

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

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Subj: July Hatchery and Natural Production Report

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Cc: Distribution list.

HATCHERY ACTIVITIES

All populations at the Wells and Methow hatcheries were held on 100% well water during the month.

2020 Twisp Spring Chinook Salmon

A total of 23,876 fish were on-station at the end of the month with six additional fish reported as mortalities. These fish had mean fork lengths between 90.1 and 91.3 mm (Table 1) and were approximately 51-52 fish per pound (FPP). The number of fish on-station that apply to Douglas PUD HCP, Chelan PUD HCP, and Grant PUD Salmon and Steelhead Settlement Agreement (SSSA) mitigation obligations is listed in Appendix A.

2020 Methow Composite Spring Chinook Salmon

A total of 213,071 fish were on-station at the end of the month with 55 additional fish reported as mortalities. These fish had mean fork lengths between 86.4 and 93.7 mm (Table 1) and were approximately 51-62 FPP. These fish will support releases from the Chewuch Acclimation Pond (CAP; release target = 61,000), Goat Wall Acclimation Pond (GWAP; release target = 25,000), and from Methow Hatchery (release target = 107,765). A fish health report during the month found moderate levels of Costia and low levels of Ich throughout several ponds (including the Twisp population). Recommended treatment of a continuous formalin drip, preceded by salt treatment for all ponds, was administered in late July. Fish responded well to the treatment and will be monitored for increases in mortalities. The number of fish on-station that apply to Douglas PUD HCP, Chelan PUD HCP, and Grant PUD Salmon and Steelhead Settlement Agreement (SSSA) mitigation obligations is listed in Appendix A.

2021 Spring Chinook Salmon Brood Collection

No additional fish were retained from Wells Dam or the Methow outfall trap during the month of July. There were no pre-spawn mortalities through the end of the month.

Table 1. 2020 brood spring Chinook Salmon length and weight sampling at Methow Hatchery during the month of July. MC = MetComp.

Raceway	Brood year	Stock-release	Fork length (mm)				FPP
			Mean	<i>N</i>	SD	CV	
1	2020	Twisp	90.1	103	6.6	7.3	51.0
2	2020	Twisp	91.3	119	6.7	7.3	52.1
3	2020	MC-Goat Wall	91.8	107	5.8	6.3	53.8
4	2020	MC-Goat Wall	92.7	109	6.7	7.2	51.7
5	2020	MC-Chewuch	88.0	100	7.5	8.5	60.0
6	2020	MC-Chewuch	88.5	100	7.4	8.3	58.7
7	2020	MC-Chewuch	86.4	104	8.5	9.8	62.1
8	2020	MC-on-station	91.6	120	5.6	6.1	54.9
9	2020	MC-on-station	88.8	101	6.5	7.3	58.9
10	2020	MC-on-station	90.2	101	6.9	7.7	57.2
11	2020	MC-on-station	91.3	100	6.4	7.1	54.5
12	2020	MC-on-station	93.7	104	7.4	7.9	51.3

2020 Summer Chinook

Wells Hatchery had a total of 358,932 fry for the yearling program on-station at the end of the month and an additional 282 fish were reported as mortalities during July. These fish were at approximately 71 FPP at the end of the month. Summer Chinook are being reared to fulfill Wells HCP mitigation obligations (Appendix A).

2021 Summer Steelhead

Wells Hatchery had 170,733 fry for the Columbia safety-net program, 107,326 fry for the Methow safety-net program, 24,184, fry for the Methow conservation program and 26,966 fry for the Twisp conservation program on-station during July. These populations experienced mortalities of 707 fry, 447 fry, 632 fry, and 851 fry during the month, respectively. The hatchery also had 92,939 Okanogan hatchery fry and 23,910 Omak Creek conservation program fry on-station in July and these populations experienced monthly mortality of 400 and 311 fish respectively. Steelhead progeny are being reared to fulfill Douglas PUD Wells HCP mitigation obligations and to fulfill Grant PUD SSSA mitigation obligations.

2021 Kamloops Rainbow Trout

Wells Hatchery had 25,660 Kamloops Rainbow Trout fry on-station at the end of the month after removing 59 mortalities during July. These fish were at approximately 55 FPP at the end of the month and will support lake plants in fall of 2021. Kamloops Rainbow Trout are reared under the Off-License Settlement Agreement between Douglas PUD and WDFW (Appendix B).

2020 Methow Coho

Wells Hatchery had 26,787 Methow Coho fry on-station at the end of June. These fish were at approximately 78 FPP, and an additional 27 fry were reported as mortalities during the month. The 2020 brood Coho will be reared at Wells Hatchery until transfer to the Twisp Acclimation Pond as pre-smolts in spring 2022. These fish were reared to meet Wells HCP mitigation obligations (Appendix A).

