**BIOLOGICAL EVALUATION - AQUATICS**

Last Chance Mastication Project

PROJECT LOCATION

Stanislaus National Forest

Calaveras Ranger District

(T4N R15E, sec 19,20,25,29-31,36)

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| --- | --- | --- |
| Species | Status | Determination |
| Foothill yellow-legged frog, Western pond turtle | Forest Service Sensitive | May affect, but is not likely to contribute to the need for Federal listing or loss of viability in the planning area. |
| Limestone salamander, Hardhead | Forest Service Sensitive | No effect |
| California red-legged frog | Threatened | No effect |
| Sierra Nevada yellow-legged frog | Endangered | No effect |
| Delta smelt | Threatened | No effect |



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# Introduction

The purpose of this Biological Evaluation (BE) is to determine the potential effects of the Last Chance Mastication on aquatic species of concern. For Stanislaus National Forest sensitive species, this analysis will determine whether the proposed actions would result in a trend toward loss of viability in the planning area or becoming federally listed. For federally listed species, the purpose is to document the effects on proposed, threatened, and endangered species and determine what level of conference or consultation is required with appropriate regulatory agencies. This document was prepared in accordance to the standards established in Forest Service Manual direction (FSM 2672.43). Every attempt is made in this document to utilize current research and the best available science.

An official list of Federal Endangered and Threatened species potentially affected by the project was obtained from the Sacramento U.S. Fish and Wildlife Office, via the IPAC on November 13, 2017 (Event Code 08ESMF00-2018-E-01060).

The following Threatened, Endangered, or Proposed species from that list would **not be affected** by the project and are **not considered** further in this document:

Delta smelt (*Hypomesus transpacificus*) Threatened. This species occurs only in the Sacramento-San Joaquin River Delta around 70 miles downstream of the project (Moyle 2002). This project would have no effects at that distance. Final critical habitat has been designated for this species and is outside the project area.

Sierra Nevada yellow-legged frog (*Rana sierrae*) Endangered. This project is outside the geographic and elevational range of the species on the Stanislaus National Forest. The Sierra Nevada-yellow legged frog is not known below 5400 feet on the Stanislaus. The proposed action would occur between 2720 and 3400 feet. The nearest known SNYLF detection is over 11 miles to the East at Skull Creek. Final critical habitat has been designated for this species and falls within the project area.

California red-legged frog (*Rana draytonii*) Threatened. Final critical habitat has been designated for the species and is outside the project area. The nearest historical populations are located approximately 7.5 miles south of the project area at Woods Creek (1950) and tailings ponds near Parrots Ferry Rd (1975). CRLF have not been found at these sites or adjacent sites during more recent resurveys (Barry and Fellers 2012). CRLF in the Sierran foothills likely make far shorter and infrequent overland movements than those in coastal habitats. Tatarian and Hughes (2008) documented no upland movements greater than 20m and aquatic movements up to 208m in 4 years of study of a population in Plumas County. Suitable breeding habitat does not occur within the project area or within 130m of the project area.

A list of the Stanislaus National Forest Sensitive Species that potentially occur within or near the project boundary was compiled based on the July 3, 2013 Regional Forester’s Sensitive Species List. The following Sensitive Species would **not be affected** by the project and are **not considered** in this document because their geographical or elevational range falls outside of the area affected by the project:

Limestone salamander (*Hydromantes brunus*) *–* This species occurs only in the Lower Merced Watershed over 30 miles south of the project area.

Hardhead (*Mylopharodon conocephalus*) – Within Sierra Nevada foothill streams of the San Joaquin drainage, hardhead occur from around 80-1500 feet above sea level (Moyle 2002). The nearest suitable habitat is approximately 0.3 miles from the project area in the Middle Fork Stanislaus River.

The following Sensitive Species are **considered** in this document because their geographical and elevational range falls within the area affected by the project:

Foothill yellow-legged frog (*Rana boylii,* FYLF*)*

Western pond turtle (*Actinemys marmorata,* WPT*)*

# Current Management Direction

Forest Service Manual (FSM) 2670.32 directs that a biological evaluation (BE) be prepared to evaluate project effects upon threatened, endangered, proposed, and sensitive species to ensure that project decisions do not result in loss of species viability or create a trend towards Federal listing.

