2017 RCMT MEETING

41ST Annual Meeting

Hosted by: ***Fisheries & Oceans Canada***
Location: *DFO Regional Headquarters*
401 Burrard St., #200
Vancouver, BC
Dates: ***April 25,26, 2017***

Final Notes

For further information see: http://www.rmpc.org/2017-meeting-calander-and-information.html

Other references include: RCMT_Meeting_Minutes_2016.pdf

PSC DSWG Version 4.1 Revisions, 2015, Seattle

APR 25: TUESDAY: 9:00 AM – 4:00 PM

1. **General Business Items** (George Nandor /PSMFC)
   - Welcome and introductions
     - Trevor Clark is the new ODFW Committee Member
   - Consider possible dates for next year's mtg – 2018 -- to be hosted in Washington
     - Ron, Mark, and Carrie will coordinate plans
     - Will again target last week in April as it seems to work well for most
     - Looking at Skamania Lodge (Columbia River) as one option; also looking at Olympia or Friday Harbor/ San Juan Island or Suquamish
   - The 2019 meeting is intended to be hosted in Oregon
     - Trevor Clark (ODFW) and Marianne McClure (CRITFC) will coordinate plans
   - Review agenda
     - Open call to bring presentations to future meetings to share your agency's activities

2. **Regional Mark Processing Center operations & announcements** (RMPC staff)

   A. Status of CWT Datasets (Dan Webb /PSMFC)

   PowerPoint presentation will be available online

   Changes in Data Reporting:
   - agency acronyms have recently been updated and current list of contacts and data types submitted can be viewed on RMPC Publications web page
   - new CDFW personnel in training to start providing recovery and catch/ sample data
     - release data is generally pretty good, but it's the recovery data from Klamath/ Trinity that is the issue; Central Valley data is pretty solid
     - The data is there, but it hasn't been reported to RMIS
   - Quileute Nation currently working with WDFW to report recovery and catch/ sample data

   Releases
   - Most all agencies are up to date
   - Colville has a release dataset that is still pending validation

- Not getting complaints regarding missing tag code issues; still rely on agencies to police their own data (may still be Status 7's to be resolved that don't show up as a missing tag code; or there may be agencies submitting data without the recoveries that would include missing tag codes)

Recoveries

- Most agencies have reported recoveries reviewed up to 2015, with exceptions noted for CDFWKT, CRFC/ YAKA, QDNR, QUIL, YTFP

Catch/ Sample

- Mirrors recoveries, with exceptions noted for CDFW, IDFG/ NEZP (do not submit catch/ sample), QUIL, YAKA, YTFP
    - If IDFG is doing 100% sampling it should be pretty simple to cut that record; providing that information has been agreed to in Data Standards and there is a requirement for data transparency in the next version;
    - Is some data better than no data? If they just have observed recoveries in their data, then yes, some data is better. If they are expanding their data, then they need to explain where the record came from.

Monthly Data Integrity Reports

- Continue to notice occasional discrepancies and work with individual agencies to clean them up

Missing Tag Codes/ half-length Tag Type Issues

- Noticed a decline in issues overall
- RMPC has done a good job in providing quality control and agencies are seeing a significant improvement

B. Other Data Processing Issues (Dan Webb)

Discussion: concerns about localized copies of the CWT database

- Keeping datasets up to date
- Validating historical datasets

If you choose to use a copy of the database locally, please make sure you are keeping datasets up to date, and keep in mind that historical datasets often won't validate

USFWS keeps a local copy to conduct specialized queries to meet their needs- would be useful if RMPC could provide a way to run those queries/ summarize the data easily to work with their modeling perspective- i.e., not currently user friendly for Coho. (Carrie will work with Jim to develop those queries); would like limit on # of tag codes in queries to be removed

Others are keeping copies for statewide transparency data requirements; WDFW is moving to GIS based data representation so keeps a copy for those purposes

Every time a dataset is validated, it can be pulled directly from the ftp/ static file site (you can still get to it through http); Alaska connects to a directory on the server and pulls their data from there- Jake will discuss more with Jim/ Dan about how WDFW needs could be met.

Canada and RMPC maintain parallel repository systems; agency repositories and analytical tools may be more specific/ designed to meet their unique needs but the trend is towards centralization and exchange rather than existing in isolation.

3. **Update on PSC Data Standards Working Group** (George Nandor)
(Further refs per above links: minutes, RCMT, 2016, Idaho: Item #3; PSC DSWG Version 4.1 Revisions, 2015, Seattle)

Available online at RMPC Publications web page

Working on proposals- some to implement immediately and incorporate into Version 4.1 and others that are Version 5.0 recommendations (some closed/ won't be done, some active/ still being discussed)

Timeline for implementing changes will be established once Data Sharing has a chance to review the Version 5.0 proposals recommended by Data Standards

Version 4.1 immediate revisions effective May 1, 2017:

- Agency Acronym Updates- removed 4 character field limit to reflect actual acronyms in use
- Reporting Tag Type updates- ½ length numeric and decimal tags validation
- File Naming Convention updates
- Rearing Type Description updates
- Additional Length Measurement updates
- Incomplete Mid-Year Releases → Preliminary Releases
- High Seas & Foreign Location Reporting- modified definitions

Approved 5.0 Proposals/ Updates include:

- expand release comments
- addition of release stock origin field
- additional count method value
- addition of length c/v fields
- addition of unresolved reason field
- recovery weight upper limit
- update of cwt estimate field name
- catch sample period ranges & addition of field pool id
- retire catch/ effort specification
- update location code format (blanks)
- define maximum species age
- increase location coordinate precision
- retire PSC indicator study type value 'K'
- agency wire tag release reporting

Active 5.0 Proposals (still under discussion) include:

- Agency deadlines (letters sent to PSC and CTC)
- Update old "Blue Book" information and incorporate into spec document &/or online reference

- Reporting on unsampled catch
- Updates to chapter 4, catch/ sample data; possibly add explanatory appendix
- Fisheries Regulations exchange
- Reporting of total catch
- Remove redundant format fields
- Recovery weight upper limit
- Permanent recovery ID status
- Lat/ Long specific agency methods

Closed 5.0 Proposals (rejected or replaced with better idea) include:

- Locating Agency only release records
- Update study integrity fields- add new code for information "Lost"
- New mark code for poor clip/ bad clip rate
- Geographic data exchange

4. **Update from PSC Selective Fishery Evaluation Committee** (Carrie Cook-Tabor /USFWS)
(Further ref per above link: minutes, RCMT, 2016, Idaho: Items #4,5)

PowerPoint Presentation

Mass Marked Coho releases stable over the last several years between 40 and 50 million

Mass Marked Chinook releases stable over the last several years around 120 million; about 2 million more tagged and marked, but 1.3 million fewer unmarked and tagged fish for BY2016

Includes new graph tracking DIT programs over the years; the number of Coho DITs have decreased dramatically, while the number of Chinook DITs have remained stable. . However, Chinook DIT programs have been discontinued in some regions.

The most current proposals are to release 34.2 million mass marked Coho (+.8 million), 116.2 million mass marked Chinook (-1.6 million)

Proposed DIT Programs remain unchanged (15 Coho, 13 Chinook)

ADFG has introduced "hybrid" sampling (visual with electronic sub-sampling) in ocean sampling and for new mark selective fishery. Ron Olsen to review at PSC Selective Fishery Evaluation Committee. May result in a proposal for Data Standards to review exchange specs to ensure recovery and catch sample records are being reported transparently and can be interpreted correctly (currently defined as its own harvest type).

