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# 2022 RCMT MEETING

45<sup>th</sup> Meeting

Hosted by: **RMPC; on MS-Teams Virtual Meeting**

## Meeting Minutes

Dates, times: **Tue, Apr 19**

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For further meeting information see: [rcmt-2022-meeting-announcement.html](https://www.rmfc.org/rcmt-2022-meeting-announcement.html)

RCMT 2022 Documents Page: [rcmt-2022-documents.html](https://www.rmfc.org/rcmt-2022-documents.html)

RCMT Past Meeting Minutes: [rcmt-minutes.html](https://www.rmfc.org/rcmt-minutes.html)

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## 1. General RCMT Items (Nancy Leonard /PSMFC)

### A. Introducing New RMPC Mark Coordinator Nancy Leonard:

- Nancy became the new Program Manager for the RMPC on January 1, 2022, and as such, is serving as the Chair of the RCMT and Mark Coordinator. Nancy joined PSMFC in November 2019, and also manages the StreamNet and the Fish Inventory Network (FINS) programs.
- Another change that occurred during 2022, is that PSMFC now has a new Executive Director. Barry Thom joined PSMFC in March. Prior to joining PSMFC, Barry served 21 years with NOAA Fisheries, including the last five years as regional administrator of the West Coast Region.

### B. Further Welcome and introductions; review agenda;

SEE: APPENDIX A: Roster of Attendance

### C. Future meetings

- Moving forward we will continue to provide virtual option along with in-person meetings to facilitate participation by those who can't travel; would like to plan at least 2 years out
- We intend to try and arrange meeting venues further in advance to facilitate securing meeting rooms
  - Year 2023 meeting: PSMFC will host in the Portland, OR office as logistics are simpler due to COVID uncertainties
  - Nancy is sending out a Doodle poll with potential 2023 meeting dates
  - Year 2024 meeting: offered to be in Alaska (thanks to Dion Oxman and ADFG);
  - Year 2025 meeting: offered to be in British Columbia (thanks to Kathy Fraser and CDFO).
- Field site visits and local guest speakers to be identified with assistance of meeting host.
- Other changes/improvements to consider for future meetings? Discuss ideas.
- April continues to be the target month for annual meetings; avoid first week of April for CDFO

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

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

- Location Data- all are validated
- Release Data- all are validated
  - Not aware of any missing tag codes; if there are, agencies are either working amongst themselves or directly with NMT
  - Preliminary releases are allowed to be validated as a placeholder in case those tag codes are encountered by another agency
- Recovery Data
  - 2020 and 2021 run years are not overdue yet
  - agencies with Expected/ Overdue datasets (CDFWKT, NPT, NMFSNWR, QDNR)- should work with Dan to resolve issues with your agency's submissions
- Catch Sample Data- similar issues as seen with recoveries
  - Why do some agencies not report? Example: IDFG doesn't do harvest estimation from cwt

Is there a breakdown between fisheries releases and escapement recoveries? Dan used to provide it but made the presentation quite long; Dan has provided this report: [RC-Escapement NonEscapement SP\\_123.pdf](#).

NPT Releases through 2011/ 2013 were provided through CRITFC using tag agency code 61; Marianne will check on the unknown Recoveries.

Charts do not show when data is submitted by another agency; let Jim and Dan know if you would like to see other information displayed in these charts.

Please review the [Contacts](#) page and provide any updates to contacts, data types, etc : [tag-prefix-contact-list.html](#).

## B. CWT Data Exchange Process – Technical Aspects (Dan Webb)

The RMPC is looking at new ways to upload and exchange data files as the FTP protocol has become obsolete.

- Currently accepting datasets through formal process (FTP, CDROM) as well as email and html upload forms
- Looking into API web services for uploading data (FTP is going away) and would like to be able to accommodate other web services that would benefit the agencies
  - For those who can't use an API service, what are you relying on for your data uploads?
- The web service is just to get the data files delivered; the validation process would likely be unchanged and notifications would be continued as normal.
  - One of the proposed goals is to provide services to users beyond the data providers
  - Make sure whatever is developed can pass agency computer security protocols. Send Dan whatever security restrictions may be in place at your agency

## C. RMPC website refresh happening in 2022

- RMPC staff currently working on refreshing the [www.rmpec.org](http://www.rmpec.org) website. This includes reorganizing the current website menu and updating the page content to provide more information on RMPC process. Aim to have a draft website done by mid-summer and to share the version with members and interested parties to get feedback before finalizing and launching the website before the end of 2022.
- If Mark Committee members have suggestions for content to be added, or what content could be made more accessible, please share these suggestions with Nancy.

