

**2020 Annual Report of Direct Take to the National Marine Fisheries Service
(NMFS)
on Mitchell Act Integrated Hatchery Programs**

Submitted to:

NMFS – Sustainable Fisheries Division
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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 seven hatchery programs; Grays River Hatchery coho, Kalama Hatchery wild summer steelhead, Kalama Hatchery late winter steelhead, North Toutle Hatchery fall Chinook, North Toutle Hatchery coho, Washougal River fall Chinook, and Washougal River 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
- 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 2019. This table includes the numbers of hatchery origin and natural-origin fish (NOR) used in the broodstock. The adult broodstock goal for the Toutle coho program in 2019 was 108 adults and the number taken for broodstock was 88, compared to the expected program goal in the HGMP of 80. The adult goals for all of the 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) compared to the total natural-origin population. Table 3 shows the numbers of fish released by species at MA facilities during 2019 including the numbers marked and tagged.

Table 1. Broodstock numbers for integrated hatchery programs for 2019 brood.

Hatchery	Brood Year	Species	Stock	Spawned					PNOB
				Hatchery Adults	Hatchery Jacks	Wild Adults	Wild Jacks	Wild Total	
Grays River	2019	Coho	Late	173	0	3	0	3	2%
Toutle	2019	Coho	Early	68	1	87	1	88	56%
	2019	FCH		536	6	34	1	35	6%
Kalama Falls	2019	STHD	Winter late ^{1/}	0	0	53	0	53	100%
	2019	STHD	Summer	8	0	52	0	52	87%
Washougal	2019	Coho	Late	1,193	7	43	0	43	3%
	2019	FCH		1,562	20	57	2	59	4%

^{1/} Wild adults were live spawned and released back into the river. An additional 2 wild fish were spawned with the Kalama Early Winter (KEW) program and are not included in these numbers.

Table 2. Numbers of 2019 Brood Year Natural Origin fish taken for brood compared to the total population.

Hatchery	Brood Year	Species	Stock	Number of		% of NOR	30% of
				NOR ^{1/} Population	NOR Taken for Brood	Population Taken for Brood	NOR Population
Grays River	2019	Coho	Late	168	3	2%	50
Toutle	2019	Coho	Early	5,874	109	2%	1,762
	2019	FCH		164	48	29%	49
Kalama Falls	2019	STHD	Winter late ^{2/}	214	59	28%	64
	2019	STHD	Summer	373	60	16%	112
Washougal	2019	Coho	Late	636	43	7%	191
	2019	FCH		1,651	74	4%	495

^{1/} NOR population includes fish taken for brood/mortalities.

^{2/} Wild adults were live spawned and released back into the river. Includes 2 additional wild fish used for the Kalama Early Winter (KEW) program.

Table 3. Numbers of fish released, marked, and tagged in 2019.

MITCHELL ACT Marking and Tagging Calendar Year 2019.									
Project	Release Location	Species/Run	Release Start Date	Brood Year	Marked	Marked & Tagged	Tagged	Unmarked	Total Released
Beaver Creek Hatchery	Elochoman River	Coho	4/15/2019	2017	61,379	41,000		371	102,750
Beaver Creek Hatchery	Elochoman River	Winter Steelhead	4/15/2019	2018	126,424			1,040	127,464
Beaver Creek Hatchery	Elochoman River	Summer Steelhead	4/15/2019	2018	35,732			347	36,079
Deep River Net Pens	Deep River Net Pens	Spring Chinook	4/18/2019	2018	1,168	128,598	232	2	130,000
Deep River Net Pens	Deep River Net Pens	Spring Chinook	12/27/2019	2018	517	130,703	777	3	132,000
Deep River Net Pens	Deep River Net Pens	Coho	5/6/2019	2017	654,705	42,840	284	2,171	700,000
Fallert Creek Hatchery	Kalama River	Spring Chinook	3/1/2019	2017	383,317	123,524	533	2,535	509,909
Fallert Creek Hatchery	Kalama River	Fall Chinook	6/3/2019	2018	2,999,437	97,244	587	5,831	3,103,099
Fallert Creek Hatchery	Kalama River	Winter Steelhead	5/8/2019	2018	57,294				57,294
Fallert Creek Hatchery	Kalama River	Summer Steelhead	4/5/2019	2018	88,396			212	88,608
Grays River Hatchery	Grays River	Chum ^{1/}	3/12/2019	2018				179,581	179,581
Kalama Falls Hatchery	Kalama River	Fall Chinook	6/24/2019	2018	3,513,985	100,389	819	28,695	3,643,888
Kalama Falls Hatchery	Kalama River	Coho	4/2/2019	2017	255,944	44,294	178	1,028	301,444
Kalama Falls Hatchery	Kalama River	Winter Steelhead	5/8/2019	2018	661	51,359	103	1	52,124
Skamania Hatchery	Salmon Creek	Winter Steelhead	4/29/2019	2018	38,103			76	38,179
North Toutle Hatchery	Green River	Fall Chinook	6/25/2019	2018	1,000,763	97,641	907	21,901	1,121,212
North Toutle Hatchery	Green River	Coho	5/1/2019	2017	58,223	20,758	321	235	79,537
Ringold Springs Hatchery	Columbia River	Fall Chinook	6/14/2019	2018	3,582,572	424,786	4,291	36,188	4,047,837
Ringold Springs Hatchery	Columbia River	Summer Steelhead	3/30/2019	2018	170,260			170	170,430
Ringold Springs Hatchery	Columbia River	Summer Steelhead	12/21/2019	2019	49,497			154	49,651
Skamania Hatchery	Klickitat River	Summer Steelhead	4/22/2019	2018	89,333			703	90,036
Skamania Hatchery	Rock Creek	Winter Steelhead	4/17/2019	2018	20,958			42	21,000
Skamania Hatchery	Washougal River	Winter Steelhead	4/15/2019	2018	88,901			349	89,250
Skamania Hatchery	Washougal River	Summer Steelhead	4/15/2019	2018	65,515			125	65,640
South Fork Toutle	South Fork Toutle	Summer Steelhead	4/15/2019	2018	19,880			48	19,928
Washougal Hatchery	Washougal River	Fall Chinook	6/20/2019	2018	1,074,720	103,331	938	9,761	1,188,750
Washougal Hatchery	Klickitat River	Coho	3/25/2019	2017	2,379,933	72,915	146	21,700	2,474,694
Washougal Hatchery	Washougal River	Coho	4/24/2019	2017	97,219	44,795	86	185	142,285