

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in
or may be Affected by Projects in the Counties and/or
U.S.G.S. 7 1/2 Minute Quads you requested
Document Number: 140910113039
Current as of: September 10, 2014

No quad species lists requested.

County Lists

Placer County

Listed Species

Invertebrates

Branchinecta conservatio

Conservancy fairy shrimp (E)

Branchinecta lynchi

Critical habitat, vernal pool fairy shrimp (X)

vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus

Critical habitat, valley elderberry longhorn beetle (X)

valley elderberry longhorn beetle (T)

Lepidurus packardii

Critical habitat, vernal pool tadpole shrimp (X)

vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus

delta smelt (T)

Oncorhynchus (=Salmo) clarki henshawi

Lahontan cutthroat trout (T)

Oncorhynchus mykiss

Central Valley steelhead (T) (NMFS)

Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha

Central Valley spring-run chinook salmon (T) (NMFS)

winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense

California tiger salamander, central population (T)

Rana draytonii

California red-legged frog (T)
Critical habitat, California red-legged frog (X)

Rana sierrae

Mountain yellow legged frog (PX)

Reptiles

Thamnophis gigas

giant garter snake (T)

Plants

Calystegia stebbinsii

Stebbins's morning-glory (E)

Ceanothus roderickii

Pine Hill ceanothus (E)

Galium californicum ssp. sierrae

El Dorado bedstraw (E)

Orcuttia viscida

Critical habitat, Sacramento Orcutt grass (X)
Sacramento Orcutt grass (E)

Senecio layneae

Layne's butterweed (=ragwort) (T)

Candidate Species

Amphibians

Rana muscosa

mountain yellow-legged frog (C)

Birds

Coccyzus americanus occidentalis

Western yellow-billed cuckoo (C)

Mammals

Martes pennanti

fisher (C)

Plants

Rorippa subumbellata

Tahoe yellow-cress (C)

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the [National Oceanic & Atmospheric Administration Fisheries Service](http://www.nmfs.gov). Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online [Inventory of Rare and Endangered Plants](#).

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our [Protocol](#) and [Recovery Permits](#) pages.

For plant surveys, we recommend using the [Guidelines for Conducting and Reporting Botanical Inventories](#). The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal [consultation](#) with the Service.

During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our [Map Room](#) page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. [More info](#)

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem.

However, we recommend that you get an updated list every 90 days. That would be December 09, 2014.



U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
CONSERVANCY FAIRY SHRIMP
Branchinecta conservatio



CLASSIFICATION: Endangered
Federal Register 59-48136; September 19, 1994
http://ecos.fws.gov/docs/federal_register/fr2692.pdf

On October 9, 2007, we published a [5-year review](#) recommending that the species remain listed as endangered.



CRITICAL HABITAT: Designated
Originally designated in [Federal Register 68:46683](#); August 6, 2003.
The designation was revised in FR [70:46923](#); August 11, 2005.
Species by unit designations were published in [FR 71:7117](#) (PDF), February 10, 2006.

RECOVERY PLAN: Final
Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon, December 15, 2005. http://ecos.fws.gov/docs/recovery_plan/060614.pdf

DESCRIPTION

The Conservancy fairy shrimp (*Branchinecta conservatio*), is a small crustacean in the Branchinectidae family. It ranges in size from about ½ to one inch long. Fairy shrimp are aquatic species in the order Anostraca. They have delicate elongate bodies, large stalked compound eyes, no carapaces, and eleven pairs of swimming legs. They glide gracefully upside down, swimming by beating their legs in a complex, wavelike movement that passes from front to back. Fairy shrimp feed on algae, bacteria, protozoa, rotifers and bits of detritus.

Conservancy fairy shrimp inhabit rather large, cool-water vernal pools with moderately turbid water (Eriksen and Belk 1999). The pools generally last until June. However, the shrimp are gone long before then. They have been collected from early November to early April.

Female fairy shrimp carry their eggs in a ventral brood sac. The eggs either are dropped to the pool bottom or remain in the brood sac until the mother dies and sinks. When the pool dries out, so do the eggs. They remain in the dry pool bed until rains and other environmental stimuli hatch them.

Resting fairy shrimp eggs are known as *cysts*. They are capable of withstanding heat, cold and prolonged desiccation. When the pools refill, some, but not all, of the cysts may hatch. The cyst bank in the soil may contain cysts from several years of breeding.

Hatching can begin within the same week that a pool starts to fill. Average time to maturity is forty-nine days. In warmer pools, it can be as little as nineteen. (Eriksen and Belk 1999)

DISTRIBUTION

Currently, the Service is aware of eight populations of Conservancy fairy shrimp, which include (from north to south): (1) Vina Plains, Butte and Tehama counties; (2) Sacramento National Wildlife Refuge, Glenn County; (3) Yolo Bypass Wildlife Area, Yolo County; (4) Jepson Prairie, Solano County; (5) Mapes Ranch, Stanislaus County; (6) University of California, Merced, Merced County; (7) Grasslands Ecological Area, Merced County and (8) Los Padres National Forest, Ventura County.

THREATS

Habitat loss and fragmentation is the largest threat to the survival and recovery of vernal pool species. Habitat loss generally is a result of urbanization, agricultural conversion, and mining.

Habitat loss also occurs in the form of habitat alteration and degradation as a result of changes to natural hydrology, invasive species, incompatible grazing regimes, including insufficient grazing for prolonged periods; infrastructure projects (e.g., roads, water storage and conveyance, utilities), recreational activities (e.g., off-highway vehicles and hiking), erosion, climatic and environmental change, and contamination.

REFERENCES FOR ADDITIONAL INFORMATION

Eriksen, C.H., and D. Belk. 1999. Fairy shrimps of California's puddles, pools, and playas, Mad River Press, Eureka, CA.

Holland, R.F. 1978. The geographic and edaphic distribution of vernal pools in the Great Central Valley, California. California Native Plant Society, Special Publication 4:1-12.

Holland, R. F., and S. Jain. 1988. Vernal pools. Pages 515-533 *In*: M.E. Barbour and J. Major, eds. Terrestrial vegetation of California, new expanded edition. California Native Plant Society, Special Publication Number 9, Sacramento, CA.

U.S. Fish & Wildlife Service. 1994. Endangered and Threatened Wildlife and Plants; [Determination of Endangered Status](#) for the Conservancy Fairy Shrimp, Longhorn Fairy Shrimp, and the Vernal Pool Tadpole Shrimp; and Threatened Status for the Vernal Pool Fairy Shrimp. Portland, Oregon.

U.S. Fish and Wildlife Service. 2003. Endangered and Threatened Wildlife and Plants; [Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon Vernal pool crustaceans and plants in California and Oregon](#). Portland, Oregon.

U.S. Fish and Wildlife Service. 2005. Endangered and Threatened Wildlife and Plants; [Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Evaluation of Economic Exclusions From August 2003 Final Designation; Final Rule](#). Portland, Oregon.

U.S. Fish and Wildlife Service. 2006. Endangered and Threatened Wildlife and Plants; [Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants; Final Rule](#). Portland, Oregon.

U.S. Fish and Wildlife Service. 2005. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Portland, Oregon.

Photo Credit: Dwight Harvey, U.S. Fish & Wildlife Service

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Last updated October 15, 2007



U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
VERNAL POOL FAIRY SHRIMP
Branchinecta lynchi



CLASSIFICATION: Threatened
Federal Register 59-48136; September 19, 1994
http://ecos.fws.gov/docs/federal_register/fr2692.pdf

On October 9, 2007, we published a [5-year review](#) recommending that the species remain listed as threatened.



CRITICAL HABITAT: Designated
Originally designated in [Federal Register 68:46683](#); August 6, 2003.
The designation was revised in FR [70:46923](#); August 11, 2005.
Species by unit designations were published in [FR 71:7117](#) (PDF), February 10, 2006.

RECOVERY PLAN: Final
Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon, December 15, 2005. http://ecos.fws.gov/docs/recovery_plan/060614.pdf

DESCRIPTION

The vernal pool fairy shrimp (*Branchinecta lynchi*), is a small crustacean in the Branchinectidae family. It ranges in size from ½ to one inch long. Fairy shrimp feed on algae, bacteria, protozoa, rotifers and bits of detritus.

Fairy shrimp are aquatic species in the order Anostraca. They have delicate elongate bodies, large stalked compound eyes, no carapaces, and eleven pairs of swimming legs. They glide gracefully upside down, swimming by beating their legs in a complex, wavelike movement that passes from front to back.

The vernal pool fairy shrimp occupies a variety of different vernal pool habitats, from small, clear, sandstone rock pools to large, turbid, alkaline, grassland valley floor pools. Although the species has been collected from large vernal pools, including one exceeding 25 acres, it tends to occur in smaller pools. It is most frequently found in pools measuring less than 0.05 acre. These are most commonly in grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands. Vernal pool fairy shrimp have been collected from early December to early May.

Female fairy shrimp carry their eggs in a ventral brood sac. The eggs either are dropped to the pool bottom or remain in the brood sac until the mother dies and sinks. When the pool dries out, so do the eggs. They remain in the dry pool bed until rains and other environmental stimuli hatch them.

Resting fairy shrimp eggs are known as *cysts*. They are capable of withstanding heat, cold and prolonged desiccation. When the pools refill, some, but not all, of the cysts may hatch. The cyst bank in the soil may contain cysts from several years of breeding. Average time to maturity is only forty-one days. In warmer pools, it can be as little as eighteen. (Eriksen and Belk 1999)

DISTRIBUTION

The vernal pool fairy shrimp was identified relatively recently, in 1990, and there is little information on the historical range of the species. However, the vernal pool fairy shrimp is currently known to occur in a wide range of vernal pool habitats in the southern and Central Valley areas of California, and in two vernal pool habitats within the "Agate Desert" area of Jackson County, Oregon.

THREATS

Habitat loss and fragmentation is the largest threat to the survival and recovery of vernal pool species. Habitat loss generally is a result of urbanization, agricultural conversion, and mining.

Habitat loss also occurs in the form of habitat alteration and degradation as a result of changes to natural hydrology, invasive species, incompatible grazing regimes, including insufficient grazing for prolonged periods; infrastructure projects (e.g., roads, water storage and conveyance, utilities), recreational activities (e.g., off-highway vehicles and hiking), erosion, climatic and environmental change, and contamination.

REFERENCES FOR ADDITIONAL INFORMATION

There is a special [vernal pool fairy shrimp species account](#) for 4th, 5th and 6th grade students.

Eriksen, C.H., and D. Belk. 1999. Fairy shrimps of California's puddles, pools, and playas, Mad River Press, Eureka, CA.

Holland, R.F. 1978. The geographic and edaphic distribution of vernal pools in the Great Central Valley, California. California Native Plant Society, Special Publication 4:1-12.

Holland, R. F., and S. Jain. 1988. Vernal pools. Pages 515-533 *In*: M.E. Barbour and J. Major, eds. Terrestrial vegetation of California, new expanded edition. California Native Plant Society, Special Publication Number 9, Sacramento, CA.

U.S. Fish & Wildlife Service. 1994. Endangered and Threatened Wildlife and Plants; [Determination of Endangered Status](#) for the Conservancy Fairy Shrimp, Longhorn Fairy Shrimp, and the Vernal Pool Tadpole Shrimp; and Threatened Status for the Vernal Pool Fairy Shrimp. Portland, Oregon.

U.S. Fish and Wildlife Service. 2003. Endangered and Threatened Wildlife and Plants; [Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon](#) [vernal pool crustaceans and plants in California and Oregon](#). Portland, Oregon.

U.S. Fish and Wildlife Service. 2005. Endangered and Threatened Wildlife and Plants; [Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Evaluation of Economic Exclusions From August 2003 Final Designation; Final Rule](#). Portland, Oregon.

U.S. Fish and Wildlife Service. 2006. Endangered and Threatened Wildlife and Plants: [Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants; Final Rule](#). Portland, Oregon.

U.S. Fish and Wildlife Service. 2005. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Portland, Oregon.

Photo Credit: Dwight Harvey, U.S. Fish & Wildlife Service

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Last updated October 11, 2007



U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
VALLEY ELDERBERRY LONGHORN BEETLE
Desmocerus californicus dimorphus



CLASSIFICATION: Threatened

Federal Register 45:52803; August 8, 1980

http://ecos.fws.gov/docs/federal_register/fr449.pdf

On Feb. 14, 2007 we completed a 5-year review, which recommended that the species be delisted. A delisting proposal has not yet been released.



CRITICAL HABITAT: DESIGNATED

Federal Register 45:52803; August 8, 1980. http://ecos.fws.gov/docs/federal_register/fr449.pdf
See [map](#) (PDF)

RECOVERY PLAN: FINAL

[Valley Elderberry Longhorn Beetle Recovery Plan](#) (PDF), 6-28-84. This plan is now out-dated.

DESCRIPTION

Longhorn beetles (family Cerambycidae) are characterized by somewhat elongate, cylindrical bodies with long antennae, often more than 2/3 of the body length. Valley elderberry longhorn beetles (*Desmocerus californicus dimorphus*) are stout-bodied.

