

**2022 Annual Report for 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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January 31, 2023

## **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 2021. 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 2021 including the numbers marked and tagged.

**Table 1. Broodstock numbers for integrated hatchery programs for 2021 brood.**

Hatchery	Brood Year	Species	Stock	Hatchery		Wild		Total	pNOB
				Adults	Jacks	Adults	Jacks		
Beaver Creek	2021	Coho	Late	264	0	102	3	105	28%
North Toutle	2021	Coho	Early	0	0	99	1	100	100%
	2021	FCH		454	3	169	2	171	27%
Kalama Falls	2021	STHD	Winter late <sup>1/</sup>	19	0	53	0	53	74%
	2021	STHD	Summer <sup>1/</sup>	36	0	67	0	67	65%
Washougal	2021	Coho	Late	44	0	44	0	44	50%
	2021	FCH		785	9	48	2	50	6%

<sup>1/</sup> Includes fish that were live spawned

**Table 2. Numbers of 2021 Brood Year Natural Origin fish taken for brood compared to the total population.**

Hatchery	Brood Year	Species	Stock	NOR Population <sup>1/</sup>	NORs Collected <sup>2/</sup>	% NOR Population Taken for Brood	30% of NOR Population
Beaver Creek	2021	Coho	Late	1,824	179	10%	547
North Toutle	2021	Coho	Early	7,021	106	2%	2,106
	2021	FCH		755	203	27%	227
Kalama Falls	2021	STHD	Winter late	352	53	15%	106
	2021	STHD	Summer	321	81	25%	96
Washougal	2021	Coho	Late	1,367	44	3%	410
	2021	FCH		1,502	53	4%	452

<sup>1/</sup> NOR population includes spawning population estimate only.

<sup>2/</sup> Includes fish taken for brood, mortalities, and non-viable females.

**Table 3. Numbers of fish released, marked, and tagged in 2021.**

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	4/15/2021	2019	45,293	40,473	273	66,768	152,807
	Beaver Creek	Winter Steelhead	4/15/2021	2020	0	0	0	132,433	132,433
	Beaver Creek	Summer Steelhead	4/15/2021	2020	0	0	0	30,562	30,562
	Grays River	Chum	3/31/2021	2020	0	0	0	187,063	187,063
Deep River Net Pens	Deep River Net Pens	Coho	5/4/2021	2019	42,693	131,195	519	1,593	176,000
Fallert Creek Hatchery	Kalama River	Spring Chinook	3/1/2021	2019	123,914	372,956	987	2,002	499,859
	Kalama River	Fall Chinook	5/18/2021	2020	97,530	2,909,139	391	5,472	3,012,532
	Kalama River	Winter Steelhead	5/15/2021	2020	0	52,047	0	0	52,047
	Kalama River	Summer Steelhead	4/27/2021	2020	0	75,145	0	49	75,194
Kalama Falls Hatchery	Kalama River	Fall Chinook	6/1/2021	2020	108,501	4,021,976	404	27,157	4,158,038
	Kalama River	Coho	4/1/2021	2019	46,115	241,540	0	0	287,655
	Kalama River	Winter Steelhead	4/15/2021	2020	91,074	366	735	2	92,177
North Fork Toutle River	Green River	Fall Chinook	6/24/2021	2020	99,408	541,041	0	5,075	645,524
	Green River	Coho	5/3/2021	2019	36,454	56,178	142	1,293	94,067
Ringold Springs Hatchery	Springs Creek	Fall Chinook	6/14/2021	2020	425,091	3,878,068	5,236	16,585	4,324,980
	Springs Creek	Coho	4/12/2021	2019	51,139	202,322	144	600	254,205
	Springs Creek	Summer Steelhead	4/2/2021	2020	0	172,786	0	659	173,445
Skamania Hatchery	Klickitat River	Summer Steelhead	4/26/2021	2020	0	92,268	0	0	92,268
	Rock Creek	Winter Steelhead	4/15/2021	2020	0	20,071	0	0	20,071
	Washougal River	Winter Steelhead	4/15/2021	2020	0	86,251	0	0	86,251
	Salmon Creek	Winter Steelhead	5/3/2021	2020	0	40,381	0	97	40,381
	Washougal River	Summer Steelhead	4/15/2021	2020	0	70,939	0	0	70,939
South Fork Toutle Ponds	South Fork Toutle	Summer Steelhead	4/17/2021	2020	0	19,960	0	40	20,000
Washougal Hatchery	Washougal River	Fall Chinook	6/3/2021	2020	101,030	2,010,242	1,042	6,454	2,118,768
	Klickitat River	Coho	3/29/2021	2019	70,345	2,381,474	460	15,581	2,467,860
	Washougal River	Coho	5/1/2021	2019	44,094	65,382	128	190	109,794