

Lower Columbia River Coastal Cutthroat Trout

Species Management Unit Description

The Lower Columbia River Coastal Cutthroat Trout SMU includes all Oregon populations of coastal cutthroat trout inhabiting tributary streams of the Columbia River from the mouth of the Columbia River upstream to The Dalles Dam, including tributaries of the Willamette River below Willamette Falls. The Lower Columbia River coastal cutthroat SMU passed five of the six interim criteria and its conservation risk classification for this Status Report is “potentially at risk”.

Existing Populations

The Lower Columbia River Coastal Cutthroat Trout SMU is comprised of eight historical populations (Table 1). It is the professional opinion of the local ODFW biologists (Braun, Alsbury, French, personal communications) that coastal cutthroat trout are found at least seasonally in virtually 100% of the available habitats for cutthroat trout in each of the eight populations in the Lower Columbia SMU, verifying that all historical populations continue to exist. All populations include resident, fluvial and anadromous fish.

Table 1. Description, status, and life history of Lower Columbia River Coastal Cutthroat Trout SMU populations.

Exist	Population	Description	Life-history
Yes	Youngs	Young's Bay tributaries/Big Creek.	Resident/Fluvial/Anadromous
Yes	Clatskanie	Clatskanie River/Beaver Creek/Plympton Creek.	Resident/Fluvial/Anadromous
Yes	Scappoose	Scappoose Creek/Johnson Creek.	Resident/Fluvial/Anadromous
Yes	Clackamas	Clackamas River.	Resident/Fluvial/Anadromous
Yes	Sandy	Sandy River.	Resident/Fluvial/Anadromous
Yes	Columbia Gorge	Columbia Gorge tributaries.	Resident/Fluvial/Anadromous
Yes	Hood	Hood River.	Resident/Fluvial/Anadromous
Yes	Fifteen Mile	Mill Creek/Five Mile/Fifteen Mile.	Resident/Fluvial/Anadromous

Habitat Use Distribution

Fish presence surveys related to forest operations suggests that cutthroat trout are present throughout the Lower Columbia River SMU and are found distributed widely in each major watershed. Since cutthroat trout are rarely the target species in biological studies, we relied on this data and the assessment of other data by local ODFW district biologists (Braun – North Coast Watershed District, Alsbury – North Willamette Watershed District, and French – Deschutes Watershed District) to assess each population for this criterion.

It is the professional opinion of local ODFW biologists that all life-history types of coastal cutthroat trout expected are present and widely distributed throughout most of the Lower Columbia River SMU (Braun, Alsbury, French, personal communications). There is some uncertainty as to the current and historical presence of the anadromous life-history strategy in the two populations above Bonneville Dam – the Hood and Fifteenmile populations. Sampling on private and federal forest lands over the past ten years has found coastal cutthroat trout in the headwaters of most perennial streams sampled in the Lower Columbia River SMU, as well as seasonal streams. These headwater areas are presumed to be the historical limit of coastal

cutthroat trout distribution. Periodic sampling by local biologists continues to document the existence of the 71 isolated groups of coastal cutthroat trout above natural barriers that were described in ODFW's 1995 Biennial Report on the Status of Wild Fish in Oregon (Kostow 1995). Watershed district sampling focused on various activities, or other species, typically has documented the presence of coastal cutthroat trout in most areas of a watershed. Local ODFW biologists believe the results of these various sampling efforts represents the actual distribution of coastal cutthroat trout in all eight populations within the SMU and that it verifies that virtually all historical habitat is currently being used by coastal cutthroat trout in each population. All populations and the SMU pass this criterion.

Abundance

To assess the abundance criterion, local ODFW biologists in the Lower Columbia River Coastal Cutthroat Trout SMU were asked to review the results of the various sampling efforts that have been conducted over the last ten years to identify those locations within the distribution range of coastal cutthroat trout where abundances were found at critical levels (as defined in the Coastal Cutthroat Trout Assessment Methods section). Very few sites in the SMU could be identified where very few or no cutthroat trout were found. In the few cases where abundances were found to be at critical levels, the location was either near the upper limit of cutthroat distribution in the headwaters of streams where habitat is limited, or in an area where significant steelhead juveniles were present that likely out-competed cutthroat trout for occupation of the habitat. Even including these areas of expected low abundances of coastal cutthroat trout, the proportion of these areas to all areas sampled is still well below the criterion level of >50%. It is the professional opinion of the local ODFW biologists that the sampling efforts reviewed are indicative of the abundance of each coastal cutthroat trout population within the Lower Columbia River SMU (Braun, Alsbury, French, personal communications).

