



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.

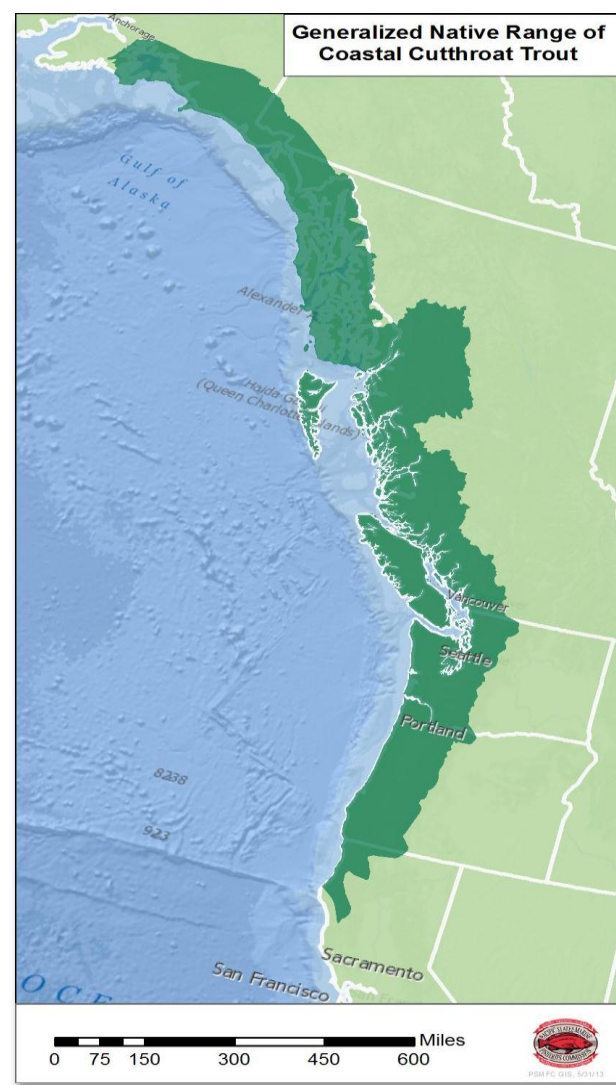


Figure 1. Geographic distribution of coastal cutthroat trout.



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. 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.

