

Colville Tribes Fish & Wildlife
Selective Gear Deployment

BPA Project #2008-105-00

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Categorical Review
Portland, OR
01 September 2010



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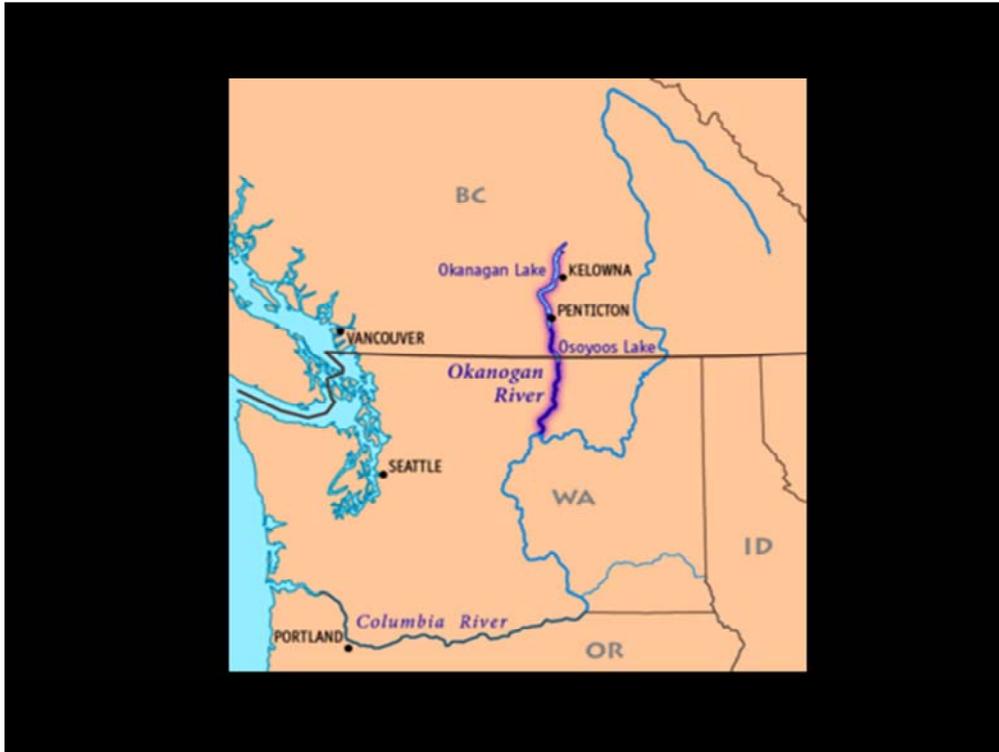
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Selective Gear Deployment (2008-105-00) is a continuation of the following projects:

Radio Tracking (WDFW 2004-2005),

Broodstock Collection (CCT/WDFW 2006-2007), and

Evaluate Live Capture Gear (CCT 2008-2010)



The Okanogan River is the terminus of anadromy in the Upper Columbia River Basin. It is an international watershed with approximately 75 miles of riverine habitat within the United States. Chinook, sockeye and steelhead have the capability to migrate to the dam at Okanogan Falls, B.C., the control structure for Skaha Lake.

Purpose

- Use harvest as a tool to strengthen the fitness of native fish populations
 - » Increase PNI
 - » Reduce pHOS
 - » Increase pNOB
 - » Predator removal
- Provide a Ceremonial & Subsistence food source allowing the practice of traditional ceremonies

Use harvest as a tool to STRENGTHEN THE FITNESS OF NATIVE FISH POPULATIONS

Increase the Proportion of Natural Influence (PNI) on the spawning grounds and in hatchery programs

Reduce the Proportion of Hatchery Origin Fish on Spawning Grounds (pHOS)

Increase the Proportion of Natural Origin Fish for Broodstock (pNOB)

Predator removal to increase survival of outmigrating subyearlings and smolts.

