

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

Fish Program/Science Division/Methow Field Office

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To: Andrew Gingerich and Tom Kahler

From: Charlie Snow and Ben Goodman

Subject: February Hatchery and Natural Production Report

Date: 3 March 2023

Cc: Distribution list.

HATCHERY ACTIVITIES

At Methow Hatchery, 2021 brood Twisp and Chewuch-release spring Chinook were switched to a 50/50 well/surface water mix during the month, while fish designated for Methow River release were reared on a 60/40 mix of river and well water. All 2022 brood progeny were reared on 100% well water during February. At Wells Hatchery, the 2021 brood summer Chinook yearlings, the 2021 brood Coho, and the 2022 brood Columbia safety-net steelhead were reared on mixed well and river water containing 50-66% river water during the month. The Okanogan Basin steelhead programs were reared on mixed water containing 50% river water during February, and all other populations were held on 100% well water.

2021 Twisp Spring Chinook Salmon

A total of 29,054 fish were on-station at Methow Hatchery at the end of the month after subtracting 101 mortalities. Bacterial kidney disease, originally diagnosed in this cohort in late December, is still occasionally found in the pond but causes little significant mortality. These fish were at about 18 fish per pound (FPP) during the month (Table 1). The number of fish on-station that apply to Douglas PUD HCP and Grant PUD SSSA mitigation obligations is listed in Appendix A.

2021 Methow Composite Spring Chinook Salmon

Methow Hatchery had a total of 211,695 fish on-station at the end of the month after removing 108 mortalities. This population includes an estimated 65,750 fish for release from the Chewuch Acclimation Pond, and 145,945 fish for release from Methow Hatchery. Methow Composite populations had mean fork lengths between 123 and 127 mm during the month (Table 1). Few individuals in the pond still exhibit the “flag-tail” Saprolegniasis described last month, but most affected fish have been removed from the pond and daily mortality has been consistently negligible. The number of fish on-station that apply to Douglas PUD HCP, Chelan PUD HCP, and Grant PUD SSSA mitigation obligations is listed in Appendix A.

2022 Twisp Spring Chinook Salmon

A total of 24,864 Twisp fry from the 2022 brood were on-station at Methow Hatchery at the end of the month after subtracting 27 mortalities. The number of fish on-station that apply to Douglas PUD HCP and Grant PUD SSSA mitigation obligations is listed in Appendix A.

2022 Methow Composite Spring Chinook Salmon

Methow Hatchery had a total of 199,601 Methow Composite fry from the 2022 brood on-station at the end of the month after removing 182 mortalities. This population includes an estimated 63,499 fry for release from the Chewuch Acclimation Pond, and 136,102 fry for release from Methow Hatchery. The number of fish on-station that apply to Douglas PUD HCP, Chelan PUD HCP, and Grant PUD SSSA mitigation obligations is listed in Appendix A.

Table 1. Spring Chinook Salmon length and weight sampling at Methow Hatchery during the month of February. MC = MetComp, FPP = fish per pound.

Raceway	Brood year	Stock-release	Fork length (mm)				FPP
			Mean	N	SD	CV	
2	2021	Twisp	125.5	100	11.2	8.9	18.4
5	2021	MC-Chewuch	123.6	100	8.5	6.8	18.4
6	2021	MC-Chewuch	124.3	105	9.9	8.0	18.2
7	2021	MC-Chewuch	127.0	103	12.2	9.6	16.9
13	2021	MC-Methow	125.4	200	10.7	8.5	18.5

2021 Summer Chinook

Wells Hatchery had an estimated 351,378 parr for the HCP Inundation yearling program on-station at the end of February after removing 43 additional mortalities. These fish had a mean length of 166 mm and were at approximately 12 FPP during the month. Summer Chinook are being reared to fulfill Wells HCP mitigation obligations (Appendix A).

2022 Summer Chinook

Wells Hatchery had an estimated 356,568 fry for the yearling program, 1,606,228 fry for subyearling programs, and 41,264 fry for the Methow conservation (MEOK) program on-station. The subyearling programs experienced monthly losses of 89,394 fry during February. Summer Chinook are being reared to fulfill Wells HCP mitigation obligations (yearling and MEOK programs; Appendix A) and the Southern Resident Killer Whale and Pacific Salmon Treaty production contract with WDFW (Appendix B).

