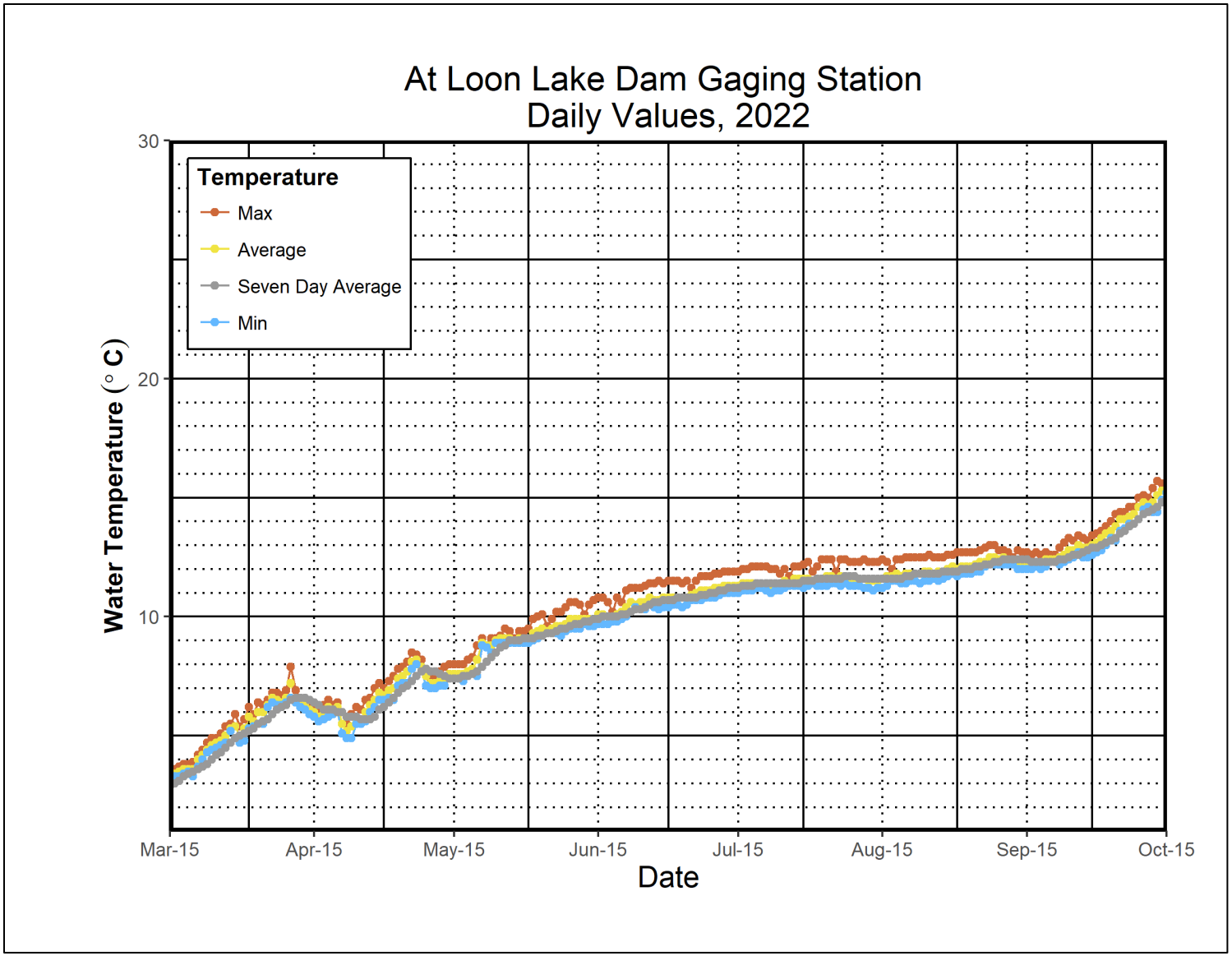

Figure D-4. Gerle Creek Immediately below Loon Lake Reservoir Dam (Site GC7).

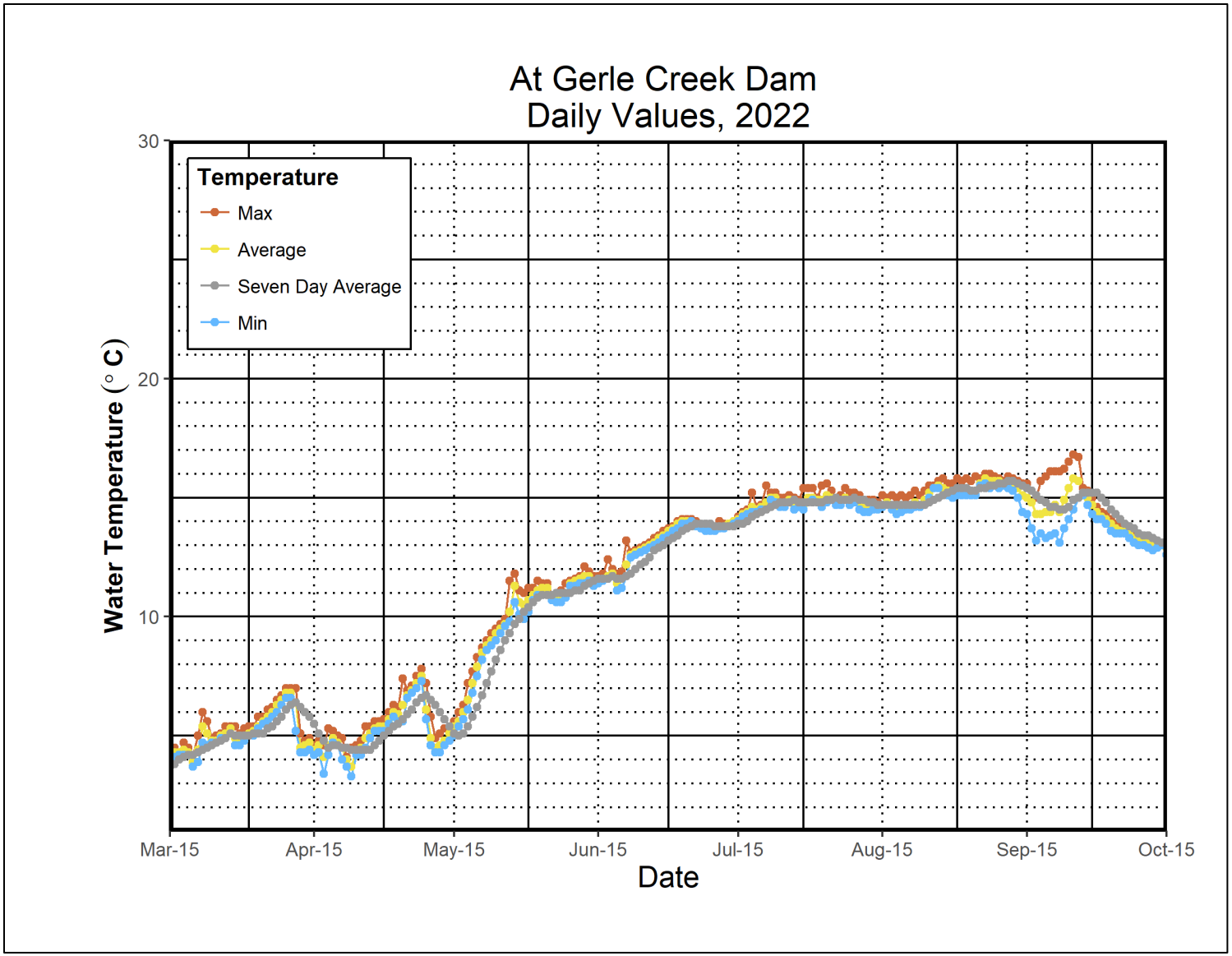

Figure D-5. Gerle Creek immediately below Gerle Creek Reservoir Dam (Site GC8).

