2012 RCMT MEETING

36th Annual Meeting

Hosted by: ***Washington Dept. Fisheries & Wildlife***
Location: *Phoenix Inn Suites, Olympia, WA*
Dates: ***April 10 &11, 2012***

Minutes

See further information at: *2012 RCMT Meeting Web Page*

APR 10: TUESDAY: 8:00 AM – 4:00 PM

1. **General Business Items** (George Nandor, PSMFC)
   - Welcome and introductions;
   - Next year's meeting (2013) is intended to be hosted in Oregon;
     - Meeting will be at Edgefield in Troutdale, dates TBD http://mcmenamins.com/Edgefield
   - The 2014 meeting is intended to be hosted in California;
     - Location and dates TBD
   - Review agenda

2. **Regional Mark Processing Center operations & announcements** (George Nandor)

   A. In California: finalizing the Hatchery Scientific Review Group (HSRG) process

   - PowerPoint presentation
   - HSRG looked at 8 hatcheries with 19 hatchery programs and identified issues that needed consideration:
     - Broodstock management
     - Program size and release strategies (do the hatcheries know their program's purpose?)
     - Incubation/ Rearing/ Fish Health Management
     - Monitoring & Evaluation
   - HSRG made the following recommendations for California hatchery operations:
     - 100% CWT all Chinook releases (~42 million); want to be able to identify every hatchery fish since strays are a problem for broodstock management at the hatchery level
     - 25% Ad Clip all Chinook releases under California's Constant Fractional Marking program

        - Stop off-site releases and move to all on-site releases for better broodstock management
        - Move to integrated hatchery programs
        - Promote stock integrity and differentiation
    - Funding to implement these recommendations has not been identified; recommendations based solely on the best available science
    - The HSRG report is currently with the Policy Committee → not public yet
        - A website detailing the HSRG process and findings is planned

B. Status of CWT Datasets (Dan Webb, PSMFC)

- PowerPoint presentation
- All location and release datasets received are validated to date
- Dan will research why there are high numbers of *CWT + No Ad Clip* for *FWS Coho Releases* in 2007-2009
- Release data indicates a trend towards increased Mass Marking
- Recovery datasets take 3-4 years to be fully reported for any particular run year
    - CDFO does not report escapement, FWS does not sample fisheries, IDFG doesn't report catch/ sample yet (but will)
    - ODFW working on process changes to improved productivity and speed reporting
- Only 1 missing tag code currently (#052599- unreported agency transfer)
- Website updates
    - There is now a Reporting Agency Contact List on the Publications page
    - Data Reporting Tool has been updated
        - Contact Dan for the data upload tool's url (it's not public or navigable)
        - FTP is also still available- either tool can be used
    - Moved to Drupal content management system

C. Updated Publications (Jim Longwill, PSMFC)

- Updated RMIS User Guide (version 3) now completed and available on the website's Publications page

- Map sets completed and available on the website
    - Data Standards will look at how to adapt the RAR fisheries mapping translations to those of other reporting agencies
- Brief review of completed RCMT Regional Agreement
    - The agreement was revised in October 2011 and is available on the website's Publications page

3. Update on SFEC Analytical Working Group (AWG) (Marianna Alexandersdottir, NWIFC)

- PowerPoint presentation + handout (see Appendix B)
- SFEC AWG came into being over concerns as to the viability of the CWT system. The AWG is tasked with:
    - reviewing the design of MSF proposals and sampling programs, and
    - evaluating DIT results
- MSF reports are needed for PSC Chinook modeling and required for analysis of CWT data; these reports have not been consistently provided by reporting agencies
    - WDFW/ NWIFC are developing a database to provide post-season reports and CWT based reports to meet this need

4. Update on SFEC Regional Coordination Working Group (RCWG) (Ron Olson, NWIFC)

- PowerPoint presentation
- The RCWG is tasked with:
    - Producing an annual coordination report
    - Conducting an annual review of MM proposals
    - Coordination and reporting on research relating to Electronic Detection Technology and MM technology
- The 2005-2009 report is complete
- Total proposed MM has stabilized at ~35 million Coho, ~109 million Chinook
- There is a need for new DIT's for Chinook in the Columbia Basin and Ocean MSF's
- Sampling methods differ by agency and are not coordinated with MM and DIT

- Note… ODFW has re-started mass marking Coho at Cascade Hatchery

5. **Analysis of Tagging levels for Coho Indicator Stocks** (Carrie Cook-Tabor, USFWS)

    - PowerPoint presentation
    - Looked at the three National hatcheries on the Olympic peninsula (Quilcene, Quinault, Makah) and 80 other programs of interest that deal with “stocks of concern” to the PSC Coho program
    - Identified emerging problems leading to statistical uncertainty and a decrease in CWT recoveries:
        - A decrease in survival and fishery harvest
        - An increase in escapement
        - Complications from MM and MSF
        - Trend towards decreasing #’s of CWT releases and recoveries
        - Higher sample rates are needed for better analysis
    - Created a model to reflect meeting annual criteria for smolt to adult survival rates 80% of the time (latest FRAM model).
    - Main recommendation from these efforts is that further review of programs is needed

6. **Analysis of Tagging Levels for Chinook Indicator Stocks** (Marianna Alexandersdottir, NWIFC)

    - PowerPoint presentation
    - In response to NMT providing extra tags, they wanted to evaluate how large PSC indicator stock group releases should be to achieve a set criteria
        - Previous work indicates that 10 or more observed tags will produce estimates that meet this standard for a fishery stratum
        - This is the same as for the Coho estimation model above
    - In a fishery with a 2.5% return, how many releases are needed to meet the criteria of 10 tags observed?
        - Used historical data to demonstrate that the goal is met 50% of the time
        - Even with the criteria and free tags, is implementation viable within the limits of hatchery capacity, funding, etc.?

- Ultimately they need to review each individual stock to set criteria

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

- Tagging Levels for 2012.....see tables below
- Mass Marking for 2012.....see tables below
- Mark-Selective Fishery Plans &/or Comments.....see tables below

Member agencies:

Agency or Organization	2012 Tagging Levels, Mass Marking, MSF Plans, Comments
[BCFW / B.C. Ministry of Env., Fish & Wildlife]	Not in attendance
WDFW / Washington Dept. Fish & Wildlife	Handout provided. See Appendix C. Coho, Chinook, Steelhead totals: ~18 mil CWT, ~100 MM
ADFG / Alaska Dept. Fish & Game	Status quo for Coho. Slight reduction in Chinook to under 10 mil.
IDFG / Idaho Dept. Fish & Game	Handout provided. See Appendix C. This year, status quo. Future years, looking into implementing parental based tagging system, cut back on level of CWT especially for steelhead, focus on indicator stocks for CWT and MM.
FWS / U.S. Fish & Wildlife Service	Status quo or minor changes only.
[NWR / National Marine Fisheries Service, NW]	Not in attendance
NIFC / Northwest Indian Fisheries Commission	Handout provided. See Appendix C. Status quo. MM ~10 mil Chinook, ~6 mil Coho, ~300K steelhead CWT ~3.5 mil Chinook, ~1 mil Coho, ~200K steelhead
NMFS / National Marine Fisheries Service, Alaska	Not in attendance
CRFC / Columbia River Intertribal Fish Commission	Marianne will email info for Klickitat and Prosser
CDFG / California Department of Fish & Game	25% CFM
CDFO / Canada Department of Fisheries & Oceans	Handout provided. See Appendix C. Tagging increased to 5.1 mil; - 4.9mil CWT + Ad, 900K CWT only, ~46 mil Chinook, ~16 mil Coho

MIC / Metlakatla Indian Community	Not in attendance
ODFW / Oregon Dept. Fish & Wildlife	Handout provided. See Appendix C. Status quo for MM; #'s of CWT down Proposals for MSF's on coast, Columbia, and Willamette

Other reporting agencies:

Agency or Organization	2012 Tagging Levels, Mass Marking, MSF Plans, Comments
NEZP / Nez Perce Tribe	Not in attendance
YAKA / Yakama Nation	Not in attendance

7a. Tribal Marking/ Reporting Update (Ron Olson. NWIFC)

- NWIFC hosted a workshop to explore options for a head lab
  - Tribes haven't had their own dedicated head / tag lab previously
  - Tribes had need for more immediately available broodstock/ forecasting data
- New lab is working well for tribes and their needs
  - Some tribes will be separate reporting agencies (Stillaguamish Tribe/ STIL)
  - Other tribes are continuing to utilize the WDFW lab

8. Status of 2011-12 funding for the Regional Mark Processing Center (George Nandor)

- U.S. Fish and Wildlife Service:
  - Funding in place
- NOAA Fisheries:
  - anadromous program was eliminated, as was RMPC funding
  - PSC helped fill the gap for one year
  - RMPC still pursuing NOAA funding for the future
- Bonneville Power Administration:
  - Funding in place

- RMPC total budget is $600,000
- NOAA denied travel request for personnel to attend this year's Mark meeting
    - It was suggested that a letter of support from the Mark Committee be sent to both NOAA and CDFG to remind them of their commitments to the region in the hopes that their personnel will be able to attend future meeting
    - It was suggested that the Technical Committees write letters of support for continued RMPC funding
        - Carrie (USFWS) offered to send an email inquiry

9. Discussion of CWTIT Program Status & Project Funding (Ken Johnson, ODFW)

- CWT Implementation Team (CWTIT) was selected to develop and evaluate proposals and make awards to distribute $15 million over five years (2012 is 3rd year of program); $1.5 million annually to US and $1.5 million to Canada
    - Canada has used their funds to increase tagging levels on Chinook indicator stocks, improve infrastructure, and increase sampling
- In 2011, the US didn't receive enough proposals to use up all the funding available, so extra funds were used to cover costs of OR and WA coast sampling
- In 2012, the US received 23 proposals and were able to fund 11 of them
    - WA received: 339K for coast sampling, 72K for timeliness/ expansion of CWT data reporting, 185K for Puget Sound Freshwater Harvest sampling
    - OR received 100K for coast sampling, 123K for the Elk River Fall Chinook indicator stock program, 110K for CWT database work/ data loggers for hatchery input use
    - AK received 30K for spring troll restratification, additional funds for sampling projects and new detection wands
    - The Makah tribe received 5K for new lab equipment
- All are encouraged to apply. Proposals are due by early January with an emphasis on improving the CWT system for Chinook.
- The Mark Center could submit a proposal for funding, too, but would have to take into consideration what happens when the money is gone in 2 years. Would be best to identify more immediate, value-added needs if pursuing this funding source.
- A summary of the funded projects will be available in the CTC Chinook report on the PSC website

APR 11: WEDNESDAY: 8:00 AM - NOON

10. Special Marking Requests & Announcements for 2012: (George Nandor)

- **Requests & Announcements received to date:**
    - Review CDFO Sockeye and Chum variance requests (see Appendix D)
        - No one is currently marine sampling for chum or sockeye
        - It's nice to know the ad clips are out there, but in the future could just ask agencies to share their marking plan for chum and sockeye without the need to fill out a formal variance request
    - ODFW- no form submitted, but planning on 116K Chum with blank wire at Big Creek and 300K Fall Chinook at Umatilla
    - WDFW- may send in request for Upper Cowlitz
- **Requests involving use of pseudo-tags?** (this term is being phased out)
- **Other requests?**
    - SFEC/ PSC have concerns that agencies will get flooded with blank wire in order to save money
        - When putting together their most recent report they found lower numbers of blank wire for Coho and Chinook than they had expected
        - However there is still the potential for problems with high amounts of blank wire being used in the future
    - This issue will be brought up at the next Data Standards meeting
        - Retrieving data on agency-only/ blank wire is difficult since it's logged with a coordinator code
        - Need to be able to search the database with the code that's on the wire
        - Would be adequate to resolve this issue going forward; not a priority to resolve the few historical issues in the database

11. Status Update on PSC Data Sharing and Data Standards Groups (George Nandor)

- The most recent PSC Data Sharing meeting was held prior to the 2011 Mark Meeting in Victoria, BC
- The next meeting of the Data Standards Group is scheduled for June 2012 in Vancouver, BC
    - Need to get details of the two day meeting from Cathy Fraser, CDFO

- In preparation, the RMPC staff went through past meeting minutes to identify and prioritize items of concern for the Data Standards Group
    - There were 33 items on this “issues” list
    - Priority is to update the PSC Blue Book (last version was in 1989)
    - Other prioritized items on the “issues” list were reviewed for the Mark Committee; some of the proposed issues/ changes may require a move to Version 4.2

12. Discussion of NWPCC Fish Tagging Forum (George Nandor)

- PowerPoint presentation
- The Charter of the Fish Tagging Forum was developed in July 2011
- They are tasked with looking at the cost/ program effectiveness of BPA funded programs and recommending ways to improve, looking at coordination among various tagging entities, examining the objectives of tagging programs, and providing advice to the Council
- The review will conclude in 2013; they meet every 6 weeks, meetings are open
    - Next meeting is May 10; focus is CWT
    - George, Marianne, and other agencies will all be presenting. The CWT Expert Panel presentations are also available as a resource on the PSC website.

13. Presentation on ADFG Recovery Program (Cathy Robinson, ADFG)

- PowerPoint presentation
- ADFG conducts visual sampling, fairly consistent in exceeding the 20% CWT sample requirement
- Percentage of ad clip fish encountered in the Chinook troll is increasing
    - Spent a lot of time and money processing tagless heads (60% of all heads collected did not have tags)
    - Moving to using wands in order to save processing time and shipping costs
- Number of ad clip Coho encountered is down
- Data loggers are still in use and are working well for sampling

14. NMT Inquiry Regarding Extra CWTs (Geraldine Vander Haegen, NMT)

- Will be providing extra CWT for 2013, but ask that tag requests be received 1-2 months earlier that they were for previous round of the program
- Would like to emphasize the requirement associated with receiving the free tags that agencies need to report back to NMT and let them know where and how the tags are being used

15. Northwest Marine Technology (Geraldine Vander Haegen)

- Product update
- Question and Answer session

  - Updates on the new wands
    - CWTIT wands are on schedule
    - Have delivered 70 'T' wands worldwide, have 150 on order
    - Would like feedback on the new wands (good or bad)
    - Eager to schedule training on new wands; contact Geraldine with info on who she can work with within your agency to schedule trainings on wand use
    - Putting together an online training video to replace the DVDs that used to be sent with the wands
  - Sequential Tag Re-Design is complete; added a ¼ turn on every 4th row to maintain readability of tag in case wire is scratched (see Appendix E)
  - Great Lakes Tagging program
    - They are now tagging Chinook and Lake Trout at same rates in the trailers
    - Continuing to look for long-term funding of the tagging program
  - NMT is continuing to fund equipment for research projects; anyone can apply (deadline for applications is in August) and information can be found on their website

APR 11: AFTERNOON

Visit to Nisqually National Wildlife Refuge; 1:00pm - 4:00pm (Baker Holden, USFWS)

Appendix A

2012 Mark Meeting Attendees

***Committee Member**

Name	Agency	Mailing Address/ Telephone/E-mail Address
Alexandersdottir, Marianna	NWIFC	6730 Martin Way NE, Olympia, WA 98516-5540 Tel: (360) 438-1180 E-mail: malexand@nwifc.org
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Appendix B

Table 5. MSF proposals (P) received, occurrence of fishery (F), and post season report (R) received for MSFs that occurred 2003-2011 and MSF proposals received for 2012. A "√" indicates that a proposal or report was submitted or a fishery occurred and an "x" that no fishery occurred when a proposal was submitted, or no fishery occurred when a proposal was submitted, or no postseason report has been received for a fishery that has taken place. Blank cells indicate that no MSF was planned or took place that year.