In addition to these populations, the hatchery had 177,984 summer Chinook fry from the Entiat National Fish Hatchery on-station at the end of February that will be used to support reintroduction of summer Chinook into the Columbia River upstream of Chief Joseph Dam.

2022 Summer Steelhead

Wells Hatchery had an estimated 102,773 parr on-station for the Methow safety-net program (MSN), 165,623 parr for the Columbia safety-net program (CSN), 80,703 parr for the Okanogan safety-net program (OSN), and 25,338 parr for the Omak Creek conservation (OCC) program on-station at the end of February. These programs experienced losses during the month of 34 OSN parr, and 7 OCC parr. Wells Hatchery also had 20,470 Twisp and 19,369 Methow conservation program parr on-station at the end of the month after removing 6 and 36 mortalities, respectively. Steelhead are being reared to fulfill Douglas PUD Wells HCP mitigation obligations and to fulfill Grant PUD SSSA mitigation obligations (Appendix A).

2022 Riverence Rainbow Trout

Wells Hatchery had 21,910 trout on-station at the end of February after removing 95 mortalities. These fish were at approximately 1.9 FPP and will be released in the spring of 2023. Riverence Rainbow Trout are reared under the Off-License Settlement Agreement between Douglas PUD and WDFW (Appendix C).

2021 Methow Coho

Wells Hatchery had 25,539 Methow Coho on-station at the end of the month. This population had a mean fork length of 125 mm and were at approximately 24 FPP at the end of February. These fish are reared to meet Wells HCP mitigation obligations (Appendix A).

2022 Methow Coho

Wells Hatchery had 26,827 Methow Coho fry from the 2022 brood on-station at the end of February after removing an additional 100 mortalities. These fish are reared to meet Wells HCP mitigation obligations (Appendix A).

2022 White Sturgeon

Wells Hatchery had 2,453 White Sturgeon on-station after subtracting 80 mortalities during the month of February. White Sturgeon are reared at Wells Hatchery under the Wells Aquatic Settlement Agreement and under agreement with Chelan PUD (Appendix D).

NATURAL PRODUCTION ACTIVITIES

PIT Tag Antenna Arrays

Data collected at all Methow basin PIT tag interrogation sites operated under this program, including Twisp (TWR), lower Methow (LMR), Lower Chewuch (CRW), Gold Creek (GLC), Libby Creek (LBC), and Wolf Creek (WFC) are uploaded to the PTAGIS database regularly, and can be viewed at the following website: <http://www.ptagis.org/data/quick-reports/small-scale-site-detections>

Appendix A. Number of fish reared at Wells and Methow hatcheries to meet Douglas County PUD’s Wells Habitat Conservation Plan mitigation objectives and other hatchery rearing agreements. Values are derived by applying fixed mitigation levels to the entire population on-station, and do not necessarily reflect separate rearing or release strategies.

