

USACE Natural Resource Management Reptiles & Amphibians



Clouded Salamander

FAST FACTS

REASONS FOR LISTING STATUS: The clouded salamander is considered a conservation strategy species in Oregon and has a Nature Serve Rank of Vulnerable in Oregon. It is not listed by the U.S. Fish and Wildlife Service.

The species is endemic to the Pacific Northwest. This salamander occupies wet, coastal forests in the extreme northwest corner of California and western Oregon. Decline of the species is attributed to intensive, short-rotation logging practices that have resulted in limited availability of coarse wood debris on the forest floor and loss of habitat due to urbanization.

MANAGEMENT AND PROTECTION: Additional research is needed to assess this species' distribution and abundance. (Oregon Conservation Strategy) The scope and severity of climate change as a threat to habitat suitability remains uncertain and requires further research as well.

The protection of mature and old growth forests with adequate coarse woody debris is the most important long-term conservation need. (Nature Serve) The implementation of conservation plans for the spotted owl and the marbled murrelet may help to reduce the decline of the clouded salamander.

HABITAT NEEDS: The clouded salamander prefers forest habitat or burned areas that meet microhabitat features of temperature and moisture.

- This salamander is often found among talus, debris, or in large, decaying logs especially Douglas-firs, where they can find burrows in the wood or spaces just under the bark to hide.
- The species may also utilize deep rock crevices during dry and cold weather.
- During warm, wet weather the clouded salamander can be found closer to the surface under the top layer of debris.

Description: Adult clouded salamanders are generally brown with brassy patches on their backs and gray bellies. Adults can grow to just over five inches in length. This is a lungless salamander species; breathing occurs through moist skin. Juveniles have a copper or brassy dorsal stripe. The species is a generalist feeder which consumes a variety of small invertebrates.

Photo: Oregon Conservation Strategy, California Herps

Natural Resource Management (NRM)

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October 2020

USACE ROLE: Increased habitat protection is an important conservation strategy for the Oregon slender salamander. USACE operates several projects within the species' range, specifically within the Willamette Valley. These projects play an important role in the provision of suitable habitat.

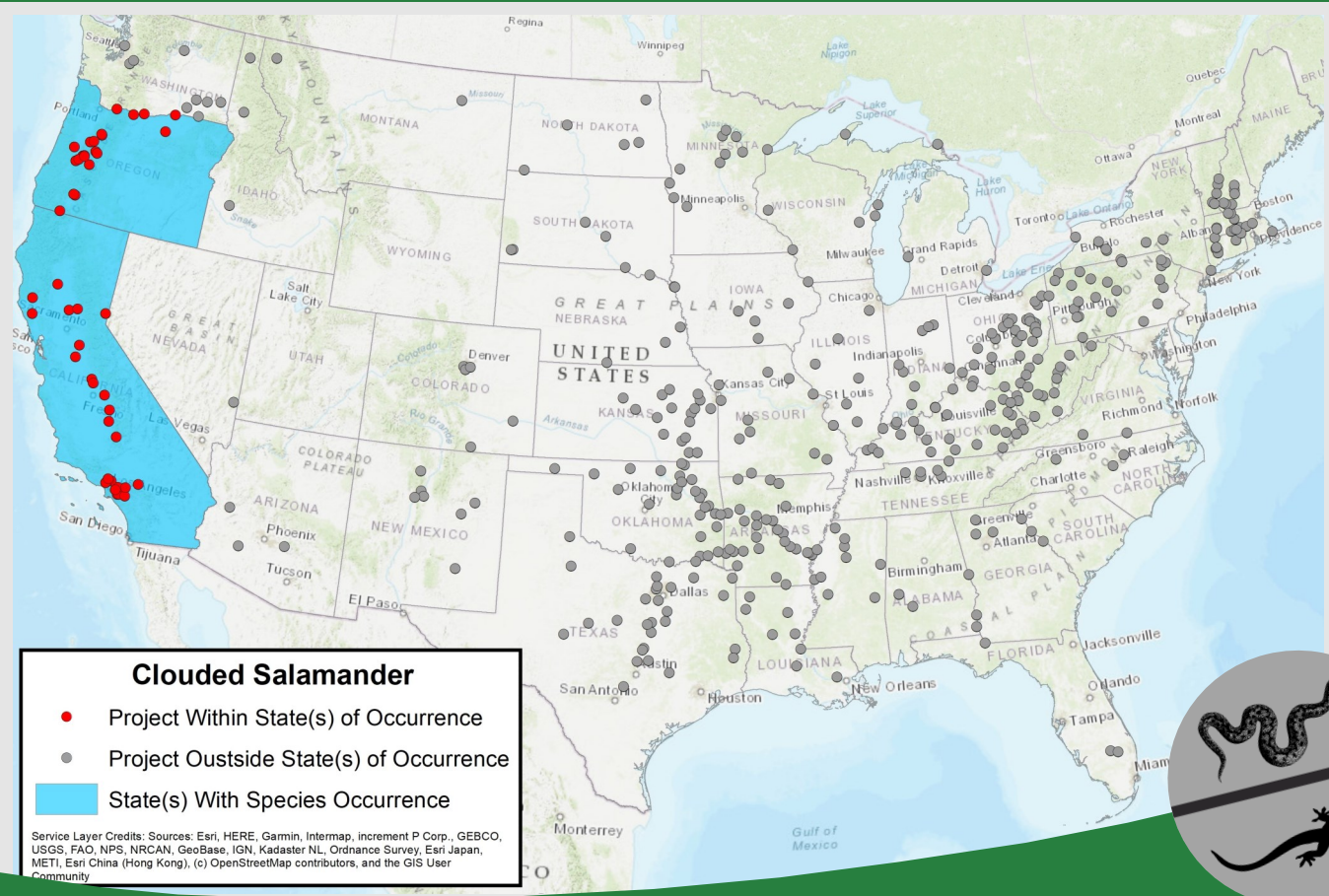
Photo: Artificial Cover Object (ACO) placed at Fall Creek Reservoir, Lane Co, Oregon. Each ACO consists of 3 untreated pine boards, the base measures 12in wide, 6ft long and 2 inches thick. Two top boards are used (6in x 6ft x 1in) with cedar lath strips to create the interstitial spaces favored by woodland/arboreal salamanders. Both bottom and top boards allow for individual salamanders to move freely when foraging and provides two capture locations per ACO.



WHAT IS USACE NRM DOING: In support of USACE's Environmental Stewardship mission, the Willamette Valley Project (WVP) Fern Ridge Project Office has been successfully monitoring pond breeding amphibians for the past 8 years. In 2016, the project began developing a terrestrial amphibian monitoring program. In the WVP, the program focuses on two salamander species, the Oregon slender salamander (*Batrachoseps wrighti*) and the clouded salamander (*Aneides ferreus*). Area Constrained Surveys (ACS) and Free Roam Hand Collection (FRHC) were executed at several project sites to determine presence or absence of the salamanders.

The information collected during these surveys is useful in many ways; confirming the presence of a sensitive species allows for proper environmental clearances and mitigation mandated by law. This also presents opportunities to inform other federal agencies, state and non-profit groups to the benefits of conducting these surveys and using ACOs for monitoring efforts.

Photos: The clouded salamander. Captures at Fall Creek Reservoir 2018, each photo represents a separate location and survey, along with different age classes: hatchling (left), juvenile (middle) and adult (right).



Reptiles & Amphibians
 Source: Map provided by Ashleigh Boss, ONSE Fellowship, Institute for Water Resources