5. **All-Agency Update on:** (Tag-Coordination Representative, ALL-AGENCY Participation)
   - Tagging Levels for 2017.....see tables below
   - Mass Marking for 2017.....see tables below
   - Mark-Selective Fishery Plans &/or Comments.....see tables below

Member agencies:

Agency or Organization	2017 Tagging Levels, Mass Marking, MSF Plans, Tag-Lab Update, Other Comments
WDFW / Washington Dept. Fish & Wildlife	**Handout provided** (Mark Kimbel/ WDFW) Some decreases due to Mitchell Act production; mass marking is separate program from CWT; treaty re-negotiation may call for CWT program review by agency
IDFG / Idaho Dept. Fish & Game	**Handout provided** (Brian Leth/ IDFG) ***no representative present**
NWIFC / Northwest Indian Fisheries Commission	**Included in WDFW handout**; mm levels remain the same, have 1 small ceremonial subsistence MSF (Nooksack R Chinook)
NMFS / National Marine Fisheries Service, Alaska	**Information provided**: Little Port Walter's tagging level for 2017: 109,442 ad clip + CWT Chinook and 4,872 ad clip only Chinook. ***no representative present**
CRITFC / Columbia R. Intertribal Fish Commission	**Included in WDFW handout**; mm levels remain the same
CDFW / California Department of Fish & Wildlife	**Handout provided** (Stan Allen/ PSMFC); Oroville dam incident req. 6 mil Chinook transferred to annex, delayed marking season; Nimbus reported high turbidity this yr; Iron Gate reported poor returns of Chinook last yr ***no representative present**
CDFO / Fisheries & Oceans Canada	**Handout provided** (Doug Herriott/ CDFO); slight decrease in Chinook, small increase in Coho and sockeye is stable
ADFG / Alaska Dept. Fish & Game	**Handout provided** (Detlef Buettner/ ADFG); no mm of Chinook in Alaska
ODFW / Oregon Dept. Fish & Wildlife	**Handout provided** (Trevor Clark/ ODFW); Fall Chin #s down slightly; note: LV project now underway 3 yrs, intent is just to distinguish springs from falls
MIC / Metlakatla Indian Community	***no representative present; no information provided**
USFWS / U.S. Fish & Wildlife Service	**Handout provided** (Carrie Cook-Tabor/ USFWS)

Other reporting agencies:

Agency or Organization	2017 Tagging Levels, Mass Marking, MSF Plans, Tag-Lab Update, Other Comments
YAKA / Yakama Nation (WA)	**Handout provided** (B. Bosch /YAKA)
NPT / Nez Perce Tribe (ID)	***no representative present; some information provided**
CCT / Colville Confederated Tribe(s) (WA)	***no representative present; some information provided** (R. Bussanich /ONA-Canada)

6. **Discussion on Use of Length + ½ Tags** (Mark Kimbel /WDFW)
   - Who uses 1.5 length?
   - Are they a benefit?

   WDFW uses 1.5 length tags for Coho; should they also be using in Chinook?

   Miscut standard length tags cut to 1.5 length you can still read 80% of tags, and if it's caught and you know how many were cut to the wrong length you can make note of it but still won't know for sure how many were released

   ODFW still uses 1.5 length tags for coho (but would like to only use standard length for everything. CDFO had an experimental program on Coho at one hatchery for one brood year but the program was never expanded.

   NWIFC stopped using them when they changed the time of year that they tagged their coho and had problems using 1.5 length tags with the smaller sized fish; found that they weren't gaining anything in terms of detectability using the bigger tags thanks to the new wands

   Studies didn't find any differences in survival between using the 1.5 length tags vs standard length; tag placement is an on-going issue

7. **Adult Fish Length Data Collected from CWT Fish** (Mark Kimbel)
   - Does anyone use this data?
   - Do we need to measure all of them?

   WDFW takes a length on every CWT adult fish they encounter; their hatchery staff wants to know why they are doing it

   The length measurement is used to designate the 'jack line'; used for QA/ QC purposes; used to track changes over time

   Could be more strategic in the sampling efforts for CWT (don't necessarily have to measure all of them); sub-sampler on the sorter is a big help

Goal at tribal facilities is to sample everything for tags and length

Post meeting comment from NWIFC staff on the importance of length data for fisheries management: Length data from CWT recoveries is particularly important to analysts who utilize CWT data. Fisheries can have differing size limits, (i.e. legal size above a limit and sublegal below) and data from each group is treated differently in various algorithms, modeled fisheries, etc. With the prevalence of mark-selective fisheries, CWT recoveries and associated lengths are necessary to accurately model fishery impacts. Length measurements are necessary to determine which CWT recoveries are appropriate for deriving various model parameters, for example in the FRAM base period or in the PSC Chinook TC modeling. For run reconstructions, fish length measurements are often important to determine if there are any recoveries that would be characterized as "jacks" (regularly defined by length). Length data can also be used for quality control with age data and allows us to derive growth functions, aspects of marine survival, fitness, etc.

8. **PSC Report: RFID Tags Compared with CWTs** (Ron Olson /NWIFC)
   Discussion of the recent PST contracted technical report regarding the feasibility of RFID tags for replacing CWTs.

   http://www.psc.org/publications/technical-reports/technical-report-series/

   Their tribes do very little PIT tagging, so looking for feedback from others that utilize them more frequently

   Report concludes the only suitable RFID tag for fish is PIT tag, but that there is insufficient data to determine if they can replace CWT due to lack of long-term studies on survivability

   Mentions an ongoing study of yearling fish at a USFWS hatchery and references a study that notes decreases in returns/ survivability and increased tag loss for PIT tag fish vs CWT fish

   Ron is interested in following up with anyone that might have some more info / insight on survival impacts and tag loss rates from anadromous PIT tag studies, especially sub-yearling releases - please forward contact info to him

9. **Special Marking Requests & Announcements for 2017:** (George Nandor)
   Requests & Announcements received to date: NONE

APR 26: WEDNESDAY: 9:00 AM - NOON

10. Northwest Marine Technology (Geraldine Vander-Haegen /NMT)

- **Survivability/ Tag Detection presentation** (1.5 length vs standard length)

  Mean tag depth: Coho- 1.5cm, Chinook- 2cm (5% of tags between 3 and 4 cm)

  Mouth wanding with the blue wands would detect 95% all of standard length tags regardless of depth, standard wanding with the blue wands would detect nearly all 1.5 length tags regardless or depth

  Would need perfect placement to safely use a 1.5 length tag on a minimum 68mm total length fish (200 fish/lb.)

  Some increased recoveries of 1.5 length tags vs standard length tags (with blue wands), but no significant differences seen in survival

  Use the largest tag size your fish can reasonably accommodate to increase detection rates and minimize wanding errors

  2016- 83% of tags were standard length, <1% half length (most of these are also all clipped, so visual sampling counteracts any detection issues), 4% 1.5 length

  With the T-wand, if you are sampling correctly you should be finding all the standard length tags

  Would want to be strategic about where blue wands are used- put them in a terminal fishery rather than a mixed-stock, avoid areas with known larger fish that might elude tag detection efforts; Not missing tags consistently across stocks, but missing a larger proportion of the larger fish

  If you're sampling Chinook without mouth-wanding, use a T-Wand; if Coho, updated blue wand is ok

  In most cases a full length tag is sufficient and if you are sampling correctly you will find it

  Would like a table developed that can note the equipment available (wand type, tube, etc.) and their tag detection ranges/ minimum fish sizes to help inform decisions in determining the best tool they should be using for their programs. Ron Olson volunteered to get a workgroup together to work on a draft reference document for this information to present at next year's committee meeting. Mark Kimbel will join Ron (& NMT staff) to build this table.

