

**ANNUAL PROGRESS REPORT FOR 2023
FALL CHINOOK SALMON CONSERVATION PLAN
ROGUE SPECIES MANAGEMENT UNIT
OREGON DEPARTMENT OF FISH AND WILDLIFE
ROGUE WATERSHED DISTRICT**

INTRODUCTION

In January of 2013, the Oregon Fish and Wildlife Commission formally adopted a conservation plan for fall Chinook salmon in the Rogue Species Management Unit (SMU). This plan calls for the Oregon Department of Fish and Wildlife (ODFW) to complete annual reports that will include, at least, the following elements: (1) SMU status in relation to the desired status and conservation status statements embedded in the conservation plan, (2) summaries of annual efforts to monitor SMU attributes, (3) implications of any research or evaluation projects completed during the reporting year, (4) any updated assessments of population attributes completed during the reporting year, and (5) presentation of the rationale associated with any changes in management actions made during the reporting year.

This report summarizes the status of the SMU in relation to desired status and conservation status through the 2023 return year, completed management actions, and 2024 preseason forecasts in relation to conservation status and maximum sustained yield.

A copy of the conservation plan, and annual progress reports, is available on the ODFW website at:

http://www.dfw.state.or.us/fish/CRP/rogue_fall_chinook_conservation_plan.asp

SUMMARY OF SMU STATUS

Two population strata compose the SMU: (1) the Rogue stratum and (2) the coastal stratum. The two strata are differentiated by life history and genetic differences within the constituent independent populations of naturally produced fall Chinook salmon (NP CHF). Where possible, status criteria were developed for each independent population monitored by ODFW. Populations in the Rogue stratum are monitored as an aggregate by sampling at Huntley Park near the mouth of the Rogue River, except that NP CHF in the Lower Rogue population area are also monitored annually by conducting spawning ground surveys.

Monitoring of SMU attributes is designed to produce metrics that are to be used to characterize the current status of the SMU. All monitoring needed to update SMU status was completed by ODFW in 2023, and the results are included in tables 1 and 2.

Table 1. Comparisons of singular elements of current and **desired** status for naturally produced fall Chinook salmon in the Rogue Species Management Unit. Desired status criteria are described in the conservation plan, and **both metrics cover the most recent ten year period**. Underlined metrics of current status did not meet desired status criteria.

Status Element	Desired Status	Current Status	2023 Estimate
ROGUE AGGREGATE POPULATIONS			
Adult Abundance ^a	≥54,400	<u>38,713</u>	29,555
Age Structure ^b	≥10%	<u>4.8%</u>	8.0%
Run Timing ^c	≥8%	8.2%	2.5%
Run Composition ^d	≤5%	<u>5.2%</u>	7.4%
LOWER ROGUE POPULATION			
Adult Abundance ^e	≥3,500	<u>3,040</u>	1,503
Spawner Composition ^f	≤10%	2.2%	1.2%
CHETCO POPULATION			
Adult Abundance ^e	≥3,800	<u>3,406</u>	5,643
Age Structure ^h	≥16%	<u>4.7%</u>	26.1%
Spawner Composition ^f	≤18%	12%	25%
WINCHUCK POPULATION			
Adult Abundance ^e	≥1,000	<u>783</u>	691
Juvenile Abundance ^g	≥125,000	168,200	174,912
Spawner Composition ^f	≤10%	5%	12%
PISTOL POPULATION			
Adult Abundance ^e	≥1,300	<u>1,055</u>	1988
Spawner Composition ^f	≤5%	1%	0%
HUNTER POPULATION			
Adult Abundance ^e	≥560	506	137
Spawner Composition ^f	≤5%	2%	0%

^a Number of age 3-6 NP CHF that pass Huntley Park.

^b Relative abundance of age 5+6 fish among NP CHF that pass Huntley Park.

^c Relative abundance of October migrants among NP CHF that pass Huntley Park.