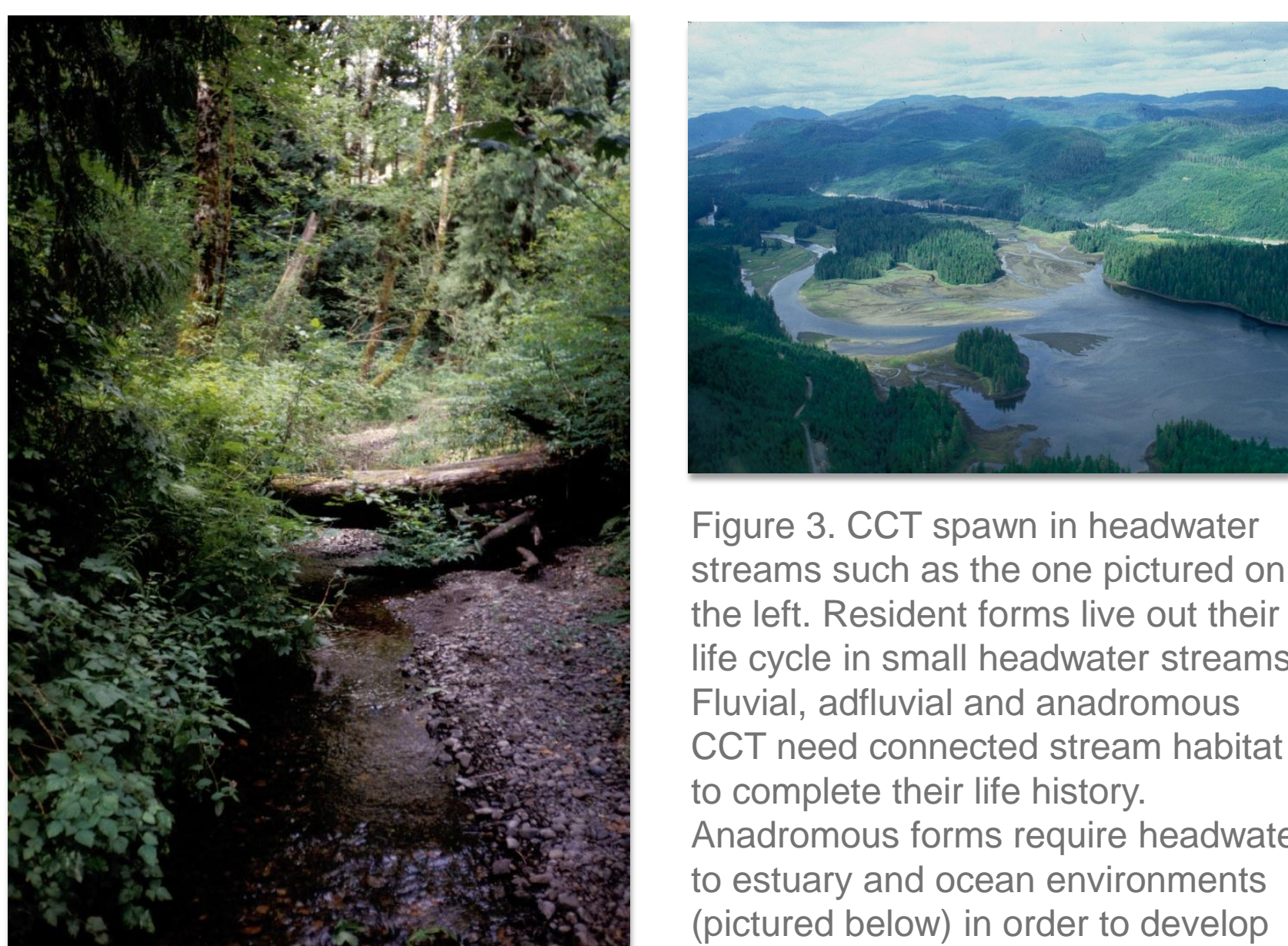
