

Hosted by: **Idaho Dept. Fish & Game**
Location: **Oxford Suites**, Boise, ID
Dates: **April 26,27, 2016**

FINAL MINUTES

For further information see: <http://www.rmpec.org/2016-meeting-calander-and-information.html>

Other references include: [RCMT Meeting Minutes 2014.pdf](#)
: [RCMT Meeting Minutes 2015.pdf](#)

APR 26: TUESDAY: 9:00 AM – 4:00 PM**1. General Business Items** (George Nandor /PSMFC)

- Welcome and introductions
- Consider possible dates for next year's mtg – 2017 -- intended to be hosted in Canada
 - Looking into hosting at departmental headquarters in downtown Vancouver in late April; more information will be forthcoming
- Note that the 2018 meeting is intended to be hosted in Washington
 - Ron, Carrie, and Mark will meet to determine location options
- Review agenda
- Landmark 40th birthday: review RCMT history
 - PowerPoint (George Nandor) and Mark Meeting History Chart
- Review & discuss RCMT structure & membership
 - Available on the RMPC website
 - "Regional Coordination Agreements" document (also available on RMPC website) guides the role, objectives, and activities of the Committee
 - PSMFC is a neutral, non-voting member of the Committee; Canada has two votes on Committee
 - History of RMIS Database)

2. Regional Mark Processing Center operations & announcements (RMPC staff)**A. Status of CWT Datasets & Other Data Processing Issues** (Dan Webb /PSMFC)

- Reviewed reporting status of the database and any obstacles to reporting
- All location data appear to be up to date
- Most all releases are up to date for 2015
 - Want to keep track of mid-year releases in the database

- Recoveries through 2014 are required to be validated and present in the database
 - Many 2015 recoveries are also now available
 - CDFW Klamath Trinity, QDNR, QUIL & YTFP have not reported for 2014 yet
 - No updates or changes to reporting status since last year for CDFW-KT, QDNR, QUIL, or YTFP
 - Agencies with mixed stock marine fisheries data have a requirement to be current in the database as of January 31 (those agencies reporting 2015 recoveries are likely adhering to that requirement) for 2 Run Years in arrears
 - due date calendars for some fisheries are available if RMPC wants them
 - once that is documented, RMPC can begin checking for them in the database
 - However the RMPC has no easy way of verifying this
 - Gaps in recoveries may be due to terminal/ local escapement
 - Agencies could report on tag lab status at the Mark Committee Meetings
 - Even if tag lab is complete, can't report if total catch isn't available
- Catch/Sample through 2014 are required to be validated and present in the database
 - Many also reporting for 2015
 - IDFG and Nez Perce do not submit Catch/Sample
 - Initiating long-term parental based tagging program and phasing out wire
 - Will phase out sampling for CWT in the next couple of years
 - Still tagging Chinook for Columbia catch composition, but won't be sampling them in Idaho
 - CDFW Klamath Trinity, QDNR, QUIL & YTFP have not reported for 2014 yet
 - No updates or changes to reporting status since last year for CDFW-KT, QDNR, QUIL, YAKA, or YTFP
- Missing Tag Codes are becoming a decreasing issue
 - Agencies resolving issues between themselves or contacting RMPC for assistance
 - A new tool at RMIS, "Known Good Tag Code" web service allows data providers to determine legitimacy of tag codes (api.rmmpc.org/kgf/tag_code/)
 - Didn't want to be dependent on an external agency, but considering incorporating it as part of the validation process
 - Use Tag Prefix Contact List found on RMPC website to contact agencies for release information
- Half-Length Tag Code Issues
 - Tag types 3 and 15 can have duplicates with tags of different lengths and may require manual review and update of the record if the release tag type changes and tag status 1 recoveries already exist
 - NMT will no longer make tags of different lengths that could potentially collide, so this is an issue for correcting historical data but should not be an issue going forward
 - Any issues discovered with ½ length tags are pushed back to the agency to figure out and correct
 - For releases, do we resolve all release records with tag type 3 or 15 or limit the resolution to the past 10 years?

- WDFW- priority is to address fixing past 10 years of data within a year of finding it, secondary priority is fixing past 25 years of data within 5 years
- CDFO- will give priority to resolving issues with data that are vital to treaty agreements and stock assessments
- USFWS- easy to correct release information if they know the tag code, regardless of how far back it goes
- For recoveries, how much of the recovery data needs to be resolved? All recoveries, the past 10 years, or only upon re-reporting of datasets?
 - Recoveries can't validate until the release is fixed; priority is to fix releases
 - RMPC will notify agencies of discrepancies in tag type within the last 10 years
- Using editors to modify CWT data
 - Avoid any tools that format text, converts fields between text, numeric, and other data types or uses formulas to modify data
 - Files are supposed to be sent as "plain text csv files"- any unprintable characters can cause failure
 - If you have to use a spreadsheet, change all columns to 'text' before entering any information to preserve leading zeros and repeating spaces
 - Correct content within the original database rather than exporting it and then correcting from the export

B. Report on New DB Server & Software Migration Project at RMPC (Jim Longwill /PSMFC)

- PowerPoint presentation
- Completed migration to PostgreSQL
 - Linux based virtual server, enterprise level, housed at PSMFC
 - Replaced an aging server, improves integration, better utilizes current software expertise and training, saves 6 figure relicensing fee for Oracle
 - Going forward will work on optimizations to database tables, indexes, memory resource usage, and building new capabilities such as web services and improved reporting tools

3. Update on PSC Data Standards Working Group (George Nandor)

(See also: [minutes, RCMT/2015/Alaska](#): Item #3)

- PowerPoint presentation
- RMPC will have a copy of NMT database and use it to check tag codes as needed
- Fisheries Regulations Database is not happening at this time
- New optional field for length coefficient of variation
- New release stock origin field
- Catch and Effort Database has been retired
- GIS Data will not be exchanged but RMPC will use it for their data mapping tool
- Agency Wire Tag (AWT) Release Reporting- new field for AWT prefix; required if tag type 16 (AWT)

- Kathy Fraser will have a new proposal document for Data Sharing to review proposals; creating a more structured way to deal with requests for changes
 - Data Sharing will then review proposals for approval
 - Committee will recommend a timeline for implementation
 - PSC member agencies and other agencies will be notified of the pending changes to the data specification
 - A new formal specification document will be developed and made available online

4. Update from PSC Selective Fishery Evaluation Committee (Carrie Cook-Tabor /USFWS)

(See also: [minutes, RCMT/2015/Alaska](#): Item #4)

- PowerPoint presentation
- All SFEC Reports are published on the PSC website
- Primary Duties
 - Clearinghouse for coordination and reporting on MM and MSF programs
 - Provide advice to PSC (report directly to commissioners)
 - Develop analytical tools
 - Assess and monitor the cumulative impacts of MSFs on stocks of concern to the PSC
- 2 million proposed increase in Coho releases for BY2015
- 76% of proposed Chinook releases are MM
- MM & MSF Issues
 - Lack of post-season MSF reports
 - Lack of modeling capacity to evaluate impacts of large-scale MSFs on Chinook
 - Lack of methods to assess mixed bags
 - Continue to see high number of untagged fish sampled that may reduce sample rates and will impose additional costs- for example, 70% of fish encountered in Alaska Troll Fishery that are clipped do not have tags, they are now wading clipped fish to avoid shipping every head
- Believe that Coho MSFs have reached their full potential along the coast
- Believe that Chinook MSFs have reached their full potential in Puget Sound, but have room to grow along the coast
- Gary Morishima's "PlanIt" tool may be useful to this group- will try to get a presentation on this tool at a future meeting

5. PSC Selective Fishery Evaluation Committee 'Lessons Learned' Report (Ron Olson /NWIFC)

- PowerPoint presentation
- Committee evaluates Mass Marking and Mark-Selective Fisheries Impacts on the CWT System
 - Role is to inform, not make any policy
 - Report is available on PSC website
 - The purpose of the report was to focus on the impacts of MM and MSFs on the viability of the CWT system. Although the report mentions the benefits of MSFs, they are not part of the identified lessons.
- Some Lessons Learned include:
 - No viable alternative to ad clip
 - MSFs complicate implementation of PSC fishing regimes
 - Estimation of the fishery mark rate is critical to harvest management involving MSFs
 - MSFs require a coastwide coordinated and consistent approach to implementation
 - Electronic sampling has not been employed coastwide
 - Improved coordination of harvest management regulations and sampling programs is needed
 - The SFEC has been unable to develop methods to estimate unbiased fishery-specific impacts of individual MSFs when multiple MSFs impact CWT release groups
 - DIT programs have not been implemented as recommended
 - Post-season reporting of MSFs remains problematic
- The CWT system remains the only tool available to estimate and monitor coastwide impacts on individual stocks of fish and provide the data required to implement PST agreements for Chinook and Coho salmon
- MM and MSFs have increased the cost and complexity of the CWT system, and adversely affected the viability of the CWT system for use in management of wild stocks
- The CWT system still remains viable for other non-PST related analysis using marked and tagged fish.

6. Q&A: Current Agency Activities & Funding (post-CWTIT) (Geraldine VanderHaegen /NMT)

Discuss current agency activities & project funding ideas for CWT program requirements following the CWTIT funding program & the resultant PSC Synthesis Report of 2015.

- CTC trying to develop a process to set aside some of the endowment funds for high priority Chinook projects
 - Alaska doesn't want northern fund monies to go to southern Chinook projects due to loss of oil revenues
 - Hard to lobby for funds if there isn't a request out there someplace to reference
 - CWTIT wrap-up report concluded that improvements made during program will go away once program ended if additional funding is not secured

- PBT process identified CWT as the only cost-effective tool that will meet the requirements of the treaty
- Who's going to ask for the money?
 - Letter signed by Committee Members outlining the needs and explaining what would be lost if the funding goes away may be a powerful tool for identifying the funding needs
- What happens after CWTIT?
 - When the money ran out, programs shrank
 - Policy around how endowment funds can be assigned
- At this point the timing of this fiscal 'cliff' may work toward the upcoming PSC treaty re-negotiation. I.e. it may work into that discussion in some way.