Fishery	2003			2004			2005			2006			2007			2008			2009			2010			2011			2012		
	P	F	R	P	F	R	P	F	R	P	F	R	P	F	R	P	F	R	P	F	R	P	F	R	P	F	R	P	F	R
Targeting Marked Coho																														
Sport, Southern BC (MSF-FOC-02)	√	√	√	√	√	√	√	√	√	√	√	√	√	√	x	√	√	x	√	√	x	√	√	√	√	√		√		
Commercial, Southern BC (MSF-FOC-05)				√	x		√	√	√	√	√	√	x	√	x	√	√	x	√	x		√	√	√	√	√		√		
Sport, Lower Fraser freshwater (MSF-FOC-06)	x	√	√	x	√	√	x	√	√	√	√	√	√	√	x	√	√	x	√	√	x	√	√	√	√	√		√		
FSC, Lower Fraser freshwater (MSF-FOC-03)										√	√	√	√	√	x	√	√	x	√	√	x	√	√	x[2]	√	√		√		
Sport, WA areas 1-4 and Buoy 10 (MSF-WDFW-06)	√	√	x	√	√	x	√	√	x	√	√	x	x	√	x	√	√	x	√	√	√	√	√	x[2]	√	√		√		
Commercial, WA areas 1-4 (MSF-WDFW-15)	x	√	x	x	√	x	x	√	x	x	√	x	x	√	x	√	√	x	√	√	x	√	√	x[2]	√	√		√		
Sport, Puget Sound (MSF-WDFW-07)	x	√	x	√	√	x	√	√	x	√	√	x	x	√	x	√	√	x	√	√	√	√	√	√	√	√		√		
Sport, Nooksack R (MSF-WDFW-18)	x	√	x	x	√	x	x	√	x	x	√	x	x	√	x	x	√	x	√	√	√	√	√	√	√					
Sport, Willapa tributaries (MSF-WDFW-22)	x	√	x	x	√	x	x	√	x	x	√	x	x	√	x	x	√	x	x	√	x	√	√	x	√	√		√		
Sport, Willapa Bay MA 2.1 (MSF-WDFW-29)																						√	√	x	√			√		
Sport, Grays Harbor, Area 2.2 (MSF-WDFW-23)																						√	√	x	√	√		√		
Sport, Grays Harbor tributaries (MSF-WDFW-24)	x	√	x	x	√	x	x	√	x	x	√	x	x	√	x	x	√	x	x	√	x	√	√	x	√	√		√		
Commercial Grays H Area 2C (MSF-WDFW-30)																			x	√	x	x	√	x	√	√				
Sport Quillayute River system (MSF-WDFW-31)	x	√	x	x	√	x	x	√	x	x	√	x	x	√	x	x	√	x	x	√	x	x	√	x	√	√		√		
Sport, Lower Columbia R (since 1999) (MSF-ODFW/WDFW-04)	x	√	√	x	√	√	x	√	x	x	√	x	x	√	x	√	√	x	√	√	x	√	√	√	√	√		√		
Sport, Oregon coast (MSF-ODFW-03)	x	√	√	x	√	√	x	√	x	x	√	x	x	√	x	x	√	x	x	√	x	√	√	x	√	√		√		
Targeting Marked Chinook																														
Sport, Strait of Juan de Fuca, BC, selected subareas (MSF-FOC-07)																x	√	x	√	√	x	√	√	√	√	√				
WCVI sport, selected subareas, mainly inside (MSF-FOC-08)																			√	x		x	x		√					
Sport summer, Puget Sound WA area 5&6 (MSF-WDFW-02)	√	√	x	√	√	x	√	√	x	√	√	x	√	√	x	√	√	x	√	√	√	√	√	x	√					

Table 5. MSF proposals (P) received, occurrence of fishery (F), and post season report (R) received for MSFs that occurred 2003-2011 and MSF proposals received for 2012. A "√" indicates that a proposal or report was submitted or a fishery occurred and an "x" that no fishery occurred when a proposal was submitted, or no fishery occurred when a proposal was submitted, or no postseason report has been received for a fishery that has taken place. Blank cells indicate that no MSF was planned or took place that year.

Fishery	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Sport summer, Puget Sound WA area 9-13 (MSF-WDFW-11)					√ √ x	√ √ x	√ √ √	√ √ x	√	
Sport summer, Puget Sound WA area 5-13 (MSF-WDFW-35, replaces 02/11)									√	√
Sport winter, Puget Sound WA area Puget Sound Areas 5-13 (MSF-WDFW-36)									√	√
Sport, Nooksack R (MSF-WDFW-13)		√ √ x	√ √ x	√ √ x	√ √ x	√ √ x	√ √ √	√ √ √	√	√
Sport, Skykomish R (MSF-WDFW-01)	√ √ x	√ √ x	x √ x	x √ x	√ √ x	√ √ x	√ √ √	√ √ √	√ √	√
Sport, Carbon & Puyallup R (MSF-WDFW-09)	x √ x	x √ x	√ √ x	√ √ x	√ √ x	√ √ x	√ √ x	√ √ x	√ √	√
Sport, Upper Skagit R (MSF-WDFW-12)			x √ x	x √ x	√ √ x	√ √ x	√ √ x	√ √ √	√ √	√
Sport, Nisqually R, Jul-Jan (MSF-WDFW-14)			x √ x	x √ x	√ √ x	√ √ x	√ √ x	√ √ x	√ √	√
Sport, Skokomish Chinook (MSF-WDFW-20)							√ x	√ √ x	√ √	√
Sport, Yakima R (on spring run) (MSF-WDFW-03)		√ √ x	x x	x x	x x	√ √ √	√ x	√ √ √	√ √	√
Sport, Lower Snake R fall Chinook (MSF-WDFW-05)						x √ x	√ √ √	√ √ x	√ √	√
Sport, WA Coast Chinook, Areas 1-4 (MSF-WDFW-19)							√ x	√ √ x	√ √	√
Troll, WA Coast Chinook Areas 1-4 (MSF-WDFW-21)							√ x	√ x	x	
Commercial, Willapa Bay (MSF-WDFW-25)								√ √ x	√ √	√
Sport, Willapa Bay, Area 2.1 (MSF-WDFW-26)								√ √ x	√ √	√
Sport, Willapa Bay tributaries (MSF-WDFW-27)								√ √ x	√ √	√
Sport, Snake River, spring Chinook (MSF-WDFW-28)								√ √ x	√ √	√
Sport Quillayute River system sp su Chinook (MSF-WDFW-32)	x √ x	x √ x	x √ x	x √ x	x √ x	x √ x	x √ x	x √ x	√ √	√
Sport Hoh River System (MSF-WDFW-33)						x √ x	x √ x	x √ x	√ √	√
Sport, Columbia R (on summer run) (MSF-ODFW/WDFW-02)	√ √ x	√ √ x	√ x	x √ x	x x	√ √ x	√ x	√ √ x	√ √	√

Table 5. MSF proposals (P) received, occurrence of fishery (F), and post season report (R) received for MSFs that occurred 2003-2011 and MSF proposals received for 2012. A "√" indicates that a proposal or report was submitted or a fishery occurred and an "x" that no fishery occurred when a proposal was submitted, or no fishery occurred when a proposal was submitted, or no postseason report has been received for a fishery that has taken place. Blank cells indicate that no MSF was planned or took place that year.

Fishery	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Sport, Lower Columbia R (on spring run) (MSF-ODFW/WDFW-01)	√ √ x	√ √ x	√ √ x	x √ x	x √ x	√ √ x	√ √ √	√ √ x	√ √	√
Commercial, Lower Columbia R (on spring run with tangle +/or large net) (MSF-ODFW/WDFW-03)	√ √ x	√ √ x	√ √ x	x √ x	x √ x	√ √ x	√ √ √	√ √ x	√ √	√
Sport, Col. R. fall Chinook (MSF-ODFW/WDFW-05)							√ x	√ x	√ √	√
Sport, Willamette R on spring run) (MSF-ODFW-01)	√ √ √	√ √ √	√ √ x	√ √ x	x √ x	√ √ √	√ √ √	√ √ √	√ √	√
Sport, Oregon coast (MSF-ODFW-02)						x √ x	√ √ x	√ √ x	√ √	√
Sport, Snake River, fall Chinook, Sep-Oct. (MSF-IDFG-04)							x √ x	x √ x	x √ x	√

Table 8. Number of tagged and marked Coho Salmon sampled (Obs) and % of tagged estimated caught in fisheries or in escapement averaged over years 2006-2008.

			MSF										NSF							
			BC		WACST		WAPS		OR		COLR		Commercial		Sport		Escapement		Total	
	Region	Hatchery / /Release Location	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	Estimated
BC	Coastal BC	HEILTSUK	2	77%	-	0%	-	0%	-	0%	-	0%	6	23%	-	0%	-	0%	8	102
		SNOOTLI CR	7	34%	-	0%	-	0%	-	0%	-	0%	43	63%	3	3%	-	0%	53	245
		Central BC	2	46%	-	0%	-	0%	-	0%	-	0%	18	53%	1	2%	-	0%	22	127
	Fraser R – Thompson R	INCH CR	9	64%	9	7%	6	9%	1	1%	-	0%	14	17%	0	1%	-	0%	38	283
		SPIUS CR	1	20%	7	26%	4	34%	2	9%	-	0%	3	11%	-	0%	-	0%	18	62
	Georgia Strait	BIG QUALICUM R	1	67%	1	5%	0	5%	-	0%	-	0%	3	23%	-	0%	-	0%	6	41
		GOLDSTREAM R	2	59%	1	5%	2	17%	-	0%	-	0%	5	16%	0	4%	-	0%	11	59
		Georgia Strait	-	0%	-	0%	-	0%	-	0%	-	0%	2	100%	-	0%	-	0%	2	8
	Johnstone Strait	QUINSAM R	4	78%	1	1%	-	0%	0	1%	-	0%	6	20%	-	0%	-	0%	11	106
		Johnstone S	3	94%	1	2%	-	0%	-	0%	-	0%	1	4%	-	0%	-	0%	5	80
	Nass R – Skeena R	TOBOGGAN CR	6	32%	-	0%	-	0%	-	0%	-	0%	94	64%	9	4%	-	0%	109	517
		Skeena	-	0%	-	0%	-	0%	-	0%	-	0%	8	100%	-	0%	-	0%	8	23
	Queen Charlotte Islands	QCI	-	0%	-	0%	-	0%	-	0%	-	0%	44	100%	-	0%	-	0%	44	203
	W Vancouver Island	ROBERTSON CR	23	65%	13	7%	2	3%	1	0%	-	0%	27	25%	-	0%	-	0%	66	402
WA	Coastal Washington	MAKAH NFH	1	7%	8	7%	2	4%	2	2%	-	0%	20	10%	-	0%	64	70%	97	244
		QUINAULT NFH	6	2%	95	7%	6	1%	33	3%	-	0%	398	49%	-	0%	365	38%	902	2,860
		SALMON R	1	1%	34	10%	1	1%	11	3%	-	0%	178	61%	-	0%	155	23%	379	744
		SOLDUC H	11	7%	98	10%	3	1%	28	4%	0	0%	45	6%	1	0%	1,393	73%	1,579	2,042
	Grays Harbor	BINGHAM CR H	-	0%	10	4%	0	0%	0	0%	-	0%	21	16%	6	4%	338	76%	375	530
		FRIENDS LANDING	-	0%	1	2%	-	0%	0	0%	-	0%	13	33%	5	15%	59	49%	78	121
		SATSOP SPRINGS	-	0%	1	1%	-	0%	-	0%	-	0%	4	18%	1	2%	64	78%	70	89
		Chehalis R.	-	0%	16	6%	1	1%	7	3%	-	0%	38	21%	1	1%	364	68%	426	560
	Willapa R	FORKS CREEK H	2	7%	20	5%	-	0%	6	2%	1	0%	73	38%	3	2%	332	45%	437	741
		NASELLE H	0	2%	8	12%	-	0%	4	5%	-	0%	25	60%	-	0%	30	21%	66	154
		NEMAH H	1	3%	34	9%	1	0%	14	6%	1	0%	62	32%	0	0%	309	50%	422	676
		Willapa River	2	4%	28	13%	0	0%	13	8%	0	0%	34	22%	1	2%	223	52%	302	438
	Strait of Juan De Fuca	DUNGENESS H	-	0%	-	0%	-	0%	-	0%	-	0%	5	65%	-	0%	8	35%	13	24
		LOWER ELWHA H	1	15%	2	4%	1	3%	0	1%	-	0%	7	22%	-	0%	59	55%	70	107
	Puget Sound North	BERNIE GOBIN H	5	4%	28	4%	23	8%	5	1%	-	0%	254	77%	18	6%	1	0%	333	1,375
		GLENWOOD SPRINGS	-	0%	-	0%	-	0%	-	0%	-	0%	1	100%	-	0%	-	0%	1	2
		KENDALL CR H	1	3%	8	4%	5	5%	-	0%	-	0%	119	67%	1	0%	44	22%	178	458

Table 8. Number of tagged and marked Coho Salmon sampled (Obs) and % of tagged estimated caught in fisheries or in escapement averaged over years 2006-2008.

			MSF										NSF							
			BC		WACST		WAPS		OR		COLR		Commercial		Sport		Escapement		Total	
	Region	Hatchery / /Release Location	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	Estimated
WA (cont.)	Puget Sound North (cont.)	LUMMI SEA PONDS	6	16%	11	4%	2	2%	1	1%	-	0%	157	67%	1	2%	49	9%	228	550
		SKOOKUM CR H	4	4%	17	4%	7	4%	1	0%	-	0%	235	66%	0	0%	198	22%	463	912
		WALLACE R H	7	5%	24	3%	10	3%	4	1%	-	0%	44	10%	7	2%	1,129	77%	1,225	1,540
	Skagit R	MARBLEMOUNT H	5	4%	24	3%	12	4%	1	0%	-	0%	144	18%	15	5%	879	67%	1,080	1,528
	Puget Sound Mid	COWSKL & RUSHWTR	1	6%	2	4%	3	12%	-	0%	-	0%	36	68%	3	9%	0	1%	46	139
		COWSKULL	4	4%	14	4%	20	10%	1	0%	-	0%	174	67%	31	13%	6	2%	251	979
		CRISP CR	11	3%	38	2%	35	4%	4	0%	-	0%	412	41%	30	4%	1,689	47%	2,219	4,174
		ELLIOTT BAY NP	7	2%	36	3%	30	4%	4	0%	-	0%	643	83%	37	6%	63	2%	819	2,977
		SOOS CREEK H	3	3%	9	2%	7	3%	1	0%	-	0%	150	52%	5	3%	307	37%	483	1,219
		VOIGHTS CR H	5	4%	11	2%	9	4%	0	0%	-	0%	210	48%	12	6%	177	36%	424	1,157
		Green R	2	4%	8	3%	7	5%	2	1%	-	0%	67	37%	5	3%	299	47%	389	642
	Puget Sound South	CLEAR CREEK H	1	16%	2	6%	1	5%	-	0%	-	0%	17	63%	1	2%	5	9%	26	62
		KALAMA CR H	1	2%	5	3%	7	9%	1	0%	-	0%	57	38%	4	4%	155	44%	229	364
		MINTER CR H	1	4%	3	4%	1	4%	-	0%	-	0%	18	27%	2	3%	111	58%	136	195
		SOUTH SOUND NP	5	3%	17	3%	13	6%	2	0%	-	0%	274	84%	9	3%	3	1%	323	1,167
	Hood Canal	GEORGE ADAMS H	4	3%	17	3%	7	3%	2	0%	-	0%	69	24%	7	4%	716	63%	822	1,189
		PORT GAMBLE BAY	5	7%	14	5%	10	8%	0	0%	-	0%	131	73%	9	7%	7	1%	175	662
		QUILCENE BAY	8	5%	25	4%	17	5%	2	0%	-	0%	228	52%	13	5%	292	29%	584	1,528
		QUILCENE NFH	5	5%	20	4%	14	5%	1	0%	-	0%	234	53%	8	6%	267	28%	549	1,394
OR	Coastal Oregon, North	NEHALEM H	0	1%	7	4%	-	0%	3	2%	2	0%	1	0%	-	0%	331	92%	343	361
		SALMON R H	-	0%	4	5%	-	0%	5	11%	-	0%	1	1%	-	0%	108	82%	117	132
	Coastal Oregon, South	BUTTE FALLS H	-	0%	3	17%	-	0%	4	29%	-	0%	2	26%	-	0%	8	28%	16	27
		COLE RIVERS H	-	0%	-	0%	-	0%	1	1%	0	0%	0	0%	1	0%	299	98%	302	304
		ROCK CR H	-	0%	2	12%	-	0%	13	69%	-	0%	1	12%	1	2%	2	5%	19	47
COLR	Central Columbia R	CASCADE H	-	0%	12	9%	-	0%	8	8%	6	5%	28	49%	-	0%	82	29%	135	293
		KLICKITAT H	2	6%	79	36%	1	1%	37	23%	5	2%	74	33%	-	0%	0	0%	198	425
		OXBOW H	-	0%	0	2%	-	0%	0	1%	1	10%	4	71%	-	0%	5	16%	12	34
		WASHOUGAL H	-	0%	17	35%	-	0%	8	21%	2	3%	13	30%	-	0%	11	11%	52	105
	Columbia R, general	WASHOUGAL H	-	0%	7	29%	-	0%	2	9%	-	0%	8	42%	0	13%	3	7%	20	40
		WELLS H	-	0%	2	1%	-	0%	-	0%	0	0%	67	95%	0	0%	14	4%	84	415
	Lower Columbia R	BIG CR H	0	0%	18	5%	-	0%	15	7%	3	1%	93	33%	0	0%	343	53%	473	667
		BONNEVILLE H	-	0%	41	6%	-	0%	34	7%	10	3%	23	5%	-	0%	1,066	79%	1,174	1,365
COLR	Lower Columbia	CASCADE H	-	0%	10	3%	0	0%	7	3%	6	2%	268	91%	-	0%	9	1%	300	705

Table 8. Number of tagged and marked Coho Salmon sampled (Obs) and % of tagged estimated caught in fisheries or in escapement averaged over years 2006-2008.