The Stanislaus National Forest Plan Direction (USDA 2010) presents current management direction as derived from the Stanislaus National Forest Land and Resource Management Plan (LRMP; USDA 1991) and amendments and the Sierra Nevada Forest Plan Amendment (USDA 2001, 2004). The following summarizes direction relevant to aquatic species and the proposed project:

# Consultation to date

An official list of Federal Endangered and Threatened species potentially affected by the project was obtained from the Sacramento U.S. Fish and Wildlife Office, via the IPAC system on November 13, 2017 (Event Code 08ESMF00-2018-E-01060).

# Description of Proposed Project

The Calaveras Ranger District is proposing to mechanically treat 433 acres of mixed conifer and manzanita. All treatment areas were part of the Darby fire which burned in 2001.

Treatments will include mechanically shredding/masticating brush and trees less than 8 inches on three hundred acres and hand cut and thin the remaining acres due to rocky terrain. When the piling is done we will burn the piles.

The fuels reduction in this area will protect the local communities of Forest Meadows, Sunrise Point, Darby Knob and Hathaway Pines. If another wildfire was to start in this area the timber stand improvement treatment would give fire firefighters a strategic place to hold the fire and slow it down before it was to reach the communities. The treatment units are located in T4N, R14E, Sec 20,29,30,31. This area is in the wildland urban interface defense zone. (Defense Zone, Sierra Forest Plan Amendment pg. A46) The project will be accomplished from February 2018 to February 2019.

All masticated fuels will be shredded into lengths of 16 inches and below and are not to exceed 12 inches in height. On rocky terrain and slopes greater than 35% and fuels will be hand thinned and piled to burn.

## Interrelated and Interdependent actions

Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. The Last Chance Mastication Project is not part of any other interdependent or interrelated action.

# Existing Environment

Within the project area, aquatic habitats include:

Mill Creek – approximately 0.1 miles within project area. This reach is below Hunter’s reservoir and experiences fluctuating flows as a result of releases from the dam. This may provide low quality seasonal habitat for FYLF and WPT. This reach was surveyed in 2016 – No threatened, endangered, sensitive, or proposed species were detected

Utica ditch – approximately 2.5 miles within the project area. A manmade water conveyance consisting of open ditches and flumes. The ditch may provide low-moderately suitable seasonal habitat for WPT and FYLF. It is subject to periodic drying for maintenance purposes and lacks functions and structures of a natural stream. The entire segment within the project area was surveyed in 2015 and 2016. No threatened, endangered, sensitive, or proposed species were detected.

Unnamed ephemeral streams – approximately 0.5 miles within the project area. These streams have water only during and immediately following snowmelt or precipitation events. They may provide movement corridors and seasonal habitat for FYLF and WPT.

The nearest known FYLF population is in McCormick creek approximately 2 miles east of the project area, but it may occur closer to the project area within unsurveyed reaches of the North and Middle Forks of the Stanislaus River.

The nearest population of WPT is in Rose Creek approximately 4 miles south of the project area, but it may occur closer to the project area within unsurveyed reaches of the North and Middle Forks of the Stanislaus River.

# Effects of the Proposed Project

## Direct and Indirect Effects

##### Effects to Individuals

The potential effects from this project include harm, harassment, injury, and death of Western Pond turtles and Foothill yellow-legged frogs. Individuals could be crushed, harassed, injured, or killed by mechanical equipment, falling trees, piling or burning, and humans in the project area. These activities may also cause noise, vibration, dust, and other disturbances that result in behavioral modification such as avoidance or abandonment of locations containing breeding, resting, movement, or foraging habitat. Several factors limit the extent of risk to individuals. First, because the primary suitable habitat within the project area has been surveyed at least once and no FYLF or WPT have been found, the likelihood of these species occurring in the project vicinity are considered to be low. The FYLF is rarely found more than a few meters from water (Kupferberg 1996). Since trees would be directionally felled away from waterbodies and mechanical equipment would not be allowed within 15 feet of waterbodies, the risk of harm to individuals in or immediately adjacent to aquatic habitats is low.