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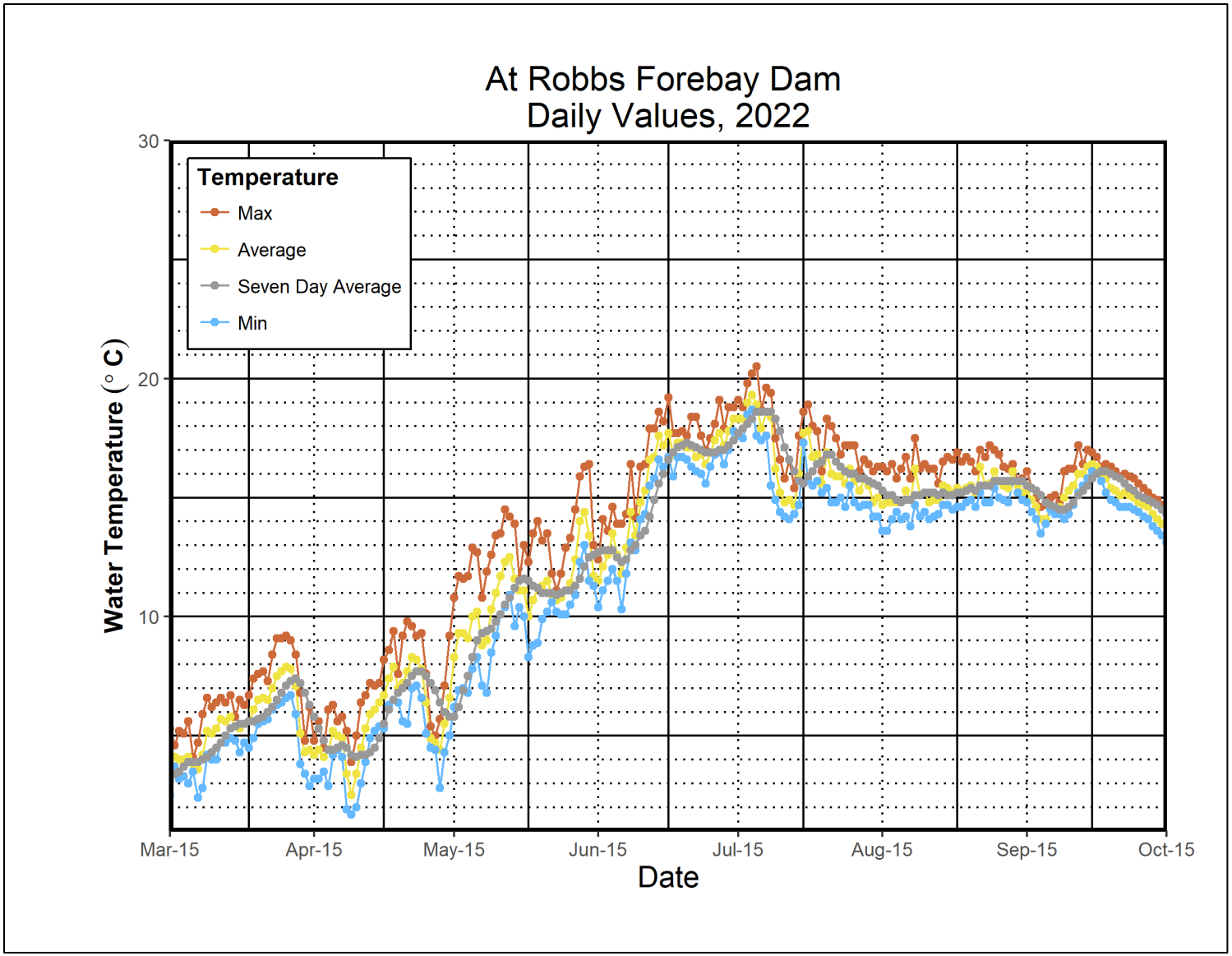

Figure D-6. South Fork Rubicon River immediately below Robbs Peak Reservoir Dam (Site SFRR5).

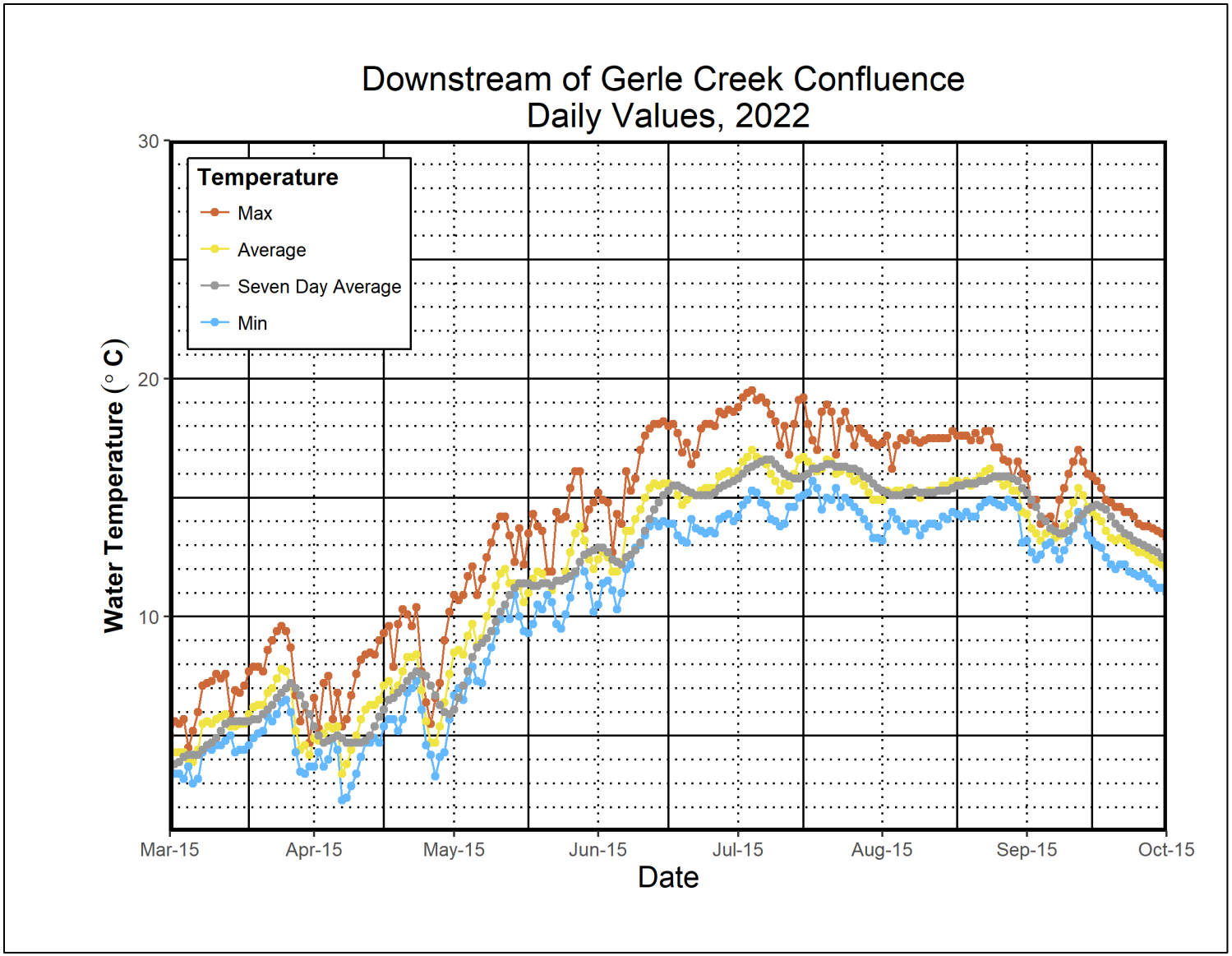

Figure D-7. South Fork Rubicon River below confluence of Gerle Creek (Site SFRR6).