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

- Tagging Levels for 2022.....see tables below
- Mass Marking for 2022.....see tables below
- Mark-Selective Fishery Plans &/or Comments .....see tables below
- Covid-19 pandemic impacts on your agency during the last year. ....see tables below

### Member agencies:

| Agency or Organization                                | 2022 Tagging Levels, Marking Plans, Comments   |
|---|--|
| <b>ADFG / Alaska Dept. Fish &amp; Game:</b> .....     | See also: <a href="#">RCMT 2022 ADFG Marking-Tagging-Data-EricKeller.pdf</a> .<br>Overall, most releases are thermal marked. For CWT: most hatchery releases are in SE Alaska; currently 1 in 9 are tagged & clipped. They are working to increase the percentage to 1 in 5 in future release groups. They recently bought a tagging trailer from NMT. There is a small amount of wild tagging also taking place in SE Alaska. |
| <b>MIC / Metlakatla Indian Community:</b> .....       | No report provided   |
| <b>ODFW / Oregon Dept. Fish &amp; Wildlife:</b> ..... | See also: <a href="#">RCMT 2022 ODFW Fish-Marking-Program-LarryFunston.pdf</a> .<br>Tagging levels were relatively unchanged over the previous couple of years. They are taking on Walla Walla hatchery (new) this year. There are problems with keeping staff. They are now down 3 people   |

|   |
|---|
| <p><b>WDFW / Washington Dept. Fish &amp; Wildlife:</b> .....</p> <p>See also: <a href="#">RCMT 2022 WDFW planned-production-2022-JillCady.pdf</a> .</p> <p>There was a record number of releases (13 mil more Chinook, 12 mil more Coho) per requirements for Southern-Resident Orcas (SR-Orca) &amp; general production. They are struggling with staffing levels. They added 2 more AutoFish trailers. Covid restrictions are now lifted.</p>   |
| <p><b>NMFS / National Marine Fisheries Service, Alaska:</b> ...</p> <p>See also: <a href="#">RCMT 2022 NMFS Chinook CWT 2020-MicheleMasuda.pdf</a> .</p> <p>Note: NMFS is no longer releasing Chin at the LPW facility. Now [the NMFS representative is] reviewing the CWT bycatch reports in lieu of a tagging report. Vanessa Tuttle (Vanessa.Tuttle@noaa.gov) is the contact person for CWT recoveries in the At-sea Hake and West Coast Groundfish Fisheries. See also: NOAA &amp; NPAFC document references below ◇ .</p>  |
| <p><b>NWIFC / Northwest Indian Fisheries Commission:</b> ...</p> <p>See also: <a href="#">RCMT 2022 NWIFC-CWT-MM-Plans-RonOlson.pdf</a> .</p> <p>Tagging levels <b>are</b> similar to 2021. There are increased goals for Chinook (due to [SR-Orca]) but are limited by broodstock issues and hatchery rack returns and staffing levels. The Nooksack system was affected earlier by the 'heat bomb'. They lost many fish, and hope to compensate with ~4 mil Chin in future years. They now have 4 AutoFish trailers. They still have [some] Covid restrictions. The Tulalip facility was/is impacted by a large construction project. They are still trying to complete release of ~3.5 mil Chin.</p> |
| <p><b>IDFG / Idaho Dept. Fish &amp; Game:</b> .....</p> <p>See also: <a href="#">RCMT 2022 IDFG production-and-marking-BrianLeth.pdf</a> .</p> <p>The majority of their fish are marked and tagged. NPT, Kooskia, Idaho Power, and National Fish Hatchery are not included. They are limited by staffing levels.</p>  |
| <p><b>USFWS / U.S. Fish &amp; Wildlife Service:</b> .....</p> <p>See also: <a href="#">RCMT 2022 USFWS R1 8-Production-Summary-3-9-2022-BenCross.pdf</a> .</p> <p>Tagging levels are relatively unchanged. They had a disease breakout at Spring Creek and the fish were released early and prior to marking. There was an Increase in production of Little White Salmon Chin for whale predation [SR-Orca] and in-river production. Coleman NFH [had] 2 mil released, and is working on a study with unfed fry. The Sacramento /Livingston Stone system has had an increase in production, due to river conditions. Makah NFH only reached ~800 K of a goal of 2.3 mil fish.</p>                       |
| <p><b>CDFO / Fisheries &amp; Oceans Canada</b> ■ : .....</p> <p>See also: <a href="#">RCMT 2022 CDFO Tagging-Marking-Plan-CherylLynch.pdf</a> .</p> <p>See also: <a href="#">RCMT 2022 CDFO MM-MSF-Update-KathyFraser.pdf</a> .</p> <p>There are 2 AutoFish trailers. They are also doing 1 mil for SR-Orca. All Chin, coho are Parental-Base Tagged (PBTd) now. Kathy also provided a document on the status of their Chinook mass marking (They don't do it.) and mark-selective fisheries. The goal is to protect stocks at risk. [See also Documents page link above. Maps are included.] Canada now has 'wedge' fisheries for protecting some Fraser R stocks. They don't mass mark Chin now.</p>  |
| <p><b>CDFW / California Department of Fish &amp; Wildlife:</b> ...</p> <p>See also: <a href="#">RCMT 2022 CDFW BY2020BY2021-JasonAzat.pdf</a> .</p> <p>Tagging levels are relatively unchanged at 25%+. Some are released without tags due to water issues. They are using tagging trailers (almost exclusively) and are having similar issues with staffing levels – which are now down to ~50% staff.</p>   |
| <p><b>CRITFC / Columbia R. Intertribal Fish Commission:</b> .</p> <p>The Hanford tagging project didn't occur in 2020 due to Covid restraints, but was back to normal in 2021.</p>  |

