

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

Fish Program/Science Division/Methow Field Office

20268 Hwy 20, Twisp WA, 98856

Phone: (509) 997-0048 and 997-0066

Fax: (509) 997-0072

To: Shane Bickford and Greg Mackey

From: Charlie Snow, Charles Frady, and David Grundy

Subj: June Hatchery and Natural Production Report

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Cc: Distribution list.

HATCHERY ACTIVITIES

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

2017 Twisp Spring Chinook Salmon

A total of 29,408 fish were on-station at the end of the month with two additional fish reported as mortalities. These fish had a mean fork length of 89 mm during the month and were at approximately 58 fish per pound (FPP). The number of fish on-station that apply to Douglas PUD, Chelan PUD, and Grant PUD HCP mitigation obligations are listed in Appendix A.

2017 Methow Composite Spring Chinook Salmon

A total of 227,641 fish were on-station at the end of the month with 57 additional fish reported as mortalities. 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). These fish had a mean fork length of 89 mm during the month and were at approximately 58 FPP. The number of fish on-station that apply to Douglas PUD, Chelan PUD, and Grant PUD HCP mitigation obligations are listed in Appendix A.

2018 Brood Spring Chinook Salmon

By the end of June, a total of 1,417 spring Chinook salmon were trapped and sampled at Wells Dam. Of these, 200 potential wild fish were retained for processing of scales and DNA tissue samples. A total of 108 Methow Composite and 18 Twisp fish were retained for broodstock while the remaining 74 fish were released back to the river based on hatchery-origin scale patterns or undesirable DNA assignments. These totals represent 100% of the broodstock collection goals for both the Methow Composite and Twisp programs. Trapping for Methow Hatchery spring Chinook broodstock began 1 June at the Twisp weir. During the month of June, only five suckers and one rainbow trout were trapped. Trapping at the Twisp weir ended 26

June. Through 2 July, a total of 18 fish were retained from the Methow Hatchery outfall trap in order to satisfy collections for the Methow basin egg-to-fry study. An additional 18 adults and 50 jacks were transferred to WNFH to fulfill broodstock collection goals or to be removed as surplus.

2017 Wells Summer Chinook Salmon

Wells Hatchery had an estimated 317,168 fry for the yearling program on-station at the end of June and an additional 8,332 fry were reported as mortality during the month. These fish were at approximately 501 FPP during the month and had a mean fork length of 51 mm. A fish health exam during the month noted that losses to this population were minimal and no indications of coagulated yolk disease were identified and the recommendation was made to continue to monitor this population. Summer Chinook are being reared to fulfill HCP mitigation obligations (Appendix A).

2018 Summer Steelhead

Wells Hatchery had 553,056 steelhead progeny on-station at the end of the month. These progeny include 127,278 Methow safety-net, 230,566 Columbia safety-net, 97,201 Okanogan safety-net, 42,336 Omak Creek, and 55,675 Twisp conservation program fish. Twisp program fish include progeny from Twisp WxW crosses ($N = 29,215$) and Winthrop National Fish Hatchery Methow conservation program crosses ($N = 26,460$). An additional 14,339 excess safety-net fish were planted into Alta Lake during June. Mortality during the month totaled an additional 10,223 safety-net progeny, and 419 Omak Creek progeny. A fish health exam during the month noted a slight increase in losses in one of the rearing ponds, but no bacteria or parasites of concern were identified and the recommendation was made to split the fish as soon as possible to reduce density. Steelhead progeny are being reared to fulfill Douglas PUD and Grant PUD HCP mitigation obligations (Appendix A).

2016 Spokane Rainbow Trout

Wells Hatchery released the remaining population of 2016 brood Rainbow Trout during the month. Releases occurred at Bonaparte Lake (400 catchable- and 195 jumbo-sized), Campbell Lake (50 jumbo-sized), and at local fishing derbies in Pateros (100 catchable-size) and Bridgeport (400 catchable-size). These fish were reared to fulfill the Off-License Settlement Agreement (Appendix B).

2018 Kamloops Rainbow Trout

Wells Hatchery had 64,734 Kamloops Rainbow Trout on-station at the end of the month and an additional 3,206 mortalities were reported in June. The total on-station includes 40,461 progeny received on 14 June to support releases in 2019. These fish are reared under 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), 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>

2018 Smolt Trapping

Below average river discharge allowed both the Twisp and Methow traps to operate for the entire month of June. The Methow trap operated in the upper position for the entire month with no interruptions. Strong winds added substantial debris to the river, which caused the Twisp trap cone to stop temporarily on two different occasions. Anticipated catch during these occurrences was minimal. During June, subyearling wild Chinook fry and wild steelhead parr were the primary species captured at the Methow and Twisp trap sites, respectively (Table 1). Biological data collected from trapped fish is detailed in Table 2. Methow River discharge for the period operated ranged from 60.6 to 174.4 m³s, providing expected trap efficiencies between 0.8 and 3.2 percent. Twisp River discharge for the period operated ranged from 8.9 to 26.4 m³s, providing expected trap efficiencies between 5.7 and 12.1 percent.