Brood year	Species	Life stage	Program	Target release No.	Month												Total released /transfer
					Mar '22	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan '23	Feb	
2020	Spring Chinook	Yearling smolt	CCPUD NNI	60,516 <i>released</i>	63,878	63,814	--	--	--	--	--	--	--	--	--	--	63,734
2020	Spring Chinook	Yearling smolt	GCPUD Priest Rapids NNI	134,126 <i>released</i>	141,578	141,495	--	--	--	--	--	--	--	--	--	--	141,259
2020	Spring Chinook	Yearling smolt	DCPUD Wells NNI	29,123 <i>released</i>	30,741	30,723	--	--	--	--	--	--	--	--	--	--	30,672
2021	Spring Chinook	Yearling smolt	CCPUD NNI	60,516 <i>released</i>	64,635	64,629	65,297	65,291	65,284	65,271	65,237	65,213	65,199	65,187	65,166	65,109	--
2021	Spring Chinook	Yearling smolt	GCPUD Priest Rapids NNI	134,126 <i>released</i>	143,255	143,242	144,724	144,710	144,694	144,664	144,589	144,537	144,506	144,479	144,432	144,306	--
2021	Spring Chinook	Yearling smolt	DCPUD Wells NNI	29,123 <i>released</i>	31,105	31,102	31,242	31,421	31,418	31,411	31,395	31,383	31,377	31,371	31,361	31,333	--
2022	Spring Chinook	Yearling smolt	CCPUD NNI	61,000 <i>released</i>	--	--	--	--	--	--	--	--	--	61,268	62,373	62,315	--
2022	Spring Chinook	Yearling smolt	GCPUD Priest Rapids NNI	134,000 <i>released</i>	--	--	--	--	--	--	--	--	--	134,588	137,016	136,889	--
2022	Spring Chinook	Yearling smolt	DCPUD Wells NNI	24,728 <i>released</i>	--	--	--	--	--	--	--	--	--	24,836	25,285	25,261	--
2020	Summer Chinook	Yearling smolt	DCPUD Fixed Hatchery Compensation	320,000 <i>released</i>	355,320	--	--	--	--	--	--	--	--	--	--	--	351,766
2021	Summer Chinook	Sub-yearling	DCPUD Fixed Hatchery Compensation	484,000 <i>released</i>	--	507,990	--	--	--	--	--	--	--	--	--	--	501,100
2021	Summer Chinook	Yearling smolt	DCPUD Fixed Hatchery Compensation	320,000 <i>released</i>	--	--	371,729	371,034	364,773	351,469	351,469	351,469	351,469	351,469	351,421	351,378	--
2022	Summer Chinook	Sub-yearling	DCPUD Fixed Hatchery Compensation	484,000 <i>released</i>	--	--	--	--	--	--	--	--	--	561,715	546,764	523,864	--

Appendix A. Continued.

Brood year	Species	Life stage	Program	Target release No.	Month												Total released /transfer
					Mar '22	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan '23	Feb	
2022	Summer Chinook	Yearling smolt	DCPUD Fixed Hatchery Compensation	320,000 <i>released</i>	--	--	--	--	--	--	--	--	--	360,000	356,568	356,568	--
2021	Summer steelhead	Yearling smolt	DCPUD Fixed Hatchery Compensation ¹	300,000 <i>released</i>	313,948	--	--	--	--	--	--	--	--	--	--	--	311,923
2021	Summer steelhead	Yearling smolt	DCPUD Wells NNI ¹	8,000 <i>released</i>	8,372	--	--	--	--	--	--	--	--	--	--	--	8,381
2021	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	80,000 <i>released</i>	83,720	--	--	--	--	--	--	--	--	--	--	--	83,179
2021	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	20,000 <i>transferred</i>	12,147	--	--	--	--	--	--	--	--	--	--	--	12,683
2022	Summer steelhead	Yearling smolt	DCPUD Fixed Hatchery Compensation ¹	300,000 <i>released</i>	--	--	--	304,685	296,296	294,347	295,858	298,042	301,150	300,862	300,784	300,725	--
2022	Summer steelhead	Yearling smolt	DCPUD Wells NNI ¹	8,000 <i>released</i>	--	--	--	8,125	7,901	7,849	7,890	7,948	8,031	8,023	8,021	8,020	--
2022	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	80,000 <i>released</i>	--	--	--	81,249	79,013	78,493	78,896	79,478	80,307	80,307	80,209	80,194	--
2022	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	20,000 <i>transferred</i>	--	--	--	19,191	18,698	18,684	18,664	25,399	25,374	25,355	25,345	25,338	--
2020	Methow Coho	Yearling smolt	DCPUD Mitigation	25,900 <i>released</i>	--	--	--	--	--	--	--	--	--	--	--	--	25,999
2021	Methow Coho	Yearling smolt	DCPUD Mitigation	27,720 <i>released</i>	26,082	25,969	25,940	25,882	25,859	25,612	25,591	25,570	25,557	25,550	25,539	25,539	--
2022	Methow Coho	Yearling smolt	DCPUD Mitigation	27,909 <i>released</i>	--	--	--	--	--	--	--	--	--	27,426	26,927	26,827	--

¹40,000 Inundation steelhead to be released in the Twisp or Methow with 8,000 NNI fish to total 48,000. 100,000 inundation steelhead to be released in the Methow as a safety net program. 160,000 inundation steelhead to be released directly to the Columbia.

