

Coastal Multi-Species Conservation and Management Plan
2020 Implementation Report

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Introduction

The *Coastal Multi-Species Conservation and Management Plan* (CMP) was developed to ensure the continued viability and conservation of Chinook salmon, spring Chinook salmon, chum salmon, winter and summer steelhead trout, and cutthroat trout Species Management Units (SMUs) along the Oregon Coast from the Necanicum River in the north to the Elk River in the south, and to achieve a desired status that provides substantial ecological and societal benefits. The plan also provides a framework for how hatchery salmon and steelhead and fisheries are to be managed. The CMP is consistent with requirements for conservation plans described in the Oregon Native Fish Conservation Policy (OAR 635-007-0502 to 0509) and was adopted by the Oregon Fish and Wildlife Commission in June 2014. To track progress toward plan goals, the CMP calls for annual reports of monitoring information through *Hatchery Program Summaries* and *Wild Fish Monitoring Summaries*, as well as annual updates on plan implementation. This report summarizes CMP implementation and SMU metrics in 2020.

Progress Toward Desired Status

Since the adoption of the CMP in 2014, coastal salmon and steelhead have experienced an extreme drought event (2015), declines in ocean productivity, and anomalous warm ocean temperatures (e.g., the Blob). These conditions have generally resulted in declines in abundances of coastal salmon and steelhead stocks from recent highs in 2014 and 2015. Coastal hatchery returns have also been adversely affected (see *Hatchery Program Summaries*). This is similar to observations in many other salmon and steelhead stocks throughout Oregon and the Northwest. Coastal salmon and steelhead population abundances are cyclical, as evident in historical trends, and populations generally appear to be rebounding as ocean conditions improve. However, the degree of improvement varies among species and locations within the SMU, and actions to reduce and buffer risk to wild fish will continue to be necessary in coming years. Summaries of each SMU are provided below, and additional details are available in the report's *Wild Fish Monitoring Summaries*.

Oregon Coastal Chinook Salmon

Due to poor ocean conditions, monitoring indicated substantial declines in returns of Oregon Coastal Chinook Salmon in the five years following CMP adoption, particularly in 2018 and 2019. Declines were most pronounced in the Coquille (where declines were exacerbated by non-native fish predators) and Siuslaw basins, where abundances in 2019 were the lowest on record from 1986-2018. Chinook returns increased for all populations in 2020 compared to 2019, and most exceeded pre-season forecasts. ODFW enacted conservative angling regulations in 2020 to protect wild fish in many populations (see *Fishing/Harvest Actions* below) and ocean fisheries for these north-migrating stocks were also curtailed due to the COVID-19 pandemic. Forecasts for 2021 predict continued increases for some populations and level or decreased escapement for others. Recent abundance trends for the spring-run component of coastal Chinook populations have varied among basins, and ODFW will continue to monitor this run component as time and resources allow.

Oregon Coastal Spring Chinook Salmon

After a decline in 2018, adult returns have increased the past two years for both independent populations in the Coastal Spring Chinook SMU (North Umpqua and South Umpqua). The North Umpqua population fell below critical abundance for the first time in 2018, but increased above critical abundance in 2019 and 2020. Abundance declined more substantially in the South Umpqua, with as few as 24 estimated adult spawners in 2018. Returns improved in 2019 and 2020, but remain critically low. ODFW is concerned about recent low abundance in the South Umpqua and enacted a mark-selective fishery in 2020 to protect wild South Umpqua spring Chinook as they transit the mainstem Umpqua River. In the North Umpqua, available data seem to indicate that we are exceeding limits for the percentage of hatchery fish on natural spawning grounds (pHOS), though it appears there is likely spatial segregation from wild fish. ODFW is currently investigating options for assessing this metric more accurately (i.e., determining the destination of hatchery fish observed at Winchester Dam that do not show up in primary natural spawning areas), and will implement actions to reduce pHOS if there is spatial overlap on natural spawning grounds above the pHOS limit.

