

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

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Subj: September 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.

2012 Twisp Spring Chinook Salmon

A total of 49,152 fry were on-station at the end of the month with 10 additional fish reported as mortalities. These fish had a mean fork length of 99 mm and were at 45 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 203,294 fish were on-station at the end of the month with 36 additional fish reported as mortalities. These fish had a mean fork length of 99 mm and were at 45 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

Spawning of the 2013 brood concluded in early September. Virology sampling of spawned adults indicated the majority of females in the 2013 brood had below-low BKD ELISA values (87.5%) and no adults were in the moderate or high categories (Table 1). All eggs/fry remained in incubators during the month.

Table 1. 2013 Methow Hatchery spring Chinook salmon broodstock BKD screening ELISA summary. BL = Below-Low, L = Low, M = Moderate, H = High. Totals include one female received from Winthrop NFH.

Program	ELISA OD values				Total
	BL (0.000-0.099)	L (0.100-0.199)	M (0.200-0.449)	H (> 0.450)	
MetComp	40	7	0	0	47
Twisp	9	0	0	0	9
Total	49	7	0	0	56

2012 Wells Summer Chinook Salmon

Approximately 318,906 yearling-program progeny on-station at the end of September and mortality was reported during the month. Additionally, 44,837 Chinook fry were on-station from spawning of CCT-collected Chinook, and monthly mortality from this group totaled an additional 16 fish. Both these populations were at approximately 23 FPP at the end of the month. The number of fish on-station during August 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). Fish health examinations during the month found the Wells and CCT populations healthy overall with no evidence of parasites. The recommendation was made to transfer fish as planned.

2013 Summer Steelhead

Wells Hatchery had a total of 586,297 steelhead progeny on-station at the end of the month. These fish were held to fulfill the Wells program (Methow, Okanogan, and Columbia releases; 514,685), Twisp WxW program (46,782), and the Omak Creek program (24,830). Monthly mortality for the Wells and Omak programs totaled 2,395 and 33 fish, respectively. Mortality for the Twisp program totaled 195 fry during the month, and the estimated population on-station was decreased by 6,593 fish after the population was inventoried on 23 September. The number of fish on-station from these groups that apply to HCP mitigation obligations are listed in Appendix A.

2012 Spokane Rainbow

Wells Hatchery had 64,408 rainbow fry on-station at the end of September with an additional 57 fish reported as mortalities. These fish were at approximately 6.5 FPP and will be reared to fulfill the Off-License Settlement Agreement (Appendix B).

2012 Brood Carlton Summer Chinook

Approximately 201,281 fish were on hand at Eastbank FH, approximately 48,408 of which apply to Wells NNI obligations (Appendix A). Mortality for the month of September totaled 115 additional fish. Fish health exams conducted in September revealed no significant condition, and no health recommendations were made.

2013 White Sturgeon

Wells Hatchery had 12,580 white sturgeon progeny on-station at the end of the month with an additional 1,806 fish reported as monthly mortalities. Additionally, 3,963 fish were transferred to other hatcheries, and 29,640 fish were culled during the month. The fish on-station are from three populations; Marion Drain Hatchery, Lake Roosevelt, and the Wanapum Pool. These fish are reared at Wells Hatchery under the Aquatic Settlement Agreement and do not affect HCP production (Appendix C). Fish health examinations during the month found that undersized fish accounted for most of the loss to the Marion Drain population and that some fish from this group were transferred to Chelan Hatchery during September. Additionally, some fish from the Lake Roosevelt population were sent to other fish health facilities for pathogen screening. Although no written report was available by the end of the month, personal communication regarding a portion of the sampled fish (those sent to the Washington Animal Disease Diagnostic Laboratory) indicated no significant findings.

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), and Early Winters Creek (EWC) 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>

Spawning Ground Surveys

Spawning ground surveys concluded by the end of September with a total of 591 spring Chinook salmon redds found in the Methow River Basin (Table 2). A total of 339 redds (57.3%) were found in the upper Methow subbasin, 170 redds (28.8%) were found in Chewuch subbasin, and 82 redds (13.9%) were found in the Twisp subbasin.

Table 2. Methow Basin spring Chinook salmon redd counts in 2013. C.G. = campground.