  With the equipment available and the use of proper sampling techniques, tags should not be missed regardless of fish size or tag size used

  Does anyone have unimproved blue wands still in operation? If not, then it is not an issue. If so, need follow-up on where they are in operation

Should be very careful with still using the unimproved blue wands; there is an opportunity to update/ upgrade them with NMT; NMT recommends not using them.

Info on trading in your old blue wands (blue cap is lower detection range and should be updated or removed from use altogether, silver cap is higher detection) and/ or purchasing new T-wands can be found on NMT's website

11. Discussion: Mobile Data Collection (Jake Shapley /WDFW)

PowerPoint Presentation

- Background
  - Enter data at the source, once, send it anywhere
  - Saves time and money
  - Cleaner data
  - Available immediately

- iFormBuilder
  - 2+ years of production use
  - DIY form building (drag and drop to create their owns forms), data and user management, etc.
  - Developer help available
  - Small to large scale deployments
  - Leverage iPad lease option (total of 24 lease payments is only 90% of outright purchase costs)
  - Recently scored A+ on WaTech security test

  169K annual device transactions/ $0.53 per- will get down to $0.10/ transaction later this year

  Doesn't require an internet connection to work- all the validation is built in from the beginning; data will persist offline for months and wait until the user is able to sync; a Linux server is carried in a field pack & syncs when possible

  How do you deal with a need to correct mistakes? Projects can determine how the need for edits are addressed- some assign back to collector, some don't

  Struggles: demand still exceeds developer resources, need to make training more accessible, need for documentation, central ITS does not support iPads/ iForm/ etc.

  Anyone can start a trial account on WDFW's account- link will be provided

  Costs: ~ $90,000 /yr for Enterprise –level contracts; could vary in different situations

- Client-side Integration
  - Built in sensors

- Hardware (wifi and Bluetooth)
- Connectivity with other apps
- Web services for current weather, flow, tide, etc. data

Bluetooth replacement end cap for PIT tag readers ($229 cost) sends data directly to mobile device

Upcoming: vessel electronics, BLE adapter for HPR Plus, new PIT tag reader

- Data Flow, Management, Reporting
  - Getting data out is critical
  - QC needs to be easy
  - Data flow needs to be automated
  - Data reporting and visualization

  Use Amazon web services and run on Linux to save money

  Can dump data of any shape into Mongo (all data from iForm goes there)

  S3 is https (not ftp) for storage and static content

  Single sign on- authenticate into services with agency credentials

  26 servers, 3 virtual private clouds, managed by 6-person team

- Custom Apps
  - iFormBuilder and other COTS meet ~90% of mobile data collection needs
  - Custom apps needed to meet the remaining 10%

12. **Demo: WDFW new Mobile Sport Regulation Application** (Jake Shapley)

PowerPoint Presentation

App is in beta testing right now, will be launched in July

130+ page pamphlet, most requested product by Fish Program constituency, become a politically charged topic

Vision was for an app that is location-aware, ability to tap on a water body and get the regs for it, needs to be offline capable, need to get real-time updates when regs change

In the future, want to support catch reporting, releases and other notifications, in-season catch data, point users towards opportunities, social engagement platform, want to “fundamentally change the way constituents interact with the agency”

13. Northwest Marine Technology (Geraldine Vander-Haegen /NMT)

- Product update

  Jan Chamberlin retired in February, Dave is taking on CEO functions due to Guy's retirement; sold building in Olympia and moved to a smaller location (324 West Bay Drive)

  Wand trade-in still available, re-tuning of T-wands is still available, wand training is always available

  Want to do more to support tag recovery in head labs- looking at areas where they can assist with improvements to recovery technologies

  ODFW going to a bar code reader at their lab

- Q&A: Requests from Agencies:

  CDFO, ADFG use bar codes/ labels- need a way to attach them in the field that will hold up to environmental issues faced in the field and transit to the labs; ADFG having a problem with the bar code ink on their cinches running off- next year, everyone bring their bag tag methodology

  Would like exploration of ways to digitally read a tag code to eliminate/ reduce need to manually read them and to eliminate transcribing to paper and then to data entry

  Would like a way to safely and efficiently cut snouts in a consistent manner- hatchery setting and mobile settings (cutting board mold/ guillotine, etc.)

  Would like to have simulated fish with/ without tags in them for training purposes (wand technique, etc.)- could be a 'box of fish' that agencies can check out and return

Appendix A

2017 Mark Meeting Attendees

***Committee Member or Designee**

Name	Agency	Mailing Address/ Telephone/E-mail Address
Buettner, Detlef	ADFG	10107 Bentwood Place, Juneau, AK 99801 Tel: (907) 465-3496 E-mail: detlef.buettner@alaska.gov
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REVIEWED by:
J. Longwill; 2-Jun-2017

Appendix B

2017 Agency Marking and 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	1,022,880
2016	1,368,945	1,093,204
2017 (EST)	1,400,000	1,050,000

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	48,566,690	755,361,971	677,364,803	7,649,284	12,658,587
2017(EST)	53,000,000	760,000,000	670,000,000	7,000,000	12,000,000

NO TAGS	AD + TM + No CWT
2011	264,306
2012	258,759
2013	199,356
2014	405,723
2015	0
2016	0
2017 (EST)	0

2017 Mass Marking Program Details

Region	Project	Chum	Coho	Sockeye	Steelhead	Total
BC North Coast	Eby Street		25,000			25,000
	Oldfield Cr		10,000			10,000
	Snootli Cr	100,000		60,500		160,500
BC North Coast Total		**100,000**	**35,000**	**60,500**		**195,500**
BC South Coast	Big Qualicum R	250,000	200,000			450,000
	Chapman Cr		70,000			70,000
	Conuma R		150,000			150,000
	Courtenay		50,000			50,000
	Fanny Bay/GSVI		60,000			60,000
	French Cr		30,000			30,000
	Goldstream R		100,000			100,000
	Little R/GSVI		35,000			35,000
	Nanaimo R		84,000			84,000
	Nitinat R		150,000			150,000
	P Hardy/Marble		215,000			215,000
	P Hardy/Quatse		300,000			300,000
	Quinsam R		305,000			305,000
	Robertson Cr		160,000		100,000	260,000
	Rosewall Cr			625,000		625,000
	Roy Cr		30,000			30,000
	Saanich Seapens		25,000			25,000
	Sliammon R		60,000			60,000
	Tofino		30,000			30,000
BC South Coast Total		**250,000**	**2,054,000**	**625,000**	**100,000**	**3,029,000**
Lower Fraser River	Alouette R		25,000	25,000		50,000
	Capilano R		500,000			500,000
	Chehalis R		400,000			400,000
	Chilliwack R		800,000			800,000
	Hoy Cr		5,000			5,000
	Hyde Cr/LWFR		10,000			10,000
	Inch Cr		391,000			391,000
	Inch Sockeye Satellite			200,000		200,000
	Kanaka Cr		30,000			30,000
	L Campbell R		30,000			30,000
	Noons Cr		10,000			10,000
	Poco Hatchery		20,000			20,000
	Ravine Pk		5,000			5,000
	Reed Point/Ioco		4,000			4,000
	Tenderfoot Cr		150,000			150,000
	Westridge Term		7,500			7,500
Lower Fraser River Total			**2,387,500**	**225,000**		**2,612,500**
Grand Total		**350,000**	**4,476,500**	**910,500**	**100,000**	**5,837,000**