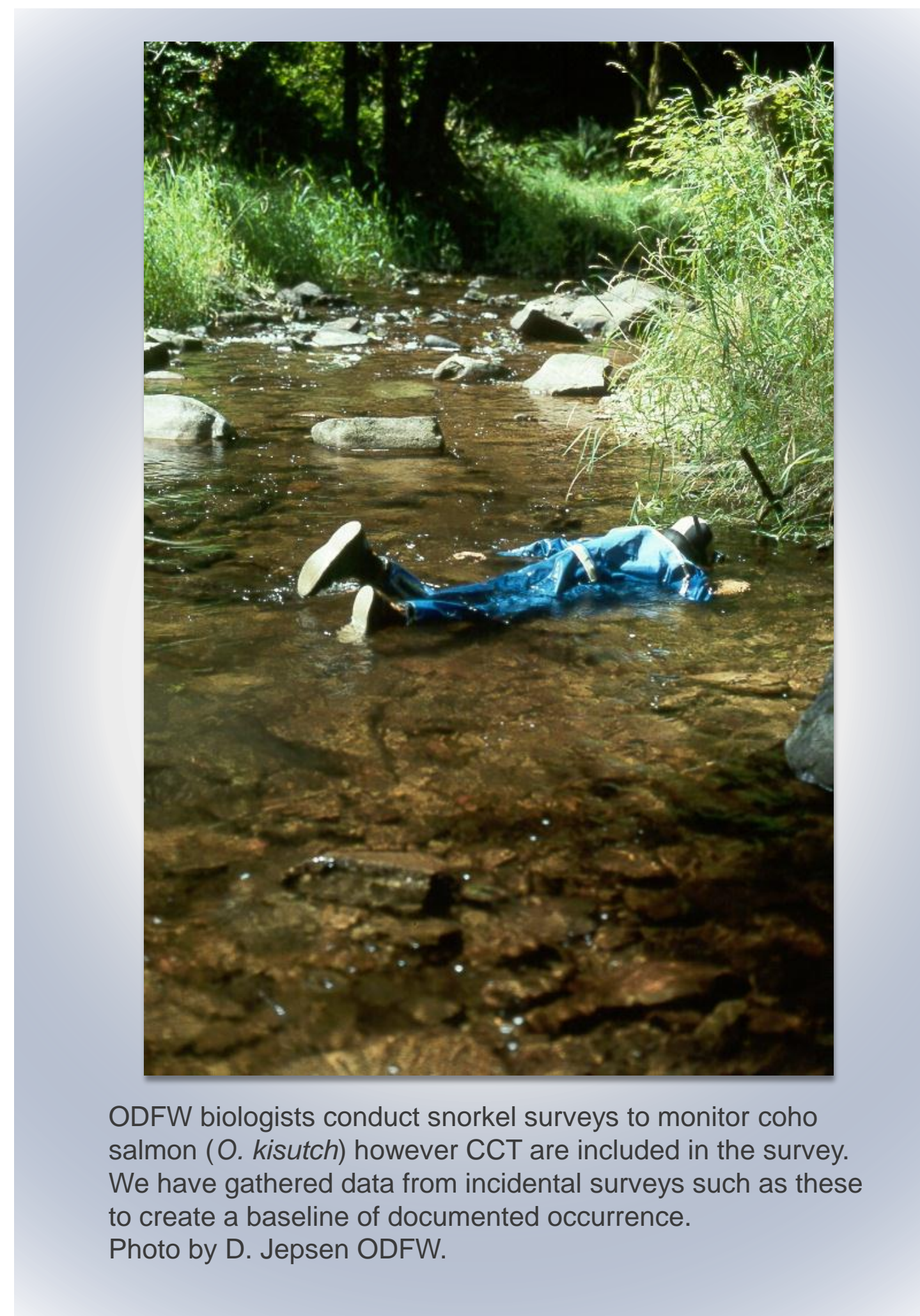


