



State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Northern Region  
619 Second Street  
Eureka, California 95501  
(707) 445-8493  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

GAVIN NEWSOM, Governor  
CHARLTON H. BONHAM, Director



 **COPY**  
original delivered  
to CDFW 1-16-20

December 20, 2019

Mr. Joshua Sweet  
P.O. Box 250  
Garberville, CA 95542

Subject: Draft Lake or Streambed Alteration Agreement  
Notification No. 1600-2018-0857-R1  
Sweet Water Diversion, Stream Crossing, and Pond Projects

Dear Mr. Sweet:

The California Department of Fish and Wildlife (Department) has determined that your project requires a Lake or Streambed Alteration Agreement (Agreement) because it could substantially adversely affect an existing fish or wildlife resource. Enclosed is a draft Agreement that includes measures the Department has determined are necessary to protect existing fish and wildlife resources.

Within 30 days of receipt of this draft Agreement, you must notify the Department in writing whether the measures to protect fish and wildlife resources are acceptable (Fish and Game Code section 1603). If you agree with the measures set forth in the draft Agreement, you or your authorized representative **must return the draft Agreement with original signature to the above address.**

If you disagree with any measures in the draft Agreement, please contact the Department staff identified below. In the event that mutual agreement is not reached, you may follow the dispute resolution process described in Fish and Game Code section 1603(a), Part III of the "Notification Instructions and Process." If you fail to respond in writing within 90 days of receiving the draft Agreement, the Department may withdraw the draft Agreement.

**Please be advised the Department may not execute the Agreement until it has complied with the California Environmental Quality Act (CEQA) (Public Resources Code section 21000 et seq.) as the lead or a responsible agency. Please note that the draft Agreement may be subject to change upon receipt and review of the environmental document for the project.**

After you receive a final Agreement executed by the Department, you may begin the project the Agreement authorizes provided you have obtained all other necessary local, state, and federal permits or other authorizations.

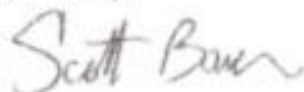
*Conserving California's Wildlife Since 1870*

Mr. Sweet  
December 20, 2019  
Page 2 of 2

For more information on the process described above, please refer to Part IV in the "Notification Instructions and Process" included with your notification materials, which is also available at [www.wildlife.ca.gov/habcon/1600/notificationpackage.pdf](http://www.wildlife.ca.gov/habcon/1600/notificationpackage.pdf).

If you have any questions regarding this letter, please contact Senior Environmental Scientist Specialist David Manthorne at [david.manthorne@wildlife.ca.gov](mailto:david.manthorne@wildlife.ca.gov) or (707) 441-5900.

Sincerely,



Scott Bauer  
Senior Environmental Scientist Supervisor

ec. Chris Carroll  
Timberland Resource Consultants  
[carroll@timberlandresource.com](mailto:carroll@timberlandresource.com)

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE  
REGION 1 – NORTHERN REGION  
619 Second Street  
Eureka, CA 95501



**STREAMBED ALTERATION AGREEMENT**

NOTIFICATION No. 1600-2018-0857-R1

Unnamed Tributaries to Bear Creek, Tributary to the South Fork Eel River, Tributary to the Eel River and the Pacific Ocean

Joshua Sweet

Sweet Water Diversion, Stream Crossing, and Pond Projects  
31 Encroachments

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and Joshua Sweet (Permittee).

**RECITALS**

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, the Permittee initially notified CDFW on December 31, 2018, with revisions received on August 13, 2019 and September 13, 2019, that the Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, CDFW has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, the Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, the Permittee agrees to complete the project in accordance with the Agreement.

**PROJECT LOCATION**

The project to be completed is located within the Bear Creek and South Fork Eel River watershed, approximately 1.5 miles east of the town of Garberville, County of Humboldt, State of California. The project is located in Sections 19 and 20, T4S, R4E, Humboldt Base and Meridian; in the Garberville U.S. Geological Survey 7.5-minute quadrangle; Assessor's Parcel Numbers 223-061-038, 223-061-043, 223-074-004, and 223-073-005; latitude 40.0977 N and longitude 123.7698 W.

**PROJECT DESCRIPTION**

The project includes thirty-one proposed encroachments. Four encroachments are for water diversion from unnamed tributaries to Bear Canyon Creek and the South Fork Eel



River. Water is diverted for domestic use and irrigation. Work for the water diversion will include use modifications of existing infrastructure, stream restoration, use, and maintenance of the water diversion infrastructure. Twenty-two proposed encroachments will permit fourteen existing culverts placed without permits, upgrade two existing culverts, and install infrastructure at six road/stream crossings where no conveyance structure is in place. Four encroachments will improve spillways for two ponds. One encroachment will realign a stream with its historic channel. Work for these encroachments will include excavation, removal of the failing culverts, replacement with new properly sized culverts, backfilling and compaction of fill, and rock armoring as necessary to minimize erosion.