2017 Coded Wire Tag Details

Regional Area	Stock	Chinook	Coho	Sockeye	Total
BC Interior	Chilko R	10,000			10,000
	Coldwater R		190,000		190,000
	Eagle R		65,000		65,000
	Nicola R	200,000			200,000
	Shuswap R Low	530,000			530,000
	Shuswap R Middle	170,000			170,000
BC Interior Total		**910,000**	**255,000**		**1,165,000**
BC North Coast	Atnarko R Low	200,000			200,000
	Atnarko R Up	200,000			200,000
	Bulkley R Up	15,000			15,000
	Chuckwalla R	25,000			25,000
	Deena R		15,000		15,000
	Kilbella R	10,000			10,000
	Kitimat R	150,000			150,000
	Kitsum Abv Canyon	115,000			115,000
	Kitsum Bel Canyon	95,000			95,000
	Kitwanga R		10,000		10,000
	Slamgeesh R		10,000		10,000
	Toboggan Cr		35,000		35,000
	Wannock R	100,000			100,000
	Zymacord R		15,000		15,000
BC North Coast Total		**910,000**	**85,000**		**995,000**
BC South Coast	Bedwell R	40,000			40,000
	Big Qualicum R	160,000	200,000		360,000
	Cowichan R	690,000			690,000
	Nahmint R	30,000			30,000
	Nitinat R	100,000			100,000
	Phillips R	100,000			100,000
	Puntledge R	100,000	200,000		300,000
	Quinsam R	675,000	180,000		855,000
	Robertson Cr	590,000	40,000		630,000
	San Juan R	40,000			40,000
BC South Coast Total		**2,525,000**	**620,000**		**3,145,000**
Lower Fraser River	Ashlu Cr	15,000			15,000
	Cheakamus R	130,000			130,000
	Chilko R	60,000			60,000
	Chilliwack R	320,000			320,000
	Cultus Lk			25,000	25,000
	Harrison R	300,000			300,000
	Inch Cr		150,000		150,000
	Mamquam R	30,000			30,000
	Seymour R/GSMN		40,000		40,000
	Shovelnose Cr	15,000			15,000
Lower Fraser River Total		**870,000**	**190,000**	**25,000**	**1,085,000**
Yukon and Transboundary	Yukon R	150,000			150,000
Yukon and Transboundary River Total		**150,000**			**150,000**
Grand Total		**5,365,000**	**1,150,000**	**25,000**	**6,540,000**

Summary of 2017 Mass Marking Programs

Region	Chum	Coho	Sockeye	Steelhead	Total
BC North Coast	100,000	35,000	60,500		195,500
BC South Coast	250,000	2,054,000	625,000	100,000	3,029,000
Lower Fraser River		2,387,500	225,000		2,612,500
Grand Total	**350,000**	**4,476,500**	**910,500**	**100,000**	**5,837,000**

Summary of 2017 Coded Wire Tag Programs

Row Labels	Chinook	Coho	Sockeye	Total
BC Interior	910,000	255,000		1,165,000
BC North Coast	910,000	85,000		995,000
BC South Coast	2,525,000	620,000		3,145,000
Lower Fraser River	870,000	190,000	25,000	1,085,000
Yukon and Transboundary	150,000			150,000
Grand Total	**5,365,000**	**1,150,000**	**25,000**	**6,540,000**

California

General Comments
Oroville Dam issues- High flows and heavy sediment load which is why six of the eight million Chinook from Feather River got moved to the Feather River Annex. This delayed the start of the marking season and there is still high turbidity in the water at Feather River Hatchery.
Nimbus Hatchery had much higher turbidity in their water than normal years. This caused slightly higher mortality and the turbidity combined with cooler than normal water temperatures resulted in fish growth rates that are a few weeks behind when compared to previous years.
Iron Gate Hatchery had a poor adult Chinook return in 2016 which is why they have so few fish in 2017.

Hatchery	2016 Tagging Levels, Mass Marking Plans, Etc.
Coleman NFH	- 12 mil fall run Chin at 25% clip + tag - 1.1 mil late-fall run Chin at 100% clip + tag - 700K steelhead clip only - 200K winter run Chin at 100% clip + tag (Livingston Stone)
Nimbus	- 3.6 mil fall run Chin at 25% clip + tag - 300K steelhead clip only
Feather	-1.5 million fall run Chin at 25% clip + tag -500k fall run Chin at 100% clip + tag -700k steelhead clip only Annex- 1.6 million spring run Chin 100% clip + tag Annex- 3.5 million fall run Chin 25% clip + tag Annex- 500k fall run Chin 100% clip + tag
Mokelumne	-1.8 million fall run Chin at 100% clip + tag -4.6 million fall run Chin at 25% clip + tag -375k steelhead clip only
Iron Gate	-1.6 million fall run Chin at 25% clip + tag
Trinity	-1.5 million spring run Chin at 25% clip + tag -1.3 million fall run Chin at 25% clip + tag
San Joaquin	-92k spring run Chin 100% clip + tag -40k fall run Chin 100% clip + tag
Merced	-1 million fall run Chin 25% clip + tag

IDFG production and marking for 2017

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.

Brood Year 2016 Chinook and Sockeye Salmon Production Plan

				Marks & Tags				
Species	**Fish Hatchery**	**Stock**	**Release Site**	**AD**	**AD/CWT**	**CWT PBT Only**		**Grand Total**
Sockeye	Springfield	Snake R. Sockeye	Upper Salmon R. & Redfish Lake Cr.	1,000,000				1,000,000
	Springfield Sum			1,000,000				1,000,000
Spring/Summer Chinook	Clearwater	Kooskia	Clear Creek	190,000	45,000			235,000
		S.F. Clearwater R.	Red River Pond	1,120,000	120,000			1,240,000
		Kooskia/Dworshak	Clear Creek	395,000	75,000			470,000
			Lower Selway R.	145,000	120,000	135,000		400,000
			NF Clearwater	160,000	400,000			560,000
		Powell / SF Salmon R (Summers)	Powell Pond	180,000	120,000	120,000	180,000	600,000
	Clearwater Sum			2,190,000	880,000	255,000	180,000	3,505,000
	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 Sum			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 Sum			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 Sum			2,880,000	120,000			3,000,000
	Sawtooth	Upper Salmon R.	Yankee Fork	180,000	120,000			300,000
			Sawtooth weir (Seg)	1,430,000	120,000			1,550,000
			Sawtooth weir (Int)			150,000		150,000
	Sawtooth Sum			1,610,000	240,000	150,000		2,000,000
Grand Total				**9,225,000**	**1,480,000**	**720,000**	**180,000**	**11,605,000**

Does not include spring Chinook production from Dworshak National Fish Hatchery (USFWS/NPT), Kooskia National Fish Hatchery (NPT), or Nez Perce Tribal Hatchery (NPT). Also, does not include fall Chinook production (1.0M sub-yearlings) from the Idaho Power Company because these fish are reared and marked/tagged at Irrigon Fish Hatchery in Oregon before being released into the Snake R. near Hells Canyon Dam.