Figure 3. CCT spawn in headwater streams such as the one pictured on the left. Resident forms live out their life cycle in small headwater streams. Fluvial, adfluvial and anadromous CCT need connected stream habitat to complete their life history. Anadromous forms require headwater to estuary and ocean 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 "stronghold" 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. Simply put, our aim is change the status quo for CCT by conducting range-wide status assessments using a standard protocol.



ODFW biologists conduct snorkel surveys to monitor coho salmon (*O. kisutch*) however CCT are included in the survey. We have gathered data from incidental surveys such as these to create a baseline of 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 has identified the need to gather and share information that would allow for the assessment of status and trends in CCT populations (Griswold 2006). To do this we have created a framework where information about the distribution, abundance, and diversity of CCT may be housed and shared.

To date our project has developed three products: 1) a searchable library housed within the StreamNet Library (www.streamnet.org, www.fishlib.org) with documents scanned, processed with OCR, and made available for immediate searching and download; 2) a database that focuses on documented occurrence; and, 3) a framework to share the information we have gathered.

With funding from the National Fish and Wildlife Foundation, we have gathered observations from throughout the geographic range of CCT (Fig. 4).

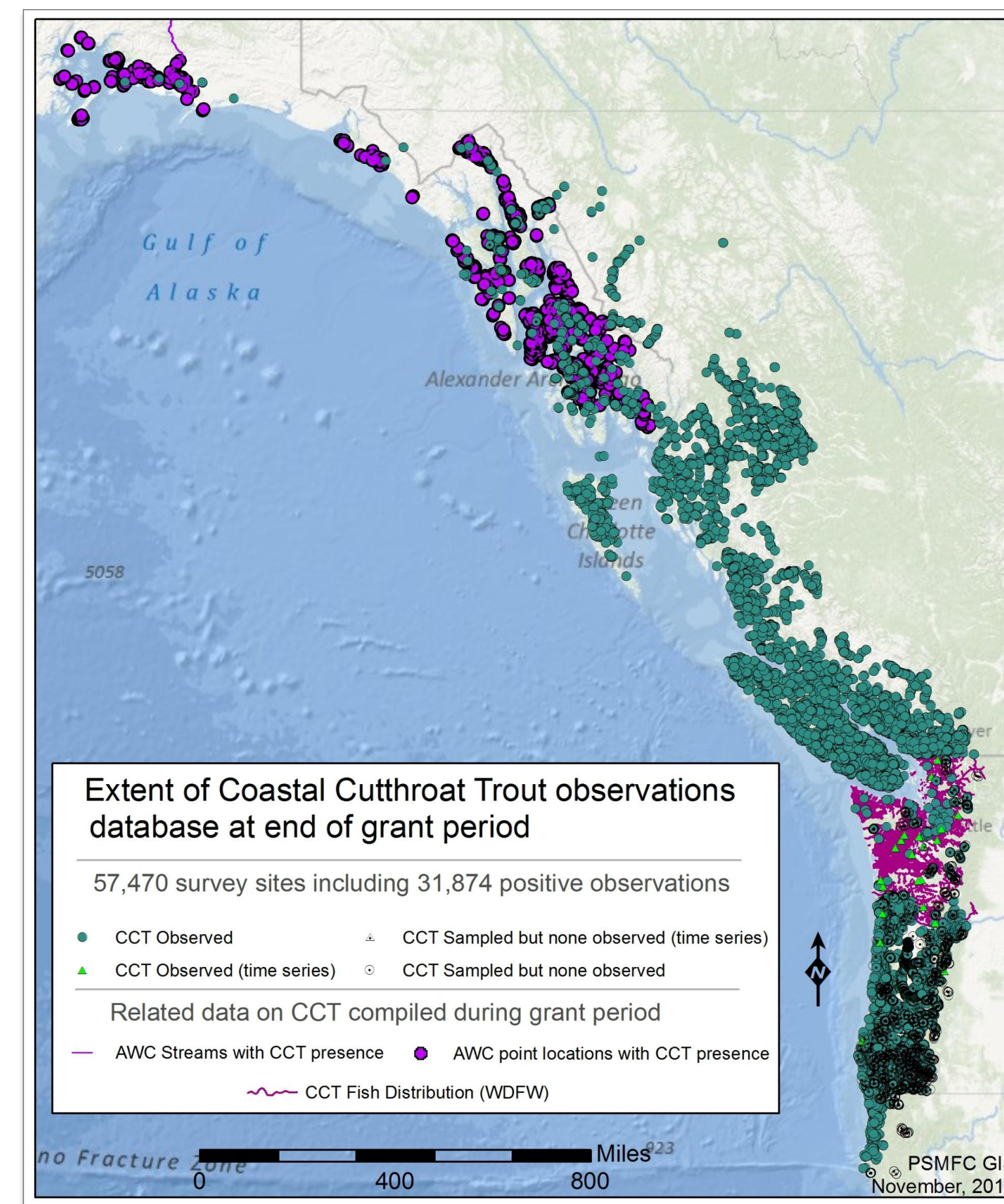


Figure 4. CCT observation data that we have collected are depicted in GIS framework.

Proposed Actions

The long-term strategy to create a science-based framework that will benefit CCT is depicted below (Fig. 5).