Oregon Coastal Winter Steelhead

Stratum-level abundances of winter steelhead indicate trajectories similar to other SMUs. The North Coast stratum fell below critical abundance in 2018 and 2019, likely due to poor ocean conditions and the 2015 drought, but was close to desired abundance in 2020. Abundances have been more variable in the Mid Coast stratum, but were near desired abundance in 2020, as well. The Mid-South Coast stratum also rebounded in 2020 after falling below critical abundance in 2017 and 2019. Annual abundance estimates in the Umpqua Stratum and North Umpqua population have generally remained closer to or above desired abundances. Stratum and population scale pHOS estimates have been highly variable and, even though it has not yet been nine years since plan adoption (a nine-year pHOS average is the metric identified in the plan), there are indications that adaptive management may be needed in some locations to reduce pHOS. In particular, pHOS levels for the entire Mid Coast and Mid-South Coast strata are currently above many of the population-scale limits identified in the plan. ODFW is currently developing additional monitoring to understand specific locations contributing to the high strata pHOS estimates, so adaptive management actions can be taken to reduce pHOS within a population if needed.

Oregon Coastal Summer Steelhead

There are two native populations of Oregon Coastal Summer Steelhead, one in the Siletz River and the other in the North Umpqua River. In the Siletz population, counts of wild summer steelhead at Siletz Falls have remained relatively strong, falling below desired abundance but remaining above critical abundance in all years since CMP adoption. In the North Umpqua, counts of wild summer steelhead at Winchester dam have declined in recent years, but have remained above critical abundance. In the North Umpqua population, there are pHOS estimates higher than the CMP target, but the available data suggests significant spatial segregation between hatchery and wild spawners.

Oregon Coastal Chum Salmon

The CMP does not include specific abundance thresholds for Oregon Coastal Chum Salmon, but abundance of spawners is indexed at a series of standard survey sites. Peak densities on standard surveys have tended to increase through time, with recent declines less pronounced than observed in many other salmon and steelhead SMUs. In 2020, peak counts on standard surveys were higher than the past few years in most populations, with estimates at or above the 5-year average prior to approval of the plan.

Oregon Coastal Cutthroat Trout

As with chum salmon, the CMP does not include specific abundance targets for coastal cutthroat trout. However, abundance of coastal cutthroat trout is indexed and tracked through resting hole counts in the North Coast (Wilson, Trask and Nestucca rivers) and at Winchester Dam on the North Umpqua. Since CMP adoption in 2014, abundance in resting hole counts has been slightly lower than the previous 5-year average in the Wilson and Nestucca Rivers, but near-average in the Trask. In 2020, counts increased over the prior year in the Wilson but decreased in the Trask and Nestucca. Counts at Winchester Dam declined in 2014 and 2015 but have been increasing through 2020.

Management Actions

To address the limiting factors causing the gap between Current and Desired Status, as well as provide greater population resilience to potential climate change and development impacts, the CMP identifies short- and long-term strategies and actions in four categories (*Hatchery Fish Actions*, *Fishing/Harvest Actions*, *Predation Actions*, and *Habitat Actions*). The following sections provide several implementation highlights for each of those categories in 2020. Many habitat actions are occurring across the SMUs at various scales; a sampling of those actions completed or initiated in 2020 are included in the highlights below. For a more comprehensive summary of implementation actions since plan adoption, including many ongoing actions that continued in 2020, see the [2014-2019 Implementation Report](#).

Hatchery Fish Actions

- At Elk River, ODFW continued to implement actions to decrease pHOS and improve the viability of wild **fall Chinook salmon**. Since CMP adoption, ODFW has significantly reduced pHOS in Elk River within seven years of plan adoption. Levels now average 23%, which is less than half the average in the 10 years prior to plan adoption and is below the 30% goal in the plan (see *Wild Fish Monitoring Summaries*). Additional actions to assure that pHOS remains below the limit identified in the plan are in progress (see **Research and Monitoring**).
- In the Necanicum River, ODFW used creel surveys, remote site trapping, and live capture surveys to evaluate straying and fishery contribution for different hatchery **winter steelhead** release locations. This work is part of a multi-year evaluation intended to reduce pHOS and maintain or increase harvest of hatchery winter steelhead.

- In 2020, the COVID-19 pandemic and wildfires affected hatchery smolt release timing and broodstock collection for some programs. See *Hatchery Program Summaries* for further details.