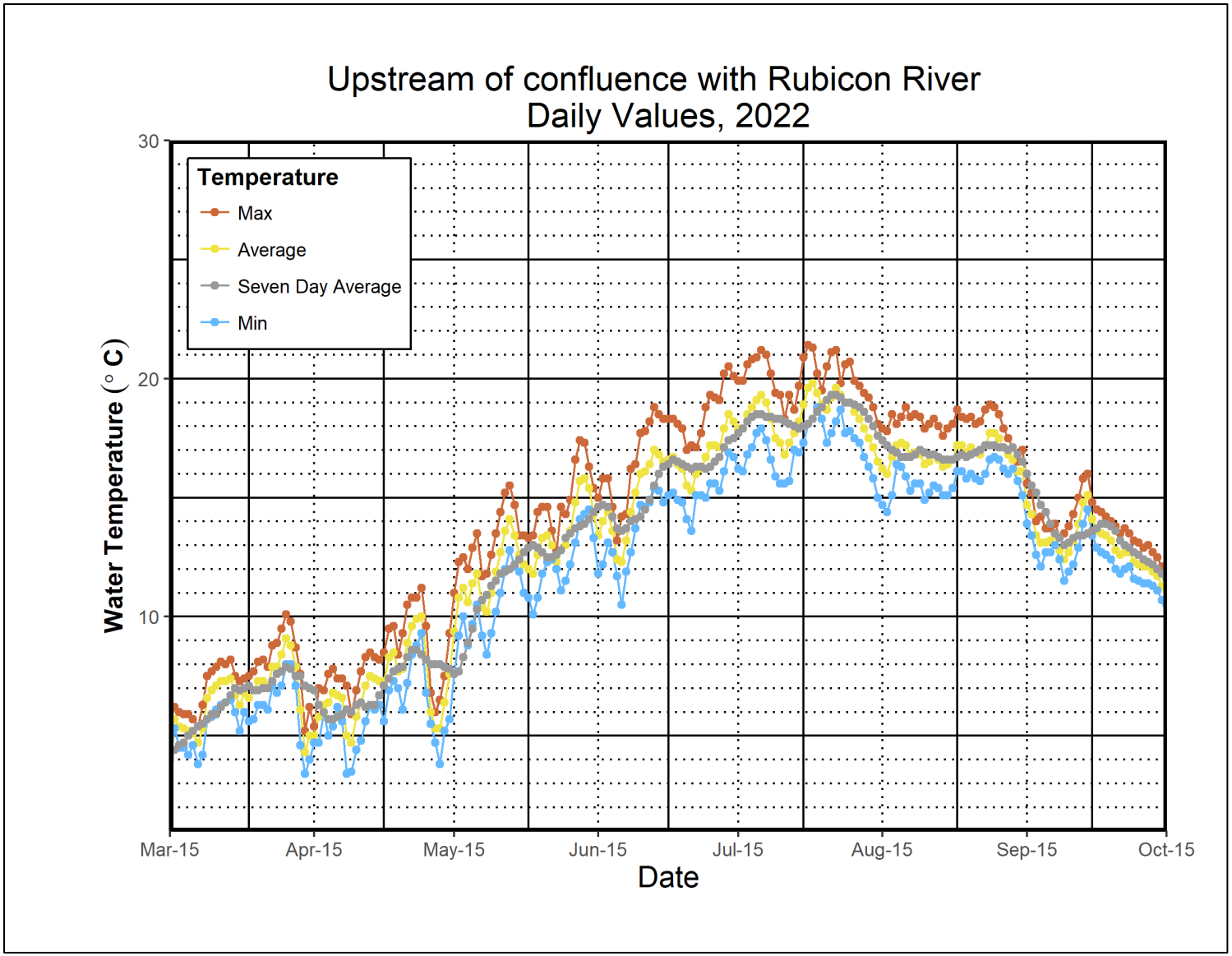

Figure D-8. South Fork Rubicon River immediately upstream of confluence with the Rubicon River (Site SFRR7).

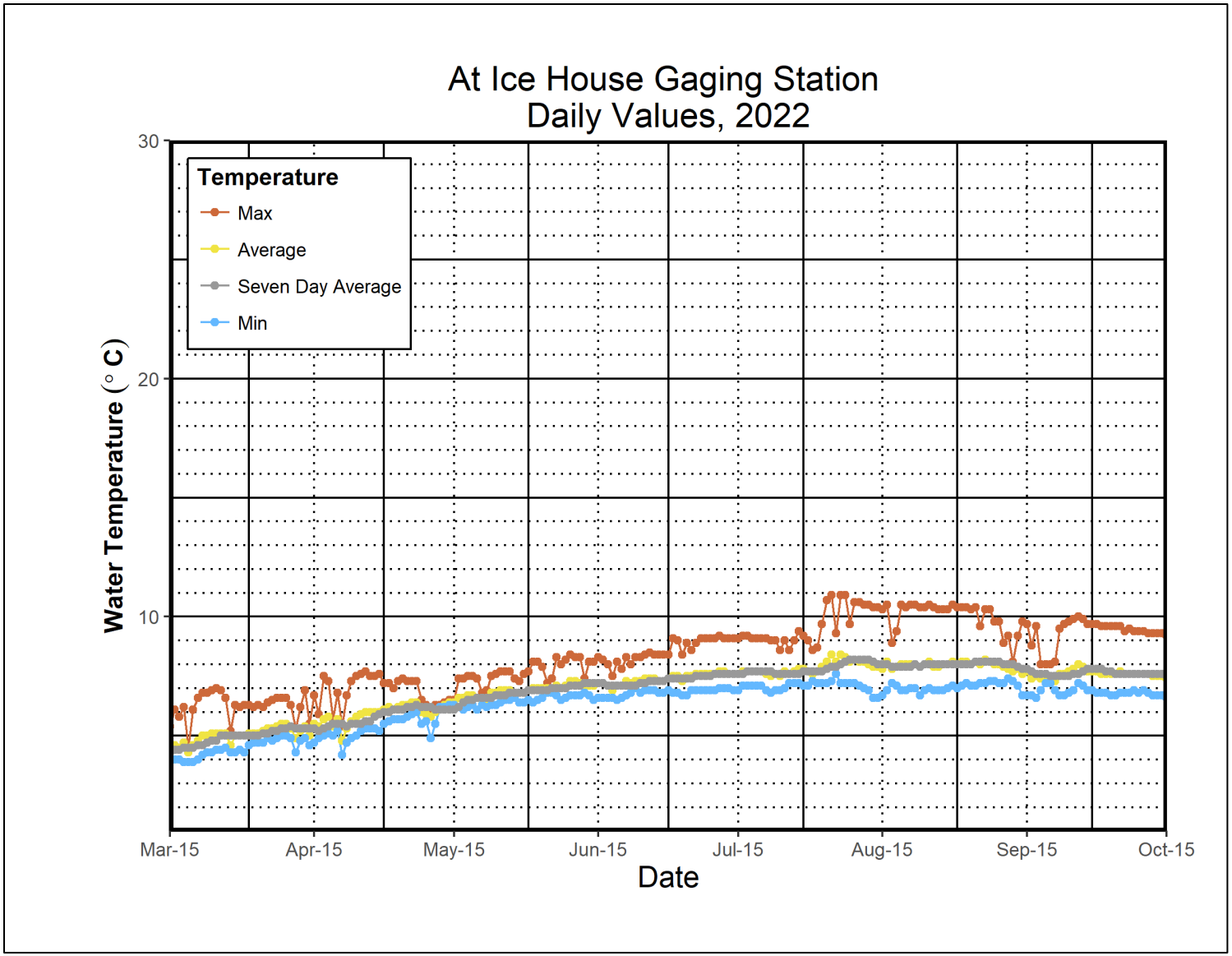

Figure D-9. South Fork Silver Creek immediately below Ice House Reservoir Dam (Site SFSC7).