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>

2021 Smolt Trapping

River conditions were favorable for trapping at both the Methow and Twisp sites during the month of July, and traps at both locations operated for the entire month with no interruptions. Decreasing river discharge at the Methow site required a switch to trapping with the 1.5 m diameter cone in the lower position starting on 7 July. During the month, wild steelhead fry and Coho fry were the primary species captured at the Methow and Twisp trap sites, respectively (Table 2). Biological data collected from trapped fish is detailed in Table 3. Methow River discharge for the period operated ranged from 13.0 to 85.8 m³s. The discharge when the trap operated in the low position ranged from 13.0 to 43.6 m³s, providing expected trap efficiencies between 1.2 and 1.5 percent. The discharge when the trap operated in the upper position (prior to 7 July) ranged from 44.5 to 85.8 m³s, providing expected trap efficiencies between 2.7 and 3.5 percent. Twisp River discharge for the period operated ranged from 2.4 to 20.2 m³s, providing expected trap efficiencies between 6.0 and 20.2 percent.

Table 2. Monthly salmonid captures at Methow Basin smolt traps in 2021.

Species/origin	Methow			Twisp			Basin total
	Feb-May	June	July	Mar-May	June	July	
Yearling Chin/wild	266	3	0	251	0	0	520
Yearling Chin/hatch	8,117	0	0	1,857	0	0	9,974
Sub Chin/wild-parr	131	240	135	10	43	18	577
Sub Chin/wild-fry	4,896	1,484	17	105	60	1	6,563
SHR/wild-transitional	306	6	0	297	0	0	609
SHR/wild-parr	146	5	7	141	16	19	334
SHR/wild-fry	6	195	303	0	1	14	519
Steelhead/hatchery	1,573	22	2	3,074	31	2	4,704
Coho/wild-smolt	37	3	0	42	1	0	83
Coho/wild-parr	17	28	43	8	12	21	129
Coho/wild-fry	200	32	2	114	26	23	397
Coho/hatchery	3,578	9	0	10,265	5	0	13,857
Bull Trout	1	0	0	10	1	1	13
Cutthroat Trout	0	0	0	2	0	1	3
Rainbow Trout	0	0	0	1	0	0	1
Sockeye/wild-fry	136	0	0	2	0	0	138
Total	19,410	2,027	509	16,179	196	100	38,421

Table 3. Biological sampling of juvenile salmonids captured at Methow Basin smolt traps during July.

Species/stage	Location	Length (mm)			Weight (g)			Mean K-factor
		Mean	SD	<i>N</i>	Mean	SD	<i>N</i>	
Sub Chinook/wild/parr	Methow	63.9	11.2	135	3.4	2.1	135	1.17
Sub Chinook/wild/parr	Twisp	59.7	8.6	18	2.6	1.3	18	1.13
Sub Chinook/wild/fry	Methow	47.5	1.7	17	--	--	--	--
Sub Chinook/wild/fry	Twisp	44.0	--	1	--	--	--	--
Steelhead/wild/parr	Methow	73.7	33.8	7	8.0	14.2	7	1.09
Steelhead/wild/parr	Twisp	139.4	38.5	19	36.8	22.5	19	1.12
Steelhead/wild/fry	Methow	31.0	6.4	290	--	--	--	--
Steelhead/wild/fry	Twisp	37.4	7.5	14	--	--	--	--
Steelhead/hatchery/smolt	Methow	213.5	6.4	2	93.3	8.6	2	0.96
Steelhead/hatchery/smolt	Twisp	192.0	24.0	2	74.8	35.1	2	1.01
Coho/wild/parr	Methow	72.3	11.5	43	5.4	2.8	43	1.32
Coho/wild/parr	Twisp	64.9	13.0	21	3.9	2.4	21	1.26
Coho/wild/fry	Methow	44.0	2.8	2	--	--	--	--
Coho/wild/fry	Twisp	40.7	3.6	23	--	--	--	--
Bull Trout	Twisp	215.0	--	1	94.1	--	1	0.95
Cutthroat Trout	Twisp	193.0	--	1	81.7	--	1	1.14