Stream	Description (Reaches)	Number of redds
Methow River	Ballard C.G. – Mazama (M15-M12)	60
Methow River	Mazama – Weeman Bridge (M11-M10)	37
Methow River	Weeman Br. – Winthrop (M9 – M6)	151
Lost River	Eureka Creek – Mouth (L2-L1)	28
Early Winters Creek	Klipchuck C.G. – Mouth (EW5-EW1)	4
Suspension Creek	50m above fork – Mouth (Susp1)	12
Little Suspension Creek	500m above mouth – Mouth (Lsus1)	0
Hancock Creek	Springs – Mouth (HA2-HA1)	3
Wolf Creek	Upper diversion – Mouth (W3-W1)	1
MH outfall	Entire channel (MH1)	33
WNFH outfall	Entire channel (WN1)	10
Subbasin total		339
Chewuch River	Chewuch Falls – Camp 4 (C13-C8)	46
Chewuch River	Camp 4 – Boulder Creek (C7-C4)	93
Chewuch River	Boulder Creek – Mouth (C3-C1)	31
Subbasin total		170
Twisp River	Road’s End – Mystery C.G. (T10-T8)	4
Twisp River	Mystery C.G. – Little Bridge Creek	70
Twisp River	Little Bridge Creek – Mouth (T4-T1)	8
Subbasin total		82
Grand total		591

2013 Smolt Trapping

During the month, wild steelhead parr were the primary species captured at the Methow and Twisp trap sites (Table 3). The Twisp trap was not operated between 1 and 6 September due to low river discharge. Heavy precipitation on the night of 6 September substantially increased river discharge and allowed us to operate the trap for the remainder of the month. Biological data collected from trapped fish is detailed in Table 4. 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 3. Monthly salmonid captures at Methow Basin smolt traps in 2013. SHR = wild steelhead/rainbow.

Species/origin	Methow				Twisp			Basin total
	Feb-Jun	Jul	Aug	Sep	Mar-Jul	Aug	Sep	
Yearling Chin/wild	771	0	0	0	443	0	0	1,214
Yearling Chin/hatch	81,386	0	0	15	3,285	0	0	84,686
Sub Chin/wild-parr	417	297	43	30	332	13	147	1,279
Sub Chin/hatch	0	0	0	0	0	0	0	0
Sub Chin/wild-fry	6,080	38	0	0	1,116	0	0	7,234
SHR/wild-fry	50	108	13	11	139	6	26	353
SHR/wild-parr	189	4	14	45	290	4	149	695
SHR/wild-trans.	449	0	0	0	249	0	0	698
SHR/wild-smolt	0	0	0	0	0	0	0	0
Hatchery steelhead	2,886	1	0	0	3,861	1	1	6,750
Coho/wild-smolt	79	0	0	0	0	0	0	79
Coho/wild-parr	4	2	0	3	12	0	64	85
Coho/hatchery	4,086	1	0	0	0	0	0	4,087
Coho/wild-fry	19	0	0	0	41	0	0	60
Bull trout	5	0	2	0	6	0	1	14
Cutthroat trout	0	1	0	1	2	0	0	4
Total	96,421	452	72	105	9,776	24	388	107,238

Table 4. Biological sampling of juvenile salmonids captured at Methow Basin smolt traps during September.

Species/stage	Location	Length (mm)			Weight (g)			K-factor
		Mean	SD	N	Mean	SD	N	
Sub Chinook/wild/parr	Methow	83.3	10.2	30	6.9	2.7	30	1.2
Sub Chinook/wild/parr	Twisp	76.2	9.8	146	5.2	2.2	146	1.2
Steelhead/wild/parr	Methow	95.5	45.9	43	15.7	19.8	43	1.8
Steelhead/wild/parr	Twisp	80.8	38.9	148	9.8	14.9	148	1.9
Steelhead/wild/fry	Methow	46.2	3.4	11	1.3	0.1	2	1.3
Steelhead/wild/fry	Twisp	42.0	5.4	26	0.9	0.1	2	1.2
Coho/wild/parr	Methow	95.0	22.7	3	11.6	8.9	3	1.4
Coho/wild/parr	Twisp	80.4	12.5	64	6.5	3.6	64	1.3
Cutthroat trout	Methow	190.0	--	1	62.4	--	1	0.9
Bull trout	Twisp	180.0	--	1	56.5	--	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.