Table 1. Project Encroachments with Description

ID	Latitude/Longitude	Description
Crossing-1	40.1028, -123.7653	Permit existing 42" diameter culvert at road/stream crossing
Crossing-2	40.1023, -123.7655	Permit rocked ford crossing
Crossing-3	40.1022, -123.7656	Permit existing 42" diameter culvert at road/stream crossing
Crossing-4	40.1012, -123.7670	Install a minimum 18" diameter culvert to improve dirt ford at road/stream crossing
Crossing-5	40.1010, -123.7672	Install a minimum 18" diameter culvert to improve dirt ford at road/stream crossing
Crossing-6	40.1007, -123.7675	Permit existing 24" diameter culvert at road/stream crossing
Crossing-7	40.1000, -123.7686	Permit existing 42" diameter culvert at road/stream crossing
Crossing-8	40.0997, -123.7689	Permit existing 48" diameter culvert at road/stream crossing
Crossing-9	40.1007, -123.7699	Rock armor the outlet of an existing 36" diameter culvert to minimize erosion
Crossing-10	40.1002, -123.7707	Permit existing 60" diameter culvert at road/stream crossing
Crossing-11	40.1024, -123.7706	Install a minimum 36" diameter culvert at road/stream crossing*
Crossing-12	40.1006, -123.7719	Permit existing 18" diameter culvert at road/stream crossing
Crossing-13	40.1005, -123.7746	Install a minimum 18" diameter culvert to improve dirt ford at road/stream crossing
Crossing-14	40.0994, -123.7739	Permit existing 60" diameter culvert at road/stream crossing
Crossing-15	40.0996, -123.7753	Install a minimum 18" diameter culvert to improve rocked ford at road/stream crossing
Crossing-16	40.0990, -123.7755	Permit existing 60" diameter culvert at road/stream crossing
Crossing-17	40.1001, -123.7785	Abandon existing dirt ford crossing
Crossing-18	40.0961, -123.7678	Permit existing 24" diameter culvert at road/stream crossing
Crossing-19	40.0987, -123.7629	Permit existing 12" diameter culvert at road/bank seep crossing
Crossing-20	40.0955, -123.7632	Permit existing 30" diameter culvert at road/stream crossing
Crossing-21	40.0956, -123.7625	Install a minimum 18" diameter culvert to improve dirt ford at road/stream crossing
Crossing-22	40.0920, -123.7622	Replace existing 15" diameter culvert with a minimum 18" diameter culvert at road/stream crossing
23 (Pond Spillway)	40.0931, -123.7691	Remove unpermitted pond spillway and redirect flow to approved location per approved Stream Restoration Plan
24A: Overflow	40.0928, -123.7683	Remove unpermitted pond spillway and redirect flow to approved location per approved Stream Restoration Plan

24B: Pond Spillway	40.0926, -123.7685	Rebuild pond spillway or decommission pond per approved Stream Restoration Plan
Crossing-25	40.0936, -123.7704	Install a minimum 18" diameter culvert to improve dirt ford at road/stream crossing
Map Point D	40.0927, -123.7615	Realign Class III stream per approved Stream Restoration Plan
POD A	40.1018, -123.7634	Remove cisterns and structures from stream and install as needed an approved water diversion structure per approved CDFW Diversion Infrastructure Plan
POD B	40.0998, -123.7601	Remove cisterns and structures from stream and install as needed an approved water diversion structure per approved CDFW Diversion Infrastructure Plan
POD C	40.0981, -123.7648	Water diversion from a Class II stream per approved CDFW Diversion Infrastructure Plan
POD D	40.0949, -123.7628	Water diversion from a bank seep for domestic use

\*Project as needed pending cultivation relocation approval.

## PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include Coho Salmon (*O. kisutch*), Steelhead Trout (*O. mykiss*), Southern Torrent Salamander (*Rhyacotriton variegatus*), Pacific Giant Salamander (*Dicamptodon tenebrosus*), Foothill Yellow-legged Frog (*Rana boylei*), Coastal Tailed Frog (*Ascaphus truei*), Western Pond Turtle (*Actinemys marmorata marmorata*) amphibians, reptiles, aquatic invertebrates, mammals, birds, and other aquatic and riparian species.

The adverse effects the project could have on the fish or wildlife resources identified above include:

### Impacts to water quality:

increased water temperature;  
 reduced instream flow;  
 temporary increase in fine sediment transport;

### Impacts to bed, channel, or bank and direct effects on fish, wildlife, and their habitat:

loss or decline of riparian habitat;  
 direct impacts on benthic organisms;

### Impacts to natural flow and effects on habitat structure and process:

cumulative effect when other diversions on the same stream are considered;  
 diversion of flow from activity site;  
 direct and/or incidental take;  
 indirect impacts;  
 impediment of up- or down-stream migration;  
 water quality degradation; and  
 damage to aquatic habitat and function.



## MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

### 1. Administrative Measures

The Permittee shall meet each administrative requirement described below.

- 1.1 Documentation at Project Site. The Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to CDFW personnel, or personnel from another state, federal, or local agency upon request.
- 1.2 Providing Agreement to Persons at Project Site. The Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of the Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.
- 1.3 Adherence to Existing Authorizations. All water diversion facilities that the Permittee owns, operates, or controls shall be operated and maintained in accordance with current law and applicable water rights.
- 1.4 Change of Conditions and Need to Cease Operations. If conditions arise, or change, in such a manner as to be considered deleterious by CDFW to the stream or wildlife, operations shall cease until corrective measures approved by CDFW are taken. This includes new information becoming available that indicates that the bypass flows and diversion rates provided in this agreement are not providing adequate protection to keep aquatic life downstream in good condition or to avoid "take" or "incidental take" of federal or State listed species.
- 1.5 Notification of Conflicting Provisions. The Permittee shall notify CDFW if the Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, CDFW shall contact the Permittee to resolve any conflict.
- 1.6 Project Site Entry. The Permittee agrees to allow CDFW employees access to any property it owns and/or manages for the purpose of inspecting and/or monitoring the activities covered by this Agreement, provided CDFW: a) provides 24 hours advance notice; and b) allows the Permittee or representatives to participate in the inspection and/or monitoring. This condition does not apply to CDFW enforcement personnel.
- 1.7 Agreement Compliance. The proposed work shall comply with the measures of this Agreement. **Failure to comply with these measures shall result in suspension or revocation of this Agreement.**

- 1.8 CDFW Notification of Work Initiation and Completion. The Permittee shall contact CDFW within the seven-day period preceding the beginning of work permitted by this Agreement. Information to be disclosed shall include Agreement number, and the anticipated start date. Subsequently, the Permittee shall notify CDFW no later than seven (7) days after the project is fully completed.

## 2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, the Permittee shall implement each measure listed below.

- 2.1 Permitted Project Activities. Except where otherwise stipulated in this Agreement, all work shall be in accordance with the Permittee Notification received on December 31, 2018, with revisions received on August 13, 2019 and September 13, 2019, together with all maps, BMP's, photographs, drawings, and other supporting documents submitted with the Notification.
- 2.2 Incidental Take. This Agreement does not allow for the take, or incidental take of any state or federal listed threatened or endangered listed species.

