

# Sierra Nevada Yellow-legged Frog Monitoring Plan Sacramento Municipal Utility District

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Hydro License Implementation • November 2017

Upper American River Project

FERC Project No. 2101

Powering forward. Together.



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## Acronyms and Abbreviations

<b>Acronym</b>	<b>Definition</b>
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
DTA	Devine Tarbell and Associates
ENF	Eldorado National Forest
FERC	Federal Energy Regulatory Commission
m	meter
SMUD	Sacramento Municipal Utility District
SNYLF	Sierra Nevada Yellow-legged Frog
SWRCB	State Water Resources Control Board
UARP	Upper American River Project
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
UTM	Universal Transverse Mercator
VES	Visual Encounter Survey

## 1.0 Introduction and Background

This Sierra Nevada Yellow-legged Frog Monitoring Plan (Plan) addresses monitoring requirements set forth in Conditions 8.C.6, 8.C.7, and 8.C.8 of Appendix A, and Condition 31.3 of Appendix B of the new License issuance order (FERC 2014) for the Upper American River Project (UARP; FERC Project 2101), owned and operated by the Sacramento Municipal Utility District (SMUD). Appendix A of the License incorporates the State Water Resources Control Board's (SWRCB) Water Quality Certification into SMUD's License, while Appendix B incorporates the U.S. Forest Service's (USFS) 4(e) conditions (Attachment 1).

The UARP (Project) lies within El Dorado and Sacramento counties, primarily within lands of the Eldorado National Forest (ENF). The UARP consists of three major storage reservoirs—Loon Lake, Union Valley, and Ice House (with a combined capacity of approximately 379,000 acre-feet), eight smaller regulating or diversion reservoirs, and eight powerhouses. The UARP has an authorized installed capacity of 637.3 megawatts. The UARP also includes recreation facilities containing over 700 campsites, five boat ramps, hiking paths, and bicycle trails at the reservoirs.

Sierra Nevada yellow-legged frog (*Rana sierrae*) (SNYLF)—formerly known as mountain yellow-legged frog (*Rana muscosa*), but now recognized as a separate species (Vredenburg et al. 2007)—is a federally and state protected species. The U.S. Fish and Wildlife Service (USFWS) listed SNYLF as endangered under the federal Endangered Species Act on April 29, 2014 (USFWS 2014), and designated critical habitat for SNYLF on August 26, 2016 (USFWS 2016). SNYLF critical habitat, including a description of its Primary Constituent Elements, is described in USFWS 2016. The California Fish and Game Commission voted to list the SNYLF as threatened under the California Endangered Species Act on February 2, 2012 (CDFG 2012a). SNYLF is also considered a sensitive species by USFS (USFS 2013). In the 2014 License, the Federal Energy Regulatory Commission (FERC) determined there would be no effect on SNYLF or its proposed critical habitat<sup>1</sup> from implementation of the License based on the absence of SNYLF in Project-affected stream reaches and reservoirs (FERC 2014). If SNYLF is found in Project-affected reservoirs, stream reaches, or facilities in the future, SMUD will consult with FERC and USFWS upon initiation of Section 7 consultation (FERC 2014).

SMUD will monitor for SNYLF over the term of the License. If USFS or CDFW collects SNYLF monitoring data associated with Rubicon Reservoir, Rockbound Lake, or Buck Island Reservoir, that information can be used to satisfy the License's monitoring requirements (Attachment 1) after the SWRCB Deputy Director for the Division of Water

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<sup>1</sup> USFWS critical habitat designation for SNYLF did not change substantially in the Project area between being proposed in 2013 and finalized in 2016 with the exception that the three waterbodies identified in for surveys in this plan (Buck Island, Rubicon and Rockbound) have been excluded.

Rights—in consultation with USFS, CDFW, and USFWS—reviews the results and approves the use of these data

## **2.0 Monitoring Plan Objectives**

The objective of this Plan is to help determine future presence/distribution of SNYLF in Project reservoirs over the term of the License, by periodically surveying reservoirs project-affected areas with potential habitat. If the species is found, objectives will also include coarsely evaluating long-term population trends (i.e., evaluating population trends as increasing, decreasing, or stable). An additional plan objective is to utilize the habitat data collected to evaluate interannual and long-term changes in habitat suitability (e.g. suitable and Critical habitat) in project-affected areas.

