

# WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

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**Subj:** July Hatchery and Natural Production Report

**Date:** 9 August 2013

**Cc:** Distribution list.

### **HATCHERY ACTIVITIES**

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

#### **2012 Twisp Spring Chinook Salmon**

A total of 49,251 fry were on-station at the end of the month with 51 additional fish reported as mortalities. These fish had a mean fork length of 80 mm and were at 80 fish per pound (FPP) during the month. The number of fish on-station that apply to HCP mitigation obligations are listed in Appendix A.

#### **2012 Methow Composite Spring Chinook Salmon**

A total of 204,190 fish were on-station at the end of the month with 162 additional fish reported as mortalities. These fish had a mean fork length of 80 mm and were at 80 FPP during the month. The number of fish on-station that apply to HCP mitigation obligations are listed in Appendix A.

#### **2013 Brood Spring Chinook Salmon**

A total of 993 spring Chinook salmon were trapped and sampled at Wells Dam. Of these, 99 fish were retained for scale and DNA analysis. A total of 22 of these fish were subsequently released based on hatchery-origin or unreadable scale samples, and 29 wild fish were released based on assignments of DNA samples to baselines other than MetComp or Twisp. The remaining 48 fish were kept for the 2013 broodstock, seven of which were for the Twisp program (Table 1).

Trapping at the Twisp weir ended 31 July. A total of 235 spring Chinook salmon (189 jacks, 80.4%) were trapped and sampled. A total of 12 adults were retained for the 2013 Twisp program (Table 1). Incidental species trapped included 124 bull trout, 24 bridgelip sucker, 10

whitefish, and one rainbow trout. A total of 46 fish were collected from the Methow Hatchery outfall trap (Table 1), and spawning of all collected broodstock will begin in August.

Table 1. 2013 Spring Chinook salmon broodstock collection by program and origin. Twisp stock fish originate from two trapping sites: Wells Dam and the Twisp River weir.

Program	Origin	Target	Broodstock retained			Total to date	% of target
			Wells Dam	Twisp Weir	MH Outfall		
Twisp	NOR	≥7	6	1	0	7	100.0
Twisp	HOR	balance of 24	1	11	0	12	70.6
MetComp	NOR	≥64	40	0	0	40	62.5
MetComp	HOR	balance of 84	1	0	46	47	106.8
Total		108	48	12	46	106	98.1

### **2012 Wells Summer Chinook Salmon**

Approximately 319,078 yearling-program progeny on-station at the end of July with an additional 238 fish reported as mortalities during the month. Additionally, 46,783 Chinook fry were on-station from spawning of CCT-collected Chinook, and monthly mortality from this group totaled an additional 119 fish. The number of fish on-station during July were held to fulfill HCP mitigation obligation programs (Wells yearling program; Appendix A), or for other purposes (interim Wells HCP NNI start-up program for Chief Joseph Hatchery; Appendix C).

### **2013 Summer Steelhead**

Wells Hatchery had a total of 619,806 steelhead progeny on-station at the end of the month. These fish were held separately on-station based on collection location of the adult broodstock. Juveniles from Wells-collected fish will support releases into the Methow, Okanogan, and Columbia rivers (518,542). Juvenile steelhead from Twisp River broodstock (Twisp WxW; 54,634), and Omak Creek (24,901) broodstock were also on-station. Monthly mortality for the Wells and Omak programs totaled 14,550 and 878 fish, respectively. Mortality for the Twisp program totaled 6,300 fry during the month. The number of fish on-station from these groups that apply to HCP mitigation obligations are listed in Appendix A. A fish health exam during the month noted that treatment for Bacterial Cold Water Disease (BCWD) was completed in July, and that current losses were primarily from gut fungus and were expected to subside. The recommendation was made to monitor the populations for recurrence of the BCWD.

### **2012 Spokane Rainbow**

Wells Hatchery had 64,546 rainbow fry on-station at the end of July with an additional 13,835 fish reported as mortalities. These fish were at approximately 19 FPP and will be reared to fulfill the Off-License Settlement Agreement (Appendix B).

### **2012 Lahontan Cutthroat**

Wells Hatchery transferred the entire population of 127,902 Lahontan cutthroat trout fry to Columbia Basin Hatchery on 16 July. At transfer, these fish were at approximately 694 FPP. An additional 24,128 fry were reported as mortality in July prior to shipping. These fish were reared under the Off-License Settlement Agreement (Appendix B). A fish health exam during the month noted that most of the observed mortality were deformed fish and the populations was otherwise healthy overall.

