

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

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Subj: June Hatchery and Natural Production Report

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Cc: Distribution list.

HATCHERY ACTIVITIES

All 2013 and 2014 brood fish at Methow Hatchery were held on 100% well water. All populations at Wells Hatchery were held on 100% well water during the month of June except for the 2012 catchable rainbow that were held on 100% river water prior to stocking.

2013 Twisp Spring Chinook Salmon

After a positive adjustment of 608 fish, a total of 31,437 fish were on-station at the end of the month with 25 additional fish reported as mortalities. These fish were at 56 fish per pound (FPP) during the month. The number of fish on-station that apply to HCP mitigation obligations are listed in Appendix A.

2013 Methow Composite Spring Chinook Salmon

After a positive adjustment of 3,901 fish, a total of 161,745 fish were on-station at the end of the month with 69 additional fish reported as mortalities. These fish were at 56 FPP during the month. The number of fish on-station that apply to HCP mitigation obligations are listed in Appendix A.

2014 Brood Spring Chinook Salmon

By the end of June, a total of 1,722 spring Chinook salmon were trapped and sampled at Wells Dam. Of these, 169 putative wild, Methow basin origin fish were retained for scale and DNA analysis. A total of 12 fish were released based on hatchery-origin scale samples, and 63 wild fish were released based on assignments of DNA samples to baselines other than MetComp or Twisp (e.g., Carson, Wenatchee, etc.). A total of 94 fish were kept for the 2014 broodstock, 15 of which were for the Twisp program (Table 1).

By the end of June, a total of 175 spring Chinook salmon were trapped and sampled at the Twisp River Weir. Of these fish, nine adult Chinook were retained for the 2014 Twisp program and

three for the MetComp program (Table 1). Trapping will continue through July as needed; DNA analyses are pending on six fish. Current retained totals assume results of these analyses; actual results may alter retained totals thereby necessitating further trapping and collection. Incidental species trapped included 83 bull trout and 20 bridgelip sucker. Trapping is expected to continue through the month of July. A total of 33 unmarked, adipose present fish were sampled at Winthrop NFH during surplus events during the month of June resulting in two wild, MetComp stock fish to be transferred to Methow Hatchery at July inoculation (Table 1).

Table 1. 2014 Spring Chinook salmon broodstock collection by program and origin.

Program	Origin	Target	Broodstock retained			Total to date	% of target
			Wells Dam	Twisp Weir	WNFH Outfall		
Twisp	NOR	24	15	9	0	24	100.0
Twisp	HOR	balance of 24	0	0	0	0	0.0
MetComp	NOR	96	79	3	2	84	87.5
MetComp	HOR	balance of 96	0	0	0	0	0.0
Total		120	94	12	2	108	90.0

2013 Wells Summer Chinook Salmon

Wells Hatchery had an estimated 363,416 fry for the yearling program on-station at the end of the month. These fish were at approximately 154 FPP and an additional 529 fish were reported as mortalities during June. These fish were being held to fulfill HCP mitigation obligations (Appendix A).

2014 Summer Steelhead

Wells Hatchery had an estimated 539,932 steelhead progeny on-station at the end of the month, a portion of which will be shipped to Ringold Hatchery. The remaining progeny will be used to fulfill Methow River (29% of total), Columbia River (47%), and Okanogan River (24%) releases. Spawning of steelhead collected in the Okanogan Basin produced approximately 122,392 of the fish on-station at Wells Hatchery. Additionally, approximately 75,954 steelhead progeny from spawning of Twisp River steelhead were on-station at Methow Hatchery at the end of the month. Fish health exams during June noted an increase in losses to the Ringold group from Bacterial Cold Water Disease, and the recommendation was made to treat the fish with medicated feed. Losses in other groups were attributed to pinheading and were expected to subside.

