NEZ PERCE HARVEST MONITORING

Fiscal Year 2015 Performance Report

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Lower Snake River Compensation Plan
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Conducted Fisheries and Implemented Harvest Monitoring Methodology as Planned

Category 2 - Estimating Adult Returns
Project 2a - Catch Accounting
Task 3. Fishery Catch Estimation and Sampling

Snake River Tributaries

Spring/Summer Chinook Salmon

Harvest monitoring methodology was applied during the reporting period following the 2015 Snake River Basin Spring and Summer Chinook Sampling Plan. Harvest data is key information to collect and use by the Nez Perce Tribe to manage its fisheries and to evaluate status of fish populations. The Tribe has treaty fisheries in streams comprised mainly of hatchery fish, in areas where there is a mix of wild/natural and supplementation hatchery fish, and in natural production areas.

The annual Snake River Spring and Summer Chinook Sampling Plan is designed to cover six geographic management areas that comprise the Nez Perce Tribe Snake River Basin (SRB) treaty management area. These management areas include the mainstem Snake River, Tucannon River Subbasin, Clearwater River Subbasin, Salmon River Subbasin, Imnaha River Subbasin, and the Grande Ronde Subbasin. Inseason and post-season tribal harvest estimates and reporting using LSRCP funds was conducted for the Snake River Basin (SRB) tributaries identified for direct sampling, those were Clear Creek, Lostine/Wallowa River, Lookingglass Creek, and Imnaha River (estimates for some other rivers relied upon combination of LSCRP and BPA funding sources).

The Nez Perce Tribe Harvest Division conducts four common data collection activities associated with estimating and analyzing Nez Perce treaty harvest: 1) creel surveys; 2) inseason interview surveys; 3) post-season interview surveys; and 4) gillnet inseason interview surveys[1]. These survey methods have been specifically designed for the types of fisheries and fishing the Nez Perce Tribe and its members conduct.

The Snake Basin co-managers develop preseason run forecasts of Snake River spring/summer Chinook to various rivers and areas in the basin. During the run, the pre-season prediction is adjusted as fish run timing and run strength analysis allows for more precise estimates of run abundance and composition. Updated in-season escapement data were used annually to adjust harvest commensurate with actual returns, following established criteria for incidental and direct take of ESA listed species, hatchery escapement and natural escapement. Summaries are contained in Tables 1 and 2 below.

[1] Not used in 2015 due to no authorized gillnet fisheries for Snake River spring/summer Chinook.

Table 1. Summary of 2015 Nez Perce Tribe harvest targets and actual harvest estimates for Snake River spring/summer Chinook salmon.

Subbasin/Tributary	Run Size			Harvest Goals			Estimated Harvest			Harvest Remaining		
	Hatchery	Wild	Total	Hatchery	Wild	Total	Hatchery	Wild	Total	Hatchery	Wild	Total
Imnaha River Subbasin												
Imnaha River*	1,500	688	2,188	240	34	274	300	30	330	-60	4	-56
subtotal	**1,500**	**688**	**2,188**	**240**	**34**	**274**	**300**	**30**	**330**	**-60**	**4**	**-56**
Grande Ronde River Subbasin												
Wallowa/Lostine*	2,400	659	3,059	460	53	513	530	59	589	-70	-6	-76
Lookingglass Creek*	1,249	323	1,572	316	33	349	265	10	275	51	24	75
Minam River**	--	513	513	--	25	25	0	0	0	--	25	25
Wenaha River**	--	433	433	--	19	19	0	0	0	--	19	19
Upper Grande R.**	740	390	1,130	25	10	35	0	0	0	25	10	35
Catherine Creek**	348	444	792	10	15	25	0	0	0	10	15	25
subtotal	**4,737**	**2,762**	**7,499**	**811**	**155**	**966**	**795**	**69**	**864**	**16**	**87**	**103**
Clearwater River Subbasin												
Dworshak	6,114			2,117			1,281			836		
Kooskia*	5,782			2,351			1,661			690		
Powell**	1,676			512			8			504		
SF Clearwater (Spring)**	4,681	2,277	22,637	1,893	423	8,141	1,107	457		786	-34	3,538
SF Clearwater (Summer)**	252			0			0			0		
Selway	935			467			89			378		
NPTH**	920			378			0			378		
Mainstem Clearwater**	0			0			84					
subtotal	**20,360**	**2,277**	**22,637**	**7,718**	**423**	**8,141**	**4,230**	**457**	**4,687**	**3,572**	**-34**	**3,538**
Salmon River Subbasin												
South Fork Salmon	3,453	2,000	5,453	1,200	500	1,700	257	132	389	943	368	1,311
Johnson Creek**	316	809	1,125	8	65	73	0	0	0	--	65	65
Secesh**		1,283	1,283	0	119	119	0	88	88	--	31	31
Rapid River/Little Salmon	24,970	88	25,058	11,486	1	11,487	8,053	15	8,068	3,433	-14	3,419
Hells Canyon**	3,833	0	3,833	1,648	0	1,648	4	0	4	--	--	0
Sawtooth**	1,747	1,702	3,449	700	217	917	35	12	47	665	205	870
Pahsimeroi**	615	811	1,426	500	100	600	0	0	0	500	100	600
subtotal	**34,934**	**6,693**	**41,627**	**15,542**	**1,002**	**16,544**	**8,349**	**247**	**8,596**	**5,541**	**755**	**6,296**
Total	**55,294**	**8,970**	**64,264**	**23,260**	**1,425**	**24,685**	**12,579**	**704**	**13,283**	**9,113**	**721**	**9,834**