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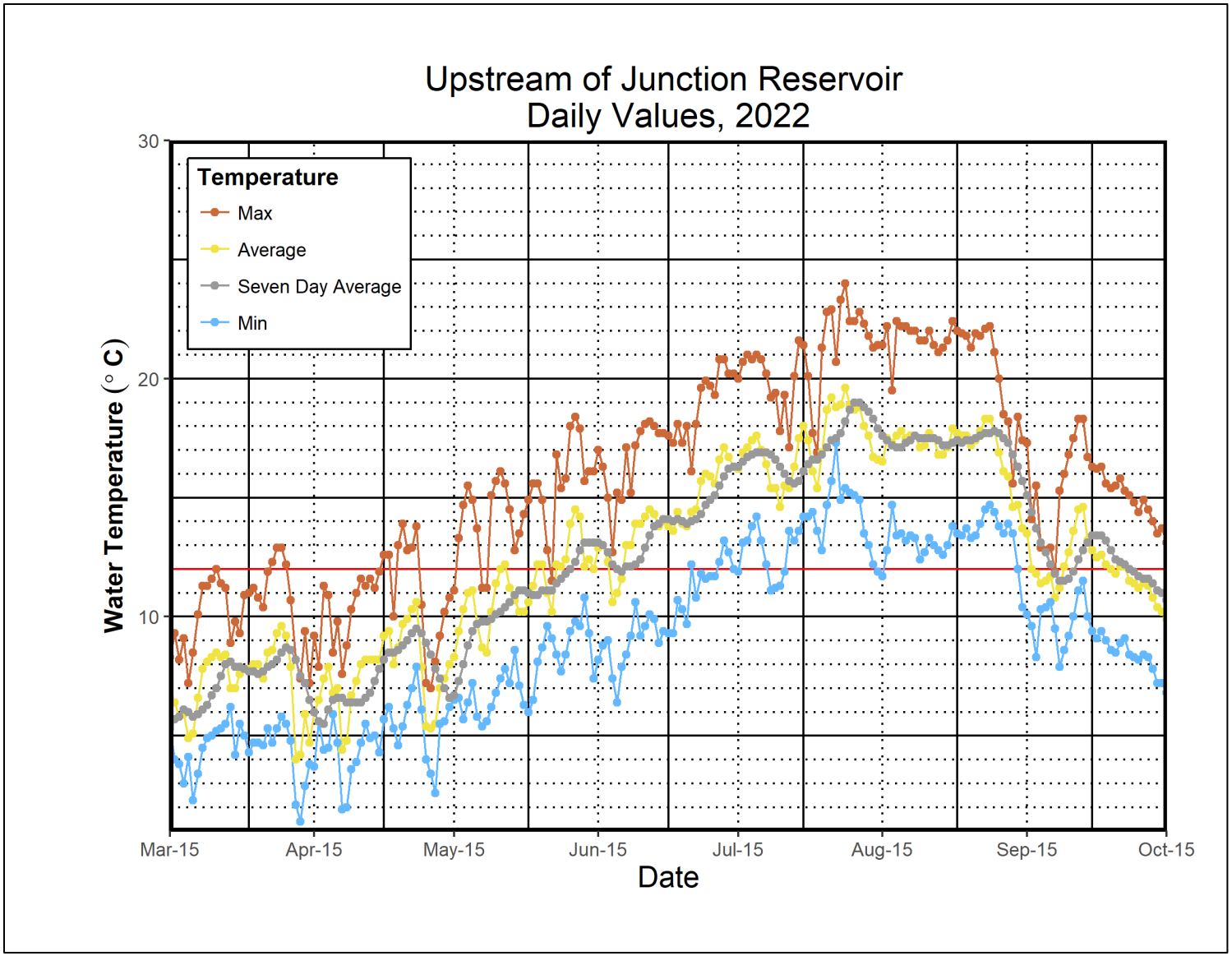

Figure D-10. South Fork Silver Creek immediately upstream of Junction Reservoir (Site SFSC8).

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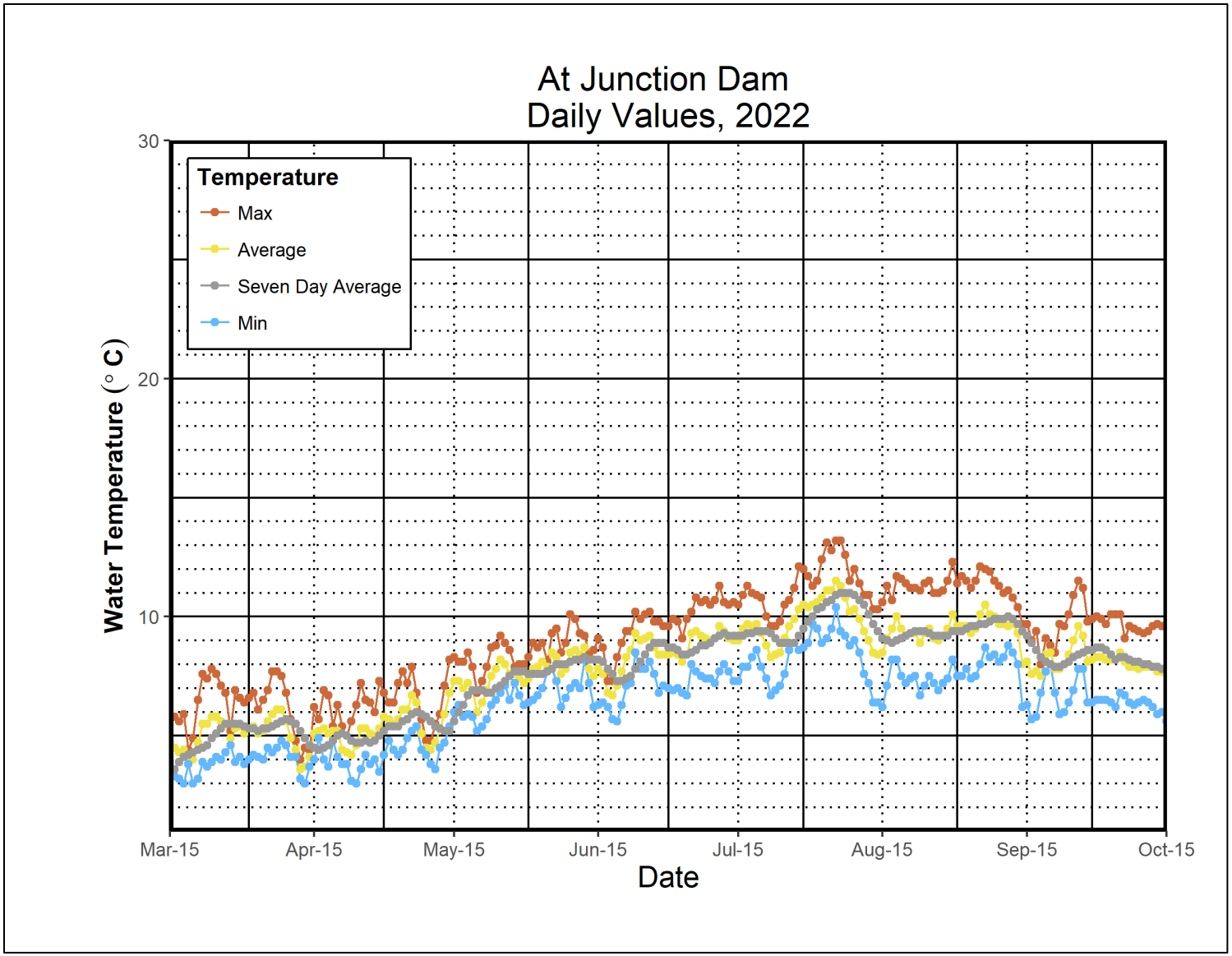

Figure D-11. Silver Creek immediately below Junction Reservoir Dam (Site SC5).