2012 Spokane Rainbow

Wells Hatchery planted the remaining rainbow trout population ($N = 1,050$) into Okanogan County lakes during the month of June and no additional fish were reported as mortalities. Rainbow planted in June were at approximately 2.3 FPP, and were reared to fulfill the Off-License Settlement Agreement (Appendix B).

2013 Spokane Rainbow

Wells Hatchery had 56,033 rainbow trout fry on-station at the end of June with an additional 1,793 fish reported as mortalities during the month. These fish were at approximately 37 FPP and will be reared to fulfill the Off-License Settlement Agreement (Appendix B).

2013 White Sturgeon

Wells Hatchery released the remaining 2,107 white sturgeon progeny into the Columbia River on 13 June. At release these fish were at approximately 2.7 FPP and were reared at Wells Hatchery under the Aquatic Settlement Agreement (Appendix C).

2014 White Sturgeon

Wells Hatchery received 168,000 white sturgeon eggs on 6 June, and had 146,403 eggs on-station at the end of the month after subtracting 21,597 mortalities. These progeny are reared at Wells Hatchery under the Aquatic Settlement Agreement (Appendix C).

2014 Lahontan Cutthroat

Wells Hatchery had 182,140 Lahontan cutthroat trout on-station at the end of June with 7,009 additional fish reported as mortalities during the month. The population reflects a downward adjustment of 58,352 fry resulting from routine inventories conducted during the month. These fish are progeny of Lake Lenore (Grant County) cutthroat and 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, 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>

2014 Smolt Trapping

During the month, wild Chinook fry were the primary species captured at the Methow and Twisp trap sites (Table 2). River conditions did not allow us to resume operation at the Twisp site until 17 June. The Methow site was not fished on 4 or 5 June because of high river flows. Biological data collected from trapped fish is detailed in Table 3. Mark recapture trials conducted with Chinook smolt yielded observed trap efficiencies ranging from 1.3 to 3.6 percent in the low position and 2.4 to 5.5 percent in the upper position at the Methow trap. Methow river discharge for these trials ranged from 20.3 to 51.3 m³s. Trials conducted with Chinook smolts at the Twisp site yielded observed trap efficiencies ranging from 9.0 to 14.1 percent. Twisp river discharge for these trials ranged from 7.0 to 8.9 m³s.

Table 2. Monthly salmonid captures at Methow Basin smolt traps in 2014. SHR = wild steelhead/rainbow.

Species/origin	Methow				Twisp				Basin total
	Feb-Mar	Apr	May	Jun	Mar	Apr	May	Jun	
Yearling Chin/wild	62	742	74	15	63	518	86	2	1,562
Yearling Chin/hatch	8	23,952	211	0	0	3,999	15	0	28,185
Sub Chin/wild-parr	0	20	35	147	0	0	0	29	231
Sub Chin/hatch	0	0	0	0	0	0	0	0	0
Sub Chin/wild-fry	1,432	798	1,313	925	8	109	109	119	4,813
SHR/wild-fry	0	0	0	4	0	0	0	6	10
SHR/wild-parr	0	39	29	2	6	72	92	5	245
SHR/wild-trans.	0	373	220	5	1	171	156	2	928
SHR/wild-smolt	0	0	0	0	0	0	0	0	0
Hatchery steelhead	0	2,179	2,844	51	0	3,111	309	27	8,521
Coho/wild-smolt	0	29	11	0	4	57	55	0	156
Coho/wild-parr	0	0	0	0	0	0	1	1	2
Coho/hatchery	0	4,157	2,769	7	0	2	0	0	6,935
Coho/wild-fry	0	0	1	1	0	2	0	3	7
Bull trout	0	1	1	1	0	2	6	1	12
Cutthroat trout	0	0	0	0	0	0	2	0	2
Total	1,502	32,290	7,508	1,158	82	8,043	831	195	51,609