AND IMPROVE THE HEALTH OF THE NATIVE PEOPLE

Improve the physical health of the Tribal membership by providing a vital staple food

Improve the social structure and the link to heritage by conducting ceremonies – i.e. First Salmon Ceremony

Share fish with other Upper Columbia Tribes (Spokane, CDA, Kalispel & Kootenai) and the First Nation people of the Okanagan (in Canada)

Target Species

- **Summer/Fall Chinook**
 - » Reestablish the late run component
- **Summer Steelhead**
- **Spring Chinook**
 - » Low abundance; difficult to test gear
- **Sockeye**
 - » Hatchery program in Canada; thermal otolith mark

Success has been achieved for:

Summer/Fall Chinook

Reestablish the late run component

Summer Steelhead

Limited or no success for:

Spring Chinook

Low abundance; difficult to test gear

Sockeye

Hatchery program in Canada; thermal otolith mark
detectable only with necropsy

Objectives

- **Harvest hatchery-origin (HOR) salmonids**
 - » Reduce pHOS
- **Release natural-origin (NOR) salmonids**
 - » Collect NOR broodstock
- **Interrogate fish for tags**
 - » PIT, Floy, Acoustic, Coded Wire, etc.

Harvest of adipose clipped individuals

One half of the broodstock collected this year for the Similkameen Acclimation Pond was taken by the Tribes' purse seine operation. Of the 167 NOR Chinook collected by the Tribes by purse seine, only 2 mortalities have occurred that can be attributed to the purse seine. Six other mortalities can be attributed to the 167 fish collected at the Wells Dam fish trap.

Objectives

- Coordinate with the Tribal membership and other agencies, projects, regional entities, tribes, user groups and the general public
 - » Selective harvest training
 - » CCPUD, WDFW, CRITFC
 - » Chief Joseph Dam Hatchery
 - » OBMEP
 - » Locally–Adapted Steelhead Broodstock
 - » Brewster Salmon Derby
- Integrate traditional and modern gears

Selective harvest training occurs to give the individual tribal member greater opportunity to fish

Chelan County Public Utility District and Washington Department of Fish & Wildlife instrumental in broodstock collection efforts this year.

Tag data collected during fishing operations has benefitted Columbia River Inter Tribal Fish Commission biologists in PIT tag detection and temperature logger recovery

Chief Joseph Dam Hatchery - selective harvest will be instrumental in allowing the hatchery program to succeed. 1) Broodstock collection 2) HSRG recommendation that 95% of CJD hatchery fish be removed

OBMEP – Selective harvest and OBMEP work together to assess effects of thermal barrier; Zosel video counts and spawning ground surveys

Locally–Adapted Steelhead Broodstock – a way to monitor adipose-present hatchery fish with PIT tag detections

Brewster Salmon Derby – CCT respects local derby and agrees to not fish the entire week of the event.

Integration of gears - See notes in subsequent slides



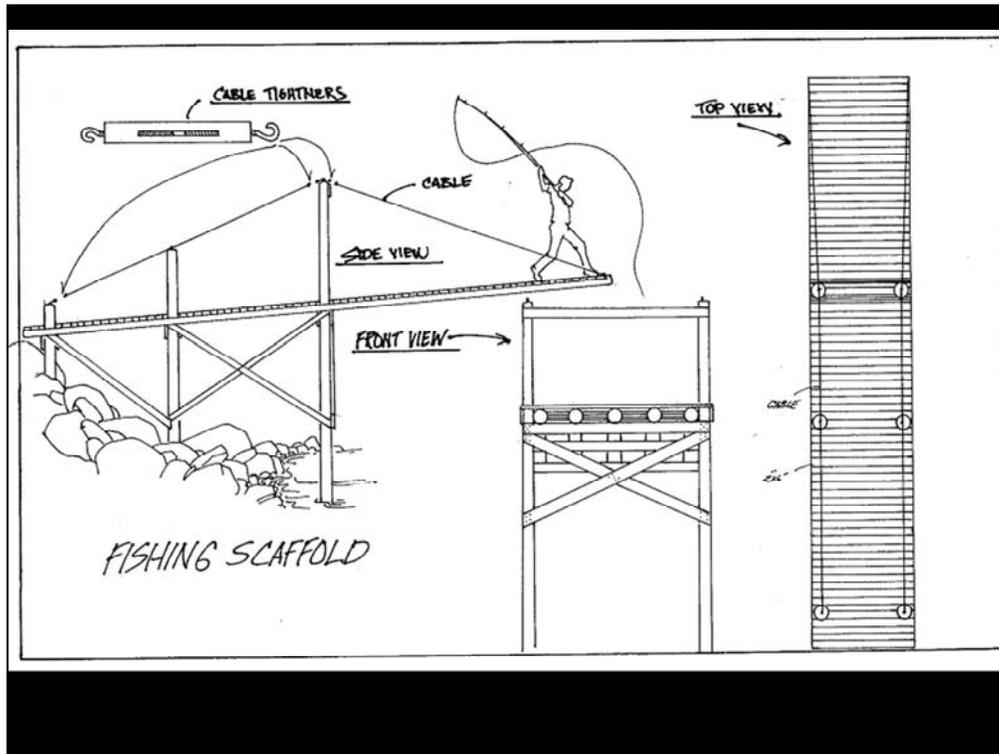
BEACH SEINE – Good results in 2008 though not thoroughly tested in 2009 due to focusing on purse seine and the labor requirements for successful fishing. 2010 was an ideal year for testing this type of gear as the thermal barrier was not in place when the first pulse of sockeye arrived. However, the projects efforts this year were concentrated on leaning how to safely operate the purse seine from the Kuller Fish Company contractors.



