

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 fish at the Wells and Methow hatcheries were reared on 100% well water during the month.

2016 Twisp Spring Chinook Salmon

A total of 30,714 fish were on-station at the end of the month with four additional fish reported as mortalities. These fish had a mean fork length of 95 mm during the month and were at approximately 48 fish per pound (FPP). The number of fish on-station that apply to HCP mitigation obligations are listed in Appendix A.

2016 Methow Composite Spring Chinook Salmon

A total of 219,956 fish were on-station at the end of the month with 47 additional fish reported as mortalities. Approximately 67,000 and 29,000 of the WxW MetComp fry on-station are destined for the Chewuch (61,000 release target) and Goat Wall (25,000 release target) acclimation ponds, respectively. These fish had a mean fork length of 95 mm during the month and were at approximately 48 FPP. The number of fish on-station that apply to HCP mitigation obligations are listed in Appendix A.

2017 Brood Spring Chinook Salmon

By the end of June, a total of 883 spring Chinook salmon were trapped and sampled at Wells Dam. Of these, 59 wild MetComp and seven wild Twisp fish were retained for broodstock. Through 5 July, a total of 31 spring Chinook salmon were trapped and sampled at the Twisp weir. Of these, seven potential wild and four hatchery adults were retained for broodstock. Due to high water in June, some migrating fish may have passed upstream of the weir without being trapped. All wild adults trapped (seven) were retained for broodstock. Trapping at the Twisp weir ended 7 July due to lack of Chinook trapped and increased likelihood of encountering bull trout. A total of 66 hatchery spring Chinook salmon were retained from trapping at the Methow Hatchery outfall trap through the end of July to complete collection for the 2017 brood and to

provide gametes for the 2017 egg-to-fry study in the Methow Basin. Through the end of July, a total of 110 adults and 98 jacks were transferred to Winthrop NFH to be incorporated into broodstock or removed as surplus. Methow Hatchery adult returns were not trapped in numbers great enough to fill both Methow Hatchery and Winthrop NFH adult collection targets as well as provide surplus fish for Chewuch River outplanting.

2016 Wells Summer Chinook Salmon

Wells Hatchery had 359,127 fry on-station for the yearling program, with an additional 337 yearling program fry counted as mortality during July. These progeny are being reared to fulfill HCP mitigation obligations (Appendix A).

2017 Summer Steelhead

Wells Hatchery had 419,426 steelhead progeny on-station to support releases into the Methow, Columbia, and Okanogan rivers. An additional 33,977 Omak WxW progeny were also at Wells Hatchery, and 54,600 eyed-egg progeny from the Winthrop National Fish Hatchery conservation program, which includes progeny from Twisp River broodstock collections, were shipped to Methow Hatchery on 7 June for rearing to the fry stage. These fish will be transferred to Wells Hatchery for rearing until release. Steelhead progeny are being reared to fulfill HCP mitigation obligations (Appendix A).

2016 Spokane Rainbow

Wells Hatchery had 57,374 fry from the 2016 brood on-station at the end of the month after subtracting 469 mortalities. These fish were at 33 FPP and are reared to fulfill the Off-License Settlement Agreement (Appendix B).

2017 White Sturgeon

Wells Hatchery received 2,155 Lake Roosevelt White Sturgeon progeny on 7 July, and an additional 750 progeny on 21 July. Mortality during the month totaled 852 of the received fish leaving 2,053 fish on-station at the end of the month. These fish are reared to fulfill the Off-License Settlement Agreement (Appendix B). White sturgeon progeny are reared at Wells Hatchery under the Aquatic Settlement Agreement (Appendix C).

2017 Lahontan Cutthroat

Wells Hatchery had 148,902 Lahontan Cutthroat Trout progeny from broodstock spawned at Lake Lenore (Grant County) on-station at the end of the month, and no mortality was reported during the month. These fish are reared to fulfill the Off-License Settlement Agreement (Appendix B).

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), Lost River (LOR), Early Winters Creek (EWC), 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>

2017 Smolt Trapping

River conditions were favorable for trapping at both the Methow and Twisp sites during the month. The Twisp site operated continuously for the entire month, and trapping at the Methow site was only interrupted for a single night on 2 July due to search and rescue operations occurring in the area. Decreasing river discharge at the Methow site required us to switch to trapping with the 1.5 m diameter cone in the lower position starting on 15 July. During the month, sub yearling wild Chinook parr were the primary species captured at both the Methow and Twisp trap sites (Table 1). Biological data collected from trapped fish is detailed in Table 2. Methow River discharge for the period operated ranged from 22.4 to 111.3 m³s. The discharge when the trap operated in the low position ranged from 22.4 to 48.1 m³s, providing expected trap efficiencies between 1.1 and 1.5 percent. The discharge when the trap operated in the upper position (prior to 15 July) ranged from 49.0 to 111.3 m³s, providing expected trap efficiencies between 2.7 and 4.4 percent. Twisp River discharge for the period operated ranged from 3.3 to 20.2 m³s, providing expected trap efficiencies between 5.7 and 18.9 percent.

