



Nez Perce Tribe

Department of Fisheries Resources Management

Administration • Enforcement • Habitat/Watershed • Harvest • Production • Research • Resident Fish
RESEARCH DIVISION

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July 6, 2007

TO: Mr. Scott Marshall, LSRCP
FR: Vogel/Blenden/Michaels, Nez Perce Tribe
CC: D. Johnson, J. Hesse, E. Larson, B. Johnson, D. Statler, B. Young, J. Harbeck, N. Espinosa,
R. Zollman (NPT) T. Froscher, M. Anderson (USFWS).
SBJT: Nez Perce Tribe LSRCP Quarterly Activity Report for April- June 2007

Project Administration

Attended DFRM Ad Hoc meetings with the purpose of developing the DFRM Strategic Management Plan.

Attended DFRM Research Project Leader Retreat April 26-27, 2007 in Orofino, Idaho.

Administered Adult Technical Team conference calls June 12 and 25, 2007.

Attended the Clearwater MOU meeting on May 8, 2007 and the Payette Forest MOU meeting on May 9, 2007.

Submitted LSRCP Hatchery Evaluations, Operations and Maintenance, and Harvest Monitoring FY 2008 Budgets and Statements of Work.

Advertised for LSRCP Project Leader, Database Administrator, and Office Specialist positions out of the Sweetwater Lapwai Office.

Field Activities and Data Collections

Adult Steelhead Hauling

Nez Perce Tribe Production Division hauled adult steelhead from Little Sheep Weir to Big Sheep: 486 females, 232 males for a total of 718 total adult fish hauled (142 of which were recaptures). Little Sheep has had 22 natural females and 16 natural males released above the weir, in addition to 77 hatchery adult steelhead.

Adult Steelhead Trapping

The Lightning and Cow creek adult steelhead weirs operated almost continually during the months of April through June. We had two short periods of downtime for the Lightning Creek weir due to high flow and debris accumulation (5-1 and 5-2 and 5-11 to 5-13). The Lightning Creek weir passed forty-five unique adult steelhead upstream; 22 natural males, 19 natural females, one hatchery mal and 3 hatchery females. The Cow Creek weir had 29 unique steelhead

passed upstream; 14 natural males, 12 natural females, 2 hatchery males and one hatchery female (Table 1).

The resistivity fish counter was installed in late February approximately one mile below the picket weir and has been operating with minimal problems to date. In 2006 and 2007 this project was subcontracted through InStream Fisheries Research Inc. to provide technical assistance, data analysis, and complete setup of all equipment and training of the use of the equipment of a Logie 2100 C 3 channel fish counter. This counter was a method to test for impedance effects of the adult picket weir and also validation of the picket weir fish counts. We have had several calls to the contractor for support and advice and they have done initial analysis of the data to date. Powering the counter has been mostly resolved with the addition of several solar panels.

Table 1. Cumulative 2007 capture summary of steelhead at Nez Perce Tribal weir sites in the Imnaha River subbasin through June 25, 2007.

	Total # of Adults	Total # of Jacks	Natural Adult Male	Natural Adult Female	Natural Jack	Hatchery Adult Male	Hatchery Adult Female	Hatchery Jack
Lightning Creek (upstream)	45	0	22	19	0	1	3	0
Lightning Creek (downstream)	20	0	5	14	0	0	1	0
Cow Creek (upstream)	29	0	14	12	0	2	1	0
Cow Creek (downstream)	2	0	0	0	0	0	2	0

NOTES

- 1) Lightning Creek weir trapping started on February 28, 2007.
- 2) Cow Creek weir trapping started on March 1, 2007.
- 3) All first time captured fish are scanned for CWT and PIT Tags and checked for external marks. They receive a double LOP (left opercule punch used as a genetic sample) and a Tyvek Disc tag on their right opercule.
- 4) Male/female distinction based on a visual observation.
- 5) Monthly report data summaries should be considered preliminary. Ongoing database validation/corrections may result in slight discrepancies from month to month.

Juvenile Emigration Trapping

During the 3rd Quarter, LSRCP and SMP personnel continued operating the screw trap and tagging operations. The LSRCP and SMP personnel fished the trap for 1910.25 hours between April 1 and June 20. During this period we caught 71,087 hatchery Chinook, 9,205 natural Chinook, 36,195 hatchery steelhead and 10,191 natural steelhead smolts. NPT personnel PIT tagged 6,099 natural Chinook, 7,058 natural steelhead and 1,492 hatchery steelhead. In addition to this catch we recaptured 1,565 hatchery Chinook and 62 hatchery steelhead previously tagged by Oregon Department of Fish and Wildlife (ODFW). Table 2 has the daily catch and tagging of target species during this quarter. Table 3 illustrates the average fork length and standard deviation for all the target species.