Fishing/Harvest Actions

- In 2020, the annually implemented wild **fall Chinook salmon** harvest sliding scale ([click here for methods](#)) resulted in reduced wild Chinook bag limits in the Mid-Coast and Mid-South Coast strata, and a conservation closure in the Coquille River, due to low observed and forecasted returns. In several basins, ODFW implemented additional precautionary regulation changes to protect wild fall Chinook salmon (see **Evaluation and Adaptive Management** section).
- In 2020, consistent with direction in the CMP, ODFW reduced the wild **Chinook salmon** bag limit in the Siletz River during the period from May 1–July 31 to protect the early returning life history variants of the Siletz Chinook salmon population.
- ODFW is developing a sliding scale for **wild spring Chinook salmon** in the Umpqua basin based on observed and forecast returns to the North Umpqua population.

Predation Actions

- Double-crested cormorant numbers have declined approximately 20% along the Oregon Coast since CMP implementation. The decline is likely associated with increasing bald eagle abundance and possibly effects related to management in the Columbia River estuary.
- In 2020, avian hazing efforts occurred in the Nehalem, Tillamook, Nestucca, Alsea, Siuslaw, and Coquille estuaries. Hazing is planned to start in upper Coos Bay in 2021.
- In 2020, ODFW implemented a temporary regulation allowing the use of bait, spears, and spear guns to harvest bass in the Coquille River system to reduce impacts of illegally introduced smallmouth bass on Chinook salmon and other native species. ODFW staff also used boat electrofishing to collect and remove smallmouth bass and striped bass in the lower Coquille River and Coquille Estuary.

Habitat Actions

- The Oregon Fish and Wildlife Commission adopted a Climate and Ocean Change Policy in 2020, making Oregon the first state in the nation to adopt such a measure. The Policy provides the framework under which ODFW will evaluate the impacts of climate change on the resources under its stewardship, adopt management practices to safeguard those resources and minimize the impacts to communities that depend on these resources.
- ODFW staff are engaged with habitat restoration partners to develop and implement strategic, prioritized action plans that consider climate change.
- Instream water rights are the state’s mechanism to provide stream flows that support healthy ecosystems and multiple public uses for fish and wildlife, water quality, recreation, scenic

attraction, tourism, cultural values, and healthy economies. In 2020, ODFW submitted 133 instream water right applications to establish biological flow targets for various reaches in the Umpqua and Mid-South Coast strata.

- ODFW continued a statewide effort to identify priority watersheds for protection and restoration based on habitat quality and climate resilience.
- ODFW Fish Passage and research staff continued collaboration on a tide gate prioritization tool to identify locations where improved fish passage is likely to have the greatest benefit for salmonids and other native fish.
- ODFW's Western Oregon Stream Restoration Program biologists provided a significant amount of support in coordinating, planning, and implementing Oregon Watershed Enhancement Board (OWEB) restoration investments in the North Coast and Umpqua strata where these biologists are located. Many of these projects involved coordination with the Oregon Department of Forestry and private industrial timberland partners.
- In the North Coast Stratum, over 27 miles of fish passage was improved in six river basins, and over 55 large woody debris structures were installed in the North Fork Nehalem River basin.
- In the Mid Coast Stratum, the Yaquina Tidal Wetland Restoration project was completed on land owned by the Wetlands Conservancy with the collaboration of local, state, federal, and tribal partners. The project restored 55 acres of tidal wetland by: 1) breaching and lowering dikes to increase tidal connectivity; 2) adding 2,400 linear feet of tidal channels; 3) creating 2.4 acres of tidal shrub swamp habitat; 4) seeding five acres of high marsh habitat and planting 2.4 acres of transitional swamp habitat; and 5) installing 200 pieces of large wood in four different habitat types. This project enhances and extends hydrological, fish passage and sediment delivery connections between the Yaquina River and the adjacent tidal wetlands and channels.
- In the Umpqua Stratum, six in-stream fish habitat restoration projects were completed, enhancing 4.5 miles of stream, restoring 1.5 miles of fish habitat and clearing 17.7 acres of streamside blackberries.
- In the Mid-South Coast Stratum, there was a placement of 700 whole trees in the upper East Fork Millicoma River, enhancing habitat used by coho salmon, fall Chinook salmon, steelhead, and coastal cutthroat trout. Chinook salmon have already been observed spawning near these wood placements. In addition, work continued on the Winter Lake Tidelands Restoration project initiated in 2018; approximately 300 additional cottonwood and Oregon ash trees were planted along tidal channels on ODFW lands in 2020.