Watershed district sampling in selected tributaries of the Hood River in the early to mid-1990s found moderate to high densities of coastal cutthroat trout. The local ODFW biologists believe current densities are similar to those seen in the 1990s (French, personal communication). Periodic sampling in other streams in the SMU has found moderate densities of cutthroat as well. In routine and random sampling in this SMU over the past five years it has been rare to find a segment of a perennial stream that does not have cutthroat trout present.

Sampling of downstream migrants in the North Fork Scappoose River and upstream migrants in the Clackamas River do not show much of an upward or downward trend in abundance (Figure 1 and Figure 2). The Clackamas River dam counts are likely to be the anadromous life-history type coastal cutthroat trout and may be showing a similar increasing trend as was seen in the Oregon Coast SMU. The North Fork Scappoose River migrant trap data are also comparable to the migrant trap data collected in the Oregon coast SMU.

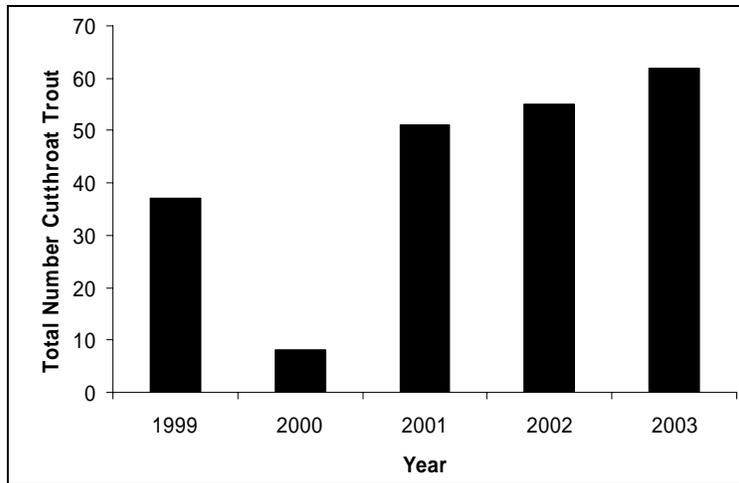


Figure 1. Cutthroat counted at the North Fork Clackamas River adult fish trap (Source Portland General Electric)

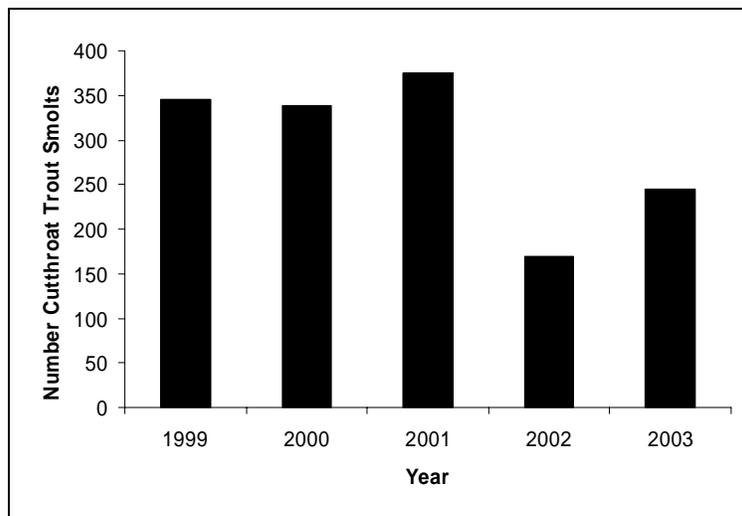


Figure 2. Cutthroat smolts counted at the North Fork Scappoose Creek migrant trap (Source ODFW LifeCycle Monitoring Project)

The relatively healthy densities of cutthroat trout found throughout the SMU in random and routine sampling suggests all populations of coastal cutthroat trout have been above critical levels in each of the last five years. The stable nature of these densities over the decades that sampling has occurred indicates that the populations have stayed above critical levels for some time. For these reasons, all of the populations passed the abundance criterion. The Lower Columbia River Coastal Cutthroat Trout SMU also passes the criterion.

Productivity

Coastal cutthroat trout are found in almost all stream segments in the Lower Columbia River SMU. Sampling in conjunction with forestry activities throughout the SMU has found cutthroat in most headwater reaches. Local ODFW biologists have noted that the 71 isolated groups of cutthroat trout above natural barriers described by ODFW in 1995 (Kostow 1995) have continued to maintain stable levels over the recent decades that sampling has occurred.