			MSF										NSF							
			BC		WACST		WAPS		OR		COLR		Commercial		Sport		Escapement		Total	
	Region	Hatchery / /Release Location	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	% of Est	Obs	Estimated
(cont.)	R (cont.)	YOUNGS BAY	-	0%	2	2%	-	0%	1	1%	1	2%	70	92%	-	0%	4	2%	78	194
		COWLITZ SALMON H	2	2%	98	11%	1	0%	48	7%	6	5%	79	9%	1	0%	1,095	66%	1,329	1,759
		DEEP R NP - LOWER	-	0%	3	1%	0	0%	7	3%	4	2%	208	91%	-	0%	23	4%	246	678
		DEEP R NP - UPPER	-	0%	9	8%	-	0%	8	9%	1	0%	98	81%	-	0%	5	2%	120	248
		EAGLE CR NFH	0	0%	17	9%	-	0%	14	10%	4	3%	8	6%	-	0%	110	71%	154	385
		ELOCHOMAN H	1	3%	27	13%	0	0%	17	11%	2	1%	43	19%	0	0%	217	53%	308	439
		FALLERT CR H	-	0%	23	10%	-	0%	21	12%	6	4%	10	8%	-	0%	299	66%	358	467
		GRAYS RIVER H	0	0%	16	12%	-	0%	17	16%	5	4%	40	33%	-	0%	105	35%	184	310
		KALAMA FALLS H	1	4%	32	11%	1	1%	18	8%	1	4%	45	16%	-	0%	302	56%	401	546
		LEWIS RIVER H	3	1%	231	11%	4	0%	123	7%	27	6%	185	8%	0	0%	2,920	67%	3,493	4,393
		NORTH TOUTLE H	-	0%	33	9%	-	0%	29	10%	10	13%	13	5%	-	0%	426	64%	511	847
		OXBOW H	-	0%	9	3%	-	0%	6	3%	5	1%	20	8%	-	0%	562	85%	603	665
		SANDY H	1	1%	47	10%	0	0%	34	10%	15	5%	126	29%	-	0%	386	44%	609	944
		WASHOUGAL H	1	2%	39	14%	1	1%	16	8%	3	2%	41	17%	0	0%	285	56%	386	510

Table 9. Number of tagged and marked Chinook salmon sampled (Obs) and % of tagged estimated caught in fisheries or in escapement averaged over fishery years 2003-2009

			Non-Selective												Mark-Selective											
			Comm Fisheries (Troll and Net)						Sport Fisheries						Comm Net		Sport								All Fisheries		
	Escapement		AK and BC		COLR		WA and OR		AK and BC		COLR		WA and OR		COLR		COLR		ORCST		WACST		WAPS				
Tagged Indicator Stock	Est	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Total Est
British Columbia																											
Big Qualicum	208	66.2	14	13.1	-	0.0	2	1.3	12	18.7	-	0.0	0	0.3	-	0.0	-	0.0	-	0.0	-	0.0	0	0.6	28	33.8	314
Chehalis (Harrison Fall	140	60.0	13	20.0	1	0.9	10	8.5	3	8.2	-	0.0	2	2.0	-	0.0	-	0.0	-	0.0	-	0.0	0	0.5	29	40.0	233
Chilliwack (Harrison Fall	1,371	72.2	47	9.6	3	0.4	38	3.9	30	11.8	0	0.0	9	1.3	-	0.0	-	0.0	-	0.0	0	0.0	3	0.8	130	27.8	1,89
Cowichan Fall	62	39.1	8	18.3	-	0.0	9	13.6	8	27.1	-	0.0	1	1.6	-	0.0	-	0.0	-	0.0	-	0.0	0	0.4	27	60.9	160
Dome Creek Spring	10	28.1	1	51.1	-	0.0	0	0.9	1	17.9	-	0.0	0	2.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	3	71.9	37
Kitsumkalum Summer	476	64.6	49	19.1	-	0.0	-	0.0	28	16.3	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	77	35.4	737
Lower Shuswap River	323	51.4	52	24.8	-	0.0	2	0.5	29	23.4	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0	0.1	83	48.6	629
Nanaimo River Fall	340	76.1	7	4.4	0	0.1	2	1.2	15	16.8	-	0.0	1	1.2	-	0.0	-	0.0	-	0.0	-	0.0	0	0.2	26	23.9	447
Nicola River Spring	151	77.0	2	3.0	0	0.3	2	1.6	10	17.9	0	0.3	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	14	23.0	196
Puntledge Summer	99	72.8	7	10.6	-	0.0	-	0.0	5	16.5	-	0.0	0	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	12	27.2	136
Quinsam Fall	244	61.7	31	21.1	-	0.0	-	0.0	14	17.1	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	45	38.3	395
Robertson Creek	569	37.4	168	38.0	-	0.0	-	0.0	72	24.6	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	241	62.6	1,52
Harrison Fall (Chehalis)	242	75.9	10	12.1	0	0.2	4	2.6	5	8.0	0	0.1	1	0.5	-	0.0	-	0.0	-	0.0	-	0.0	1	0.6	21	24.1	318
Washington Puget Sound and Coast																											
George Adams Fall	422	51.1	22	9.7	3	0.8	32	14.3	9	8.8	-	0.0	16	10.9	-	0.0	-	0.0	-	0.0	-	0.0	10	4.4	91	48.9	825
Green River Fall Fingerling	275	41.6	18	9.4	1	0.7	110	31.4	7	6.7	-	0.0	12	5.8	-	0.0	-	0.0	-	0.0	-	0.0	9	4.4	158	58.4	661
Grovers Cr Fall Fingerling	579	58.8	36	12.4	3	0.8	46	9.7	11	7.4	-	0.0	15	5.8	-	0.0	-	0.0	-	0.0	-	0.0	15	5.3	126	41.2	985
Hoko Fall Fingerling	179	62.7	28	25.9	-	0.0	0	0.4	7	10.2	-	0.0	0	0.3	-	0.0	-	0.0	-	0.0	-	0.0	0	0.5	36	37.3	285
Nisqually Fall Fingerling	467	40.1	23	7.0	2	0.4	166	39.0	6	3.8	-	0.0	15	5.0	-	0.0	-	0.0	-	0.0	0	0.1	15	4.7	228	59.9	1,16
Nooksack Spring Fingerling	232	46.9	41	27.7	-	0.0	10	2.7	12	19.2	-	0.0	3	1.8	-	0.0	-	0.0	-	0.0	-	0.0	2	1.8	67	53.1	494
Queets Fall Fingerling	198	30.4	91	38.0	-	0.0	45	21.1	19	10.3	-	0.0	1	0.2	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	156	69.6	654
Samish Fall Fingerling	194	22.7	19	8.1	1	0.2	172	44.7	14	11.4	0	0.1	15	8.8	-	0.0	-	0.0	-	0.0	0	0.0	9	4.1	230	77.3	853
Skagit Spring Fingerling	549	55.5	28	8.3	0	0.0	48	6.4	16	12.5	-	0.0	12	2.3	-	0.0	-	0.0	-	0.0	0	0.0	60	15.0	165	44.5	990
Skagit Spring Yearling	229	48.1	8	5.0	-	0.0	23	6.1	9	14.6	0	0.1	8	5.0	-	0.0	-	0.0	-	0.0	-	0.0	40	21.1	89	51.9	475
Skagit Summer Fingerling	442	65.8	35	14.7	-	0.0	53	10.1	10	8.4	-	0.0	0	0.1	-	0.0	-	0.0	-	0.0	-	0.0	2	0.8	100	34.2	671
Skykomish Fall Fingerling	264	64.7	18	13.8	-	0.0	6	3.7	7	11.1	-	0.0	4	3.7	-	0.0	-	0.0	-	0.0	-	0.0	3	3.0	38	35.3	408
Sooes Fall Fingerling	53	39.0	21	42.5	-	0.0	2	1.7	4	14.7	-	0.0	1	1.4	-	0.0	-	0.0	-	0.0	-	0.0	0	0.7	29	61.0	135
South Puget Sound Fall	43	31.5	1	3.7	-	0.0	11	17.3	1	2.6	0	0.3	8	27.4	-	0.0	-	0.0	-	0.0	-	0.0	6	17.3	27	68.5	136
Stillaguamish Fall	268	65.7	15	10.5	-	0.0	12	5.3	7	11.9	-	0.0	4	2.7	-	0.0	-	0.0	-	0.0	-	0.0	5	4.0	42	34.3	408
Columbia and Snake River																											
Columbia Lower River	73	39.2	10	20.7	16	18.2	4	4.5	3	10.9	1	1.6	4	4.7	-	0.0	0	0.2	-	0.0	-	0.0	0	0.1	40	60.8	185

Table 9. Number of tagged and marked Chinook salmon sampled (Obs) and % of tagged estimated caught in fisheries or in escapement averaged over fishery years 2003-2009

			Non-Selective												Mark-Selective											
			Comm Fisheries (Troll and Net)						Sport Fisheries						Comm Net		Sport								All Fisheries		
	Escapement		AK and BC		COLR		WA and OR		AK and BC		COLR		WA and OR		COLR		COLR		ORCST		WACST		WAPS				
Tagged Indicator Stock	Est	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Obs	% Est	Total Est
Columbia Summers	489	34.3	121	26.3	82	16.1	20	3.3	17	5.6	37	13.0	3	0.5	2	0.6	0	0.1	-	0.0	-	0.0	1	0.2	283	65.7	1,42
Cowlitz Fall Tule	61	58.5	4	12.6	3	6.4	3	6.4	1	2.3	2	7.0	2	4.4	-	0.0	0	1.6	-	0.0	-	0.0	0	0.9	15	41.5	104
Hanford Wild	43	23.1	20	30.6	13	17.8	0	0.3	3	7.2	4	15.3	0	0.6	2	4.7	0	0.4	-	0.0	-	0.0	-	0.0	43	45.8	186
Lewis River Wild	87	50.3	15	25.2	6	6.5	2	1.5	2	5.8	1	9.8	1	0.9	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	27	76.9	173
Spring Creek Tule	541	40.4	47	12.4	170	30.8	31	4.9	9	4.0	9	2.0	20	3.7	4	1.2	-	0.0	-	0.0	0	0.1	2	0.6	291	49.7	1,33
Upriver Brights	304	37.1	71	24.7	54	15.4	3	0.8	10	6.3	13	10.0	5	1.7	6	3.1	1	0.7	-	0.0	0	0.1	0	0.1	165	64.3	820
Willamette Spring	542	52.2	24	7.1	96	13.2	4	0.6	2	0.8	25	11.5	0	0.1	2	0.5	34	13.9	0	0.0	-	0.0	0	0.0	187	59.6	1,03
Kalama Fall Hatchery Tule	68	47.3	11	25.4	3	5.9	2	2.3	3	10.8	2	3.5	2	4.1	-	0.0	0	0.5	-	0.0	0	0.1	0	0.2	24	62.9	144
Lyons Ferry Yearling	1,253	45.1	76	9.8	210	19.5	90	7.1	20	4.2	41	4.9	69	6.1	10	1.8	2	0.4	0	0.0	4	0.4	5	0.7	527	47.8	2,77
Washougal Fall Hatchery	84	54.0	11	23.0	4	6.1	1	1.9	2	7.3	1	2.6	3	4.0	-	0.0	0	0.5	-	0.0	0	0.2	0	0.3	23	52.7	156
Oregon Coast																											
Elk River	855	54.2	76	13.4	53	11.3	20	2.9	8	2.5	1	0.2	72	15.0	-	0.0	0	0.0	2	0.4	0	0.0	-	0.0	232	54.9	1,57
Salmon River	339	35.7	104	30.0	2	0.5	2	0.5	14	6.6	5	1.4	56	22.3	-	0.0	-	0.0	8	2.9	-	0.0	-	0.0	191	46.0	950

Appendix C

WDFW and TRIBAL COASTAL CHINOOK MASS MARKING and CODED-WIRE TAGGING 2012

Species: Chinook
Area: Coastal Washington
Brood: 2011
Releases: 2012 and 2013

Updated 04/09/2012

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 falls	0	0	100,000	0	100,000	Y	Y
WDFW	SolDuc	SolDuc summers 0+	70,000		0	0	70,000	Y	Y
WDFW	SolDuc	SolDuc summers 1+	80,000	0	170,000		250,000	Y	Y
Tribal	Bear Springs	SolDuc spring/summers	0	0	50,000	0	50,000	Y	Y
Tribal	Salmon River	Queets River falls	200,000	0	0	0	200,000	Y	Y
Tribal	Quinault River*	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*	Willapap River falls	200,000	200,000	2,800,000	0	3,200,000	Y	Y
WDFW	Nemah	Nemah River falls	**0**	0	**3,000,000**	0	3,000,000	Y	Y
WDFW	**Naselle**	**Naselle River falls**	**100,000**	**0**	**700,000**	**0**	**800,000**	**Y**	**Y**
	Total		**850,000**	**400,000**	**8,370,000**	**0**	**9,620,000**		

Total Chinook Production **9,620,000**
Percent Marked **96%**

* DIT

WDFW and TRIBAL COASTAL COHO MASS MARKING and CODED-WIRE TAGGING 2012

Species: Coho
Area: Coastal Washington
Brood: 2011
Release Year: 2013

Updated 04/09/2012

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	100,000	0	250,000	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**	**250,000**	**0**	**250,000**	**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	Heimbigner Project	Satsop River	0	0	15,000	0	15,000	Y	Y
WDFW	Satsop Springs	Satsop River	**0**	0	**450,000**	0	450,000	Y	Y
WDFW	Skookumchuck	Satsop River	50,000	0	0	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		**350,000**	**300,000**	**4,285,000**	**0**	**4,935,000**		

Total Coho Production **4,935,000**
Percent Marked **94%**

* DIT groups

WDFW and TRIBAL COLUMBIA RIVER CHINOOK MASS MARKING and CODED-WIRE TAGGING 2012

Species: Chinook
Area: Columbia River
Brood: 2011 From 2011 FBD
Release Year: 2012 and 2013

Updated 04/09/2012

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	90,000	0	910,000	0	1,000,000	Y	Y
WDFW	Cowlitz	Cowlitz - Falls	**100,000**	0	**4,515,428**	0	4,615,428	Y	Y
WDFW	N Toutle	Toutle - Falls	95,000	0	**1,305,000**	0	**1,400,000**	Y	Y
WDFW	Kalama Falls	Kalama - Falls	95,000	0	3,405,000	0	**3,500,000**	Y	Y
WDFW	Fallert Creek	Kalama - Falls	95,000	0	3,405,000	0	3,500,000	Y	Y
WDFW	Lewis River	Lewis River - Falls (wild)	100,000	0	0	0	100,000	NA	NA
WDFW	Washougal	Washougal - Falls	95,000	0	2,905,000	0	3,000,000	Y	Y
Tribal	Klickitat	Klickitat - falls	600,000	0	3,450,000	**0**	4,050,000	Y	Partial
Tribal	Hanford Reach	Hanford - Wild	200,000	0	0	0	200,000	NA	NA
WDFW	Lyons Ferry	Lyons Ferry - Falls	400,000	0	0	0	400,000	NA	NA
WDFW	Lyons Ferry	Lyons Ferry - Falls 1+	225,000	225,000	0	0	450,000	NA	NA
WDFW	Ringold **	URBs	200,000	0	3,250,000	0	3,450,000	Y	Y
WDFW	Priest Rapids	Priest Rapids - URBs	600,000	600,000	5,500,000	0	6,700,000	Y	Partial
		Total Fall Chinook	**2,895,000**	**825,000**	**28,645,428**	**0**	**32,365,428**		
		Total Percent Marked	**97%**						
WDFW	**Chelan Falls**	Wells - summers 1+	600,000	0	0	0	600,000	NA	NA
WDFW	Dryden Pond	Wenatchee - summers 1+	864,000	0	0	0	864,000	NA	NA
WDFW	Wells	Wells - summers	484,000	0	0	0	484,000	NA	NA
WDFW	Wells	Wells - summers 1+	320,000	0	0	0	320,000	NA	NA
WDFW	Carlton Pond	Methow / Okanogan - summers 1+	400,000	0	0	0	400,000	NA	NA
Tribal	Bonaparte Pond	Methow / Okanogan - summers 1+	175,000	0	0	0	175,000	NA	NA
WDFW	Similkameen Pond	Methow / Okanogan - summers 1+	**384,000**	0	0	0	384,000	NA	NA
		Total Summer Chinook	**3,227,000**	**0**	**0**	**0**	**3,227,000**		
		Total Percent Marked	**100%**						
WDFW	Deep River Net Pens	Cowlitz - springs 1+	50,000	0	**350,000**	0	400,000	Y	Y
WDFW	Cowlitz	Cowlitz - springs	100,000	0	**861,370**	0	961,370	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+	**0**	0	**125,000**	0	125,000	Y	Y
WDFW	Gobar Pond	Kalama - springs 1+	125,000	0	250,000	0	375,000	Y	Y
WDFW	Lewis River*	Lewis River - springs 1+	150,000	150,000	**900,000**	0	1,200,000	Y	Y
WDFW	**Echo Net Pens**	Lewis River - springs 1+	0	0	150,000	0	150,000	Y	Y
WDFW	Lk Wenatchee Net Pens	White River - springs	0	**0**	0	**150,000**	150,000	NA	NA
Tribal	Klickitat	Klickitat - springs 1+	140,000	0	460,000	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+	**298,000**	0	0	0	298,000	Y	Y
WDFW	Methow	Methow - springs 1+	0	183,300	0	0	183,300	NA	NA
WDFW	Twisp	Twisp - springs 1+	0	183,300	0	0	183,300	NA	NA
WDFW	Chewuch	Chewuch - springs 1+	0	183,300	0	0	183,300	NA	NA
		Total Spring Chinook	**863,000**	**924,900**	**3,151,370**	**150,000**	**5,089,270**		
		Total Percent Marked	**79%**						
		Total Chinook	**6,985,000**	**1,749,900**	**31,796,798**	**150,000**	**40,681,698**		
		Total Percent Marked	**95%**						