Table 1. Monthly salmonid captures at Methow Basin smolt traps in 2017. SHR = wild steelhead/rainbow. M-A=March through April total.

Species/origin	Methow				Twisp				Basin total
	M-A	May	June	July	M-A	May	June	July	
Yearling Chin/wild	473	15	2	0	762	34	13	0	1,299
Yearling Chin/hatch	13,299	26	0	0	3,826	1	0	0	17,152
Sub Chin/wild-parr	8	24	212	312	0	0	12	91	659
Sub Chin/wild-fry	2,669	914	241	18	160	16	14	20	4,052
SHR/wild-trans.	312	61	0	0	163	64	9	0	609
SHR/wild-parr	32	5	2	1	127	21	27	18	233
SHR/wild-fry	0	0	0	5	0	0	0	15	20
Steelhead/hatchery	1,913	776	6	3	2,403	194	16	4	5,315
Coho/wild-smolt	4	1	0	0	3	1	0	0	9
Coho/wild-parr	0	0	0	1	0	0	0	1	2
Coho/wild-fry	0	1	1	0	0	0	0	0	2
Coho/hatchery	1,715	506	0	0	0	0	0	0	2,221
Bull trout	0	2	0	0	3	0	2	0	7
Cutthroat Trout	0	0	0	1	0	0	1	4	6
Sockeye/wild-fry	258	0	3	0	0	0	0	2	263
Total	20,683	2,331	467	341	7,447	331	94	155	31,849

Table 2. 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	N	Mean	SD	N	
Sub Chinook/wild/parr	Methow	72.6	13.7	197	4.9	3.1	196	1.2
Sub Chinook/wild/parr	Twisp	58.2	8.4	84	2.4	1.7	84	1.1
Sub Chinook/wild/fry	Methow	45.9	3.7	16	--	--	--	--
Sub Chinook/wild/fry	Twisp	46.6	2.5	19	--	--	--	--
Steelhead/wild/parr	Methow	129.0	--	1	25.2	--	1	1.2
Steelhead/wild/parr	Twisp	130.4	29.5	18	28.6	17.4	18	1.1
Steelhead/wild/fry	Methow	26.4	1.1	5	--	--	--	--
Steelhead/wild/fry	Twisp	29.1	2.5	13	--	--	--	--
Steelhead/hatchery/parr	Methow	177.5	23.3	2	59.2	21.0	2	1.0
Steelhead/hatchery/parr	Twisp	170.5	12.6	4	53.7	14.0	4	1.1
Coho/wild/parr	Methow	96.0	--	1	11.1	--	1	1.3
Coho/wild/parr	Twisp	54.0	--	1	2.1	--	1	1.3
Sockeye/wild/fry	Twisp	30.5	2.1	2	--	--	--	--
Cutthroat Trout	Methow	150.0	--	1	34.5	--	1	1.0
Cutthroat Trout	Twisp	156.7	17.6	3	38.5	12.3	3	1.0

Appendix A. Number of fish reared at Wells and Methow hatcheries to meet Douglas County PUD 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 '16	Sep	Oct	Nov	Dec	Jan '17	Feb	Mar	Apr	May	Jun	Jul		
2015	Spring Chinook	Yearling smolt	CCPUD NNI	60,516 <i>released</i>	65,695	65,692	65,691	65,666	65,638	65,618	65,608	51,720	--	--	--	--	51,697	51,697
2015	Spring Chinook	Yearling smolt	GCPUD Priest Rapids NNI	134,126 <i>released</i>	145,604	145,600	145,595	145,541	145,478	145,435	145,413	114,630	--	--	--	--	114,579	114,579
2015	Spring Chinook	Yearling smolt	DCPUD Wells NNI	29,123 <i>released</i>	31,615	31,614	31,613	31,602	31,588	31,578	31,574	24,890	--	--	--	--	24,879	24,879
2016	Spring Chinook	Yearling smolt	CCPUD NNI	60,516 <i>released</i>	--	--	68,677	68,677	68,677	68,677	68,594	68,032	68,032	67,814	67,806	67,792	--	--
2016	Spring Chinook	Yearling smolt	GCPUD Priest Rapids NNI	134,126 <i>released</i>	--	--	152,213	152,213	152,213	152,213	152,030	150,785	150,785	150,302	150,284	150,253	--	--
2016	Spring Chinook	Yearling smolt	DCPUD Wells NNI	29,123 <i>released</i>	--	--	33,050	33,050	33,050	33,050	33,011	32,740	32,740	32,635	32,631	32,625	--	--
2015	Summer Chinook	Yearling smolt	DCPUD Fixed Hatchery Compensation	320,000 <i>released</i>	336,304	336,117	336,117	336,117	336,117	336,117	335,239	333,462	--	--	--	--	329,809	329,809
2016	Summer Chinook	Sub-yearling	DCPUD Fixed Hatchery Compensation	484,000 <i>released</i>	--	--	--	583,000	583,000	513,238	444,000	443,117	470,247	234,710	--	--	234,710	234,710
2016	Summer Chinook	Yearling smolt	DCPUD Fixed Hatchery Compensation	320,000 <i>released</i>	--	--	--	368,940	372,107	372,107	372,107	366,490	362,301	361,696	359,464	359,127	--	--
2016	Summer steelhead	Yearling smolt	DCPUD Fixed Hatchery Compensation ¹	300,000 <i>released</i>	373,452	337,536	331,315	317,688	314,795	314,694	314,555	314,262	217,219	--	--	--	90,679	206,362
2016	Summer steelhead	Yearling smolt	DCPUD Wells NNI ¹	8,000 <i>released</i>	9,958	9,001	8,835	8,471	8,395	8,392	8,388	8,380	5,793	--	--	--	2,418	5,503
2016	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	80,000 <i>released</i>	99,587	90,009	88,350	84,716	83,945	83,918	83,881	83,803	57,925	--	--	--	24,181	55,030
2016	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	20,000 <i>transferred</i>	34,716	34,616	34,616	35,606	34,542	34,542	33,461	32,868	--	--	--	--	26,054	--