ODFW Watershed District biologists in the Lower Columbia River Coastal Cutthroat Trout SMU, as stated in the abundance criterion section, have found few streams during various

sampling efforts where coastal cutthroat trout are not present in expected densities for the habitat present. This includes streams that have experienced catastrophic events such as droughts, floods, and debris torrents that would likely have reduced or eliminated the abundance of coastal cutthroat trout. Local biologists have identified streams that go dry during the summer months, but have been found to support reasonable densities of cutthroat the following spring. Most areas that have been found with low numbers of cutthroat trout due to a debris torrent have been found to contain reasonable densities of cutthroat a few years after the event. Examples of such resilience in coastal cutthroat trout have been identified in almost every basin by the local biologists (Braun, Alsbury, French, personal communications).

The productivity criterion is intended to assess the ability of population levels to rebuild after experiencing low abundances. The stable level of cutthroat found in most of the Lower Columbia River SMU along with their almost universal distribution is evidence that these populations fully utilize the available habitat and maintain abundances near capacity. The densities sampled have been found before and after catastrophic events such as 100 year floods, debris torrents, and severe droughts. The fact that stable densities of cutthroat trout are found in almost all streams in this SMU despite events that undoubtedly diminished their abundance, provides evidence that all coastal cutthroat trout populations in the Lower Columbia River SMU are productive.

Abundance of anadromous coastal cutthroat trout in the entire Lower Columbia River SMU is thought to have declined through the 1990s as a result of poor ocean survival conditions. Reports from anglers and local biologists suggest that the number of large cutthroat trout, presumably anadromous, in the populations below Bonneville Dam has increased in the last several years, demonstrating the ability for coastal cutthroat trout to rebound after low abundances. The continued low abundance of anadromous coastal cutthroat trout seen at Powerdale Dam on the Hood River is cause for some concern. The local ODFW biologist believes the anadromous life-history type in the Fifteenmile population is also at low abundances (French, personal communication). There is some uncertainty as to the historical existence of the anadromous life-history of coastal cutthroat trout in these populations above Bonneville Dam. The historical stocking of hatchery coastal cutthroat trout in the Hood River somewhat clouds the true abundance of anadromous coastal cutthroat trout seen at Powerdale Dam.

The Hood and Fifteenmile populations failed the productivity criterion due to the concern of an historical coastal cutthroat trout life-history being at extremely low levels. The loss of a life-history strategy would negatively impact the productivity of these populations. All other Lower Columbia River SMU coastal cutthroat trout populations passed the criterion. The SMU fails the criterion with less than 80% of the populations passing the criterion.

Reproductive Independence

Data specific to reproductive independence are not available for Lower Columbia River coastal cutthroat trout. Instead we used current and historical stocking records to evaluate the risk of hatchery origin cutthroat trout to native coastal cutthroat trout. Stocking occurred in the past throughout all of the SMU, with the exception of the Columbia Gorge and Fifteen Mile populations. All stocking of hatchery cutthroat trout in the state was ceased in 1996 and many of the programs in the Lower Columbia SMU were discontinued prior to that. The residual effects of hatchery cutthroat trout on wild coastal cutthroat trout have not been determined. Stocking of hatchery coastal cutthroat trout continues in tributaries of the Lower Columbia River in Washington. Some of these hatchery fish may enter Oregon tributaries and spawn, although this

has not been documented. It is believed that any spawning by hatchery fish from Washington would constitute less than 10% of all cutthroat spawners. All populations passed this criterion.

Hybridization

Interspecific hybridization with non-native trout has not been identified as an issue for Lower Columbia River coastal cutthroat trout.

Summary

Our final assessment of the Lower Columbia River Coastal Cutthroat Trout SMU is “Potentially at Risk”. There is a limited amount of quantitative and qualitative data that indicate this species appears to be able to quickly respond to changes in habitat quality or quantity and to populate those habitats to capacity. Populations of coastal cutthroat trout have persisted where they are isolated and where they interact with populations of other salmonid and non-salmonid species. The potential loss of the anadromous life-history strategy in the Hood and Fifteenmile populations is cause for some concern. The status of this life-history strategy and its significance to the continued health of these populations will be more thoroughly explored when a conservation plan is developed for the Lower Columbia River Coastal Cutthroat Trout SMU. Some of the datasets used in this assessment were developed with different protocols and assumptions, making it difficult to compare between datasets. During conservation plan development these datasets will be analyzed thoroughly to ensure this interim assessment is accurate.