Males range in length from about 1/2 to nearly 1 inch (measured from the front of the head to the end of the abdomen) with antennae about as long as their bodies. Females are slightly more robust than males, measuring about 3/4 to 1 inch, with somewhat shorter antennae. Adult males have red-orange elytra (wing covers) with four elongate spots. The red-orange fades to yellow on some museum specimens. Adult females have dark colored elytra.

There are four stages in the animal's life: egg, larva, pupa and adult. The species is nearly always found on or close to its host plant, elderberry (*Sambucus* species). Females lay their eggs on the bark. Larvae hatch and burrow into the stems. The larval stage may last 2 years, after which the larvae enter the pupal stage and transform into adults. Adults are active from March to June, feeding and mating.

It appears that in order to serve as habitat, the shrubs must have stems that are 1.0 inch or greater in diameter at ground level. Use of the plants by the animal is rarely apparent. Frequently, the only exterior evidence of the shrub's use by the beetle is an exit hole created by the larva just before the pupal stage. Field work along the Cosumnes River and in the Folsom Lake area suggests that larval galleries can be found in elderberry stems with no evidence of exit holes. The larvae either succumb before constructing an exit hole or are not far enough along in the developmental process to construct an exit hole.

DISTRIBUTION

At the time of listing in 1980, the beetle was known from less than 10 locations on the American River, Putah Creek and Merced River. Now it is known to occur from southern Shasta County to Fresno County. There are about 190 records, mostly based on exit holes.

THREATS

Extensive destruction of California's Central Valley riparian forests has occurred during the last 150 years due to agricultural and urban development. According to some estimates, riparian forest in the Central Valley have declined by as much as 89 percent during that time period. The valley elderberry longhorn beetle, though wide-ranging, is in long-term decline due to human activities that have resulted in widespread alteration and fragmentation of riparian habitats, and to a lesser extent, upland habitats, which support the beetle.

The primary threats to survival of the beetle include:

- loss and alteration of habitat by agricultural conversion
- inappropriate grazing
- levee construction, stream and river channelization, removal of riparian vegetation and rip-rapping of shoreline
- nonnative animals such as the Argentine ant, which may eat the early phases of the beetle
- recreational, industrial and urban development.

Insecticide and herbicide use in agricultural areas and along road right-of-ways may be factors limiting the beetle's distribution. The age and quality of individual elderberry shrubs/trees and stands as a food plant for beetle may also be a factor in its limited distribution.

We have specific [Conservation Guidelines for the Valley Elderberry Longhorn Beetle](#) (PDF). [Contact our office](#) for more information.

REFERENCES FOR ADDITIONAL INFORMATION

Barr, C. 1991. [The Distribution, Habitat, and Status of the Valley Elderberry Longhorn Beetle](#) *Desmocerus californicus dimorphus*. Sacramento, CA.

Eng, L. L., 1984. Rare, threatened and endangered invertebrates in California riparian systems. In: California riparian systems Ecology, conservation, and productive management, ed. R. E. Warner and K. M. Hendrix. Berkeley: University of California Press.

Thelander, C. ed. 1994. Life on the edge: a guide to California's endangered natural resources. BioSystem Books. Santa Cruz, CA. p 414-415.

U.C. Berkeley, Essig Museum of Entomology. [California's Endangered Insects](#).

U.S. Fish and Wildlife Service. 1996. [Valley elderberry longhorn beetle consultation with the U.S. Army Corps of Engineers](#). Sacramento, California. Appendix: [Conservation Guidelines for the Valley Elderberry Longhorn Beetle](#) (PDF), Updated July 9, 1999.

Credits: Richard A. Arnold

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Last updated May 20, 2009



U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
VERNAL POOL TADPOLE SHRIMP
Lepidurus packardii



CLASSIFICATION: Endangered
Federal Register 59-48136; September 19, 1994
http://ecos.fws.gov/docs/federal_register/fr2692.pdf

On October 9, 2007, we published a [5-year review](#) recommending that the species remain listed as endangered.



CRITICAL HABITAT: Designated
Originally designated in [Federal Register 68:46683](#); August 6, 2003.
The designation was revised in FR [70:46923](#); August 11, 2005.
Species by unit designations were published in [FR 71:7117](#) (PDF), February 10, 2006.

RECOVERY PLAN: Final
Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon, December 15, 2005. http://ecos.fws.gov/docs/recovery_plan/060614.pdf

DESCRIPTION

The vernal pool tadpole shrimp (*Lepidurus packardii*) is a small crustacean in the Triopsidae family. It has compound eyes, a large shield-like carapace (shell) that covers most of the body, and a pair of long cercopods (appendages) at the end of the last abdominal segment. Vernal pool tadpole shrimp adults reach a length of 2 inches in length. They have about 35 pairs of legs and two long cercopods. This species superficially resembles the rice field tadpole shrimp (*Triops longicaudatus*).

Tadpole shrimp climb or scramble over objects, as well as plowing along or within bottom sediments. Their diet consists of organic debris and living organisms, such as fairy shrimp and other invertebrates. This animal inhabits vernal pools containing clear to highly turbid water, ranging in size from 54 square feet in the former Mather Air Force Base area of Sacramento County, to the 89-acre Olcott Lake at Jepson Prairie.

The life history of the vernal pool tadpole shrimp is linked to the seasonal cycle of the vernal pool. After winter rainwater fills the pool, the population is reestablished from cysts that lie dormant in the dry pool sediments. Sexually mature adults have been observed in vernal pools three to four weeks after the pools had been filled. Some cysts hatch immediately and the others remain dormant in the soil to hatch during later rainy seasons.

DISTRIBUTION

The vernal pool tadpole shrimp has a patchy distribution across the Central Valley of California, from Shasta County southward to northwestern Tulare County, with isolated occurrences in Alameda and Contra Costa Counties.

Although vernal pool tadpole shrimp are spread over a wide geographic range, their habitat is highly fragmented and they are uncommon where they are found (Helm 1998; Service 2005a).

The [California Natural Diversity Database](#) currently reports 226 occurrences of vernal pool tadpole shrimp in the following 19 counties: Alameda, Butte, Colusa, Contra Costa, Fresno, Glenn, Kings, Merced, Placer, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo, and Yuba. Sacramento County contains 28 percent, the greatest amount, of the known occurrences

THREATS

Habitat loss and fragmentation is the largest threat to the survival and recovery of vernal pool species. Habitat loss generally is a result of urbanization, agricultural conversion, and mining.

Habitat loss also occurs in the form of habitat alteration and degradation as a result of changes to natural hydrology, invasive species, incompatible grazing regimes, including insufficient grazing for prolonged periods; infrastructure projects (e.g., roads, water storage and conveyance, utilities), recreational activities (e.g., off-highway vehicles and hiking), erosion, climatic and environmental change, and contamination.

REFERENCES FOR ADDITIONAL INFORMATION

Eriksen, C.H., and D. Belk. 1999. Fairy shrimps of California's puddles, pools, and playas, Mad River Press, Eureka, CA.

Holland, R.F. 1978. The geographic and edaphic distribution of vernal pools in the Great Central Valley, California. California Native Plant Society, Special Publication 4:1-12.

Holland, R. F., and S. Jain. 1988. Vernal pools. Pages 515-533 *In*: M.E. Barbour and J. Major, eds. Terrestrial vegetation of California, new expanded edition. California Native Plant Society, Special Publication Number 9, Sacramento, CA.

U.S. Fish & Wildlife Service. 1994. Endangered and Threatened Wildlife and Plants; [Determination of Endangered Status](#) for the Conservancy Fairy Shrimp, Longhorn Fairy Shrimp, and the Vernal Pool Tadpole Shrimp; and Threatened Status for the Vernal Pool Fairy Shrimp. Portland, Oregon.

U.S. Fish and Wildlife Service. 2003. Endangered and Threatened Wildlife and Plants; [Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon](#) [Vernal pool crustaceans and plants in California and Oregon](#). Portland, Oregon.

U.S. Fish and Wildlife Service. 2005. Endangered and Threatened Wildlife and Plants; [Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Evaluation of Economic Exclusions From August 2003](#) [Final Designation; Final Rule](#). Portland, Oregon.

U.S. Fish and Wildlife Service. 2006. Endangered and Threatened Wildlife and Plants; [Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants; Final Rule](#). Portland, Oregon.

U.S. Fish and Wildlife Service. 2005. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Portland, Oregon.

Photo Credit: Dwight Harvey, U.S. Fish & Wildlife Service

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U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
DELTA SMELT
Hypomesus transpacificus



CLASSIFICATION: Threatened
Federal Register 58:12854; March 5, 1993
http://ecos.fws.gov/docs/federal_register/fr2235.pdf
[Five Year Status Review](#) (PDF), March 31, 2004



CRITICAL HABITAT: DESIGNATED
Federal Register 59:65256; December 19, 1994
http://ecos.fws.gov/docs/federal_register/fr2751.pdf
See critical habitat [map](#) (PDF)

RECOVERY PLAN: FINAL
Recovery Plan for the Sacramento-San Joaquin Delta Native Fishes, November 26, 1996
http://ecos.fws.gov/docs/recovery_plan/961126.pdf. Note: Some information is out of date.

See our [Delta Update](#), [OCAP BO Actions](#) and [Delta Smelt Recovery](#) pages. It includes information about OCAP (the Long-Term Operations and Criteria Plan for coordination of the Central Valley Project and State Water Project). See also our [Delta Smelt Working Group](#) page, which also covers the Delta Smelt Risk Assessment Matrix (DSRAM).

5-YEAR STATUS REVIEW
On March 24, 2009, we initiated a five year status review of the delta smelt (and other species). [News Release](#). Comment Deadline: May 26, 2009 Federal Register Notice [TEXT](#) | [PDF](#) (73 KB)

DESCRIPTION

Delta smelt (*Hypomesus transpacificus*) are slender-bodied fish, about 2 to 3 inches long. They are in the Osmeridae family (smelts). They have a steely blue sheen on the sides and seem almost translucent. Smelts live together in schools and feed on zooplankton (small fishes and invertebrates).

Delta smelt are an euryhaline species (tolerant of a wide salinity range). They have been collected from estuarine waters up to 14 ppt (parts per thousand) salinity. For a large part of their one-year life span, delta smelt live along the freshwater edge of the mixing zone (saltwater-freshwater interface), where the salinity is approximately 2 ppt.

Shortly before spawning, adults migrate upstream from the brackish-water habitat associated with the mixing zone and disperse widely into river channels and tidally influenced backwater sloughs. They spawn in shallow, fresh or slightly brackish water upstream of the mixing zone.

Most spawning happens in tidally influenced backwater sloughs and channel edgewater. Although spawning has not been observed in the wild, the eggs are thought to attach to substrates such as cattails, tules, tree roots and submerged branches.

DISTRIBUTION

Delta smelt are found only from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano and Yolo counties. Their historic range is thought to have extended from Suisun Bay upstream to at least the city of Sacramento on the Sacramento River and Mossdale on the San Joaquin River. They used to be one of the most common pelagic (living in open water away from the bottom) fish in the upper Sacramento-San Joaquin Estuary.

THREATS

Factors thought to have contributed to the decline of the species include reductions in freshwater outflow, entrainment losses to water diversions, entrainment at power plant intakes, changes abundance and composition of food organisms, environmental contaminants, and competition and predation from exotic invasive aquatic species.

Impact of riprapping: Riprap is rock, concrete and other material placed on the banks of a river to reduce erosion. It can impact aquatic organisms such as Delta smelt. Read our 2004 report: [Impacts of Riprapping to Aquatic Organisms and River Functioning, Lower Sacramento River, California.](#)

PROGRAMMATIC CONSULTATION

The Service's [Programmatic Consultation with the U.S. Army Corps of Engineers](#) on the issuance of section 10 and 404 permits streamlines projects with relatively small effects on the Delta smelt.

REFERENCES FOR ADDITIONAL INFORMATION

Note: There is a special [Delta smelt species account](#) for 4th, 5th and 6th grade students.

Moyle, P. B., B. Herbold, D. E. Stevens, and L. W. Miller. 1992. Life history and status of delta smelt in the Sacramento-San Joaquin Estuary, California. Transactions of the American Fisheries Society. 121:67-77.

Nichols, F.H., J.E. Cloern, S.N. Luoma, and D.H. Peterson 1986. The modification of an estuary. Science 231:567-573.

Thelander, C. ed. 1994. Life on the edge: a guide to California's endangered natural resources. BioSystem Books. Santa Cruz, CA. p 342-344.

U.S. Fish and Wildlife Service. 1996. Sacramento-San Joaquin Delta Native Fishes Recovery Plan. Portland, Oregon.

U.S. Fish and Wildlife Service. 2004. [Impacts of Riprapping to Aquatic Organisms and River Functioning, Lower Sacramento River, California.](#) Sacramento, CA.