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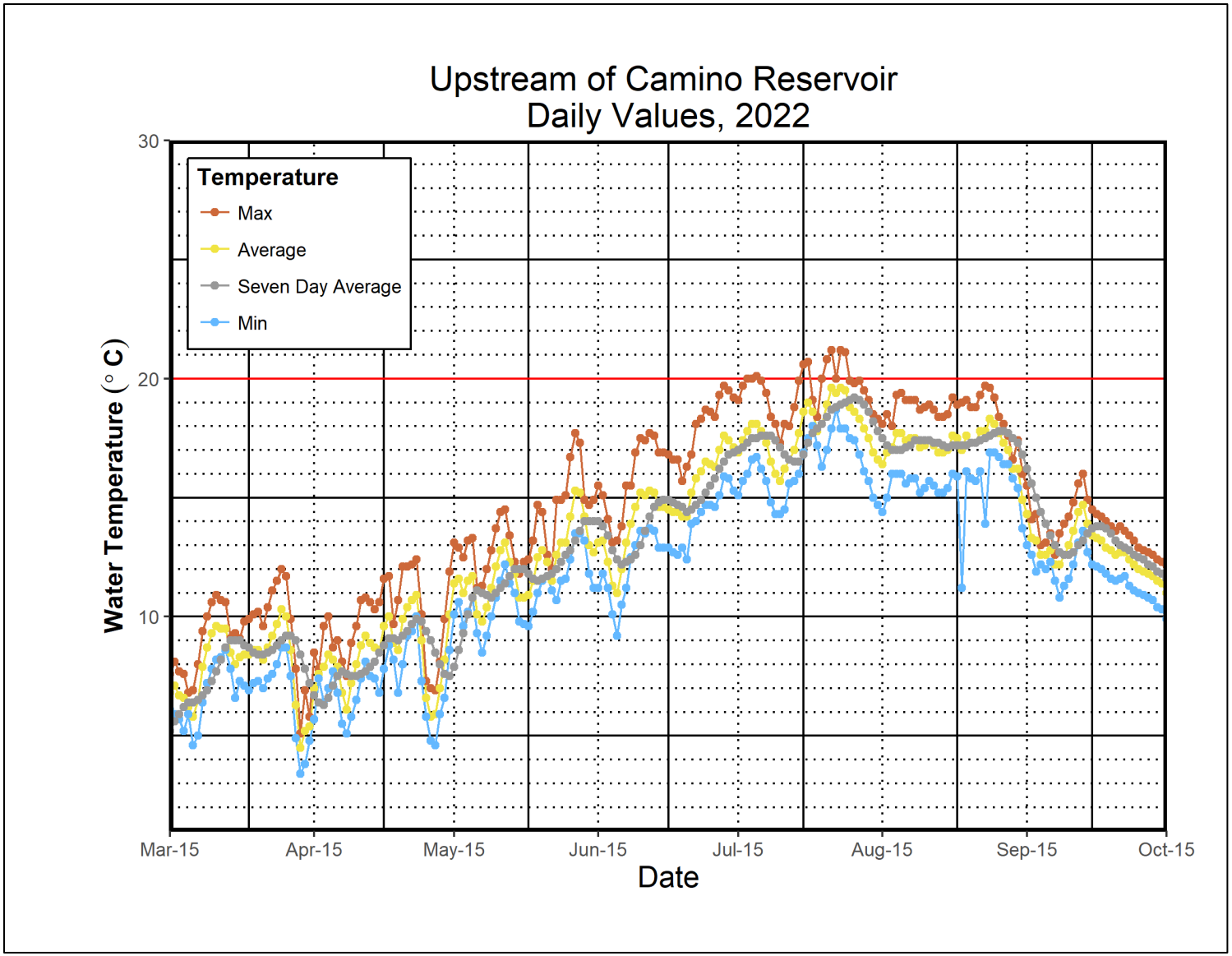

Figure D-12. Silver Creek immediately above Camino Reservoir Dam (Site SC6).

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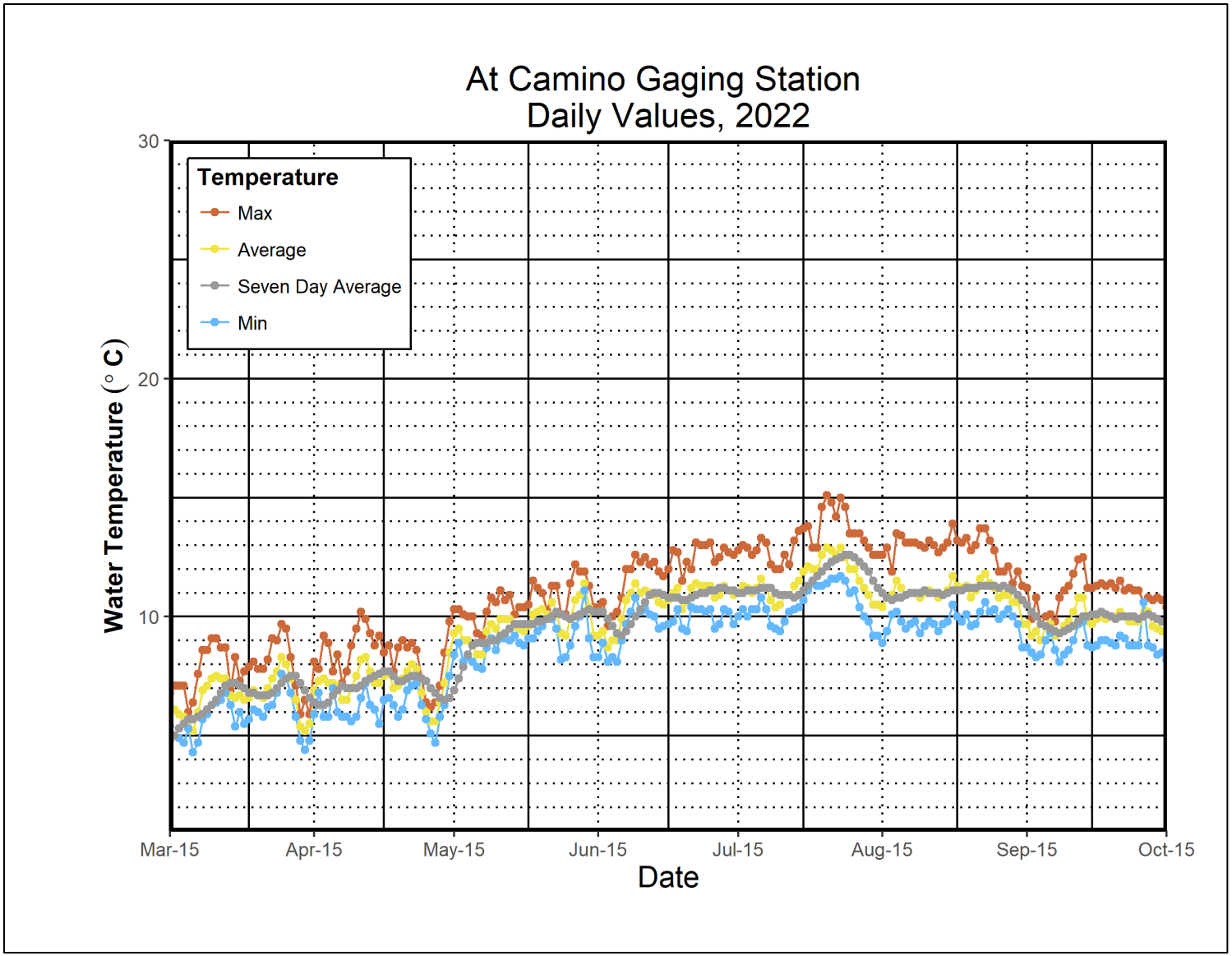

Figure D-13. Silver Creek immediately below Camino Reservoir Dam (Site SC7).