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

Species/stage	Location	Length (mm)			Weight (g)			K-factor
		Mean	SD	<i>N</i>	Mean	SD	<i>N</i>	
Yearling Chin/wild/smolt	Methow	89.6	7.1	15	8.9	2.6	15	1.2
Yearling Chin/wild/smolt	Twisp	90.0	7.1	2	8.4	1.9	2	1.2
Sub Chinook/wild/parr	Methow	56.9	7.2	136	2.3	1.1	118	1.2
Sub Chinook/wild/parr	Twisp	54.3	4.6	27	1.9	0.7	27	1.2
Sub Chinook/wild/fry	Methow	40.7	3.9	411	--	--	0	--
Sub Chinook/wild/fry	Twisp	42.0	4.6	80	--	--	0	--
Steelhead/wild/transitional	Methow	160.8	34.5	5	49.1	28.8	5	1.2
Steelhead/wild/transitional	Twisp	155.0	9.9	2	40.4	11.5	2	1.1
Steelhead/wild/parr	Methow	107.5	7.8	2	14.2	3.5	2	1.1
Steelhead/wild/parr	Twisp	85.8	20.8	5	8.7	6.7	5	1.4
Steelhead/wild/fry	Methow	27.0	0.8	4	--	--	0	--
Steelhead/wild/fry	Twisp	29.4	2.7	5	--	--	0	--
Coho/wild/parr	Twisp	57.0	--	1	2.0	--	1	1.1
Coho/wild/fry	Methow	37.0	--	1	--	--	0	--
Coho/wild/fry	Twisp	42.3	--	3	--	--	0	--
Bull trout	Methow	173.0	--	1	50.6	--	1	1.0
Bull trout	Twisp	173.0	--	1	51.1	--	1	1.0