Wang, J.C.S. 1986. [Fishes of the Sacramento-San Joaquin Estuary and Adjacent Waters, California: A Guide to the Early Life Histories.](#)

Credits: Fish & Wildlife Service photo

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

Phone (916) 414-6600
FAX (916) 414-6713

Last updated March 25, 2009



Species Profile

Environmental Conservation Online System



Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*)

Kingdom: Animalia

Class: Actinopterygii

Order: Salmoniformes

Family: Salmonidae

Listing Status: **Threatened**

Where Listed: **WHEREVER FOUND**

Quick links: [Federal Register](#) [Action Plans](#) [Recovery](#) [Critical Habitat](#) [Conservation Plans](#) [Petitions](#) [Life History](#) [Other Resources](#)

This species is listed wherever it is found, but

- **States/US Territories** in which the Lahontan cutthroat trout, Entire is known to or is believed to occur: [California](#) , [Nevada](#) , [Oregon](#) , [Utah](#)
- **US Counties** in which the Lahontan cutthroat trout, Entire is known to or is believed to occur: [View All](#)
- **Countries** in which the the Lahontan cutthroat trout, Entire is known to occur: United States
- **For more information:** http://ecos.fws.gov/docs/life_histories/E00Y.html

Current Listing Status Summary

Status	Date Listed	Lead Region	Where Listed
Threatened	10/13/1970	California/Nevada Region (Region 8)	Entire

» **Federal Register Documents**

Most Recent Federal Register Documents (Showing 5 of 12: [view all](#))

Date	Citation Page	Title
04/01/2013	78 FR 19510 19514	Initiation of 5-Year Reviews of 56 Species in California and Nevada; request for information
05/21/2010	75 FR 28636 28642	Initiation of 5-Year Reviews of 34 Species in California and Nevada; Availability of 96 Completed 5-Year Reviews in California and Nevada
09/09/2008	73 FR 52257 52260	90-Day Finding on a Petition To Delist the Lahontan Cutthroat Trout
02/14/2007	72 FR 7064 7084	Initiation of 5-Year Reviews of 58 Species in California and Nevada; Availability of Completed 5-Year Reviews in California and Nevada
03/07/2005	70 FR 11022 11024	Preparation of an Environmental Impact Statement for Issuance of an Incidental Take Permit Associated with a Habitat Conservation Plan for Western Placer County, CA

Most Recent Special Rule Publications (Showing 2 of 2)

Date	Citation Page	Title
07/16/1975	40 FR 29863 29864	Threatened Status for Three Species of Trout; 40 FR 29863 29864 (Lahontan cutthroat, <i>Salmo clarki henshawi</i>; Paiute cutthroat, <i>Salmo clarki seleniris</i>; Arizona trout, <i>Salmo apache</i>)
04/23/1975	40 FR 17847 17848	Proposed Threatened Status for 3 Species of Trout (3); 50 CFR Part 17; 40 FR 17847 17848 (Lahontan

	cutthroat, Paiute cutthroat, Arizona trout, Salmo clarki henshawi, Salmo clarki seleniris, Salmo apache)
--	--------------------------------------------------------------------------------------------------------------------------

» Action Plans

Action Plans (Showing 1 of 1)

Date	Title
09/22/2009	Lahontan cutthroat trout Spotlight Species Action Plan

» Recovery

[Recovery Plan Information Search](#)

- [Information Search FAQs](#)

Current Recovery Plan(s)

Date	Title	Plan Action Status	Plan Status
01/30/1995	Lahontan Cutthroat Trout (Oncorhynchus clarki henshawi) Recovery Plan	View Implementation Progress	Final

Other Recovery Documents (Showing 3 of 3)

Date	Citation Page	Title	Document Type
04/01/2013	78 FR 19510 19514	Initiation of 5-Year Reviews of 56 Species in California and Nevada; request for information	• Notice 5-year Review, Initiation
05/21/2010	75 FR 28636 28642	Initiation of 5-Year Reviews of 34 Species in California and Nevada; Availability of 96 Completed 5-Year Reviews in California and Nevada	• Notice 5-year Review, Completion
02/14/2007	72 FR 7064 7084	Initiation of 5-Year Reviews of 58 Species in California and Nevada; Availability of Completed 5-Year Reviews in California and Nevada	• Notice 5-year Review, Initiation

Five Year Review

Date	Title
03/30/2009	Lahontan Cutthroat Trout 5-Year Review

» Critical Habitat

No critical habitat rules have been published for the Lahontan cutthroat trout, Entire.

» Conservation Plans

Safe Harbor Agreements (SHA): ([learn more](#)) (Showing 3 of 3)

SHA Plan Summaries
Lahontan Cutthroat Trout Humboldt DPS
Lahontan Cutthroat Trout Northwest DPS
ODFW Lahontan cutthroat trout SHA

Candidate Conservation Agreements (CCA): ([learn more](#)) (Showing 1 of 1)

CCA Plan Summaries
Spring Mountains National Recreation Area

» Petitions

Most Recent Petition Findings (Showing 4 of 4)

Date	Citation Page	Title	Finding
09/09/2008	73 FR 52257 52260	90-Day Finding on a Petition To Delist the Lahontan Cutthroat Trout	• Notice 90-day Petition Finding, Not substantial
06/01/1994	59 FR 28329 28330	ETWP; 90-Day Finding on a Petition to Delist the Lahontan Cutthroat Trout (<i>Onchorynchus clarki henshawi</i>) Within the Humboldt River Drainage Basin in Nevada	• Notice 90-day Petition Finding, Not substantial
08/20/1986	51 FR 29671 29673	Findings on Petitions & Initiation of Status Reviews; 51 FR 29671-29673	• Notice 12 month petition finding, Not warranted
08/30/1985	50 FR 35272 35273	Notice of Findings on 2 Petitions & Review of 2 Species; 50 FR 35272-35273	• Notice 90-day Petition Finding, Substantial

» Life History

Habitat Requirements

Specific habitat requirements for cutthroat trout are described in Hickman and Raleigh (1982, pp. 3-7) and summarized below. Optimal stream habitat is characterized by clear, cold water with silt-free substrate and a 1:1 pool-riffle ratio. Streams should have a variety of habitats including areas with slow deep water, abundant instream cover (i.e., large woody debris, boulders, undercut banks), and relatively stable streamflow and temperature regimes. Streambanks should be well vegetated to provide cover, shade, and bank stabilization. Lacustrine LCT populations have adapted to a wide variety of lake habitats from oligotrophic (with low nutrient levels and primary productivity) alpine lakes (e.g., Independence Lake) to large, productive desert terminal lakes (e.g., Pyramid Lake). Unlike most freshwater fish species, LCT have been

reported to tolerate alkalinity and total dissolved solid levels as high as 3,000 milligrams/liter (mg/L) (3,000 parts per million (ppm)) and 10,000 mg/L (10,000 ppm), respectively (Dickerson and Vinyard 1999a, pp. 510-514).

Food Habits

Stream-resident LCT are opportunistic feeders, with diets consisting of drift organisms, typically terrestrial and aquatic insects (Moyle 2002, p. 290; Dunham et al. 2000, p. 308). Recent literature has documented the importance of terrestrial insects in the diet of stream salmonids (Baxter et al. 2005, pp. 201-214). In lakes, small LCT feed largely on insects and zooplankton (Calhoun 1942, pp. 197-199; McAfee 1966, p. 228; Lea 1968, pp. 59-63), and larger LCT become piscivorous. In Pyramid Lake, fish enter the diet when LCT reach 200 mm (7.9 in) in length, comprise over 50 percent of the diet at 300 mm (11.8 in), and represent almost 100 percent of the diet when LCT are over 500 mm (19.7 in) (Sigler et al. 1983, p. 16).

Reproductive Strategy

Lahontan cutthroat trout inhabit lakes and streams, but are obligatory stream spawners. Distance traveled to spawning sites varies with stream size and strain of LCT (strain refers to locally adapted populations in a particular area or environment). Populations in Pyramid and Winnemucca Lakes migrated as far as 160 kilometers (km) (100 miles (mi)) up the Truckee River into Lake Tahoe and its tributary streams (Sumner 1940, p. 217; Peacock and Kirchoff 2007, pp. 74-75). Small, intermittent, tributary streams and headwater reaches are sometimes used as spawning sites (Coffin 1981, p. 31). Spawning generally occurs from April through July, depending upon stream flow, elevation, and water temperature (McAfee 1966, p. 227; Lea 1968, pp. 68-69; Moyle 2002, p. 291; Rissler et al. 2006, pp. 13-15). LCT in fluvial environments generally become sexually mature around year three (Ray et al. 2007, p. 40) while LCT in lacustrine environments become sexually mature between 3 and 4 years of age (Rissler et al. 2006, p. 35). The Pilot Peak broodstock, derived from the Pilot Peak range in Utah and now known to have originated from the Truckee River watershed, sexually matures between 3 and 4 years with less than 10 percent maturing at age 5 and above (Jay Bigelow 2009, personal communication).

» Other Resources

[NatureServe Explorer Species Reports](#) -- NatureServe Explorer is a source for authoritative conservation information on more than 50,000 plants, animals and ecological communities of the U.S and Canada. NatureServe Explorer provides in-depth information on rare and endangered species, but includes common plants and animals too. NatureServe Explorer is a product of NatureServe in collaboration with the Natural Heritage Network.

[ITIS Reports](#) -- ITIS (the Integrated Taxonomic Information System) is a source for authoritative taxonomic information on plants, animals, fungi, and microbes of North America and the world.

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Species Profile

Environmental Conservation Online System

steelhead (*Oncorhynchus (=salmo) mykiss*)

Kingdom: Animalia

Class: Actinopterygii

Order: Salmoniformes

Family: Salmonidae

Listing Status: **Endangered** ([and others listed below](#))

Quick links: [Federal Register](#) [Recovery](#) [Critical Habitat](#) [Conservation Plans](#) [Petitions](#) [Life History](#) [Other Resources](#)

General Information

Steelhead trout (*Oncorhynchus mykiss*) belong to the family Salmonidae which includes all salmon, trout, and chars. Steelhead are similar to some Pacific salmon in their life cycle and ecological requirements. They are born in fresh water streams, where they spend their first 1-3 years of life. They then emigrate to the ocean where most of their growth occurs. After spending between one to four growing seasons in the ocean, steelhead return to their native fresh water stream to spawn. Unlike Pacific salmon, steelhead do not necessarily die after spawning and are able to spawn more than once.

Population detail

The FWS is currently monitoring the following populations of the steelhead

- **Population location:** Southern California DPS - See 50 CFR 224.101
Listing status: **Endangered**
 - **States/US Territories** in which this population is known to or is believed to occur: [California](#)
 - **US Counties** in which this population is known to or is believed to occur: [View All](#)

- **Population location:** Northern California DPS - See 50 CFR 223.102
Listing status: **Threatened**
- **States/US Territories** in which this population is known to or is believed to occur: [California](#)
- **US Counties** in which this population is known to or is believed to occur: [View All](#)
- **Population location:** Middle Columbia River DPS - See 50 CFR 223.102
Listing status: **Threatened**
- **States/US Territories** in which this population is known to or is believed to occur: [Oregon](#)
- **US Counties** in which this population is known to or is believed to occur: [View All](#)
- **Population location:** Upper Willamette River DPS - See 50 CFR 223.102
Listing status: **Threatened**
- **States/US Territories** in which this population is known to or is believed to occur: [Oregon](#) , [Washington](#)
- **US Counties** in which this population is known to or is believed to occur: [View All](#)
- **Population location:** Upper Columbia River DPS - See 50 CFR 223.102
Listing status: **Threatened**
- **States/US Territories** in which this population is known to or is believed to occur: [Washington](#)
- **US Counties** in which this population is known to or is believed to occur: [View All](#)
- **Population location:** South-Central California Coast DPS - See 50 CFR 223.102
Listing status: **Threatened**
- **States/US Territories** in which this population is known to or is believed to occur: [California](#)
- **US Counties** in which this population is known to or is believed to occur: [View All](#)
- **Population location:** Lower Columbia River DPS - See 50 CFR 223.102
Listing status: **Threatened**
- **States/US Territories** in which this population is known to or is believed to occur: [Oregon](#) , [Washington](#)
- **US Counties** in which this population is known to or is believed to occur: [View All](#)
- **Population location:** Central California Coast DPS - See 50 CFR 223.102
Listing status: **Threatened**
- **States/US Territories** in which this population is known to or is believed to occur: [California](#)
- **US Counties** in which this population is known to or is believed to occur: [View All](#)
- **Population location:** Snake River Basin DPS - See 50 CFR 223.102
Listing status: **Threatened**

- **States/US Territories** in which this population is known to or is believed to occur: [Oregon](#) , [Washington](#)
- **US Counties** in which this population is known to or is believed to occur: [View All](#)
- **Population location:** California Central Valley DPS - See 50 CFR 223.102
Listing status: **Threatened**
- **States/US Territories** in which this population is known to or is believed to occur: [California](#)
- **US Counties** in which this population is known to or is believed to occur: [View All](#)
- **USFWS Refuges** in which this population is known to occur: BUTTE SINK NATIONAL WILDLIFE REFUGE, SACRAMENTO RIVER NATIONAL WILDLIFE REFUGE, SUTTER NATIONAL WILDLIFE REFUGE
- **Population location:** Klamath Mountains Province steelhead(*Oncorhynchus mykiss*).Includes all Naturally spawned populations of Steelhead (and their progeny) in coastal river basins ranging from the Elk River in Curry County, Oregon, to the Klamath River, inclusive, in Del Norte County, California
Listing status: **Under Review**
- **States/US Territories** in which this population is known to or is believed to occur: [California](#) , [Oregon](#)
- **US Counties** in which this population is known to or is believed to occur: [View All](#)