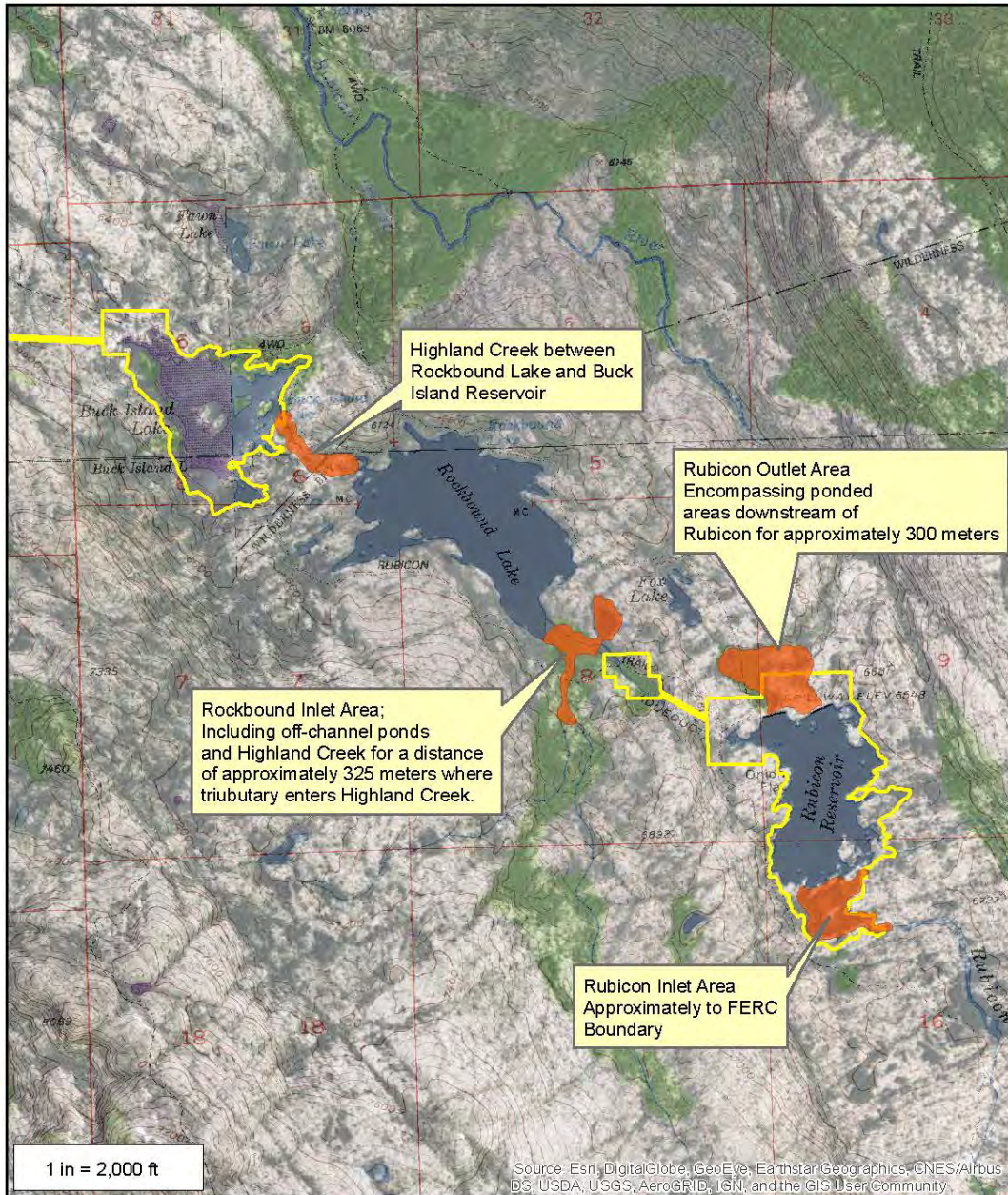
## **3.0 Monitoring Sites and Frequency**

SNYLF monitoring will be conducted at the following sites, as depicted in Figure 3-1:

- Inlet Area of Rubicon Reservoir, including the Rubicon River up to the FERC Boundary.
- Rubicon Outlet Area, including ponded waters in the vicinity and Rubicon River downstream of the dam for approximately 300 meters.
- Inlet Area Rockbound Lake, including off-channel ponds, Highland Creek inlet area, and Highland Creek for a distance of approximately 325 meters upstream of confluence with Rockbound Lake.
- Highland Creek between Rockbound Lake and Buck Island Reservoir, including any ponded waters adjacent to the creek.

Surveys for SNYLF will be conducted in Years 5, 10, 15, and thereafter every 10 years following License issuance for the term of the license and any extensions (i.e., Years 2019, 2024, 2029, 2039, 2049, and 2059 and potentially beyond). SMUD will consult with the CDFW and USFS prior to conducting surveys to determine if either agency is planning surveys at the same locations to avoid duplication of survey efforts.