Table 2. April, May and June 2007 summary of target catch at the Imnaha River rkm 7 smolt trap.

End Date	Hours Fished	Caught in Screw Trap				PIT Tagged Salmonids			
		Chinook		Steelhead		Chinook		Steelhead	
		Hatchery	Natural	Hatchery	Natural	Hatchery	Natural	Hatchery	Natural
4/1/2007	24	121	48	0	6	6	48	0	6
4/2/2007	23	858	57	0	5	19	57	0	5
4/3/2007	23.5	5829	123	0	3	181	122	0	3
4/4/2007	23	3204	61	0	2	143	61	0	2
4/5/2007	29.5	4101	63	0	6	183	63	0	6
4/6/2007	20	3995	65	0	15	166	65	0	15
4/7/2007	26.25	5773	49	0	6	210	49	0	5
4/8/2007	20.5	5110	162	0	15	51	38	0	7
4/9/2007	25	13393	538	0	56	87	86	0	10
4/10/2007	23.25	12103	1401	85	121	53	143	0	22
4/11/2007	23.5	5682	645	338	59	28	96	0	8
4/12/2007	26	1527	252	1405	41	65	252	36	41
4/13/2007	22.5	587	103	1169	21	24	103	127	21
4/14/2007	23	571	59	584	19	6	56	100	19
4/15/2007	24	588	75	560	13	21	75	0	13
4/16/2007	23.5	694	173	592	15	31	173	2	15
4/17/2007	24.5	232	108	291	12	6	108	41	12
4/18/2007	24	592	169	537	16	18	169	1	16
4/19/2007	26	605	156	401	33	38	156	90	33
4/20/2007	24	214	85	318	35	11	85	70	35
4/21/2007	25.25	204	109	316	32	16	109	40	32
4/22/2007	23.25	185	105	174	23	7	103	0	23
4/23/2007	24.25	116	80	217	36	6	78	1	36
4/24/2007	20.75	318	165	694	108	9	78	50	50
4/25/2007	24.5	215	207	653	130	13	204	72	129
4/26/2007	27	282	189	1006	168	5	188	68	168
4/27/2007	21	145	113	530	109	6	113	0	109
4/28/2007	25.5	175	144	971	188	9	143	31	188
4/29/2007	23	416	267	2677	638	8	219	34	309
4/30/2007	23.5	542	273	2282	910	12	154	32	183
5/1/2007	24	166	134	1332	600	12	64	33	185
5/2/2007	25	155	71	1344	284	3	71	34	284
5/3/2007	11.25	229	77	1625	732	4	37	60	264
5/4/2007	8.5	215	136	1129	215	5	56	102	135
5/5/2007	26	328	226	449	190	21	225	2	190
5/6/2007	22	138	125	342	178	11	124	39	177

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		Chinook		Steelhead		Chinook		Steelhead	
		Hatchery	Natural	Hatchery	Natural	Hatchery	Natural	Hatchery	Natural
5/7/2007	23.75	70	81	306	139	6	80	41	139
5/8/2007	27.75	156	103	985	350	8	103	57	348
5/9/2007	22.5	183	84	875	305	13	84	55	304
5/10/2007	12.5	304	140	1837	454	2	45	43	182
5/11/2007	24	258	135	2316	752	1	18	25	192
5/12/2007	8	20	20	328	152	1	20	3	152
5/13/2007	24	27	26	641	197	2	25	39	197
5/14/2007	24	43	40	502	192	1	40	38	192
5/15/2007	23.5	29	52	323	156	4	52	42	156
5/16/2007	22	31	44	458	166	3	43	42	166
5/17/2007	24.5	33	56	481	190	3	55	35	189
5/18/2007	24.25	41	47	569	179	2	47	30	179
5/19/2007	24	52	57	529	298	6	57	26	297
5/20/2007	23.75	25	37	282	199	5	36	2	199
5/21/2007	26	35	40	266	204	0	39	1	204
5/22/2007	24	18	47	134	120	0	46	0	117
5/23/2007	22	17	47	134	106	1	47	0	105
5/24/2007	23.5	7	23	38	26	0	23	0	26
5/25/2007	24	10	26	34	26	0	26	0	26
5/26/2007	25	14	25	18	18	1	19	0	18
5/27/2007	24	19	40	39	14	3	37	0	14
5/28/2007	24	16	50	100	72	2	50	1	72
5/29/2007	25	10	83	100	106	1	83	0	106
5/30/2007	22.5	7	49	57	23	0	49	0	23
5/31/2007	25.5	9	77	76	23	2	77	1	23
6/1/2007	23.5	10	72	105	31	1	72	0	31
6/2/2007	25.5	10	83	91	17	1	83	0	17
6/3/2007	23.5	5	130	182	55	1	127	1	55
6/4/2007	26.25	8	146	295	91	1	144	4	89
6/5/2007	21.75	6	57	329	78	0	57	1	78
6/6/2007	24	1	11	766	200	0	10	2	195
6/7/2007	24	1	69	288	125	0	69	0	125
6/8/2007	22.5	0	74	42	16	0	71	0	16
6/9/2007	23	0	40	32	8	0	39	0	8
6/10/2007	24	2	46	84	8	0	43	0	8
6/11/2007	25	1	28	251	29	0	28	0	29
6/12/2007	23	0	12	84	10	0	11	1	10
6/13/2007	23.5	0	22	32	2	0	19	0	2
6/14/2007	25.5	0	20	20	2	0	19	0	2
6/15/2007	24.75	0	23	28	3	0	19	0	3
6/16/2007	23	0	20	22	2	0	18	0	2