Current Listing Status Summary

Status	Date Listed	Lead Region	Where Listed
Endangered	06/17/1998	National Marine Fisheries Service (Region 11)	Southern California DPS
Threatened	08/07/2000	National Marine Fisheries Service (Region 11)	Northern California DPS
Threatened	08/02/1999	National Marine Fisheries Service (Region 11)	Middle Columbia River DPS
Threatened	08/02/1999	National Marine Fisheries Service (Region 11)	Upper Willamette River DPS
Threatened	06/17/1998	National Marine Fisheries Service (Region 11)	Upper Columbia River DPS
Threatened	06/17/1998	National Marine Fisheries Service (Region 11)	South-Central California Coast DPS
Threatened	06/17/1998	National Marine Fisheries Service (Region 11)	Lower Columbia River DPS
Threatened	06/17/1998	National Marine Fisheries Service (Region 11)	Central California Coast DPS
Threatened	06/17/1998	National Marine Fisheries Service (Region 11)	Snake River Basin DPS

Current Listing Status Summary

Status	Date Listed	Lead Region	Where Listed
Threatened	06/17/1998	National Marine Fisheries Service (Region 11)	California Central Valley DPS
Under Review		National Marine Fisheries Service (Region 11)	Klamath Mountains Province

» Federal Register Documents

Most Recent Federal Register Documents (Showing 5 of 32: [view all](#))

Date	Citation Page	Title
07/23/2014	79 FR 42687 42696	Marine and Anadromous Taxa: Additions, Removal, Updates, and Corrections to the List of Endangered and Threatened Wildlife
03/05/2008	73 FR 11870 11871	Availability of a Draft Environmental Assessment/Habitat Conservation Plan, and Receipt of Applications for Incidental Take Permits from the Broughton Land Company, Columbia County, Washington
01/05/2006	71 FR 834 862	Endangered and Threatened Species: Final Listing Determinations for 10 Distinct Population Segments of West Coast Steelhead; Final Rule
11/15/2005	70 FR 69348 69350	Notice of Intent to Conduct Public Scoping Meetings and to Prepare an Environmental Impact Statement Related to the Bi-State Water Diversion Habitat Conservation Plan for the Walla Walla River Basin
09/02/2005	70 FR 52488 52627	Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California

Most Recent Special Rule Publications (Showing 2 of 2)

Date	Citation Page	Title
07/10/2000	65 FR 42422 42481	Endangered and Threatened Species; Final Rule Governing Take of 14 Threatened Salmon and Steelhead Evolutionarily Significant Units (ESUs)
12/30/1999	64 FR 73479 73506	Endangered and Threatened Species; Proposed Rule Governing Take of Threatened Snake River, Central California Coast, South/Central California Coast, Lower Columbia River, Central Valley California, Middle Columbia River, and Upper Willamette River Evolutionarily Significant Units (ESUs) of West Coast Steelhead

» Recovery

[Recovery Plan Information Search](#)

- [Information Search FAQs](#)

Other Recovery Documents (Showing 4 of 4)

Date	Citation Page	Title	Document Type
05/07/2001	66 FR 23004 23005	NOAA/NMFS; Notice of availability and Request for Comment on the Fisheries Management and Evaluation Plan for the upper Willamette River Steelhead.	<ul style="list-style-type: none"> • Notice Doc. Availability • Notice NMFS Notice • Notice Request for Comment
05/04/2001	66 FR 22532 22533	NOAA/NMFS Notice of Availability and Request for Comment; Four fisheries Management and Evaluation Plans (FMEP)for the Middle Columbia River Steelhead	<ul style="list-style-type: none"> • Notice Doc. Availability • Notice NMFS Notice • Notice Request for Comment
05/04/2001	66 FR 22533 22534	NOAA/NMFS Notice of Availability and Request for Comment; Management and Evaluation Plans (FMEP)for the Snake River Steelhead	<ul style="list-style-type: none"> • Notice Doc. Availability • Notice NMFS Notice • Notice Request for Comment
05/04/2001	66 FR 22534 22535	NOAA/NMFS Notice of Availability and Request for Comment; Fisheries Management and Evaluation Plans (FMEP)for the Lower Columbia River Steelhead	<ul style="list-style-type: none"> • Notice Doc. Availability • Notice NMFS Notice • Notice Request for Comment

» **Critical Habitat**

Current Critical Habitat Documents (Showing 3 of 3)

Date	Citation Page	Title	Document Type	Status
09/02/2005	70 FR 52488 52627	Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California	Final Rule	Final designated
02/16/2000	65 FR 7764 7787	(NOAA/NMFS) Designated Critical Habitat: Critical Habitat for	Final Rule	Final designated

Current Critical Habitat Documents (Showing 3 of 3)

Date	Citation Page	Title	Document Type	Status
		19 Evolutionarily Significant Units of Salmon and Steelhead in Washington, Oregon, Idaho, and California		
02/05/1999	64 FR 5740 5754	Designated Critical Habitat: Proposed Critical Habitat for Nine Evolutionarily Significant Units of Steelhead in Washington, Oregon, Idaho, and California	Proposed Rule	Not Required

To learn more about critical habitat please see <http://criticalhabitat.fws.gov>

» Conservation Plans

Habitat Conservation Plans (HCP) ([learn more](#)) (Showing 5 of 8: [view all](#))

HCP Plan Summaries
Broughton Land Company
City of Tacoma, Tacoma Water HCP
East Bay Municipal Utility District
Mendocino Redwood Company
Stimson Lumber Company

» Petitions

No petition findings have been published for the steelhead.

» Life History

No Life History information has been entered into this system for this species.

» Other Resources

[NatureServe Explorer Species Reports](#) -- NatureServe Explorer is a source for authoritative conservation information on more than 50,000 plants, animals and ecological communities of the U.S and Canada. NatureServe Explorer provides in-depth information on rare and endangered species, but includes common plants and animals too. NatureServe Explorer is a product of NatureServe in collaboration with the Natural Heritage Network.

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Species Profile

Environmental Conservation Online System

Chinook salmon (*Oncorhynchus tshawytscha*)

Kingdom: Animalia

Class: Actinopterygii

Order: Salmoniformes

Family: Salmonidae

Listing Status: **Endangered** and **Threatened**

Quick links: [Federal Register](#) [Recovery](#) [Critical Habitat](#) [Conservation Plans](#) [Petitions](#) [Life History](#) [Other Resources](#)

Population detail

The FWS is currently monitoring the following populations of the Chinook salmon

- **Population location:** Upper Columbia River spring-run ESU — See 50 CFR 224.101
Listing status: **Endangered**
 - **States/US Territories** in which this population is known to or is believed to occur: [Washington](#)
 - **US Counties** in which this population is known to or is believed to occur: [View All](#)
- **Population location:** Sacramento River winter-run ESU - See 50 CFR 224.101
Listing status: **Endangered**
 - **States/US Territories** in which this population is known to or is believed to occur: [California](#)
 - **US Counties** in which this population is known to or is believed to occur: [View All](#)
 - **USFWS Refuges** in which this population is known to occur: NORTH CENTRAL VALLEY WILDLIFE MANAGEMENT AREA, SACRAMENTO RIVER NATIONAL WILDLIFE REFUGE, SUTTER NATIONAL WILDLIFE REFUGE

- **Population location:** California Coastal ESU - See 50 CFR 223.102
Listing status: **Threatened**
 - **States/US Territories** in which this population is known to or is believed to occur: [California](#)
 - **US Counties** in which this population is known to or is believed to occur: [View All](#)
- **Population location:** Central Valley spring-run ESU — See 50 CFR 223.102
Listing status: **Threatened**
 - **States/US Territories** in which this population is known to or is believed to occur: [California](#)
 - **US Counties** in which this population is known to or is believed to occur: [View All](#)
 - **USFWS Refuges** in which this population is known to occur: BUTTE SINK NATIONAL WILDLIFE REFUGE, SACRAMENTO RIVER NATIONAL WILDLIFE REFUGE, SUTTER NATIONAL WILDLIFE REFUGE, WILLOW CREEK-LURLINE WILDLIFE MANAGEMENT AREA
- **Population location:** Upper Willamette River ESU — See 50 CFR 223.102
Listing status: **Threatened**
 - **States/US Territories** in which this population is known to or is believed to occur: [Oregon](#)
 - **US Counties** in which this population is known to or is believed to occur: [View All](#)
- **Population location:** Lower Columbia River ESU — See 50 CFR 223.102
Listing status: **Threatened**
 - **States/US Territories** in which this population is known to or is believed to occur: [Oregon](#) , [Washington](#)
 - **US Counties** in which this population is known to or is believed to occur: [View All](#)
- **Population location:** Puget Sound ESU — See 50 CFR 223.102
Listing status: **Threatened**
 - **States/US Territories** in which this population is known to or is believed to occur: [Washington](#)
 - **US Counties** in which this population is known to or is believed to occur: [View All](#)
- **Population location:** Snake River spring/summer-run ESU — See 50 CFR 223.102
Listing status: **Threatened**
 - **States/US Territories** in which this population is known to or is believed to occur: [Oregon](#) , [Washington](#)
 - **US Counties** in which this population is known to or is believed to occur: [View All](#)
- **Population location:** Snake River fall-run ESU — See 50 CFR 223.102
Listing status: **Threatened**
 - **States/US Territories** in which this population is known to or is believed to occur: [Oregon](#) , [Washington](#)

- **US Counties** in which this population is known to or is believed to occur: [View All](#)

Current Listing Status Summary

Status	Date Listed	Lead Region	Where Listed
Endangered	08/02/1999	National Marine Fisheries Service (Region 11)	Upper Columbia spring-run ESU
Endangered	04/06/1990	National Marine Fisheries Service (Region 11)	Sacramento River winter-run ESU
Threatened	12/29/1999	National Marine Fisheries Service (Region 11)	California Coastal ESU
Threatened	12/29/1999	National Marine Fisheries Service (Region 11)	Central Valley spring-run ESU
Threatened	08/02/1999	National Marine Fisheries Service (Region 11)	Upper Willamette River ESU
Threatened	08/02/1999	National Marine Fisheries Service (Region 11)	Lower Columbia River ESU
Threatened	08/02/1999	National Marine Fisheries Service (Region 11)	Puget Sound ESU
Threatened	04/22/1992	National Marine Fisheries Service (Region 11)	Snake River spring/summer-run ESU
Threatened	04/22/1992	National Marine Fisheries Service (Region 11)	Snake River fall-run ESU

» Federal Register Documents

Most Recent Federal Register Documents (Showing 5 of 42: [view all](#))

Date	Citation Page	Title
09/04/2014	79 FR 52576 52578	Adding 10 Species to the List of Endangered and Threatened Wildlife
07/23/2014	79 FR 42687 42696	Marine and Anadromous Taxa: Additions, Removal, Updates, and Corrections to the List of Endangered and Threatened Wildlife
03/05/2008	73 FR 11870 11871	Availability of a Draft Environmental Assessment/Habitat Conservation Plan, and Receipt of Applications for Incidental Take Permits from the Broughton Land Company, Columbia County, Washington
09/26/2006	71 FR 56107 56107	Notice of Availability of a Final Record of Decision on the Issuance of Permits
09/02/2005	70 FR 52488 52627	Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California

Most Recent Special Rule Publications (Showing 2 of 2)		
Date	Citation Page	Title
07/10/2000	65 FR 42422 42481	Endangered and Threatened Species; Final Rule Governing Take of 14 Threatened Salmon and Steelhead Evolutionarily Significant Units (ESUs)
01/03/2000	65 FR 170 196	Proposed Rule Governing Take of Seven Threatened Evolutionarily Significant Units (ESUs); Proposed Rule

» Recovery

[Recovery Plan Information Search](#)

- [Information Search FAQs](#)

No recovery information is available for the Chinook salmon.

» Critical Habitat

Current Critical Habitat Documents (Showing 5 of 10: view all)				
Date	Citation Page	Title	Document Type	Status
09/02/2005	70 FR 52488 52627	Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California	Final Rule	Final designated
02/16/2000	65 FR 7764 7787	(NOAA/NMFS) Designated Critical Habitat: Critical Habitat for 19 Evolutionarily Significant Units of Salmon and Steelhead in Washington, Oregon, Idaho, and California	Final Rule	Final designated
10/25/1999	64 FR 57399 57403	Designated Critical Habitat: Revision of Critical Habitat for Snake River Spring/Summer Chinook Salmon	Final Rule	Final designated
03/23/1999	64 FR 14052 14077	(NOAA/NMFS) Endangered and Threatened Species; Regulations Consolidation; Final Rule	Final Rule	Final designated

Current Critical Habitat Documents (Showing 5 of 10: [view all](#))

Date	Citation Page	Title	Document Type	Status
12/28/1993	58 FR 68543 68554	Designated Critical Habitat; Snake River Sockeye Salmon, Snake River Spring/Summer Chinook Salmon, and Snake River Fall Chinook Salmon	Final Rule	Not Required

To learn more about critical habitat please see <http://criticalhabitat.fws.gov>

» Conservation Plans

Habitat Conservation Plans (HCP) ([learn more](#)) (Showing 5 of 7: [view all](#))

HCP Plan Summaries
Broughton Land Company
Cedar River Watershed HCP
City of Kent Clark Springs Water Supply
City of Tacoma, Tacoma Water HCP
Simpson Timber NW Operations (Green Diamond Resource Company)

» Petitions

Most Recent Petition Findings (Showing 1 of 1)

Date	Citation Page	Title	Finding
02/27/1987	52 FR 6041 6048	Notice of Finding Determination of Winter Run Chinook Salmon as End. not Warranted at This Time; 52 FR 6041-6048	<ul style="list-style-type: none"> • Notice 12 month petition finding, Not warranted

» Life History

No Life History information has been entered into this system for this species.