**Figure 3.1 Sierra Nevada Yellow-legged Frog Monitoring Plan  
Upper American River Project - FERC 2101  
Survey Locations**



**Figure 3-1. Sierra Nevada Yellow-legged Frog Monitoring Sites for SMUD’s Upper American River Project.**

No SNYLF have been detected within the Project-affected stream reaches and reservoirs (DTA and Stillwater Sciences 2005). However, SNYLF are cryptic and may be difficult to detect, especially in areas with low densities. SNYLF may persist in some of the Project area, using it for breeding, overwintering, foraging, and dispersal corridors. During relicensing efforts in 2004, Visual Encounter Surveys (VESs) for SNYLFs were conducted throughout the UARP at areas preliminarily evaluated as potential habitat, including the following: Rubicon Reservoir, Rubicon Springs, Rockbound Dam, three ponds near Rockbound Dam, Highland Creek, Little Rubicon River, Buck Island Reservoir, Loon Lake, four ponds near Loon Lake, unnamed tributaries to Loon Lake, Ellis Creek, Gerle Creek, South Fork Rubicon River, South Fork Silver Creek, Jones Fork Silver Creek, and Yellow Jacket Creek (DTA and Stillwater Sciences 2005). No SNYLF were found during these surveys at these locations in 2004.

The closest documented occurrence of SNYLF near the Project is in a small pond approximately 1,300 feet northeast of Loon Lake, where one adult was detected in 2004; none were detected during surveys at this location in 2005 and 2011 (CDFW 2017). The next closest detection is at an isolated pond located approximately 1.5 miles southwest of Rubicon Reservoir, where individuals were detected in 1997 (CDFW 2017). The most recent documentations of SNYLF in the UARP vicinity have been at Lake Zitella, Highland Lake (upstream of, and connected to Rockbound Lake via Highland Creek), McConnell Lake, and Leland Lakes, a complex of high-elevation (greater than 7,600 feet), predominantly exposed granite lakes located in the Desolation Wilderness, located between 1.5 and 3.5 miles south of Rubicon Reservoir (CDFW 2017). Numerous SNYLF of all life stages have been documented by ENF and CDFW biologists at these lakes during multiple surveys as recent as 2016 (CDFW 2015a, CDFW 2015b, CDFW 2017).

Loon Lake and all aquatic features surrounding Loon Lake, as well as all aquatic features surrounding Buck Island Lake, Rockbound Lake, and Rubicon Reservoir are located within USFWS critical habitat for SNYLF (USFWS 2016).

#### **4.0 Methods**

Diurnal VESs will be performed in all safely accessible and permissible areas within each site, generally following protocols outlined in CDFG (2017)<sup>2</sup> or the latest, agency-approved and accepted protocol. Additional information to be collected during surveys, include:

- Photopoints at each area of suitable habitat, tied to recorded GPS coordinates and displayed on a map in the survey report. Photopoints will be collected at the same location once during each survey year to further document any change to habitat conditions over time.

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<sup>2</sup> The License conditions reference using the procedures of CDFG 2001; however, they have since been modified in 2009, 2013 and again in 2017. These VES protocols are based on Fellers and Freel (1995) and modified slightly to best detect SNYLF.



- The presence of cover will be documented at each site. This should be noted on the data sheets as: *Aquatic Cover: present Y/N; type (circle as many as apply): downed logs, downed branches, pool with overhanging banks, rocks or vegetation that can provide refuge for frogs.*

In addition to SNYLF, all other amphibian and reptile species observed during the surveys will be recorded, as well as any observed potential predators (e.g., fish,).

Because of the difficulty in finding SNYLF egg masses, and because SNYLF tadpoles typically overwinter for at least one season, surveys will focus on adults, subadults, and tadpoles. During each scheduled monitoring year, a target of three focused VESs will be conducted (if conditions allow), but no less than two: one survey after snowmelt and after frogs have emerged for breeding, one mid-season survey, and one late-season survey<sup>3</sup>. Exact dates will be determined based on environmental conditions for that year (e.g., snowpack, snowmelt, temperature, and accessibility) but surveys will be at least one month apart.

Surveys will include walking the entirety of those areas identified in Figure 3.1, where safely accessible. Photopoints will be taken during the first survey and repeated in the second and third surveys only if there has been a significant change in habitat from the first survey. During the initial survey, each surveyor will record a GPS track of the area surveyed.

Complete frog and habitat surveys will be conducted during all three surveys in designated survey areas when suitable conditions for frog occupancy are present. However, if an aquatic feature has dried up (no standing water present) between survey efforts, the subsequent survey for that year will document that change in habitat by retaking photopoints (see previous paragraphs) and providing an accompanying description on the datasheet of the changes in habitat. After one survey which documents the habitat change, no further frog surveys will be necessary in that year within a dried aquatic feature

Two surveyors will slowly walk and/or wade along the shoreline and count the number of adults, subadults, metamorphs, larvae, and egg masses of each amphibian species. Surveyors will pause often, using binoculars to scan ahead for basking frogs. Surveys for post-metamorphic individuals will focus on the surface of the ground, on rocks, or at the water's edge. Permitted surveyors may use sterilized D-nets to swish back and forth in shallow water habitats while minimizing habitat disturbance to look for and/or collect tadpoles, only if larvae are small enough that identification of their species is in

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<sup>3</sup> The chances of detecting SNYLF are highest during the period from mid-July through August 31, depending on snowpack. During this time, water levels have decreased, temperatures have increased, and frogs are more likely to have congregated into their preferred wetted habitat. Conversely, in June, detecting small frog populations is more difficult because the frogs have many more options for wetted habitat (pers. comm., S. Mussulman, CDFW, with SMUD, June 2017).



question. Use of polarized glasses will help reduce glare during surveys and improve SNYLF detection potential.