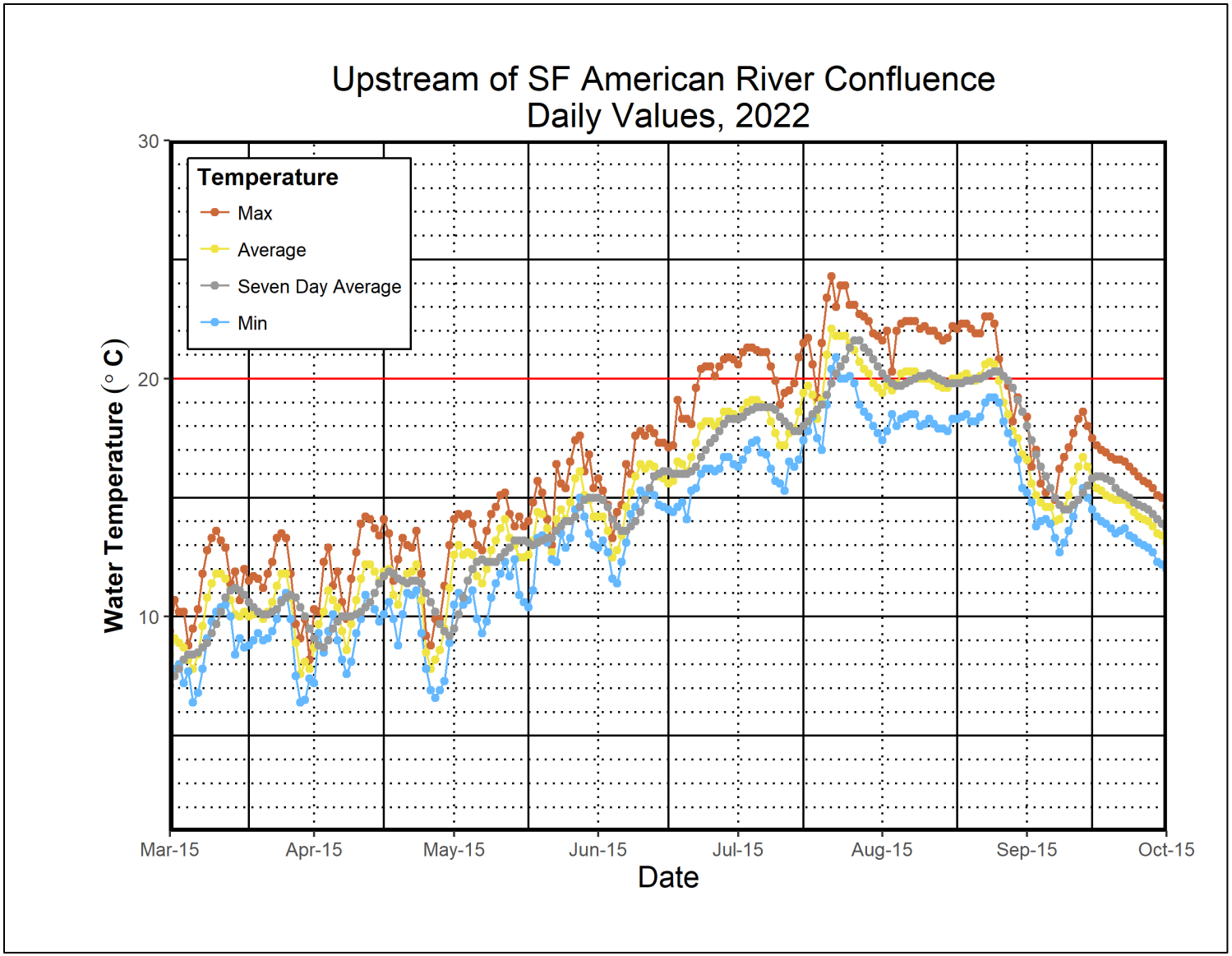

Figure D-14. Silver Creek immediately upstream of the South Fork American River (Site SC8).

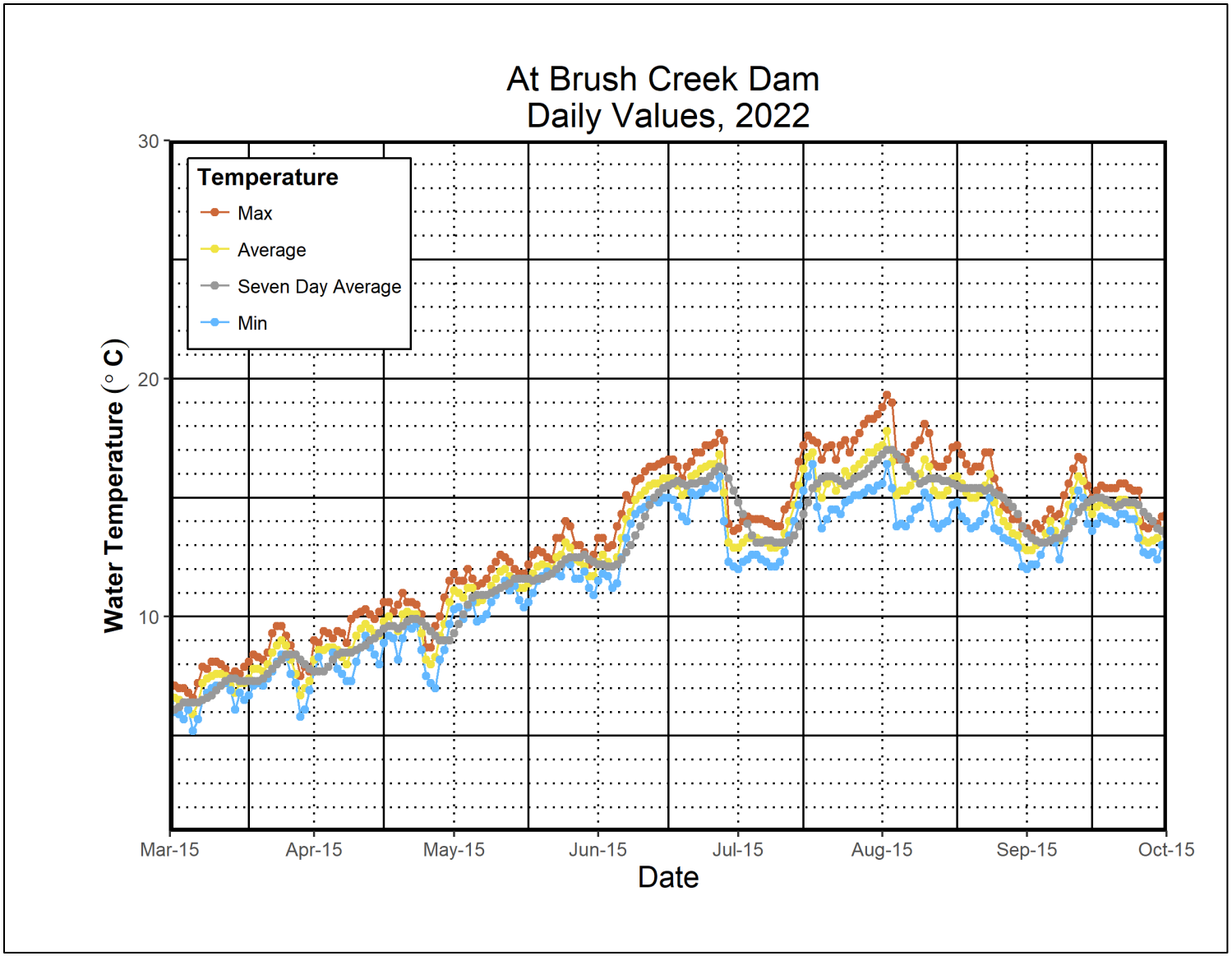

Figure D-15. Brush Creek immediately below Brush Creek Reservoir Dam (Site BC4).