Research and Monitoring

[Table A-V: 4](#) of the CMP provides an overview of base monitoring components being conducted within SMUs to track measurable criteria that inform progress toward desired status. Data produced from the monitoring will be used to re-assess species productivity, persistence, spatial structure, and diversity in

the 12-year assessment called for in the plan. The CMP also identified several critical uncertainties relative to each SMU that require additional research to address ([Appendix V](#)). Research and monitoring developments in 2020 include the following:

- The COVID-19 pandemic affected monitoring efforts in 2020, particularly for **winter steelhead**. Fewer surveys were conducted than typically occur, but ODFW collected sufficient data to make strata-level winter steelhead abundance estimates.
- The Oregon Hatchery Research Center (OHRC) continued research on olfactory imprinting and homing at Elk River Hatchery. In 2020, the first experimental cohort of juvenile **fall Chinook salmon** was released from the hatchery. These fish were exposed to higher concentrations of a naturally-occurring chemical odorant during hatchery rearing. Additional experimental releases will occur in 2021 and 2022. Adult returns from treatment and control groups will be monitored to determine how odorant exposure affects homing to the hatchery. This study could inform future efforts to reduce hatchery straying in the Elk River and other basins.
- ODFW developed methods to generate estimates of pHOS for coastal **fall Chinook salmon** populations (see *Wild Fish Monitoring Summaries*).
- ODFW continued working with partners to plan a comprehensive survey of all known or suspected spawning habitat in the South Umpqua to evaluate the precision of South Umpqua resting-hole counts as an indicator of **spring Chinook salmon** spawner abundance.
- ODFW biologists are working with Oregon’s State Fisheries Genomics Lab (<https://agsci.oregonstate.edu/state-fisheries-genomics-lab>) to test for associations between variation at genetic markers and the return timing of adult **Chinook salmon** to coastal rivers. This research is designed to first evaluate the utility of markers used in other river systems, then document the diversity of these markers among hatchery and wild populations of Chinook salmon. Results will offer managers new information and tools to protect the genetic diversity that underpins run timing in Oregon’s coastal Chinook salmon populations.
- In 2019, ODFW staff collected tissue samples from **chum salmon** carcasses in several CMP populations to support a genetic investigation of population structure. Preliminary results indicate that a high percentage of these samples can be successfully genotyped using a single nucleotide polymorphism (SNP) panel developed by the Washington Department of Fish and Wildlife. In 2021, the State Fisheries Genomics Lab at Oregon State University will analyze samples collected in 2019.

Evaluation and Adaptive Management

The previously discussed monitoring efforts and subsequent evaluation and adaptive management are important components of CMP implementation. Key evaluation and adaptive management actions that occurred in 2020 include the following:

- In addition to implementing sliding scale bag limits (see *Fishing/Harvest Actions*), ODFW enacted temporary rules to restrict harvest of wild **fall Chinook salmon** in several basins in response to the recent downturn in adult returns. These actions included: 1) closing Lake Creek (tributary of the Siuslaw) to salmon angling; 2) reducing daily and seasonal bag limits in the Umpqua stratum; 3) restricting salmon angling in the Coquille basin to areas in the lower estuary to maintain fishing opportunity for hatchery salmon while minimizing the number of wild Chinook salmon caught and released (no harvest of wild salmon was allowed); 4) reducing the annual Chinook salmon bag limit in Floras Creek/New River from five fish to one fish; 5) closing the Sixes River to angling from the mouth of Crystal Creek downstream to Hughes House Boat Ramp from October 1–December 31; and 5) closing the Elk River to retention of wild Chinook salmon.
- As noted above, the Elk River was closed to the retention of wild **fall Chinook salmon** in 2020. A mark-selective fishery was implemented to maximize hatchery salmon harvest and wild fish escapement as part of ongoing efforts to reduce pHOS.
- In 2020, ODFW enacted temporary regulations for the mainstem Umpqua River, closing it to wild Chinook salmon retention from February 1–June 30 to protect South Umpqua **spring Chinook salmon** from harvest.
- Monitoring in the upper South Umpqua River, including extensive field work by National Marine Fisheries Service, US Forest Service, and ODFW staff in 2019, indicated that the proportion of **spring Chinook salmon** holding in pools above South Umpqua Falls had dropped in recent years and identified ladder conditions at the falls as a potential hindrance to upstream movement, particularly under low flow conditions. Following discussion in the South Umpqua Spring Chinook Work Group, ODFW Fish Screening and Passage Program staff evaluated the ladder and made recommendations for improving passage. In 2020, ODFW implemented these modifications to the ladder in coordination with other partners.
- As noted previously and presented in the *Wild Fish Monitoring Summaries*, North Coast stratum **winter steelhead** abundance fell below the critical abundance threshold in 2018 and 2019. The CMP calls for an evaluation of additional actions that are warranted to protect a stratum from long-term decline if critical abundance levels are observed in two successive years. In this case, concurrent declines in other North Coast Stratum anadromous fish populations pointed toward a common environmental cause and an expectation that returns would increase as ocean conditions improved. Monitoring results for 2020 support this conclusion. To allow for more proactive, timely actions in response to population downturns, ODFW will investigate options for developing stratum-scale abundance forecasts or categorical indicators of low expected returns. At the time of CMP development, ODFW did not have adequate data for this, but with additional years of monitoring data now available it may be possible.
- After several years of focused evaluation of the new wild **winter steelhead** harvest opportunity in Salmon River, ODFW shifted evaluation efforts to the Sixes River in 2020. Randomly selected spawning surveys were implemented to estimate steelhead spawner abundance and a