### Project Timing

- 2.3 Work Period. All work, not including diversion of water, shall be confined to the period **June 15 through October 1** of each year. Work within the active channel of a stream shall be restricted to periods of **dry weather**. Precipitation forecasts and potential increases in stream flow shall be considered when planning construction activities. Construction activities shall cease and all necessary erosion control measures shall be implemented prior to the onset of precipitation.
- 2.4 Work Completion. The proposed work shall be completed by no later than **October 1, 2021**. A notice of completed work, including photographs of each site, shall be submitted to CDFW within seven (7) days of project completion.
- 2.5 Extension of the Work Period. If weather conditions permit, and the Permittee wishes to extend the work period after October 1, a written request shall be made to CDFW at least 5-working days before the proposed work period variance. Written approval (letter or e-mail) for the proposed time extension must be received from CDFW prior to activities continuing past October 1.
- 2.6 Avoidance of Nesting Birds. Vegetation maintenance/removal as necessary within the scope of the project shall be confined to the period commencing August 15 and ending February 28, of any year in which this Agreement is valid, provided the work area is outside of the actively flowing stream. Work may continue during precipitation events provided stream flows have not risen into work areas and sediment delivery will not result.



- 2.7 Nesting Bird Surveys. If construction, grading, vegetation removal, or other project-related improvements are necessary during the nesting season of protected raptors and migratory birds (March 1 through August 15), the Permittee shall notify CDFW of proposed work and a focused survey for nests of such birds shall be conducted by a qualified biologist within seven days prior to the beginning of project-related activities. If a nest is found, Permittee shall consult with CDFW regarding appropriate action to comply with the Migratory Bird Treaty Act of 1918 and Fish and Game Code. If a lapse in project-related work of seven days or longer occurs, another focused survey and if required, consultation with CDFW shall be required before project work can be reinitiated.

### Vegetation Management

- 2.8 Minimum Vegetation Removal. No native riparian vegetation shall be removed from the bank of the stream, except where authorized by CDFW. Permittee shall limit the disturbance or removal of native vegetation to the minimum necessary to achieve design guidelines and standards for the Authorized Activity. Permittee shall take precautions to avoid damage to vegetation outside the work area.
- 2.9 Vegetation Management. Permittee shall limit vegetation management (e.g., trimming, pruning, or limbing) and removal for the purpose of stream crossing or diversion infrastructure placement/maintenance to the use of hand tools. Vegetation management shall not include treatment with herbicides.

### Water Diversion

- 2.10 Maximum Diversion Rate. The maximum instantaneous diversion rate from any point of diversion (POD) shall not exceed **ten (10) gallons per minute (gpm)** at any time.
- 2.11 Bypass Flow. The Permittee shall pass 80% of the flow at all times at POD A and POD B and must bypass 90% of the flow at POD-C to keep all aquatic species including fish and other aquatic life in good condition below the point of diversion.
- 2.12 Seasonal Diversion Minimization. No more than **400 gallons per day** shall be diverted from any point of diversion (POD) during the low flow season from **May 15 to November 15** of each year. Water shall be diverted only if the Permittee can adhere to conditions 2.10 and 2.11 of this Agreement.
- 2.13 Measurement of Diverted Flow. Permittee shall install and maintain an adequate measuring device for measuring the instantaneous and cumulative rate of diversion. This measurement shall begin as soon as this Agreement is signed by the Permittee. The device shall be installed within the flow of diverted water. The Permittee shall maintain records of diversion, and provide information including, but not limited to the following:



- 2.13.1 The amount of water used per week for cannabis cultivation separated out from the amount of water used for other irrigation purposes and other uses of water (e.g., domestic use or fire protection).
- 2.13.2 Permittee shall make available for review at the request of the department the daily diversion records required by the State Water Resources Control Board (Board) in Attachment A to the Board's Cannabis Cultivation Policy (October 17, 2017), No. 84, pages 40-41 (see Cal. Code Regs., tit. 23, § 2925).
- 2.14 Water Management Plan. The Permittee shall submit a Water Management Plan no later than **sixty days** from the time this Agreement is made final that describes how compliance will be achieved under this Agreement. The Water Management Plan shall include details on water storage, water conservation, or other relevant material to maintain water needs in coordination with forbearance and bypass flow requirements. The Water Management Plan shall include a brief narrative describing water use on the property, photographs to support the narrative, and water use calculations to ensure compliance with this Agreement. The Water Management Plan shall be submitted to CDFW at 619 Second Street, Eureka, CA 95501.

#### **Water Diversion Facility Retrofit**

- 2.15 Intake Structure. No polluting materials (e.g., particle board, plastic sheeting, bentonite) shall be used to construct or screen, or cover the diversion intake structure.
- 2.16 Intake Structure Placement. Infrastructure installed in the streambed (e.g., cistern or spring box) shall not exceed 10 percent of the active channel width and shall not be located in the deepest portion of the channel. The depth of the intake shall be no greater than one foot (12 inches) below the streambed.
- 2.17 Intake Screening. The Permittee shall regularly inspect, clean, and maintain screens in good condition.
- 2.17.1 The water intake screens shall be securely attached (e.g., threaded or clamped) to the intake line and have a minimum wetted area of 0.25 square feet and a minimum open area of 27%.
- 2.17.2 A water intake screen with round openings shall not exceed 3/32-inch diameter; a screen with square openings shall not exceed 3/32-inch measured diagonally; and a screen with slotted openings shall not exceed 0.069 inches in width. Slots must be evenly distributed on the screen area.
- 2.17.3 The water intake screen may be constructed of any rigid material, perforated, woven, or slotted. Stainless steel or other corrosion-resistant

material is recommended to reduce clogging due to corrosion. Care should be taken not to use materials deemed deleterious to aquatic species.