» Other Resources

[NatureServe Explorer Species Reports](#) -- NatureServe Explorer is a source for authoritative conservation information on more than 50,000 plants, animals and ecological communities of the U.S and Canada. NatureServe Explorer provides in-depth information on rare and endangered species, but includes common plants and animals too. NatureServe Explorer is a product of NatureServe in collaboration with the Natural Heritage Network.

[ITIS Reports](#) -- ITIS (the Integrated Taxonomic Information System) is a source for authoritative taxonomic information on plants, animals, fungi, and microbes of North America and the world.

Last updated: September 10, 2014

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U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
CALIFORNIA TIGER SALAMANDER
Ambystoma californiense



CLASSIFICATION: Threatened/Endangered

Main (Central Valley) population - Threatened

Sonoma population – Endangered

Santa Barbara population - Endangered

On 8/4/04, we listed the CA tiger salamander as threatened throughout its range. In doing so, we changed the status of the Santa Barbara and Sonoma county populations from endangered to threatened. Federal Register [69:47212](#) (PDF), August 4, 2004.



On 8/19/05 U.S. District Judge William Alsup vacated the Service's downlisting of the Sonoma and Santa Barbara populations from endangered to threatened.

In May, 2009, the Service agreed to re-propose critical habitat for the population. [News Release](#).

For all Federal Register documents about this species, visit the ECOS, the national Environmental Conservation Online System [profile](#).

CRITICAL HABITAT: Designated

In Federal Register Notice [70:49379](#), August 23, 2005, we designated 199,109 acres of critical habitat in 19 counties for the central population. See [index to unit maps](#).

In Federal Register Notice [70:74137](#) (PDF 262 KB), December 14, 2005, we concluded that the designation of critical habitat for the Sonoma County distinct population segment of the CA tiger salamander would have negative impacts on the finalization and implementation of the [Santa Rosa Plain Conservation Strategy](#). Avoiding these negative impacts is a benefit of excluding these lands from the final critical habitat designation.

8-17-2009 Update:

The Service is re-proposing 74,223 acres of the Santa Rosa Plain as critical habitat for the Sonoma County population of the California tiger salamander, opening a 60-day public comment period that closes on Oct. 17, 2009. The Service agreed to re-propose critical habitat in settlement of a lawsuit, and further to complete its rule-making by July 1, 2011.

The proposed critical habitat is the same area proposed in 2005, and includes most of the Santa Rosa Plain. The western limit is Laguna de Santa Rosa, and the proposal extends east to approximately the 200-foot elevation in the foothills. From north to south the proposal extends from Windsor Creek to Skillman Road.

RECOVERY PLAN: Under development

The [Santa Rosa Conservation Strategy](#) for recovery planning was completed but has not yet been implemented.

DESCRIPTION

The California tiger salamander (*Ambystoma californiense*) is an amphibian in the family Ambystomatidae. It is a large, stocky, terrestrial salamander with a broad, rounded snout. Adult males are about 20 centimeters (8 inches) long, females a little less than 18 centimeters (7 inches).

Coloration consists of white or pale yellow spots or bars on a black background on the back and sides. The belly varies from almost uniform white or pale yellow to a variegated pattern of white or pale yellow and black. The salamander's small eyes protrude from their heads. They have black irises.

Males can be distinguished from females, especially during the breeding season, by their swollen *cloacae*, a common chamber into which the intestinal, urinary, and reproductive canals discharge. They also have more developed tail fins and, as mentioned above, larger overall size.

The species is restricted to grasslands and low (typically below 2000 feet/610 meters) foothill regions where lowland aquatic sites are available for breeding. They prefer natural ephemeral pools or ponds that mimic them (stock ponds that are allowed to go dry).

Larvae require significantly more time to transform into juvenile adults than other amphibians such as the western spadefoot toad (*Scaphiopus hammondi*) and Pacific tree frog (*Pseudacris regilla*).

Compared to the western toad (*Bufo boreas*) or western spadefoot toad, California tiger salamanders are poor burrowers. They require refuges provided by ground squirrels and other burrowing mammals in which to enter a dormant state called *estivation* during the dry months.

DISTRIBUTION

This species is restricted to California and does not overlap with any other species of tiger salamander. California tiger salamanders are restricted to vernal pools and seasonal ponds, including many constructed stock ponds, in grassland and oak savannah plant communities, predominantly from sea level to 2,000 feet, in central California.

In the Coastal region, populations are scattered from Sonoma County in the northern San Francisco Bay Area to Santa Barbara County (up to elevations of 3,500 feet/1067 meters), and in the Central Valley and Sierra Nevada foothills from Yolo to Kern counties (up to 2,000 feet/610 meters).

The Sonoma population appears to have been geographically isolated from the remainder of the California tiger salamander population by distance, mountains and major waterway barriers for more than 700,000 years.

THREATS

The primary cause of the decline of California tiger salamander populations is the loss and fragmentation of habitat from human activities and the encroachment of nonnative predators. Federal, State and local laws have not prevented past and ongoing losses of habitat. All of the

estimated seven genetic populations of this species have been significantly reduced because of urban and agricultural development, land conversion, and other human-caused factors.

A typical salamander breeding population in a pond can drop to less than twenty breeding adults and/or recruiting juveniles in some years, making these local populations prone to extinction. California tiger salamanders therefore require large contiguous areas of vernal pools (vernal pool complexes or comparable aquatic breeding habitat) containing multiple breeding ponds to ensure recolonization of individual ponds.

A strong negative association between bullfrogs and California tiger salamanders has been documented. Although bullfrogs are unable to establish permanent breeding populations in vernal pools, dispersing immature frogs from permanent water bodies within two miles take up residence and prey on adult or larval salamanders in these areas during the rainy season. Louisiana swamp crayfish, mosquito fish, green sunfish and other introduced fishes also prey on adult or larval salamanders.

A deformity-causing infection, possibly caused by a parasite in the presence of other factors, has affected pond-breeding amphibians at known California tiger salamander breeding sites. This same infection has become widespread among amphibian populations in Minnesota and poses the threat of becoming widespread here.

Reduction of ground squirrel populations to low levels through widespread rodent control programs may reduce availability of burrows and adversely affect the California tiger salamander. Poison typically used on ground squirrels is likely to have a disproportionately adverse effect on California tiger salamanders, which are smaller than the target species and have permeable skins. Use of pesticides, such as methoprene, in mosquito abatement may have an indirect adverse effect on the California tiger salamander by reducing the availability of prey.

Various nonnative subspecies of the tiger salamander within the *Ambystoma tigrinum* complex have been imported into California for use as fish bait. The introduced salamanders may out-compete the California tiger salamanders, or interbreed with them to create hybrids that may be less adapted to the California climate or are not reproductively viable past the first or second generations.

Automobiles and off-road vehicles kill a significant number of migrating California tiger salamanders, and contaminated runoff from roads, highways and agriculture may adversely affect them.

REFERENCES FOR ADDITIONAL INFORMATION

ECOS (Environmental Conservation Online System) [Species Profile](#)

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Anderson, P.R. 1968. The reproductive and developmental history of the California Tiger Salamander. Masters thesis, Dept. Of Biology, Fresno State College, Fresno, California.

Barry, S.J., and HOB. Shaffer. 1994. The status of the California tiger salamander (*Ambystoma californiense*) at Lagunita: a 50 year update. *Journal of Herpetology* 28:246-255.

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Feaver, Paul E. 1971. Breeding pool selection and larval mortality of three California amphibians: *Ambystoma tigrinum californiense* Gray, *Hyla regilla* Baird and Girard and *Scaphiopus hammondi hammondi* Girard. Master's thesis, Dept. Of Biology, Fresno State College, Fresno, California.

Fisher, R., and H. Bradley Shaffer. 1996. The decline of amphibians in California's Great Central Valley. *Conservation Biology*, 10:1387-1397.

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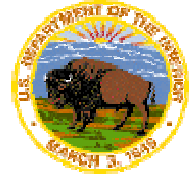
Photo Credit: Cathy Johnson, U.S. Fish & Wildlife Service

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Last updated July 29, 2009



U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
CALIFORNIA RED-LEGGED FROG
Rana draytonii



CLASSIFICATION: Threatened
Federal Register 61:25813, May 23, 1996.
http://ecos.fws.gov/docs/federal_register/fr2960.pdf

CRITICAL HABITAT: Designated
Federal Register 75:12815; March 17, 2010
<http://edocket.access.gpo.gov/2010/2010-4656.htm>
<http://edocket.access.gpo.gov/2010/pdf/2010-4656.pdf> (PDF 4.6 MB)

RECOVERY PLAN: Final
Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*). September 12, 2002. http://ecos.fws.gov/docs/recovery_plans/2002/020528.pdf



CA Red-Legged Frog
Carley Sweet, USFWS



CA Red-Legged Frog
Peter Epanchin, USFWS

DESCRIPTION

We listed this species as *Rana aurora draytonii*. Effective with the March 17, 2010 critical habitat designation, we will use the currently accepted scientific name of *Rana draytonii*. See critical habitat designation for more detailed current scientific information about the species.

The California red-legged frog is the largest native frog in the western United States, ranging from 4 to 13 centimeters long (1.5 to 5 inches). The abdomen and hind legs of adults are largely red. The back has small black flecks and larger irregular dark blotches.

These have indistinct outlines on a brown, gray, olive, or reddish background color. The spots on the frogs' backs usually have light centers. Lateral folds are prominent on the back. Larvae (tadpoles) range from 0.6 to 3 inches in length, and the background color of the body is dark brown and yellow with darker spots.

DIET

The diet of California red-legged frogs is highly variable. Larvae probably eat algae. Invertebrates are the most common food items of adult frogs. Vertebrates, such as Pacific tree frogs and California mice, are frequently eaten by larger frogs. Juvenile frogs are active both during the day and at night, whereas adult frogs are largely nocturnal. Feeding activity likely occurs along the shoreline and on the surface of the water.

HABITAT

The California red-legged frog occupies a fairly distinct habitat, combining both specific aquatic and riparian components. Adults need dense, shrubby or emergent riparian vegetation closely associated with deep (greater than 2 1/3-foot deep) still or slow moving water.

The largest densities of California red-legged frogs are associated with deep-water pools with dense stands of overhanging willows and an intermixed fringe of cattails. Well-vegetated terrestrial areas within the riparian corridor may provide important sheltering habitat during winter.



CA Red-Legged Frog
Cathy Johnson, USFWS

California red-legged frogs estivate (enter a dormant state during summer or dry weather) in small mammal burrows and moist leaf litter. They have been found up to 100 feet from water in adjacent dense riparian vegetation.

RANGE

The species is endemic (native and restricted) to California and Baja California, Mexico, at elevations ranging from sea level to approximately 1500 meters (5000 feet). Records of the California red-legged frog are known from Riverside County to Mendocino County along the Coast Range; from Calaveras County to Butte County in the Sierra Nevada; and in Baja California, Mexico.

California red-legged frogs are still locally abundant within portions of the San Francisco Bay area (including Marin County) and the central coast. Within the remaining distribution of the species, only isolated populations have been documented in the Sierra Nevada, northern Coast, and northern Transverse ranges. The species is believed to be extirpated from the southern Transverse and Peninsular ranges, but is still present in Baja California, Mexico.

REPRODUCTION

California red-legged frogs breed from November through March with earlier breeding records occurring in southern localities. Northern red-legged frogs breed in January to March soon after the ice melts.

SURVEYING:

Researchers have tracked radio-collared frogs into extremely small, vegetation-choked drainages, where they can be found only with radio-tracking devices, and are otherwise invisible to standard surveys. Frogs hide in heavy vegetation and under banks, in holes, in cracks and under objects. A researcher may be able to locate a collared frog by radio to within one square meter and still not be able to see it.

Frogs foraging, resting, or dispersing in upland areas also may not be detected by surveys. A great deal of experience, especially with nighttime surveys, is necessary for good sampling for frogs. Because of these difficulties associated with surveying for the frog, negative survey results

do not necessarily indicate an absence of the species, even if conducted by highly qualified biologists. Frogs actually seen during surveys probably represent a relatively small subsample of those actually present.