The risk of mortality or injury to WPT in aquatic habitats is low. WPTs are extremely wary and will retreat from basking sites and streambanks with little provocation and conceal themselves in underwater refugia. WPT do spend considerable time in upland habitats both for nesting and overwintering increasing the risk effects in those habitats. Adult turtles in the upland for nesting would be at risk of injury from falling trees and equipment operation. Nesting success could be decreased because females can abandon nesting attempts if disturbed. There is also a risk that existing nests could be crushed during operations. However this risk is very small because there is little overlap between project activities targeting brush and tree removal and suitable nesting habitats which are characterized as open and herbaceous.

Individuals that have taken refuge in burn piles could be killed or injured when piles are ignited. Burn piles would be located a minimum of 50 feet from perennial and intermittent streams and special aquatic features. This placement reduces the risk to individuals, by avoiding the zone of most expected movements. Implementation of directional pile ignition would help minimize this risk by allowing individuals to exit the pile out of the non-burning side.

##### Effects to Habitat

Effects to habitats for WPT and FYLF are expected to be minor. Mastication in the project area is expected to lead to a small amount of mechanical compaction due to the use of low ground pressure equipment and a deposition of a woodchip layer on the soil surface. There will also be a reduction in stand density as small trees and shrubs will be removed.

For FYLF the primary risk would be increased sedimentation of aquatic habitats. However, Hatchett et al. (2006) found that mastication did not significantly contribute to erosion and runoff rates. Decreased risk of catastrophic fire due to fuels rearrangement may be considered a possible beneficial effect to FYLF habitats in that it may prevent adverse sedimentation following wildfire.

For WPT, reduction in brush cover could decrease suitability for overwintering sites which are often associated with dense understory (Davis 1998). On the other hand, nesting sites are typically open and herbaceous dominated, so mastication of small shrubs could increase nesting habitat suitability.

## Cumulative Effects

The analysis area for cumulative effects is defined by the project boundary since no meaningful effects are expected outside the immediate area. No proposed projects were identified that would contribute to cumulative effects.

# Determination of Effects

It is my determination that the Last Chance Mastication project may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for the foothill yellow-legged frog in the planning area. While some suitable habitat is present, surveys did not detect this species in the project area and the risks to individuals are considered to be very small. Effects to habitats are minor and partially beneficial.

It is my determination that the Last Chance Mastication project may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for the western pond turtle in the planning area. While some suitable habitat is present, surveys did not detect this species in the project area and the risks to individuals are considered to be very small. Effects to habitats are minor and partially beneficial.

## Extraordinary circumstances

The following conditions were necessary to consider for this resource and the following determinations are made based on a review of the proposed action, required design features, the regulatory framework, and necessary analysis:

**Federally Listed Threatened or Endangered Species**

**Extraordinary Circumstances Determination:**

Not necessary to consider for this project. (i.e. resource not found in the project area or no activities are proposed that affect the resource)

**Designated Critical Habitat**

**Extraordinary Circumstances Determination:**

Not necessary to consider for this project. (i.e. resource not found in the project area or no activities are proposed that affect the resource)

**Species Proposed for Listing**

**Extraordinary Circumstances Determination:**

Not necessary to consider for this project. (i.e. resource not found in the project area or no activities are proposed that affect the resource)

**Proposed Critical Habitat**

**Extraordinary Circumstances Determination:**

Not necessary to consider for this project. (i.e. resource not found in the project area or no activities are proposed that affect the resource)

**Sensitive Species**

**Extraordinary Circumstances Determination:**

Will not have extraordinary circumstances associated with the proposed actions.

Low-to moderately suitable habitats are present for western pond turtle and foothill yellow-legged frog. However, neither species was detected during surveys. The project has a negligible risk to individuals due to limitations on operations in/near aquatic habitats and lack of overlap with desirable upland habitats for western pond turtle. Effects to habitat quality will be minor and may be partly beneficial through creation of open habitat for WPT nesting and basking and through decreased risk of catastrophic wildfire.