- Agency CDFO represents two votes (members) of the RCMT

**Other reporting agencies:**

| Agency or Organization   | 2022 Tagging Levels, Marking Plans, Comments |
|--|--|
| <p><b>CCT / Colville Confederated Tribe(s):</b> .....</p> <p>See also: <a href="#">RCMT 2022 CCT CJHP-Mark-and-Tag-Plan-AndreaPearl.pdf</a> .</p> <p>Tagging levels are unchanged. Summer Chin are 100% CWTd + ad clipped in Okanogan basin. Chief Joseph releases: 200k are also CWTd. Spring Chin: those in Okanogan are 100% CWTd, no ad clip. It is an experimental population. Chief Joe group is 100% ad clipped, 200K are CWTd.</p> |  |
| <p><b>NPT / Nez Perce Tribe:</b> .....</p> <p>See also: <a href="#">RCMT 2022 NPT-DrewWickard.pdf</a> .</p>  |  |

## **YAKA / Yakama Nation:** .....

See also: [RCMT 2022 YAKA SummaryA-3-22-2022-BillBosch.pdf](#) .

They are looking into obtaining a couple more AutoFish marking trailers. All the Yakama Nation hatchery programs are also doing parental base tagging (PBT).

- Question to others: Are marine fisheries taking DNA samples? Are they set up to analyze that info?
  - CDFO- all coho releases sampled for PBT. Recoveries sampled from all clipped that came into the lab from a sport fishery. No Chinook done due to treaty scope; done for Stock Id & independently. There is no formal process. It is expected to change in future years;
  - NMFS – yes, it does sample for Genetic fisheries, but not at the individual stock level;
  - ADFG- yes, there is a random subset of fish encountered. It is done for Stock Id. PBT is not a specific focus;
  - NWIFC- there is no commercial sampling for Genetics, All sampling is done at terminal end, and is experimental.

◇ Annual Report for the Alaska Groundfish Fisheries Chinook Salmon Coded Wire Tag and Recovery Data for ESA Consultations: [Annual Report for the Alaska Groundfish Fisheries Chinook Salmon Coded Wire Tag and Recovery Data for ESA Consultations | NOAA Fisheries.](#)

In addition to RMIS, all CWT recoveries, including the NWFSC recoveries, are published in NPAFC data reports here: <https://npafc.org/npafc-documents/>.

#### **4. Problems with Recruitment of CWT Personnel (Jillian Cady /WDFW)**

Address autotrailer (& related) recruitment issues and how to encourage retention and attract interest in this as a career path.

WDFW is finding it difficult to get/ retain manual clippers- has increased number of staff to pre-covid levels but can't get enough people/ can't retain them/ have too many new people; they contract through Kelly services and have since the inception of the program, have used inmate labor in the past but DOC not currently interested in working with them; implemented a \$2/hr wage increase and a fuel incentive (\$100/ 80 hours worked) this year.