IDFG- Brood Year 2017 Summer Steelhead Produciton Plan- Marking/Tagging in 2017

		Marks & Tags				
Fish Hatchery	Release Site	AD	AD/CWT	No Clip	CWT Only	Grand Total
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	1,230,000				1,230,000
	Upper EF.Salmon R. (Weir)				60,000	60,000
	Sawtooth Weir (recirc)		90,000			90,000
	Sawtooth Weir (control)		180,000			180,000
Hagerman National Total		1,230,000	270,000		60,000	1,560,000
Magic Valley	Pahsimeroi Trap				93,000	93,000
					155,000	155,000
	Little Salmon R.	217,000				217,000
		186,000				186,000
	Yankee Fork	403,000		217,000		620,000
	Pahsimeroi Weir	279,000				279,000
Magic Valley Total		1,085,000		217,000	248,000	1,550,000
Niagara Springs	Hells Canyon Dam	550,000				550,000
	Pahsimeroi Trap	800,000				800,000
	Little Salmon R.	200,000				200,000
		250,000				250,000
Niagara Springs Total		1,800,000				1,800,000
Grand Total		4,625,000	270,000	410,000	448,000	5,753,000

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

ODFW: 2017 FISH MARKING PROGRAM

2017 PRODUCTION					
STOCK	TAGGED (CWT)		UNTAGGED		
	AD+CWT	CWT only[1]	AD Clip	No AD Clip	Total Marked
Spring Chinook	2,112,000	290,000	9,647,250	55,000 **(LM only)[2]**	12,104,250
Fall Chinook	*4,190,000*	*0*	11,028,100	*800,000*[3] ***(LV only clip)***	16,018,100
Coho	415,000	100,000[5]	5,660,000	0	6,175,000
Sum. Steelhead	360,000	25,000	1,339,000	25,000 **(LM only)[2]**	1,749,000
Win. Steelhead	0	0	800,000	0	800,000
Chum	0	0	40,000	0	40,000
Sockeye	0	0	0	0	0
TOTALS:	**7,077,000**	**415,000**	**28,514,350**	**880,000**	**36,886,350**

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

2) Left Max only clip used at Wizard Falls to identify Warm Springs Hatchery spring Chinook and Summer Steelhead in the upper Deschutes R drainage.

3) Fall Chinook 'No AD Clip' total is 800,000 LV clipped Rogue stock marked for Select Area Fisheries Enhancement (SAFE) terminal fishery in Youngs Bay (lower Col. R).

4) Coho: The 100,000 'CWT only' fish are Umatilla 9116 stock reared at Cascade Hatchery.

Comparison of AD+CWT and AD Clip Only Marks (2011 - 2017)						
	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	8600000	2,665,000	16,760,000	250,000	5,330,000
2012	3,210,000	9265000	2,955,000	15,775,000	350,000	5,494,000
2013	2,825,000	7285000	2,860,000	18,740,000	300,000	5,585,000
2014	2,710,000	9278000	2,820,000	18,691,000	300,000	5,187,000
2015	2,749,000	9783000	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
2017	**2,112,000**	**9,647,250**	**4,190,000**	**11,028,100**	**415,000**	**5,660,000**

2017 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 4716	25	0	205	0	Nestucca, Three Rivers
	ChS	Trask-3416	30	0	185	0	Trask R
	Co	Big Cr 1316	25	0	475	0	Klaskanine R
		Totals:	**80**		**865**		
Trask	ChS	Trask 3416	30	0	124	0	Trask R
	ChF	Trask 3416	0	0	136	0	Trask R
	StW	Wilson R 12116	0	0	110	0	Wilson R
		Totals:	**30**		**370**		
Salmon R	ChF	Salmon R 3616	**200**				Salmon R
Nehalem	Co	Nehalem 3216	0	0	100	0	N. Nehalem R
	Co	Trask 3416	0	0	100	0	Trask R
	Co	Fish Lake 9916	0	0	100	0	N. Nehalem R
	StW	Nehalem 3217	0	0	130	0	N. Nehalem R
		Totals:			**430**		
SOUTH OREGON COAST							
Millicoma	ChF	Coos 3716	**30**	0	**70**	0	Millicoma R.
Morgan Cr.	ChF	Coos 3716	**30**	0	**615**	0	Morgan Cr
Noble Creek	ChF	Coos 3716	**30**	0	**570**	0	Noble Creek
Cole Rivers	ChS	Rogue 5216	150	0	1553.25	0	Rogue R
	ChF	Coos 3716	30	0	170	0	Morgan Cr (Coos Bay)
	ChF	Coquille 4416	0	0	144.6	0	Morgan Cr (Coos Bay)
	Co	Rogue 5216	25	0	50	0	Rogue R
		Totals:	**205**		**1917.85**		
Indian Creek	ChF	L Rogue 6116	25		**65**	0	Rogue R
Bandon	ChF	Coos-3716	0	0	10	0	Ferry Cr.
	ChF	Coos-3716	0	0	100	0	Fourth Cr.
	ChF	Coos-3716	0	0	200	0	Blossom Gl.
	ChF	Coos-3716	0	0	242.5	0	Morgan Cr.
		Totals:	**0**		**552.5**		
Elk River	ChF	Elk R 3516	255	0	0	0	Elk R.
	ChF	Chetco 9616	25	0	140	0	Chetco R.
	ChF	Chetco 9616	25	0	10	0	Ferry Cr.
		Totals:	**305**		**150**		
COLUMBIA RIVER							
Big Creek	ChS	Clackamas 1915	25	0	225	0	Gnat Creek
	ChF	Big Cr 1316	400	0	2250	0	Big Creek
	Co	Big Cr 1316	50	0	510	0	Big Creek
	Chum	Big Cr 1316	0	0	40	0	Big Creek
	StW	Big Cr 1317	0	0	150	0	Big Creek
		Totals:	**475**		**3175**		

			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 5216	100	0	0	800 (LV only)	N Fk Klaskanine R
	Co	Big Cr 1316	25	0	725	0	N Fk Klaskanine R
		Totals:	**125**		**725**	**800**	
Gnat Creek	ChS	Mck-2316	25	0	375	0	Youngs Bay
	ChS	Mck-2316	25	0	125	0	Blind Slough
	ChS	Mck-2316	25	0	375	0	Gnat Creek
		Totals:	**75**		**875**		
Bonneville	ChF	Tann-1416	225	0	2135	0	Tanner Cr
	ChF	L. Whit-11016	780	0	0	0	Pendlt. Acc.
	ChF	L. Whit-11016	120	0	0	0	Umatilla
	ChF	L. Whit-11016	210	0	0	0	Prosser
	ChF	URB-4516	400	0	3220	0	Ringold
	ChS	Clack-1916	50	0	0	0	Clackamas
	ChS	Clack-1916	50	0	0	0	Clear
	ChS	Clack-1916	0	0	545	0	Clack Systm
	Co	Tann-1416	25	0	520	0	Tongue Pt
	StS	S Santiam 2417	0	0	225	0	S. Santiam R
	StW	Clackamas 12217	0	0	100	0	Clackamas R
		Totals:	**1860**		**6745**		
Sandy R	Co	Sandy 1116	50	0	350	0	Sandy R, Blind Slough
	StW	Sandy 1117W	0	0	160	0	Sandy R
		Totals:	**50**		**510**		
Cascade	Co	Tanner 1416	25	0	175	0	Tanner Creek
	Co	Tanner 1416	25	0	800	0	Youngs Bay
	Co	Umatilla 9116	0	100	400	0	Umatilla R
	Co	Nez Perce 8516	90	0	410	0	Lostine River
		Totals:	**140**	**100**	**1785**		
Oxbow	ChS	Sandy 1115	132	0	0	0	Sandy R (Bull Run)
	Co	Big-1316	25	0	385	0	Blind Slew
	Co	Big-1316	25	0	385	0	Tong Point
	Co	Big-1316	25	0	175	0	S Fk Klaskanine
		Totals:	**207**		**945**		
Round Butte	ChS	Deschutes 6616	255	0	140	0	Deschutes R (Pelton ladder)
	ChS	Hood R 5016	0	0	80	0	
		Totals:	**255**		**220**		
Wizard Falls	ChS	Warm Springs 102H15	0	0	0	55 (LMax)	Upper Deschutes R
	StS	Deschutes 6616	0	25	0	25 (LMax)	Upper Deschutes R
		Totals:		**25**		**105**	
Irrigon	ChF	Snake R 9716	400	0	800	0	LGr Ronde, Hells Canyon
	StS	Little Sheep 2917	25	0	190	0	Little Sheep Creek
	StS	Wallowa 5617	100	0	220	0	Big Canyon
	StS	Wallowa 5617	25	0	15	0	Outside ODFW
	StS	Wallowa 5617	150	0	190	0	Wallowa R.
		Totals:	**700**		**1415**		