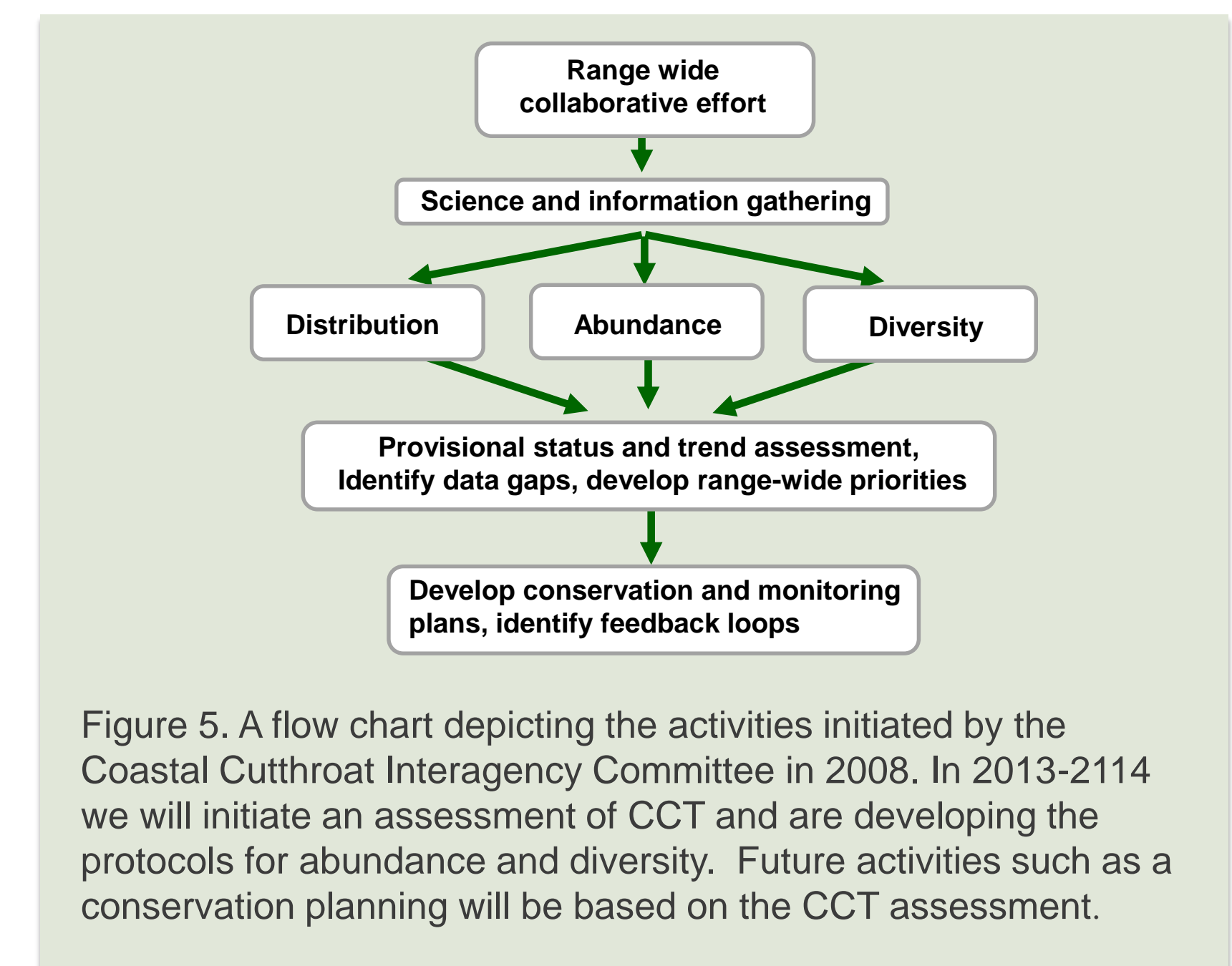


Figure 5. A flow chart depicting the activities initiated by the Coastal Cutthroat Interagency Committee in 2008. In 2013-2114 we will initiate an assessment of CCT and are developing the protocols for abundance and diversity. Future activities such as a conservation planning will be based on the CCT assessment.

Coastal cutthroat trout assessment

In 2013-2014, PSMFC and their partners will begin an assessment of CCT populations in California and Oregon with support from the Western Native Trout Initiative. The assessment will address a goal identified in the strategic plan of WNTI and the National Fish Habitat Action plan. The assessment includes evaluations of historical and current habitat, abundance, threats and opportunities. Workshops will be held and local biologists will participate and provide expert opinion in addition to the empirical data we have collected.

The assessment will use existing protocols developed for interior trout (May et al. 2005) but modified for CCT. For example, an important component of any assessment is developing an understanding of the historic occupied habitat. For this assessment PSMFC staff and contractor are exploring the potential use of intrinsic potential models (Figure 6).

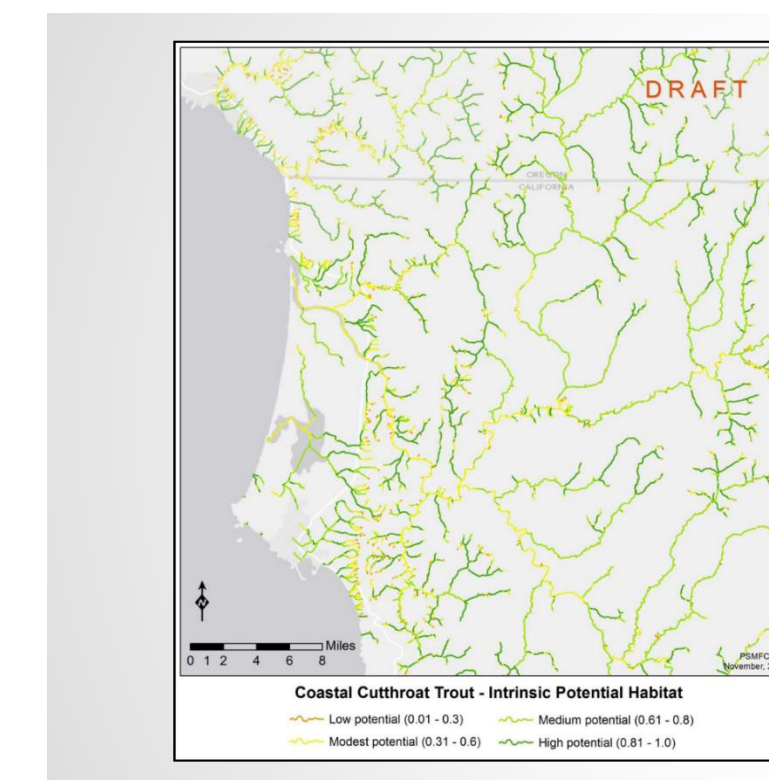


Fig. 6 Initial testing of Intrinsic potential habitat model designed to characterize suitable habitat for juvenile life stages of CCT. Criteria included active channel width, stream gradient and mean annual discharge.

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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