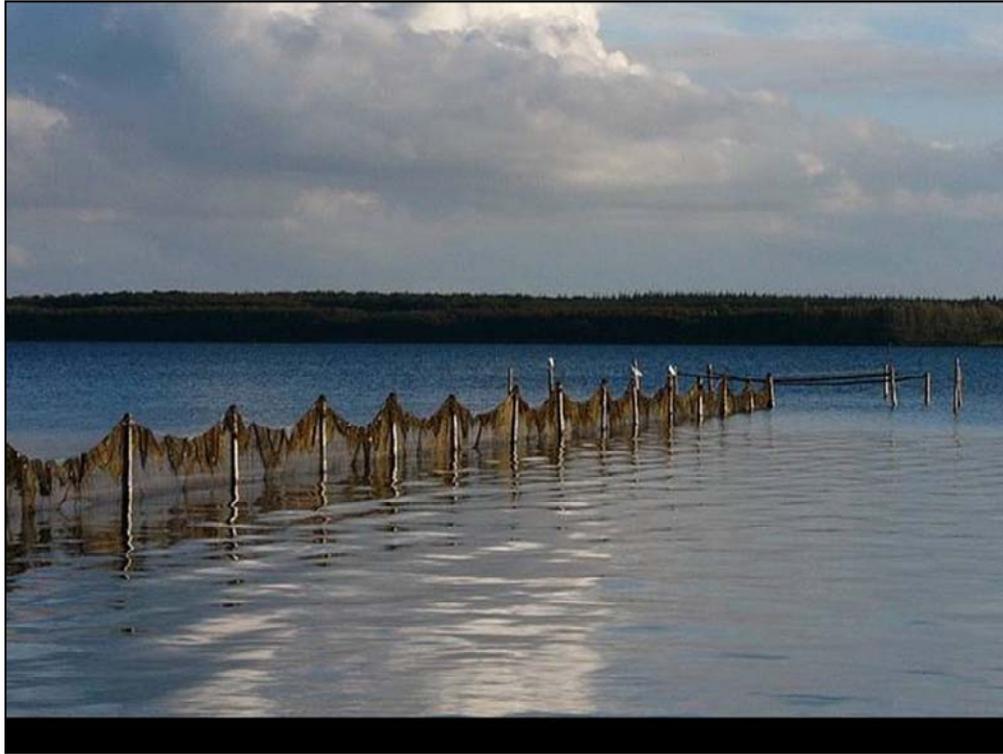
TANGLE NET – evaluated in 2008 and 2009 with less success than purse seining; plan is to implement additional testing during the fall of 2010 with focus on reduced set times



DIP NET - Celilo Falls before 1957. An example of what the Colville Tribes are envisioning.