Table 1. Monthly salmonid captures at Methow Basin smolt traps in 2018. SHR = wild steelhead/rainbow.

Species/origin	Methow			Twisp			Basin total
	Mar-Apr	May	June	Mar-Apr	May	June	
Yearling Chin/wild	258	3	4	485	3	4	757
Yearling Chin/hatch	17,380	49	1	3,397	4	0	20,831
Sub Chin/wild-parr	26	11	628	0	0	14	679
Sub Chin/wild-fry	2,259	163	708	19	0	24	3,173
SHR/wild-transitional	419	17	0	282	17	6	741
SHR/wild-parr	18	2	8	104	18	62	212
SHR/wild-fry	0	0	1	0	0	0	1
Steelhead/hatchery	1,278	92	5	8,138	57	18	9,588
Coho/wild-smolt	12	1	0	0	0	0	13
Coho/wild-parr	4	3	26	0	0	1	34
Coho/wild-fry	195	13	3	13	1	1	226
Coho/hatchery	2,520	398	0	0	0	0	2,918
Cutthroat Trout	0	0	0	0	1	1	2
Bull Trout	0	1	0	6	3	6	16
Sockeye/wild-fry	47	1	0	0	0	0	48
Total	24,416	754	1,384	12,444	104	137	39,239

Table 2. Biological sampling of juvenile salmonids captured at Methow Basin smolt traps during June.

Species/stage	Location	Length (mm)			Weight (g)			Mean K-factor
		Mean	SD	<i>N</i>	Mean	SD	<i>N</i>	
Yearling Chinook/wild	Methow	102.3	5.4	4	12.0	2.1	4	1.1
Yearling Chinook/wild	Twisp	92.8	10.8	4	9.5	3.1	4	1.2
Yearling Chinook/hatchery	Methow	151.0	--	1	38.4	--	1	1.1
Sub Chinook/wild/parr	Methow	60.7	10.4	415	2.8	1.9	415	1.1
Sub Chinook/wild/parr	Twisp	58.3	6.6	14	2.4	1.0	14	1.2
Sub Chinook/wild/fry	Methow	43.6	4.1	351	--	--	--	--
Sub Chinook/wild/fry	Twisp	45.6	3.3	24	--	--	--	--
Steelhead/wild/transitional	Twisp	150.2	10.0	6	41.4	14.5	6	1.2
Steelhead/wild/parr	Methow	101.3	16.0	8	12.1	5.2	8	1.1
Steelhead/wild/parr	Twisp	101.6	15.5	62	12.5	6.0	62	1.1
Steelhead/wild/fry	Methow	26.0	--	1	--	--	--	--
Steelhead/hatchery/smolt	Methow	171.0	16.4	5	54.7	17.6	5	1.1
Steelhead/hatchery/smolt	Twisp	177.4	19.5	14	60.0	20.0	14	1.0
Coho/wild/parr	Methow	75.1	12.2	26	5.4	2.9	26	1.1
Coho/wild/parr	Twisp	79.0	--	1	6.6	--	1	1.3
Coho/wild/fry	Methow	46.3	3.8	3	--	--	--	--
Coho/wild/fry	Twisp	46.0	--	1	--	--	--	--
Cutthroat Trout	Twisp	169.0	--	1	50.1	--	1	1.0
Bull Trout	Twisp	150.5	7.2	6	33.2	5.7	6	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	
					Jul '17	Aug	Sep	Oct	Nov	Dec	Jan '18	Feb	Mar	Apr	May	Jun		
2016	Spring Chinook	Yearling smolt	CCPUD NNI	60,516 <i>released</i>	67,792	67,783	67,765	67,700	67,628	67,546	67,437	67,400	67,333	--	--	--	67,075	67,075
2016	Spring Chinook	Yearling smolt	GCPUD Priest Rapids NNI	134,126 <i>released</i>	150,253	150,234	150,192	150,049	149,890	149,707	149,464	149,384	149,236	--	--	--	148,664	148,664
2016	Spring Chinook	Yearling smolt	DCPUD Wells NNI	29,123 <i>released</i>	32,625	32,620	32,611	32,580	32,546	32,506	32,454	32,436	32,404	--	--	--	32,280	32,280
2017	Spring Chinook	Yearling smolt	CCPUD NNI	60,516 <i>released</i>	--	--	--	68,820	68,817	66,059	68,269	68,226	68,208	68,178	69,533	69,517	--	--
2017	Spring Chinook	Yearling smolt	GCPUD Priest Rapids NNI	134,126 <i>released</i>	--	--	--	152,530	152,526	146,413	151,310	151,214	151,176	151,107	154,112	154,077	--	--
2017	Spring Chinook	Yearling smolt	DCPUD Wells NNI	29,123 <i>released</i>	--	--	--	33,119	33,118	32,915	32,854	32,833	32,825	32,810	33,463	33,455	--	--
2016	Summer Chinook	Yearling smolt	DCPUD Fixed Hatchery Compensation	320,000 <i>released</i>	359,127	356,640	356,340	356,340	356,340	356,240	356,240	356,240	356,240	--	--	--	356,240	356,240
2017	Summer Chinook	Sub-yearling	DCPUD Fixed Hatchery Compensation	484,000 <i>released</i>	--	--	--	--	--	--	468,729	447,267	431,642	419,498	--	--	417,000	417,000
2017	Summer Chinook	Yearling smolt	DCPUD Fixed Hatchery Compensation	320,000 <i>released</i>	--	--	--	--	--	--	332,000	332,000	332,000	332,000	332,000	317,168	--	--
2017	Summer steelhead	Yearling smolt	DCPUD Fixed Hatchery Compensation ¹	300,000 <i>released</i>	324,326	354,002	357,470	343,318	314,831	286,515	313,570	313,530	313,447	--	--	--	313,429	313,429
2017	Summer steelhead	Yearling smolt	DCPUD Wells NNI ¹	8,000 <i>released</i>	8,649	9,440	9,533	9,155	8,395	7,640	8,362	8,316	8,359	--	--	--	8,358	8,358