* DIT group
** marked by ODFW dependent on funding

WDFW and TRIBAL COLUMBIA RIVER COHO MASS MARKING and CODED-WIRE TAGGING 2012

Species: Coho
Area: Columbia River
Brood: 2011
Release Year: 2013

From 2011 FBD

Updated 04/09/2012

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	30,000	0	770,000	0	800,000	Y	Y
WDFW	Grays River	Grays River - Type N	30,000	0	120,000	0	150,000	Y	Y
WDFW	Cowlitz	Cowlitz - Type N	90,000	0	**1,010,000**	0	1,100,000	Y	Y
WDFW	Cowlitz	Cowlitz - Type N (wild)	1,000,000	0	0	0	1,000,000	NA	NA
WDFW	N Toutle	Toutle - Type S	34,000	0	116,000	0	150,000	Y	Y
WDFW	Kalama Falls	Kalama Falls - Type N	34,000	0	566,000	0	600,000	Y	Y
WDFW	Fallert Creek	Kalama Falls - Type S	34,000	0	66,000	0	100,000	Y	Y
WDFW	Lewis River*	Lewis River - Type S	75,000	75,000	**515,000**	0	665,000	Y	Y
WDFW	Lewis River*	Lewis River - Type N	75,000	75,000	**700,000**	0	850,000	Y	Y
WDFW	**Speelyai Bay Net Pens**	Lewis River - Type S	0	0	**285,000**	0	285,000	Y	Y
WDFW	Washougal (Klickitat release)	Washougal - Type N	68,000	0	2,432,000	0	2,500,000	Y	N
WDFW	Washougal	Washougal - Type N	34,000	0	116,000	0	150,000	Y	Y
Tribal	Klickitat	Klickitat - Type N	46,670	0	953,330	0	1,000,000	Y	Y
Tribal	**Beaver Creek Acclimation Pond**	**Mid-Columbia Type S**	0	97,000	0	0	97,000	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	**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
WDFW	Wells	Willard - Type S	0	130,000	0	0	130,000	NA	NA
Tribal	**Twisp Acclimation Pond**	**Mid-Columbia Type S**	**0**	**90,000**	**0**	**0**	**90,000**	NA	NA
		Total	**1,550,670**	**945,000**	**7,649,330**	**0**	**10,145,000**		
		Total Coho Production	**10,145,000**						
	* DIT group	**Percent Marked**	**91%**						

WDFW and TRIBAL PUGET SOUND CHINOOK MASS MARKING and CODED-WIRE TAGGING 2012

Species: Chinook
Area: Puget Sound
Brood: 2011
Releases 2012 and 2013

Updated 04/09/2012

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	200,000	350,000	0	750,000	Y	Y
Tribal	Skookum Creek	SF Nooksack springs	0	1,000,000	0	0	1,000,000	NA	NA
WDFW	Marblemount	Skagit River springs	250,000	0	0	0	250,000	Y	Y
WDFW	Marblemount*	Skagit River springs 1+	75,000	75,000	0	0	150,000	Y	Y
WDFW	**Hupp Springs**	**White River springs**	**0**	**400,000**	**0**	**0**	**400,000**	**Y**	**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
Tribal	White River Acclimation	White River springs	0	0	0	**800,000**	800,000	NA	NA
WDFW	Dungeness	Dungeness River springs	0	50,000	0	0	50,000	NA	NA
WDFW	Hurd Creek	Dungeness River springs	0	50,000	0	0	50,000	NA	NA
WDFW	Greywolf Acclimation	Dungeness River springs	0	100,000	0	0	100,000	NA	NA
		Total spring chinook	525,000	2,270,000	350,000	800,000	3,945,000		
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	0	1,600,000	0	1,700,000	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	200,000	2,700,000	0	3,620,000		
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	1,000,000	0	1,000,000	Y	Y
WDFW	Samish*	Samish River falls	200,000	200,000	3,600,000	0	4,000,000	Y	Y
WDFW	Soos Creek*	Big Soos Creek falls	200,000	200,000	2,800,000	0	3,200,000	Y	Y
WDFW	**Icy Creek**	**Big Soos Creek falls 1+**	**0**	**0**	**300,000**	**0**	**300,000**	**Y**	**Y**
Tribal	Palmer Pond / Keta Creek	Big Soos Creek falls	0	0	1,000,000	0	1,000,000	Y	Y
WDFW	Issaquah	Issaquah Creek falls	0	0	**1,500,000**	0	1,500,000	Y	Y
WDFW	Minter Creek	Minter Creek falls 1+	75,000	0	45,000	0	120,000	Y	Y
Tribal	Gorst Creek	Grovers Creek falls	**180,000**	0	**1,720,000**	0	1,900,000	Y	Y

Tribal	Grovers Creek *	Grovers Creek falls	200,000	200,000	**350,000**	0	750,000	Y	Y
Tribal	Clarks Creek	Puyallup River falls	**100,000**	0	**1,120,000**	0	**1,220,000**	Y	Y
WDFW	**Voights Creek**	**Voights Creek falls**	**90,000**	**0**	**1,110,000**	**0**	**1,200,000**	**Y**	**Y**
WDFW	**Garrison Springs**	**Garrison Springs falls**	**90,000**	**0**	**760,000**	**0**	**850,000**	**Y**	**Y**
Tribal	Clear Creek *	Clear Creek falls	200,000	200,000	3,100,000	0	3,500,000	Y	Y
Tribal	**Kalama Creek**	**Kalama Creek falls**	**100,000**	**0**	**300,000**	**0**	**400,000**	**Y**	**Y**
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	RFEG 6	George Adams falls	**0**	**80,000**	0	0	80,000	NA	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	Morse Creek	Elwha River falls 1+	0	200,000	0	0	200,000	NA	NA
WDFW	Elwha	Elwha River falls	0	**0**	0	2,500,000	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	**220,000**	0	420,000	Y	Y
		Total fall chinook	2,160,000	1,505,000	29,245,000	2,500,000	35,410,000		
	Total		**3,405,000**	**3,975,000**	**32,295,000**	**3,300,000**	**42,975,000**		
	Total Chinook Production				**42,975,000**				
	Percent Marked				**83%**				

* DIT group

WDFW and TRIBAL PUGET SOUND COHO MASS MARKING and CODED-WIRE TAGGING 2012

Species: Coho
Area: Puget Sound
Brood: 2011
Release Year: 2013

Updated 04/09/2012

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		
Coop	Baker Lake	Baker River	0	0	**58,992**	0	58,992	Y	Y
WDFW	Glenwood Springs	Glenwood Springs	0	0	100,000	0	100,000	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
Tribal	North Fork (Stillaguamish)	Fortson Creek	50,000	0	0	0	50,000	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	**1,300,000**	**0**	1,350,000	Y	Y
WDFW	NWSSC Everett Net Pens	Skykomish (May Creek)	0	0	20,000		20,000	Y	Y
WDFW	Possession Point Net Pens	Skykomish (May Creek)	0	0	50,000	0	50,000	Y	Y
WDFW	Seattle Poggie Club	Skykomish (May Creek)	0	0	**54,000**	0	54,000	Y	Y
WDFW	Laebugten Net Pens	Issaquah Creek	0	0	**15,000**	0	15,000	Y	Y
WDFW	Issaquah	Issaquah Creek	0	0	450,000	0	450,000	Y	Y
WDFW	Soos Creek*	Green River (Soos Creek)	45,000	45,000	510,000	0	600,000	Y	Y
Tribal	Crisp Creek	Green River (Soos Creek)	**50,000**	0	**250,000**	0	300,000	Y	Y
Tribal	Elliott Bay Net Pens	Green River (Soos Creek)	**50,000**	0	**345,000**	0	395,000	Y	Y
WDFW	NWSSC 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
Tribal	Puyallup Tribal (Rushing)	Puyallup (Voights Creek)	100,000	0	0	0	100,000	Y	Y
WDFW	Minter Creek	Minter Creek	45,000	0	455,000	0	500,000	Y	Y
WDFW/Tribal	SSNP/Squaxin Net Pens	Skykomish (May Creek)	50,000	0	1,750,000	0	1,800,000	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	George Adams (Purdy Creek)	**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	600,000	0	750,000	NA	NA

* = DIT Group

Total	**925,000**	**300,000**	**10,337,992**	**0**	**11,562,992**	

Total Coho Production	**11,562,992**
Percent marked	**97%**

Kimbel, Mark A (DFW)

From: Public Affairs (DFW)
Sent: Thursday, April 05, 2012 4:24 PM
To: DFW DL WDFW Staff
Subject: Washington's 2012 salmon fisheries approved

NEWS RELEASE

Washington Department of Fish and Wildlife
Treaty Indian Tribes in Western Washington
April 5, 2012
Contacts: Pat Pattillo, WDFW, (360) 902-2705
Tony Meyer, Tribes, (360) 528-4325

Washington's 2012 salmon fisheries approved

SEATTLE – State and tribal co-managers today agreed on a package of salmon fisheries that meets conservation goals for wild salmon populations, while providing fishing opportunities on healthy stocks.

Washington's 2012 salmon fishing seasons, developed by the Washington Department of Fish and Wildlife (WDFW) and treaty tribal co-managers, were finalized today during the Pacific Fishery Management Council's (PFMC) meeting in Seattle. The fishing package defines regulations for salmon fisheries in Puget Sound, Washington's ocean and coastal areas and the Columbia River.

In developing salmon seasons and catch quotas, WDFW fishery managers worked closely with advisors and members of the public to design state-managed fisheries that meet conservation goals for wild salmon and result in the fair sharing of harvest opportunity, said Phil Anderson, WDFW Director.

"State and tribal co-managers worked hard to identify fisheries that were meaningful for both tribal and state fishers," said Anderson, who represents WDFW on the management council. "By using a variety of management tools, we were able to design those fisheries so that they are consistent with efforts to protect and rebuild weak wild salmon stocks."

Key to those efforts is repairing and protecting quality spawning and rearing habitat for salmon, said Lorraine Loomis, fisheries manager for the Swinomish Tribe.

"While effective harvest and hatchery management can help provide limited fishing opportunities, wild salmon continue to decline because their habitat is being lost and damaged faster than it can be restored. This puts our treaty rights at risk," Loomis said. "Habitat is the key to salmon recovery."

As in past years, recreational salmon fisheries in 2012 will vary by area:

- **Puget Sound:** Most chinook and coho fisheries will be similar to last year's seasons. That includes a closure of the sport fishery for chinook in inner Elliott Bay and the Green River to protect naturally spawning chinook, which are expected to return in low numbers this year.

Additional restrictions approved this year include shortening the summer salmon fishery on the Skokomish River and requiring anglers to release wild chinook during the fall salmon fishery in Hood Canal to help meet conservation goals for mid-Hood Canal wild chinook.

On the bright side, a new sockeye fishery will open this summer in the Skagit River. The river, from Highway 536 to the mouth of Gilligan Creek, will be open for sockeye fishing from June 16 to July 15 with a daily limit of three sockeye.

Meanwhile, the Baker Lake sockeye fishery will open a couple weeks earlier this year. The lake will be open July 1 through Sept. 4 with a daily limit of three sockeye salmon. Anglers fishing Baker Lake will be allowed to use two poles, with the purchase of a two-pole endorsement.

The Tulalip Bay "bubble" salmon fishery also will open early this year. The fishery will get under way May 4, a month earlier than last year, and salmon anglers fishing the bubble also will be allowed to use two poles.

- **Washington's ocean waters:** The PFMC today approved a recreational chinook catch quota of 51,500 fish, nearly 18,000 more than last year's quota. The PFMC, which establishes fishing seasons in ocean waters three to 200 miles off the Pacific coast, also adopted a quota of 69,720 coho for this year's recreational ocean fishery, slightly higher than last year's quota.

  This year's ocean fishery will begin with a mark-selective fishery for hatchery chinook opening June 9 in marine areas 1 and 2 and June 16 in marine areas 3 and 4. The fishery will run through June 22 in Marine Area 1, June 23 in Marine Area 2 and June 30 in marine areas 3 and 4, or until a coastwide quota of 8,000 hatchery chinook are retained. In all marine areas, the fishery will be open seven days a week with a daily limit of two salmon. All coho must be released.

  Recreational ocean salmon fisheries for chinook and hatchery coho will continue June 23 in Marine Area 1, June 24 in Marine Area 2, and July 1 in marine areas 3 and 4. Anglers fishing marine areas 1 and 2 will be allowed to retain one chinook as part of a two-salmon daily limit. Anglers fishing marine areas 3 and 4 will have a daily limit of two salmon. Fishing will be open seven days a week, except in Marine Area 2 where fishing will be open Sunday through Thursday.

- **Coastal bays and rivers:** Strong wild coho returns expected this year should provide good fishing in many of Washington's coastal streams, including the Queets, Quillayute, and Hoh rivers, as well as in Grays Harbor and Willapa Bay area rivers.

  Anglers fishing Grays Harbor will also be allowed to retain chinook salmon for the first time since 2007. The fishery will run from Sept. 16 through Oct. 7 with a bag limit of three salmon, only one of which can be a chinook.

  In Willapa Bay (Marine Area 2-1), salmon anglers will be allowed to use two fishing poles, with the purchase of a two-pole endorsement, from Aug. 1 through Jan. 31.

- **Columbia River:** The Buoy 10 fishery will be open for chinook and hatchery coho Aug. 1 through Sept. 3 (Labor Day) and Oct. 1 through Dec. 31. From Aug. 1 through Sept. 3, anglers will have a daily limit of two salmon, only one of which may be a chinook. From Sept. 4 through Sept. 30, anglers will have a daily limit of two hatchery coho, but must release chinook. From Oct. 1 through Dec. 31, anglers can keep six fish, only two of which can be adults.

North Jetty salmonid anglers may use barbed hooks seven days a week when Marine Area 1 or Buoy 10 salmon seasons are open.

The mainstem Columbia River from the Rocky Point/Tongue Point line upstream to Bonneville Dam will be open for chinook and hatchery coho Aug. 1 through Dec. 31. Anglers will be allowed to retain one adult chinook as part of their two-adult daily limit through Sept. 9. From Sept. 10 through Sept. 30, chinook retention will only be allowed upstream of the Lewis River, but up to two adult chinook may be retained. Beginning Oct. 1, up to two adult chinook may be retained throughout the lower river, from the Rocky Point/Tongue Point line upstream to Bonneville Dam.

Specific fishing seasons and regulations for marine areas in Washington and a portion of the Columbia River will be available in the next couple of weeks on WDFW's North of Falcon website at http://wdfw.wa.gov/fishing/northfalcon/.

IDFG- 2012 Marking and Tagging of Chinook and Sockeye Salmon (Brood Year 2011)

Species	Fish Hatchery	Stock	Release Site	Marks & Tags					
				AD	AD/CWT	CWT	VIE/CWT	PBT Only	Grand Total
Chinook (Fall)	Oxbow	Lyons Ferry	IPC Hells Canyon Dam	15,000	185,000				200,000
	Oxbow Sum			15,000	185,000				200,000
Chinook (SP/SU)	Clearwater	Clear Creek	Clear Creek	115,000	120,000				235,000
		Powell	Lower Selway R.	145,000	120,000	135,000			400,000
			Powell Pond	280,000	120,000				400,000
			Upper Selway R. (parr)					300,000	300,000
			NPTH		66,000	134,000			200,000
		S.F. Clearwater R.	Red River Pond	980,000	120,000				1,100,000
		S. F. Salmon R.	Crooked River Trap Site			200,000			200,000
	Clearwater Sum			1,520,000	546,000	469,000		300,000	2,835,000
	McCall	Johnson Cr.	Johnson Creek			50,000	50,000		100,000
		S.F. Salmon R.	Knox Bridge S.F. Salmon R. (Seg)	630,000	120,000				750,000
			Knox Bridge S.F. Salmon R. (Int)			250,000			250,000
	McCall Sum			630,000	120,000	300,000	50,000		1,100,000
	Pahsimeroi	Pahsimeroi	Pahsimeroi R. (Seg)	700,000	120,000				820,000
			Pahsimeroi R. (Int)			180,000			180,000
	Pahsimeroi Sum			700,000	120,000	180,000			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	Pahsimeroi	Pahsimeroi R.		465,000				465,000
		Upper Salmon R.	Yankee Fork			0			0
			Sawtooth weir (Seg)	700,000					700,000
			Sawtooth weir (Int)			140,000			140,000
	Sawtooth Sum			700,000	465,000	140,000			1,305,000
Sockeye	Eagle/Sawtooth	Snake River	Upper Salmon R. Lakes.-Presmolts	60,000					60,000
			Upper Salmon R. & Redfish Lake Cr.			125,000			125,000
			Upper Salmon R. & Redfish Lake Cr.-Oxbow Reared			125,000			125,000
	Eagle/Sawtooth Sum			60,000		250,000			310,000
Grand Total				6,505,000	1,556,000	1,339,000	50,000	300,000	9,750,000

IDFG- 2012 Marking and Tagging of Steelhead (Brood Year 2012)

			Marks & Tags				
Fish Hatchery	Stock	Release Site	AD	AD/CWT	No Clip	No Clip/CWT	Total
Clearwater	DWORB	Peasley Cr	150,000	70,000	70,000		290,000
		Newsome Cr.			123,000		123,000
		Red House Hole	150,000	70,000			220,000
	DWORB Total		300,000	140,000	193,000		633,000
	SFCLW	Peasley Cr	70,000			140,000	210,000
	SFCLW Total		70,000			140,000	210,000
Clearwater Total			370,000	140,000	193,000	140,000	843,000
Hagerman National	EFNat	Upper EF.Salmon R. (Weir)				170,000	170,000
	EFNat Total					170,000	170,000
	SAWA	Sawtooth Weir	670,000	80,000			750,000
		Yankee Fk.	140,000	80,000	220,000		440,000
	SAWA Total		810,000	160,000	220,000		1,190,000
Hagerman National Total			810,000	160,000	220,000	170,000	1,360,000
Magic Valley	DWORB	Pahsimeroi Trap				60,000	60,000
		Squaw Creek	220,000	60,000			280,000
		Lower EF. Salmon R.	215,000	60,000			275,000
		Little Salmon R.	95,000	120,000			215,000
	DWORB Total		530,000	240,000		60,000	830,000
	SAWA	McNabb Point	30,000	90,000			120,000
	SAWA Total		30,000	90,000			120,000
	USALB	Pahsimeroi Trap				120,000	120,000
	USALB Total					120,000	120,000
	PAHA	Red Rock	0	90,000			90,000
		Shoup Bridge	60,000	30,000			90,000
		Colston Corner	30,000	60,000			90,000
		Little Salmon R.	110,000	90,000			200,000
	PAHA Total		200,000	270,000			470,000
Magic Valley Total			760,000	600,000		180,000	1,540,000
Niagara Springs	PAHA	Pahsimeroi Trap	740,000	90,000			830,000
		Little Salmon R.	140,000	30,000			170,000
	PAHA Total		880,000	120,000			1,000,000
	OXA	Hells Canyon Dam	435,000	90,000			525,000
		Little Salmon R.	215,000	60,000			275,000
	OXA Total		650,000	150,000			800,000
Niagara Springs Total			1,530,000	270,000			1,800,000
Grand Total			3,470,000	1,170,000	413,000	490,000	5,543,000