7. All-Agency Update on: (Tag-Coordination Representative, ALL-AGENCY Participation)

- Tagging Levels for 2016.....see tables below
- Mass Marking for 2016.....see tables below
- Mark-Selective Fishery Plans &/or Commentssee tables below

Member agencies (*Appendix B*):

Agency or Organization	2016 Tagging Levels, Mass Marking, MSF Plans, Tag-Lab Update, Other Comments
ADFG / Alaska Dept. Fish & Game	<p>Handout provided</p> <p>Ad clip+CWT- 1.4 mil Chinook, 950K Coho</p> <p>MM (thermal or dry)- 60 mil Sockeye, 800 mil Pink, 600 mil Chum, 7 mil Chinook, 10 mil Coho</p> <p>Will not be releasing any 'no tag' fish in 2016</p> <p>Developed automated system for databases to talk to each other and resolve errors as they come up. Moving to ruggedized field tablets with mobile applications for sampling.</p>
IDFG / Idaho Dept. Fish & Game	<p>Handout provided</p> <p>Contract all tagging through PSMFC</p> <p>All spring/ summer Chinook and steelhead are MM</p> <p>All recreational fisheries are Mark Selective, Tribal Fisheries are not</p>
CDFW / California Department of Fish & Wildlife	<p>Handout provided</p> <p>Contract most of tagging through PSMFC</p>

	<p>All Steelhead clip only</p> <p>Feather River -half tags for Knaggs Ranch, 100% clip + tag 100K Chinook, use rice fields to grow fish faster; -60K 100% clip + tag and hauled to San Joaquin to reintroduce spring run; -100% clip + tag 2.1 mil spring run -6 mil fall run (25% clip + tag, remainder no tag/ no clip) -65K Steelhead</p> <p>Coleman -12 mil fall run 25% clip + tag -700K steelhead</p> <p>Mokelumne - 790K enhancement fish 100% clip+ tag -3.6 mil fall run 25% clip + tag -400K fall run 100% clip + tag -100K steelhead</p> <p>Nimbus - 4.2 mil fall run, 25% clip + tag -400K Steelhead</p> <p>Iron Gate - 4.7 mil 25% clip + CWT</p>
CDFO / Fisheries & Oceans Canada	<p>Handout provided</p> <p>ad clip + CWT 5.9 mil Chinook, 958K Coho, 25K Sockeye</p> <p>MM 4.4 mil Coho MM, 600K Sockeye</p> <p>No commercial Coho fisheries in the south- wild fish must be released; no MSF on northern coast</p>
CRFC / Columbia River Intertribal Fish Commission	No update provided. (see also YAKA handout)
WDFW / Washington Dept. Fish & Wildlife	<p>Handout provided.</p> <p>19 mil tagged, 86 mil MM (includes tribal fish)</p> <p>Lack of agreement on Puget Sound Fisheries this year.</p>
NIFC / Northwest Indian Fisheries Commission	<p>4 mil Chinook, 1 mil Coho, 100K Steelhead tagged</p> <p>17 mil Chinook/ Coho MM</p> <p>Actual figures included in WDFW report.</p> <p>STIL to report data in June each year</p>

NMFS / National Marine Fisheries Service, Alaska	145K ad clip + CWT Chinook
MIC / Metlakatla Indian Community	<p>Similar to last 2 years</p> <p>10K Chinook, 100K Coho</p> <p>2.2 mil Chum (thermal mark)</p> <p>45K Coho</p> <p>*No handout</p>
FWS / U.S. Fish & Wildlife Service	<p>Handout provided.</p> <p>Chinook 6.4 mil ad clip + CWT, 705K CWT only, 24.5 mil ad clip only, 9 mil no clip/ no tag</p> <p>Coho 717K ad clip + CWT, 818K CWT only, 1.3 mil ad clip only, 1 mil no clip/ no tag</p> <p>Steelhead 462K ad clip + CWT, 4 mil ad clip only, 200K no clip/ no tag</p> <p>Chum 1.85 mil no clip/ no tag</p>
ODFW / Oregon Dept. Fish & Wildlife	<p>Handout provided.</p> <p>Chinook 6 mil ad clip + CWT, 275K CWT only, 23 mil ad clip only</p> <p>Coho 365K ad clip + CWT, 5.8 mil ad clip only</p> <p>Steelhead 2.2 mil ad clip only</p> <p>Chum 200K ad clip only</p>

Other reporting agencies:

Agency or Organization	2016 Tagging Levels, Mass Marking, MSF Plans, Tag-Lab Update, Other Comments
COLV / Colville Tribe(s)	<p>Chinook 1.1 mil ad clip + CWT, 700K ad clip only</p> <p>Extracted 6200 tags at tag lab (just started in January)</p>
YAKA / Yakama Nation	Handout provided.

NEZP / Nez Perce Tribe

No update provided.

APR 27: WEDNESDAY: 9:00 AM - NOON**8. Special Marking Requests & Announcements for 2016:** (George Nandor)Requests for Marking Variances received to date: (***Appendix C***)

- WDFW: Green River, winter Steelhead
 - Use agency blank wire in snout for broodstock management purposes
- WDFW: Lewis River, winter Steelhead
 - Use agency blank wire in snout for broodstock management purposes
- WDFW: Nason Creek, Spring Chinook
 - Use agency blank wire in caudal area for broodstock management purposes
- WDFW: Omak Creek, summer Steelhead
 - Use agency blank wire for broodstock management purposes
- NIFC: White River, winter Steelhead
 - Use agency blank wire for broodstock management purposes

These requests were believed to have minimal impact on the CWT system and were approved by the Committee.

9. Discussion: Agency Biosampling & Tag Recovery (Lab) Operations (Carrie Cook-Tabor)

We would like to discuss the most efficient way an agency collects their data on tagged fish at the hatchery and processes it for submission to RMIS. USFWS is seeking to improve their system of data collection by modernizing it and would like to hear how others have done so. Possible ideas include some changes made in Canada as they are now incorporating bar codes in their tag recovery program. Other agencies have incorporated new computer tablets. Consider discussing other associated programs for data collection at the hatcheries.

- Video of WDFW Sampling & Tag Lab Operations (Mark Kimbel /WDFW)
 - Coring devices, video display of tag
 - Show their process

- Currently not doing any of it efficiently at the hatchery or at the lab- plans to make process more efficient
 - No longer have a centralized tag lab, M&E staff are reading their own tags in some locations and sending that info in
 - Developed a hands-free pneumatic coring device (~\$3500)
 - Video screen tag viewer
- WDFW needs to reduce their paperwork redundancies
- Utilizing iFormBuilder (PowerPoint presentation by Jake Shapely)
 - access from PC or Mac, build forms, manage users and data, manage dataflow
 - Designed to collect data offline
 - Able to manage data from their mobile device
 - Can integrate with other apps and hardware (barcode reader, PIT Tag reader, device sensors)
 - WDFW's unlimited user account is \$60,000 annually
 - Can share their forms with anyone who has iFormBuilder
 - Can customize user access profiles
 - 1st year of implementing bar code functionality with ocean sampling- hope to eliminate key strokes and paperwork (same bar codes as used by ADFG)
- Kate Konoski (Stillaguamish Tribe) provided photos of their tag hoods- reduced tag loss and techs are happier, cost \$17,000 for engineering, build, and install
- CDFO will pull together some info on bar code readers, showed dissection/ coring video and gave PowerPoint presentation
 - Felt noise of pneumatic corer was an issue, so went with an electric version
 - Use a contracted dissection lab; had a CWTIT Project to visit other labs and review/ update DFO processes
 - Established clear delineation of lab vs sampling program roles
 - Developed "Container" labels and standard protocols for shipping and packaging containers which has let to improved freezer storage capacity
 - Standardized "lab use only" sections of data collection forms across all sampling programs
 - Manual dissection procedures required due to variation in tag placements, rotate staff through 3 roles/ stations to reduce fatigue
 - Introduced digital microscope reading stations
 - All lab info recorded on forms in red pen, lab is doing their reads and data entry at same time on touch screens and is integrated into the reading station
 - Eliminating manual process reduced transcription errors, barcode readers for head label and container management data
 - Introduced tag reread history and team communication protocols with date stamps embedded in data collection process
 - Lab delivers all results to DFO, then distributed to programs that collected the data
 - Still want to get all tags returned from other agencies for archival purposes

- USFWS should check in with Coleman Hatchery in California to see what they are doing
- ADFG bar codes as well; best to figure out what works is to come up and see it and participate in a sampling event
 - Bar code cinch strap and tag placed in bag together
 - Get them pre-printed from Bar Codes West (Kent, WA)
 - Currently using water resistant hand held mobile units and will be implementing mobile device scanning capabilities as well
- ODFW bought two of the coring machines, USFWS has one as well; have seen significant increases in laboratory output as a result
 - ODFW puts cores in compartmentalized trays along with snout ID, then tag gets put in small bag and sent to dry lab for reading