- 2.17.4 The water intake screen shall be placed in fast moving water with the long axis of the screen parallel to the streamflow. The water intake shall not be placed in pool habitat.
- 2.18 Intake Shall Not Impede Aquatic Species Passage. The water diversion structures shall be designed, constructed, and maintained such that they do not constitute a barrier to upstream or downstream movement of aquatic life.
- 2.19 Exclusionary Devices. Permittee shall keep the diversion structures (e.g. cistern) covered at all times to prevent the entrance and entrapment of amphibians and other wildlife.
- 2.20 Diversion Infrastructure Plan (DIP). The Permittee shall submit a DIP for CDFW review and approval prior to diverting water. The DIP shall include a narrative describing the different elements of the water diversion infrastructure, supporting photographs and/or diagrams, and justification of how compliance with the CDFW Fish Screen Criteria will be achieved under this Agreement.
- 2.21 Diversion Intake Removal. Permittee shall plug, cap, block (e.g., with a shut-off valve), or remove all intakes at the end of each diversion season.
- 2.22 Heavy Equipment Use. No heavy equipment shall be used in the excavation or replacement of the existing water diversion structure. The Permittee shall use hand tools or other low impact methods of removal/replacement. All project materials and debris shall be removed from the project site and properly disposed of off-site upon project completion.

### **Diversion to Storage**

- 2.23 Water Storage. All water storage facilities (WSFs) (e.g., reservoirs, storage tanks, mix tanks, and bladders tanks) must be located outside the active 100-year floodplain and outside the top of bank of a stream. Covers/lids shall be securely affixed to water tanks at all times to prevent potential entry by wildlife. Permittee shall cease all water diversion at the point of diversion when WSFs are filled to capacity.
- 2.24 Water Storage Maintenance. WSFs shall have a float valve to shut off the diversion when tanks are full to prevent overflow. The Permittee shall install any other measures necessary to prevent exorbitant use or waste of water. Water shall not leak, overflow, or overtop WSFs at any time. Permittee shall regularly inspect all WSFs and infrastructure used to divert water to storage and use and repair any leaks.



- 2.25 Limitations on Impoundment and Use of Diverted Water. The Permittee shall impound and use water in accordance with a valid water right, including any limitations on when water may be impounded and used, the purpose for which it may be impounded and used, and the location(s) where water may be impounded and used.
- 2.26 Water Conservation. The Permittee shall make best efforts to minimize water use, and to follow best practices for water conservation and management.
- 2.27 State Water Code. This Agreement does not constitute a valid water right. The Permittee shall comply with State Water Code sections 5100 and 1200 et seq. as appropriate for the water diversion and water storage. The application for this registration is found at:  
[http://www.swrcb.ca.gov/waterrights/publications\\_forms/forms/docs/sdu\\_registration.pdf](http://www.swrcb.ca.gov/waterrights/publications_forms/forms/docs/sdu_registration.pdf).

### **Reservoirs**

- 2.28 No Stocking. Stocking of fish, wildlife, or plant of any kind, in any Waters of the State, including reservoirs, shall be prohibited without written permission from the department pursuant to Section 6400 of the Fish and Game Code.
- 2.29 Invasive Species Management for Reservoirs. Permittee shall implement an invasive species management plan prepared by a Biologist for any existing or proposed reservoir. The plan shall include, at a minimum, an annual survey for invasive aquatic species, including the American bullfrog (*Lithobates catesbeianus* = *Rana catesbeiana*). The Biologist, if appropriate, shall implement eradication measures if invasive aquatic species are identified as part of the survey.
- 2.29.1 Bullfrog Management Plan. If bullfrogs are observed, they shall be appropriately managed. Management of bullfrogs, including annual draining and drying of ponds, shall follow the guidelines in Exhibit A. A copy of the annual monitoring report, shall be submitted to CDFW in accordance with the reporting measures described in Exhibit A and below (Reporting Measure 3.5).
- 2.30 Off-stream reservoirs. Shall be appropriately designed, sized, and managed to contain any diverted water in addition to precipitation and storm water runoff, without overtopping. The Permittee shall install an overflow spillway that will withstand a 100-year flood event, designed with a dispersal mechanism, or low-impact design, that discourages channelization and promotes dispersal and infiltration of flows to prevent surface overflow from reaching waters of the State. The spillway shall be designed and placed to allow for a minimum of two-feet of freeboard.

- 2.31 Seasonal Diversion Minimization. To minimize adverse impacts to native pond breeding amphibians (when present) the following diversion minimizations apply: From November 1 to March 31, the Permittee shall divert water at a rate no greater than the rate of water flowing into the pond (i.e., water diversion shall not decrease the pond depth). From April 1 – September 1, when native larval amphibians are present, the Permittee shall cease diverting water once the pond volume is one third of the maximum pond volume. To comply with this measure; the Permittee shall establish a fixed visual marker(s) (e.g., stage plate) in the pond as a reference for water level thresholds.

### **Stream Crossings**

- 2.32 Stream Protection. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete washings, oil or petroleum products, or other deleterious material from project activities shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into the stream. All project materials and debris shall be removed from the project site and properly disposed of off-site upon project completion.
- 2.33 Equipment Maintenance. Refueling of machinery or heavy equipment, or adding or draining oil, lubricants, coolants or hydraulic fluids shall not take place within stream bed, channel and bank. All such fluids and containers shall be disposed of properly off-site. Heavy equipment used or stored within stream bed, channel and bank shall use drip pans or other devices (e.g., absorbent blankets, sheet barriers or other materials) as needed to prevent soil and water contamination.
- 2.34 Hazardous Spills. Any material, which could be hazardous or toxic to aquatic life and enters a stream (i.e. a piece of equipment tipping-over in a stream and dumping oil, fuel or hydraulic fluid), the Permittee shall immediately notify the California Emergency Management Agency State Warning Center at 1-800-852-7550, and immediately initiate clean-up activities. CDFW shall be notified by the Permittee within 24 hours at 707-445-8493 and consulted regarding clean-up procedures.
- 2.35 Dewatering.
- 2.35.1 Stream Diversion. Only when work in a flowing stream is unavoidable (e.g., perennial streams), Permittee shall divert the stream flow around or through the work area during construction operations. Stream flow shall be diverted using gravity flow through temporary culverts/pipes or pumped around the work site with the use of hoses.
- 2.35.2 Maintain Aquatic Life. When any dam or other artificial obstruction is being constructed, maintained, or placed in operation, Permittee shall allow sufficient water at all times to pass downstream to maintain aquatic life



below the dam pursuant to Fish and Game Code §5937.