			No. Tagged x1000		No. Untagged x 1000		
Hatchery	**Species**	**Stock/Br Yr**	**AD+CWT**	**CWT Only**	**AD Clip**	**No AD Clip**	**Release**
Umatilla	ChF	Umatilla 9116	600	0	0	0	Umatilla R
	ChS	Umatilla 9116	0	165	0	0	Umatilla R
	ChS	Umatilla 9116	40	0	420	0	Imeques
	ChS	Umatilla 9116	50	0	200	0	Thornhollow
	StS	Umatilla 9117	60	0	90	0	Umatilla R.
		Totals:	**750**	**165**	**710**		
WILLAMETTE RIVER							
Eagle Creek	ChS	Clackamas 1916	40	0	230	0	Eagle Creek
	StW	Eagle-122H17	0	0	150	0	Eagle Creek
		Totals:	**40**		**380**		
Elk River	ChF	Elk-3516	255	0	0	0	Elk R.
	ChF	Chet-9616	25	0	140	0	Chetco R.
	ChF	Chet-9616	25	0	10	0	Ferry Cr.
		Totals:	**305**		**150**		
Marion Forks	ChS	N San-2116	75	0	675	0	Tongue Pt, Blind Slough
	ChS	N San-2116	50	0	50	0	Molalla R
	ChS	N San-2116	50	0	654	0	N. Santiam R
		Totals:	**175**		**1379**		
S. Santiam	StS	S Santiam 2417	0	0	**409**	0	S. Santiam R
McKenzie	ChS	McKenzie 2316	**300**	0	**305**	0	McKenzie R
Willamette	ChS	Willamette 2216	500	0	1247	0	Willamette R (Dexter)
	ChS	Willamette 2216	75	0	592	0	Willamette Coast Fork
	ChS	S Santiam 2416	110	0	758	0	S. Santiam R
		Totals:	**685**		**2597**		
SNAKE RIVER							
Lookingglass	ChS	Grande Ronde 8015	125	125	0	0	Upper Grande Ronde
	ChS	Lostine 20015	120	0	150	0	Lostine R
	ChS	Catherine Cr 20115	100	0	50	0	Catherine Creek
	ChS	Lookingglass 8015	126	0	124	0	Lookingglass R
	ChS	Imnaha 2915	240	0	260	0	Imnaha R
		Totals:	**711**	**125**	**584**		

* All production fish marking totals are preliminary and based on January 2017 projections.

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Table 1.

WDFW and TRIBAL PUGET SOUND CHINOOK MASS MARKING and CODED-WIRE TAGGING 2017

Species: Chinook 10/3/2016
Area: Puget Sound
Brood: 2016
Releases: 2017 and 2018 Data from 2016 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	Y	No
WDFW/Tribal	Puyallup (White R Acc Ponds)	White River springs	0	**0**	0	**800,000**	800,000	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	1,795,000	710,000	800,000	4,182,500		
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+	**100,000**	0	**400,000**	0	**500,000**	Y	Y
		Total summer chinook	820,000	300,000	3,200,000	0	4,320,000		
WDFW	Glenwood Springs	Glenwood Springs falls	100,000	0	**625,000**	0	**725,000**	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	**0**	0	0	**45,000**	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+	**200,000**	**100,000**	0	0	300,000	Y	Y
WDFW	Issaquah	Issaquah Creek falls	**150,000**	0	**1,350,000**	0	1,500,000	Y	Y
WDFW	Minter Creek	Minter Creek falls 0+	**150,000**	0	**1,100,000**	0	1,250,000	Y	Y
Tribal	Gorst Creek	Grovers Creek falls	200,000	0	1,330,000	0	1,530,000	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	**180,000**	0	**220,000**	0	400,000	Y	Y
WDFW	Voights Creek	Voights Creek falls	**0**	0	**1,600,000**	**0**	1,600,000	Y	Y
WDFW	Garrison Springs	Garrison Springs falls	200,000	0	250,000	**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	**300,000**	200,000	**3,100,000**	0	3,600,000	Y	Y
Tribal	Kalama Creek	Kalama Creek falls	**100,000**	**0**	**300,000**	0	400,000	NA	No
WDFW	Tumwater Falls	Deschutes River falls	**200,000**	0	**3,600,000**	0	3,800,000	Y	Y
WDFW	George Adams *	George Adams falls	**225,000**	**525,000**	**3,150,000**	0	3,900,000	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	**220,000**	**420,000**	**N**	**N**
		Total fall chinook	3,255,000	1,625,000	27,170,000	3,515,000	35,565,000		
	Total		**4,952,500**	**3,720,000**	**31,080,000**	**4,315,000**	**44,067,500**		
	Total Chinook Production				**44,067,500**				
	Percent Marked				**82%**				

Table 1.

WDFW and TRIBAL PUGET SOUND COHO MASS MARKING and CODED-WIRE TAGGING 2017

Species: Coho
Area: Puget Sound
Brood: 2016
Release Year: 2018

Data from 2016 Future Brood Document

10/3/2016

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)	**50,000**	0	**750,000**	**200,000**	1,000,000	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	**200,000**	0	**250,000**	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)	**0**	0	**500,000**	0	500,000	Y	Y
Tribal	Elliott Bay Net Pens	Green River (Soos Creek)	**0**	0	**395,000**	0	**395,000**	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/Tribal	Puyallup	Puyallup (Voights Creek)	**50,000**	0	**250,000**	0	300,000	Y	Y
Tribal	Puyallup Tribal (Rushing)	Puyallup (Voights Creek)	100,000	0	0	0	100,000	Y	Y

Tribal	**Agate Pass Sea Pens**	**Minter Creek**	**0**	**0**	**270,000**	**0**	**270,000**	**Y**	**NA**
WDFW	Minter Creek	Minter Creek	**45,000**	0	**455,000**	0	500,000	Y	Y
WDFW	**SSNP**	**Skykomish (May Creek)**	**95,000**	**0**	**1,005,000**	**0**	**1,100,000**	**Y**	**Y**
Tribal	**Squaxin Pens**	**Skykomish (May Creek)**	**90,000**	**0**	**610,000**	**0**	**700,000**	**Y**	**Y**
Tribal	Garrison Springs	Minter Creek	0	0	100,000	0	100,000	Y	Y
Tribal	Kalama Creek	Kalama Creek	**45,000**	0	**355,000**	0	**400,000**	*Y*	*Y*
WDFW	George Adams*	George Adams (Purdy Creek)	45,000	45,000	210,000	0	300,000	Y	Y
WDFW-Tribal	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 *	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	Y
* = DIT Group									
	Total		**1,220,000**	**300,000**	**9,989,000**	**200,000**	**11,709,000**		
	Total Coho Production		**11,709,000**						
	Percent marked		**96%**						

Table 1.