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	
					Aug '20	Sep	Oct	Nov	Dec	Jan '21	Feb	Mar	Apr	May	Jun	Jul		
2019	Spring Chinook	Yearling smolt	CCPUD NNI	60,516 <i>released</i>	65,683	65,520	65,321	64,984	64,820	64,647	64,514	64,311	--	--	--	--	63,562	63,562
2019	Spring Chinook	Yearling smolt	GCPUD Priest Rapids NNI	134,126 <i>released</i>	145,578	145,217	144,716	144,028	143,665	143,282	142,987	142,538	--	--	--	--	140,877	140,877
2019	Spring Chinook	Yearling smolt	DCPUD Wells NNI	29,123 <i>released</i>	31,610	31,531	31,435	31,273	31,194	31,111	31,047	30,950	--	--	--	--	30,589	30,589
2020	Spring Chinook	Yearling smolt	CCPUD NNI	60,516 <i>released</i>	--	--	65,706	65,706	65,287	65,110	64,953	64,907	64,896	64,105	64,097	64,081	--	--
2020	Spring Chinook	Yearling smolt	GCPUD Priest Rapids NNI	134,126 <i>released</i>	--	--	145,629	145,629	144,700	144,308	143,959	143,859	143,835	142,082	142,064	142,027	--	--
2020	Spring Chinook	Yearling smolt	DCPUD Wells NNI	29,123 <i>released</i>	--	--	31,621	31,621	31,419	31,334	31,258	31,236	31,231	30,850	30,847	30,839	--	--
2019	Summer Chinook	Yearling smolt	DCPUD Fixed Hatchery Compensation	320,000 <i>released</i>	367,786	367,786	367,786	367,777	367,527	367,277	367,027	366,682	--	--	--	--	366,552	366,552
2020	Summer Chinook	Yearling smolt	DCPUD Fixed Hatchery Compensation	320,000 <i>released</i>	--	--	--	415,479	375,479	375,479	375,479	375,479	373,967	372,146	359,214	358,932	--	--
2020	Summer Chinook	Sub-yearling	DCPUD Fixed Hatchery Compensation	484,000 <i>released</i>	--	--	--	--	--	557,477	523,359	496,338	491,048	--	--	--	436,532	436,532
2020	Summer steelhead	Yearling smolt	DCPUD Fixed Hatchery Compensation ¹	300,000 <i>released</i>	349,474	334,709	323,726	326,821	326,589	326,325	326,093	325,870	--	--	--	--	325,762	325,762
2020	Summer steelhead	Yearling smolt	DCPUD Wells NNI ¹	8,000 <i>released</i>	9,319	8,926	8,633	8,715	8,709	8,702	8,696	8,690	--	--	--	--	8,687	8,687
2020	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	80,000 <i>released</i>	93,193	89,256	86,327	87,152	87,091	87,020	86,958	86,899	--	--	--	--	86,870	86,870

Appendix A. Continued.

Brood year	Species	Life stage	Program	Target release No.	Month												Total released /transfer	
					Aug '20	Sep	Oct	Nov	Dec	Jan '21	Feb	Mar	Apr	May	Jun	Jul		
2020	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	20,000 <i>transferred</i>	16,833	16,804	16,298	12,178	12,168	12,160	12,156	--	--	--	--	--	12,155	12,155
2020	Summer steelhead	Yearling smolt	DCPUD Fixed Hatchery Compensation ¹	300,000 <i>released</i>	--	--	--	--	--	--	--	--	--	--	328,751	326,403	--	--
2020	Summer steelhead	Yearling smolt	DCPUD Wells NNI ¹	8,000 <i>released</i>	--	--	--	--	--	--	--	--	--	--	8,767	8,704	--	--
2020	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	80,000 <i>released</i>	--	--	--	--	--	--	--	--	--	--	87,667	87,041	--	--
2020	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	20,000 <i>transferred</i>	--	--	--	--	--	--	--	--	--	--	24,221	23,910	--	--
2019	Methow Coho	Yearling smolt	DCPUD Mitigation	37,000 <i>released</i>	39,952	39,920	39,908	39,983	39,865	39,831	39,805	--	--	--	--	--	--	39,770
2020	Methow Coho	Yearling smolt	DCPUD Mitigation	37,000 <i>released</i>	--	--	--	--	--	--	--	--	26,935	26,881	26,814	26,787	--	--

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 or Methow hatcheries under the Off-License Settlement Agreement.

Brood year	Species	Life stage	Program	Target (pounds) disposition	Month												Total released /transfer	
					Aug '20	Sep	Oct	Nov	Dec	Jan '21	Feb	Mar	Apr	May	Jun	Jul		
2019	Kamloops Rainbow trout	Juv.	WDFW sport fish	Number (pounds) released	2,619	2,618	--	--	--	--	--	--	--	--	--	--	--	53,290
					(5,238)	(8,727)	(9,703)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	
2020	Kamloops Rainbow trout	Juv.	WDFW sport fish	Goal is 20,000 pounds annual combined	64,683	60,798	45,975	34,998	34,979	32,879	34,967	34,778	30,377	62	--	--	--	45,068
					(1,310)	(2,781)	(79)	(318)	(921)	(3,653)	(8,742)	(17,389)	(16,914)	(62)	(--)	(--)	(--)	
2021	Kamloops Rainbow trout	Juv.	WDFW sport fish	Goal is 20,000 pounds annual combined	--	--	--	--	--	--	--	--	25,905	25,700	25,719	25,660	--	
					(--)	(--)	(--)	(--)	(--)	(--)	(--)	(9)	(31)	(214)	(467)			

Appendix C. 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			
					Aug '20	Sep	Oct	Nov	Dec	Jan '21	Feb	Mar	Apr	May	Jun	Jul				
2020	White Sturgeon	Juvenile rearing	Wells White Sturgeon Supple-mentation	<i>Up to 325</i>	1,384	1,203	738	350	350	336	336	336	336	--	--	--				
				<i>Culled</i>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
				<i>Transferred</i>	--	--	436	647	--	--	--	--	--	--	--	--	--	--	--	1,083
				<i>Wells reservoir</i>	--	--	--	--	--	--	--	--	--	--	--	338	--	--	--	338