- 2.35.3 Stranded Aquatic Life. The Permittee shall check daily for stranded aquatic life as the water level in the dewatering area drops. All reasonable efforts shall be made to capture and move all stranded aquatic life observed in the dewatered areas. Capture methods may include fish landing nets, dip nets, buckets and by hand. Captured aquatic life shall be released immediately in the closest suitable aquatic habitat adjacent to the work site. This condition does not allow for the take or disturbance of any State or federally listed species, or State listed species of special concern. The Department staff who prepared this agreement shall be contacted immediately if any of these species are detected.
- 2.35.4 Coffer Dams. Prior to the start of construction, Permittee shall divert the stream around or through the work area and the work area shall be isolated from the flowing stream. To isolate the work area, water tight coffer dams shall be constructed upstream and downstream of the work area and water diverted, through a suitably sized pipe, from upstream of the upstream coffer dam and discharge downstream of the downstream coffer dam. Coffer dams and the stream diversion system shall remain in place and functional throughout the construction period. Coffer dams or stream diversions that fail for any reason shall be repaired immediately.
- 2.35.5 Minimize Turbidity, Siltation, and Pollution. Permittee shall use only clean, non-erodible materials, such as rock or sandbags that do not contain soil or fine sediment, to construct any temporary stream flow bypass. Permittee shall divert stream flow around the work site in a manner that minimizes turbidity, siltation, and pollution, and does not result in erosion or scour downstream of the diversion.
- 2.35.6 Remove any Materials upon Completion. Permittee shall remove all materials used for the temporary stream flow bypass after the Authorized Activity is completed.
- 2.35.7 Restore Normal Flows. Permittee shall restore normal flows to the effected stream immediately upon completion of work at that location.
- 2.36 Excavated Fill. Excavated fill material shall be placed in upland locations where it cannot deliver to a watercourse. To minimize the potential for material to enter the watercourse during the winter period, all excavated and relocated fill material shall be tractor contoured (to drain water) and tractor compacted to effectively incorporate and stabilize loose material into existing road and/or landing features.
- 2.37 Runoff from Steep Areas. The Permittee shall make preparations so that runoff from steep, erodible surfaces will be diverted into stable areas with little erosion potential or contained behind erosion control structures. Erosion control structures

such as straw bales and/or siltation control fencing shall be placed and maintained until the threat of erosion ceases. Frequent water checks shall be placed on dirt roads, cat tracks, or other work trails to control erosion.

### 2.38 Culvert Installation.

- 2.38.1 The project is located in a moderate to very high Fire Hazard Severity Zone as designated by CAL FIRE. Culvert materials shall consist of corrugated metal pipe (CMP). Use of High Density Polyethylene (HDPE) pipe is not recommended.
- 2.38.2 Existing fill material in the crossing shall be excavated down vertically to the approximate original channel and outwards horizontally to the approximate crossing hinge points (transition between naturally occurring soil and remnant temporary crossing fill material) to remove any potential unstable debris and voids in the older fill prism.
- 2.38.3 Culvert shall be installed to grade (not perched or suspended), aligned with the natural stream channel, and extend lengthwise completely beyond the toe of fill. If culvert cannot be set to grade, it shall be oriented in the lower third of the fill face, and a downspout or energy dissipator (such as boulders, rip-rap, or rocks) shall be installed above or below the outfall as needed to effectively control stream bed, channel, or bank erosion (scouring, headcutting, or downcutting). The Permittee shall ensure basins are not constructed and channels are not be widened at culvert inlets.
- 2.38.4 Culvert bed shall be composed of either compacted rock-free soil or crushed gravel. Bedding beneath the culvert shall provide for even distribution of the load over the length of the pipe, and allow for natural settling and compaction to help the pipe settle into a straight profile. The crossing backfill materials shall be free of rocks, limbs, or other debris that could allow water to seep around the pipe, and shall be compacted.
- 2.38.5 Culvert inlet, outlet (including the outfall area), and fill faces shall be armored where stream flow, road runoff, or rainfall energy is likely to erode fill material and the outfall area.
- 2.38.6 Permanent culverts shall be sized to accommodate the estimated 100-year flood flow [i.e.  $\geq 1.0$  times the width of the bankfull channel width or the 100-year flood size, whichever is greater], including debris, culvert embedding, and sediment loads.

### 2.39 Crossing Maintenance

- 2.39.1 The placement of armoring shall be confined to the work period when the



stream is dry or at its lowest flow

- 2.39.2 No heavy equipment shall enter the wetted stream channel.
- 2.39.3 No fill material, other than clean rock, shall be placed in the stream channel.
- 2.39.4 Rock shall be sized to withstand washout from high stream flows, and extend above the ordinary high water level.
- 2.39.5 Rock armoring shall not constrict the natural stream channel width and shall be keyed into a footing trench with a depth sufficient to prevent instability.

#### 2.40 Fords, Armored Fill and Vented Crossings.

- 2.40.1 Fords, armored and vented crossings are considered permanent watercourse encroachments and shall accommodate the 100-year flood flow plus associated sediment and debris.
- 2.40.2 Hydrologically-connected road approaches to fords, armored and vented crossings shall be rocked and maintained to avoid delivery of fine sediment to the watercourse below.
- 2.40.3 Fords, armored and vented crossings shall be maintained as necessary to avoid delivery of fine sediment to the watercourse below.
- 2.40.4 Fords, armored and vented crossings shall be sufficiently outsloped to minimize aggradation of suspended sediments at the crossing.
- 2.40.5 The lowest point of fords, armored and vented crossings shall be constructed within or directly over the original stream channel, to the extent feasible, in order to contain high flows up to twice bank-full and to avoid diversion potential.
- 2.40.6 Armor material shall be comprised of durable angular screened quarry rock of sufficient size and placement to minimize mobilization during a 100-year storm event. Wood may be used for armoring if sound, tight-grained, redwood is applied and sufficiently keyed into the fillslope to resist movement during a 100-year storm event.
- 2.40.7 If maximum fill heights exceed 15 feet or fills exceed 500 cubic yards of fill, rock sizing, armoring thickness, chute width and chute depth shall be calculated and sized using the nomograph provided in Figure 23 of Cafferata et al (2017).
- 2.40.8 Stream crossing spillway fill slopes shall be armored from roadbed to the

natural channel in a manner sufficient to prevent significant scour or removal of armor during high flows. Scour is expected through road surface rock cap.