Therefore, in areas where frogs have been found in the vicinity and suitable habitat is present, we advise that suitable habitat accessible to frog populations occurring within five miles should be presumed to be occupied by the species. For guidance on field surveys, see <http://www.fws.gov/sacramento/es/protocol.htm>.

THREATS

California red-legged frogs are currently threatened by human activities: degradation and loss of its habitat through urbanization, mining, improper management of grazing, recreation, invasion of nonnative plants, impoundments, water diversions, degraded water quality and introduced predators.

These factors have resulted in the isolation and fragmentation of habitats within many watersheds. This often prevents dispersal between sub-populations. The fragmentation of existing habitat, and the continued colonization of existing habitat by nonnative species, may represent the most significant current threats to California red-legged frogs.

REFERENCES FOR ADDITIONAL INFORMATION

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U.S. Fish and Wildlife Service. 1996. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the California Red-legged Frog (PDF). Portland, Oregon.

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U.S. Geological Survey. Amphibian declines and deformities web page <http://www.usgs.gov/amphibians.html>.

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Last updated: March 17, 2010



Mountain yellow-legged frog (Northern DPS) *Rana muscosa*



CLASSIFICATION
Endangered, April 2014

DESCRIPTION
The mountain yellow-legged frog is medium size, measuring about 1.5 to 3.25 inches on average. Females also tend to be slightly larger than males. Adult frogs have a mix of brown and yellow coloring on their upper body, but can also be grey, red, or greenish-brown, usually with dark spots or splotches. These spots can look like lichen or moss, as to give the frog a camouflaged look. Their belly and underside of their back legs, and sometimes all the way up to their front legs, are yellow or light-orange. This gives the frog its name of “yellow-legged.”

If disturbed or threatened, these frogs can produce a distinctive mink- or garlic-like odor to ward off predators and other animals.

Although these frogs do not have vocal sacks, they can vocalize in or out of water, making what has been described as a flat “clicking” sound.

Mountain yellow-legged frogs deposit their eggs in globular clumps, which are often somewhat flattened and roughly 1 to 2 inches in diameter.

Spawn size varies from 15 to 350 eggs per mass and eggs hatch in 18

to 21 days with water temperatures from 41 to 56 degrees Fahrenheit. The tadpoles reach about 2.8 inches in length and generally are mottled brown on the dorsal side with a faintly yellow underside. Tadpoles often require 2 to 4 years to reach metamorphosis, depending on local climate conditions and site-specific variables.

The time required to reach reproductive maturity in mountain yellow-legged frogs is thought to vary between 3 and 4 years after metamorphosis.

DISTRIBUTION
The northern DPS of the mountain yellow-legged frog occurs only in the western Sierra Nevada and extends from south of the Monarch Divide in Fresno County through portions of the Kern River drainage.

Throughout their range, these species historically inhabited lakes, ponds, marshes, meadows, and streams at elevations typically ranging from 4,500 to 12,000 feet, but can occur as low as 3,500 ft in the northern portions of their range.

Mountain yellow-legged frogs are highly aquatic and adults can be found sitting on rocks along the shoreline, where there was little or no vegetation.

Most of these frogs are now found on National Forest and National Park lands.

THREATS
Studies show that populations of the northern DPS of mountain yellow-legged frog have declined by over 80 percent.

Threats include habitat degradation and fragmentation, predation and disease, climate change, and the interaction of these various stressors impacting small remnant populations.

There has been a range-wide reduction in abundance and geographic extent of surviving populations of frogs following decades of fish stocking, habitat fragmentation, and most recently a disease epidemic. Surviving populations are smaller and more isolated, and recruitment in disease-infested populations is much reduced relative to historic norms.

CRITICAL HABITAT:
Proposed 2013

RECOVERY PLAN:
None



U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
GIANT GARTER SNAKE
Thamnophis gigas



CLASSIFICATION: Threatened
Federal Register 58:54053; October 20, 1993
http://ecos.fws.gov/docs/federal_register/fr2446.pdf

CRITICAL HABITAT: None designated

RECOVERY: Draft recovery plan proposed
Federal Register 64:36033; July 2, 1999
Five-year review, June 2012
http://ecos.fws.gov/docs/recovery_plan/990702b.pdf.



http://ecos.fws.gov/docs/five_year_review/doc4009.pdf

DESCRIPTION

The giant garter snake (*Thamnophis gigas*) is one of the largest garter snakes, with females reaching an average length of about 34 inches in the San Joaquin Valley. Females tend to be slightly longer and proportionately heavier than males. Female giant garter snakes typically weigh 1-1.5 pounds. Garter snakes are in the family Colubridae, which includes most of the species of snakes found in the western United States.

Dorsal background coloration (the basic color on the snake's back) varies from brownish to olive with a checkered pattern of black spots, separated by a yellow dorsal stripe and two light colored lateral stripes. Background coloration and prominence of a black checkered pattern and the three light stripes are geographically and individually variable. The ventral surface (the snake's underside) is cream to olive or brown and sometimes infused with orange, especially in northern populations.

Giant garter snakes feed primarily on small fishes, tadpoles, and frogs. Habitat requirements consist of (1) adequate water during the snake's active season (early-spring through mid-fall) to provide food and cover; (2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat during the active season; (3) grassy banks and openings in waterside vegetation for basking; and (4) higher elevation uplands for cover and refuge from flood waters during the snake's inactive season in the winter.

The giant garter snake inhabits small mammal burrows and other soil crevices above prevailing flood elevations throughout its winter inactive period. Giant garter snakes typically select burrows with sunny exposure along south and west facing slopes. The breeding season extends through March and April, and females give birth to live young from late July through early September.

Brood size is variable, ranging from 10 to 46 young, with a mean of 23. Young immediately scatter into dense cover and absorb their yolk sacs, after which they begin feeding on their own. Although growth rates are variable, young typically more than double in size within the first year. Sexual maturity averages three years for males and five years for females.

DISTRIBUTION:

The giant garter snake inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands in the Central Valley. Because of the direct loss of natural habitat, the giant garter snake relies heavily on rice fields in the Sacramento Valley, but also uses managed marsh areas in Federal National Wildlife Refuges and State Wildlife Areas. There have been only a few recent sightings of giant garter snakes in the San Joaquin Valley.

Giant garter snakes are typically absent from larger rivers because of lack of suitable habitat and emergent vegetative cover, and from wetlands with sand, gravel, or rock substrates. Riparian woodlands typically do not provide suitable habitat because of excessive shade, lack of basking sites, and absence of prey populations. However, some riparian woodlands do provide good habitat.

THREATS:

Habitat loss and fragmentation, flood control activities, changes in agricultural and land management practices, predation from introduced species, road mortalities, water pollution and continuing threats are the main causes for the decline of this species.

Giant garter snakes can inhabit water bodies that contain predatory fish. When lots of cover is available, they seem to hold their own, even when numerous predators share the same habitats. Giant garter snakes are probably absent from larger rivers because the habitat is not suitable, not because of the fish. The major rivers have been highly channelized, removing oxbows and backwater areas that probably at one time provided suitable habitat.

REFERENCES FOR ADDITIONAL INFORMATION

Note There is a special giant garter snake species account for 4th, 5th and 6th grade students.

http://www.fws.gov/sacramento/es/animal_spp_acct/giant_garter_snake_kf.htm

ECOS (Environmental Conservation Online System) [Species Profile](#).

Hansen, R. W. and G. E. Hansen. 1990. *Thamnophis gigas* (giant garter snake) reproduction. *Herpetological Review*. 21(4): 93-94.

Thelander, C. ed. 1994. *Life on the edge: a guide to California's endangered natural resources*. BioSystem Books. Santa Cruz, CA. p 284-287.

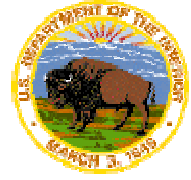
Photo Credit: Eric Hansen, U.S. Fish & Wildlife Service

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Last updated February 27, 2014



U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
STEBBINS' MORNING GLORY
Calystegia stebbinsii



CLASSIFICATION: Endangered
Federal Register [61:54346](#) (PDF 104 KB); October 18, 1996

This species was listed as endangered by the California Department of Fish and Game in August 1981. The California Native Plant Society has placed it on List 1B (rare or endangered throughout its range)

CRITICAL HABITAT: None designated



RECOVERY PLAN: [Recovery Plan for Gabbro Soil Plants of the Central Sierra Foothills](#).
8/30/2002
http://ecos.fws.gov/docs/recovery_plan/020830b.pdf (6 MB)

5-YEAR REVIEW: INITIATED
Federal Register [74:12878](#); 3/25/2009

DESCRIPTION

Stebbins's morning glory is a leafy perennial herb in the morning-glory family (Convolvulaceae). Its stems range up to 1 meter (3.3 feet) in length and generally lie flat on the ground. The leaves are palmately lobed (i.e., the lobes radiate out like fingers from the palm of a hand). The two outermost lobes are divided again. The 7 to 9 leaf lobes are narrow and lance-shaped. The distinctively shaped leaves distinguish Stebbins's morning glory from other California morning-glories.

White flowers appear in May through June on stalks about 2 1/2 to 13 centimeters (1 to 5 inches) long. Each flower has two leaf-like bracts. The fruit is a slender capsule. See Hickman (1993) in General Information about California Plants, below, for a detailed description of the species.

DISTRIBUTION

Stebbins's morning glory grows in two localized areas near Pine Hill in the Sierra Nevada foothills of western El Dorado County. The species was also recently discovered in Nevada County near the County landfill. It may have been transplanted from El Dorado County by the transport of soil to the Nevada County Sanitary Landfill. Most of the plants are on private property.

In El Dorado County, the species is associated with chaparral on gabbro-derived soils. In Nevada County it occurs on serpentine soil.

Gabbro-derived soils originate from mafic rocks (gabbrodiorite) that are mildly acidic, are rich in iron and magnesium, and often contain other heavy metals such as chromium. Gabbro, a dark large-crystalled rock, is formed when liquid magma cools slowly underground. A red soil is formed when the rock is exposed and weathers at the earth's surface. These soils are well-drained and are underlain by gabbrodiorite rocks at a depth of more than 3 feet.

Serpentine-derived soils are formed through a process similar to formation of gabbro-derived soils. Serpentine soils are derived from ultramafic rocks (e.g., serpentinite, dunite, and peridotite). They tend to have high concentrations of magnesium, chromium, and nickel, and low concentrations of calcium, nitrogen, potassium, and phosphorus. Serpentine soils are considered to be similar to gabbro because of their mineral composition and because they appear to influence plant distributions in much the same way.

THREATS

Development has extirpated at least one-third of the known occurrences. Other threats to these populations include off-road vehicle use, grading, dumping, road maintenance, changes in fire frequency, and competition with nonnative plants.

REFERENCES FOR ADDITIONAL INFORMATION

Learn more about protection efforts by the [Pine Hill Preserve](http://www.pinehillpreserve.org) (<http://www.pinehillpreserve.org>)

[General Information about California Plants](http://www.fws.gov/sacramento/images/) (<http://www.fws.gov/sacramento/images/>

Photo credit: Jeremiah Karuzas, FWS. Larger image:

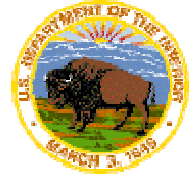
http://www.fws.gov/sacramento/images/Stebbins_morning_glory_Jeremiah_Karuzas_FWS.jpg

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Last updated August 5, 2009



U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
PINE HILL CEANOOTHUS
Ceanothus roderickii



CLASSIFICATION: Endangered
Federal Register [61:54346](#) (PDF 104 KB); October 18, 1996

This species was listed as rare by the California Department of Fish and Game in July 1982. The California Native Plant Society has placed it on List 1B (rare or endangered throughout its range).



CRITICAL HABITAT: Not designated

RECOVERY PLAN: [Recovery Plan for Gabbro Soil Plants of the Central Sierra Foothills](#), 8/30/2002
http://ecos.fws.gov/docs/recovery_plan/020830b.pdf (6 MB)

5-YEAR REVIEW: INITIATED
Federal Register [74:12878](#); 3/25/2009

DESCRIPTION

Pine Hill ceanothus (*Ceanothus roderickii*) is a prostrate evergreen shrub of the buckthorn family (Rhamnaceae). It spreads to about 3 meters (10 feet) in diameter. The smooth gray-brown branches radiate from a central axis and root when they come into contact with the ground. The leaves of the species are semi-erect with entire margins.

Small whitish flowers tinged with blue appear from May through June. Their resulting fruit is an inconspicuously horned globe-shaped capsule.

Pine Hill ceanothus grows on gabbro soils. Gabbro soils originate from volcanic rocks (gabbrodiorite) that are mildly acidic, rich in iron and magnesium, and often contain other heavy metals such as chromium. Gabbro, a dark large-crystalled rock, is formed when liquid magma cools slowly underground. A red soil is formed when the rock is exposed and weathers at the earth's surface. These soils are well-drained and are underlain by gabbrodiorite rocks at a depth of more than 1 meter (3 feet.)

See Hickman (1993) in General Information about California Plants, below, for a detailed description of the species.