Appendix A. Number of fish reared at Wells, Methow, and Chief Joseph (CJH) 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 /trans.
					Jul '13	Aug	Sep	Oct	Nov	Dec	Jan '14	Feb	Mar	Apr	May	Jun	
2012	Spring Chinook	Yearling smolt	DCPUD for CCPUD NNI	60,516 <i>released</i>	68,541 <i>0</i>	68,285 <i>0</i>	68,273 <i>0</i>	68,267 <i>0</i>	68,260 <i>0</i>	68,254 <i>0</i>	68,236 <i>0</i>	68,202 <i>0</i>	68,172 <i>0</i>	68,145 <i>68,145</i>	-- <i>--</i>	-- <i>--</i>	68,145
2012	Spring Chinook	Yearling smolt	GCPUD Priest Rapids NNI	134,126 <i>released</i>	151,914 <i>0</i>	151,345 <i>0</i>	151,317 <i>0</i>	151,306 <i>0</i>	151,289 <i>0</i>	151,278 <i>0</i>	151,236 <i>0</i>	151,162 <i>0</i>	151,094 <i>0</i>	151,035 <i>151,035</i>	-- <i>--</i>	-- <i>--</i>	151,035
2012	Spring Chinook	Yearling smolt	DCPUD Wells NNI	29,123 <i>released</i>	32,985 <i>0</i>	32,862 <i>0</i>	32,856 <i>0</i>	32,853 <i>0</i>	32,850 <i>0</i>	32,847 <i>0</i>	32,838 <i>0</i>	32,822 <i>0</i>	32,807 <i>0</i>	32,794 <i>32,794</i>	-- <i>--</i>	-- <i>--</i>	32,794
2013	Spring Chinook	Yearling smolt	GCPUD Priest Rapids NNI	134,126 <i>released</i>	-- <i>--</i>	-- <i>--</i>	-- <i>--</i>	157,165 <i>0</i>	157,165 <i>0</i>	156,635 <i>0</i>	155,738 <i>0</i>	155,211 <i>0</i>	155,159 <i>0</i>	155,134 <i>0</i>	155,092 <i>0</i>	158,719 <i>0</i>	0
2013	Spring Chinook	Yearling smolt	DCPUD Wells NNI	29,123 <i>released</i>	-- <i>--</i>	-- <i>--</i>	-- <i>--</i>	34,125 <i>0</i>	34,125 <i>0</i>	34,010 <i>0</i>	33,816 <i>0</i>	33,701 <i>0</i>	33,690 <i>0</i>	33,685 <i>0</i>	33,675 <i>0</i>	34,463 <i>0</i>	0
2012	Summer Chinook	Yearling Smolt	DCPUD NNI start-up for CJH Hatchery	<i>Transfer to CJH Hatchery</i>	46,783 <i>--</i>	44,853 <i>--</i>	44,837 <i>--</i>	-- <i>44,836</i>	44,121 ^a <i>--</i>	44,085 ^a <i>--</i>	44,301 ^a <i>--</i>	44,281 ^a <i>--</i>	44,267 ^a <i>--</i>	-- <i>44,267^a</i>	-- <i>--</i>	-- <i>--</i>	44,267
2012	Summer Chinook	Yearling smolt	DCPUD Fixed Hatchery Compensation	320,000 <i>released</i>	319,078 <i>--</i>	318,906 <i>--</i>	318,906 <i>--</i>	318,906 <i>--</i>	318,902 <i>--</i>	318,902 <i>--</i>	318,902 <i>--</i>	318,902 <i>--</i>	318,902 <i>--</i>	50,000 <i>268,902</i>	-- <i>50,000</i>	-- <i>--</i>	318,902
2013	Summer Chinook	Sub-yearling	DCPUD Fixed Hatchery Compensation	484,000 <i>released</i>	-- <i>--</i>	-- <i>--</i>	-- <i>--</i>	-- <i>--</i>	-- <i>--</i>	-- <i>--</i>	514,237 <i>--</i>	471,269 <i>--</i>	448,837 <i>--</i>	445,410 <i>--</i>	-- <i>443,636</i>	-- <i>--</i>	443,636
2013	Summer Chinook	Yearling smolt	DCPUD Fixed Hatchery Compensation	320,000 <i>released</i>	-- <i>--</i>	-- <i>--</i>	-- <i>--</i>	-- <i>--</i>	-- <i>--</i>	-- <i>--</i>	392,030 <i>--</i>	392,030 <i>--</i>	392,030 <i>--</i>	386,456 <i>--</i>	372,365 <i>--</i>	363,416 <i>--</i>	0
2013	Summer steelhead	Yearling smolt	DCPUD Fixed Hatchery Compensation ¹	300,000 <i>released</i>	443,176 <i>--</i>	441,224 <i>--</i>	434,124 <i>--</i>	438,688 <i>--</i>	438,527 <i>--</i>	438,444 <i>--</i>	438,391 <i>--</i>	438,369 <i>--</i>	437,161 <i>--</i>	334,835 <i>63,029</i>	-- <i>210,110</i>	-- <i>--</i>	273,140
2013	Summer steelhead	Yearling smolt	DCPUD Wells NNI ¹	8,000 <i>released</i>	11,818 <i>--</i>	11,766 <i>--</i>	11,577 <i>--</i>	11,698 <i>--</i>	11,694 <i>--</i>	11,691 <i>--</i>	11,690 <i>--</i>	11,690 <i>--</i>	11,658 <i>--</i>	8,929 <i>1,681</i>	-- <i>5,603</i>	-- <i>--</i>	7,284
2013	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	80,000 <i>released</i>	118,180 <i>--</i>	117,660 <i>--</i>	115,766 <i>--</i>	116,984 <i>--</i>	116,940 <i>--</i>	116,917 <i>--</i>	116,904 <i>--</i>	116,898 <i>--</i>	116,576 <i>--</i>	78,844 <i>27,253</i>	-- <i>56,029</i>	-- <i>--</i>	83,282
2013	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI (Omak)	20,000 <i>transferred</i>	24,901 <i>--</i>	24,883 <i>--</i>	24,830 <i>--</i>	26,095 <i>--</i>	26,062 <i>--</i>	26,038 <i>--</i>	26,016 <i>--</i>	26,012 <i>--</i>	-- <i>25,632</i>	-- <i>--</i>	-- <i>--</i>	-- <i>--</i>	25,632

^a Rearing or release occurring at Chief Joseph Hatchery facilities.