¹40,000 Inundation steelhead to be released in the Twisp 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 A. Continued.

Brood year	Species	Life stage	Program	Target release No.	Month												Total released /transfer
					Aug '16	Sep	Oct	Nov	Dec	Jan '17	Feb	Mar	Apr	May	Jun	Jul	
2017	Summer steelhead	Yearling smolt	DCPUD Fixed Hatchery Compensation ¹	300,000	--	--	--	--	--	--	--	--	--	--	329,265	324,326	
				<i>released</i>	--	--	--	--	--	--	--	--	--	--	--	--	--
2017	Summer steelhead	Yearling smolt	DCPUD Wells NNI ¹	8,000	--	--	--	--	--	--	--	--	--	--	8,780	8,649	
				<i>released</i>	--	--	--	--	--	--	--	--	--	--	--	--	--
2017	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	80,000	--	--	--	--	--	--	--	--	--	--	87,840	86,487	
				<i>released</i>	--	--	--	--	--	--	--	--	--	--	--	--	--
2017	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	20,000	--	--	--	--	--	--	--	--	--	--	--	33,977	
				<i>transferred</i>	--	--	--	--	--	--	--	--	--	--	--	--	--

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 '16	Sep	Oct	Nov	Dec	Jan '17	Feb	Mar	Apr	May	Jun	Jul	
2015	Rainbow trout	Juv	WDFW sport fish	Number (pounds) released	36,052	33,026	32,949	32,897	32,975	33,741	33,652	33,280	20,308	5,398	--	--	
					(2,488)	(3,471)	(4,308)	(5,178)	(7,516)	(8,656)	(8,288)	(11,110)	(9,104)	(2,720)	(1,854)	(--)	
2016	Rainbow trout	Juv	WDFW sport fish	Goal is 20,000 pounds annual combined	--	--	--	--	72,878	68,293.	62,418	62,379	61,927	61,612	59,120	57,374	
					(--)	(--)	(--)	(--)	(73)	(20)	(65)	(142)	(405)	(692)	(1,056)	(1,739)	
2017	Lahontan cutthroat	Juv	WDFW sport fish	Goal is 20,000 pounds annual combined	--	--	--	--	--	--	--	--	--	178,526	169,589	148,902	
					(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(178)	(169)	(231)	
					--	--	--	--	--	--	--	--	--	--	--	--	--

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

Brood year	Species	Life stage	Program	Target disposition	Month												Total released/culled /transferred	
					Aug '16	Sep	Oct	Nov	Dec	Jan '17	Feb	Mar	Apr	May	Jun	Jul		
2016	White sturgeon	Juvenile rearing	Wells White Sturgeon	<i>Up to 5,000</i>	17,246	15,235	13,560	10,458	9,343	9,495	6,690	6,654	6,654	5,090	--	--	3,655	
			Supple-mentation	<i>Culled</i>	--	--	--	--	--	--	--	--	--	--	--	--		--
				<i>Transferred</i>	--	--	--	--	--	2,293	--	--	--	1,362	--	--		
				<i>Wells reservoir</i>	--	--	--	--	--	--	--	--	--	--	5,125	--		
2017	White sturgeon	Juvenile rearing	Wells White Sturgeon	<i>Up to 5,000</i>	--	--	--	--	--	--	--	--	--	--	--	2,053	-	
			Supple-mentation	<i>Culled</i>	--	--	--	--	--	--	--	--	--	--	--	--		--
				<i>Transferred</i>	--	--	--	--	--	--	--	--	--	--	--	--		--
				<i>Wells reservoir</i>	--	--	--	--	--	--	--	--	--	--	--	--		--