

**2023 Annual Report of Direct Take to the National Marine Fisheries Service
(NMFS)
on Mitchell Act Integrated Hatchery Programs**

Submitted to:
NMFS – Sustainable Fisheries Division
Anadromous Production and Inland Fisheries Program
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Introduction

The Washington Department of Fish and Wildlife (WDFW) submitted Hatchery and Genetic Management Plans (HGMPs) to the National Marine Fisheries Service (NMFS) for the following hatchery programs; Kalama Hatchery wild summer steelhead, Kalama Hatchery late winter steelhead, North Toutle Hatchery fall Chinook, North Toutle Hatchery coho, Washougal River fall Chinook, Washougal River coho, and more recently Beaver Creek Hatchery coho. These programs requested direct take of natural-origin salmonids to use in integrated hatchery programs. The NMFS has determined that the seven HGMPs meet the 4(d) rule limit 5 criteria for take exemption of ESA-listed species. This report provides information to satisfy the implementation and reporting requirements of the take exemption. Additional information regarding the implementation of the HGMPs were provided to NMFS in semi-annual reports.

This report includes:

- The number of natural-origin Chinook salmon, coho salmon, and steelhead collected and used for broodstock,
- The impact of broodstock integration on the respective natural-origin population, with reference to the HGMP criteria for maximum impact levels,
- The total number of hatchery Chinook salmon, coho salmon, and steelhead released by brood year for the hatchery programs.

Summary of Information

Goals of the integrated program contained in the HGMPs include:

- Integration is achieved by using up to 30% of the returning adult natural-origin population,
- Broodstock for this program will be managed with a goal of having pNOB at least twice the value of pHOS,
- Broodstock are collected throughout the entire run to maintain run timing for the population.

Broodstock numbers for the seven integrated programs are shown in Table 1 for brood year 2022. This table includes the numbers of hatchery origin and natural-origin fish (NOR) used in the broodstock. The adult goals for all hatchery programs vary from year to year based on average fecundity, percent females, and mortality rates. Table 2 shows the total number of natural-origin fish taken for brood (including mortalities and non-viable females) compared to the total natural-origin population. The total natural-origin population is the estimated abundance of natural-origin spawners. Table 3 shows the numbers of fish released by species at Mitchell Act facilities during 2022 including the numbers marked and tagged.

Table 1. Broodstock numbers for integrated hatchery programs for 2022 brood.

Hatchery	Brood Year	Species	Stock	Spawned				Wild Total	pNOB
				Hatchery Adults	Hatchery Jacks	Wild Adults	Wild Jacks		
Beaver Creek	2022	Coho	Late	150	0	138	5	143	49%
North Toutle	2022	Coho	Early	37	1	81	1	82	68%
	2022	FCH		366	4	139	6	145	28%
Kalama Falls	2022	STHD	Winter late ^{1/}	150	0	138	5	143	49%
	2022	STHD	Summer ^{1/}	37	1	81	1	82	68%
Washougal	2022	Coho	Late	366	4	139	6	145	28%
	2022	FCH		11	0	63	0	63	85%

^{1/} Includes fish that were live spawned

Table 2. Numbers of 2022 Brood Year Natural Origin fish taken for brood compared to the total population.

Hatchery	Brood Year	Species	Stock	NOR Population ^{1/}	Number of NORs Collected ^{2/}	% of NOR Population Taken for Brood	30% of NOR Population
Beaver Creek	2022	Coho	Late	942	186	20%	283
North Toutle	2022	Coho	Early	2682	98	4%	805
	2022	FCH	0	715	227	32%	215
Kalama Falls	2022	STHD	Winter late	796	66	8%	239
	2022	STHD	Summer	178	33	19%	53
Washougal	2022	Coho	Late	1074	48	4%	322
	2022	FCH	0	1485	18	1%	446

^{1/} NOR population includes spawning population estimate only.

^{2/} Includes fish taken for brood, mortalities, and non-viable females.

Table 3. Numbers of fish released, marked, and tagged in 2022.

Project	Release Location	Species/Run	Release Start Date	Brood Year	Ad + CWT Marked	Ad Only Marked	CWT ONLY	Unmarked	Total Released
Beaver Creek Hatchery	Beaver Creek	Coho	4/19/2022	2020	44,408	120,591	268	5	165,272
Beaver Creek Hatchery	Beaver Creek	Winter Steelhead	4/19/2022	2021	0	134,676	0	1,636	136,312
Beaver Creek Hatchery	Beaver Creek	Summer Steelhead	4/19/2022	2021	0	29,545	0	148	29,693
Beaver Creek Hatchery	Grays River	Chum	3/23/2022	2021	0	0	0	166,562	166,562
Deep River Net Pens	Deep River Net Pens	Coho	4/29/2022	2020	40,984	112,124	247	645	154,000
Deep River Net Pens	Deep River Net Pens	Spring Chinook	2/18/2022	2020	18,700	343	658	12	19,713
Deep River Net Pens	Deep River Net Pens	Spring Chinook	5/25/2022	2021	218,617	384,440	2,076	3,867	609,000
Fallert Creek Hatchery	Kalama River	Spring Chinook	3/1/2022	2020	126,115	393,461	1,026	2,100	522,702
Fallert Creek Hatchery	Kalama River	Fall Chinook	5/23/2022	2021	92,473	2,530,816	3,453	2,911	2,629,653
Fallert Creek Hatchery	Kalama River	Winter Steelhead	5/15/2022	2021	0	0	0	47,491	47,491
Fallert Creek Hatchery	Kalama River	Summer Steelhead	3/1/2022	2021	0	3,200	0	0	3,200
Kalama Falls Hatchery	Kalama River	Coho	4/1/2022	2020	44,115	258,152	159	1,557	303,983
Kalama Falls Hatchery	Kalama River	Winter Steelhead	4/15/2022	2021	29,695	182	61,718	378	91,973
North Toutle River	Green River	Fall Chinook	6/26/2022	2021	99,818	966,582	755	7,794	1,074,949
North Toutle River	Green River	Coho	5/2/2022	2020	33,131	56,417	274	500	90,322
Ringold Springs Hatchery	Springs Creek	Fall Chinook	6/13/2022	2021	338,852	3,779,399	4,012	44,741	4,167,004
Ringold Springs Hatchery	Springs Creek	Coho	4/11/2022	2020	39,198	178,302	114	518	218,132
Ringold Springs Hatchery	Springs Creek	Summer Steelhead	3/25/2022	2021	0	144,343	0	813	145,156
Skamania Hatchery	Klickitat River	Summer Steelhead	4/25/2022	2021	0	90,883	0	0	90,883
Skamania Hatchery	Rock Creek	Winter Steelhead	4/15/2022	2021	0	20,018	0	0	20,018
Skamania Hatchery	Washougal River	Winter Steelhead	4/18/2022	2021	0	85,364	0	162	85,526
Skamania Hatchery	Washougal River	Winter Steelhead	4/18/2022	2021	0	85,364	0	162	85,526
Skamania Hatchery	Washougal River	Summer Steelhead	4/18/2022	2021	0	70,454	0	397	70,851
South Fork Toutle Ponds	South Fork Toutle	Summer Steelhead	4/15/2022	2021	0	20,369	0	82	20,451
Washougal Hatchery	Washougal River	Fall Chinook	6/22/2022	2021	101,038	1,124,872	406	4,518	1,230,834
Washougal Hatchery	Klickitat River	Coho	3/28/2022	2020	67,036	2,377,082	541	19,170	2,463,829
Washougal Hatchery	Washougal River	Coho	5/2/2022	2020	44,129	58,133	173	345	102,780