



Photo by T. Cappiello, ADFG



Coastal Cutthroat Trout Project

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Background

Coastal cutthroat trout (*Oncorhynchus clarkii clarkii*) (CCT) are one of the ten major cutthroat trout subspecies in North America. They reside in and are important to freshwater and coastal marine ecosystems from the Eel River, California, to Prince William Sound, Alaska (Fig. 1). They are renowned for their varied life history strategies which include resident, fluvial, lake, and anadromous forms (Fig. 2). They are the only major trout species without a management or conservation plan in place.



Figure 1. Geographic distribution of coastal cutthroat trout.



Figure 2. Anadromous, or sea-run (left) and resident (right) CCT differ in their appearance and size. There are considerable differences in their ecology and behavior as well (see Trotter 1989 for review). Photos by K. Griswold and D. Lang.

Healthy CCT populations rely on a range of habitats including headwater streams, tributaries, main stem rivers, and estuaries and marine habitat (Fig. 3). Populations that persist above barriers are relatively common. They tend to be unique genetically but are potentially vulnerable to stochastic events that can lead to extirpation.

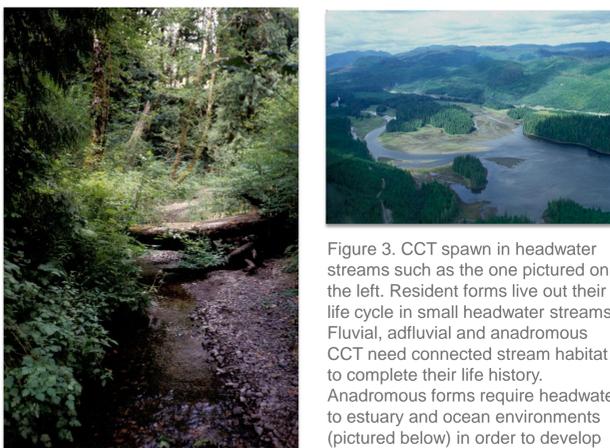


Figure 3. CCT spawn in headwater streams such as the one pictured on the left. Resident forms live out their life cycle in small headwater streams. Fluvial, adfluvial and anadromous CCT need connected stream habitat to complete their life history. Anadromous forms require headwater to estuary and ocean environments (pictured below) in order to develop their "sea-run" life history.

Project Need

In 2006, a range-wide, multi-agency effort (CCT Interagency Committee) was created and organized by PSMFC. The goal is to improve our understanding of CCT distribution, ongoing monitoring efforts, and, through assessments, develop a better understanding of healthy or challenged populations. These activities are relevant to management agencies as there is a long history of litigation and proposed listings under the ESA for CCT and the USFWS considers them a sensitive species.

Since 1999 there has been a series of petitions for listing CCT under the Endangered Species Act. And before that time CCT were simply not considered in many state management plans. Our goal is to change the status quo for CCT by conducting a range-wide status assessment using a standard protocol in a GIS framework.



ODFW biologists conduct snorkel surveys to monitor coho salmon (*O. kisutch*) however CCT are included in the survey as incidental sightings. We use these data for baseline information on documented occurrence. Photo by D. Jepsen ODFW.

**"Very little is yet known about these fish and they have been rightly called the 'problem child' of the State Game Commission."
1946, Oregon Game Commission**

Our Approach

The CCT Interagency Committee and PSMFC identified a long-term strategy based on conservation planning principles to achieve our goals (Fig 4). An important component of that plan is collaboration among agencies across state and international boundaries. We have used a step-wise approach to achieve our long-term goals with available funding.