Marking Status of Tribal Hatchery Chinook

Tribe	Hatchery	2012 Production				Marking Agency
		Tagged (CWT)		Untagged		
		AD Clipped	Unclipped	AD Clipped	Unclipped	
Lummi	Lummi Bay Sea Ponds			600,000		WDFW
	Skookum Creek	35000				Tribe
Stillaguamish	Harvey Creek	220,000				NWIFC
	Brenners Creek	8,000				Tribe
Tulalip	Bernie Gobin	200,000		2,300,000		NWIFC
Suquamish	Gorst Creek	180,000		1,720,000		WDFW
	Grovers Creek	200,000	200,000	60,000		NWIFC
Muckleshoot	White River		395,000		1000000[1]	Tribe
	Palmer Ponds			1,000,000		Tribe
Puyallup	Clarks Creek			110,000		NWIFC
Nisqually	Clear Creek	200,000	200,000	3,100,000		WDFW
	Kalama Creek	100,000		500,000		WDFW
Makah	Hoko Falls	250,000				NWIFC
	Educket Creek			100,000		USFWS
Quileute	Lonesome Cr/Sol Duc	165,000		50,000		NWIFC
Quinault	Salmon River	200,000				NWIFC
	Lake Quinault	200,000	200,000	250,000		NWIFC
	Totals	**1,964,100**	**1,595,000**	**9,790,000**	**1,000,000**	

Grand Total Marked + CWT = 13,349,100

[1] 100% vent clipped

Marking Status of Tribal Hatchery Coho

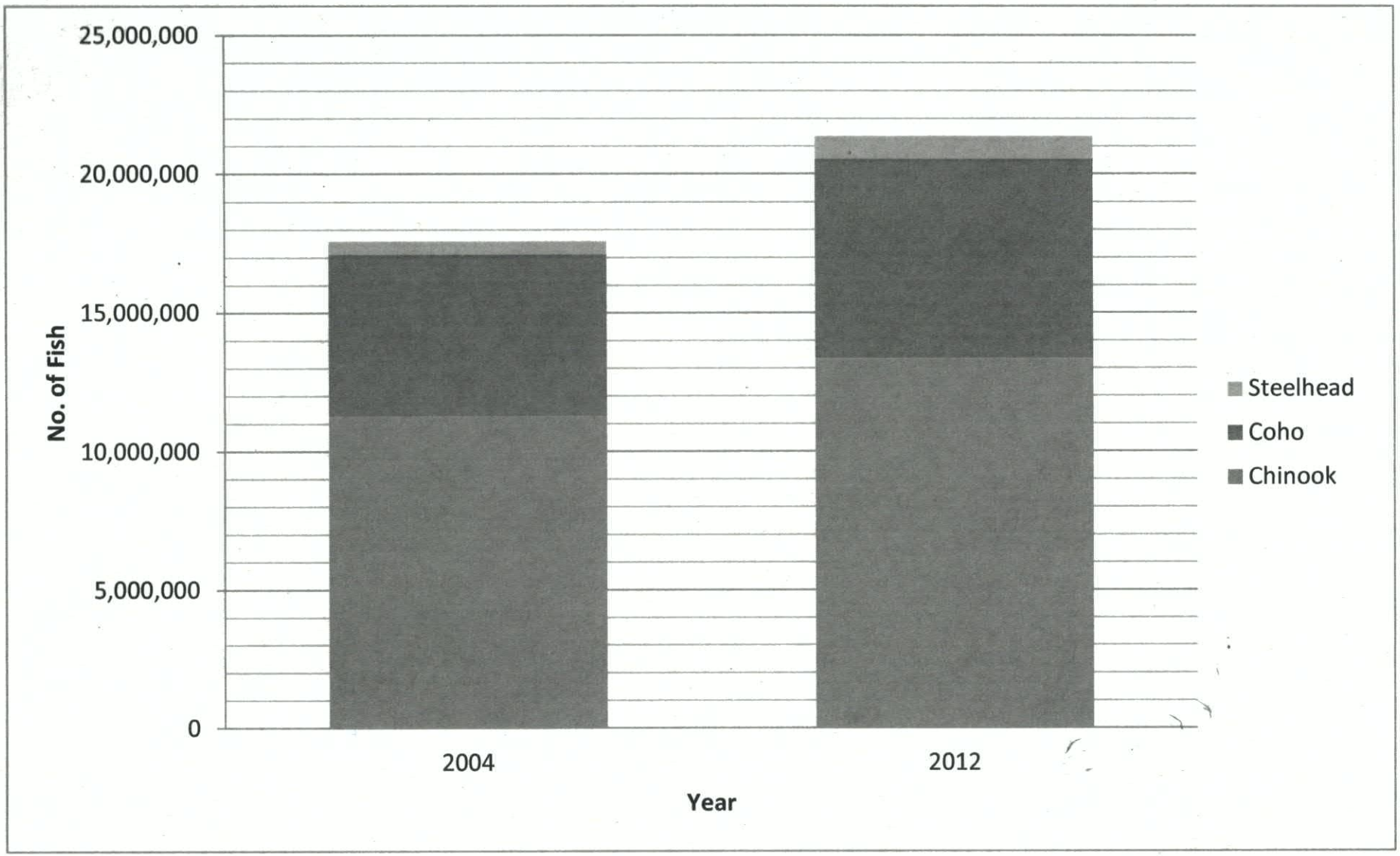
Tribe	Hatchery	2011 Production				Marking Agency
		Tagged (CWT)		Untagged		
		AD Clipped	Unclipped	AD Clipped	Unclipped	
Lummi	Lummi Bay Sea Ponds	50,000		950,000		WDFW
	Skookum Creek	50,000		950,000		WDFW
Stillaguamish	Harvey Creek/North Fork Hatchery	50,000				NWIFC
Tulalip	Bernie Gobin	70,000		1,700,000		NWIFC
Port Gamble	Port Gamble Net Pens	45,000		355,000		WDFW
Suquamish	Agate Pass Net Pens	50,000		250,000		NWIFC
Muckleshoot	Elliot Bay Net Pens	50,000		345,000		Tribe
	Keta Creek/Crisp Creek	50,000		300,000		Tribe
Puyallup	Rushing River	100,000				WDFW
	Kalama Creek	45,000		355,000		WDFW
Skokomish	Quilcene Bay Net Pens	45,000		155,000		USFWS
Lower Elwha	Lower Elwha	75,000	75,000	300,000		NWIFC
Makah	Educket Creek			50,000		USFWS
Quinault	Salmon River	75,000	75,000	500,000		NWIFC
	Totals	**805,000**	**150,000**	**6,210,000**	**0**	

Grand Total Marked + CWT = **7,165,000**

Marking Status of Tribal Hatchery Steelhead

Tribe	Hatchery	2011 Production				Marking Agency
		Tagged (CWT)		Untagged		
		AD Clipped	Unclipped	AD Clipped	Unclipped	
Puyallup	Diru Creek		30,000			Tribe
Lower Elwha	Lower Elwha		200,000			NWIFC
Makah	Hoko			60,000		NWIFC
Makah	Educket Creek			25,000		USFWS
Quileute	Bear Springs			140,000		WDFW
Hoh	Chaalat Creek	10,000		80,000		NWIFC
Quinault	Salmon River	35,000			115,000	Tribe
Quinault	Lake Quinault	35,000			165,000	Tribe
	Totals	**80,000**	**460,000**	**305,000**	**280,000**	

Grand Total Marked + CWT = **845,000**


25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
No. of Fish
2004
2012
Year
Steelhead
Coho
Chinook

California CWT Tagging and Marking in 2011

Hatchery	Chinook Run	Ad+CWT (Millions)	Untagged+Unmarked (Millions)	Totals (Millions)
Feather River	Fall	2.3	6.125	8.425
Feather River	Spring	2.5	0	2.5
Feather R Annex	Fall	0.5	1.6	2.1
Mokelumne	Fall	1.7	4.8	6.5
Nimbus	Fall	1.4	3.5	4.9
Coleman NFH	Fall	3.2	9.5	12.7
Coleman NFH	Late Fall	1.1	0	1.1
Livingston Stone NFH	Winter	0.2	0	0.2
Iron Gate	Fall	1	4	5
Trinity	Fall	0.5	1.5	2
Trinity	Spring	0.35	1.05	1.4
Totals:		14.75	32.075	46.825

Fiscal 2012 - 2013

Chinook - 4.915M CWT+Ad representing 20.7M
0.19M unclipped CWT only representing 0.4M
46.1M total production/release

Coho - 0.9M CWT+Ad, representing 3M
108K unclipped+CWT representing 128k (DIT and stocks of concern)
5.85M ad clip only
13.6M total production/release

Project	Stock	Br Year	Sp	CWT - Ad	CWT - Only	Fin - Ad	Fin - LV	Fin -AD + L	Fin -AD + F	Otolith	Grand Total
Big Qualicum R	Big Qualicum R (ind)	2011	CN	450,000							450,000
	Big Qualicum R (exp)	2011	CN	100,000							100,000
Chehalis R	Harrison R (ind)	2011	CN	300,000							300,000
	Chehalis R (exp)	2012	CN							80,000	80,000
Chilliwack R	Chilliwack R	2012	CN							1,165,000	1,165,000
	Chilliwack R (ind)	2011	CN	200,000	100,000						300,000
	Chilliwack R (exp)	2011	CN	0							0
Conuma R	Burman R	2012	CN							350,000	350,000
	Conuma R	2012	CN							2,700,000	2,700,000
	Gold R	2012	CN							300,000	300,000
	Sucwoa R	2012	CN							40,000	40,000
	Tlupana R	2012	CN							40,000	40,000
Cowichan R	Cowichan R	2012	CN							1,000,000	1,000,000
	Cowichan R (ind)	2012	CN	600,000							600,000
Esquimalt Hb	Nitinat R	2012	CN							100,000	100,000
Gillard Pass	Phillips R (exp)	2011	CN	80,000							80,000
Gwa'ni	Nimpkish R	2012	CN							250,000	250,000
L Campbell R	L Campbell R	2011	CN				60,000				60,000
Nanaimo R	Chemainus R	2011	CN	0							0
	First Lk	2012	CN							180,000	180,000
	Nanaimo R	2012	CN							160,000	160,000
Nitinat R	Nitinat R	2012	CN							4,050,000	4,050,000
	Sarita R	2012	CN							500,000	500,000
Pt Hardy	Marble R	2012	CN							990,000	990,000
Puntledge R	Puntledge R (ind)	2011	CN	240,000							240,000
	Puntledge R (exp)	2011	CN		90,000						90,000

Quinsam R	Quinsam R	2011	CN	100,000							100,000
	Quinsam R	2012	CN							3,860,000	3,860,000
	Salmon R	2012	CN							120,000	120,000
	Quinsam R (ind)	2011	CN	475,000							475,000
Robertson Cr	Nahmint R	2011	CN	0							0
	Nahmint R	2012	CN							30,000	30,000
	Robertson Cr	2012	CN							6,000,000	6,000,000
	Robertson Cr (ind)	2011	CN	450,000							450,000
San Juan R	San Juan R	2012	CN							720,000	720,000
Shuswap R	Shuswap R Low (ind)	2011	CN	500,000							500,000
	Shuswap R Mid (ind)	2011	CN	150,000							150,000
Snootli Cr	Wannock R	2011	CN	50,000							50,000
	Atnarko R Low (ind)	2011	CN	250,000							250,000
	Atnarko R Up (ind)	2011	CN	250,000							250,000
Sooke R	Nitinat R	2012	CN							212,000	212,000
Spius Cr	Salmon/TOMF	2012	CN							80,000	80,000
	Nicola R (ind)	2011	CN	195,000							195,000
Tahsis R	Leiner R	2012	CN							0	0
	Tahsis R	2012	CN							0	0
Tenderfoot Cr	(blank)	2012	CN							120,000	120,000
Terrace	Kitsum Abv Can (ind)	2011	CN	130,000							130,000
	Kitsum Bel Can (ind)	2011	CN	130,000							130,000
Toboggan Cr	Morice R	2011	CN	80,000							80,000
	Upper Bulkley R (ind)	2011	CN	35,000							35,000
Tofino	Bedwell R	2011	CN	15,000							15,000
Whitehorse	Yukon R	2011	CN	135,000							135,000
Total Chinook				4,915,000	190,000	0	60,000	0	0	23,047,000	28,212,000

Project	Stock	Br Year	Sp	CWT - Ad	CWT - Only	Fin - Ad	Fin - LV	Fin -AD + L	Fin -AD + F	Otolith	Grand Total
Alouette R	Alouette R S	2011	CO			25,000					25,000
Big Qualicum R	Big Qualicum R	2011	CO			680,000					680,000
	Big Qualicum R (ind)	2011	CO	40,000							40,000
	Big Qualicum R (exp)	2011	CO	100,000							100,000
Black Cr	Black Cr (wild)	2011	CO		15,000						15,000
Capilano R	Capilano R	2011	CO			525,000					525,000
Carnation Cr	Carnation Cr	2011	CO		3,000						3,000
Chapman Cr	Chapman Cr	2011	CO			90,000					90,000
Chehalis R	Chehalis R	2011	CO			800,000					800,000
Chilliwack R	Chilliwack R	2011	CO			1,000,000					1,000,000
Conuma R	Conuma R	2011	CO			50,000					50,000

Coquitlam R	Coquitlam R	2011	CO			20,000					20,000
Courtenay	Trent R	2011	CO			40,000					40,000
Deena Cr	Deena Cr (wild)	2011	CO	20,000							20,000
Fanny By/GSVI	Rosewall Cr	2011	CO			100,000					100,000
French Cr	French Cr	2011	CO			30,000					30,000
Goldstream R	Goldstream R (ind)	2011	CO	20,000							20,000
Inch Cr	Inch Cr	2011	CO			50,000					50,000
	Nicomekl R	2011	CO			75,000					75,000
	Norrish Cr	2011	CO			150,000					150,000
	Serpentine R	2011	CO			75,000					75,000
	Stave R	2011	CO			75,000					75,000
	Inch Cr (ind)	2011	CO	50,000	50,000						100,000
Kanaka Cr	Kanaka Cr	2011	CO			10,000					10,000
Keogh R	Keogh R (wild)	2011	CO	50,000							50,000
Kitwanga R	Kitwanga R (wild)	2011	CO	20,000							20,000
L Campbell R	L Campbell R	2011	CO			30,000					30,000
Little R/GSVI	Little R/GSVI	2011	CO			30,000					30,000
Millard Cr	Millard Cr	2011	CO			0					0
Mossom Cr	Mossom Cr	2011	CO			5,000					5,000
Myrtle Cr	Myrtle Cr (wild)	2011	CO	500							500
Nitinat R	Nitinat R	2011	CO			300,000					300,000
	Nitinat R	2012	CO							300,000	300,000
Noons Cr	Noons Cr	2011	CO			10,000					10,000
Oldfield Cr	Oldfield Cr	2011	CO			15,000					15,000
Pt Hardy	Cluxewe R	2011	CO			100,000					100,000
	Quatse R	2011	CO			100,000					100,000
	Waukwaas Cr	2011	CO			100,000					100,000
Puntledge R	Puntledge R (exp)	2011	CO	200,000							200,000
Quinsam R	Quinsam R	2011	CO			725,000					725,000
	Quinsam R (ind)	2011	CO	40,000	40,000						80,000
	Quinsam R (exp)	2011	CO	80,000							80,000
Reed Point/Ioco	Seymour R	2011	CO			7,500					7,500
Robertson Cr	Robertson Cr	2011	CO			160,000					160,000
	Robertson Cr (ind)	2011	CO	40,000							40,000
Sechelt	Chapman Cr	2011	CO			100,000					100,000
Seymour R	Seymour R	2011	CO					15,000	15,000		30,000
Slamgeesh R	Slamgeesh R (wild)	2011	CO	20,000							20,000
Sliammon R	Sliammon R	2011	CO			60,000					60,000
Snootli Cr	Johnston Cr	2011	CO	20,000							20,000
	Salloompt R	2011	CO	25,000							25,000

Spius Cr	Salmon/TOMF	2011	CO	0							0
	Coldwater R (ind)	2011	CO	65,000							65,000
	Eagle R (ind)	2011	CO	45,000							45,000
Tenderfoot Cr	Cheakamus R	2011	CO			100,000					100,000
	Mamquam R	2011	CO			60,000					60,000
	Tenderfoot Cr	2011	CO			150,000					150,000
Toboggan Cr	Toboggan Cr (ind)	2011	CO	35,000							35,000
Westridge Term	Seymour R	2011	CO			7,500					7,500
Zolzap Cr	Zolzap Cr (wild)	2011	CO	30,000							30,000
Total Coho				900,500	108,000	5,855,000	0	15,000	15,000	300,000	7,193,500

ODFW's 2012 FISH MARKING PROGRAM

Projected Fish to be Marked *(all numbers X 1,000)*

	Ad+CWT	Ad Only	CWT Only	AdLV +CWT	AdRV +CWT	Ad+Agency Only Tags	AdRV	AdLM	AdRM	LV Only	RV Only	Totals
Spr Chin	3,209	9,263	300	0	0	20	0	250	240	0	0	**13,282**
Fall Chin	2,955	15,775	440	60	0	300	0	0	0	1,390	10	**20,930**
Coho	350	5,494	200	0	0	0	0	0	0	0	0	**6,044**
Sum Sthd	0	500	0	335	0	0	60	55	310	0	0	**1,260**
Win Sthd	0	510	0	0	0	147	0	0	0	0	0	**657**
Sockeye	0	0	100	0	0	0	0	0	0	0	0	**100**
Chum	0	0	0	0	0	116	0	0	0	0	0	**116**
Rb Trout	0	1,023	0	0	0	0	0	0	0	0	0	**1,023**
Total	**6,514**	**31,542**	**1,040**	**395**	**0**	**467**	**60**	**305**	**550**	**1,390**	**10**	**43,412**

Total Fish Marked:	**43,412,000**
Total Adipose clips:	**40,972,000**
Fish with Adipose Fin not removed:	**2,440,000**

Total CWTs (full code):	**6,514,000**
Total DIT Tags (no Ad clip):	**250,000**
Total 'Agency Only' Wire Tags:	**467,000**

Comparison of Key Ad+CWT and Ad Only Marking Levels in 2011 and 2012

	Spr Chin		Fall Chin		Coho		Sum Steelhead		Winter Steelhead	
	Ad+CWT	Ad only	Ad+CWT	Ad only	Ad+CWT	Ad only	Ad+CWT	Ad only	Ad+CWT	Ad only
2011	4,130	8,600	2,665	16,760	250	5,330	0	530	0	400
2012	3,209	9,263	2,955	15,775	350	5,494	0	500	0	510

Appendix D

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 CWT program.