^d Relative abundance of hatchery fish among CHF that pass Huntley Park.

^e Number of NP CHF spawners.

^f Relative abundance of hatchery fish among CHF spawners.

^g Number of juvenile NP CHF produced in areas upstream of the South Fork.

^h Relative abundance of age 5+6 fish among NP CHF spawners.

Table 2. Status of the Rogue Fall Chinook Salmon Species Management Unit as compared to **conservation** criteria. Conservation status criteria are described in the conservation plan and cover, unless otherwise noted, the most recent three-year period. Underlined metrics of current status did not meet conservation status criteria.

Status Element	Conservation Criterion	Current Status	2023 Estimate
ROGUE AGGREGATE POPULATIONS			
Adult Abundance ^a	<20,400 ⁱ	23,582	29,555
Age Structure ^b	<3%	5.2%	8.0%
Run Timing ^c	<5%	5.5%	2.5%
Run Composition ^d	>10%	5.4%	7.4%
LOWER ROGUE POPULATION			
Adult Abundance ^e	<1,500	2,259	1,503
Spawner Composition ^f	>15%	1.7%	1.2%
CHETCO POPULATION			
Adult Abundance ^e	<1,440 ⁱ	4,978	5,643
Age Structure ^h	<5%	11.3%	26.1%
Spawner Composition ^f	>20%	<u>25%</u>	25%
WINCHUCK POPULATION			
Adult Abundance ^e	<300 ⁱ	487	691
Juvenile Abundance ^g	<50,000 ^j	153,140	174,912
Spawner Composition ^f	>15%	11%	12%
PISTOL POPULATION			
Adult Abundance ^e	<540	1180	1988
Spawner Composition ^f	>10%	2%	5%
HUNTER POPULATION			
Adult Abundance ^e	<300	<u>215</u>	137
Spawner Composition ^f	>10%	3%	0%

^a Number of age 3-6 NP CHF that pass Huntley Park.

^b Relative abundance of age 5+6 fish among NP CHF that pass Huntley Park.

^c Relative abundance of October migrants among NP CHF that pass Huntley Park.

^d Relative abundance of hatchery fish among CHF that pass Huntley Park.

^e Number of NP CHF spawners.

^f Relative abundance of hatchery fish among CHF spawners.

^g Number of juvenile NP CHF produced upstream of the South Fork.

^h Relative abundance of age 5+6 fish among NP CHF spawners.

ⁱ Criteria are based on a running two-year average.

^j Criterion covers every year.

The Rogue fall Chinook aggregate has been in conservation status for age 5 and 6 adult fall Chinook but moved out of conservation status in 2023. This metric was identified in the conservation plan as the most recent 3-year period and current status is 5.2% age 5 and 6 adult Chinook past Huntley. There are three additional metrics identified in the plan that are used to monitor the status of the Rogue aggregate and they are currently above conservation status.

No temporary regulation changes were proposed for 2023 as the Rogue fall Chinook aggregate is showing an increasing abundance and age at maturity trend. ODFW will continue to increase scale sampling rates of fall chinook during the Huntley Park seining project and during Lower Rogue spawning ground surveys to improve age monitoring. Rogue fall Chinook aggregate run timing metric is nearing conservation status and may somewhat be associated with age of maturity. The later returning population in the Lower Rogue is showing no upward trend in abundance. Lower abundance may impact the run timing metric as these fish usually return in October.

The Chetco River reach conservation status for run composition in 2023. No hatchery smolt reductions were implemented in 2023 to address conservation status. Spawning ground surveys in the fall of 2024 will guide hatchery management actions for 2024 and smolt releases in 2025. Additional program related issues will most likely address conservation status; 1) The smolt program released only half of the production in 2022 and 2) Early releases of smolts in 2023 due to the Anvil Fire will most likely result in lower smolt to adult survival.

