

Oregon Coast Coho Conservation Plan

2020 Annual Report

The Oregon Coast Coho Conservation Plan (OCCCP) was adopted by the Oregon Fish and Wildlife Commission in March 2007. The plan serves as the State of Oregon's management plan for the Oregon Coast (OC) Coho Salmon Evolutionarily Significant Unit (ESU). The OC Coho Salmon ESU is comprised of 5 strata (North Coast, Mid-Coast, Mid-South Coast, Lakes, and Umpqua) and 21 independent OC Coho Salmon populations within these 5 strata.

ESU Status Summary

Wild OC Coho Salmon spawner abundance estimates for the ESU increased from 95,138 fish in 2019 to 109,932 in 2020. Budget reductions and safety concerns from the COVID-19 pandemic resulted in a significant reduction in spawning surveys being achieved, thus insufficient data was available to produce reliable abundance estimates at the population scale. Therefore, only strata and ESU scale estimates were reported for 2020. Coho Salmon harvest impact was less than the allowable impact approved by the Pacific Fishery Management Council (PFMC) under Amendment 13 (A-13). Overall, freshwater productivity continues to be a primary limiting factor in the ability of the ESU to attain the broad sense recovery goals identified in the OCCCP. However, focused efforts for population scale OC Coho Salmon habitat restoration actions are being supported by state and federal agencies, tribes, and other non-governmental organizations. These entities are working to develop and implement Coho Salmon population specific strategic action plans to address primary limiting factors. Given that freshwater production continues to be limiting, implementation of the OCCCP Conservation Strategy for the Coast Coho ESU should continue.

Measurable Criteria

As mandated by Oregon's Native Fish Conservation Policy (OAR 635-007-0502 to 0509), measurable criteria were developed to evaluate progress towards reaching the desired status goals for each of the independent populations in six criteria categories: (1) abundance, (2) persistence, (3) productivity, (4) distribution, (5) diversity, and (6) habitat. Using data and summaries from the Western Oregon Rearing Project (WORP) and the Oregon Adult Salmonid Inventory & Sampling (OASIS) Project, the results of each criterion's status for 2020 are summarized below. More information on these measurable criteria can be found at the ODFW Recovery Tracker website (<http://www.odfwrecoverytracker.org>).

The OCCCP's targets for measurable criteria reflect broad sense goals for the ESU, not delisting goals under the federal Endangered Species Act (ESA). The OCCCP broad sense goals represent a future condition and performance of the OC Coho ESU that is significantly higher than a level at which the ESU would be considered a candidate for listing under the federal ESA. The OCCCP describes the broad sense goals as ambitious goals that are expected to be attained over

50 years of sustained conservation actions, including habitat protection, restoration, and enhancement.

Abundance

This criterion is intended to ensure adequate numbers of naturally produced spawners return from the ocean to guarantee the health of the population and provide economic, societal, and ecological benefits. Naturally produced OC Coho Salmon spawner abundance estimates for the ESU increased from 95,138 fish in 2019 to 109,932 in 2020. Total spawner abundance was 88% of the previous 30-year average (124, 621). Strata abundance ranged from 50% (Mid-South Coast Stratum) to 127% (Umpqua Stratum) of the previous 30-year average.

The marine survival category under A-13 was Medium, and the abundance estimate was approximately 15.3% of the ESU marine survival-specific abundance goal identified in the OCCCCP. Escapement abundance goals representing broad sense recovery were developed for each of the independent populations to ensure that naturally produced spawners are distributed throughout the ESU. None of the independent populations met their broad sense recovery escapement goals in 2020.

Persistence

This criterion uses the forecast probability of persistence for each independent population based on results from population viability simulation models. A persistence criterion with a probability of 99% or greater significantly increases the likelihood that the ESU will remain viable under extreme marine survival conditions. This metric was originally assessed in 2007 during plan development and indicated that 11 of the 21 independent populations passed the criteria with three populations (the Necanicum, Salmon, and the Sixes) falling below 95% persistence. The model was updated during the 12-year OCCCCP assessment that began in 2019 (see assessment [here](#)). Coordination with NOAA-Fisheries is ongoing to refine this metric in the future.

Productivity

The criterion for productivity is the annual estimate of naturally produced recruits per spawner (R/S) in each independent population and the ESU. The number of recruits must be equal or greater than the number of spawners that produced them for a population to avoid further decline during low levels of abundance. The productivity criterion was designed to confirm individual populations are performing in accordance with this expectation. This criterion was assessed during the 12-year OCCCCP assessment (see assessment [here](#)).