Total numbers of individual amphibians observed by species and life stage will be recorded. Data collection will include information specific to each SNYLF life stage. For metamorphs and post-metamorphs, the following data will be collected: estimated age (adult, subadult, metamorph), sex<sup>4</sup>, and snout-to-vent length (if captured). An individual will be classified as an adult if it is equal to or greater than 40 mm snout-to-vent length (Vredenburg et al. 2010). At locations where SNYLF tadpoles are documented, the number of tadpoles and an estimate of the number of small, medium, and large larvae will be recorded. For all life stages, the following will be recorded: macrohabitat and microhabitat characteristics where the individual was detected (e.g., water depth, substrate, air and water temperature, location in the reservoir, nearest bank, and dominant vegetation), and universal transverse mercator (UTM) coordinates. Individuals and associated habitat will be photographed and photo numbers will be documented. Data from the surveys will be recorded on field forms adapted from CDFG (2009) (Attachment 2).

Prior to each year of surveys, SMUD will consult with the Resource Agencies to obtain review and approval of surveyor qualifications. Surveyors will obtain both a state authorization and a current USFWS 10(a)(1)(A) permit in order to handle this listed species. Frogs should not be handled during monitoring unless handling is required for identification. If and when animals are captured, permitted biologists will follow appropriate handling procedures to minimize the potential for stress, transfer of disease, and the possibility of injury or death. Biologists will handle amphibians quickly and efficiently, aware of the possibility of frogs becoming thermally stressed due to prolonged handling from transfer of heat from the investigator's hand. Post-metamorphic frogs will be grasped around the waist, immediately anterior to the hind limbs, with the hind limbs allowed to remain fully extended.

Survey start and end times will be recorded, as well as the actual time spent exclusively searching for SNYLF. Surveys will be timed for the warm portions of the day (approximately 9 am to 6 pm, depending on the time of year and local conditions). If the weather is too cold or stormy, VES surveys will be postponed until weather conditions are sunny and warm, and wind conditions are calm. Time of day, air and water temperature, weather/wind, and visible water conditions (e.g., color and turbidity) will be recorded during each VES. Air temperature will be measured from the lake shore at 1 m above the lake surface. Water temperature will be measured from approximately 0.5 m out from shoreline, and 0.1 m under the water surface. When possible, air and water temperatures will be measured during the start and end of each survey; when possible, at least one will include a midday temperature (11 am to 3 pm).

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<sup>4</sup> For size classes of subadult and younger, when determination of sex is not feasible, sex will be recorded as "unknown."

Surveyors will have a timepiece to record the duration of time spent surveying, a data sheet to record data, a dipnet, binoculars, ruler, a GPS unit, and a camera. If SNYLF are detected in the survey area, the Resource Agencies will be notified within 2 weeks of surveys. To minimize the potential to spread invasive species (e.g., chytrid fungus, New Zealand Mud Snail, quagga/zebra mussel), appropriate standard and currently accepted decontamination protocols will be followed prior to each aquatic-based field effort or moving between sites not directly connected hydrologically.

## **5.0 Reporting**

Each calendar year, by April 1, SMUD schedules and facilitates an Annual Review of Ecological Conditions meeting with the USFS, CDFW, USFWS, SWRCB and the Consultation Group (Settlement Agreement Section 4.12). In applicable years the group will review and discuss the results of implementing this Plan, including any additional revisions to the Plan that might be needed. SMUD will also report findings to CDFW's High Mountain Lakes Project or equivalent agency-led monitoring program. Conclusions from this and information from other sources could be used to make any adjustments.

SMUD shall file with FERC by June 30 of each year an annual report fully describing the monitoring efforts of the previous calendar year. The report will include: a description of the survey area including representative site photos; survey methods, dates, and conditions; and survey results, including other amphibian species incidentally observed. The Resource Agencies shall have at least 30 days to review and comment on the draft report prior to filing with FERC. SMUD shall provide copies of the annual report to the Resource Agencies, and will also provide GIS data collected during surveys to the USFS and CDFW.

## **6.0 Plan Revision**

If SMUD, USFS, CDFW, USFWS, or SWRCB collaboratively determine that revisions should be made to the Plan, SMUD will make any revisions to the Plan in coordination and consultation with the listed resource agencies. Any revisions to the Plan must be approved by USFS and SWRCB. Any revisions shall be filed with FERC for approval prior to implementing.