10. Northwest Marine Technology (Geraldine VanderHaegen)

- Product updates
 - Reading codes upside down still not recommended
 - can turn the pencil around (working on tag reading pencils with stronger magnets to eliminate problem with dropping tags)
 - can flip the image electronically
 - can get a prism to flip the image
 - NMT can change the way the tag code is on the tag so that half of the rows are upside down and you just have to spin the tag to read it right-side up
 - May introduce transcription errors, and would introduce the potential for error on every tag rather than just on half the tags
 - Tag scratches will be problematic
 - Can't do this for half-length or sequential tags
 - Would OCR solve this?
 - PowerPoint presentation by Ray Glaze
 - Call NMT if you encounter collision issues
 - Provided RMPC with file of 'known good tags' and refreshing it annually
 - Tag coordinators can request production records and usage charts for their agency, monthly reports of shipments from NMT
 - AutoFish Updates
 - Maintaining and updating/ re-building current trailers in Idaho
 - AutoTag unit is available for loan or sale (combination of manual tagging and AutoFish)
 - Tag only, does not fin clip
 - only for very large fish (designed for aquaculture uses)
 - would be worthwhile for use with steelhead or yearling fish

- one unit is 2 lines
 - NMT can provide some video demo
- Species list has grown; now processing lake trout, brook trout, lahontan cutthroat through AutoFish
- Ken reviewed new products
 - Quad counter (\$1400 cost)
 - Sub-sampling detector gate (\$1250 cost)
 - wire tamer (~\$25 cost)
 - magnetic pencils for tag reading (\$30 cost)
- T-Wands: Returning & Updating
 - still offering to update electronics in wands to new standard; more than half of WDFW's wands are still needing to be updated, most of IDFG's still need to be updated
 - still offering trade in value of old blue wands
 - Contact NMT for info on which wands your agency still needs to update
- Q&A: other issues with equipment & usage, etc.
 - ODFW updated two of their 5-line trailers with dual sorters and they are producing as much as a 6 line trailer

Appendix A

2016 Mark Meeting Attendees

*Committee Member or Designee

Name	Agency	Mailing Address/ Telephone/E-mail Address
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Appendix B- Agency Tagging Updates

Ad Clipped + CWTs

	Chinook	Coho
2010	1,504,625	792,786
2011	984,282	961,723
2012	1,039,595	877,919
2013	904,552	1,026,105
2014	915,164	835,406
2015	1,434,702	988,388
2016 (EST)	1,400,000	950,000

NO TAGS	AD + TM + No CWT
2011	264,306
2012	258,759
2013	199,356
2014	405,723
2015	0
2016 (EST)	0

Mass Marking: Otolith marked salmon released from Alaskan Hatcheries

Year	Sockeye	Pink	Chum	Chinook	Coho
2010	51,982,530	710,761,378	532,858,544	8,180,335	7,221,341
2011	50,791,900	736,050,223	536,189,992	5,397,782	7,374,357
2012	57,952,300	774,725,687	596,604,842	6,526,848	8,936,261
2013	53,085,300	689,801,496	639,755,521	5,988,037	10,334,303
2014	59,025,403	806,865,268	647,922,667	6,582,590	8,504,137
2015	58,339,346	770,252,457	604,538,736	6,210,944	9,162,717
2016 (EST)	60,000,000	800,000,000	600,000,000	7,000,000	10,000,000

CDFO 2016 CWT Marking Plans

Regional Area	Stock	Chinook	Coho	Sockeye
BC Interior	Coldwater R		65000	
	Eagle R		65000	
	Nicola R	200000		
	Shuswap R Low	530000		
	Shuswap R Middle	190000		
BC Interior Totals		920,000	130,000	0
BC North Coast	Atnarko R Low	200000		
	Atnarko R Up	200000		
	Bulkley R Up	35000		
	Chuckwalla R	50000		
	Kilbella R	50000		
	Kitimat R	100000		
	Kitsum Abv Canyon	130000		
	Kitsum Bel Canyon	130000		
	Salloomt R		25000	
	Toboggan Cr		35000	
	Wannock R	50000		
	Zolzap		30000	
BC North Coast Totals		945,000	90,000	0
BC South Coast	Bedwell R	80000		
	Big Qualicum R	160000	140000	
	Black Cr		15000	
	Carnation Cr		3000	
	Cowichan R	740000		
	Keogh R		50000	
	Myrtle Cr		500	
	Nahmint R	70000		
	Phillips R	150000		
	Puntledge R	220000	120000	
	Quinsam R	695000	180000	
	Robertson Cr	790000	40000	
	San Juan R	40000		
BC South Coast Totals		2,945,000	548,500	0
Lower Fraser River	Ashlu Cr	15000		
	Cheakamus R	120000		
	Chilko R	100000		
	Chilliwack R	320000		
	Cultus Lk			25000
	Harrison R	300000		
	Inch Cr		150000	
	Mamquam R	25000		
	Seymour R/GSMN		40000	
	Shovelnose Cr	30000		
Lower Fraser River Totals		910,000	190,000	25,000

Yukon and Transboundary River	Tatchun R	16000		
	Yukon R	150000		
Yukon and Transboundary River Totals		166,000	0	0
Grand Total		5,886,000	958,500	25,000

Data should be considered preliminary



Fisheries and Oceans
Canada

Pêches et Océans
Canada

CDFO 2016 Mass Marking Plans

Regional Area	Stock	Coho	Sockeye
BC Interior	Salmon R/TOMF	65000	
BC Interior Totals		65,000	0
BC North Coast	Oldfield Cr	15000	
	Zymacord R	25000	
BC North Coast Totals		40000	0
BC South Coast	Big Qualicum R	260000	
	Chapman Cr	50000	
	Cluxewe R	100000	
	Coal Cr	10000	
	Conuma R	150000	
	Cypre R	30000	
	French Cr	30000	
	Goldstream R	75000	
	Marble R	130000	
	Nanaimo R	84000	
	Nitinat R	150000	
	Puntledge R	20000	
	Quatse R	100000	
	Quinsam R	245000	
	Robertson	160000	
	Rosewall Cr	40000	
	Sakinaw Lk		400000
	Slammon R	60000	
	Trent R	50000	
	Washlawlis R	85000	
	Waukwaas Cr	100000	
BC South Coast Totals		1,929,000	400,000
Lower Fraser River	Alouette R S	25000	
	Capilano R	507500	
	Chehalis R	400000	
	Chilliwack R	805000	
	Coquitlam R	20000	
	Cultus Lk		200000
	Hoy Cr	5000	
	Hyde Cr/LWFR	10000	
	Kanaka Cr	30000	
	L Campbell R	70000	
	Mamquam R	50000	
	Mossom Cr	4000	
	Nicomekl R	50000	
	Noons Cr	10000	
	Norrish Cr	100000	
	Serpentine R	50000	
	Seymour R/GSMN	7500	
	Stave R	151000	
	Tenderfoot Cr	100000	

Lower Fraser River Totals	2,395,000	200,000
Grand Total	4,429,000	600,000

Data should be considered preliminary



Fisheries and Oceans
Canada

Pêches et Océans
Canada

2016 California tagging as of 4/22/16

Feather River-

Knaggs Ranch fall-run ½ tags (completed), 100%- 101,194

Spring-run for San Joaquin (completed), 100%- 59,204

Spring-run (completed), 100%- 2,129,158

Fall-run (will be completed in two more weeks), 25% as of end of day on 4/22- 1,503,194 tagged, 4,512,147 passed. Total of 6,015,341

Estimated total fall-run is 9.2 million

Estimated total steelhead is 65,000

Coleman-

Fall-run (completed), 25%- 3,042,933 tagged, 9,136,283 passed. Total of 12,179,216

Estimated total steelhead is 700,000

Mokelumne River-

Fall-run (completed), 100% enhancement fish- 790,414

Fall-run (will be completed in two weeks), 25% as of the end of 4/22- 910,283 tagged, 2,730,852 passed. Total of 3,641,135

We still have ~400k of 100% tagging to be done on the 2-200k groups that they asked for recently which will start the end of next week.

Estimated total fall-run is 6.3 million

Less than 100k steelhead and they are going to manually clip them

Nimbus-

Fall-run (~4 more weeks to be completed), 25%- 343,362 tagged, 1,030,638 passed.

Total of 1,374,000

Estimated fall-run total is 4.2 million

Estimated steelhead total is 400,000

Iron Gate-

They have 5.1 million on their inventory but have always been short so I will guess 4.7 million which we start later next week.

IDFG production and marking for 2016

Mass Marking - With the exception of some limited releases intended for supplementation or specific broodstock management purposes, most spring/summer chinook salmon (~ 92%) and steelhead (~ 85%) are mass marked with an adipose fin clip (see tables below).

Mark Selective Fisheries- All recreational fisheries for Chinook salmon and steelhead in Idaho are mark selective. Tribal fisheries in Idaho are non-selective.

IDFG- Brood Year 2015 Chinook and Sockeye Salmon Production Plan- Marking/Tagging in 2016

				Marks & Tags			
Species	Fish Hatchery	Stock	Release Site	AD	AD/CWT	CWT	Grand Total
Sockeye	Springfield	Snake R. Sockeye	Upper Salmon R. & Redfish Lake Cr.	750,000			750,000
	Springfield Total			750,000			750,000
Spring/Summer Chinook	Clearwater	Clear Creek	Clear Creek	190,000	45,000		235,000
		Dworshak	NF Clearwater		400,000		400,000
		Powell	Clear Creek	325,000	75,000		400,000
			Lower Selway R.	145,000	120,000	135,000	400,000
		S.F. Clearwater R.	Red River Pond	980,000	120,000		1,100,000
		SF Clearwater R / SF Salmon R (Summers)	Powell Pond	180,000	120,000	300,000	600,000
	Clearwater Total			1,820,000	880,000	435,000	3,135,000
	McCall	Johnson Cr.	Johnson Creek			100,000	100,000
		S.F. Salmon R.	Knox Bridge S.F. Salmon R. (Seg)	730,000	120,000		850,000
			Knox Bridge S.F. Salmon R. (Int)			150,000	150,000
	McCall Total			730,000	120,000	250,000	1,100,000
	Pahsimeroi	Pahsimeroi	Pahsimeroi R. (Seg)	815,000	120,000		935,000
			Pahsimeroi R. (Int)			65,000	65,000
	Pahsimeroi Total			815,000	120,000	65,000	1,000,000
	Rapid River	Rapid River	Hells Canyon	350,000			350,000
			Little Salmon	150,000			150,000
			Rapid River	2,380,000	120,000		2,500,000
	Rapid River Total			2,880,000	120,000		3,000,000
	Sawtooth	Pahsimeroi	Pahsimeroi R. (Seg)	100,000			100,000
		Upper Salmon R.	Yankee Fork	200,000			200,000
			Sawtooth weir (Seg)	880,000	120,000		1,000,000
		Sawtooth weir (Int)			130,000	130,000	
Sawtooth Total			1,180,000	120,000	130,000	1,430,000	
Grand Total				8,175,000	1,360,000	880,000	10,415,000

Does not include spring Chinook production from Dworshak National Fish Hatchery (USFWS/NPT), Kooskia National Fish Hatchery (NPT), or Nez Perce Tribal Hatchery (NPT).