Brood year	Species	Life stage	Program	Target release No.	Month												Total released /trans.
					Oct	Nov	Dec	Jan '13	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
2011	Spring Chinook	Yearling smolt	DCPUD for CCPUD NNI	288,000 <i>released</i>	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>	185,735 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>	56,484 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	60,516 <i>released</i>	66,230 0	66,230 0	66,230 0	65,972 0	65,884 0	65,839 0	65,795 0	65,775 0	68,599 0	68,541 0	68,285 0	68,273 0	0
2012	Spring Chinook	Yearling smolt	GCPUD Priest Rapids NNI	134,126 <i>released</i>	146,794 0	146,794 0	146,794 0	146,222 0	146,025 0	145,927 0	145,828 0	145,785 0	152,042 0	151,914 0	151,345 0	151,317 0	0
2012	Spring Chinook	Yearling smolt	DCPUD Wells NNI	29,123 <i>released</i>	31,874 0	31,874 0	31,874 0	31,749 0	31,707 0	31,685 0	31,664 0	31,655 0	33,013 0	32,985 0	32,862 0	32,856 0	0
2011	Summer Chinook	Yearling smolt	DCPUD Wells NNI Carlton Pond	105,714 <i>released</i>	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 --	289,998 --	289,998 --	289,995 --	289,955 --	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 ^a	-- --	-- --	-- --	-- --	526,614
2012	Summer Chinook	Yearling smolt	DCPUD Wells NNI	48,100 <i>released</i>	-- --	-- --	-- --	-- --	-- --	-- --	-- --	48,237 --	48,015 --	47,926 --	48,435 --	48,408 --	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 --	318,906 --	318,906 --	0

^a 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.
					Oct	Nov	Dec	Jan '13	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
2012	Summer steelhead	Yearling smolt	DCPUD Fixed Hatchery Compensation ¹	300,000 <i>released</i>	292,944	307,598	307,511	307,494	307,491	303,940	256,741	--	--	--	--	--	212,890
2012	Summer steelhead	Yearling smolt	DCPUD Wells NNI ¹	8,000 <i>released</i>	7,820	7,812	8,203	8,200	8,200	8,200	8,105	6,847	--	--	--	--	5,677
2012	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	80,000 <i>released</i>	78,200	78,119	82,026	82,003	81,999	81,998	81,051	68,464	--	--	--	--	56,770
2012	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI (Omak)	20,000 <i>transferred</i>	9,965	9,677	9,662	9,651	9,639	--	--	--	--	--	--	--	9,200
2013	Summer steelhead	Yearling smolt	DCPUD Fixed Hatchery Compensation ¹	300,000 <i>released</i>	--	--	--	--	--	--	--	479,519	459,942	443,176	441,224	434,124,	0
2013	Summer steelhead	Yearling smolt	DCPUD Wells NNI ¹	8,000 <i>released</i>	--	--	--	--	--	--	--	12,787	12,247	11,818	11,766	11,577	0
2013	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI	80,000 <i>released</i>	--	--	--	--	--	--	--	127,872	122,479	118,180	117,660	115,766	0
2013	Summer steelhead	Yearling smolt	GCPUD Priest Rapids NNI (Omak)	20,000 <i>transferred</i>	--	--	--	--	--	--	33,000	28,778	25,780	24,901	24,883	24,830	0
2013	Summer steelhead	Eyed egg	WDFW Ringold Hatchery	<i>as available transferred</i>	--	--	--	--	--	--	--	--	--	--	--	--	187,504
2010	Coho	Yearling smolt	Yakama N. Upper Col. Reintro.	200,000 <i>released</i>	--	--	--	--	--	99,013	99,013	--	--	--	--	--	98,954

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	
					Oct	Nov	Dec	Jan '13	Feb	Mar	Apr	May	Jun	Jul	Aug		Sep
2011	Rainbow trout	Juv	WDFW sport fish		35,880	35,739	35,675	35,621	35,569	35,507	15,923	700	0	--	--	--	93,488
					(2,760)	(4,205)	(5,946)	(8,295)	(9,423)	(10,264)	(6,260)	(1,820)	(1,560)	(--)	(--)	(--)	
					--	--	--	--	--	--	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	64,465	64,408	0
					(--)	(--)	(--)	(20)	(30)	(171)	(384)	(1,212)	(2,010)	(3,397)	(6,786)	(9,909)	
				Goal is 20,000 pounds annual combined	--	--	--	--	--	--	--	--	--	--	--	--	
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
					Oct	Nov	Dec	Jan '13	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
2012	Summer Chinook	Adult brood-stock ^a /eggs collected	CCT Purse seine		--	48,401	48,401	48,401	48,401	48,401	47,074	47,516	46,902	46,783	44,853	44,837	
				<i>On-station</i>	26 ^a	--	--	--	--	--	--	--	--	--	--	--	--
2012	Summer Chinook	Green egg transfer	YN Yakima River reintro.	345,000	--	--	--	--	--	--	--	--	--	--	--	--	
				<i>Green egg transfer</i>	340,400	--	--	--	--	--	--	--	--	--	--	--	--
2013	White sturgeon	Juvenile rearing	Wells White Sturgeon Suppleme ntation	Up to 5,000	--	--	--	--	--	--	--	62,500	71,442	55,636	46,989	12,580	
				<i>Wells reservoir</i>	--	--	--	--	--	--	--	--	--	--	--	--	3,963

^a Denotes adult broodstock.