## **7.0 Literature Cited**

CDFG (California Department of Fish and Game). 2001. Fish and Amphibian Inventory Data Sheet Instructions. California Department of Fish & Game Fish/Amphibian Survey Protocols - Version 1.1, July 17, 2001.

CDFG. 2009. Sierra Nevada Fish and Amphibian Inventory Data Sheet Instructions. California Department of Fish & Game Fish/Amphibian Survey Protocols - Version 2.4, April 10, 2009.

CDFG. 2012a. Fish and Game Commission Moves to Protect Mountain Yellow-Legged Frogs. CDFW News website. <https://cdfgnews.wordpress.com/2012/02/03/fish-and-game-commission-moves-to-protect-mountain-yellow-legged-frogs/> [Accessed April 2017]

CDFG. 2012b. Aquatic Biodiversity Management Plan for the Desolation Wilderness Management Unit. Final. December 19, 2012. North Central Region Department of Fish and Game.

CDFW (California Department of Fish and Wildlife). 2015a. Sierra Nevada yellow-legged frog monitoring in the Phipps Creek Planning Watershed within Desolation Wilderness. Memorandum from Kevin Thomas, Senior Environmental Scientist (Supervisor), North Central Region to Sarah Mussulman, Environmental Scientist—High Mountain Lakes, North Central Region. October 22, 2015.

CDFW. 2015b. Native amphibian restoration and monitoring in Desolation Wilderness; Action: Highland Lake fish removal and *Rana sierrae* monitoring. Memorandum from Kevin Thomas, Senior Environmental Scientist (Supervisor), North Central Region to Sarah Mussulman, Environmental Scientist—High Mountain Lakes, North Central Region. October 26, 2015.

CDFW. 2017. California Natural Diversity Database. California Natural Diversity Database. RareFind3. Electronic database. Natural Heritage Division, California Department of Fish and Game, Sacramento, California. <https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data> [Accessed March 2017].

Crump, M.L. and N.J. Scott, Jr. 1994. Visual encounter surveys. Pages 84–92 in W.R. Heyer, M.A. Donnelly, R.W. McDiarmid, L.C. Hayek, and M.S. Foster, eds. *Measuring and Monitoring Biological Diversity: Standard Methods for Amphibians*. Washington & London, Smithsonian Institution Press, 364 pp.

DTA (Devine Tarbell and Associates) and Stillwater Sciences. 2005. Amphibians and aquatic reptiles technical report. Prepared by DTA, Sacramento, California and Stillwater Sciences, Davis California for Sacramento Municipal Utility District, Sacramento, California and Pacific Gas and Electric Company, San Francisco, California.

FERC (Federal Energy Regulatory Commission) and USFS (U.S. Forest Service). 2008. Final Environmental Impact Statement for Hydropower Licenses Upper American River Hydroelectric Project—FERC Project No. 2101-084, Chili Bar Hydroelectric Project—FERC Project No. 2155-024. California

FERC. 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

Fellers, G.M. and K.L. Freel. 1995. A Standardized Protocol for Surveying Aquatic Amphibians. Technical Report NPS/WRUC/NRTR-95-01.

USFS (U.S. Forest Service). 2013. Region 5 Regional Forester's 2013 Sensitive Animal Species' List. From the USDA Forest Service Pacific Southwest Region website. [https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5435266.xlsx](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5435266.xlsx) [Accessed April 2017]

USFWS (U.S. Fish and Wildlife Service). 2014. Endangered and threatened wildlife and plants; endangered species status for Sierra Nevada yellow-legged frog and northern distinct population segment of the mountain yellow-legged frog, and threatened species status for Yosemite toad. Federal Register 79: 24,256–24,310.

USFWS. 2016. Endangered and threatened wildlife and plants; designation of critical habitat for the Sierra Nevada yellow-legged frog, the Northern Distinct Population Segment of the mountain yellow-legged frog, and the Yosemite toad; final rule. Federal Register 81 59046–59119.

Vredenburg, V.T., R. Bingham, R.A. Knapp, J.A.T. Morgan, C. Moritz, and D. Wake. 2007. Concordant molecular and phenotypic data delineate new taxonomy and conservation priorities for the endangered Mountain Yellow-legged Frog. *Journal of Zoology*. Volume (271) 361–374.

Vredenburg, V.T., R.A. Knapp, T.S. Tunstall, and C.J. Briggs. 2010. Dynamics of an emerging disease drive large-scale amphibian population extinctions. *Proceedings of the National Academy of Sciences of the United States of America*.