WDFW and TRIBAL COASTAL CHINOOK MASS MARKING and CODED-WIRE TAGGING 2017

Species: Chinook 10/3/2016
Area: Coastal Washington
Brood: 2016
Releases: 2017 and 2018 Data from 2016 Future Brood Document

Agency	Hatchery	Stock	Number of fish to be released with a CWT		Number of fish to be released without a CWT			Proposed to be marked this year (Y/N)	Marked in previous year (Y/N)
			Ad Clipped	Unclipped	Ad Clipped	Unclipped	Total Production		
Tribal	Educket Creek	Sooes River falls	0	0	100,000	0	100,000	Y	Y
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 spring/summers	0	50,000	0	0	50,000	NA	NA
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	**0**	0	400,000	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	**100,000**	**0**	**250,000**	0	**350,000**	Y	Y
WDFW	Nemah	Nemah River falls	**200,000**	**200,000**	**2,900,000**	0	**3,300,000**	Y	Y
WDFW	Naselle	Naselle River falls	**100,000**	**0**	**2,400,000**	0	**2,500,000**	Y	Y
	Total		**950,000**	**450,000**	**7,070,000**	**0**	**8,470,000**		

Total Chinook Production **8,470,000**
Percent Marked **95%**

* DIT
** WDFW DIT

Table 1.

WDFW and TRIBAL COASTAL COHO MASS MARKING and CODED-WIRE TAGGING 2017

Species: Coho 10/1/2016
Area: Coastal Washington
Brood: 2016
Release Year: 2018 Data from 2016 Future Brood Document

Agency	Hatchery	Stock	Number of fish to be released with a CWT		Number of fish to be released without a CWT			Proposed to be marked this year (Y/N)	Marked in previous year (Y/N)
			Ad Clipped	Unclipped	Ad Clipped	Unclipped	Total Production		
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 lates	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**		

Total Coho Production **4,920,000**
Percent Marked **94%**

Table 1.

WDFW and TRIBAL COLUMBIA RIVER CHINOOK MASS MARKING and CODED-WIRE TAGGING 2017

Species: Chinook
Area: Columbia River
Brood: 2016
Release Year: 2017 and 2018

Data from 2016 Future Brood Document

10/3/2016

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	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	Y
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	**100,000**	0	**3,400,000**	0	3,500,000	Y	Y
WDFW	Fallert Creek	Kalama - Falls	**100,000**	0	**3,400,000**	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	**1,900,000**	0	2,000,000	Y	Y
Tribal	Klickitat	Klickitat - falls	450,000	0	3,600,000	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	**450,000**	0	**3,050,000**	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
		Total Fall Chinook	**3,915,000**	**825,000**	**25,959,543**	**0**	**30,699,543**		
		Total Percent Marked	**97%**						
WDFW	Chelan Falls	Wells - summers 1+	576,000	0	0	0	576,000	Y	Y
WDFW	Dryden Pond	Wenatchee - summers 1+	500,001	0	0	0	500,001	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

		Total Summer Chinook	**2,247,001**	**0**	**0**	**0**	**2,247,001**		
		Total Percent Marked	**100%**						
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	0	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	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+	144,000	0	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
WDFW	Chewuch Acclimation Pond	Methow - springs 1+	0	60,000	0	0	60,000	NA	NA
		Total Spring Chinook	**1,367,670**	**685,000**	**3,246,899**	**0**	**5,299,569**		
		Total Percent Marked	**87%**						

* DIT group

** marked by ODFW

Total Chinook	**7,529,671**	**1,510,000**	**29,206,442**	**0**	**38,246,113**	
Total Percent Marked	**96%**					

Table 1.

WDFW and TRIBAL COLUMBIA RIVER COHO MASS MARKING and CODED-WIRE TAGGING 2017

Species: Coho
Area: Columbia River
Brood: 2016
Release Year: 2018

Data from 2016 Future Brood Document

10/3/2016

Agency	Hatchery	Stock	Number of fish to be released with a CWT		Number of fish to be released without a CWT			Proposed to be marked this year (Y/N)	Marked in previous year (Y/N)
			Ad Clipped	Unclipped	Ad Clipped	Unclipped	Total Production		
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	**100,000**	0	0	**100,000**	NA	NA
Tribal	Butcher Pond	Mid-Columbia Type S	0	**100,000**	0	0	**100,000**	NA	NA
Tribal	Coulter Pond	Mid-Columbia Type S	0	**60,000**	0	0	**60,000**	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
		Total	**1,513,000**	**600,000**	**7,565,000**	**0**	**9,678,000**		
		Total Coho Production	**9,678,000**						
	* DIT group	**Percent Marked**	**94%**						

Agency	Hatchery	Stock		Number of fish to be released with a CWT		Number of fish to be released without a CWT			Proposed to be marked this year (Y/N)	Marked in previous year (Y/N)
				Ad Clipped	Unclipped	Ad Clipped	Unclipped	Total Production		
WDFW	Deep River Net Pens	Elochoman - Falls	Tule	90,000	0	910,000	0	1,000,000	Y	Y
WDFW	Cowlitz	Cowlitz - Falls	Tule	1,100,000	0	0	0	1,100,000	Y	Y
WDFW	Cowlitz	Cowlitz - Falls	Tule	100,000	0	2,300,000	0	2,400,000	Y	Y
WDFW	N Toutle	Toutle - Falls	Tule	100,000	0	1,300,000	0	1,400,000	Y	Y
WDFW	Kalama Falls	Kalama - Falls	Tule	**100,000**	0	**3,400,000**	0	3,500,000	Y	Y
WDFW	Fallert Creek	Kalama - Falls	Tule	**100,000**	0	**3,400,000**	0	3,500,000	Y	Y
WDFW	Lewis River	Lewis River - Falls (wild)	Tule	100,000	0	0	0	100,000	Y	Y
WDFW	Washougal	Washougal - Falls	Tule	100,000	0	800,000	0	900,000	Y	Y
WDFW	**Washougal (to ODFW)**	**Washougal - Falls**	Tule	**100,000**	**0**	**2,000,000**		**2,100,000**	**Y**	**NA**
Tribal	Klickitat	Klickitat - falls	URB	450,000	0	3,600,000	0	4,050,000	Y	Partial
Tribal	Hanford Reach	Hanford - Wild	URB	200,000	0	0	0	200,000	Y	Y
WDFW	Lyons Ferry	Lyons Ferry - Falls	Snake	200,000	0	0	0	200,000	Y	Y
WDFW	Lyons Ferry	Lyons Ferry - Falls 1+	Snake	225,000	225,000	0	0	450,000	Y	Y
WDFW	Ringold **	URBs	URB	**450,000**	0	**3,050,000**	0	3,500,000	Y	Y
WDFW	Priest Rapids	Priest Rapids - URBs	URB	600,000	600,000	6,099,543	0	7,299,543	Y	Partial
				4,015,000	825,000	26,859,543		31,699,543		
			Tule	1,890,000	0	14,110,000	0	16,000,000		
			URBs	1,700,000	600,000	12,749,543	0	15,049,543		
			Snake	425,000	225,000	0	0	650,000		
				4,015,000	825,000	26,859,543		31,699,543		