IDFG- Brood Year 2016 Summer Steelhead Production Plan- Marking/Tagging 2016

Fish Hatchery	Release Site	Marks & Tags				Total
		AD	AD/CWT	No Clip	CWT Only	
Clearwater	Newsome Cr.			123,000		123,000
	Red House Hole	220,000				220,000
	Meadow Cr	290,000		70,000	140,000	500,000
Clearwater Total		510,000		193,000	140,000	843,000
Hagerman National	Sawtooth Weir	1,190,000				1,190,000
	Upper EF.Salmon R. (Weir)				60,000	60,000
	McNabb Point	130,000				130,000
	Sawtooth Weir (recirc)		90,000			90,000
	Sawtooth Weir (control)		90,000			90,000
Hagerman National Total		1,320,000	180,000		60,000	1,560,000
Magic Valley	Pahsimeroi Trap				253,000	253,000
	Squaw Creek	126,000				126,000
	Red Rock	95,000				95,000
	Shoup Bridge	95,000				95,000
	Colston Corner	106,000				106,000
	Little Salmon R.	411,000				411,000
	Yankee Fork	243,000		221,000		464,000
Magic Valley Total		1,076,000		221,000	253,000	1,550,000
Niagara Springs	Hells Canyon Dam	550,000				550,000
	Pahsimeroi Trap	800,000				800,000
	Little Salmon R.	450,000				450,000
Niagara Springs Total		1,800,000				1,800,000
Total		4,706,000	180,000	414,000	453,000	5,753,000

Does not include production from Dworshak National Fish Hatchery (USFWS).

ODFW: 2016 FISH MARKING PROGRAM

STOCK	2016 PRODUCTION				
	TAGGED (CWT)		UNTAGGED		
	AD+CWT	CWT only ¹	AD Clip	No AD Clip	Total Marked
Spring Chinook	2,780,000	275,000	9,456,200	55,000 (LM only) ³	12,566,200
Fall Chinook	3,200,000		13,638,500 ²	625,000 ⁴ (LV only clip)	17,463,500
Coho	365,000	100,000 ⁵	5,762,000	0	6,227,000
Sum. Steelhead	360,000		1,576,500	0	1,936,500
Win. Steelhead	0		701,000	0	701,000
Chum	0		200,000	0	200,000
Sockeye	0	0	0	0	0
TOTALS:	6,705,000	375000	31,334,200	735,000	39,094,200

1/ ODFW no longer is marking any DIT groups for Chinook or coho. The 'CWT Only' marked fish are limited to conservation purposes.

2/ Fall Chinook 'Ad Clip' includes 300,000 'AD Agency only wire' used to mark Little White Salmon stock at Umatilla Hatchery.

3/ Left Max only clip used at Wizard Falls to identify Warm Springs Hatchery spring Chinook in the upper Deschutes R drainage.

4/ Fall Chinook 'No AD Clip' total is 625,000 LV clipped Rogue stock marked for Select Area Fisheries Enhancement (SAFE) terminal fishery in Youngs Bay (lower Col. R).

5/ Coho: The 100,000 'CWT only' fish are Umatilla 9115 stock reared at Cascade Hatchery.

Comparison of AD+CWT and AD Clip Only Marks (2011 - 2016)						
	Spring Chinook		Fall Chinook		Coho	
Year	AD+CWT	AD Clip only	AD+CWT	AD Clip only	AD+CWT	AD Clip only
2011	4,130,000	860,000	2,665,000	16,760,000	250,000	5,330,000
2012	3,210,000	926,500	2,955,000	15,775,000	350,000	5,494,000
2013	2,825,000	728,500	2,860,000	18,740,000	300,000	5,585,000
2014	2,710,000	927,800	2,820,000	18,691,000	300,000	5,187,000
2015	2,749,000	978,300	3,305,000	13,289,000	390,000	5,927,000
2016	2,780,000	9,456,200	3,200,000	13,638,500	365,000	5,762,000

2016 ODFW FISH PRODUCTION AND MARKING PROGRAM

			No. Tagged x1000		No. Untagged x 1000		
Hatchery	Species	Stock / Br Year	AD+CWT	CWT Only	AD Clip	No AD Clip	Release
NORTH OREGON COAST							
Cedar Creek	ChS	Nestucca 4715	25	0	205	0	Nestucca, Three Rivers
	Co	Big Cr 1315	25	0	475	0	Klaskanine R
		Totals:	50		680		
Trask	ChS	Trask 3415	30	0	278	0	Trask R
	ChF	Trask 3415	30	0	146	0	Trask R
	StW	Wilson R 12116	0	0	110	0	Wilson R
		Totals:	60		534		
Salmon R	ChF	Salmon R 3615	200	0	0	0	Salmon R
Nehalem	Co	Nehalem 3215	0	0	100	0	N. Nehalem R
	Co	Trask 3415	0	0	100	0	Trask R
	Co	Fish Lake 9915	0	0	100	0	N. Nehalem R
	StW	Nehalem 3216	0	0	130	0	N. Nehalem R
		Totals:			430		
SOUTH OREGON COAST							
Millicoma	ChF	Coos 3715	30	0	70	0	Millicoma R.
Morgan Cr.	ChF	Coos 3715	30	0	615	0	Morgan Cr
Noble Creek	ChF	Coos 3715	30	0	570	0	Noble Creek
Cole Rivers	ChS	Rogue 5215	90	0	1818	0	Rogue R
	ChF	Coos 3715	30	0	170	0	Morgan Cr (Coos Bay)
	ChF	Coquille 4415	0	0	155	0	Morgan Cr (Coos Bay)
	Coho	Rogue 5215	25	0	50	0	Rogue R
		Totals:	145		2193		
Indian Creek	ChF	L Rogue 6115	0	0	90	0	Rogue R
Bandon	ChF	Coos-3715	0	0	548	0	Coos R
Elk River	ChF	Elk R 3515	255	0	0	0	Elk R
	ChF	Chetco 9615	50	0	150	0	Chetco R
		Totals:	305		150		
COLUMBIA RIVER							
Big Creek	ChS	Clackamas 1915	25	0	225	0	Gnat Creek
	ChF	Big Cr 1315	250	0	4950	0	Big Cr, NF Klaskanine
	Coho	Big Cr 1315	25	0	510	0	Big Creek
	Chum	Big Cr 1315	0	0	200	0	Big Creek
	StW	Big Cr 1316	0	0	101	0	Big Creek
		Totals:	300		5885		
SFk Klaskanine	ChF	Rogue 5215	25	0	0	125 (LV only)	S Fk Kaskanine R

			No. Tagged x1000		No. Untagged x 1000		
Hatchery	Species	Stock/Br Yr	AD+CWT	CWT Only	AD Clip	No AD Clip	Release
Klaskanine	ChF	Rogue 5215	25	0	0	0	N Fk Klaskanine R
	ChF	Rogue 5215	0	0	0	500 (LV only)	N Fk Klaskanine R
	Co	Big Cr 1315	25	0	725	0	N Fk Klaskanine R
		Totals:	50		725		
Gnat Creek	ChS	S Santiam 2415	75	0	875	0	Youngs Bay
Bonneville	ChF	Tule 1415	150	0	1450	0	Tanner Cr
	ChF	Tule 1415	65	0	535	0	Tanner Cr
	ChF	Umatilla 9115	900	0	0	0	Umatilla R
	ChF	UR Bights 4515	430	0	3070	0	Ringold
	ChS	Clack 1915	100	0	545	0	Clackamas R
	Coho	Tanner 1415	25	0	545	0	Col. R estuary (Tongue Pt)
	StS	S Santiam 2416	0	0	250	0	S. Santiam R
	StW	Clackamas 12216	0	0	100	0	Clackamas R
		Totals:	1670		6495		
Sandy R	Co	Sandy 1115	50	0	350	0	Sandy R, Blind Slough
	StW	Sandy 1116W	0	0	160	0	Sandy R
		Totals:	50		510		
Cascade	Co	Tanner 1415	75	0	1352	0	Tanner Creek
	Co	Tanner 1415	30	0	470	0	Klaskanine R
	Co	Umatilla 9115	0	100	400	0	Umatilla R
	Co	Nez Perce 8515	60	0	440	0	Lostine River
		Totals:	165		2662		
Oxbow	ChS	Sandy 1115	132	0	0	0	Sandy R (Bull Run)
	Co	Tanner 1415	25	0	585	0	S Fk Klaskanine, L. Herman
		Totals:	157		585		
Round Butte	ChS	Deschutes 6615	316	0	0	0	Deschutes R (Pelton ladder)
	ChS	Hood R 5015	0	0	80	0	
		Totals:	316		80		
Wizard Falls	ChS	Warm Springs 102H15	0	0	0	55 (LMax)	Upper Deschutes R
	StS	Deschutes 6616	0	0	0	55 (LMax)	Upper Deschutes R
		Totals:				110	
Irrigon	ChF	Snake R 9715	400	0	800	0	LGr Ronde, Hells Canyon
	StS	Little Sheep 2916	25	0	0	0	Little Sheep Creek
	StS	Wallowa 5616	250	0	570	0	Wallowa R, Grande Ronde
	StS	Imnaha 2916	0	0	190	0	Imnaha R
		Totals:	675		1560		
Umatilla	ChS	Umatilla 9115	90	150	590	0	Umatilla R
	ChF	Little White 11015	300	0	300	0	Umatilla R.
	StS	Umatilla 9116	60	0	147	0	Umatilla R.
		Totals:	450	150	1037		