COMPLETED MANAGEMENT ACTIONS - ROGUE STRATUM

The Oregon Fish and Wildlife Commission adopted Rogue Alternative 4, outlined in the conservation plan, as the preferred suite of management strategies to be employed by ODFW. Some of the relevant actions completed by ODFW during 2023 are briefly discussed below. A tabulated progress summary related to management actions described in the conservation plan is included in Tables 3 and 4. In addition, ODFW conducted spawning ground surveys in Upper Rogue, Applegate, and Illinois rivers.

Management Strategy 4.1

Many of the actions within Management Strategy 4.1 relate to seasonal operations of Lost Creek and Applegate reservoirs by the United States Army Corps of Engineers (USACE). ODFW worked cooperatively with the USACE to identify and implement reservoir release strategies designed to enhance naturally produced fall Chinook (actions 4.1.1, 4.1.2, 4.1.4, 4.1.5, 4.1.6, 4.1.7, 4.1.9). A weekly conference call, implemented in 2013 to facilitate communication was continued in 2023. ODFW participated in the USACE annual winter management coordination meeting.

Applegate River flows were managed to maximize fall Chinook distribution and spawning success in 2023. Good numbers of fish were spawning the first few weeks of October near the dam, which indicates that water conditions were good for early distribution of Chinook.

Average flow at the USGS Agness gage was 2,234 cfs August 10 – September 10 (action 4.1.7). Flow met ODFW recommendations during the fall Chinook migration. Disease-related mortality of adult fall Chinook in 2023 was estimated by ODFW to be below 3%. Mortality estimates are

derived from flow-based models. Additional management actions would be triggered if disease-related losses were forecast to reach 40% (action 4.1.8).

The minimum flow needed to protect juvenile fish rearing in the mainstem in summer is estimated to be 1,000 cfs as measured at the USGS Grants Pass gage. The flow in 2023 exceeded this level, averaging 1,652 cfs at Grants Pass July 1 – August 10 (action 4.1.9). The lowest average daily flow during the period was 1,600 cfs on July 19 and 20.

ODFW participated in a variety of habitat protection activities (action 4.1.14), including review of water right applications, removal/fill applications, R/F emergency authorizations, Conditional Use permits, and compliance monitoring of municipal and county riparian ordinances.

Management Strategy 4.2

ODFW’s Aquatic Invasive Species program deployed two watercraft inspection crews in the Rogue Watershed District in 2023 (action 4.2.1). Crews based in Central Point and Brookings conducted boat inspections, primarily on the I-5, Hwy 97, and Hwy 101 corridors, from late spring through early fall.

Management Strategy 4.3

The minimum flow needed to protect juvenile fish rearing in the mainstem in summer is 1,000 cfs as measured at the Grants Pass gage. The flow in 2023 exceeded this level, averaging 1,651 cfs at Grants Pass July 1 – August 10. Lower water temperatures in downstream areas, as a result of the increased flow, resulted in fewer predation losses because of decreases in pikeminnow metabolic rates (action 4.3.2).

ODFW continued to support non-native Umpqua pikeminnow removal in 2023. The Rogue Pikeminnow Roundup encourages anglers to keep and remove pikeminnow instead of releasing them while fishing (action 4.3.1).

Management Strategy 4.4

Zone regulations were employed in 2023 because fall Chinook escapement was forecasted to exceed escapement goals related to conservation criteria (action 4.4.1).

Management Strategy 4.5

ODFW did not complete any work specific to Management Strategy 4.5 in 2023.

COMPLETED MANAGEMENT ACTIONS - COASTAL STRATUM

The Oregon Fish and Wildlife Commission adopted Coastal Alternative 6, outlined in the conservation plan, as the preferred suite of management strategies to be employed by ODFW. Some of the relevant actions, completed by ODFW during 2023, are briefly discussed below. A tabulated progress summary related to management actions described in the conservation plan is included in Table 4.

Management Strategy 6.1

ODFW participated in a variety of habitat protection activities (actions 6.1.2, 6.1.8), including review of water right applications, removal/fill applications, R/F emergency authorizations, Conditional Use permits, and compliance monitoring of municipal and county riparian ordinances.