¹ 40,000 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 '13	Aug	Sep	Oct	Nov	Dec	Jan '14	Feb	Mar	Apr	May	Jun	
2012	Rainbow trout	Juv	WDFW sport fish		64,564	64,465	64,408	36,465	36,418	36,360	34,240	34,188	34,144	20,455	1,250	--	52,300
					(3,397)	(6,786)	(9,909)	(7,293)	(8,093)	(9,179)	(9,818)	(10,727)	(12,067)	(9,048)	(2,750)	(--)	
					--	--	--	20,000	--	--	--	--	--	13,550	17,700	1,050	
2013	Rainbow trout	Juv	WDFW sport fish		--	--	--	--	--	--	77,188	62,045	58,347	58,227	57,826	56,033	
					(--)	(--)	(--)	(--)	(--)	(--)	(31)	(25)	(120)	(431)	(850)	(1,514)	
					--	--	--	--	--	--	--	--	--	--	--	--	
2013	Lahontan cutthroat	Juv	WDFW sport fish	Number (pounds) released	0	--	--	--	--	--	--	--	--	--	--	--	127,902
					(184)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	
					127,902	--	--	--	--	--	--	--	--	--	--	--	
2014	Lahontan cutthroat	Juv	WDFW sport fish	Goal is 20,000 pounds annual combined	--	--	--	--	--	--	--	--	--	269,149	254,510	182,140	
					(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(269)	(255)	(73)	
					--	--	--	--	--	--	--	--	--	--	--	--	
2013	Kokanee	Eyed-eggs	Palmer Lake		--	--	--	131,750	--	--	--	--	--	--	--	--	314,500
					(--)	(--)	(--)	182,750	131,750	(--)	(--)	(--)	(--)	(--)	(--)	(--)	
					--	--	--	131,750	--	--	--	--	--	--	--	--	
2013	Summer Chinook	Eyed-eggs	Lake Chelan		--	--	--	--	162,097	--	--	--	--	--	--	--	162,097
					(--)	(--)	(--)	(--)	(--)	(162)	(--)	(--)	(--)	(--)	(--)		
					--	--	--	--	--	162,097	--	--	--	--	--	(162)	

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

Brood year	Species	Life stage	Program	Target disposition	Month												Total released/culled /transferred		
					Jul '13	Aug	Sep	Oct	Nov	Dec	Jan '14	Feb	Mar	Apr	May	Jun			
2013	White sturgeon	Juvenile rearing	Wells White Sturgeon Supplementation	<i>Up to 5,000</i>	55,636	46,989	12,580	8,804	7,269	7,158	6,799	5,034	5,034	2,108	2,107	--			
				<i>Culled</i>	--	--	19,828	5,758	--	747	329	1,734	--	--	--	--		28,369	
				<i>Transferred to Other Stations</i>	--	--	3,963	--	1,512	--	--	--	--	--	--	--	--		5,475
				<i>Wells reservoir</i>	--	--	--	--	--	--	17	--	--	2,108	--	2,107		4,232	
2014	White sturgeon	Juvenile rearing	Wells White Sturgeon Supplementation	<i>Up to 5,000</i>	--	--	--	--	--	--	--	--	--	--	--	--	146,403		
				<i>Culled</i>	--	--	--	--	--	--	--	--	--	--	--	--			
				<i>Transferred to Other Stations</i>	--	--	--	--	--	--	--	--	--	--	--	--	--		
				<i>Wells reservoir</i>	--	--	--	--	--	--	--	--	--	--	--	--	--		