			No. Tagged x1000		No. Untagged x 1000		
Hatchery	Species	Stock/Br Yr	AD+CWT	CWT Only	AD Clip	No AD Clip	Release
WILLAMETTE RIVER							
Eagle Creek	ChS	Clackamas 1915	40	0	200	0	Eagle Creek
	StW	Eagle Cr 1916	0	0	100	0	Eagle Creek
		Totals:	40		300		
Clackamas	Coho	Tanner 1415	25	0	0	0	Columbia Estuary (Tongue Pt)
Marion Forks	ChS	N Santiam 2115	75	0	675	0	Tongue Pt, Blind Slough
	ChS	N Santiam 2115	30	0	70	0	Molalla R
	ChS	N Santiam 2115	50	0	735	0	N. Santiam R
		Totals:	155		1480		
S. Santiam	StS	S Santiam 2415	0	0	293	0	S. Santiam R
McKenzie	ChS	McKenzie 2315	300	0	430	0	McKenzie R
Willamette	ChS	Willamette 2215	500	0	1647	0	Willamette R (Dexter)
	ChS	McKenzie 2315	75	0	192	0	Willamette Coast Fork
	ChS	S Santiam 2415	110	0	911	0	S. Santiam R
	StS	S Santiam 2416	0	0	127	0	S. Santiam R
		Totals:	685		2877		
SNAKE RIVER							
Lookingglass	ChS	Grande Ronde 8015	125	125	0	0	Upper Grande Ronde
	ChS	Lostine 20015	126	0	121	0	Lostine R
	ChS	Catherine Cr 20115	100	0	54	0	Catherine Creek
	ChS	Lookingglass 8015	126	0	74	0	Lookingglass R
	ChS	Imnaha 2915	240	0	180	0	Imnaha R
		Totals:	717		429		

* All production fish marking totals are preliminary and based on January 2016 projections.

Table 1.

WDFW and TRIBAL PUGET SOUND CHINOOK MASS MARKING and CODED-WIRE TAGGING 2016

Species: Chinook
 Area: Puget Sound
 Brood: 2015
 Releases: 2016 and 2017

4/20/2015

Data from 2015 Future Brood Document

Agency	Hatchery	Stock	Number of fish to be released with a CWT		Number of fish to be released without a CWT		Total Production	Proposed to be marked this year (Y/N)	Marked in previous year (Y/N)
			Ad Clipped	Unclipped	Ad Clipped	Unclipped			
WDFW	Kendall Creek	NF Nooksack springs	200,000	0	600,000	0	800,000	Y	Y
Tribal	Skookum Creek	SF Nooksack springs	0	1,000,000	0	0	1,000,000	NA	NA
WDFW	Marblemount *	Skagit River springs	277,500	200,000	110,000	0	587,500	Y	Y
WDFW	Hupp Springs	White River springs	400,000	0	0	0	400,000	NA	NA
WDFW/Tribal	Puyallup	White River springs	0	100,000	0	800,000	900,000	NA	NA
Tribal	White River	White River springs	0	340,000	0	0	340,000	NA	NA
Tribal	White River	White River springs 1+	0	55,000	0	0	55,000	NA	NA
WDFW	Dungeness	Dungeness River springs	0	50,000	0	0	50,000	NA	NA
WDFW	Hurd Creek	Dungeness River springs 1+	0	50,000	0	0	50,000	NA	NA
WDFW	Greywolf Acclimation	Dungeness River springs 0+	0	50,000	0	0	50,000	NA	NA
WDFW	Upper Dungeness Acc Pond	Dungeness River springs 0+	0	50,000	0	0	50,000	NA	NA
Total spring chinook			877,500	1,895,000	710,000	800,000	4,282,500		
WDFW	Marblemount	Skagit River summers	200,000	0	0	0	200,000	Y	Y
Tribal	Whitehorse	NF Stillaguamish River summers	220,000	0	0	0	220,000	Y	Y
Tribal	Bernie Gobin	Skykomish River summers	100,000	100,000	2,200,000	0	2,400,000	Y	Y
WDFW	Wallace River*	Skykomish River summers	200,000	200,000	600,000	0	1,000,000	Y	Y
WDFW	Wallace River	Skykomish River summers 1+	0	0	500,000	0	500,000	Y	Y
Total summer chinook			720,000	300,000	3,300,000	0	4,320,000		
WDFW	Glenwood Springs	Glenwood Springs falls	100,000	0	450,000	0	550,000	Y	Y

Tribal	Lummi Bay Sea Ponds	Samish River (Friday Creek) falls	0	0	500,000	0	500,000	Y	Y
WDFW	Whatcom Creek	Samish River (Friday Creek) falls	0	0	500,000	0	500,000	Y	Y
WDFW	Samish*	Samish River falls	200,000	200,000	3,600,000	0	4,000,000	Y	Y
Tribal	Brenner Creek	SF Stillaguamish	45,000	0	0	0	45,000	NA	NA
WDFW	Soos Creek*	Big Soos Creek falls	200,000	200,000	2,800,000	0	3,200,000	Y	Y
WDFW/Tribal	Palmer	Big Soos Creek falls	0	0	0	1,000,000	1,000,000	N	N
WDFW	Icy Creek	Big Soos Creek falls 1+	100,000	0	200,000	0	300,000	Y	Y
WDFW	Issaquah	Issaquah Creek falls	150,000	0	1,850,000	0	2,000,000	Y	Y
WDFW	Minter Creek	Minter Creek falls 0+	0	0	1,400,000	0	1,400,000	Y	NA
WDFW	Hupp Springs	Minter Creek falls 1+	75,000	0	45,000	0	120,000	Y	Y
Tribal	Gorst Creek	Grovers Creek falls	200,000	0	1,380,000	0	1,580,000	Y	Y
Tribal	Grovers Creek *	Grovers Creek falls	200,000	200,000	25,000	0	425,000	Y	Y
Tribal	Clarks Creek	Puyallup River falls	0	0	900,000	0	900,000	Y	Y
WDFW	Voights Creek	Voights Creek falls	90,000	0	1,510,000	0	1,600,000	Y	Y
WDFW	Garrison Springs	Garrison Springs falls	90,000	0	360,000	0	450,000	Y	Y
WDFW	Chambers Creek	Chambers Creek	0	0	400,000	0	400,000	Y	NA
Tribal	Clear Creek *	Clear Creek falls	200,000	200,000	2,900,000	0	3,300,000	Y	Y
Tribal	Kalama Creek	Kalama Creek falls	0	150,000	0	0	150,000	NA	Y
Tribal	McAllister Springs	Clear Creek falls	100,000	0	400,000	0	500,000	Y	NA
WDFW	Tumwater Falls	Deschutes River falls	0	0	3,800,000	0	3,800,000	Y	Y
WDFW	George Adams *	George Adams falls	225,000	225,000	3,350,000	0	3,800,000	Y	Y
WDFW	Hoodsport	Hoodsport falls	200,000	0	2,600,000	0	2,800,000	Y	Y
WDFW	Hoodsport	Hoodsport falls 1+	0	0	120,000	0	120,000	Y	Y
WDFW	Elwha	Elwha River falls	250,000	0	0	2,250,000	2,500,000	NA	NA
WDFW	Elwha	Elwha River falls 1+	0	200,000	0	0	200,000	NA	NA
Tribal	Hoko Falls	Hoko River falls	200,000	0	0	200,000	400,000	N	N

Total fall chinook 2,625,000 1,375,000 29,090,000 3,450,000 36,540,000

* DIT group

Total 4,222,500 3,570,000 33,100,000 4,250,000 45,142,500

Total Chinook Production 45,142,500

Percent Marked 83%

Table 1.