* Streams that are monitored using LSCRP funds.

** Streams that are monitored using Post Season Interview survey using combination of LSRCP and BPA funds.

Disseminated Data

Harvest estimates were shared with co-managers on a weekly or bi-weekly basis to coordinate harvest activities and to manage cumulative harvest targets (this information used same format as Table 1 above). Post-season harvest data were provided to TAC and to pertinent co-management entities for run reconstruction, population and hatchery performance evaluations and for input to adult escapement predictor models.

The comprehensive Nez Perce Tribe Harvest Monitoring Report for 2015 will be posted on BPA's web site and made available for on-line distribution in PDF file format.

RESULTS AND DISCUSSION

The Project implemented the sampling plan that was described in the Fiscal Year 2015 Harvest Monitoring Plan. This monitoring plan described the rivers that will be sampled, the procedures for estimating harvest, and desired precision of the estimates.

The objective of the sampling design is to estimate tribal catch or harvest with a coefficient of variation (CV) value of 0.3 for 95% of the sampling time. This CV value assures that we are adequately sampling the fishery. The CV values were achieved for the four spring/summer Chinook fisheries that we monitor and produce estimates for using LSCRP funds (Clear Creek, Lostine/Wallowa, Lookingglass Creek, and Imnaha River). The LSCRP funds are also used in combination with BPA funds to provide post-season estimates for tributaries that we don't have sufficient resources to monitor during the actual fishery. Of those areas, only Lolo Creek for hatchery and wild natural fish exceeded the 0.3 CV value, and exceeded the value for hatchery fish in mainstem Snake River fishery (see Table 2 below).

As indicated in table above, Nez Perce fisheries for Snake River spring/summer Chinook salmon effectively addressed ESA take criteria while providing an opportunity for substantive harvests within traditional fishing areas of the Nez Perce Tribe. The Tribe did exceed the hatchery target in the Imnaha fishery, and the hatchery and wild target in the Wallowa/Lostine river fishery. This is based on preliminary, best available inseason runsize estimate. The Project will evaluate compliance with its harvest targets using final run reconstruction and escapement information for these populations.

Implementation of the Nez Perce Tribe Harvest Monitoring Project during the 2015 reporting period has again demonstrated the feasibility and utility of conducting directed, managed and coordinated harvests on specific populations, while assuring that hatchery and natural escapement targets are met to achieve mitigation goals and to rebuild weak stocks.

Table 2. Summary of 2015 Nez Perce Tribe Snake River spring/summer Chinook salmon harvest estimates and associated statistics.