Although not directly used in the productivity metric, juvenile density and parr abundance information relative to spawners provides some insight into freshwater productivity (note: the R/S productivity metric also includes marine production, as the “recruits” are returning adult spawners). The 2020 abundance estimate was 3.8 million parr. After improving from lows averaging 910,000 during 1998-1999, parr abundance has been between 2.9 and 4.9 million since 2000. Site occupancy was 83% in 2020, and this metric meets the NOAA-Fisheries recovery criterion of $\geq 80\%$ of sites occupied. Density estimates in the North Coast and the Umpqua strata

were similar to those in 2019. Density estimates in the Mid-Coast for 2020 were lower than in 2019, and density estimates were higher in 2020 than in 2019 in the Mid-South Coast.

Within Population Distribution

This criterion has two metrics. The first uses the percentage of random, spatially balanced surveys that have greater or equal to four wild adult Coho Salmon spawners/mile for each independent population. In 2020, budget reductions and safety concerns from the COVID-19 pandemic resulted in only 61% of the goal for randomly selected spawning surveys being achieved. This was insufficient to produce reliable abundance estimates at the population scale, therefore only strata and ESU scale estimates were reported for 2020. The second metric for this criterion uses a comparison of the spatial pattern of potential spawning distribution to that observed using spatial statistics for each independent population. Data for this second metric are not currently available.

Diversity

The metric for this criterion is the average of the 100-year harmonic mean of spawner abundance (projected from a population viability model) for each independent population. The threshold value for the metric is a harmonic mean of at least 1,200 naturally produced adult Coho Salmon spawners. This was updated during the 12-year OCCCP assessment using actual spawner abundance estimates from the contemporary period (1990-2019). Although annual spawner abundance estimates are not the same as the 100-year harmonic mean projection for spawner abundances, independent populations are surveyed for annual estimates that exceeded 1,200 spawners. Due to budget reductions and safety concerns from the COVID-19 pandemic, spawner abundance was only reported for four populations in 2020. All three lake populations were below average (57% to 77%), and the North Umpqua population was 114% of the previous 30-year average.

Habitat Condition

This metric is defined as the amount of available high-quality habitat across all freshwater life stages in each independent, non-lake population. Except for the three lake populations, achieving the desired status goals of the OCCCP will require significant improvement to the quality of freshwater habitat. High-quality habitat is defined as habitat that can produce 2,800 smolts/mile. Many different metrics go into the estimation of high-quality habitat.

Habitat trends at the strata level were completed during the 12-year OCCCP assessment, and the assessment indicated that the mileage of high-quality habitat remains low relative to the plan's broad sense goals. Even though restoration efforts have been ongoing, significant and continued investment in habitat restoration focused on restoring complex pools, off channel habitats, large wood recruitment, and a reversal of declines in highly productive habitats like alcoves and beaver pools is needed to attain the broad sense recovery goals. Overall, freshwater productivity continues to be a primary limiting factor in the ability of the ESU to attain the broad sense recovery goals.

Conservation Project Implementation

In 2020, ODFW continued to implement its commitments identified in the OCCCP. The status of those commitments are discussed below by action, as identified in the OCCCP.

Hatchery Management- This commitment was met and is being maintained. Hatchery releases were significantly curtailed; the last hatchery Coho Salmon releases into the North Umpqua occurred in May 2006 and the last hatchery releases into the Salmon River occurred in May 2007.

Harvest Management- This commitment was met and is being maintained. Harvest impact rates to naturally produced OC Coho Salmon from fisheries continue to be managed through the PFMC's Salmon Fishery Management Plan and the use of Amendment 13 Harvest Management Matrix, found by NOAA-Fisheries to be consistent with the recovery of OC Coho Salmon. The Table below shows allowable harvest impacts approved by the Pacific Fishery Management Council (PFMC) under Amendment 13 and the actual harvest impact calculated post-season from 2016-2020.

Year	A-13 Allowable Harvest Impact	Actual Harvest Impact
2016	20%	8.7%
2017	30%	11.6%
2018	15%	12.7%
2019	15%	14.7%
2020	15%	7.4%

Table 1. Allowable and actual harvest impacts for 2016-2020.

Western Oregon Stream Restoration Program- This commitment is on-going. Budget constraints in previous years led to a reduction in ODFW biologists that support this program. However, high priority habitat restoration projects that create high quality OC Coho Salmon rearing habitat continue to be developed and implemented by various entities across the ESU, with a reduced level of ODFW technical involvement. Priority is placed on projects with willing landowners in areas that support high quality OC Coho Salmon rearing habitat. Technical assistance is being provided to local partners, and new restoration techniques for addressing key limiting factors are continually being explored.