creel survey was conducted to estimate harvest. The wild steelhead spawner abundance estimate in 2020 was 1,772 adults and the estimated harvest rate for wild steelhead was 6%. The CMP did not set a wild steelhead harvest rate limit for the Sixes River, but monitoring results were consistent with ODFW expectation that harvest rates are typically 10% or less in this basin. Data collection was affected by the COVID-19 pandemic, which forced staff to end the creel survey in mid-March, two weeks before the end of the winter steelhead fishing season. Angling pressure had slowed significantly by this point, but some additional harvest may have occurred. Likewise, spawning surveys ended on April 21 and some additional spawning likely occurred in late April and early May. Harvest and spawner numbers should be considered minimum estimates, although any bias is likely small and would have little effect on overall results (i.e., the harvest rate is likely not affected). Wild steelhead harvest in the Salmon River, Big Elk Creek, and the East Fork Coquille continue to be monitored based on available spawning ground surveys and angler-reported harvest (see *Wild Fish Monitoring Summaries*).

- The OHRC, ODFW and Oregon State University completed a study on hatchery **winter steelhead** in the Alsea River that will help inform ODFW broodstock collection practices ([click here to view report](#)).
- In September 2020, wildfires forced evacuations of multiple ODFW hatcheries in western Oregon. Production losses were minor for most CMP programs, but in the Umpqua Basin nearly all juvenile hatchery fish and most of the hatchery infrastructure at Rock Creek Hatchery was lost due to the Archie Creek Fire. As ODFW considers options for rebuilding hatchery infrastructure in the Umpqua Basin, hatchery programs that depended on Rock Creek Hatchery will be maintained to the extent possible using capacity at other ODFW hatcheries.

Summary

In 2020, the COVID-19 pandemic affected many aspects of CMP implementation. Historic wildfires in 2020 also affected plan implementation and damaged critical infrastructure for CMP hatchery programs. Despite these challenges, ODFW and partners continued to implement the plan, including significant actions to reduce risk for populations of highest conservation concern. The effects of recent adverse environmental conditions (poor ocean conditions, droughts) are still apparent in many populations, but signs of recovery from the recent downturn are also evident. The South Umpqua spring Chinook salmon and Coquille Chinook salmon abundances increased in 2020, but these populations continue to warrant particularly close attention given recent declines. Key implementation needs ODFW will be focused on over the next year include: 1) developing a sliding scale for harvest of spring Chinook salmon in the Umpqua basin; 2) evaluation of options to reduce bass predation risk for Chinook salmon and other native species in the Coquille River Basin; 3) where pHOS estimates appear to be above plan thresholds, exploring details of hatchery fish presence on natural spawning grounds in order to understand adaptive management needs; and 4) investigating methods for forecasting winter steelhead abundance at the stratum scale. ODFW will continue to be responsive to variable and changing conditions by implementing meaningful adaptive management actions informed by monitoring.