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		Chinook		Steelhead		Chinook		Steelhead	
		Hatchery	Natural	Hatchery	Natural	Hatchery	Natural	Hatchery	Natural
6/17/2007	25	0	17	15	2	0	14	0	2
6/18/2007	22.75	1	31	22	3	0	28	0	2
6/19/2007	24.25	0	19	12	0	0	16	0	0
6/20/2007	23.75	0	18	10	0	0	16	0	0
6/21/2007	24	0	25	36	2	0	24	1	2
Total ODFW Tagged Recaps						1565		62	
Total NPT Tagged	1910.25	71087	9205	36195	10191	1565	6099	1492	7058

There were a total of 178 mortalities associated with screw trapping during this quarter. Seventy-eight were associated with trapping, 4 were from handling, 47 were from tagging and 49 were dead on arrival (DOA).

The incidental catch during this quarter totaled 987 fish. It was comprised of six families of fish: Salmonidae (23%), Cyprinidae (22%), Castomidae (24%), Cottidae (1%), Petromyzotidae (29%), Centrarchidae (<1%) and unknown species (<1%). The catch of Salmonidae comprised of 618 rainbow trout, 49 adult steelhead, 4 mountain whitefish, and 1 bull trout juvenile (<300mm). The juvenile rainbow trout were resident fish based on morphological characteristics and are not a subset of the natural steelhead catch. A total of 598 long nose dace, 22 northern pike minnow, and 10 chiselmouth accounted for the catch of Cyprinidae. Six hundred and thirty-nine unknown species of suckers, 8 largescale suckers, and 23 bridgelip suckers represented the Castomidae family. A total of 41 *Cottus* species (Sculpins) of the family Cottidae were captured from April to June. Two juvenile small mouth bass accounted for the Centrarchidae catch. The surprise of the season was the capture of 817 juvenile lamprey. Three categories were used to classify these lamprey, lamprey brown (559), lamprey silver (246) and lamprey juvenile (12). Due to the size of the lamprey, we believe they were all Pacific Lamprey. The lamprey brown category are ammocoetes and the lamprey silver are macrophthalmia assumed to be outmigrants. Prior to this season we have only captured 12 juvenile Pacific Lamprey in the last 14 years.

Table 3. Biological characteristics of target catch during April, May and June 2007 at the Imnaha River rkm 7 smolt trap.

Species	Average Length (mm)	Standard Deviation	Average Weight (g)	Standard Deviation
Natural Chinook	100.1	13.0	12.1	4.3
Hatchery Chinook	121.8	22.1	11.7	7.2
Natural Steelhead	169.4	53.8	18.9	18.4
Hatchery Steelhead	214.2	105.0	24.3	38.8

Data in these tables should be considered preliminary because the database has not been validated.

Annual Report Submittals/Progress

Michaels, B. and N. Espinosa 2007. Emigration of Natural and Hatchery Nacó'x̂ (Chinook Salmon; *Oncorhynchus tshawytscha*) and Héeyey (Steelhead; *Oncorhynchus mykiss*) Smolts from the Imnaha River, Oregon from 18 October 2004 to 21 June 2005, 2005 Annual Report. Submitted to Bonneville Power Administration and Lower Snake River Compensation Plan.

Young, B. 2007. Salmonid Gamete Preservation in the Snake River Basin, 2006 Annual Report. Submitted to Bonneville Power Administration and Lower Snake River Compensation Plan.

Future Activities

All staff will be attending a Spawning Ground Survey workshop sponsored by the Nez Perce Tribe in McCall, ID on August 6 and 7, 2007.

Complete contracting for FY2008 with LSRCP Boise Office.

Reinstall emigrant screwtrap in lower Imnaha River in late September or early October.

Install PIT tag array in upper mainstem South Fork Salmon River in late September for testing and feasibility for complete install for 2008 adult Chinook season.