### **2013 White Sturgeon**

Wells Hatchery had 55,636 white sturgeon progeny from Marion Drain Hatchery on-station at the end of the month with an additional 19,985 fish reported as mortalities during the month. These fish are reared at Wells Hatchery under the Aquatic Settlement Agreement and is not related to HCP mitigation obligations (Appendix C).

## **NATURAL PRODUCTION ACTIVITIES**

### **PIT Tag Antenna Arrays**

Data collected at all Methow basin PIT tag interrogation sites, including Twisp (TWR) and lower Methow (LMR), is 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>

### **2013 Smolt Trapping**

During the month, wild Chinook fry were the primary species captured at the Methow and Twisp trap sites (Table 2). Biological data collected from trapped fish is detailed in Table 3. Observed trap efficiencies ranged from 3.2 to 6.6 percent at the Methow trap and 8.3 to 13.5 percent at the Twisp trap.

Table 2. Monthly salmonid captures at Methow Basin smolt traps in 2013. SHR = wild steelhead/rainbow.

Species/origin	Methow				Twisp			Basin total
	Feb-Apr	May	Jun	Jul	Mar-May	Jun	Jul	
Yearling Chin/wild	705	55	11	0	442	1	0	1,214
Yearling Chin/hatch	81,205	181	0	0	3,284	0	1	84,671
Sub Chin/wild-parr	27	87	303	297	1	119	212	1,046
Sub Chin/hatch	0	0	0	0	0	0	0	0
Sub Chin/wild-fry	2,137	3,321	622	38	660	332	124	7,234
SHR/wild-fry	0	1	49	108	6	17	116	297
SHR/wild-parr	129	45	15	4	240	37	13	483
SHR/wild-trans.	364	82	3	0	249	0	0	698
SHR/wild-smolt	0	0	0	0	0	0	0	0
Hatchery steelhead	2,118	764	4	1	3,858	5	1	6,751
Coho/wild-smolt	69	9	1	0	0	0	0	79
Coho/wild-parr	0	2	2	2	0	1	11	18
Coho/hatchery	2,286	1,798	2	1	0	0	0	4,087
Coho/wild-fry	6	9	4	0	18	11	12	60
Bull trout	3	2	0	0	3	3	0	11
Cutthroat trout	0	0	0	1	1	0	1	3
<b>Total</b>	<b>89,049</b>	<b>6,356</b>	<b>1,016</b>	<b>452</b>	<b>8,762</b>	<b>526</b>	<b>491</b>	<b>106,652</b>

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

Species/stage	Location	Length (mm)			Weight (g)			K-factor
		Mean	SD	<i>N</i>	Mean	SD	<i>N</i>	
Sub Chinook/wild/parr	Methow	62.6	9.5	235	3.3	1.7	235	1.3
Sub Chinook/wild/parr	Twisp	55.5	5.5	160	2.1	0.9	160	1.2
Sub Chinook/wild/fry	Methow	45.7	3.3	29	--	--	0	--
Sub Chinook/wild/fry	Twisp	45.6	3.1	105	1.0	0.2	6	1.1
Steelhead/wild/parr	Methow	131.0	25.5	4	30.8	20.7	4	1.4
Steelhead/wild/parr	Twisp	115.0	28.4	13	20.9	12.7	13	1.4
Steelhead/wild/fry	Methow	30.3	5.2	96	--	--	0	--
Steelhead/wild/fry	Twisp	28.9	4.4	98	--	--	0	--
Coho/wild/parr	Methow	68.0	2.8	2	4.4	0.9	2	1.4
Coho/wild/parr	Twisp	58.4	5.9	11	2.7	1.0	11	1.4
Coho/wild/fry	Twisp	44.5	3.1	11	0.9	--	1	1.0
Cutthroat trout	Methow	179.0	--	1	61.7	--	1	1.1
Cutthroat trout	Twisp	155.0	--	1	36.9	--	1	1.0

Appendix A. Number of fish reared at Wells and Methow hatcheries, and Carlton Pond, 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. Target release values for the DCPUD Wells NNI steelhead category for the 2012 brood includes 40,000 fish from the DCPUD Fixed Hatchery Compensation category to reflect release objectives for the Twisp WxW program.