DISTRIBUTION

It is restricted to the Pine Hill intrusion in El Dorado County. According to the [California Natural Diversity Database](#) (<http://www.dfg.ca.gov/whdab/html/cnddb.html>) there are 16 occurrences known to be extant and another that may have been extirpated.

THREATS

Residential and commercial development, inadequate regulatory mechanisms, off-road vehicle use, road-widening, change in fire frequency, and other human-caused conditions are responsible for the decline of the species. Commercial development has extirpated two known occurrences. Most of the plants are on private land. The Bureau of Land Management manages the land where at least one population occurs. The California Departments of Forestry and Fire Protection and Fish and Game manage another site.

REFERENCES FOR ADDITIONAL INFORMATION

Learn more about protection efforts by the [Pine Hill Preserve](http://www.pinehillpreserve.org/) (<http://www.pinehillpreserve.org/>)

Wilson, J.L. 1986. A study of plant species diversity and vegetation pattern associated with the Pine Hill gabbro formation and adjacent substrata, El Dorado County, California. California State University. Sacramento. Thesis.

[General Information about California Plants](http://www.fws.gov/sacramento/es/plant_spp_accts/plant_references.htm)

(http://www.fws.gov/sacramento/es/plant_spp_accts/plant_references.htm)

Photo credits: Harry Mossman, U.S. Fish & Wildlife Service.

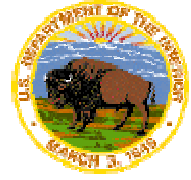
Larger images: http://www.fws.gov/sacramento/images/pine_hill_ceanothus.jpg

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Last updated August 4, 2009



U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
EL DORADO BEDSTRAW
Galium californicum sierrae



CLASSIFICATION: Federal Endangered Species
(*Federal Register* [61:54346 PDF](#) (104 KB); October 18, 1996)

http://ecos.fws.gov/docs/federal_register/fr3018.pdf

This species was listed as rare by the California Department of Fish and Game in November 1979. The California Native Plant Society has placed it on List 1B (rare or endangered throughout its range).



CRITICAL HABITAT: Not designated

RECOVERY PLAN: [Recovery Plan for Gabbro Soil Plants of the Central Sierra Foothills](#). 8/30/2002

http://ecos.fws.gov/docs/recovery_plan/020830b.pdf (6 MB)

5 YEAR REVIEW: INITIATED

Federal Register 74:12878; 3/25/2009

http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2009_register&docid=fr25mr09-125

DESCRIPTION

El Dorado bedstraw is a softly hairy perennial herb in the coffee family (Rubiaceae). El Dorado bedstraw can be distinguished from other subspecies of *G. californicum* by its very narrow leaves.

Stems grow up to from 7-14 cm (about 3-6 inches) long. Four narrow leaves are arranged in groups at each node. Pale yellow flowers appear on the end of stems in May and June. There are male and female plants. The males have flowers in clusters at the ends of stems. Females commonly bear their flowers singly at nodes.

Fruits are fleshy 2-lobed berries with minute hairs. Minute hairs cover the fruit.



El Dorado bedstraw grows in oak woodland areas, including sites with ponderosa pine and gray pine, on gabbro soils. Gabbro soils originate from volcanic rocks (gabbrodiorite) that are mildly acidic, rich in iron and magnesium, but low in calcium. They often contain other heavy metals such as chromium.

Gabbro, a dark large-crystalled rock, is formed when liquid magma cools slowly underground. A red soil is formed when the rock is exposed and weathers at the earth's surface. These soils are well-drained and are underlain by gabbrodiorite rocks at a depth of more than 1 meter (3 feet.)

See Hickman (1993) in General Information about California Plants, below, for a detailed description of the entire species.

DISTRIBUTION

El Dorado bedstraw is restricted to about ten occurrences in one localized area: Pine Hill, El Dorado County, and surrounding ridges to the west within a distance of approximately 4 kilometers (2.5 miles).

U.S.G.S. 7.5 minute quads: Shingle Springs (510B) 3812068, Clarksville (511A) 3812161, Pilot Hill (527D) 3812171

THREATS

Residential development, road construction, grazing by horses and irrigation threaten this species. Restricted distribution and limited numbers of individuals make it susceptible to catastrophic events such as disease or pest outbreak, severe drought, or other natural disasters.

Most of the plants are on private land. The Bureau of Land Management manages the land where at least one population occurs. The California Departments of Forestry and Fire Protection and Fish and Game manage another site. Learn more about protection efforts by the [Pine Hill Preserve](#).

REFERENCES FOR ADDITIONAL INFORMATION

Wilson, J.L. 1986. A study of plant species diversity and vegetation pattern associated with the Pine Hill gabbro formation and adjacent substrata, El Dorado County, California. California State University. Sacramento. Thesis.

[General Information about California Plants](#)

Photo credits: Jeremiah Karuzas and Harry Mossman, U.S. Fish & Wildlife Service

Larger images:

http://www.fws.gov/sacramento/images/El_Dorado_bedstraw_Jeremiah_Karuzas_FWS.jpg

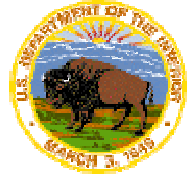
http://www.fws.gov/sacramento/images/eldorado_bedstraw.jpg

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Last updated July 27, 2009



U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
SACRAMENTO ORCUTT GRASS
Orcuttia viscida



CLASSIFICATION: ENDANGERED

Federal Register Notice 58:14338; March 26, 1997

http://ecos.fws.gov/docs/federal_register/fr3057.pdf (125 KB)

STATE LISTING STATUS AND CNPS CODE:

This species was listed as endangered by the California Department of Fish and Game. The California Native Plant Society has placed it on List 1B (rare or endangered throughout its range).

CRITICAL HABITAT: Originally designated in Federal Register 68:46683; August 6, 2003.

The designation was revised in 70:46923; August 11, 2005.

Species by unit designations were published in 71:7117; February 10, 2006.

www.fws.gov/policy/library/2006/06-1080.html

www.fws.gov/policy/library/2006/06-1080.pdf (6.6 MB)

RECOVERY PLAN: Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon; December 15, 2005.

http://www.fws.gov/sacramento/es/recovery_plans/vp_recovery_plan_links.htm

5-YEAR REVIEW: Completed June 2008

http://ecos.fws.gov/docs/five_year_review/doc1933.pdf

Latest information about the species.

DESCRIPTION:



Sacramento Orcutt Grass
© 2004 Carol W. Witham

Sacramento Orcutt grass (*Orcuttia viscida*) is a small, densely tufted annual member of the grass family (Poaceae) grasses. (See Orcuttieae Grasses below for more information) Other common names for this species include Sacramento orcuttia and sticky Orcutt grass. It grows 2 to 10 centimeters (1 to 4 inches) tall. The plant is covered with small glandular hairs and is sticky even when young, and more so at maturity. It has few to many slender stems and a spike-like inflorescence, which is congested at the apex.

Flowers are characterized by a five-toothed lemma (bract) with the middle tooth conspicuously longer than the lateral ones. The lemma teeth curve outward at maturity, giving the inflorescence a



Sacramento Orcutt Grass
© 2004 Carol W. Witham

distinct bristly appearance. As in other Orcutt grasses, the leaves lack a ligule (small, scale-like outgrowth found on some grasses).

Although Sacramento Orcutt grass is geographically isolated from all other members of the genus, it most closely resembles the threatened San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*).

See Hickman (1993) in General Information about California Plants, below, for a detailed description of these species.

VERNAL POOLS:

Vernal pools are a unique kind of wetland ecosystem. Central to their distinctive ecology is their ephemeral nature. Vernal pools fill with water temporarily, typically during the winter and spring, and then disappear until the next rainy season.

In California, where extensive areas of vernal pool habitat developed over a long geological timeframe, unique suites of plants and animals have evolved that are specially adapted to the unusual conditions of vernal pools. Fish and other predators are among species that have been excluded evolutionarily by the annual filling and drying cycles of vernal pools.

The prolonged annual dry phase of the vernal pool ecosystem also has prevented the establishment of plant species typical of more permanent wetland ecosystems.

ORCUTTIEAE GRASSES:

The genera *Orcuttia*, *Neostapfia* and *Tuctoria* form the Orcuttieae tribe. All members of the Orcuttieae tribe share several characteristics that differ from many other grasses. Most grasses have hollow stems, but the Orcuttieae have stems filled with pith (the soft, spongy center found in many plants). Another difference is that the Orcuttieae produce two or three different types of leaves during their life cycle, whereas most grasses have a single leaf type throughout their life span.

The juvenile leaves of the Orcuttieae, which form underwater, are cylindrical and clustered into a basal rosette. After the pool dries, terrestrial leaves form in all species of the tribe. These leaves have flattened blades and are distributed along the stem.

Another characteristic common to all Orcuttieae is the production of an aromatic exudate, which changes from clear to brown during the growing season. The exudate most likely helps to repel herbivores

Orcuttia species have a third type of leaf that is not found in *Neostapfia* or *Tuctoria*. The terrestrial leaves of the Orcuttieae also differ from other grasses in other respects. Whereas grass leaves typically are differentiated into a narrow, tubular sheath that clasps the stem tightly and a broader blade that projects away from the stem, terrestrial leaves of the Orcuttieae are broad throughout and the lower portion enfolds the stem only loosely.

DISTRIBUTION:

The range of the species lies in a narrow zone of remnant depositional stream terraces at the base of the Sierran foothills in Northern Hardpan and Northern Volcanic Mudflow vernal pools. It is now known from nine occurrences, all in eastern Sacramento County. The occurrences are found

at an elevation of 46 to 82 meters (150 to 270 feet) on high-terrace vernal pools that range in area from 0.1 hectare (0.25 acre) to 0.28 hectare (2.03 acres).

U.S. Geological Survey 7.5 Minute Quads: Goose Creek (495D) 3812131, Elk Grove (496A) 3812143, Folsom (511B) 3812162, Buffalo Creek (511C) 3812152.

THREATS:

Monitoring shows that the threat of competition from invasive, nonnative plants has increased since the time of listing. For example, waxy manna grass (*Glyceria declinata*), which was not included as a threat in the rule to list the species, is a nonnative, perennial grass that forms dense stands and is able to invade Sacramento Orcutt grass habitat and displace the listed plant.

Habitat loss from urbanization also continues to be a threat to one of the occurrences. Although eight occurrences are now protected from land conversion, impacts from surrounding land use, adjacent road widening, and other human activities continue to threaten the species.

REFERENCES FOR ADDITIONAL INFORMATION:

[General references about California plants](#)

www.fws.gov/sacramento/es/plant_spp_accts/plant_references.htm

Photo credits: © 2004 Carol W. Witham. For larger images and permission information see CalPhotos <http://calphotos.berkeley.edu/>.

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Last updated December 21, 2009



Species Profile

Environmental Conservation Online System

Tahoe Yellow cress (*Rorippa subumbellata*)

Kingdom: Plantae

Class: Magnoliopsida

Order: Brassicales

Family: Brassicaceae

Listing Status: **Candidate**

Quick links: [Candidate Info](#) [Federal Register](#) [Conservation Plans](#) [Petitions](#) [Life History](#) [Other Resources](#)

- **States/US Territories** in which the Tahoe Yellow cress is known to or is believed to occur: [California](#) , [Nevada](#)
- **US Counties** in which the Tahoe Yellow cress is known to or is believed to occur: [View All](#)
- **Countries** in which the the Tahoe Yellow cress is known to occur: United States

Current Listing Status Summary

Status	Date Listed	Lead Region	Where Listed
Candidate		California/Nevada Region (Region 8)	

» Candidate Information

Current Candidate Status

Listing Priority: 8

Magnitude: Moderate to Low

Immediacy: Imminent

Taxonomy: Species

Species Assessment: [Species Assessment Form for the Rorippa subumbellata.](#)

Candidate Notice of Review Documents (Showing 5 of 19: [view all](#))

Date	Citation Page	Title
11/22/2013	77 FR 70103 70162	Review of Native Species That are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions
11/21/2012	77 FR 69993 70060	Review of Native Species That Are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions
10/26/2011	76 FR 66370 66439	Review of Native Species That Are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions
11/10/2010	75 FR 69222 69294	Review of Native Species That Are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions; Proposed Rule
11/09/2009	74 FR 57804 57878	Review of Native Species That Are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions

» **Federal Register Documents**

Most Recent Federal Register Documents (Showing 5 of 22: [view all](#))

Date	Citation Page	Title
11/22/2013	77 FR 70103 70162	Review of Native Species That are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions
11/21/2012	77 FR 69993 70060	Review of Native Species That Are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions
10/26/2011	76 FR 66370 66439	Review of Native Species That Are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions
11/10/2010	75 FR 69222 69294	Review of Native Species That Are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions; Proposed Rule

11/09/2009	74 FR 57804 57878	Review of Native Species That Are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions
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» Conservation Plans

Candidate Conservation Agreements (CCA): ([learn more](#)) (Showing 1 of 1)

CCA Plan Summaries
Tahoe Yellow Cress

» Petitions

Most Recent Petition Findings (Showing 2 of 2)

Date	Citation Page	Title	Finding
11/21/2012	77 FR 69993 70060	Review of Native Species That Are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions	<ul style="list-style-type: none"> • Notice 12 month petition finding, Warranted but precluded • Notice CNOR
10/26/2011	76 FR 66370 66439	Review of Native Species That Are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions	<ul style="list-style-type: none"> • Notice 12 month petition finding, Warranted but precluded • Notice CNOR

» Life History

No Life History information has been entered into this system for this species.