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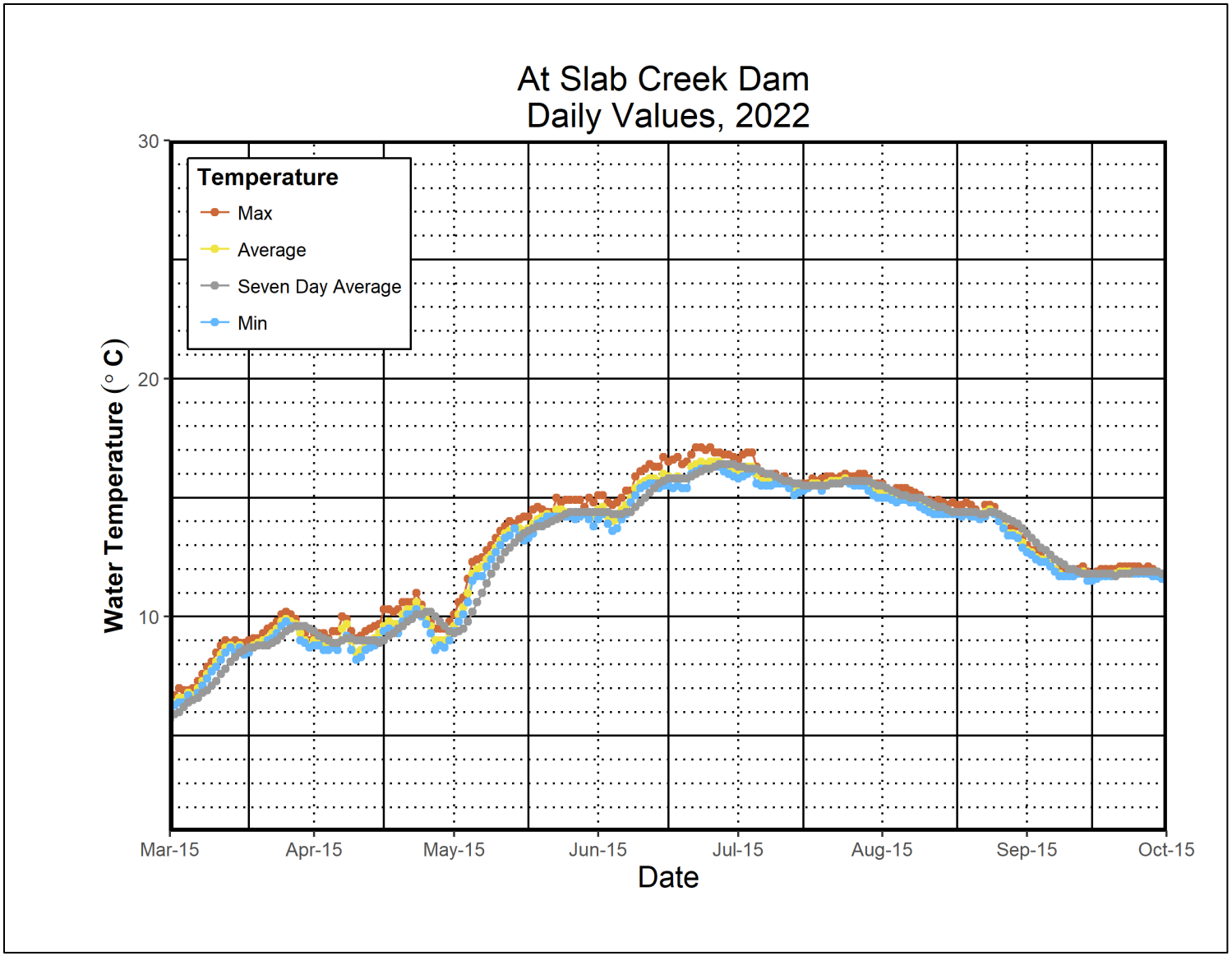

Figure D-16. South Fork American River immediately below Slab Creek Reservoir Dam (Site SFAR13).

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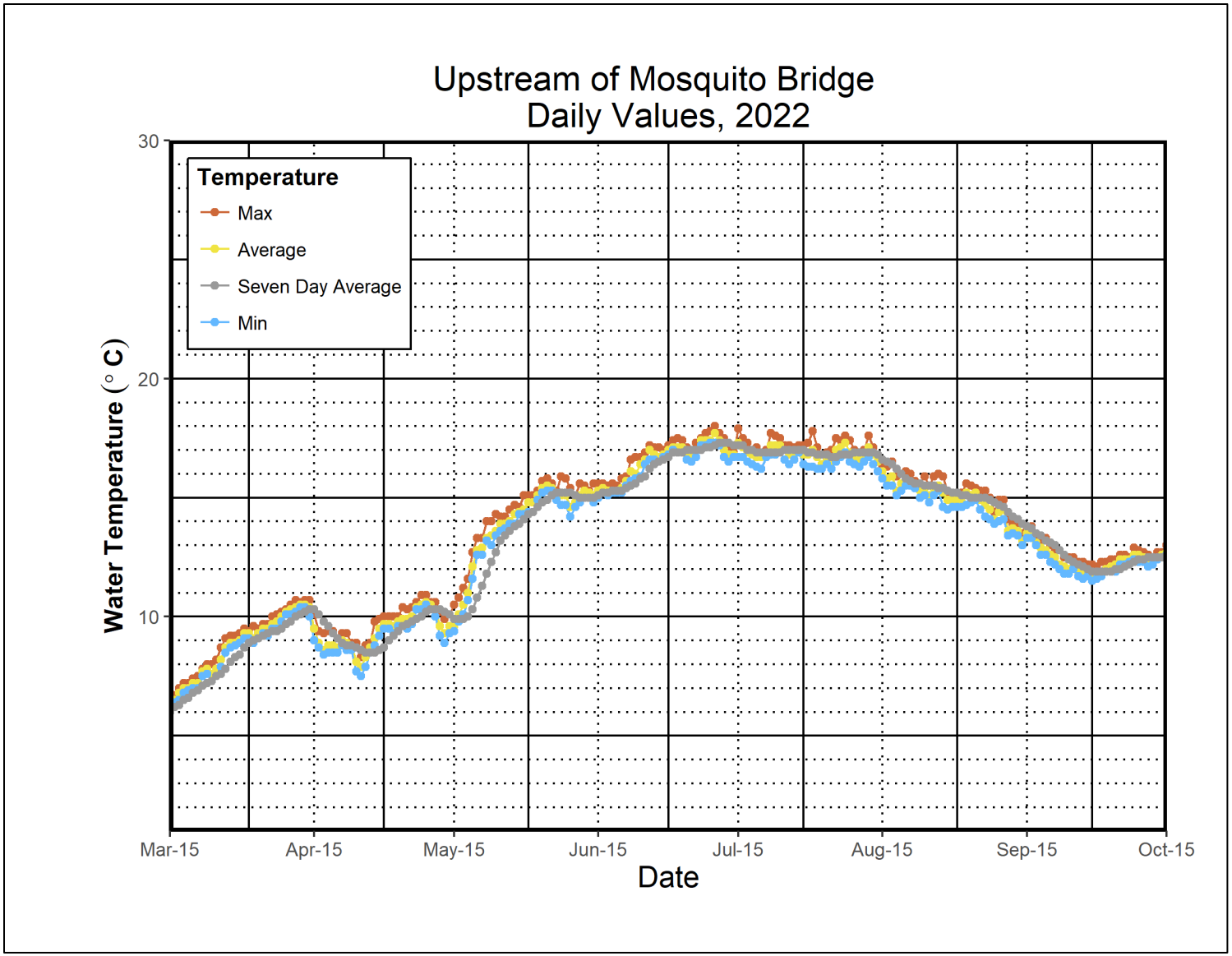

Figure D-17. South Fork American River at Mosquito Rd (Site SFAR7).