Brood year	Species	Life stage	Program	Target release No.	Month												Total released /trans.
					Aug	Sep	Oct	Nov	Dec	Jan '13	Feb	Mar	Apr	May	Jun	Jul	
2011	Spring Chinook	Yearling smolt	DCPUD for CCPUD NNI	288,000 <i>released</i>	266,682 0	266,666 0	266,645 0	266,634 0	266,628 0	266,612 0	266,575 0	266,521 0	-- 266,007	-- --	-- --	-- --	-- 266,007
2011	Spring Chinook	Yearling smolt	GCPUD Priest Rapids NNI	201,000 <i>released</i>	185,762 0	185,750 0	185,735 0	185,728 0	185,724 0	185,712 0	185,687 0	185,650 0	-- 185,291	-- --	-- --	-- --	-- 185,291
2011	Spring Chinook	Yearling smolt	DCPUD Wells NNI	59,464 <i>released</i>	56,492 0	56,488 0	56,484 0	56,482 0	56,480 0	56,477 0	56,469 0	56,458 0	-- 56,439	-- --	-- --	-- --	-- 56,439
2012	Spring Chinook	Yearling smolt	DCPUD for CCPUD NNI	117,253 <i>released</i>	-- --	-- --	128,327 0	128,327 0	128,327 0	127,827 0	127,656 0	127,569 0	127,483 0	127,445 0	132,914 0	132,803 0	0
2012	Spring Chinook	Yearling smolt	GCPUD Priest Rapids NNI	81,674 <i>released</i>	-- --	-- --	89,388 0	89,388 0	89,388 0	89,040 0	88,920 0	88,860 0	88,800 0	88,774 0	92,584 0	92,506 0	0
2012	Spring Chinook	Yearling smolt	DCPUD Wells NNI	24,838 <i>released</i>	-- --	-- --	27,184 0	27,184 0	27,184 0	27,078 0	27,041 0	27,023 0	27,005 0	26,997 0	28,156 0	28,132 0	0
2011	Summer Chinook	Yearling smolt	DCPUD Wells NNI Carlton Pond	105,714 <i>released</i>	115,526 --	115,639 --	115,599 --	115,569 --	115,559 --	115,551 --	115,548 --	115,421 --	-- 115,253	-- --	-- --	-- --	115,253
2011	Summer Chinook	Yearling smolt	DCPUD Fixed Hatchery Compensation	320,000 <i>released</i>	290,000 --	290,000 --	290,000 --	290,000 --	289,998 --	289,998 --	289,995 --	289,955 --	289,995 289,995	-- 289,995	-- --	-- --	289,995
2012	Summer Chinook	Sub-yearling	DCPUD Fixed Hatchery Compensation	484,000 <i>released</i>	-- --	-- --	-- --	638,000 --	638,000 --	622,798 --	588,302 --	586,261 --	563,364 --	-- 526,614 <sup>a</sup>	-- --	-- --	526,614
2012	Summer Chinook	Yearling smolt	DCPUD Wells NNI Carlton Pond	105,714 <i>released</i>	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	53,007 --	52,763 --	52,666 --	0
2012	Summer Chinook	Yearling smolt	DCPUD Fixed Hatchery Compensation	320,000 <i>released</i>	-- --	-- --	-- --	330,413 --	330,413 --	330,413 --	330,413 --	330,413 --	336,802 --	336,046 --	319,316 --	319,078 --	0

<sup>a</sup> Includes 63,199 fry shipped to the Yakama Nation's Prosser Hatchery.

Appendix A, continued.