ODFW currently has two Western Oregon Stream Restoration Program biologists that provide a significant amount of support in coordinating, planning, and implementing OWEB's investments in the strata where these biologists are located (North Coast and Umpqua).

The OWEB Investment Tracking Tool located in [Oregon Explorer](#) was used to identify activities funded by OWEB to support conservation and recovery of the OC Coho Salmon ESU in 2020.

The Table below summarizes the OWEB’s investments by category for each OC Coho Salmon population for actions implemented by organizations such as watershed councils, tribes, Soils and Water Conservation Districts, state, and federal agencies. Occasionally, grants are awarded by strata if actions target more than one population.

Population	Capacity Building	Stakeholder Engagement	Monitoring	Restoration	Technical Assistance	Total
North Coast	-	-	-	-	-	-
Necanicum	-	-	-	-	-	-
Nehalem	-	-	\$116,261	\$40,066	-	\$156,327
Tillamook	-	-	-	\$235,250	-	\$235,250
Nestucca	-	-	-	\$22,445	\$64,658	\$87,103
Mid-Coast	-	-	-	-	-	-
Salmon	-	-	-	-	-	-
Siletz	-	-	-	\$210,177	\$83,333	\$293,510
Yaquina	-	-	-	-	-	-
Beaver	-	-	-	-	\$66,120	\$66,120
Alsea	-	-	-	-	-	-
Siuslaw	-	\$24,690	-	\$509,977	\$46,436	\$581,103
Lakes	-	-	-	-	-	-
Siltcoos	-	-	-	-	-	-
Tahkenitch	-	-	-	-	-	-
Tenmile	-	-	-	-	-	-
Umpqua	-	-	-	-	-	-
Lower Umpqua	-	-	-	-	-	-
Middle Umpqua	-	-	-	\$223,353	-	\$223,353
North Umpqua	-	-	-	-	\$103,957	\$103,957
South Umpqua	-	-	\$276,832	\$245,250	\$190,508	\$712,590
Mid-South Coast	-	-	-	-	-	-
Coos	-	-	-	\$645,579	\$177,895	\$823,474
Coquille	-	-	-	\$1,721,083	\$314,787	\$2,035,870
Floras	-	-	-	\$24,322	-	\$24,322
Sixes	-	-	-	-	-	-
Totals	-	\$24,690	\$393,093	\$3,877,502	\$1,047,694	\$5,342,979

Table 2. OWEB funded activities by population and activity type in 2020.

Habitat Protection- This commitment is on-going. The Oregon Plan for Salmon and Watersheds has fostered significant investments in habitat restoration and protection. Steady increases in instream habitat restoration structures have been documented by ODFW habitat

monitoring. More time is likely needed for these and on-going restoration projects to become detectable in habitat trends at the ESU and strata scale of monitoring.

ODFW continues to have staff committed to partnering with the Oregon Watershed Enhancement Board (OWEB), NOAA Restoration Center, Wild Salmon Center, and the National Fish and Wildlife Foundation on a Business Plan approach for the conservation of Oregon's coast Coho Salmon. The intent of the Coho Business Plan is to achieve the following:

1) Promote conservation and recovery of coast Coho Salmon in Oregon and describe the essential role of voluntary habitat protection and restoration efforts.

2) Identify the highest priority projects required at the population (watershed) scale to advance regional recovery goals.

3) Aggregate the cumulative costs and anticipated benefits of these projects, and coordinate funding to support locally led implementation.

Projects included in the Coho Business Plan are generated through a scientifically based planning process that local communities use to develop a Strategic Action Plan (SAP) for a given Coho Salmon population. An SAP has been completed for the Siuslaw River population (seen [here](#)) and SAPs for the Nehalem, Coos, and Siletz River populations are in various stages of completion. As the number of projects contained in the Business Plan increase, the Partnership will work with state, federal, and private partners to direct funding into locally led project implementation. Additionally, OWEB developed the Focused Investment Partnership grant program, which can focus significant funding toward implementing SAP projects if grants are successfully obtained.

Promote Beaver Dams and Associated Habitat- This commitment is on-going. ODFW continues to promote beaver dams in OC Coho Salmon rearing habitats that support the objectives of the OCCCP.

Research, Monitoring and Evaluation Program- This commitment was implemented and is on-going. ODFW continues to conduct research, monitoring, and evaluation related to the OCCCP.

Oregon Plan Outreach Program- This commitment is on-going. ODFW has designated staff to coordinate with key partners on actions to address the objectives in the OCCCP.