Management Strategy 6.2

ODFW's Aquatic Invasive Species program deployed two watercraft inspection crews in the Rogue Watershed District in 2023 (action 6.2.1). Crews based in Central Point and Brookings conducted boat inspections, primarily on the I-5, Hwy 97, and Hwy 101 corridors, from late spring through early fall.

Management Strategy 6.3

Zone regulations were not employed in one basin in 2023 because fall Chinook escapement was forecasted to not exceed escapement goals related to conservation criteria (action 6.3.1) in some of the watersheds. Bag limit reductions were enacted on Hunter Creek to address conservation concerns.

The Chetco ocean terminal area recreational and commercial fishery in 2023 was not opened. The fishery was not opened because the Winchuck preseason forecasts was below S_{MSY} (action 6.3.5).

Management Strategy 6.4

A release group of smolts was not acclimated at Ferry Creek reservoir (Chetco) in 2023 and instead was released mid-September due to the Anvil Fire and Elk River Hatchery evacuations. Normally the smolts would be released in mid to late October (action 6.4.3). The purpose of the acclimation project is to determine whether 1) returning adult Chinook acclimated at Ferry Creek contribute to the river fishery at a higher rate than non-acclimated Chinook; 2) acclimated Chinook are recovered from natural spawning areas at a lower rate than non-acclimated Chinook.

A mainstem release group of smolts were released mid-September due to the Anvil Fire. The smolts were released in September 2023 at Social Security (RM 4) on the Chetco River (action 6.4.4). Normally the smolts would be released in early October.

Conservation Plan Progress Summary

Table 3. Summary of progress related to management actions described in the fall Chinook salmon Conservation Plan, as related to the **Rogue Stratum** of the SMU. The “X” symbol means that ODFW completed work on an action that requires annual attention. The “Y” symbol means that ODFW completed the action and that no further work is needed. The “Z” symbol means that ODFW completed work on an allied topic that complemented the action item included in the conservation plan. The “--” symbol means that no ODFW work was completed on the action item during the year.

Action Item	Year of completion for action item										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
MANAGEMENT STRATEGY 4.1											
4.1.1	X	X	X	X	X	X	X	X	X	X	X
4.1.2	X	X	X	X	X	X	X	X	X	X	X
4.1.3	Y										
4.1.4	X	X	X	X	X	X	X	X	X	X	X
4.1.5	X	X	X	X	X	X	X	X	X	X	X
4.1.6	X	X	X	X	X	X	X	X	X	X	X
4.1.7	X	X	X	X	X	X	X	X	X	X	X
4.1.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
4.1.9	X	X	X	X	X	X	X	X	X	X	X
4.1.10	--	--	--	--	--	--	--	--	--	--	--
4.1.11	--	--	--	--	--	--	--	--	X	X	X
4.1.12	--	--	--	--	--	--	--	--	X	X	X
4.1.13	--	--	--	--	--	--	--	--	X	X	X
4.1.14	X	X	X	X	X	X	X	X	X	X	X
4.1.15	X	n/a									
4.1.16	X	X	X	X	X	X	X	X	X	X	X
4.1.17	X	X	X	X	X	X	X	X	X	X	X
MANAGEMENT STRATEGY 4.2											
4.2.1	X	X	X	X	X	X	X	X	X	X	X
MANAGEMENT STRATEGY 4.3											
4.3.1	--	--	--	--	--	--	--	--	X	X	X
4.3.2	X	X	X	X	X	X	X	X	X	X	X
MANAGEMENT STRATEGY 4.4											
4.4.1	X	X	X	X	X	X	X	X	X	X	X
4.4.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
4.4.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
4.4.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MANAGEMENT STRATEGY 4.5											
4.5.1	X	X	X	X	X	X	X	X	X	X	X
4.5.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
4.5.3	Y										
4.5.4	X	X	X	X	X	X	X	X	X	X	X

Table 4. Summary of progress related to management actions described in the fall Chinook salmon Conservation Plan, as related to the **Coastal Stratum** of the SMU. The “X” symbol means that ODFW completed work on an action that requires annual attention. The “Y” symbol means that ODFW completed the action and that no further work is needed. The “Z” symbol means that ODFW completed work on an allied topic that complemented the action item included in the conservation plan. The “--” symbol means that no ODFW work was completed on the action item during the year.