- 2.41 Road Approaches. The Permittee shall treat road approaches to new or re-constructed permanent crossings on *Class I and II watercourses* to minimize erosion and sediment delivery to the watercourse. Permittee shall ensure road approaches are hydrologically disconnected to the maximum extent feasible to prevent sediment from entering the crossing site, including when a Stream Crossing is being constructed or reconstructed. Road approaches shall be armored from the crossing for a minimum of 50 feet in both directions, or to the nearest effective water bar or point where road drainage does not drain to the crossing, with durable rock, compacted grindings, pavement, or chip-seal.
- 2.42 Project Inspection. The Project shall be inspected by Timberland Resource Consultants or a licensed engineer to ensure that the stream crossings were installed as designed. A copy of the inspection report, including photographs of each site, shall be submitted to CDFW within 90 days of completion of this project.

#### **Erosion Control and Pollution**

- 2.43 Erosion Control. Permittee shall use erosion control measures throughout all work phases where sediment runoff threatens to enter a stream, lake, or other Waters of the State.
- 2.44 Erosion Control. Permittee shall use erosion control measures throughout all work phases where sediment runoff threatens to enter a stream, lake, or other Waters of the State.
- 2.45 Seed and Mulch. Upon completion of construction operations and/or the onset of wet weather, Permittee shall stabilize exposed soil areas within the work area by applying mulch and seed. Permittee shall restore all exposed or disturbed areas and access points within the stream and riparian zone by applying local native and weed free erosion control grass seeds. Locally native wildflower and/or shrub seeds may also be included in the seed mix. Permittee shall mulch restored areas using at least two to four inches of weed-free clean straw or similar biodegradable mulch over the seeded area. Alternately, Permittee may cover seeding with jute netting, coconut fiber blanket, or similar non-synthetic monofilament netting erosion control blanket.
- 2.46 Erosion and Sediment Barriers. Permittee shall monitor and maintain all erosion and sediment barriers in good operating condition throughout the work period and the following rainy season, defined herein to mean October 15 through June 15. Maintenance includes, but is not limited to, removal of accumulated sediment and/or replacement of damaged sediment fencing, coir logs, coir rolls, and/or



straw bale dikes. If the sediment barrier fails to retain sediment, Permittee shall employ corrective measures, and notify the department immediately.

- 2.47 Prohibition on Use of Monofilament Netting. To minimize the risk of ensnaring and strangling wildlife, Permittee shall not use any erosion control materials that contain synthetic (e.g., plastic or nylon) monofilament netting, including photo- or biodegradable plastic netting. Geotextiles, fiber rolls, and other erosion control measures shall be made of loose-weave mesh, such as jute, hemp, coconut (coir) fiber, or other products without welded weaves.
- 2.48 Site Maintenance. Permittee shall be responsible for site maintenance including, but not limited to, re-establishing erosion control to minimize surface erosion and ensuring drainage structures and altered streambeds and banks remain sufficiently armored and/or stable.
- 2.49 Cover Spoil Piles. Permittee shall have readily available erosion control materials such as wattles, natural fiber mats, or plastic sheeting, to cover and contain exposed spoil piles and exposed areas in order to prevent sediment from moving into a stream or lake. Permittee shall apply and secure these materials prior to rain events to prevent loose soils from entering a stream, lake, or other Waters of the State.
- 2.50 No Dumping. Permittee shall not deposit, permit to pass into, or place where it can pass into a stream, lake, or other Waters of the State any material deleterious to fish and wildlife, or abandon, dispose of, or throw away within 150 feet of a stream, lake, or other Waters of the State any cans, bottles, garbage, motor vehicle or parts thereof, rubbish, litter, refuse, waste, debris, or the viscera or carcass of any dead mammal, or the carcass of any dead bird.

### **Stream Restoration**

- 2.51 Stream Restoration Plan. The Permittee shall submit Stream Restoration Plans to CDFW for projects 23, 24A, 24B, POD-B, and Map Point D prior to conducting remediation activities. The Stream Restoration Plan (SRP) shall detail the dimensions and slopes of the stream channel to be remediated. The SRP shall describe any material utilized to restore the channel to a natural condition. The SRP shall include a revegetation plan for remediation of the impacted channel reach.
- 2.52 Revegetation Plan. The Permittee shall submit a revegetation plan to CDFW with each Stream Restoration Plan, for review and approval. The Revegetation Plan shall, at a minimum, include the following:
- 2.52.1 The identification of the area and vegetation types that will be restored.
- 2.52.2 A planting design and palette appropriate to the vegetation type, cover,

stratum, and level of biodiversity (i.e., species richness and composition). Use of a reference site is recommended.

- 2.52.3 Use regionally appropriate native plants for a riparian vegetation type. The derivation of plant material such as containers, plugs, cuttings, divisions, or seeds from coastal areas of Humboldt, Del Norte and Mendocino Counties within 30 miles of the coast. All native seed material shall be from the North Coast ecoregion (Humboldt, Mendocino, Sonoma or Del Norte Counties), if practical. If quantities are not able to be satisfied from these collection sites, propagules may be obtained from other counties in Northern California with pending approval from a restoration ecologist or botanist.
- 2.52.4 Cuttings of willows, cottonwoods conducted when dormant. Collection of cuttings within an area dispersed to maintain genetic and sexual diversity, and to avoid adversely impact existing riparian vegetation. Cuttings hydrated between harvesting and planting (e.g., soak cuttings in water several days to a week to stimulate rooting prior to planting). Cuttings planted to depth of 75 percent of their length with buds pointing up and bottom of cutting in moist soil or water.
- 2.52.5 Planting conducted after the first seasonal rains have saturated soils beyond the first several inches (November/December) and before April.
- 2.52.6 No application of fertilizer on plants or chemical controls on weeds.
- 2.52.7 Measurable success criteria based on plant survival, density, or cover.
- 2.52.8 Monitoring conducted for a minimum of five years to determine whether the revegetation goals and objectives have been met. Remedial measures if revegetation goals and objectives are not met.
- 2.52.9 Annual status reports on the revegetation efforts shall be submitted to CDFW in the by **October 31 of each year** following initial planting for the length of the monitoring period.