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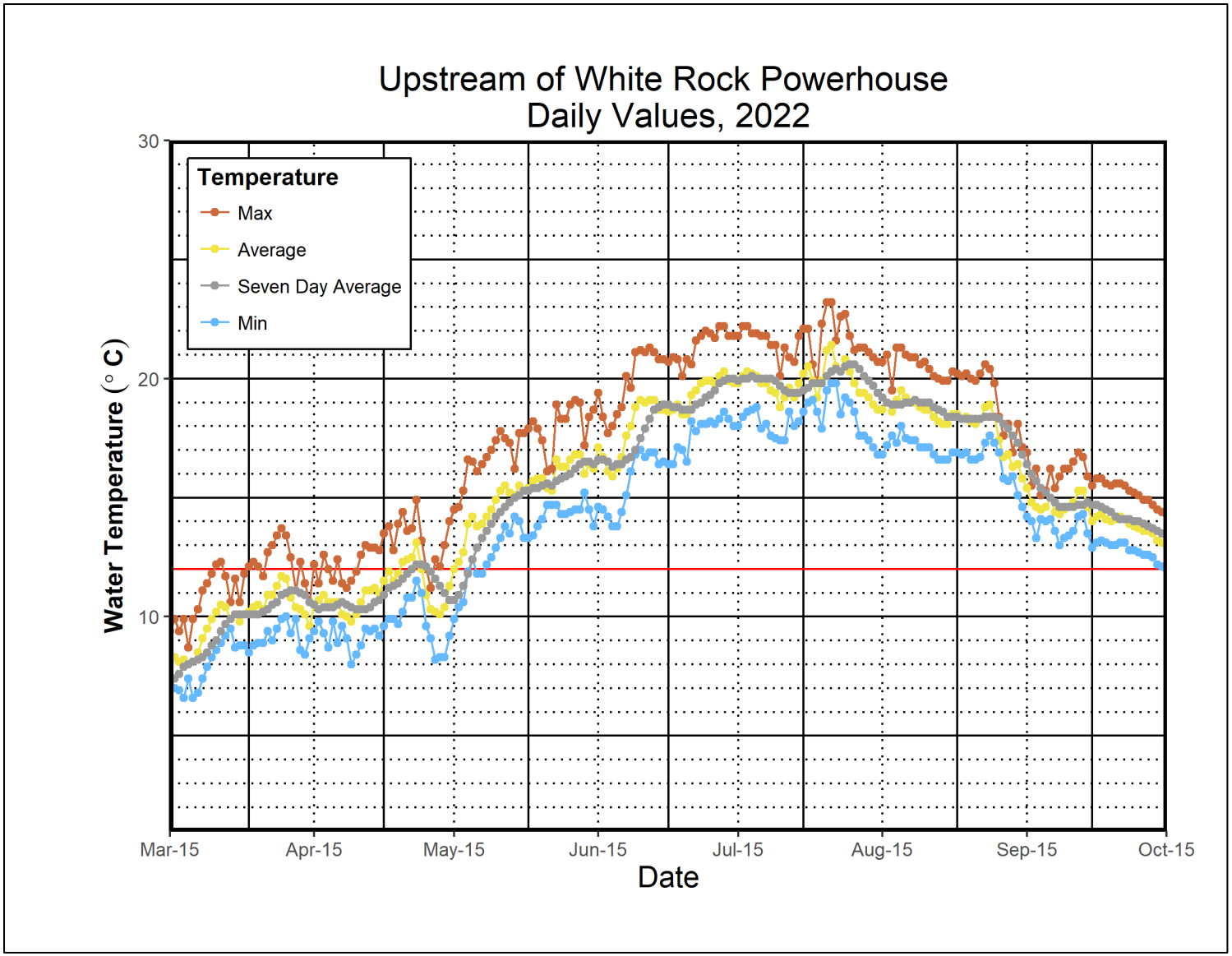

Figure D-18. South Fork American River approximately 0.5 mile upstream of White Rock Powerhouse (Site SFAR15).

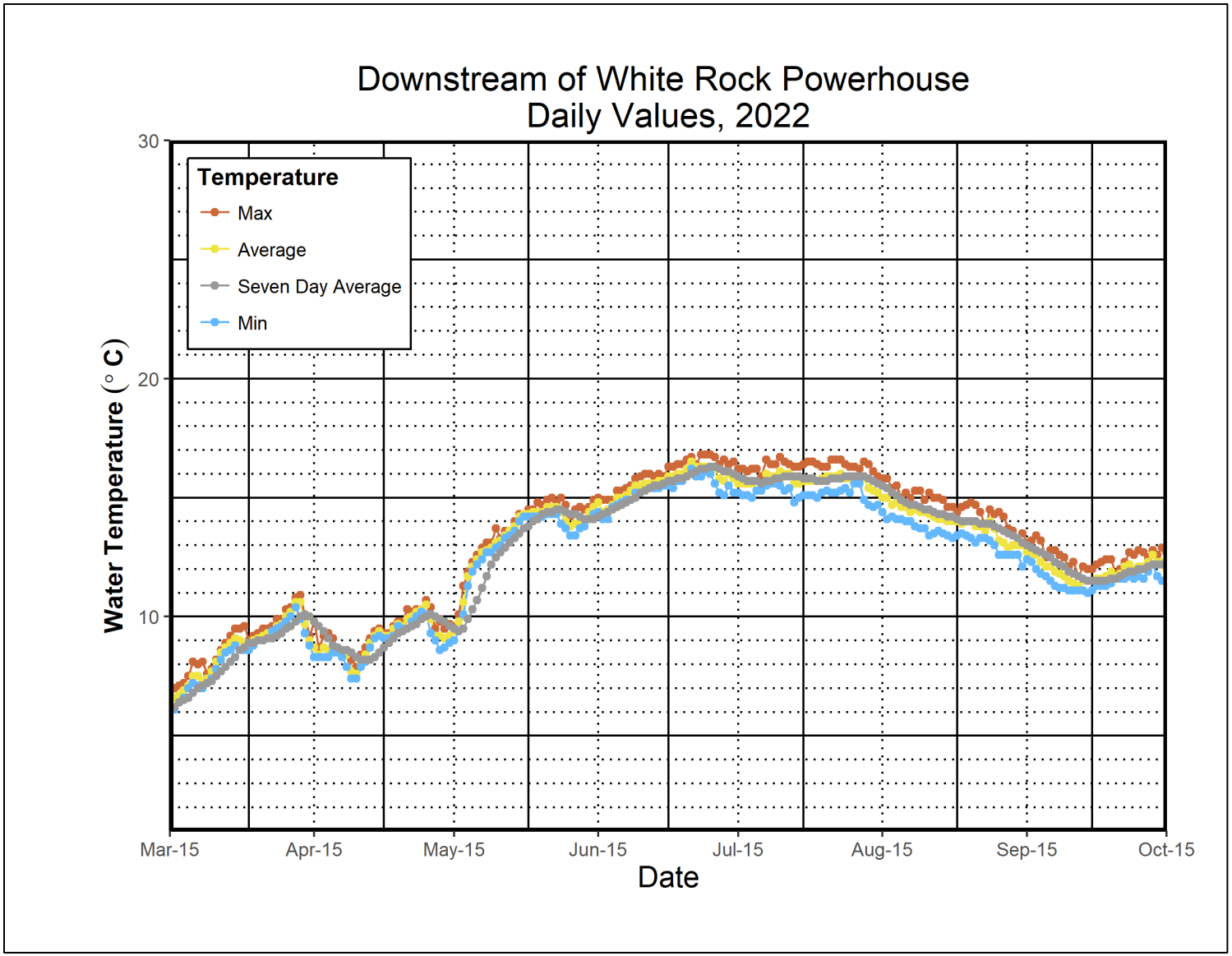

Figure D-19. South Fork American River to record White Rock Powerhouse discharge temps (Site SFAR16).

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