



Questions and Answers

Final Rule to Reclassify the Santa Cruz Cypress as Threatened under the Endangered Species Act

Q. What is a Santa Cruz cypress?

A. Santa Cruz cypress (*Hesperocyparis abramsiana*) is a tree in the cypress family that can be found in the Santa Cruz Mountains of Santa Cruz and San Mateo counties in central California. It occurs in patches within a mosaic of coastal chaparral and mixed evergreen forests located on dry ridges inland from the coastal fog belt. There are five known populations that span a range of 15 miles from north to south.

With mature trees averaging 20–33 feet (6–10 meters) in height, Santa Cruz cypress can live to be well over 100 years old. Trees reach reproductive maturity and begin producing cones at an average age of 11 years and slowly release seeds throughout their life. However, fire can accelerate seed release and areas that have been recently disturbed by fire can produce a high number of saplings.

Like most cypress species, Santa Cruz cypress do not resprout from the roots after a fire and are completely dependent on seed establishment for post-disturbance regeneration. Thus, the germination and establishment of new seedlings depends on fire to replace the populations.

Q. What action is being taken?

A. The U.S. Fish and Wildlife Service is downlisting (improving the status of) Santa Cruz cypress (*Hesperocyparis abramsiana*) from endangered to threatened under the Endangered Species Act (ESA). The final rule reflects the best information available on the status of and threats to the species, which suggest it no longer meets the Service's definition of endangered. As such, the Santa Cruz cypress no longer faces the threat of extinction in the foreseeable future.

Q. What factors does the Service use to determine that a species is endangered or threatened?

A. Under the ESA, the Service can determine that a species is an endangered or threatened species based on any one or a combination of five factors:

1. The present or threatened destruction, modification, or curtailment of its habitat or range;
2. Overutilization for commercial, recreational, scientific, or educational purposes;
3. Disease or predation;
4. Inadequacy of existing regulatory mechanisms; or
5. Other natural or manmade factors affecting its continued existence

Q. Why is the Santa Cruz cypress being downlisted from endangered to threatened?

A. Since the Santa Cruz cypress was listed as an endangered species under the ESA in 1987, the threats to the species have been greatly reduced or are no longer impacting the species. There has been an increase in conservation of the cypress throughout its range, primarily through the establishment of parks and reserves, and the estimate of the number of trees is substantially larger than assessed at the time of listing.

After careful review and analysis of the best available scientific and commercial information on the threats to the species, the Service has determined that the imminence, severity and magnitude of ongoing threats to Santa Cruz cypress do not indicate that the species is presently in danger of extinction throughout all or a significant portion of its range; thus it no longer meets the definition of endangered but meets the definition of threatened.

Under the ESA, an endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A ‘threatened’ species is one that is likely to become endangered in the foreseeable future.

Q. What are the current threats to the Santa Cruz cypress?

A. The primary threat to Santa Cruz cypress and its habitat is the alteration of fire frequency, which impacts seed germination and establishment of new seedling regeneration. Other threats include: competition with non-native invasive species, genetic introgression, vandalism, unauthorized recreational activities, and potentially climate change.

While most of the populations have been protected through the conservation of lands, no active management is currently occurring to manage the demographic profile of the populations. Research on suitable management methods has only occurred at Bonny Doon Ecological Reserve.

Additionally, although substantial mechanisms are currently in place to protect Santa Cruz cypress and its habitat, including being state-listed as endangered by the state of California, the existing regulatory mechanisms do not address all threats impacting the species, such as fire cycles and climate impacts. There is little to no dedicated funding for the management of current threats to the species.

Q. What has helped improve the status of the species?

A. Protection has been secured for all known populations (five) of Santa Cruz cypress and habitat from the primary threats that existed at the time of listing (residential development, agricultural conversion and logging).

Extensive conservation efforts have taken place throughout the species’ range, mainly through the conservation of lands by the California Department of Fish and Wildlife, the California Department of Parks and Recreation and the county of San Mateo. In addition, populations on

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privately-owned lands in Santa Cruz County have received some protection through state and county regulations, such as the designation of lands as environmentally sensitive habitat.

The U.S. Fish and Wildlife Service has funded research on post-fire regeneration and has conducted demographic surveys to help the conservation community understand the needs and habitat conditions that the Santa Cruz cypress requires for long-term persistence.

However, the species still faces ongoing threats to its long-term viability, primarily from low level regeneration due to the alteration of fire frequency. While these threats will continue into the foreseeable future, the imminence, intensity, and magnitude of these ongoing threats do not indicate the cypress is in danger of extinction throughout its range; thus downlisting to threatened status is warranted.

Q. Why are the population number estimates greater now than at the time the species was listed?

A. When the species was listed in 1987, the estimated abundance of individuals was approximately 2,300. Our current estimate of the population is between 33,000 – 44,000 individuals. At the time of listing, population estimates were based on small sample size rather than systematic observation of stand area and density. Over time, more accurate and improved information has been gathered. The area of land occupied by Santa Cruz cypress trees has not increased, but the estimated number of individuals is known to be greater. These estimates do not illustrate trends, but rather more accurate and improved information that has been gathered about the species over time.

Q. Specifically, what kind of information did the Service look for during the comment period?

A. The Service intends that this final rule is based on the best scientific and commercial data available and is as accurate and as effective as possible. Therefore, we requested information from the public, other concerned governmental agencies, Native American tribes, the scientific community, industry, and other interested parties concerning the proposed rule.

We sought comments concerning:

- (1) Reasons why we should or should not reclassify Santa Cruz cypress under the ESA (16 U.S.C. 1531 *et seq.*).
- (2) New biological or other relevant data concerning any threat (or lack thereof) to this species.
- (3) New information concerning the population size or trends of this species.
- (4) New information on how Santa Cruz cypress responds to fire, especially as it pertains to prescribed fire and alternatives to prescribed fire (e.g., mechanical disturbance) that would support increased recruitment for this species.
- (5) New information on the current or planned activities within the range of the species that may adversely affect or benefit the species.

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(6) New information or data on the projected and reasonably likely impacts to Santa Cruz cypress or its habitat associated with climate change.

Q. Are there any distinguishing differences in protections between the two varieties of Santa Cruz cypress?

A. There are two varieties of Santa Cruz cypress and both varieties have the same protections under the ESA. One variety is represented by only one population in San Mateo County, California (*H. a. var. butanoensis*; known as the Butano Ridge population; longer seed cones). The other variety is represented by four populations in Santa Cruz County, California (*H. a. var. abramsiana*; known as the Eagle Rock, Bracken Brae, Bonny Doon, and Majors Creek populations).

Q. When can the Santa Cruz cypress be removed from the ESA's protections?

A. Santa Cruz cypress can be removed from the ESA's protections when all five populations are assured of long-term reproductive success, as outlined in the Santa Cruz Cypress Recovery Plan.

The ultimate goal of the ESA is to recover species. Recovery is the process by which the decline of an endangered or threatened species is arrested and threats are removed or reduced, ensuring the long-term survival of the species in the wild. At this point the species is recovered, and the process of removing the species from the ESA can be initiated.

It is by working with partners and using a range of conservation tools to recover endangered and threatened species that the Service ensures species are secure in their ecosystems.