### 3. Reporting Measures

- 3.1 Work Completion. The proposed work shall be completed by no later than **October 1, 2021**. A notice of completed work (condition 2.4), with supplemental photos, shall be submitted to CDFW **within seven (7) days** of project completion.
- 3.2 Measurement of Diverted Flow. Copies of the **Water Diversion Records** (condition 2.13) shall be submitted to CDFW at 619 Second Street, Eureka, CA 95501 no later than **December 31** of each year beginning in **2019**.



- 3.3 Water Management Plan. The Permittee shall submit a **Water Management Plan** (condition 2.14) within **60 days** from the effective date of this agreement. The Water Management Plan shall be submitted to CDFW at 619 Second Street, Eureka, CA 95501.
- 3.4 Diversion Infrastructure Plan. The Permittee shall **allow 60 days for CDFW review and approval** after submittal of a Diversion Infrastructure Plan (condition 2.20). This document shall be submitted to CDFW at the 619 Second Street, Eureka, CA 95501.
- 3.5 Invasive Species Management for Reservoirs. The Permittee shall submit all required documents described in the Invasive Species Management for Reservoirs (condition 2.29) including subsection 2.29.1, **Bullfrog Management Plan** (Exhibit A) no later than **December 31** of each year. The Bullfrog Management Plan shall be submitted to CDFW at 619 Second Street, Eureka, CA 95501.
- 3.6 Project Inspection. The Permittee shall submit the **Project Inspection Report** (condition 2.42) to CDFW, LSA Program at 619 Second Street, Eureka, CA 95501.
- 3.7 Stream Restoration Plan. The Permittee shall submit a **Stream Restoration Plan** (condition 2.51) by **June 15, 2020**. The Stream Restoration Plan shall be submitted to CDFW at 619 Second Street, Eureka, CA 95501. Revegetation Plan.
- 3.8 Revegetation Plan. The permittee submit a **Revegetation Plan** (condition 2.52) to CDFW by **June 15, 2020**, for review and approval prior to implementation of the Stream Restoration Plans. The Revegetation Plan shall be submitted to CDFW at 619 Second Street, Eureka, CA 95501.

#### CONTACT INFORMATION

Written communication that the Permittee or CDFW submits to the other shall be delivered to the address below unless the Permittee or CDFW specifies otherwise.

To Permittee:

Joshua Sweet  
P.O. Box 250  
Garberville, California 95542  
310-710-7549  
sohumhills@gmail.com

To CDFW:

Department of Fish and Wildlife  
Northern Region  
619 Second Street  
Eureka, California 95501  
Attn: Lake and Streambed Alteration Program  
Notification #1600-2018-0857-R1

**LIABILITY**

The Permittee shall be solely liable for any violation of the Agreement, whether committed by the Permittee or any person acting on behalf of the Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute CDFW's endorsement of, or require the Permittee to proceed with the project. The decision to proceed with the project is the Permittee's alone.

**SUSPENSION AND REVOCATION**

CDFW may suspend or revoke in its entirety this Agreement if it determines that the Permittee or any person acting on behalf of the Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before CDFW suspends or revokes the Agreement, it shall provide the Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide the Permittee an opportunity to correct any deficiency before CDFW suspends or revokes the Agreement, and include instructions to the Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused CDFW to issue the notice.

**ENFORCEMENT**

Nothing in the Agreement precludes CDFW from pursuing an enforcement action against the Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects CDFW's enforcement authority or that of its enforcement personnel.



## **OTHER LEGAL OBLIGATIONS**

This Agreement does not relieve the Permittee or any person acting on behalf of the Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other federal, state, or local laws or regulations before beginning the project or an activity related to it.

This Agreement does not relieve the Permittee or any person acting on behalf of the Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 *et seq.* (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Nothing in the Agreement authorizes the Permittee or any person acting on behalf of the Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

## **AMENDMENT**

CDFW may amend the Agreement at any time during its term if CDFW determines the amendment is necessary to protect an existing fish or wildlife resource.

The Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and the Permittee. To request an amendment, the Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

## **TRANSFER AND ASSIGNMENT**

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by the Permittee in writing, as specified below, and thereafter CDFW approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, the Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

## EXTENSIONS

In accordance with FGC section 1605(b), the Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, the Permittee shall submit to CDFW a completed CDFW "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). CDFW shall process the extension request in accordance with FGC 1605(b) through (e).

If the Permittee fails to submit a request to extend the Agreement prior to its expiration, the Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (FGC section 1605(f)).

## EFFECTIVE DATE

The Agreement becomes effective on the date of CDFW's signature, which shall be: 1) after the Permittee signature; 2) after CDFW complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at [http://www.wildlife.ca.gov/habcon/ceqa/ceqa\\_changes.html](http://www.wildlife.ca.gov/habcon/ceqa/ceqa_changes.html).

## TERM

This Agreement shall **expire five years** from date of execution, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. The Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

## AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of the Permittee, the signatory hereby acknowledges that he or she is doing so on the Permittee's behalf and represents and warrants that he or she has the authority to legally bind the Permittee to the provisions herein.

## AUTHORIZATION

This Agreement authorizes only the project described herein. If the Permittee begins or completes a project different from the project the Agreement authorizes, the Permittee may be subject to civil or criminal prosecution for failing to notify CDFW in accordance with FGC section 1602.



**CONCURRENCE**

The undersigned accepts and agrees to comply with all provisions contained herein.