WDFW and TRIBAL PUGET SOUND COHO MASS MARKING and CODED-WIRE TAGGING 2016

Species: Coho

10/26/2015

Area: Puget Sound

Brood: 2015

Release Year 2017

Data from 2015 Future Brood Document

Agency	Hatchery	Stock	Number of fish to be released with a CWT		Number of fish to be released without a CWT		Total Production	Proposed to be marked this year (Y/N)	Marked in previous year (Y/N)
			Ad Clipped	Unclipped	Ad Clipped	Unclipped			
WDFW	Baker Lake	Baker River	0	0	65,000	0	65,000	Y	Y
Tribal	Lummi Bay Sea Pens	Lummi Bay	50,000	0	950,000	0	1,000,000	Y	Y
Tribal	Skookum Creek	Skookum Creek	50,000	0	950,000	0	1,000,000	Y	Y
WDFW	Marblemount*	Skagit (Clark Creek)	45,000	45,000	160,000	0	250,000	Y	Y
WDFW	Wallace River*	Skykomish (May Creek)	45,000	45,000	60,000	0	150,000	Y	Y
Tribal	Bernie Gobin	Skykomish (May Creek)	70,000	0	930,000	0	1,000,000	Y	Y
WDFW	Everett Salmon and Steelhead Club	Skykomish (May Creek)	0	0	20,000	0	20,000	Y	Y
WDFW	NWSSC - Eagle Creek	Skykomish (May Creek)	0	0	54,000	0	54,000	Y	Y
WDFW	Laebugten Net Pens	Issaquah Creek	0	0	25,000	0	25,000	Y	Y
Tribal	Harvey Creek	Fortson Creek	60,000	0	0	0	60,000	Y	Y
WDFW	Issaquah	Issaquah Creek	50,000	0	400,000	0	450,000	Y	Y
WDFW	Soos Creek*	Green River (Soos Creek)	45,000	45,000	510,000	0	600,000	Y	Y
Tribal	Keta Creek / Crisp Creek	Green River (Soos Creek)	50,000	0	450,000	0	500,000	Y	Y
Tribal	Elliott Bay Net Pens	Green River (Soos Creek)	50,000	0	400,000	0	450,000	Y	Y
WDFW	Trout Unlimited - Des Moines	Green River (Soos Creek)	0	0	30,000	0	30,000	Y	Y
WDFW	Marine Tech Center	MTC / Soos Creek	0	0	10,000	0	10,000	Y	Y
WDFW	Voights Creek*	Puyallup (Voights Creek)	45,000	45,000	690,000	0	780,000	Y	Y
WDFW/Tri	Puyallup	Puyallup (Voights Creek)	100,000	0	200,000	0	300,000	Y	NA

Tribal	Puyallup Tribal (Rushing)	Puyallup (Voights Creek)	100,000	0	0	0	100,000	Y	Y
WDFW	Minter Creek	Minter Creek	0	0	500,000	0	500,000	Y	Y
WDFW/Tri	SSNP/Squaxin Net Pens	Skykomish (May Creek)	50,000	0	1,750,000	0	1,800,000	Y	Y
Tribal	Garrison Springs	Minter Creek	0	0	100,000	0	100,000	Y	Y
Tribal	Kalama Creek	Kalama Creek	50,000	0	250,000	0	300,000	Y	Y
Tribal	Clear Creek	Clear Creek	50,000	0	250,000	0	300,000	Y	NA
WDFW	George Adams*	George Adams (Purdy Creek)	45,000	45,000	210,000	0	300,000	Y	Y
WDFW-Tri	Port Gamble Net Pens	Big Quilcene River	45,000	0	355,000	0	400,000	Y	Y
Tribal	Quilcene Bay Net Pens	Big Quilcene River	40,000	0	110,000	0	150,000	Y	Y
WDFW	Dungeness	Dungeness	0	0	500,000	0	500,000	Y	Y
Tribal	Lower Elwha House of Salmon*	Elwha River	75,000	75,000	275,000	0	425,000	Y	Y
Tribal	Hoko Falls	Hoko River	0	0	95,000	0	95,000	Y	NA
* = DIT Group									
	Total		1,115,000	300,000	10,299,000	0	11,714,000		
	Total Coho Production		11,714,000						
	Percent marked		97%						

Table 1.

WDFW and TRIBAL COASTAL CHINOOK MASS MARKING and CODED-WIRE TAGGING 2016

Species: Chinook
Area: Coastal Washington
Brood: 2015
Releases: 2016 and 2017

Data from 2015 Future Brood Document

10/27/2015

Agency	Hatchery	Stock	Number of fish to be released with a CWT		Number of fish to be released without a CWT		Total Production	Proposed to be marked this year (Y/N)	Marked in previous year (Y/N)
			Ad Clipped	Unclipped	Ad Clipped	Unclipped			
Tribal	SolDuc	SolDuc summers 0+	70,000		0	0	70,000	Y	Y
Tribal/WDFW	SolDuc	SolDuc summers 1+	80,000	0	170,000	0	250,000	Y	Y
Tribal	Bear Springs	SolDuc summers	0	50,000	0	0	50,000	NA	NA
Total summers			150,000	50,000	170,000	0	370,000		
Tribal	Educket Creek	Sooes River falls	0	0	100,000	0	100,000	Y	Y
Tribal	Salmon River	Queets River falls	200,000	0	0	0	200,000	Y	Y
Tribal	Quinault Lake*	Quinault River falls	200,000	200,000	300,000	0	700,000	Y	Y
WDFW	Humptulips	Humptulips River falls	0	0	500,000	0	500,000	Y	Y
WDFW	Lake Aberdeen	Van Winkle Creek falls	0	0	50,000	0	50,000	Y	Y
WDFW	Wishkah (Mayr Bros)	Wishkah River falls	0	0	200,000	0	200,000	Y	Y
WDFW	Bingham Creek	Satsop River falls	0	0	200,000	0	200,000	Y	Y
WDFW	Satsop Springs	Satsop River falls	0	0	300,000	0	300,000	Y	Y
WDFW	Forks Creek*	Willapa River falls	200,000	200,000	2,800,000	0	3,200,000	Y	Y
WDFW	Nemah	Nemah River falls	0	0	3,300,000	0	3,300,000	Y	Y
WDFW	Naselle **	Naselle River falls	75,000	75,000	350,000	0	500,000	Y	Y
Total falls			675,000	475,000	8,100,000	0	9,250,000		

Total	825,000	525,000	8,270,000	0	9,620,000
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Total Chinook Production			9,620,000		
Percent Marked			95%		

* DIT

** WDFW DIT

Table 1.

WDFW and TRIBAL COASTAL COHO MASS MARKING and CODED-WIRE TAGGING 2016

Species: Coho
Area: Coastal Washington
Brood: 2015
Release Year: 2017

10/26/2015

Data from 2015 Future Brood Document

Agency	Hatchery	Stock	Number of fish to be released with a CWT		Number of fish to be released without a CWT		Total Production	Proposed to be marked this year (Y/N)	Marked in previous year (Y/N)
			Ad Clipped	Unclipped	Ad Clipped	Unclipped			
Tribal	Educket Creek	Sooes River	0	0	40,000	0	40,000	Y	Y
WDFW	Solduc	Solduc summers	0	0	100,000	0	100,000	Y	Y
WDFW	Solduc *	Solduc falls	75,000	75,000	250,000	0	400,000	Y	Y
Tribal	Salmon River *	Salmon River	75,000	75,000	500,000	0	650,000	Y	Y
WDFW	Humptulips	Humptulips	0	0	400,000	0	400,000	Y	Y
WDFW	Humptulips	Humptulips lates	0	0	100,000	0	100,000	Y	Y
WDFW	Friends Landing	Satsop River	0	0	25,000	0	25,000	Y	Y
WDFW	Mayr Brothers	Wishkah River	0	0	300,000	0	300,000	Y	Y
WDFW	Buzzard Creek	Wishkah River	0	0	25,000	0	25,000	Y	Y
WDFW	Lake Aberdeen	Van Winkle	0	0	30,000	0	30,000	Y	Y
WDFW	Bingham Creek *	Satsop River	75,000	75,000	0	0	150,000	Y	Y
WDFW	Bingham Creek	Satsop Lates	0		150,000	0	150,000	Y	Y
WDFW	Satsop Springs	Satsop River	0	0	450,000	0	450,000	Y	Y
WDFW	Skookumchuck	Satsop River	0	0	50,000	0	50,000	Y	Y
WDFW	Skookumchuck	Satsop lates	0	0	50,000	0	50,000	Y	Y
WDFW	Carlisle Lake	Satsop River	0	0	50,000	0	50,000	Y	Y
WDFW	Carlisle Lake	Satsop lates	0	0	50,000	0	50,000	Y	Y
WDFW	Eight Creek	Satsop lates	0	0	100,000	0	100,000	Y	Y
WDFW	Forks Creek *	Willapa River	75,000	75,000	50,000	0	200,000	Y	Y
WDFW	Forks Creek	Willapa lates	0	0	100,000	0	100,000	Y	Y
WDFW	Naselle	Naselle River	0	0	1,200,000	0	1,200,000	Y	Y

WDFW	Naselle	Naselle River Iates	0	0	200,000	0	200,000	Y	Y
WDFW	Westport Net Pens	Humptulips River	0	0	100,000	0	100,000	Y	Y

Total			300,000	300,000	4,320,000	0	4,920,000		
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Total Coho Production					4,920,000				
Percent Marked					94%				

* DIT groups

Table 1.

WDFW and TRIBAL COLUMBIA RIVER CHINOOK MASS MARKING and CODED-WIRE TAGGING 2016

Species: Chinook
Area: Columbia River
Brood: 2015
Release Year: 2016 and 2017

12/15/2015

Data from 2015 Future Brood Document

Agency	Hatchery	Stock	Number of fish to be released with a CWT		Number of fish to be released without a CWT		Total Production	Proposed to be marked this year (Y/N)	Marked in previous year (Y/N)
			Ad Clipped	Unclipped	Ad Clipped	Unclipped			
WDFW	Beaver Creek	Elochoman - Wild Falls	0	190,000	0	0	190,000	NA	NA
WDFW	Deep River Net Pens	Elochoman - Falls	90,000	0	910,000	0	1,000,000	Y	Y
WDFW	Cowlitz	Cowlitz - Falls	1,100,000	0	0	0	1,100,000	Y	NA
WDFW	Cowlitz	Cowlitz - Falls	100,000	0	2,300,000	0	2,400,000	Y	Y
WDFW	N Toutle	Toutle - Falls	100,000	0	1,300,000	0	1,400,000	Y	Y
WDFW	Kalama Falls	Kalama - Falls	125,000	0	3,375,000	0	3,500,000	Y	Y
WDFW	Fallert Creek	Kalama - Falls	125,000	0	3,375,000	0	3,500,000	Y	Y
WDFW	Lewis River	Lewis River - Falls (wild)	100,000	0	0	0	100,000	Y	Y
WDFW	Washougal	Washougal - Falls	100,000	0	800,000	0	900,000	Y	Y
Tribal	Klickitat	Klickitat - falls	650,000	0	3,400,000	0	4,050,000	Y	Partial
Tribal	Hanford Reach	Hanford - Wild	200,000	0	0	0	200,000	Y	Y
WDFW	Lyons Ferry	Lyons Ferry - Falls	200,000	0	0	0	200,000	Y	Y
WDFW	Lyons Ferry	Lyons Ferry - Falls 1+	225,000	225,000	0	0	450,000	Y	Y
WDFW	Ringold **	URBs	430,000	0	3,070,000	0	3,500,000	Y	Y
WDFW	Priest Rapids *	Priest Rapids - URBs	600,000	600,000	6,099,543	0	7,299,543	Y	Partial
Tribal	Prosser	URBs	0	0	0	500,000	500,000	NA	NA
Total Fall Chinook			4,145,000	1,015,000	24,629,543	500,000	30,289,543		
Total Percent Marked			95%						
WDFW	Chelan Falls	Wells - summers 1+	576,000	0	0	0	576,000	Y	Y
WDFW	Dryden Pond	Wenatchee - summers 1+	500,000	0	0	0	500,000	Y	Y
WDFW	Wells	Wells - summers	484,000	0	0	0	484,000	Y	Y
WDFW	Wells	Wells - summers 1+	320,000	0	0	0	320,000	Y	Y