Appendix A. Continued.

Brood year	Species	Life stage	Program	Target release No.	Month												Total released /transfer		
					Jul '17	Aug	Sep	Oct	Nov	Dec	Jan '18	Feb	Mar	Apr	May	Jun			
2017	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	80,000 <i>released</i>	86,487	94,400	95,325	91,551	83,955	76,404	83,619	83,608	83,586	--	--	--	83,581	83,581	
2017	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	20,000 <i>transferred</i>	33,977	31,787	31,787	31,755	33,962	33,426	33,415	33,396	22,242	--	--	--	11,320	22,225	33,545
2018	Summer steelhead	Yearling smolt	DCPUD Fixed Hatchery Compensation ¹	300,000 <i>released</i>	--	--	--	--	--	--	--	--	--	--	--	--	--	394,887	--
2018	Summer steelhead	Yearling smolt	DCPUD Wells NNI ¹	8,000 <i>released</i>	--	--	--	--	--	--	--	--	--	--	--	--	--	10,530	--
2018	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	80,000 <i>released</i>	--	--	--	--	--	--	--	--	--	--	--	--	--	105,303	--
2018	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	20,000 <i>transferred</i>	--	--	--	--	--	--	--	--	--	--	--	--	--	42,336	--

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 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
					Jul '17	Aug	Sep	Oct	Nov	Dec	Jan '18	Feb	Mar	Apr	May	Jun	
2016	Rainbow trout	Juv	WDFW sport fish	Number (pounds) released	57,374	57,001	57,001	37,001	35,951	35,784	35,566	35,511	35,475	5,700	1,085	--	61,461
					(1,739)	(3,563)	(6,333)	(7,400)	(8,988)	(8,750)	(12,454)	(14,869)	(14,853)	(2,509)	(1,850)	(1,955)	
2017	Lahontan cutthroat	Juv	WDFW sport fish	Goal is 20,000 pounds annual combined	169,589	3,768	5,541	5,533	--	--	--	--	--	--	--	--	177,288
					(242)	(5)	(32)	(56)	(64)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	
2018	Kamloops Rainbow trout	Juv.	WDFW sport fish	Goal is 20,000 pounds annual combined	--	--	--	--	--	--	26,199	24,819	33,803	24,360	24,360	64,734	
					(--)	(--)	(--)	(--)	(--)	(--)	(26)	(11)	(66)	(115)	(312)	(617)	
					--	--	--	--	--	--	--	--	--	--	--	--	--

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	
					Jul '17	Aug	Sep	Oct	Nov	Dec	Jan '18	Feb	Mar	Apr	May	Jun		
2017	White sturgeon	Juvenile rearing	Wells White Sturgeon Supplementation	<i>Up to 325</i>	2,053	1,581	1,461	1,440	1,299	1,262	1,182	1,175	1,135	340	--	--		
				<i>Culled</i>	--	--	--	--	--	--	--	--	--	36	--	--		
				<i>Transferred Wells reservoir</i>	--	--	--	--	--	--	--	--	--	--	853	--	--	
					--	--	--	--	--	--	--	--	--	--	--	338	--	338