Action Item	Year of completion for action item										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
MANAGEMENT STRATEGY 6.1											
6.1.1	--	--	--	--	--	--	--	--	X	X	X
6.1.2	X	X	X	X	X	X	X	X	X	X	X
6.1.3	--	--	--	--	--	--	--	X	X	X	X
6.1.4	--	--	--	--	--	--	--	X	X	X	X
6.1.5	--	--	--	--	--	--	--	X	X	X	X
6.1.6	--	--	--	--	--	--	--	--	X	X	X
6.1.7	--	--	--	--	--	--	--	--	--	--	--
6.1.8	X	X	X	X	X	X	X	--	--	--	--
6.1.9	--	--	--	--	--	--	--	--	--	--	--
6.1.10	X	X	X	X	X	X	X	--	--	X	X
6.1.11	--	--	--	--	--	--	--	--	X	X	X
6.1.12	--	--	--	--	--	--	--	--	--	--	--
6.1.13	--	--	--	--	--	--	--	--	--	--	--
6.1.14	--	--	--	--	--	--	--	--	--	--	--
6.1.15	--	--	--	--	--	--	--	--	--	X	X
6.1.16	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
6.1.17	--	--	--	--	--	--	--	--	--	--	--
MANAGEMENT STRATEGY 6.2											
6.2.1	X	X	X	X	X	X	X	X	X	X	X
MANAGEMENT STRATEGY 6.3											
6.3.1	X	X	X	X	X	X	X	X	X	X	X
6.3.2	n/a	X	n/a	n/a	n/a	n/a	n/a	X	X	X	X
6.3.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
6.3.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	X	X	X	X
6.3.5	X	X	X	X	X	X	X	X	X	X	X
6.3.6	n/a	X	n/a	n/a	n/a	n/a	n/a	X	X	X	X
6.3.7	n/a	X	n/a	n/a	n/a	n/a	n/a	X	X	X	X
6.3.8	--	Y									
MANAGEMENT STRATEGY 6.4											
6.4.1	X	X	X	X	X	X	X	X	X	X	X
6.4.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	X	X	X	X
6.4.3	X	X	X	X	X	X	X	X	X	X	X
6.4.4	X	X	X	X	X	X	X	X	X	X	X
6.4.5	Y										
6.4.6	X	X	X	X	X	X	X	X	X	X	X
MANAGEMENT STRATEGY 6.5											
6.5.1	--	--	X	X	X	X	X	X	Y	Y	Y

Rogue Spawning Surveys

In addition to Lower Rogue spawning ground surveys which are used to monitor status metrics, additional supplemental spawning ground surveys were conducted in select reaches within the upper Rogue, middle Rogue, Applegate, and Illinois population areas in 2023.

Fall Chinook were able to disperse up to Applegate Dam in 2023 with a minimum count of more than 35 adults observed spawning the second week in October below the dam. Float surveys on the lower 22 miles of the Applegate had good numbers indicative of a strong return as well. Due to measurable October rain, fall Chinook were able to disperse throughout the Illinois River sub-basin with strong numbers counted on the East Fork of the Illinois at Forks State Park and fish spawning and migrating into Elk Creek near the California border. Lesser numbers of spawners were observed in mainstem Rogue floats around the towns of Rogue River and Grants Pass but the majority of the suitable spawning habitat was used for spawning. Good numbers of fall Chinook were also observed in Bear Creek at Lithia Sports Park and downstream in Central Point with a few less counted further upstream.