WDFW and TRIBAL MASS MARKING and CODED-WIRE TAGGING 2017

9/28/2016

		Number of fish to be released with a CWT		Number of fish to be released without a CWT		
Area	Species	Ad Clipped	Unclipped	Ad Clipped	Unclipped	Total Production
Puget Sound	Spring Chinook	877,500	1,795,000	710,000	800,000	4,182,500
	Summer Chinook	820,000	300,000	3,200,000	0	4,320,000
	Fall Chinook	3,255,000	1,625,000	27,170,000	3,515,000	35,565,000
	Coho	1,220,000	300,000	9,989,000	200,000	11,709,000
Coast	Spring Chinook	0	50,000	0	0	50,000
	Summer Chinook	150,000	0	170,000	0	320,000
	Fall Chinook	800,000	400,000	6,900,000	0	8,100,000
	Coho	300,000	300,000	4,320,000	0	4,920,000
Columbia River	Spring Chinook	1,367,670	685,000	3,246,899	0	5,299,569
	Summer Chinook	2,247,001	0	0	0	2,247,001
	Fall Chinook	3,915,000	825,000	25,959,543	0	30,699,543
	Coho	1,513,000	600,000	7,565,000	0	9,678,000
Total	Spring Chinook	2,245,170	2,530,000	3,956,899	800,000	9,532,069
	Summer Chinook	3,217,001	300,000	3,370,000	0	6,887,001
	Fall Chinook	7,970,000	2,850,000	60,029,543	3,515,000	74,364,543
	Coho	3,033,000	1,200,000	21,874,000	200,000	26,307,000
Grand Total		16,465,171	6,880,000	89,230,442	4,515,000	117,090,613

From:	Bill Bosch
To:	Jim Longwill; Dan Webb
Cc:	Marianne McClure; William Sharp; Bill Sharp (shab@yakamafish-nsn.gov); Jason Rau (jayrau@ykfp.org); Cory Kamphaus; Todd Newsome; Melinda Davis; Bill Fiander
Subject:	2017 RCMT / YN Proposed releases and mark rates
Date:	Wednesday, March 29, 2017 3:30:32 PM

Our releases are expected to remain relatively consistent with recent years' releases.

Approximate Yakama Nation Planned 2017 releases:

Yakima Basin
- Spring Chinook: ~655,300 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, ~500,000, 20% PIT, no CWT
- Summer Chinook: ~375,000 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: ~250,500 total release, ~25% CWT
- Fall Chinook: ~4.0m total release, ~15% CWT
- Coho:
  - Lewis stock released from Klick. Hatchery, ~1.2m, ~5% CWT
  - Washougal stock direct released in lower Klick. R., ~2.5m, <5% CWT

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Yakima-Klickitat Fisheries Project
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3/29/2017

Pacific Northwest USFWS – 2017 Planned Releases of Hatchery Fish – by Mark and Tag Status

production in italics will be released and reported by another agency

24-Apr-17

Hatchery	Species/Run	Stock	CWT+AD	CWT only	AD only	None	Total
Spring Creek NFH	Fall Chinook	Spring Creek - Tule Falls	405,000	405,000	9,690,000	0	10,500,000
Little White Salmon NFH	URBs	Little White Salmon - URB Falls	200,000	200,000	4,100,000	0	4,500,000
Willard NFH	URBs	Little White Salmon - URB Falls	100,000	100,000	1,800,000	0	2,000,000
Little White Salmon NFH	URBs	Little White Salmon - URB Falls	200,000	0	1,500,000	0	1,700,000
Entiat NFH	Summer Chinook	Entiat - Summers 1+	220,000	0	200,000	0	420,000
Carson NFH	Spring Chinook	Carson - Springs 1+	75,000	0	1,045,000	0	1,120,000
Carson NFH	Spring Chinook	Carson - Springs 1+	50,000	0	200,000	0	250,000
Little White Salmon NFH	Spring Chinook	Little White Salmon - Springs 1+	75,000	0	925,000	0	1,000,000
Warm Springs NFH	Spring Chinook	Warm Springs - Springs 1+	575,913	0	0	0	575,913
Leavenworth NFH	Spring Chinook	Leavenworth - Springs 1+	200,000	0	1,000,000	0	1,200,000
Winthrop NFH	Spring Chinook	Methow - Springs 1+	427,000	0	0	0	427,000
Kooskia NFH	Spring Chinook	Kooskia - Springs 1+	100,000	0	450,000	50,000	600,000
Dworshak NFH	Spring Chinook	Dworshak - Springs 1+	120,000	0	1,380,000	0	1,500,000
Eagle Creek NFH	Spring Chinook	Willamette - Springs 1+	25,000	0	215,000	0	240,000
Coleman	Late Fall	Sacramento	1,100,000	0	0	0	1,100,000
Coleman	Fall Chinook	Sacramento	3,000,000	0	0	9,000,000	12,000,000
Livington Stone	Winter Chinook	Sacramento	200,000	0	0	0	200,000
Makah NFH	Fall Chinook	Sooes River Falls	200,000	0	2,000,000	0	2,200,000
Chinook Total	**Ad-clipped % =**	**77%**	**7,272,913**	**705,000**	**24,505,000**	**9,050,000**	**41,532,913**
Eagle Creek NFH	Coho	Eagle Creek - 1+	25,000	25,000	300,000	0	350,000
Eagle Creek NFH	*Coho*	*Clearwater River - 1+*	*0*	*0*	*0*	*0*	*0*
Eagle Creek NFH	*Coho*	*Clearwater River - 1+*	*60,000*	*0*	*215,000*	*0*	*275,000*
Eagle Creek NFH	*Coho*	*Eagle Creek/Yakima R. - 1+*	*0*	*0*	*329,000*	*0*	*329,000*
Willard NFH	*Coho*	*Wenatchee R. - 1+*	*0*	*271,465*	*0*	*0*	*271,465*
Cascade Hatchery	*Coho*	*Wenatchee R. - 1+*	*0*	*361,000*	*0*	*70,000*	*431,000*
Winthrop NFH	*Coho*	*Wenatchee R. - 1+*	*0*	*125,000*	*0*	*125,000*	*250,000*
Makah NFH	*Coho*	*Sooes River*					
Makah NFH	Coho	Sooes River	*120k Released as fry, 120k euthanized summer of 2016*				
Quinault NFH	Coho	Cook Creek	80,000	0	580,000	0	660,000
Quicene NFH	Coho	Big Quilcene River	72,000	72,000	256,000	0	400,000
Quicene NFH	Coho	Big Quilcene River	40,000	0	160,000	0	200,000
Coho Total	**Ad-clipped % =**	**67%**	**277,000**	**854,465**	**1,840,000**	**195,000**	**3,166,465**
Winthrop NFH	Steelhead	Wells/Methow	220,000	0	0	0	220,000
Eagle Creek NFH	Steelhead	Eagle Creek	0	0	95,000	0	95,000
Abernathy FTC	Steelhead	Abernathy	18,000	0	0	0	18,000
Dworshak NFH	Steelhead	Dworshak	180,000	0	2,000,000	0	2,180,000
Dworshak NFH	Steelhead	Dworshak	0	0	0	200,000	200,000
Hagerman NFH	Steelhead	Salmon River	80,000		1,020,000	0	1,100,000
Coleman	Steelhead	Coleman NFH	0	0	700,000	0	700,000
Makah NFH	Steelhead	Sooes River	0	0	200,000	0	200,000
Makah NFH	*Steelhead*	*Sooes River*	*0*	*0*	*0*	*0*	*0*
Quinault NFH	Steelhead	Cook Creek/Quinault	20,000	0	160,000	0	180,000
Steelhead Total	**Ad-clipped % =**	**96%**	**518,000**	**0**	**4,175,000**	**200,000**	**4,893,000**
Quinault NFH	Chum Salmon	Cook Creek/Quinault	0	0	0	1,850,000	1,850,000
Chum Total	**Ad-clipped % =**	**0%**	**0**	**0**	**0**	**1,850,000**	**1,850,000**
		Total	**8,067,913**	**1,559,465**	**30,520,000**	**11,295,000**	**51,442,378**