WDFW	Carlton Pond	Methow / Okanogan - summers 1+	200,000	0	0	0	200,000	Y	Y
WDFW	Similkameen Pond	Methow / Okanogan - summers 1+	167,000	0	0	0	167,000	Y	Y
Tribal	Prosser	Wells 0+	0	0	0	250,000	250,000	NA	NA

Total Summer Chinook	2,247,000	0	0	250,000	2,497,000
Total Percent Marked	90%				

WDFW	Cathlamet Channel Net Pens	Cowlitz - springs 1+	250,000	0	0	0	250,000	Y	Y
WDFW	Cowlitz	Cowlitz - springs fall release	100,000	0	400,000	0	500,000	Y	Y
WDFW	Cowlitz	Cowlitz - springs 1+	200,000		1,041,899	0	1,241,899	Y	Y
WDFW	Friends of the Cowlitz	Cowlitz - springs 1+	0	0	55,000	0	55,000	Y	Y
WDFW	Fallert Creek	Kalama - springs 1+	100,000	0	400,000	0	500,000	Y	Y
WDFW	Lewis River*	Lewis River - springs 1+	150,000	150,000	950,000	0	1,250,000	Y	Y
WDFW	Muddy River Acc Pond	Lewis River - springs 1+	0	50,000	0	0	50,000	NA	NA
WDFW	Crab Creek Acclimation Pond	Lewis River - springs 1+	0	0	0	15,000	15,000	NA	NA
WDFW	Clear Creek Acc Pond	Lewis River - springs 1+	0	35,000	0	0	35,000	NA	NA
Tribal	Klickitat	Klickitat - springs 1+	200,000	0	400,000	0	600,000	Y	Y
WDFW	Tucannon	Tucannon - springs 1+	0	225,000	0	0	225,000	NA	NA
WDFW	Chiwawa Pond	Chiwawa - springs 1+	0	144,000	0	0	144,000	Y	Y
WDFW	Nason Creek	Nason Creek - springs 1+	223,670	0	0	0	223,670	Y	NA
WDFW	Methow	Methow - springs 1+	0	135,000	0	0	135,000	NA	NA
WDFW	Twisp	Twisp - springs 1+	0	30,000	0	0	30,000	NA	NA
Tribal	Chewuch Acclimation Pond	Methow - springs 1+	0	60,000	0	0	60,000	NA	NA
Tribal	Cle Elum	Yakima River 1+	810,000	0	0	0	810,000	Y	NA

Total Spring Chinook	2,033,670	829,000	3,246,899	15,000	6,124,569
Total Percent Marked	86%				

* DIT group

** marked by ODFW

Total Chinook	8,425,670	1,844,000	27,876,442	765,000	38,911,112
Total Percent Marked	93%				

Table 1.

WDFW and TRIBAL COLUMBIA RIVER COHO MASS MARKING and CODED-WIRE TAGGING 2016

Species: Coho
Area: Columbia River
Brood: 2015
Release Year: 2017

10/20/2015

Data from 2015 Future Brood Document

Agency	Hatchery	Stock	Number of fish to be released with a CWT		Number of fish to be released without a CWT		Total Production	Proposed to be marked this year (Y/N)	Marked in previous year (Y/N)
			Ad Clipped	Unclipped	Ad Clipped	Unclipped			
WDFW	Deep River Net Pens	Type S	90,000	0	710,000	0	800,000	Y	Y
WDFW	Grays River	Grays River - Type N	45,000	0	105,000	0	150,000	Y	Y
WDFW	Cowlitz	Cowlitz - Type N	0	0	1,200,000	0	1,200,000	Y	Y
WDFW	Cowlitz	Cowlitz - Type N (wild)	978,000	0	0	0	978,000	Y	Y
WDFW	N Toutle	Toutle - Type S	45,000	0	105,000	0	150,000	Y	Y
WDFW	Kalama Falls	Kalama Falls - Type N	45,000	0	255,000	0	300,000	Y	Y
WDFW	Lewis River*	Lewis River - Type S	75,000	75,000	950,000	0	1,100,000	Y	Y
WDFW	Lewis River*	Lewis River - Type N	75,000	75,000	750,000	0	900,000	Y	Y
WDFW	Washougal (Klickitat release)	Washougal - Type N	70,000	0	2,430,000	0	2,500,000	Y	Y
WDFW	Washougal	Washougal - Type N	45,000	0	105,000	0	150,000	Y	Y
Tribal	Klickitat	Klickitat - Type N	45,000	0	955,000	0	1,000,000	Y	Y
Tribal	Beaver Creek Acclimation Pond	Mid-Columbia Type S	0	70,000	0	0	70,000	NA	NA
Tribal	Butcher Pond	Mid-Columbia Type S	0	148,000	0	0	148,000	NA	NA
Tribal	Coulter Pond	Mid-Columbia Type S	0	125,000	0	0	125,000	NA	NA
Tribal	Gold Creek Acclimation Pond	Mid-Columbia Type S	0	0	0	50,000	50,000	No	NA
Tribal	Nason Wetlands	Mid-Columbia Type S	0	105,000	0	0	105,000	NA	NA
Tribal	Rolfings Pond	Mid-Columbia Type S	0	100,000	0	0	100,000	NA	NA
Tribal	Twisp Acclimation Pond	Mid-Columbia Type S	0	90,000	0	0	90,000	NA	NA
Tribal	Wolf Creek Acclimation Pond	Mid-Columbia Type S	0	70,000	0	0	70,000	NA	NA
Total			1,513,000	858,000	7,565,000	50,000	9,986,000		

Total Coho Production 9,986,000
Percent Marked 91%

* DIT group

WDFW and TRIBAL MASS MARKING and CODED-WIRE TAGGING 2016

4/20/2016

Area	Species	Number of fish to be released with a CWT		Number of fish to be released without a CWT		Total Production
		Ad Clipped	Unclipped	Ad Clipped	Unclipped	
Puget Sound	Spring Chinook	877,500	1,895,000	710,000	800,000	4,282,500
	Summer Chinook	720,000	300,000	3,300,000	0	4,320,000
	Fall Chinook	2,625,000	1,375,000	29,090,000	3,450,000	36,540,000
	Coho	1,115,000	300,000	10,299,000	0	11,714,000
Coast	Spring Chinook	0	0	0	0	0
	Summer Chinook	150,000	50,000	170,000	0	370,000
	Fall Chinook	675,000	475,000	8,100,000	0	9,250,000
	Coho	300,000	300,000	4,320,000	0	4,920,000
Columbia River	Spring Chinook	2,033,670	829,000	3,246,899	15,000	6,124,569
	Summer Chinook	2,247,000	0	0	250,000	2,497,000
	Fall Chinook	4,145,000	1,015,000	24,629,543	500,000	30,289,543
	Coho	1,513,000	858,000	7,565,000	50,000	9,986,000
Total	Spring Chinook	2,911,170	2,724,000	3,956,899	815,000	10,407,069
	Summer Chinook	3,117,000	350,000	3,470,000	250,000	7,187,000
	Fall Chinook	7,445,000	2,865,000	61,819,543	3,950,000	76,079,543
	Coho	2,928,000	1,458,000	22,184,000	50,000	26,620,000
Grand Total		16,401,170	7,397,000	91,430,442	5,065,000	120,293,612

From: Bill Bosch <bbosch@Yakama.com>
Sent: Friday, April 8, 2016 10:26 AM
To: Jim Longwill
Cc: Marianne McClure
Subject: RE: 2016 RCMT / YN Proposed releases and mark rates

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Mtg Agenda/Minutes

Approximate Yakama Nation Planned 2016 releases:

Yakima Basin

Spring Chinook: ~685,300 total release (89% CWT in snout, 11% CWT in post-dorsal)

Fall Chinook (subyearlings):

LWS NFH transfers released from Prosser, ~1.5m total release, 10% CWT

Prosser URBs released from Prosser, ~685,500, 20% PIT, no CWT

Summer Chinook: ~40,000 Wells stock released from Yakima R. acclimation sites, 100% CWT

Sockeye: natural-origin progeny of adult plants; minimal marking (PIT) at downstream juvenile sampling stations

Coho: ~1.0million total release, ~63% CWT- all blank wire tag

Mid-Columbia Coho: ~1.2million total release, ~53% CWT (of which some blank wire tag)

Klickitat Basin

Spring Chinook: ~503,400 total release, ~25% CWT

Fall Chinook: ~1.5m total release, ~15% CWT

Coho:

Lewis stock released from Klick. Hatchery, ~1.0m, ~5% CWT

Washougal stock direct released in lower Klick. R., ~2.5m, <5% CWT

Bill Bosch, Data Manager
Yakama Nation Fisheries
Yakima-Klickitat Fisheries Project
509-972-8847
4/8/2016

Appendix C- Marking Requests

Request for Marking Variances

Regional Mark Committee

Please provide the following information when requesting marking variances from the standard tagging and marking established in the "Regional Coordination and Agreements on Marking and Tagging Pacific Coast Salmonids." The information is necessary to assess impacts of the marking variance to the coastwide coded wire tag (CWT) program.