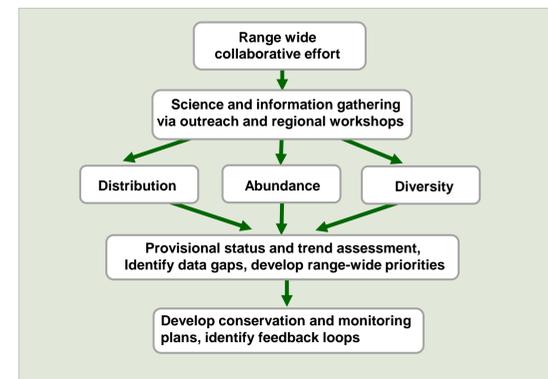


Figure 4. A flow chart depicting the activities initiated by the Coastal Cutthroat Interagency Committee in 2008. We are currently working on a status assessment and are currently in the process of planning and holding regional data gathering workshops. Future activities such as a conservation planning will be informed by the CCT assessment.

Data gathering and review workshops

In 2014, PSMFC and their partners began an assessment of CCT populations with support from the Western Native Trout Initiative (WNTI) and the National Fish and Wildlife Foundation (NFWF). The assessment process will continue through 2016 and will address goals identified in the strategic plan of WNTI and the National Fish Habitat Action plan. The assessment includes evaluations of intrinsic potential habitat models, occupied habitat, barriers, abundance, diversity, threats and restoration opportunities. The first of several data gathering workshops was hosted by Redwood National and State Parks in Orick, California in March of 2014 (Fig. 5). Additional workshops will be held throughout the distributional range of CCT over the next two years.



Figure 5. Biologists gathered around a mapping station at the Orick workshop to review draft maps and share their professional knowledge of CCT distribution in the streams of northern California.

Early Assessment Results

The first data gathering workshop in Orick, California expanded the knowledge base and generated much regional interest in the assessment. Twenty six biologists and five GIS specialists met over a two and a half day period to review, comment and expand upon data that was compiled prior to the workshop (Fig. 6).

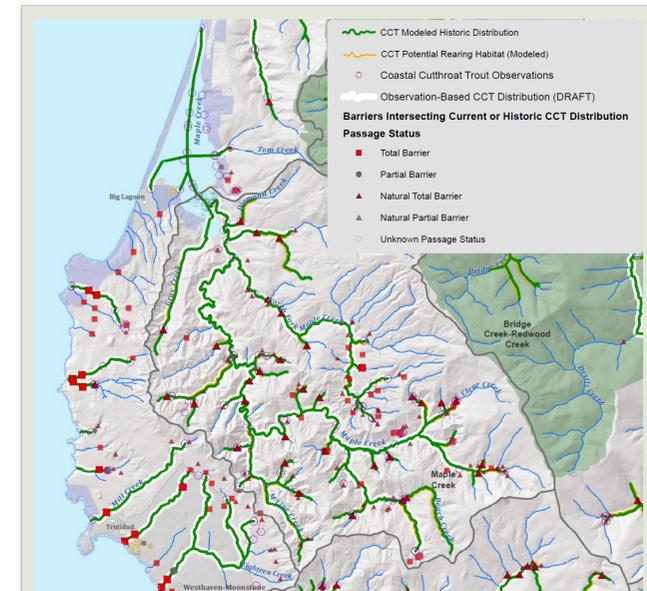


Figure 6. Intrinsic Potential modeled habitat for coastal cutthroat trout is depicted above along with documented CCT observations, and known fish passage barriers from the California Fish Passage Assessment Database (PAD). Modeled spawning and rearing habitat is shown in orange and green. White lines depict currently occupied habitat and red squares and triangles show barriers of varying types

The Orick workshop doubled the number of CCT observations recorded in the project database for the focus area and validated the approach used to identify potential historic distribution in the area. Biologists valued the opportunity to share their local knowledge and professional opinions regarding the primary threats and restoration opportunities that exist for CCT within the region. Future reporting will include results of expert opinion data on relative health of populations, life history diversity, and threats and opportunities. Data gathering workshops are currently being planned for Oregon and Washington in late 2014.



Literature cited

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Acknowledgments

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For further information

Visit the Coastal Cutthroat Interagency Committee website <http://cct.psmfc.org>

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