Tributary	Ad-Clipped		CV	Standard Error	95% Confidence Interval	Unclipped		CV	Standard Error	95% Confidence Interval	Jacks	CV	Standard Error	95% Confidence Interval	Method	Funding Agency
	Caught	Kept				Caught	Kept									
North Fork Clearwater River	1,281	1,281	12%	152.02	1,281 ± 298	39	37	22%	8.17	37 ± 16	125	18%	22.42	125 ± 44	*Creel*	*BPA*
Clear Creek *	1,661	1,661	9%	151.04	1,661 ± 593	47	47	23%	10.92	47 ± 21	58	12%	7.10	58 ± 14	*Inseason*	*LSRCP*
Clearwater River	82	82	25%	20.20	82 ± 62	141	141	20%	28.20	141 ± 112	8	50%	4.00	8 ± 4	*Postseason*	*BPA/LSRCP*
Lolo Creek[1]	2	2	446%	10.04	2 ± 11	30	30	34%	10.04	30 ± 20	0	0%	0.00	0	*Postseason*	*BPA/LSRCP*
Lochsa River	8	8	0%	0.00	8 ± 0	0	0	0%	0.00	0	0	0%	0.00	0	*Postseason*	*BPA/LSRCP*
South Fork Clearwater River	1,107	1,107	13%	144.70	1,107 ± 284	26	26	28%	7.38	26 ± 15	4	34%	1.36	4 ± 3	*Postseason*	*BPA/LSRCP*
Selway River *	89	89	9%	8.46	89 ± 17	176	176	8%	13.51	176 ± 27	5	21%	1.06	5 ± 2	*Inseason*	*BIA*
Clearwater Total	***4,230***	***4,230***				***459***	***457***				***200***					
Rapid River	6,714	6,714	10%	666.79	6,714 ± 1,297	7	7	35%	2.48	7 ± 5	161	31%	49.65	161 ± 98	*Creel*	*BPA*
Little Salmon River	1,339	1,339	10%	138.14	1,339 ± 271	8	8	26%	2.06	8 ± 5	29	17%	5.00	29 ± 10	*Creel*	*BPA*
South Fork Salmon River *	257	257	20%	50.91	257 ± 100	132	132	17%	22.32	132 ± 44	34	18%	6.38	34 ± 13	*Inseason*	*BPA*
Johnson Creek	0	0	0%	0.00	0	0	0	0%	0.00	0	0	0%	0.00	0	*Postseason*	*BPA/LSRCP*
EFSF Salmon River	0	0	0%	0.00	0	0	0	0%	0.00	0	0	0%	0.00	0	*Postseason*	*BPA/LSRCP*
Sawtooth[2]	35	35	0%	0.00	35 ± 0	12	12	0%	0.00	0	0	0%	0.00	0	*Postseason*	*BPA/LSRCP*
Secesh River	0	0	0%	0.00	0	88	88	17%	14.76	88 ± 29	4	50%	2.01	4 ± 4	*Postseason*	*BPA/LSRCP*
Salmon Total	***8,345***	***8,345***				***247***	***247***				***228***					
Imnaha River[3] *	300	300	0%	0.00	300 ± 0	35	29	0%	0.00	29 ± 0	2	0%	0.00	2 ± 0	*Inseason*	*LSRCP*
Lostine/Wallowa River *	532	530	5%	28.50	530 ± 56	139	50	2%	0.80	50 ± 2	13	0%	0.00	13 ± 0	*Inseason*	*LSRCP*
Lookingglass Creek *	265	265	6%	15.16	265 ± 30	34	7	17%	1.30	7 ± 3	3	0%	0.00	3 ± 0	*Inseason*	*LSRCP*
NE Oregon Total	***1,097***	***1,095***				***208***	***86***				***18***					
Snake River	4	4	50%	2.01	4 ± 4	0	0	0%	0.00	0	0	0%	0.00	0	*Postseason*	*BPA/LSRCP*
Tucannon River	0	0	0%	0.00	0	0	0	0%	0.00	0	0	0%	0.00	0	*Postseason*	*BPA/LSRCP*
Season Summary	**13,676**	**13,674**				**914**	**790**				**446**					

***Adjusted by unsampled fishers found during Postseason Interviews**

[1] Lolo adjusted by carcass rates found below the weir

[2] Sawtooth harvest apportioned by clipped/unclipped release rates

[3] Imnaha considered census for 2015 Season. No unsampled fishers