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

==========

Agency: Fisheries & Oceans Canada
Date: February 9th, 2012

Marking Coordinator:

a) *Name*…… David Willis
b) *Email*…….. David.Willis@dfo-mpo.gc.ca

1. Mark Requested:

Adipose clip

2. Details of Marking

a) *Number of fish*…….. 55K
b) *Species and Run*…….... Atnarko River summer run Sockeye
c) *Brood yea*…….. 2011
d) *Stock(s)*……..Atnarko River summer run Sockeye
e) *Hatchery(ies)*……Snootli Creek
f) *Geographic area(s)*…….. Central Coast
g) *Release date*……May 2012
h) *Duration of this marking program*…….....*1 week*

3. Specific Management and/or Research Objectives:

- Identification of hatchery fish in escapement to see if depressed stock is responding to enhancement.

4. Impact on Coastwide CWT Programs

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

- Marks should only be detected in escapement

b) Changes to current CWT sampling program

- None

c) Other

5. Specify Expected Benefits

- to determine whether enhancement of this stock is successful

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

- Other fin clips result in higher levels of mortality. This is a stock of concern, higher mortality not acceptable

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 CWT program.

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

==========

Agency: Fisheries & Oceans Canada
Date: February 9th, 2012

Marking Coordinator:

a) *Name*…… David Willis
b) *Email*…….. David.Willis@dfo-mpo.gc.ca

1. Mark Requested:

Adipose clip

2. Details of Marking

a) *Number of fish*…….. 150K
b) *Species and Run*…….... Cultus Lake fall sockeye
c) *Brood yea*…….. 2011
d) *Stock(s)*……..Cultus Lake fall sockeye
e) *Hatchery(ies)*……Inch Creek Sockeye satellite
f) *Geographic area(s)*…….. Lower Fraser
g) *Release date*……Oct 2012
h) *Duration of this marking program*…….....?

3. Specific Management and/or Research Objectives:

- Identification of hatchery fish in escapement to see if depressed stock is responding to enhancement.

4. Impact on Coastwide CWT Programs

a) Predicted number observed recoveries by state/province and by year
   - Marks should only be detected in escapement

b) Changes to current CWT sampling program
   - None

c) Other

5. Specify Expected Benefits

- to determine whether enhancement of this stock is successful

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

- Calcein marking suspended due to mortality at marking, therefore adipose only. This is a stock of concern, higher mortality not acceptable

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

Revised 28 March, 2008

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 CWT program.

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

==========

Agency: Fisheries & Oceans Canada
Date: February 9th, 2012

Marking Coordinator:

a) *Name*…… David Willis
b) *Email*…….. David.Willis@dfo-mpo.gc.ca

1. Mark Requested:

Adipose clip

2. Details of Marking

a) *Number of fish*…….. 700K
b) *Species and Run*…….... Cultus Lake fall sockeye
c) *Brood yea*…….. 2011
d) *Stock(s)*……..Cultus Lake fall sockeye
e) *Hatchery(ies)*……Inch Creek Sockeye satellite
f) *Geographic area(s)*…….. Lower Fraser
g) *Release date*……July 2012
h) *Duration of this marking program*…….....?

3. Specific Management and/or Research Objectives:

- Identification of hatchery fish in escapement to see if depressed stock is responding to enhancement.

4. Impact on Coastwide CWT Programs

a) Predicted number observed recoveries by state/province and by year
   - Marks should only be detected in escapement

b) Changes to current CWT sampling program
   - None

c) Other

5. Specify Expected Benefits

- to determine whether enhancement of this stock is successful

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

- Other fin clips result in higher levels of mortality. This is a stock of concern, higher mortality not acceptable

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

Revised 28 March, 2008

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 CWT program.

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

==========

Agency: Fisheries & Oceans Canada
Date: February 9th, 2012

Marking Coordinator:

a) *Name*…… David Willis
b) *Email*…….. David.Willis@dfo-mpo.gc.ca

1. Mark Requested:

CWT - Adipose clip (50% AG-18, 50% coded wire)

2. Details of Marking

a) *Number of fish*…….. 50K
b) *Species and Run*…….... Cultus Lake fall Sockeye
c) *Brood yea*…….. 2011
d) *Stock(s)*……..Cultus Lake fall Sockeye
e) *Hatchery(ies)*…….Inch Creek Sockeye satellite
f) *Geographic area(s)*…….. Lower Fraser
g) *Release date*……Apr 2013
h) *Duration of this marking program*…….....?

3. Specific Management and/or Research Objectives:

- Identification of hatchery fish in escapement to see if depressed stock is responding to enhancement.

4. Impact on Coastwide CWT Programs

a) Predicted number observed recoveries by state/province and by year
   - Marks should only be detected in escapement

b) Changes to current CWT sampling program
   - None

c) Other

5. Specify Expected Benefits

- to determine whether enhancement of this stock is successful

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

- Other fin clips result in higher levels of mortality. This is a stock of concern, higher mortality not acceptable. No coastwide sampling for marked sockeye in fisheries.

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

Revised 28 March, 2008

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 CWT program.

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

==========

Agency: Fisheries & Oceans Canada
Date: February 9th, 2012

Marking Coordinator:

a) *Name*…… David Willis
b) *Email*…….. David.Willis@dfo-mpo.gc.ca

1. Mark Requested:

Adipose clip

2. Details of Marking

a) *Number of fish*…….. 160K
b) *Species and Run*…….... McLoughlin Bay fall chum
c) *Brood yea*…….. 2011
d) *Stock(s)*……..McLoughlin Bay fall chum
e) *Hatchery(ies)*……Heiltsuk / Bella Bella Hatchery
f) *Geographic area(s)*…….. North Coast
g) *Release date*……April 2012
h) *Duration of this marking program*…….....*?*

3. Specific Management and/or Research Objectives:

- Assessment program to estimate survival and exploitation rate of outer Central Coast chum stock.

4. Impact on Coastwide CWT Programs

a) Predicted number observed recoveries by state/province and by year
   - Marks should only be detected in escapement and terminal fisheries

b) Changes to current CWT sampling program
   - None

c) Other

5. Specify Expected Benefits

- to determine whether enhancement of this stock is successful
- to assess enhanced contribution to harvest

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

- Other fin clips result in higher levels of mortality.

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

Revised 28 March, 2008

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 CWT program.

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

==========

Agency: Fisheries & Oceans Canada
Date: February 9th, 2012

Marking Coordinator:

a) *Name*…… David Willis
b) *Email*…….. David.Willis@dfo-mpo.gc.ca

1. Mark Requested:

Adipose clip

2. Details of Marking

a) *Number of fish*…….. 1 million
b) *Species and Run*…….... Sakinaw Lake fall Sockeye
c) *Brood yea*…….. 2011
d) *Stock(s)*……..Sawkinaw Lake fall Sockeye
e) *Hatchery(ies)*……Sawkinaw Lake
f) *Geographic area(s)*…….. GSMN
g) *Release date*……June 2012
h) *Duration of this marking program*…….....

3. Specific Management and/or Research Objectives:

- Identification of hatchery fish in escapement to see if depressed stock is responding to enhancement, part of Sockeye Recovery Plan.

4. Impact on Coastwide CWT Programs

a) Predicted number observed recoveries by state/province and by year
   - Marks should only be detected in escapement

b) Changes to current CWT sampling program
   - None

c) Other

5. Specify Expected Benefits

- to determine whether enhancement of this stock is successful

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

- Other fin clips result in higher levels of mortality. This is a stock of concern, higher mortality not acceptable

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

Revised 28 March, 2008

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 CWT program.

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

==========

Agency: Fisheries & Oceans Canada
Date: February 9th, 2012

Marking Coordinator:

a) *Name*…… David Willis
b) *Email*…….. David.Willis@dfo-mpo.gc.ca

1. Mark Requested:

Adipose clip

2. Details of Marking

a) *Number of fish*…….. 125K
b) *Species and Run*…….... Snootli Creek summer Chum
c) *Brood yea*…….. 2011
d) *Stock(s)*……..Snooti Creek summer Chum
e) *Hatchery(ies)*……Snootli Creek
f) *Geographic area(s)*…….. Central Coast
g) *Release date*……March 2012
h) *Duration of this marking program*…….....?

3. Specific Management and/or Research Objectives:

- Identification of hatchery fish in escapement to see if depressed stock is responding to enhancement.

4. Impact on Coastwide CWT Programs

a) Predicted number observed recoveries by state/province and by year
   - Marks should only be detected in escapement

b) Changes to current CWT sampling program
   - None

c) Other

5. Specify Expected Benefits

- to determine whether enhancement of this stock is successful

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

- Other fin clips result in higher levels of mortality.

Please forward request to: **George Nandor**

Regional Mark Coordinator

Pacific States Marine Fisheries Commission

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Portland, OR 97202

Telephone: 503-595-3144

Email: george_nandor@psmfc.org

Revised 28 March, 2008

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 CWT program.

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

==========

Agency: Fisheries & Oceans Canada
Date: February 9th, 2012

Marking Coordinator:

a) *Name*…… David Willis
b) *Email*…….. David.Willis@dfo-mpo.gc.ca

1. Mark Requested:

Adipose clip

2. Details of Marking

a) *Number of fish*…….. 300K
b) *Species and Run*…….... Williams Creek summer sockeye (Lakelse Lake)
c) *Brood yea*…….. 2011
d) *Stock(s)*……..Williams Creek summer sockeye (Lakelse Lake)
e) *Hatchery(ies)*……Snootli Creek
f) *Geographic area(s)*…….. Central Coast
g) *Release date*……May 2012
h) *Duration of this marking program*…….....?

3. Specific Management and/or Research Objectives:

- Identification of hatchery fish in escapement to see if depressed stock is responding to enhancement.

4. Impact on Coastwide CWT Programs

a) Predicted number observed recoveries by state/province and by year
   - Marks should only be detected in escapement

b) Changes to current CWT sampling program
   - None

c) Other

5. Specify Expected Benefits

- to determine whether enhancement of this stock is successful

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

- Other fin clips result in higher levels of mortality. This is a stock of concern, higher mortality not acceptable

Please forward request to: **George Nandor**

Regional Mark Coordinator

Pacific States Marine Fisheries Commission

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Telephone: 503-595-3144

Email: george_nandor@psmfc.org

Revised 28 March, 2008

Appendix E

Northwest Marine Technology, Inc.
Decimal Coded Wire Tag™

Introduction

In April 1998 Northwest Marine Technology announced its intention to offer five new formats for the coded wire tag. The primary difference of the new formats is that data will be written in decimal rather than binary. This change is expected to ease the task of reading the tag, decreasing cost and increasing data reliability. A byproduct of the change is additional code capacity.

The primary design goal for the Decimal Coded Wire Tag Project is data reliability, achieved mainly by data replication. The second goal is ease of readability and has been the focus of recent efforts and changes. Finally, NMT intends to maintain compatibility with current data management. The new formats are consistent with the binary tag, and NMT does not intend to replicate codes between binary and decimal encoding.

In 2012 NMT changed the format of the Sequential Tag to enhance data reliability. This paper documents the *Decimal Coded Wire Tag* designs as of 10 April, 2012.

Table of contents

Changes affecting all formats

Master word replaced

The binary tag uses a master word to mark the beginning of the data and the direction in which the bits are to be read. The *Decimal* tag will use a flag character to orient the reader. The flag character will be placed to the left of the first digit of the agency code. See Appendix A for the appearance of the flag character.

Digits and spacing

Digits will be imaged in a 7 X 10 matrix. Each character will be separated from any other by at least two blank rows or columns. Blanks will not be written in any data position. Zeros will be used instead. See Appendix A for the appearance of each decimal digit.

Code capacity

The *Decimal* code capacity is greater than binary code capacity. NMT expects to issue codes in the expanded ranges in the normal course of business. See Appendix B for a summary of the code capacities.

Standard tag

Standard tags are 1.1 mm (0.042 in) long and 0.25 mm (0.010 in) in diameter. *Decimal* and binary Standard tags are the same size.

The *Decimal* Standard tag will have three words (Agency, Data 1, Data 2) written on a single side of the tag. These words constitute the code for that tag. Each word will contain two digits.

For reliability and ease of use, the code will be replicated on four sides of the wire with the starting point offset by two character positions. This redundancy makes a tag readable no matter where it is cut.

NOTE:
Standard length *Decimal* Coded Wire Tags are not readable if cut shorter than standard length.

Figure 1 shows the layout for the *Decimal* Standard tag. This view shows a tag that is cut lengthwise and unrolled. Dashed lines show the space taken by a character. The notation D_{wc} indicates the c^{th} digit of data word w. For example, D_{12} is the second character of Data 1.

The gray bar below the diagram shows the nominal length of the tag.

Figure 1: *Decimal* Standard tag layout

Figure 2 shows a sample *Decimal* Standard tag. The data in the example is Agency = 16, Data 1 = 58, Data 2 = 09. Note the use of the leading zero for Data 2 to ensure that each data word has two digits. The white lines in the figure show the length of a Standard tag, and one possible cut.

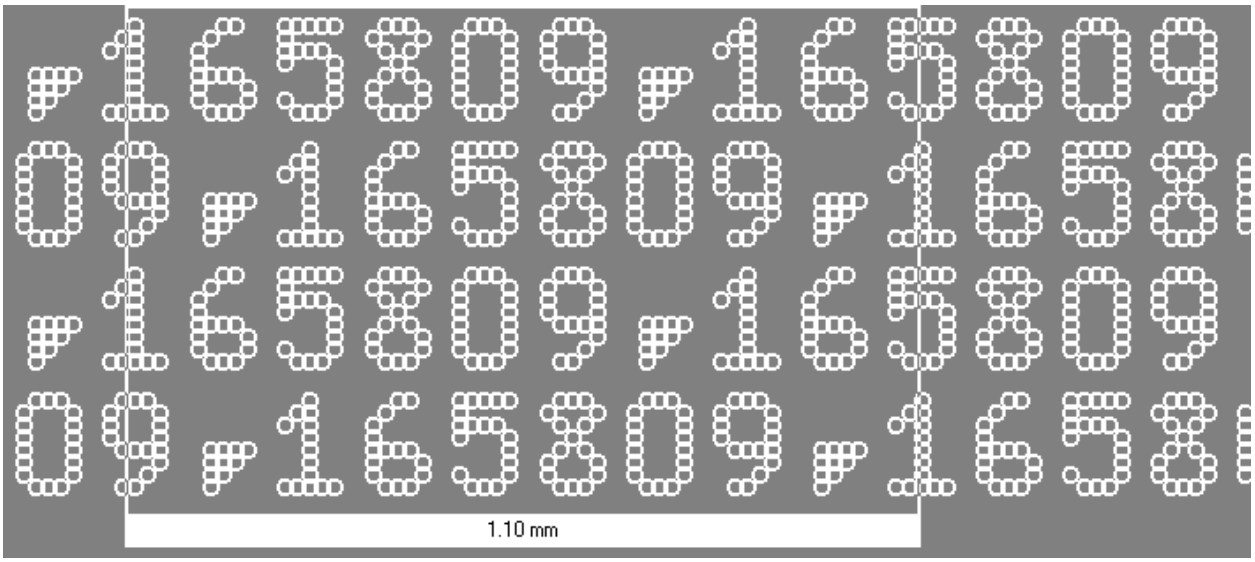


Figure 2: *Decimal* Standard tag example (16/58/09)

Table 1 compares the features of the binary and *Decimal* format for the Standard tag. Note that the flag character replaces the binary master word. Code capacity increases from 4,096 to 10,000 unique codes per agency.