Please address all of the following items 1-6 in adequate detail (use separate pages).

=====

Agency: WDFW

Date: April 11, 2016

Marking Coordinator: a) Name: Mark Kimbel

b) Email: Mark.Kimbel@dfw.wa.gov

1. Mark Requested: Agency Blank Wire

2. Details of Marking

- a) Number of fish 40,000
- b) Species and Run Steelhead, Late Winter
- c) Brood year 2016
- d) Stock(s) Green River
- e) Hatchery(ies) Soos Creek, Icy Creek, Flaming Geyser
- f) Geographic area(s) Green River, Puget Sound
- g) Release date May 2017
- h) Duration of this marking program Continuous

3. Specific Management and/or Research Objectives
(give examples)

Wild Steelhead Recovery Program - need to be able to id these fish upon return to hatchery/watershed

4. Impact on Coastwide CWT Programs

- a) Predicted number observed recoveries by state/province and by year
WDFW - 20 recoveries per year
- b) Changes to current CWT sampling program
None
- c) Other
None

5. Specify Expected Benefits

Ability to identify and differentiate from the winter and summer stocks in the area/hatchery

6. Alternatives Considered (specify reason(s) for rejection)

Fin Clip - high mortality

Coded-Wire Tag - more expensive and little to no recoveries outside of terminal area

Request for Marking Variances

Regional Mark Committee

Please provide the following information when requesting marking variances from the standard tagging and marking established in the "Regional Coordination and Agreements on Marking and Tagging Pacific Coast Salmonids." The information is necessary to assess impacts of the marking variance to the coastwide coded wire tag (CWT) program.

Please address all of the following items 1-6 in adequate detail (use separate pages).

=====

Agency: WDFW

Date: April 11, 2016

Marking Coordinator: a) Name: Mark Kimbel

b) Email: Mark.Kimbel@dfw.wa.gov

1. Mark Requested: Agency Blank Wire

2. Details of Marking

- a) Number of fish 50,000
- b) Species and Run Steelhead, Late Winter
- c) Brood year 2016
- d) Stock(s) Lewis River
- e) Hatchery(ies) Merwin
- f) Geographic area(s) Lewis River, Lower Columbia River
- g) Release date May/June 2017
- h) Duration of this marking program Continuous

3. Specific Management and/or Research Objectives
(give examples)

Wild Steelhead Recovery Program - need to be able to id these fish upon return to hatchery/spawning grounds

4. Impact on Coastwide CWT Programs

- a) Predicted number observed recoveries by state/province and by year
WDFW - 500 recoveries per year
- b) Changes to current CWT sampling program
None
- c) Other
None

5. Specify Expected Benefits

Ability to identify and differentiate from the winter and summer steelhead stocks in the area

6. Alternatives Considered (specify reason(s) for rejection)

Fin Clip - high mortality

Coded-Wire Tag - more expensive and little to no recoveries outside of terminal area

Request for Marking Variances

Regional Mark Committee

Please provide the following information when requesting marking variances from the standard tagging and marking established in the "Regional Coordination and Agreements on Marking and Tagging Pacific Coast Salmonids." The information is necessary to assess impacts of the marking variance to the coastwide coded wire tag (CWT) program.

Please address all of the following items 1-6 in adequate detail (use separate pages).

=====

Agency: WDFW

Date: April 11, 2016

Marking Coordinator: a) Name: Mark Kimbel

b) Email: Mark.Kimbel@dfw.wa.gov

1. Mark Requested: Agency Blank Wire - Caudal

2. Details of Marking

a) Number of fish 35,000

b) Species and Run Chinook, Spring

c) Brood year 2015

d) Stock(s) Nason Creek

e) Hatchery(ies) Eastbank

f) Geographic area(s) Nason Creek, Wenatchee River, Mid-Columbia River

g) Release date April 2017

h) Duration of this marking program ends with 2017 brood

3. Specific Management and/or Research Objectives

(give examples)

Spring Chinook Recovery Program - need to be able to differentiate these fish from White River and Chiwawa River spring chinook stocks upon return to hatchery/watershed. These fish also have a CWT in the snout.

4. Impact on Coastwide CWT Programs

a) Predicted number observed recoveries by state/province and by year

WDFW - 163 recoveries per year

b) Changes to current CWT sampling program

None

c) Other

None

5. Specify Expected Benefits

Ability to identify and differentiate from the other spring chinook stocks in the area

6. Alternatives Considered (specify reason(s) for rejection)

Fin Clip - high mortality

Coded-Wire Tag - more expensive and few recoveries from outside of terminal area

Request for Marking Variances

Regional Mark Committee

Please provide the following information when requesting marking variances from the standard tagging and marking established in the "Regional Coordination and Agreements on Marking and Tagging Pacific Coast Salmonids." The information is necessary to assess impacts of the marking variance to the coastwide coded wire tag (CWT) program.

Please address all of the following items 1-6 in adequate detail (use separate pages).

=====

Agency: WDFW

Date: April 11, 2016

Marking Coordinator: a) Name: Mark Kimbel

b) Email: Mark.Kimbel@dfw.wa.gov

1. Mark Requested: Agency Blank Wire (snout)

2. Details of Marking

- a) Number of fish 10,000
- b) Species and Run Steelhead, Summer
- c) Brood year 2016
- d) Stock(s) Omak Creek
- e) Hatchery(ies) Wells
- f) Geographic area(s) Omak Creek, Okanogan River, Upper Columbia River
- g) Release date April 2017
- h) Duration of this marking program Continuous

3. Specific Management and/or Research Objectives
(give examples)

Wild Steelhead Recovery Program - need to be able to differentiate these fish from the release at St. Mary's Pond upon return to hatchery/watershed. These fish also have a CWT in the caudal peduncle.

4. Impact on Coastwide CWT Programs

- a) Predicted number observed recoveries by state/province and by year
WDFW - 50 recoveries per year
- b) Changes to current CWT sampling program
None
- c) Other
None

5. Specify Expected Benefits

Ability to identify and differentiate this group of Omak Creek wild summer steelhead, directly planted into upper Omak Creek, from the group released at St. Mary's Pond to assess the effectiveness of both releases in seeding the upper watershed.

6. Alternatives Considered (specify reason(s) for rejection)

Fin Clip - high mortality

Coded-Wire Tag - more expensive and little to no recoveries outside of terminal area

Request for Marking Variances

Regional Mark Committee

Please provide the following information when requesting marking variances from the standard tagging and marking established in the "Regional Coordination and Agreements on Marking and Tagging Pacific Coast Salmonids." The information is necessary to assess impacts of the marking variance to the coastwide coded wire tag (CWT) program.

Please address all of the following items 1-6 in adequate detail (use separate pages).

Agency: *NWIFC / Puyallup Tribe*

Date: *4/18/16*

Marking Coordinator: a) Name: *Ron Olson*

b) Email: *rolson@nwifc.org*

1. Mark Requested: *Agency Only Wire*

2. Details of Marking:

- a) Number of fish: *~40,000*
- b) Species and Run: *Winter Steelhead*
- c) Brood year: *2016*
- d) Stock(s): *White River*
- e) Hatchery(ies): *Diru Creek (rearing) / Huckleberry Creek (acclimation and release)*
- f) Geographic area(s): *Mid Puget Sound / White River*
- g) Release date: *April 2017*
- h) Duration of this marking program: *On going*

3. Specific Management and/or Research Objectives (give examples):

This is a wild stock rebuilding program. This marking will provide the ability to separate hatchery (HOR) and natural (NOR) steelhead for broodstocking purposes at the Mud Mountain Dam on the White River. Only NOR steelhead will be taken for broodstock, while HOR steelhead will be passed above the dam to spawn naturally.

4. Impact on Coastwide CWT Programs:

- a) Predicted number observed recoveries by state/province and by year: *Few to none*
- b) Changes to current CWT sampling program: *None*
- c) Other: *Steelhead are only occasionally encountered in marine sampling programs.*

5. Specify Expected Benefits:

Agency Only wire will provide the ability to distinguish between HOR and NOR steelhead, while not exposing the fish to lower basin MSFs. Agency Only wire will be a cost effective way to achieve this broodstock management goal.

6. Alternatives Considered (specify reason(s) for rejection):

- 1. CWT: *Rejected for high cost and lack of benefits. No snouts will be taken from returning adults, so there would be no benefit of a CWT over an Agency Only tag. Additionally, due to a lack of marine recoveries and current low survival rates, there should be negligible impacts on other sampling agencies.*
- 2. Adipose mark: *Rejected due to exposure to MSFs. This is a recovery program and the White River Steelhead are part of the Puget Sound ESU that is listed as Threatened.*

US agencies, please forward request to:
George Nandor
Regional Mark Coordinator
Pacific States Marine Fisheries Commission
205 SE Spokane St., Suite 100
Portland, OR 97202
Telephone: 503-595-3144
Email: george_nandor@psmfc.org

Canada, please forward request to:
Kathryn Fraser
Salmon Stock Assessment
Fisheries and Oceans Canada
3190 Hammond Bay Road
Nanaimo, BC V9T1K8
Telephone: 250-756-7371
Email: kathryn.fraser@dfo-mpo.gc.ca

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