Brood year	Species	Life stage	Program	Target release No.	Month												Total released /trans.
					Aug	Sep	Oct	Nov	Dec	Jan '13	Feb	Mar	Apr	May	Jun	Jul	
2012	Summer steelhead	Yearling smolt	DCPUD Fixed Hatchery Compensation	260,000 <i>released</i>	237,460	239,371	239,118	252,194	252,212	252,203	252,195	252,269	144,650	--	--	--	167,609
2012	Summer steelhead	Yearling smolt	DCPUD Wells NNI (Twisp)	48,000 <i>released</i>	48,858	54,800	54,747	55,441	55,328	55,313	55,310	51,519	--	--	--	51,473	51,473
2012	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	80,000 <i>released</i>	83,000	85,099	85,009	90,192	90,174	90,176	90,183	89,308	51,209	--	--	--	56,255
2012	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI (Omak)	20,000 <i>transferred</i>	9,422	10,426	9,965	9,677	9,662	9,651	9,639	--	--	--	--	9,200	9,200
2013	Summer steelhead	Yearling smolt	DCPUD Fixed Hatchery Compensation	260,000 <i>released</i>	--	--	--	--	--	--	--	--	--	406,876	409,942	399,984	0
2013	Summer steelhead	Yearling smolt	DCPUD Wells NNI (Twisp)	48,000 <i>released</i>	--	--	--	--	--	--	--	--	--	81,200	60,934	54,634	0
2013	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	80,000 <i>released</i>	--	--	--	--	--	--	--	--	--	132,102	123,149	118,557	0
2013	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI (Omak)	20,000 <i>transferred</i>	--	--	--	--	--	--	--	--	33,000	28,778	25,780	24,901	0
2013	Summer steelhead	Eyed egg	WDFW Ringold Hatchery	248,571 <i>transferred</i>	--	--	--	--	--	--	--	--	--	--	--	--	187,504
2010	Coho	Yearling smolt	Yakama N. Upper Col. Reintro.	200,000 <i>released</i>	--	--	--	--	--	--	--	99,013	99,013	--	--	--	98,954

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	Sep	Oct	Nov	Dec	Jan '13	Feb	Mar	Apr	May	Jun	Jul	
2011	Rainbow trout	Juv	WDFW sport fish		111,625	36,403	35,880	35,739	35,675	35,621	35,569	35,507	15,923	700	0	--	93,488
					(3,189)	(1,916)	(2,760)	(4,205)	(5,946)	(8,295)	(9,423)	(10,264)	(6,260)	(1,820)	(1,560)	(--)	
					--	60,000	--	--	--	--	--	--	19,537	13,252	699	--	
2012	Rainbow trout	Juv	WDFW sport fish	Number (pounds) released	--	--	--	--	--	91,873	90,548	79,112	79,009	78,790	78,381	64,564	0
					(--)	(--)	(--)	(--)	(--)	(20)	(30)	(171)	(384)	(1,212)	(2,010)	(3,397)	
					--	--	--	--	--	--	--	--	--	--	--	--	
2012	Lahontan cutthroat	Juv	WDFW sport fish	Goal is 20,000 pounds annual combined	--	--	--	--	--	--	--	--	--	--	--	--	168,742
					(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	
					--	--	--	--	--	--	--	--	--	--	--	--	
2013	Lahontan cutthroat	Juv	WDFW sport fish		--	--	--	--	--	--	--	--	164,500	157,284	152,030	0	127,902
					(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(165)	(52)	(132)	(184)	
					--	--	--	--	--	--	--	--	--	--	--	127,902	
2012	Summer Chinook	Eyed egg	WDFW Lake Chelan		--	--	--	149,600	--	--	--	--	--	--	--	--	149,600
					(--)	(--)	(--)	(150)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	
					--	--	--	149,600	--	--	--	--	--	--	--	--	

Appendix C. Fish reared at Wells or Methow hatcheries for other purposes.

Brood year	Species	Life stage	Program	Target disposition	Month												Total released /transferred	
					Aug	Sep	Oct	Nov	Dec	Jan '13	Feb	Mar	Apr	May	Jun	Jul		
2011	Summer Chinook	Adult brood-stock	USFWS Entiat NFH	248	--	--	--	--	--	--	--	--	--	--	--	--	--	266
				<i>transferred</i>	--	--	--	--	--	--	--	--	--	--	--	--	--	
2012	Summer Chinook	Adult brood-stock <sup>a</sup> /eggs collected	CCT Purse seine		26 <sup>a</sup>	26 <sup>a</sup>	--	48,401	48,401	48,401	48,401	48,401	47,074	47,516	46,902	46,783		
				<i>On-station</i>	--	--	26 <sup>a</sup>	--	--	--	--	--	--	--	--	--	--	26 <sup>a</sup>
2012	Summer Chinook	Green egg transfer	YN Yakima River reintro.	345,000	--	--	--	--	--	--	--	--	--	--	--	--	--	
				<i>Green egg transfer</i>	--	--	340,400	--	--	--	--	--	--	--	--	--	--	340,400
2013	White sturgeon	Juvenile rearing	Wells White River Sturgeon Supplementation	Up to 5,000	--	--	--	--	--	--	--	--	--	62,500	71,442	55,636		
				<i>Wells Reservoir</i>	--	--	--	--	--	--	--	--	--	--	--	--	--	

<sup>a</sup> Denotes adult broodstock.