PRE-SEASON FORECASTS

ODFW fishery managers will utilize pre-season forecasts to determine if (1) NP CHF populations might reach conservation criteria and (2) to determine the number of NP CHF that can be harvested in the late-season terminal ocean fishery that operates off the mouths of the Chetco and Winchuck rivers. The efficacy of any annual forecast will, by default, be questionable because of substantial uncertainty in (1) the stock size estimates before the onset of any fishing in spring, (2) the forecasted harvest rates of CHF in the ocean fisheries that operate in federally managed waters, and (3) the forecasted harvest rates in the recreational freshwater fisheries. However, management criteria for each population are based on spawner escapements over multiple (2 or 3) years, which helps buffer the uncertainty associated with the pre-season forecasts.

Preseason Forecasts in Relation to Conservation Criteria

Harvest opportunities in the recreational freshwater fisheries will be constrained to some degree if the pre-season forecasts indicate that NP CHF populations will drop into conservation status. As described in the conservation plan, this situation can be expected in 6-23% of the years, depending on the population in question. Based on the pre-season forecasts for 2024 (Table 6), harvest constraints would be warranted in Hunter Creek. Conservation status or near conservation status for age structure and run timing (Table 2) for some populations are areas of concern and additional monitoring is recommended as these fisheries continue to build from poor ocean conditions.

Table 6. Forecasted 2024 spawning escapement of age 3-6 NP CHF in relation to conservation status criteria that cover multiple years.

Population(s)	Conservation criterion	Forecasted number of spawners	Conservation status
Rogue Aggregate	20,400 ^a	46,519	38,037 ^a
Lower Rogue	1,500 ^c	1,978	1,572 ^c
Chetco	1,440 ^b	2,159	3,901 ^b
Winchuck	300 ^b	202	446 ^b
Pistol	540 ^c	546	1,105 ^c
Hunter	300 ^c	46	<u>112^c</u>

^aCriterion covers 2023 and 2024 forecasted passage at Huntley Park instead of spawning escapement.

^bCovers 2023 and 2024 forecast (estimated spawners).

^cCovers 2022, 2023 and 2024 forecast(estimated spawners).

Preseason Forecasts in Relation to Management of the Chetco Terminal Fishery

The conservation plan outlines that harvest opportunities in the late-season, near-shore, Chetco terminal fishery will be based on the number of estimated spawners needed for maximum sustained yield (Smsy) in population areas proximal to the Chetco River (Action 6.3.5 in Management Strategy 6.3 for the Coastal Stratum). ODFW completed an assessment of the efficacy of pre-season forecasting needs associated with this fishery and because the Smsy estimates pertain to *average* conditions, ODFW concluded that harvest opportunities in the Chetco terminal fishery should be based on a three-year arithmetic mean. ODFW also concluded that management of the Chetco terminal fishery should only be based on the Chetco and Winchuck populations, because the other populations in the SMU contribute to the fishery at very low rates as described in the conservation plan.

Harvest opportunities in the late-season, near-shore Chetco terminal fishery will be constrained to some degree if the pre-season forecasts indicate that NP CHF populations will drop below individual Smsy needs estimated for the Chetco and Winchuck populations of NP CHF. ODFW estimates that this situation can be expected in 40% of the years. The pre-season forecast for spawner numbers in the Winchuck River in 2024 does provide an opportunity to harvest NP CHF based on the 3-year average (Table 7).

Table 7. Forecasted 2024 spawning escapement of age 3-6 NP CHF in relation to Smsy estimates for the Chetco and Winchuck populations. For each population, the forecasted number of spawners includes the 2024 forecast and estimated spawner numbers in 2022 and 2023.

Population	S _{msy}	Forecasted number of spawners	Difference
Chetco	2,740	4,038 ^a	1,298
Winchuck	560	429 ^a	-131

^aCovers 2022 and 2023 (estimated spawners) and 2024 (forecasted spawners).