	Binary	***Decimal***	
Word	**Capacity**	**Digits**	**Capacity**
Master	1	**Flag**	1
Agency	64	2	100
Data 1	64	2	100
Data 2	64	2	100

Table 1: Format comparison for Standard tags

Half-length tag

Half-length tags are 0.5 mm (0.021 in) long and 0.25 mm (0.010 in) in diameter. They are designed for use when fish size (less than approximately two grams) cannot accommodate a larger tag. *Decimal* and binary Half-length tags are the same size.

In order to keep compatibility with the binary tag, the *Decimal* Half-length tag will have five words (Agency, Data 1, Data 2, Data 3, Data 4). The flag character will replace the master word.

The Agency word will be two digits long. The four data words will be only one digit each. In order to fit the data on the tag, the words will be written on two longitudinal rows. The row with the flag character will contain the two digits of the agency and Data 1. Aligned below it will be Data 2, Data 3 and Data 4. The code will be repeated once and offset to gain reliability.

Figure 3 shows the layout for the *Decimal* Half-length Tag. It shows the tag cut lengthwise and rolled out. Dashed lines show the space taken by a character. The gray bar below the diagram shows the length of the tag.

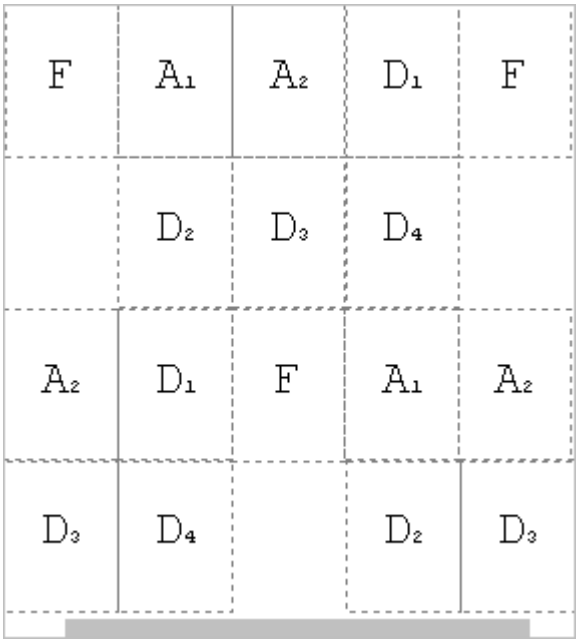


Figure 3: *Decimal* Half-length tag layout

Figure 4 shows an example of the *Decimal* Half-length tag. The example shows Agency = 16, Data 1 = 5, Data 2 = 8, Data 3 = 0 and Data 4 = 9. The white lines in the figure show the size of the half-length tag, and one possible tag cut.

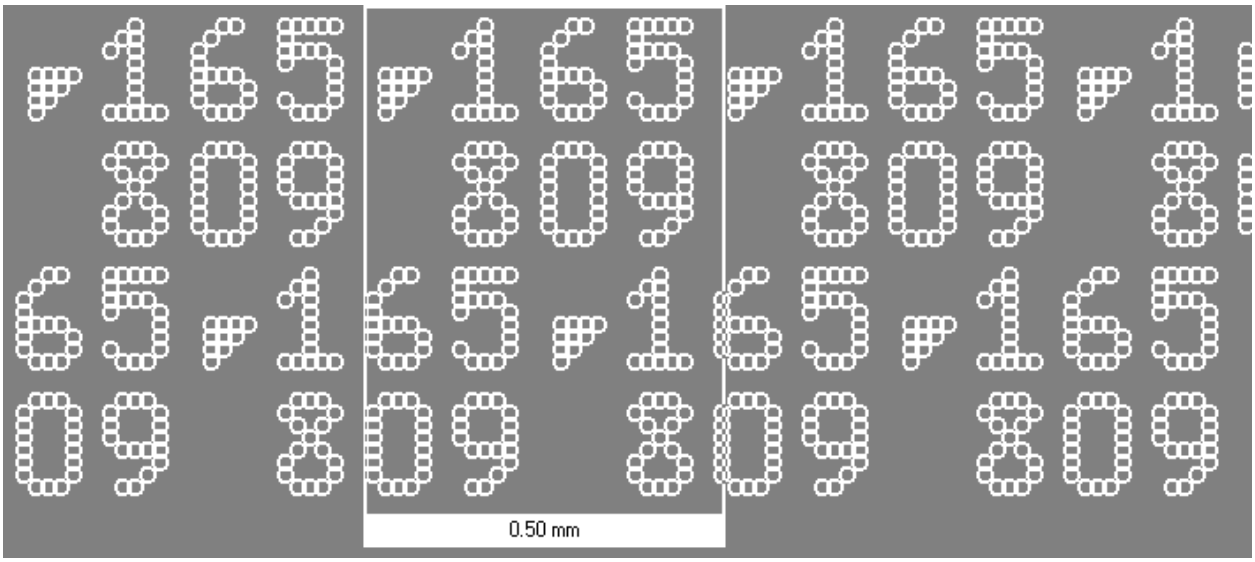


Figure 4: *Decimal* Half-length tag example (16/5/8/0/9)

Table 2 compares the features of the Half-length tags. Note that the code capacity for the *Decimal* tag is 10,000 per Agency instead of 32,768. However, there are 100 agency codes available instead of 16 so the total capacity is increased from 524,288 to 1,000,000

	Binary	***Decimal***		
Word	**Capacity**	**Digits**	**Capacity**	**Notes**
Master	1	**Flag**	1	
Agency	16	2	100	
Data 1	8*	1	10	***** 8 bit used for parity
Data 2	16	1	10	
Data 3	16	1	10	
Data 4	16	1	10	

Table 2: Format comparison for Half-length tags

1½-length tag

1½-length tags are 1.6 mm (0.062 in) long and 0.25 mm (0.010 in) in diameter. 1½-length tags contain the same data words as the Standard tag. This tag is designed for use in larger specimens or to allow easier magnetic detection.

Each of the three data words (Agency, Data 1 and Data 2) contain two digits. Data capacity is the same as the Standard tag**.**

NOTE:
1½-length *Decimal* Coded Wire Tags are not readable if cut shorter than 1½-length.

Figure 5 shows the layout of the 1½-length tag. It shows the tag cut lengthwise and rolled out. Dashed lines show the space taken by a character. The notation D_{wc} indicates the c^{th} digit of data word w. For example, D_{12} is the second character of Data 1.

The gray bar below the diagram shows the nominal length of the tag.

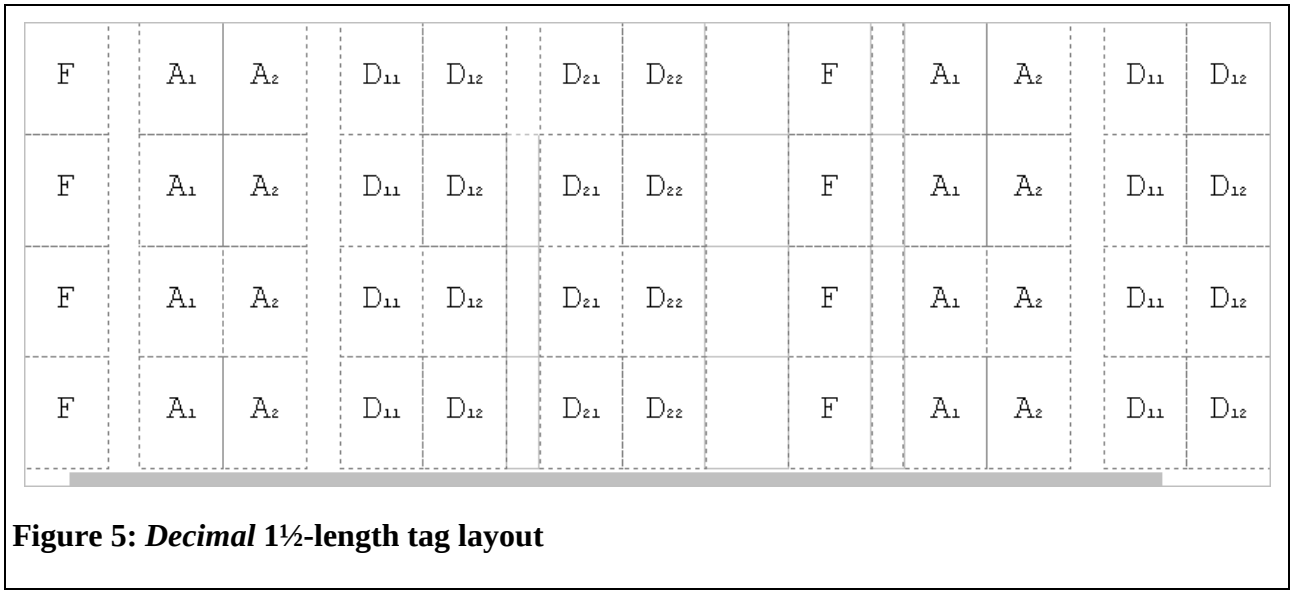


Figure 5: *Decimal* 1½-length tag layout

Figure 6 shows a sample of the *Decimal* 1½-length tag. The example shows Agency = 16, Data 1 = 58 and Data 2 = 9. The white lines in the figure show the size of the tag, and one possible cut.

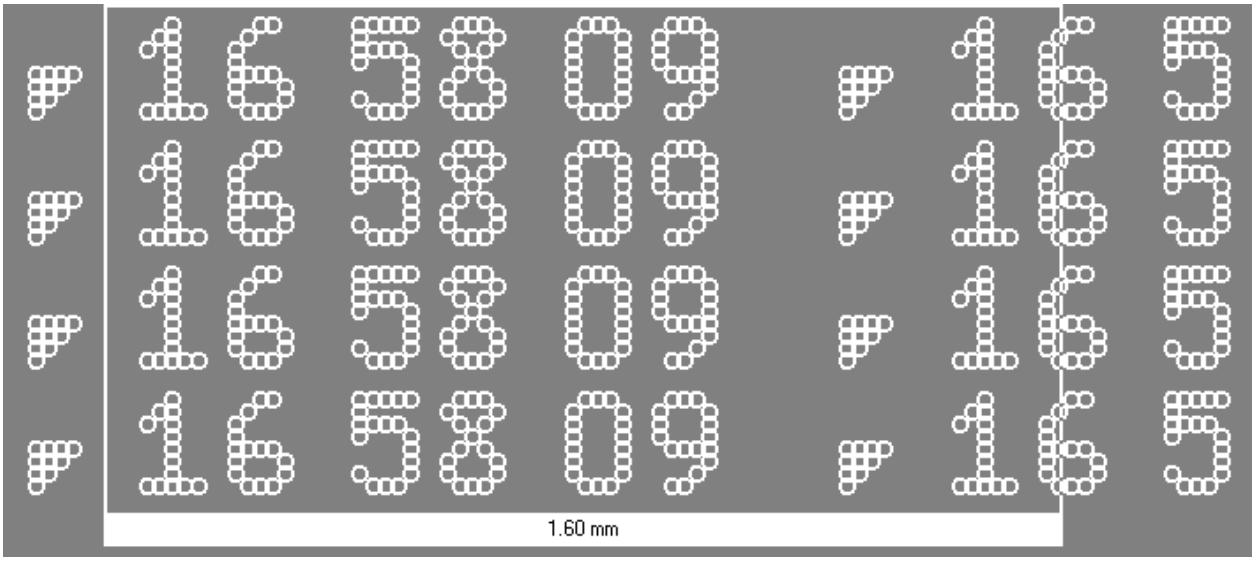


Figure 6: *Decimal* 1½-length example (16/58/09)

Table 3 compares the features of the 1½-length tags. The code capacity increases from 4,096 to 10,000 per agency.

	Binary		***Decimal***
Word	**Capacity**	**Digits**	**Capacity**
Master	1	**Flag**	1
Agency	64	2	100
Data 1	64	2	100
Data 2	64	2	100

Table 3: Comparison of 1½-length tags

Sequential tag

NOTE:
In the spring of 2012, NMT redesigned the sequential tag to enhance readability in situations where the tag was damaged. By rotating every other sequence number, it may be possible to read a damaged tag that contains two sequence numbers.
For documentation of tags made prior to April 2012, see appendix C

Sequential tags are 1.1 mm (0.042 in) long and 0.25 mm (0.010 in) in diameter. *Decimal* and binary Sequential tags are the same size. Sequential tags are designed for use where identification of small batches, or individual specimens, is desired.

NOTE:
Sequential *Decimal* Coded Wire Tags are not readable if cut shorter than standard length.

The *Decimal* Sequential tag has three words (Agency, Data 1, Data 2) written along the axis of the tag in two rows, followed by a sequence number written along the circumference. The formatting of the Sequential tag ensures that one entire Sequence number is always available. To resolve the ambiguity created when two complete Sequence numbers are readable, the convention is that the lesser number be used.

In order to ensure that a batch or individual is uniquely identified, the tagger must archive a reference tag between each batch.

Figure 7 shows the layout of the Sequential tag. It shows the tag cut lengthwise and rolled out. Dashed lines show the space taken by a character. The flag character (F in Figure 7) points to the most significant digit of the Agency code and the Sequence. The notation D_{wc} indicates the c^{th} digit of data word w. S_{nd} indicates the d^{th} digit of sequence n. For example, D_{12} is the second character of Data 1 and S_{24} is the 4^{th} digit of sequence number 2.

The gray bar below the diagram shows the nominal length of the tag.

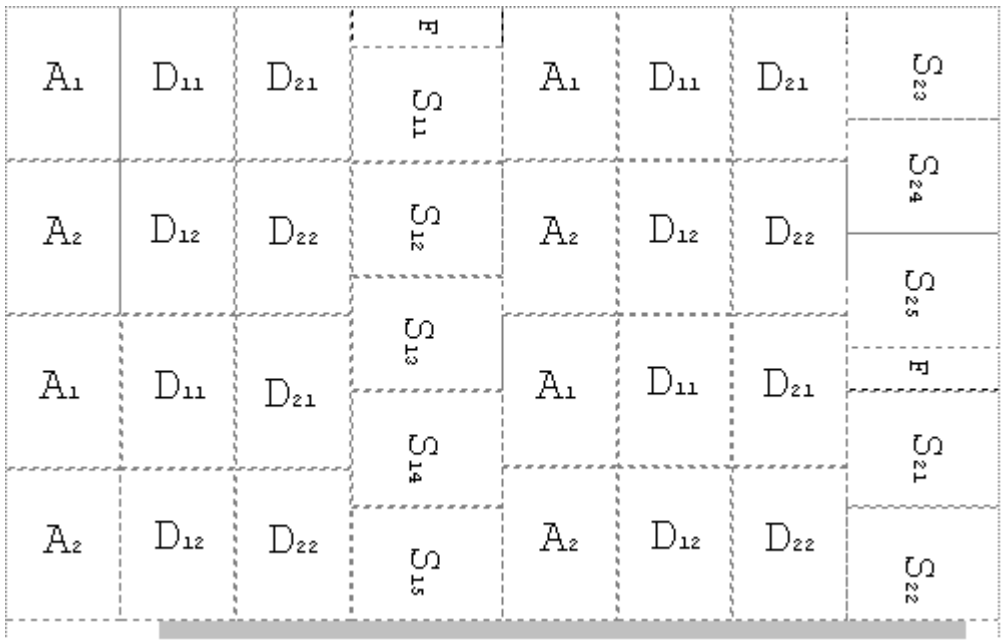


Figure 7: *Decimal* Sequential tag layout

Figure 8 shows a sample of the *Decimal* Sequential tag. The example shows Agency = 16, Data 1 = 58, Data 2 = 9, and sequence = 146. The white lines in the figure show the length of the tag and one possible cut. Note the position of the modified flag character. The flag points to the most significant digit of the Agency code and the Sequence. The white lines in the figure show the size of the tag, and one possible cut.

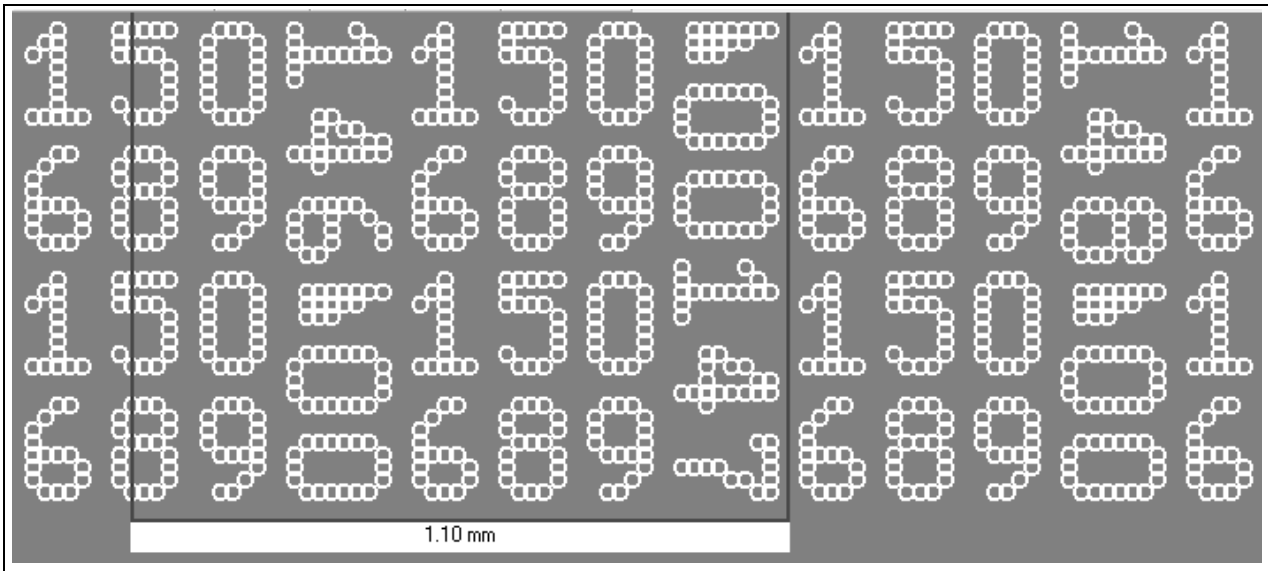


Figure 8: *Decimal* Sequential tag example (16/58/09/146)

Table 4 compares the features of the binary and *Decimal* format for the Sequential tag. Note that the flag character replaces the binary master word, and that the sequence number replaces Data 3 and Data 4.

