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From  
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Subject  
Objet

**2015 ZYMACHORD RIVER COHO CWT HARVEST DISTRIBUTION (YEAR 2 OF 4)**

Security Classification - Classification de sécurité

**UNCLASSIFIED**

Our file - Notre référence

Your File - Votre référence

Date

**June 24, 2016**

Background

In order to improve our understanding of the harvest impacts on Zymachord River coho, in 2013 a submission was made by Fisheries and Oceans Canada (DFO) North Coast StAD to the Pacific Salmon Commission (PSC) Northern Fund. This project involved the application of 15,000 Coded Wire Tags to Zymachord River coho smolts currently being produced by the Northwest Watershed Enhancement Society, at the Eby Street Hatchery in Terrace, BC. The project proposal included a request for \$5,500 in funding over four consecutive years.

Coho cwt and exploitation indicators play an important role in our understanding and management of coho in the Northern Boundary Area. Lower Skeena coho have a distinctly different timing (mid-September) compared to the middle and upper Skeena (peak August 5<sup>th</sup>). There is significant information from middle and upper Skeena coho cwt programs (Babine, Toboggan, Slamgeese and Kitwanga). We assume Lower Skeena coho stocks have similar distribution and exploitation rate as the former Lachmach (Area 3) and current Zolzap (lower Nass) indicator sites. The Eby St Hatchery tagging project intends to define exploitation rates for Zymachord River coho in both Alaskan and Canadian fisheries. Based on historic records, the timing and distribution of the ctw recoveries is expected to be adequate to define harvest impacts.

The present management plan for lower Skeena coho stocks restricts troll and recreational harvest opportunities. Results from this project will assist with future management strategies.

2015 Results

A total of 15,102 Zymachord River coho juveniles from the 2014 broodyear were Coded Wire Tagged at the Eby Street Hatchery on June 3&4<sup>th</sup>, 2015 (see Appendix 1). Tagging was conducted by Terrace Salmonid Enhancement Society staff with some assistance from volunteers at the Eby Street Hatchery. The Coded Wire Tagged coho were subsequently released as 20.0 gram smolts on May 1st, 2016. Tag recovery results will be presented in future reports.

## BROOD SUMMARY FORM INSTRUCTIONS

CATEGORY HEADING	EXPLANATION	
<b>Stock name</b>	Broodstock origin: stream, river or lake where broodstock was obtained.	
<b>Stock type</b>	<i>Wild (W)</i> , <i>Hatchery (H)</i> , <i>Mixed (M)</i> or <i>Captive Brood (C)</i> : use <i>wild</i> only if ALL pertinent hatchery releases were marked and all broodstock are unmarked; use <i>hatchery</i> only if ALL broodstock are marked; use <i>captive brood</i> if ALL broodstock were reared to adult; otherwise use <i>mixed</i> .	
<b>Run</b>	Time adults enter freshwater: 1=spring, 2=summer, 3=fall, 4=winter	
<b>Broodstock Taken</b>	<b># Used</b>	# of males (adults or jacks) used for milt & # of females from which eggs were taken. Do not count a given male more than once if used for more than one female.
	<b># Pre-spawn Morts</b>	# of males (adults and jacks) & females taken for broodstock but died before spawning could occur.
<b>Eggs</b>	<b>Egg Target</b>	Targeted (ie. maximum) # of eggs to be taken for production + for transfers out, as per the annual Production Plan.
	<b># Taken</b>	# of adjusted (remeasured) eggs.
	<b>Transfer Out</b>	# of eggs transferred from your facility to another facility ( <i>NOT between containers at your facility</i> ) - include transfer location ( <i>project to which eggs were transferred, NOT incubation locations at your facility</i> ) in comments section.
	<b>Transfer In</b>	# of eggs transferred to your facility from another facility ( <i>NOT between containers at your facility</i> ) - include transfer location ( <i>project from which eggs were transferred, NOT incubation locations at your facility</i> ) in comments section.
<b>Juveniles</b>	<b># Poned</b>	# of fry ponded/emerged
	<b>Transfer Out</b>	# of fry transferred from your facility to another facility ( <i>NOT between containers at your facility</i> ) - include transfer location ( <i>project to which eggs were transferred, NOT rearing locations at your facility</i> ) in comments section.
	<b>Transfer In</b>	# of fry transferred to your facility from another facility ( <i>NOT between containers at your facility</i> ) - include transfer location ( <i>project from which eggs were transferred, NOT rearing locations at your facility</i> ) in comments section.
<b>Releases</b>	<b>Release Site</b>	Name of river, creek, lake, etc. where juveniles were released.
	<b>Release Date(s)</b>	From first day of release to last day; please keep release groups separate if they are released more than a month apart with no releases between.
	<b>Release Stage</b>	<b>EP</b> = egg plant, <b>UF</b> = unfed, <b>CF</b> = channel fry, <b>FF</b> = fed fry ( <i>fed fry have been fed for a minimum of 1 week but may have been starved for a few days prior to release</i> ), <b>SFF</b> = seapen-reared fed fry, <b>SM</b> = subyearling smolt ( <i>released 1 year after brood, eg. coastal chinook</i> ) <b>YE</b> = yearling smolt ( <i>salmon released 2 years after brood (eg. interior chinook, coho), and for steelhead and cutthroat released 1 year after brood</i> ), <b>SM2+</b> = a steelhead or cutthroat smolt that is released 2 years after brood, <b>SSM</b> = seapen-reared smolt, <b>SY</b> = seapen-reared yearling smolt.
	<b>Tag Code or Fin Clip Type</b>	Coded-wire tag (CWT) code (eg. 18-46-54) and whether Adipose-clipped (AdCWT) or unclipped (CWTonly) or Fin Clip Type (eg. left ventral (LV), adipose (AD), right maxillary (RM), not clipped etc.). Otolith marked (eg. 2:1.3,2.2,3.3) & "No Mark" if not tagged or clipped.
	<b># Tagged or Finclipped</b>	# of AdCWT, CWT or finclipped fish released: # released after all mortalities have been subtracted.
	<b># Unmarked</b>	# of fish released without tags or clips: please use a separate line to record unmarked releases unless they were released to the same site and at about the same time and size as tagged or finclipped fish (ie. associated release).
	<b>Release Target</b>	Targeted (ie. maximum) # of releases by stock, species, stage & release site, as per the annual Production Plan.
	<b>Total # Released</b>	Total # of fish released: must equal # of fish released with tags or finclips + # released unmarked.
<b>Enum Meth</b>	Enumeration Method (method of determining # of unmarked fish released):	
	<i>Book (B)</i> : calculated by subtracting # of mortalities from an earlier calculated # such as # of eyed eggs or # ponded.	
	<i>Weight (W)</i> : volumetric or weight estimation of #'s immediately prior to release.	
	<i>Count (C)</i> : actual physical count of fish during release (or just prior to release during marking of other fish).	
<b>Tag Retention Check Information</b> <i>(only need to fill in if releases are tagged or clipped!)</i>	<b># of fish sampled for tag retention or finclip quality check:</b>	The total number of tagged fish run through a tag detector to check for missing tags or the total number of fish checked for poor finclipping ( <i>do not fill in if done by DFO contractor</i> ).
	<b># of fish missing tags or with poor finclips (of those sampled above)</b>	Number of tagged fish that were missing their tags when run through the tag detector or number of finclipped fish that were poorly clipped ( <i>do not fill in if done by DFO contractor</i> ).
	<b># of days between end of tagging/ finclipping and tag retention/ finclip quality check:</b>	This is particularly important if you have done a long-term tag retention check ( <i>do not fill in if done by DFO contractor</i> ).
<b>Comments</b>	Include the locations of egg & fry transfers (which facility were the eggs or fry transferred to or from).	
	Include the total # of mortalities that occurred at each stage (incubation and rearing), and reasons for any unusually high mortalities (disease outbreaks, mechanical failure, vandalism etc).	
	Include numbers of fry salvaged (wild fry rescued from drying up pools) and dates over which they were salvaged.	
	Include reasons for tagging or finclipping or any abnormal condition of fish at release.	
	Any other relevant comments.	