**Attachment 1 – Relevant License Conditions**

FERC License Appendix A, SWRCB 401 Water Quality Certification

**CONDITION 8. MONITORING PROGRAM****8.C. Amphibian and Reptile Monitoring***Mountain Yellow-legged Frog*

Within two years of license issuance, the Licensee shall develop a Mountain Yellow-legged Frog monitoring plan in consultation with USFS, CDFW, USFWS, and the State Water Board. The Licensee shall provide the Deputy Director with any comments provided by the agencies during the consultation process. The Licensee shall submit the plan to the Deputy Director for review and approval after agency consultation. The Licensee shall provide the Deputy Director with at least 90 days to review and approve the plan prior to submittal to the Commission, if applicable. The Deputy Director may require modifications as part of the approval. The Licensee shall file the Deputy Director's approval, together with any required plan modifications, with the Commission.

Method: The Licensee shall conduct protocol surveys for sensitive species using the procedures of CDFW (2001)<sup>23</sup> in a subsample of appropriate habitat types to document species presence and distribution. Surveys shall focus on presence of the larval stage at sites by periodically surveying reaches of known presence during spring/summer. If CDFW or USFS collects data associated with Rubicon Reservoir, Rockbound Lake, and Buck Island Reservoir, that information can be used to satisfy this requirement after the Deputy Director, in consultation with USFS, CDFW and USFWS, reviews the results and approves the use of these data.

*Mountain Yellow-legged Frog Monitoring Sites:*

- 8.C.6. Rubicon Reservoir
- 8.C.7. Rockbound Lake
- 8.C.8. Buck Island Reservoir

Timing: Years 5, 10, 15 and thereafter every 10 years for the term of the license and any extensions.

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<sup>23</sup> CDFW (formerly California Department of Fish and Game) 2001. Fish and Amphibian Inventory Data Sheet Instructions. California Department of Fish & Game Fish/Amphibian Survey Protocols - Version 1.1, July 17, 2001.

## FERC License Appendix B, USFS 4(e) Conditions

Condition No. 31 - Monitoring Program**Mountain Yellow-legged Frog**

Within 2 years of license issuance, the licensee shall develop a mountain yellow-legged frog monitoring plan in consultation with FS, CDFG, FWS, and SWRCB. The licensee shall provide FS, CDFG, FWS, and SWRCB a 90-day review and approval period for the monitoring plan prior to implementation. The licensee shall implement the plan upon approval.

Method: Protocol surveys for sensitive species using the procedures of CDFG (2001) in a subsample of appropriate habitat types to document species presence and distribution. Surveys shall focus on presence of the larval stage at sites by periodically surveying reaches of known presence during spring/summer. Qualifications of surveyors shall be reviewed and meet approval of FS, FWS, and CDFG prior to commencing work. If CDFG or FS collect data associated with Rubicon Reservoir, Rockbound Lake, and Buck Island Reservoir, that information can be used to satisfy this requirement after FS, CDFG, FWS, and SWRCB review results and approve use of these data.

Mountain yellow-legged frog Monitoring Sites:

Rubicon Reservoir

Rockbound Lake

Buck Island Reservoir

Frequency: Years 5, 10, 15 and thereafter for every 10 years for the term of the license.

Rationale: Determination of presence and distribution of sensitive amphibian species are important in evaluating long-term population trends. Monitoring at the end of each 5-year period provides an index of changes in amphibian populations.



**Attachment 2 – Sierra Nevada Yellow-legged Frog Survey Field Form**





# STREAM

<b>Inlet</b>	<b>Outlet</b> (circle one) # _____	<b>Stream Type:</b> Perennial Ephemeral	<b>Stream Currently Dry?</b> Y N	<b>Intermittent?</b> Y N
<b>Start</b>		<b>End</b>		<b>Color:</b> Clear Stained NA
UTM E: _____ UTM N: _____		UTM E: _____ UTM N: _____		<b>Turbidity:</b> Clear Cloudy NA
<b>Start Time:</b>	<b>End Time:</b>	<b>Duration (min):</b>	<b>Water Temp:</b>	<b>Air Temp:</b>
<b>*BARRIERS (fill out info below)*</b>				
<b>Fish present?</b>	<b>Barrier 1)</b> Photo #'s: _____	<b>UTM E:</b> _____	<b>UTM N:</b> _____	
Y N		<b>Description:</b> _____		
<b>Herps present?</b>	<b>Barrier 2)</b> Photo #'s: _____	<b>UTM E:</b> _____	<b>UTM N:</b> _____	
Y N		<b>Description:</b> _____		
<b>Spawning evidence?</b>	<b>Barrier 3)</b> Photo #'s: _____	<b>UTM E:</b> _____	<b>UTM N:</b> _____	
Spawning / Redds / Fry / None		<b>Description:</b> _____		