	Binary	***Decimal***		
Word	**Capacity**	**Digits**	**Capacity**	**Notes**
Master	1	**Flag**	1	
Agency	64	2	100	
Data 1	64	2	100	
Data 2	64	2	100	
Data 3	*	N/A		*Combined with Data 4
Data 4	16,384	N/A		Combined with Data 3
Sequence	N/A	5	100,000	

Table 4: Format comparison for Sequential tags

Agency Tag

Agency tags are 1.1 mm (0.042 in) long and 0.25 mm (0.010 in) in diameter. They are batch coded with two Agency digits, but do not contain the Data 1 and Data 2 codes. The Agency tag is designed for projects where the information required is related to the presence or absence of a tag in a fish**.**

NOTE:
Agency *Decimal* Coded Wire Tags may not be readable if cut shorter than standard length.

Figure 9 shows the layout of the Agency tag. It shows the tag cut lengthwise and rolled out. Dashed lines show the space taken by a character. The gray bar below the diagram shows the length of the tag.

Figure 9: *Decimal* Agency tag layout

Figure 10 shows a sample of the *Decimal* Agency tag. The example shows Agency = 16. The white lines in the figure show the size of the tag.

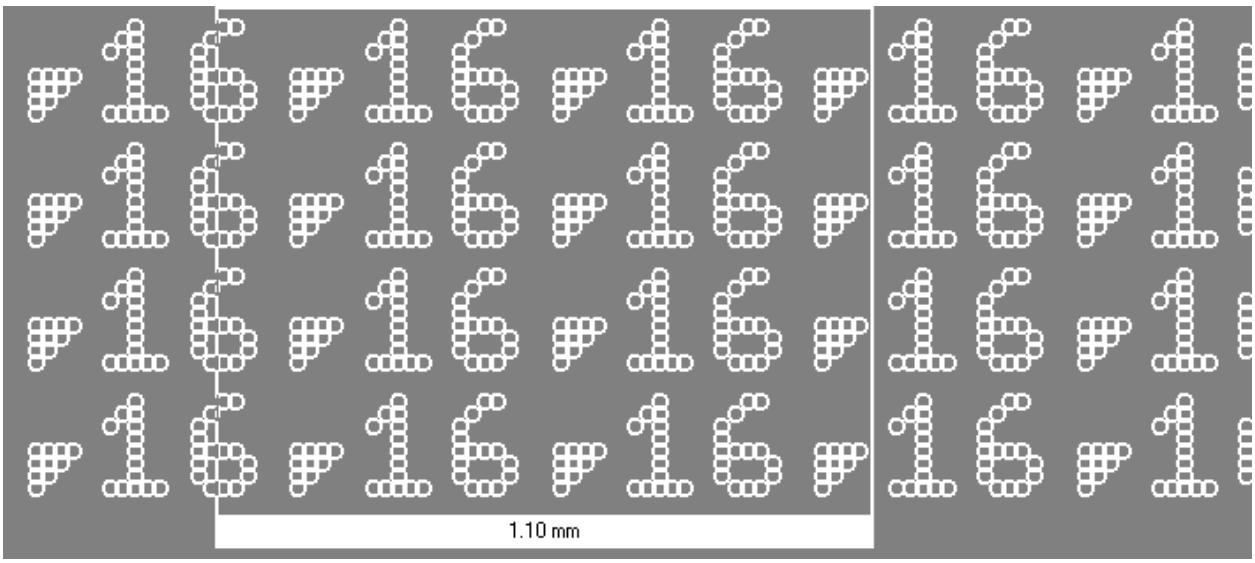


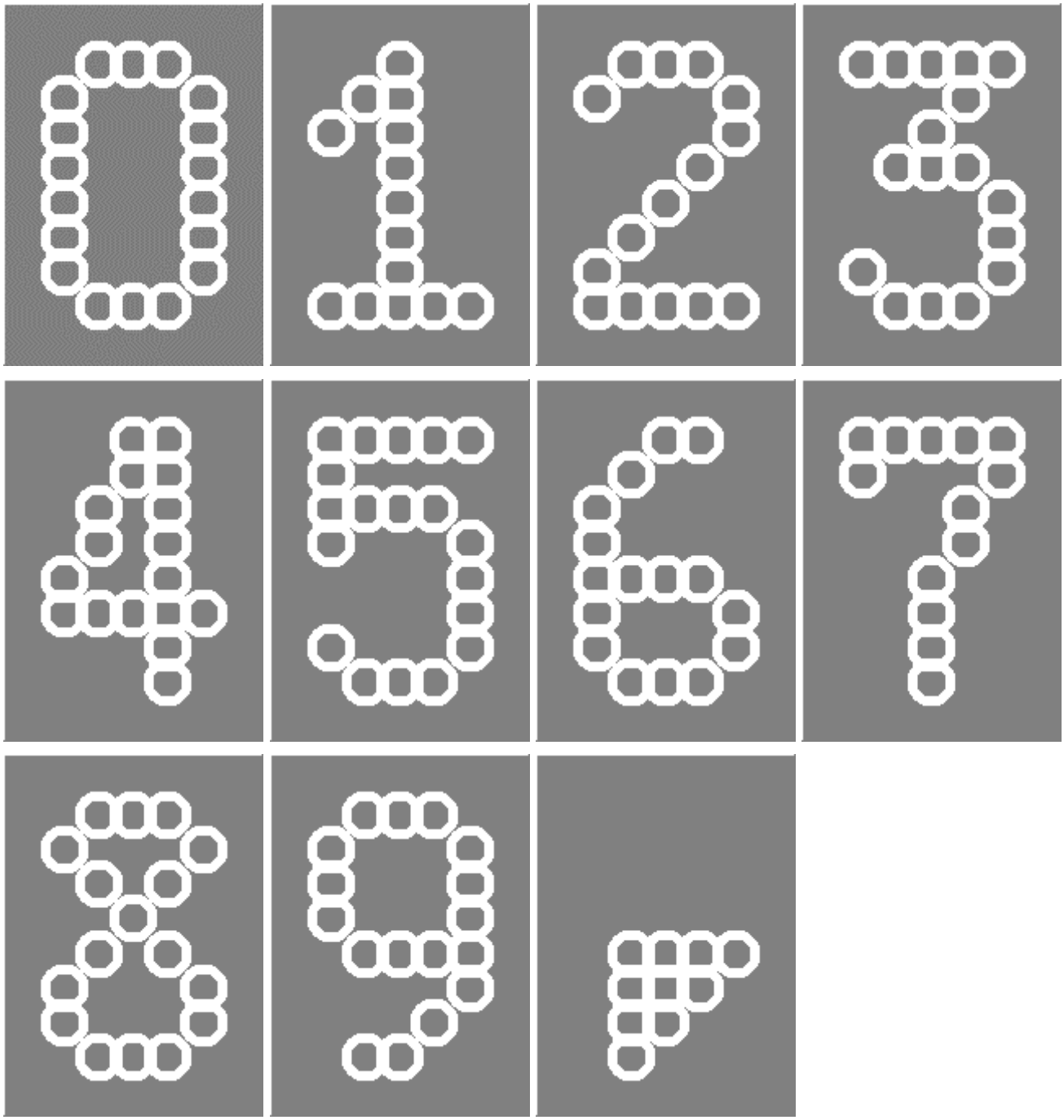
Figure 10: *Decimal* Agency tag example (16)

Table 5 compares the features of the binary and *Decimal* format for the Agency tag. Note that the flag character replaces the binary master word.

	Binary		***Decimal***
Word	**Capacity**	**Digits**	**Capacity**
Master	1	**Flag**	1
Agency	64	2	100

Table 5: Format comparison for Agency tags

Appendix A - *Decimal* CWT Digits



Appendix B - Summary comparison of formats

	Data	Binary	*Decimal*		
Format	**Word**	**Capacity**	**Digits**	**Capacity**	**Notes**
Standard	Master	1	Flag	1	
	Agency	64	2	100	
	Data 1	64	2	100	
	Data 2	64	2	100	
Half-length	Master	1	Flag	1	
	Agency	16	2	100	
	Data 1	8*	1	10	* 8 bit used for parity
	Data 2	16	1	10	
	Data 3	16	1	10	
	Data 4	16	1	10	
1½-length	Master	1	Flag	1	
	Agency	64	2	100	
	Data 1	64	2	100	
	Data 2	64	2	100	
Sequential	Master	1	Flag	1	
	Agency	64	2	100	
	Data 1	64	2	100	
	Data 2	64	2	100	
	Data 3	*	N/A		*Combined with Data 4
	Data 4	16,384	N/A		Combined with Data 3
	Sequence	N/A	5	100,000	
Agency	Master	1	Flag	1	
	Agency	64	2	100	

Appendix C - Sequential tags made before 10 Apr 2012

NOTE:
In the spring of 2012, NMT redesigned the sequential tag to enhance readability in situations where the tag was damaged. This appendix documents the design of tags made prior to 10 April 2012. For documentation of the current design, please see page 9.

Sequential tags are 1.1 mm (0.042 in) long and 0.25 mm (0.010 in) in diameter. *Decimal* and binary Sequential tags are the same size. Sequential tags are designed for use where identification of small batches, or individual specimens, is desired.

The *Decimal* Sequential tag has three words (Agency, Data 1, Data 2) written along the axis of the tag in two rows, followed by a sequence number written along the circumference. The formatting of the Sequential tag ensures that one entire Sequence number is always available. To resolve the ambiguity created when two complete Sequence numbers are readable, the convention is that the lesser number be used.

In order to ensure that a batch or individual is uniquely identified, the tagger must archive a reference tag between each batch. The binary Sequential tag requires two reference tags between each batch due to its use of Gray codes. Binary Sequential tags require a special program, or the use of tables to decode the Sequence. *Decimal* Sequential tags do not have this requirement.

NOTE:
Sequential *Decimal* Coded Wire Tags are not readable if cut shorter than standard length.

Figure 7 shows the layout of the Sequential tag. It shows the tag cut lengthwise and rolled out. Dashed lines show the space taken by a character. The gray bar below the diagram shows the nominal length of the tag. The flag character (F in Figure 7) points to the most significant digit of the Agency code and the Sequence. The notation D_{wc} indicates the c^{th} digit of data word w. S_{nd} indicates the d^{th} digit of sequence n. For example, D_{12} is the second character of Data 1 and S_{24} is the 4^{th} digit of sequence number 2.

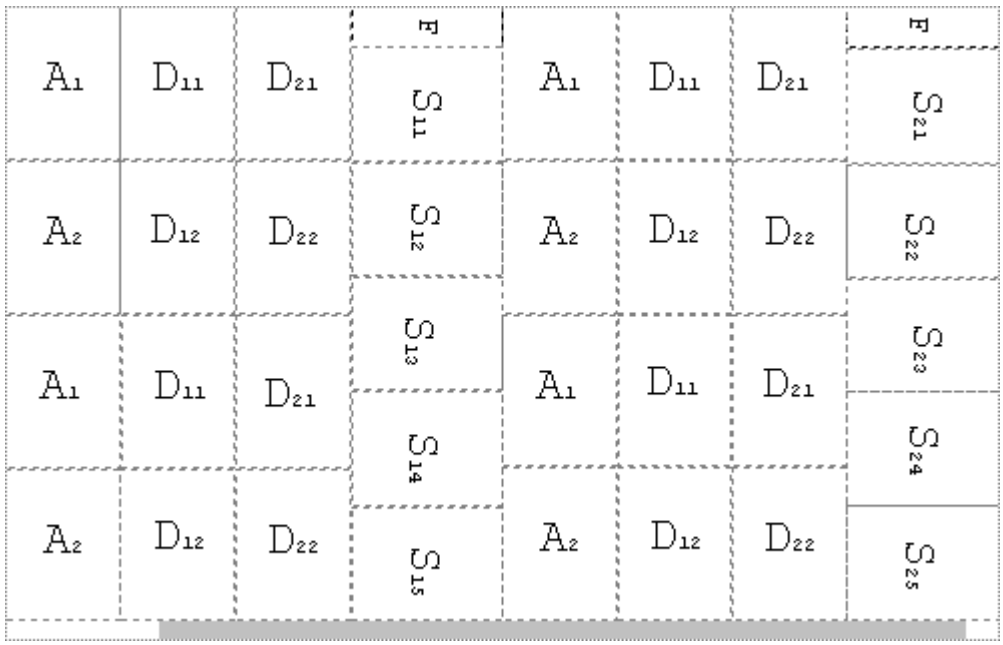


Figure 11: *Decimal* Sequential tag layout prior to 10 April 2012

Figure 8 shows a sample of the *Decimal* Sequential tag. The example shows Agency = 16, Data 1 = 58, Data 2 = 9, and sequence = 146. The white lines in the figure show the length of the tag and one possible cut. Note the position of the modified flag character. The flag points to the most significant digit of the Agency code and the Sequence. The white lines in the figure show the size of the tag, and one possible cut.

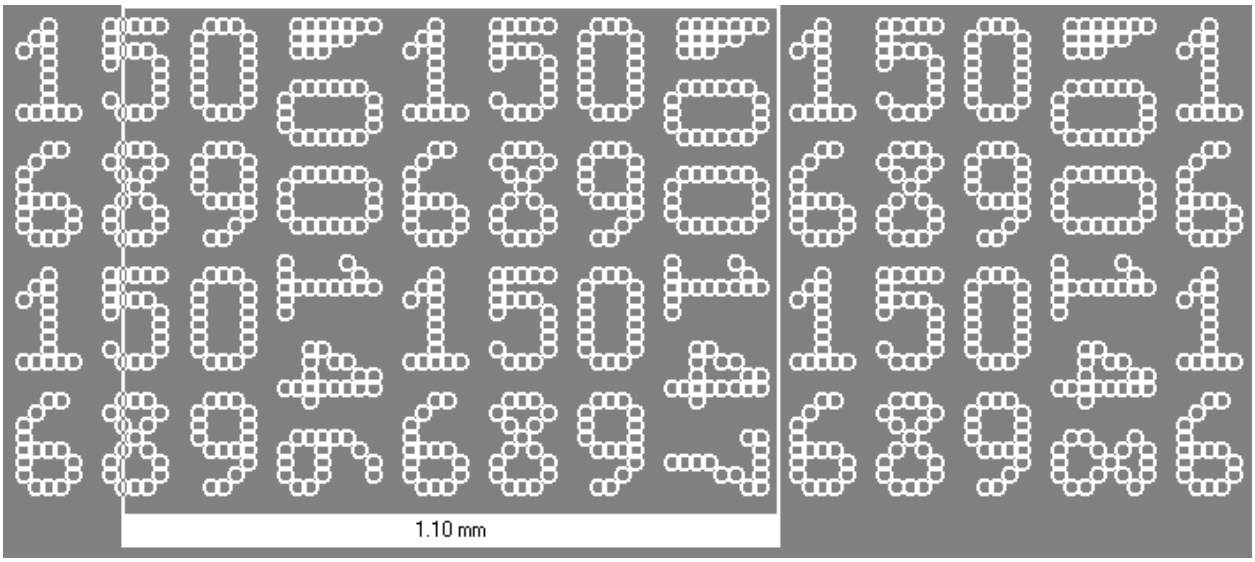


Figure 12: *Decimal* Sequential tag example (16/58/09/146) – Design prior to 10 April 2012

Table 4 compares the features of the binary and *Decimal* format for the Sequential tag. Note that the flag character replaces the binary master word, and that the sequence number replaces Data 3 and Data 4.

	Binary	***Decimal***		
Word	**Capacity**	**Digits**	**Capacity**	**Notes**
Master	1	**Flag**	1	
Agency	64	2	100	
Data 1	64	2	100	
Data 2	64	2	100	
Data 3	*	N/A		*Combined with Data 4
Data 4	16,384	N/A		Combined with Data 3
Sequence	N/A	5	100,000	

Table 4: Format comparison for Sequential tags

Appendix D – Revision History

September, 1999

The appearance of the standard tag format was changed after publication of the 15 April 1999 version of this document. The changes were made to increase the redundancy of the characters on the tag and to allow the entire code to appear on a single side of the tag. The prior design used an optimistic value for the readable length of a tag. Only sample tags were made with the older format.

December, 1999

The appearance of the digit eight was changed in order to avoid confusion with the digit zero. Only sample tags were made with the older character. The current appearance is shown in Appendix A.

February, 2000

The appearance of the sequential tag format was changed after publication of the 31 December 1999 version of this document. The changes were made to increase the redundancy of the characters on the tag. Only sample tags were made with the older format.

April, 2012

In the Spring of 2012, NMT redesigned the sequential tag to enhance readability in situations where the tag was damaged. By rotating every other sequence number, it may be possible to read a damaged tag that contains two sequence numbers.