» Other Resources

[NatureServe Explorer Species Reports](#) -- NatureServe Explorer is a source for authoritative conservation information on more than 50,000 plants, animals and ecological communities of the U.S and Canada. NatureServe Explorer provides in-depth information on rare and endangered species, but includes common plants and animals too. NatureServe Explorer is a product of NatureServe in collaboration with the Natural Heritage Network.

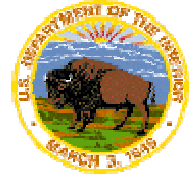
[ITIS Reports](#) -- ITIS (the Integrated Taxonomic Information System) is a source for authoritative taxonomic information on plants, animals, fungi, and microbes of North America and the world.

Last updated: September 10, 2014

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U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
LAYNE'S BUTTERWEED
Senecio layneae



CLASSIFICATION: Threatened
Federal Register [61:54346](#) (PDF 104 KB); October 18, 1996

The species was listed as rare by the California Department of Fish and Game in November 1979 under the name Layne's ragwort. The California Native Plant Society has placed it on List 1B (rare or endangered throughout its range), also as ragwort.



CRITICAL HABITAT: None designated

RECOVERY PLAN: [Recovery Plan for Gabbro Soil Plants of the Central Sierra Foothills](#), 8/30/2002
http://ecos.fws.gov/docs/recovery_plan/020830b.pdf (6 MB)

5 YEAR REVIEW: INITIATED
Federal Register [74:12878](#); 3/25/2009

DESCRIPTION

Note: According to the Jepson Manual, the currently accepted name for the species is *Packera layneae*.

Layne's butterweed, also known as Layne's ragwort, is a perennial herb of the aster family (Asteraceae). The plant sprouts from a rootstock. Its mostly basal lance-shaped leaves are 3 to 10 inches long. Slender, erect stems, with few leaves, are about 10 to 18 inches tall.

Flowers appear between April and June. The several flower heads are 2 to 3 inches wide, each having five to eight orange-yellow ray flowers and many yellow disk flowers.

The species grows on dry pine or oak woodland, on serpentine soil.

See Hickman (1993) in General Information about California Plants, below, for a detailed description of the species, as Layne's ragwort.

DISTRIBUTION

Most known sites are scattered within a 40,000 acre area in western El Dorado County that includes the Pine Hill intrusion and adjacent serpentine. A few other colonies occur in the Eldorado National Forest in El Dorado County, in the Bureau of Land Management Red Hills Management Area in Tuolumne County, and on BLM land in Yuba County. However, most colonies are on privately owned land. One site is on land managed by the California Department of Forestry and the California Department of Fish and Game.

Serpentine-derived soils are formed through a process similar to formation of gabbro soils. Serpentine soils are derived from serpentinite, dunite, and peridotite. They tend to have high concentrations of magnesium, chromium, and nickel, and low concentrations of calcium, nitrogen, potassium, and phosphorus. Most plants do not grow well on gabbro or serpentine soils.

Topographic quads: Chinese Camp (458C) 3712074, Moccasin (458D) 3712073, Placerville (510A) 3812067, Shingle Springs (510B) 3812068, Clarksville (511A) 3812161, Georgetown (526A) 3812087, Coloma (526C) 3812078, Garden Valley (526D) 3812077, Pilot Hill (527D) 3812171, Challenge (558B) 3912142, Rackerby (559A) 3912143, Clipper Mills (574C) 3912152

THREATS

Residential and commercial development, road maintenance, change in fire frequency, off-road vehicle use, competition with nonnative vegetation, excessive horse paddocking, mining, and other human-caused conditions variously threaten and are responsible for the declining trend for Layne's butterweed.

REFERENCES FOR ADDITIONAL INFORMATION

Learn more about protection efforts by the [Pine Hill Preserve](#).

Kruckeberg, A. 1984. California Serpentes: Flora, Vegetation, Geology, and Management Problems. Berkeley, CA: University of California Press.

Wilson, J. L. 1986. A study of plant species diversity and vegetation pattern associated with the Pine Hill gabbro formation and adjacent substrata, El Dorado County, California. Sacramento, CA: California State University, Sacramento. Thesis.

[General Information about California Plants](#)

Photo credits: Harry Mossman, U.S. Fish & Wildlife Service. Larger image: http://www.fws.gov/sacramento/images/laynes_butterweed.jpg

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Last updated July 27, 2009



U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
YELLOW-BILLED CUCKOO
Coccyzus americanus



CLASSIFICATION: Candidate

Federal Register 66:38611; July 25, 2001

<http://www.fws.gov/endangered/pdfs/FR/n010725.pdf>

CRITICAL HABITAT: None

RECOVERY PLAN: None

DESCRIPTION

The yellow-billed cuckoo is a medium-sized bird of about 30 centimeters (cm) (12 inches (in.)) in length, and weighing about 60 grams (2 ounces). The species has a slender, long-tailed profile, with a fairly stout and slightly down-curved bill which is blue-black with yellow on the base of the lower mandible.

Plumage is grayish-brown above and white below, with red primary flight feathers. The tail feathers are boldly patterned with black and white below. The legs are short and bluish-gray. Adults have a narrow, yellow eye ring. Juveniles resemble adults, except the tail patterning is less distinct, and the lower bill may have little or no yellow.

The yellow-billed cuckoo is a member of the avian family Cuculidae. Some ornithologists have separated the species into eastern and western subspecies. This distinction remains controversial, however we have determined that there is a western distinct vertebrate population segment that we can consider for listing. See our 12-month finding (above) for details.

Western yellow-billed cuckoos breed in large blocks of riparian habitats (particularly woodlands with cottonwoods and willows). Dense understory foliage appears to be an important factor in nest site selection. Cottonwood trees are an important foraging habitat in areas where the species has been studied in California (Laymon et al. 1993).

Clutch size is usually two or three eggs. Development of the young are very rapid, with a breeding cycle of 17 days from egg-laying to fledging of young. Although yellow-billed cuckoos usually raise their own young, they occasionally lay eggs in the nests of other yellow-billed cuckoos or of other bird species (Hughes 1997).

Western yellow-billed cuckoos appear to require large blocks of riparian habitat for nesting. Along the Sacramento River in California, nesting yellow-billed cuckoos occupied home ranges which included 25 acres (10 hectares) or more of riparian habitat (Gaines 1974; Laymon et al. 1993). Another study on the same river found riparian patches with yellow-billed cuckoo pairs to average 99 acres (40 hectares) (Halterman 1991). Home ranges in the South Fork of the Kern River in California averaged about 42 acres (17 hectares) (Laymon et al. 1993).

DISTRIBUTION

The breeding range of the yellow-billed cuckoo formerly included most of North America from southern Canada to the Greater Antilles and northern Mexico. In recent years, the species' distribution in the west has contracted. The northern limit of breeding in the coastal States is now in Sacramento Valley (AOU 1998).

The species overwinters from Columbia and Venezuela, south to northern Argentina (Ehrlich et al. 1992; AOU 1998). The extent to which yellow-billed cuckoos nesting in different regions of North America mingle during migration, or while overwintering, is unknown.

THREATS

Principal causes of riparian habitat losses are conversion to agricultural and other uses, dams and river flow management, stream channelization and stabilization, and livestock grazing. Available breeding habitats for yellowbilled cuckoos have also been substantially reduced in area and quality by groundwater pumping, and the replacement of native riparian habitats by invasive non-native plants, particularly tamarisk.

Much of the dramatic decline of the yellow-billed cuckoo in California has been directly attributed to breeding habitat loss from clearing and removal of riparian forest for agriculture, urban development and flood control.

Overuse by livestock has been a major factor in the degradation and modification of riparian habitats in the western United States. The effects include changes in plant community structure and species composition, and relative abundance of species and plant density.

REFERENCES FOR ADDITIONAL INFORMATION

American Ornithologists Union (AOU). 1998. Checklist of North American birds. 7th ed. American Ornithologists' Union, Washington, D.C.

Banks, R.C. 1988. Geographic variation in the yellow-billed cuckoo. *Condor* 90:473-477.

_____. 1990. Geographic variation in the yellow-billed cuckoo: corrections and comments. *Condor* 92:538.

Ehrlich, P.R., D.S. Dobkin and D. Wheye. 1992. *Birds in jeopardy*. Stanford University Press, Stanford, CA.

Gaines, D. 1974a. Review of the status of the yellow-billed Cuckoo in California: Sacramento Valley populations. *Condor* 76:204-209.

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Last updated September 10, 2014



U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Species Account
FISHER
Martes pennanti



CLASSIFICATION: Candidate
Federal Register 69:18769; April 7, 2008
http://ecos.fws.gov/docs/federal_register/fr4318.pdf

On December 5, 2000, we received a petition to list a distinct population segment of the fisher as endangered and to designate critical habitat. We found that the petitioned action was warranted, but precluded by higher priority listing actions.



CRITICAL HABITAT: n/a
Need for critical habitat designation will be addressed in our proposed rule.

RECOVERY PLAN: None

DESCRIPTION

The fisher (*Martes pennanti*) belongs to the weasel family (Mustelidae). Some researchers have recognized three subspecies of fisher: *Martes pennanti pennanti* in the east and central regions of North America, *M. p. columbiana* in central and northwestern regions and *M. p. pacifica* ("Pacific fisher") in the western region of North America. The Service does not recognize this distinction.

Fishers are similar to the much smaller weasels. They have a long body with short legs. Adults range in length from 90 to 120 centimeters (about 2.5 to 4 feet). Males weigh 3 to 6 kilograms (about 7 to 13 pounds), females 1.5 to 2.5 kilograms (about 3 to 5.5 pounds).

The fisher's head is broad and flat with a sharp, pronounced muzzle. Its eyes face forward and ears are broad, rounded and low. Fur length ranges from 30 millimeters (about 1 inch) on the stomach and chest to 70 millimeters (about 2.75 inches) on the back. The tail is long and bushy.

Fur color varies from light brown to dark blackish brown, typically being darkest on lower back, legs and tail. The face, neck and shoulders may have a lighter grizzled gray appearance. Often there are irregular white patches on the chest and underside.

Fishers have five toes on all four feet and retractable claws. Their feet are large with a pad on each toe and a group of four central pads.

Fishers can rotate their hind paws almost 180 degrees, allowing them to come down trees head first like a squirrel and grasp limbs. On the hind paws, the central pads have circular patches of coarse hair that are associated with plantar glands which produce a distinctive odor believed to be used for communication during reproduction.

Fishers are opportunistic predators with a diverse diet that includes birds, porcupines, snowshoe hare, squirrels, mice, shrews, voles, reptiles, insects, deer carrion, vegetation and fruit. The name "fisher" is misleading. Fishers do not actually catch fish!

The breeding season for the fisher begins in late February and lasts until mid-April. Implantation of the blastocyst phase of the embryo is delayed approximately ten months. Following implantation, gestation lasts for around 30 days. Birth thus occurs nearly one year later, just prior to mating. Litter sizes generally range from one to four, but can be as high as five or six in rare cases. Not all fishers produce young every year. Some research indicates that fisher reproductive rates fluctuate widely.

DISTRIBUTION

Fishers, found only in North America, occur in the northern coniferous and mixed forests of Canada and northern United States, from the mountainous areas in the southern Yukon and Labrador Provinces in Canada southward to central California and Wyoming, the Great Lakes and Appalachian regions and New England.

In California, the fisher historically ranged throughout the Sierra Nevada from Greenhorn Mountain in northern Kern County to the southern Cascades at Mount Shasta. From there, they ranged west into the North Coast Ranges and Klamath Mountains from Lake and Marin Counties north to the State line.

Recent surveys indicate that the fisher occupies less than half of the range in California that it did in the early 1900s, and that the population is divided into two remnants. One is in the southern Sierra and the other in the northwest corner of the state. These populations are separated by about 250 miles, almost four times the species' maximum dispersal distance.

Failure to detect fishers in the central and northern Sierra Nevada suggests that they may be extirpated or occur at very low densities. This effectively isolates fishers in the southern Sierra Nevada from ones in northern California.

THREATS

The primary threat mentioned in the December 5, 2002 petition is the loss and fragmentation of fisher habitat, which the petitioners state is due to timber harvest, roads, urban development, recreation and stand-replacing fire.

The petitioners believe that past timber harvest in Washington, Oregon, and California has resulted in the loss of key components of fisher habitat over large portions of the landscape, and that the cumulative effects of continued timber harvest and fuels reduction projects on public and private lands would have dramatic effects on the fisher.

Other factors cited include poaching and incidental capture and injury, predation, mortality by vehicle collision, limited population size, and isolation of populations.

REFERENCES FOR ADDITIONAL INFORMATION

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Credits: Fisher photo by Mark Higley, Hoopa Tribal Forestry

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