<b>Inlet</b>	<b>Outlet</b> (circle one) # _____	<b>Stream Type:</b> Perennial Ephemeral	<b>Stream Currently Dry?</b> Y N	<b>Intermittent?</b> Y N
<b>Start</b>		<b>End</b>		<b>Color:</b> Clear Stained NA
UTM E: _____ UTM N: _____		UTM E: _____ UTM N: _____		<b>Turbidity:</b> Clear Cloudy NA
<b>Start Time:</b>	<b>End Time:</b>	<b>Duration (min):</b>	<b>Water Temp:</b>	<b>Air Temp:</b>
<b>*BARRIERS (fill out info below)*</b>				
<b>Fish present?</b>	<b>Barrier 1)</b> Photo #'s: _____	<b>UTM E:</b> _____	<b>UTM N:</b> _____	
Y N		<b>Description:</b> _____		
<b>Herps present?</b>	<b>Barrier 2)</b> Photo #'s: _____	<b>UTM E:</b> _____	<b>UTM N:</b> _____	
Y N		<b>Description:</b> _____		
<b>Spawning evidence?</b>	<b>Barrier 3)</b> Photo #'s: _____	<b>UTM E:</b> _____	<b>UTM N:</b> _____	
Spawning / Redds / Fry / None		<b>Description:</b> _____		

<b>Inlet</b>	<b>Outlet</b> (circle one) # _____	<b>Stream Type:</b> Perennial Ephemeral	<b>Stream Currently Dry?</b> Y N	<b>Intermittent?</b> Y N
<b>Start</b>		<b>End</b>		<b>Color:</b> Clear Stained NA
UTM E: _____ UTM N: _____		UTM E: _____ UTM N: _____		<b>Turbidity:</b> Clear Cloudy NA
<b>Start Time:</b>	<b>End Time:</b>	<b>Duration (min):</b>	<b>Water Temp:</b>	<b>Air Temp:</b>
<b>*BARRIERS (fill out info below)*</b>				
<b>Fish present?</b>	<b>Barrier 1)</b> Photo #'s: _____	<b>UTM E:</b> _____	<b>UTM N:</b> _____	
Y N		<b>Description:</b> _____		
<b>Herps present?</b>	<b>Barrier 2)</b> Photo #'s: _____	<b>UTM E:</b> _____	<b>UTM N:</b> _____	
Y N		<b>Description:</b> _____		
<b>Spawning evidence?</b>	<b>Barrier 3)</b> Photo #'s: _____	<b>UTM E:</b> _____	<b>UTM N:</b> _____	
Spawning / Redds / Fry / None		<b>Description:</b> _____		

<b>Inlet</b>	<b>Outlet</b> (circle one) # _____	<b>Stream Type:</b> Perennial Ephemeral	<b>Stream Currently Dry?</b> Y N	<b>Intermittent?</b> Y N
<b>Start</b>		<b>End</b>		<b>Color:</b> Clear Stained NA
UTM E: _____ UTM N: _____		UTM E: _____ UTM N: _____		<b>Turbidity:</b> Clear Cloudy NA
<b>Start Time:</b>	<b>End Time:</b>	<b>Duration (min):</b>	<b>Water Temp:</b>	<b>Air Temp:</b>
<b>*BARRIERS (fill out info below)*</b>				
<b>Fish present?</b>	<b>Barrier 1)</b> Photo #'s: _____	<b>UTM E:</b> _____	<b>UTM N:</b> _____	
Y N		<b>Description:</b> _____		
<b>Herps present?</b>	<b>Barrier 2)</b> Photo #'s: _____	<b>UTM E:</b> _____	<b>UTM N:</b> _____	
Y N		<b>Description:</b> _____		
<b>Spawning evidence?</b>	<b>Barrier 3)</b> Photo #'s: _____	<b>UTM E:</b> _____	<b>UTM N:</b> _____	
Spawning / Redds / Fry / None		<b>Description:</b> _____		

HERP SPECIES	In/Outlet #	# adults	#subadults	#metamorphs	larvae	# egg m.	#swabs	Survey Method
	(circle one) # _____ IN							Visual Trapped Aural Hand Collected
Calling? Y N	OUT							Amp Net Incidental
	(circle one) # _____ IN							Visual Trapped Aural Hand Collected
Calling? Y N	OUT							Amp Net Incidental
	(circle one) # _____ IN							Visual Trapped Aural Hand Collected
Calling? Y N	OUT							Amp Net Incidental
	(circle one) # _____ IN							Visual Trapped Aural Hand Collected
Calling? Y N	OUT							Amp Net Incidental
	(circle one) # _____ IN							Visual Trapped Aural Hand Collected
Calling? Y N	OUT							Amp Net Incidental

**FISH SPECIES** (circle species seen, if known): BK (brook trout), BN (brown trout), CT (cutthroat trout), GT (golden trout), RT (rainbow trout) **HYBRID** (e.g., GT x RT), **OTHER** (e.g., minnows)