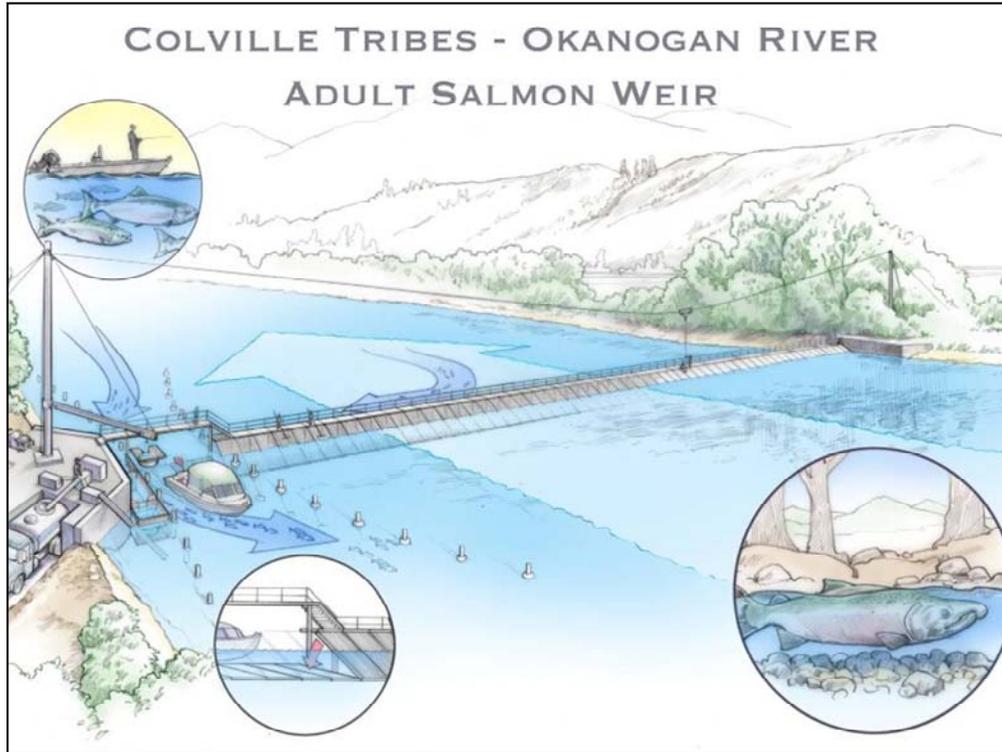
DIP NET – not evaluated due to lack of adequate fishing sites and general lack of knowledge by the Tribal membership. CCT to invest in fishing scaffolds at Chief Joseph Dam tailrace in Fall of 2010. Plan is to encourage and train the Tribal membership to take advantage of this fishing technique.



POUND NET or MODIFIED REEF NET – The Colville Tribes are investigating the feasibility and effectiveness of some form of passive trap system.



A traditional weir in the lower Okanogan River c. 1910 Frank Matsura photograph
courtesy of the Okanogan County Historical Society



The proposed weir in the lower Okanogan River which can serve as a tool for both harvesting fish and collecting hatchery broodstock. Thought to be potentially problematic when the mid-summer thermal barrier in the Okanogan River breaks down and a large pulse of fish arrive at the weir.

50% design achieved in Spring of 2010. Environmental Compliance and NEPA scoping to be performed in the near future using this project's budget allocation.



And the purse seine. To date the most effective tool in the selective harvest arsenal. See next slide

2009 / 2010 Purse Seine Results

Sockeye:	(all considered NOR)	
2009	14,423	
2010*	16,976	*provisional

Chinook:	NOR				
	<u>Total</u>	<u>HOR</u>	<u>NOR</u>	<u>REL</u>	<u>Survival</u>
2009	2,395	1,196	1,199	1,198	0.999
2010*	3,148	1,967	1,181	1,148	0.972
<u>TOTAL</u>	<u>5,543</u>	<u>3,163</u>	<u>2,380</u>	<u>2,346</u>	<u>0.986</u>

Steelhead:	NOR				
	<u>Total</u>	<u>HOR</u>	<u>NOR</u>	<u>REL</u>	<u>Survival</u>
2009	92	82	10	10	1.000
2010*	11	11	0	0	n/a
<u>TOTAL</u>	<u>103</u>	<u>93</u>	<u>10</u>	<u>10</u>	<u>1.000</u>

2010 results are provisional.

Survival rate for 2010 NOR Chinook Releases is less than 2009. All 33 can be attributed to direct take and not mishandling. ESA limitations prevent excessive harvest of summer steelhead in 2010.

Next Steps

- Short term storage of harvested fish (<1 yr.)
 - » Salmon processing building near completion
- Construct scaffolds
- Collect entire broodstock quota for Similkameen Pond in 2011
- Move weir through Environmental Compliance and NEPA scoping

Storage of fish would allow the program to provide food to the Tribal membership in a way other than fresh fish distribution. Tribes are proposing to vacuum seal and freeze fish in the round.

RFP for scaffold construction imminent.

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