**FOR Joshua Sweet**



\_\_\_\_\_  
Joshua Sweet

1/10/2020  
\_\_\_\_\_  
Date

**FOR DEPARTMENT OF FISH AND WILDLIFE**

\_\_\_\_\_  
Scott Bauer  
Senior Environmental Scientist Supervisor

\_\_\_\_\_  
Date

## EXHIBIT A.

### BULLFROG MONITORING AND MANAGEMENT PLAN

#### GENERAL BULLFROG INFORMATION

The American bullfrog (*Lithobates catesbeianus* = *Rana catesbeiana*); hereafter bullfrog, is an invasive non-native species in California and poses a significant threat to California's native fish and wildlife resources. Bullfrogs were introduced in California over 100 years ago from eastern parts of the United States as a food supply, but have since caused substantial ecological consequences. Bullfrogs are considered highly invasive and are well documented to be prey upon a variety of fish and wildlife species, including some that are rare, threatened, and endangered. Human modifications to the environment provide favorable condition to bullfrogs such as artificially created agricultural ponds, canals and ditches where warm still water occurs. As a result bullfrogs have spread throughout California.

Efforts to control bullfrogs have been met with varying degrees of success because: 1) bullfrogs can be difficult to detect and go dormant from fall through winter, 2) bullfrogs often take cover in difficult areas to manage (e.g. dense vegetation), 3) they can travel long distances to colonize and re-colonize areas, 4) they have high reproductive output, 5) they are weary and readily flee perceived threats, and 6) they can survive physical trauma remarkably well. CDFW scientific staff recognizes there is an urgent and immediate need to develop improved bullfrog management strategies to protect California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. Public support and implementation of bullfrog control in California is an important conservation strategy that will help protect natural resources for future generations.

#### MONITORING

The Project reservoir(s) shall be monitored for bullfrog presence on an annual basis with a minimum of five total surveys, no less than two weeks apart, throughout the months of May-July

- All pond survey effort must be made by a person knowledgeable in bullfrog identification (see Appendix A for reference photos);
- Survey efforts shall include listening for bullfrog calls and slowly walking the complete perimeter of the pond at night\* (dusk or later) while shining a flashlight to detect movement and eye-shine

If bullfrogs are not detected upon completion of five total surveys, or at any other time of the year incidentally, removal efforts are not required that year.

\*Day time monitoring can also be conducted to aid detection but is not required under this plan.

#### SUCCESS CRITERIA

The level of effort needed to successfully manage bullfrog populations varies with infestation levels. This plan shall be considered successfully implemented if sufficient effort is provided to prevent adult bullfrogs from reproducing in the reservoir(s) each year, and no bullfrog life-stages can be detected. Bullfrogs are capable of traveling long distances over-land, and on-going



efforts will be required to ensure dispersing bullfrogs do not colonize the reservoir(s) at a future time.

## MANAGEMENT METHODS

Two removal methods may be employed for controlling bullfrogs under this plan and include:

- Manual direct removal
- Reservoir de-watering (Hydro-modification)

Implementing both reservoir de-watering and manual direct removal is currently believed to be the most effective method of managing bullfrog infestations. Prior to conducting reservoir dewatering activities, please coordinate with CDFW Environmental Scientist Kalyn Bocast by email at [kalyn.bocast@wildlife.ca.gov](mailto:kalyn.bocast@wildlife.ca.gov).

### Direct Removal

All direct removal efforts must be made by a person knowledgeable in bullfrog identification.

- Removal efforts must occur during, but are not be limited to the active/breeding season, occurring May – July;
- A minimum of **two** efforts throughout the season are considered necessary;
- Direct removal efforts are typically most effective when conducted at night with use of lights but can also be conducted during the day;
- Direct removal must include working the entire perimeter of the reservoir;
- A rubber raft or small boat may be necessary to successfully remove some individuals;
- A team of two individuals or more is often helpful, one person for shining lights and/or operating a boat and the other person to perform removal efforts;
- Bullfrog tadpoles must be removed and dispatched and must not be relocated or kept as pets.

### Management Authorization

Take of bullfrogs is specifically allowed in the California Code of Regulations (CCR), Title 14 (T-14) section 5.05(a)(28), under the authority of a sport fishing license. There is no daily bag limit, possession limit or hour restriction, but bullfrogs can only be taken by hand, hand-held dip net, hook and line, lights, spears, gigs, grabs, paddles, bow and arrow or fish tackle.

Alternatively, FGC Section 5501 allows CDFW, as limited by the commission, to issue a permit to destroy fish that are harmful to other wildlife. The regulations have addressed this under Section CCR T-14 226.5 Issuance of Permits to Destroy Harmful Species of Fish in Private Waters for Management Purposes. This allows the CDFW to issue free permits to destroy harmful aquatic species by seining and draining.

### Pond Dewatering

In order to prevent and/or control infestations, annual pond dewatering may be appropriate, under the condition that the reservoir can be successfully dewatered without adversely affecting stream resources. Careful planning and coordination with CDFW, is necessary to ensure

potential impacts to stream resources can be addressed, prior to commencing with pond draining. Discharge of polluted water to waters of the state may require permitting from other agencies with permitting authority, such as the Regional Water Quality Control Board.

In general, bullfrog tadpoles require two years to develop into frogs, whereas native amphibians only require one year. Therefore, draining a reservoir every year is intended to interrupt bullfrog tadpole development, dramatically decrease bullfrog populations and allow for reduced efforts as a measure of adaptive management. Typically in Northern California, reservoir draining should occur in September through October to avoid impacts to sensitive native amphibian and fishery resources. While draining occurs, direct removal efforts should be employed as described above if possible.

## REPORTING

A written log shall be kept of monitoring and management efforts and shall be provided to CDFW **each year** by December 31. The written log shall include: 1) date and time of each monitoring and management effort, 2) approximate number of each bullfrog life stage detected and/or removed per effort, and 3) amount of time spent for each monitoring and management effort.

## APPENDIX A. BULLFROG REFERENCE PHOTOS



This is a photo of a Bullfrog tadpole. (Photo taken by Mike van Hattem).





The photos shown in this Appendix demonstrate a medium sized adult bullfrog that was removed from Ten Mile Creek, Mendocino County. Note the bullfrog has a large tympanum, (circular ear drum shown with an arrow) and **does not** have distinct ridges along its back (dorsolateral folds). Photo taken by Wes Stokes.



The bullfrog has somewhat distinct mottling and the underside of the bullfrogs hind legs are not shaded pink or red.