### Appendix 1 : 2013 Project Brood Summary

Project: Eby Street PIP Hatchery

Community Advisor: Rob Dams

Stock Name	Stock Type	Species	Run	Brood Year	BROODSTOCK TAKEN				EGGS			JUVENILES			RELEASES										COMMENTS <i>(egg &amp; fry transfer locations and reasons for unusually high mortality)</i>			
					Female		Male		Egg Target	# Taken	# Trans (Out)/ In	# Poned	# Trans (Out)/ In	# On Hand	Release Site	Release Date(s)	Rel Stage	Tag Code or Fin Clip Type	# Tagged or Finclipped	Tag Ret: # of fish sampled	Tag Ret: # of fish missing tags or w/ poor clips	Tag Ret: # sample days	# Unmrkd	Release Target		Total # Released	Enum Meth	Wgt (g) & Lgth (mm)
					# Pre-Spawn Mort	# Used	# Pre-Spawn Mort	# Used																				
Zymacord R	M	CO	3	2013		7		9	40,000	23,799		21,000		20,446	Zymacord R	May 3-4, 2015	YE	Ad Clip& CWT (18-62-49)	7,091	100	0	1	0	25,000	7,091	B	20.5 g	
															Zymacord R	May 3-4, 2015	YE	Ad Clip& CWT (18-16-86)	5,745	100	1	1	0	25,000	5,745	B	20.5 g	
															Zymacord R	May 3-4, 2015	YE	Ad Clip& CWT (08-28-40)	45	0			0	25,000	45	B	20.5 g	
															Zymacord R	May 3-4, 2015	YE	Ad Clip& CWT (18-62-49)	3,113	0			0	25,000	3,113	B	20.5 g	
															Zymacord R	May 3-4, 2015	YE	Ad Clip& CWT (18-62-50)	3,429	0			0	25,000	3,429	B	20.5 g	Total CWT tagged fish released as an aggregate = 19,423 At release on May 3-4, 2015 checked a random sample of 1500 marked fish with a 98% tag retention rate.
															Zymacord R	May 3-4, 2015	YE		0				1,023	25,000	1,023	B	20.5 g	Total combined tagged and untagged release =20,446

**ADDITIONAL COMMENTS:**

2013 coho brood: See somments above for tag codes and sample checks.

Spring 2014 CWT details: 19,423 fry were ad clip/CWT and ponded into raceway on June 3&4th. And 1,023 untagged smalls were kept in Cap trough for one extra week.

Therefore: We had an estimated 21,020 fry (based on book numbers) and counted a total of 20,446. Difference of 574 Fry