Appendix B. Fish reared at Wells Hatchery pursuant to the Southern Resident Killer Whale and Pacific Salmon Treaty production contract with WFDW.

Brood year	Species	Life stage	Program	Target release No.	Month												Total released /transfer
					Mar '22	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan '23	Feb	
2021	Summer Chinook	Sub-yearling	Orca/PST	1,000,000	1,037,048	1,049,565	--	--	--	--	--	--	--	--	--	--	--
				<i>released</i>	--	--	1,035,331	--	--	--	--	--	--	--	--	--	--
2022	Summer Chinook	Sub-yearling	Orca/PST	1,000,000	--	--	--	--	--	--	--	--	--	1,160,567	1,129,678	1,082,364	--
				<i>released</i>	--	--	--	--	--	--	--	--	--	--	--	--	--

Appendix C. Fish reared at Wells or Methow hatcheries under the Off-License Settlement Agreement.

Brood year	Species	Life stage	Program	Target (pounds) disposition	Month												Total released /transfer
					Mar '22	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan '23	Feb	
2021	Kamloops Rainbow trout	Juv.	WDFW sport fish	Number (Pounds) released	33,000	2,662	2,657	1,630	1,628	1,627	1,625	--	--	--	--	--	--
					(9,428)	(1,331)	(2,657)	(1,630)	(2,171)	(2,905)	(3,250)	(4,266)	--	--	--	--	--
2022	Riverence Rainbow trout	Juv.	WDFW sport fish	Goal is 20,000 pounds annual combined	--	--	26,785	26,059	26,469	65,447	64,463	22,083	22,065	22,051	22,005	21,910	
					(--)	(--)	(21)	(63)	(212)	(699)	(1,678)	(2,453)	(3,678)	(4,410)	(6,568)	(11,532)	38,103
					--	--	--	--	--	--	--	38,103	--	--	--	--	(87)

Appendix D. Fish reared at Wells Hatchery pursuant to the Wells Aquatic Settlement Agreement – White Sturgeon Management Plan.

Brood year	Species	Life stage	Program	Target disposition	Month												Total released/culled /transferred
					Mar '22	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan '23	Feb	
2021	White Sturgeon	Juvenile rearing	Wells White Sturgeon Supplementation	<i>Up to 325</i>	288	287	239	--	--	--	--	--	--	--	--	--	--
				<i>Culled</i>	--	--	3	--	--	--	--	--	--	--	--	--	3
				<i>Transferred</i>	--	--	--	--	--	--	--	--	--	--	--	--	--
				<i>Wells reservoir</i>	--	--	332	--	--	--	--	--	--	--	--	--	332
2021	White Sturgeon	Juvenile rearing	Chelan White Sturgeon Supplementation	<i>Up to 2,000</i>	1,770	1,768	1,417	--	--	--	--	--	--	--	--	--	--
				<i>Culled</i>	--	--	17	--	--	--	--	--	--	--	--	--	17
				<i>Transferred</i>	--	--	--	1,346	--	--	--	--	--	--	--	--	1,346
				<i>Chelan PUD</i>	--	--	--	--	--	--	--	--	--	--	--	--	--
2022	White Sturgeon	Juvenile rearing	Wells White Sturgeon Supplementation	<i>Up to 325</i>	--	--	--	--	901	607	421	403	367	358	354	343	--
				<i>Culled</i>	--	--	--	--	--	--	--	--	--	--	--	--	--
				<i>Transferred</i>	--	--	--	--	--	--	301	--	--	--	--	--	301
				<i>Wells reservoir</i>	--	--	--	--	--	--	--	--	--	--	--	--	--
2022	White Sturgeon	Juvenile rearing	Chelan White Sturgeon Supplementation	<i>Up to 2,000</i>	--	--	--	--	5,544	5,397	2,594	2,481	2,260	2,201	2,178	2,110	--
				<i>Culled</i>	--	--	--	--	--	--	--	--	--	--	--	--	--
				<i>Transferred</i>	--	--	--	--	--	--	1,851	--	--	--	--	--	1,851
				<i>Chelan PUD</i>	--	--	--	--	--	--	--	--	--	--	--	--	--