Amphibians: S. Long-toed Salamander (AMMA); Yosemite Toad (ANCA, frmly BUCA); Sierran Treefrog (HYSI, frmly PSRE or HYRE); Sierra Nevada Yellow-legged Frog (RASI)  
 Amph. less common in HML: CA Toad (ANBO, frmly BUBO); Bullfrog (RACT); Cascades Frog (RACA); CA Red-legged Frog (RADR); Sierra Newt (TASI, frmly TATO)  
 Reptiles: Sierra Gartersnake (THCO); Mountain Gartersnake (THEL); Valley Gartersnake (THSI); Western Pond Turtle (EMMA, frmly CLMA)

PLEASE Return to: Isaac Chellman, California Department of Fish and Wildlife, (916) 358-4038; 1701 Nimbus Rd., Rancho Cordova, CA 95670

Field review _____	Copied _____	Entered _____	Proofed _____
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**162 FERC ¶ 62,113**

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Sacramento Municipal Utility District

Project No. 2101-153

ORDER APPROVING SIERRA NEVADA YELLOW-LEGGED FROG  
MONITORING PLAN

(Issued February 20, 2018)

1. On November 22, 2017, Sacramento Municipal Utility District, licensee for the Upper American River Project (project) No. 2101, filed a Sierra Nevada Yellow-legged Frog Monitoring Plan (plan), pursuant to Article 401 Water Quality Certification (WQC) condition 8.C and U. S. Forest Service (Forest Service) 4(e) condition 31.3 of the Order Issuing New License for the project (2014 order).<sup>1</sup> The project is located on the Rubicon River, Silver Creek, and South Fork American River in El Dorado and Sacramento counties, California. The project occupies lands within the El Dorado National Forest administered by the Forest Service and lands administered by the U.S. Department of Interior's Bureau of Land Management.

**Background**

2. On July 23, 2014, the Commission issued a new license for the project. The WQC condition 8.C and Forest Service 4(e) condition 31.3 requires the licensee to develop, after consultation with California Water Resources Control Board, California Department of Fish and Game, U.S. Fish and Wildlife Service, and the Forest Service (resource agencies), a plan to survey and monitor for threatened<sup>2</sup> Sierra Nevada yellow-legged frog (SNYLF) populations within the project area. This order approves that plan.

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<sup>1</sup> *Sacramento Municipal Utility District*, 148 FERC ¶ 62,070 (2014).

<sup>2</sup> Sierra Nevada yellow-legged frog was listed as threatened under the federal Endangered Species Act on April 29, 2014. Critical habitat was designated August 26, 2016.

### **Licensee's Plan**

3. The objective of the plan is to help determine future presence/distribution of SNYLF in project reservoirs over the term of the license.
4. The plan would survey for SNYLF at specific sites beginning in 2019. Subsequent surveys would occur every five years until 2029 when survey frequency would increase to every 10 years. Survey frequency would remain on a 10-year cycle throughout the term of the license and any extensions.
5. SNYLFs would be surveyed by qualified biologists using a visual encounter survey (VES) method. A minimum of two VESs would be conducted each monitoring year focusing on adults, sub adults, and tadpoles. Biologists would collect sex, age, morphological, locational, and habitat data for captured individuals. In addition to SNYLF, all other amphibian and reptile species observed during the surveys would be recorded, as well as any observed potential predators (e.g., fish).
6. The licensee would file with the Commission by June 30 of each year an annual report fully describing the monitoring efforts of the previous calendar year. The report would include: a description of the survey area including representative site photos; survey methods, dates, and conditions; and survey results, including other amphibian species incidentally observed. The resource agencies would have at least 30 days to review and comment on the draft report prior to filing with the Commission.

### **Agency Consultation**

7. The 2014 order issuing new license stipulated the licensee must submit the plan to the resource agencies for a 90-day review and approval. Attachments filed with the plan document the licensee submitted the draft plan to the resource agencies on July 21, 2017. Approval from the resource agencies was acquired by January 23, 2018.

### **Discussion and Conclusions**

8. The plan's protocols for surveying and monitoring SNYLF would effectively catalogue important data about the species presence and distribution within the project area. The plan has had extensive review by the resource agencies and stipulates further consultation, review, and reporting following implementation. The plan should therefore be approved.

The Director orders:

(A) Sacramento Municipal Utility District's Sierra Nevada Yellow-legged Frog Monitoring Plan filed November 22, 2017, pursuant to Section 401 Water Quality Certification condition 8.C and U.S. Forest Service 4(e) condition 31.3 of the license for the Upper American River Project No. 2101 is approved.

(B) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the Federal Power Act, 16 U.S.C. § 825*l* (2012), and the Commission's regulations at 18 C.F.R. § 385.713 (2017). The filing of a request for rehearing does not operate as a stay of the effective date of this order, or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Steve Hocking  
Environmental and Project Review Branch  
Division of Hydropower Administration  
and Compliance



Document Content(s)

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