WDFW has a hard time finding people interested in being an AutoFish Operator and who are qualified AutoFish Operators. WDFW is in the process of transitioning from manual tagging to AutoFish tagging over the next 10 years. To increase the number of applicants for AutoFish Operator positions, WDFW is modifying the language used in their job recruitment announcement to focus more on the required technical and mechanical skills instead of the skills for biologists. WDFW hasn't had much an issue with retention of AutoFish Operators but they are seeing a diminishing pool of candidates applying for open positions. They would like to find a way to hire new operators without stealing talents from other agencies. WDFW would like to see the AutoFish Operator be promoted as a career path at technical colleges with fishery programs, in the hope that would increase the number of candidates available for these positions.

Housing availability/ affordability for port samplers/ taggers is also a barrier to filling jobs.

ID and CA are seeing similar issues in recruitment and retention of qualified employees.

2-3 years ago, PSMFC reached out with NMT to work with Mt Hood Community College on developing a marking and tagging curriculum. It fell apart during COVID, but it may be time to reach out to those types of educational institutions again.

Hiring is a challenge when the work is seasonal activity (4-6 months in CA, 8-10 months in ID). So, they have to find other work for them to do to make it a full year position. They increased hourly rates this year but it hasn't helped in recruiting yet.

Use of fish counters in the raceway can help speed up the tagging process if you're only tagging a percentage of the total fish. It means that they don't have to run fish through the trailer twice.

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There is a shortage of applicants across the board. Housing issues exacerbate the situation.

- USFWS Operators are all full-time employees;
- WDFW Operators are all full-time employees and then hire temporary Bio-1's for 2<sup>nd</sup> shift coverage;
- IDFG and CDFW Operators (through PSMFC) are kept on as full year employees if they show an aptitude and like the work. Tagging assistants are temporary employees. They are also working with the hatchery staff or other local PSMFC field crews to be trailer operators at their local hatchery to be able to assist when needed;
- NWIFC has 4 full time Operators and doesn't see hiring seasonals as an option because they don't have time to train people who are going to go find another job.

Maintaining & retaining competent operators has always been a challenge. There are lots of fish to be processed throughout the region in a short amount of time which creates a lot of stress on the operators (e.g. travel, trailer maintenance, computer issues, hatchery staff relations, etc).

Focusing recruitment efforts on local technical/ trade schools may improve the candidate pool.

NMT is exploring the idea of working with the agencies on improved training and operation guides, and having video tutorials to reduce the knowledge barrier for new operators.

There could be a place for connecting operators with one another for trouble-shooting assistance, viewing tutorials, and q&a (e.g. message board, website, etc.).

You can do all the dry training you want, but you really need fish to learn how to use it. The fish dictate how you use the equipment.

## **5. Presentation: Analysis (SFEC) of Coho Salmon DIT Groups for Brood Years 1998-2011** (Kristen Ryding /WDFW)

Update and report from Kristen Ryding & PSC SFEC including findings on DIT groups.  
PowerPoint Presentation; Kristen provides a link to the SFEC report (see below).

This presentation involves an analysis of the Coho DIT program from the Selective Fishery Evaluation Committee (SFEC). It is an update and report from PSC SFEC including findings on DIT groups and presents an assessment of the impact that different hatchery programs and sampling methodologies can have on DIT analyses.

SFEC is tasked to develop analytical tools to estimate impacts of MSFs.

To determine an impact, they look at release and return numbers of marked and unmarked fish. The assumption is that MSFs are the only difference between those groups.

DITs can be informative in showing that marked and unmarked fish had different exploitation rates. Where returns of both groups were greater than 1000, 33% of estimated marked CWT recoveries occurred in MSFs. They need to release a lot of fish and have good sampling. They prefer 100% electronic detection in all fisheries.

One can pick up a difference in return rate, but [it is uncertain] how big of a difference is too big of a difference.

Is DIT an adequate tool for assessing the impact of MSFs? Are SIT or FRAM adequate alternatives? The paired ratio method is reliable when assumptions are met. Estimates are bracketed by a low and high.

DITs are most informative when 80%+ of fishery CWT recoveries are subject to electronic detection **and** no more than 5% of estimated CWT recoveries for unmarked fish occur in a visually sampled fishery **and** no more than 5% of estimated CWT recoveries for marked fish occur in a mixed-regulation fishery.

Q&A: Regarding the ETD in the field & the importance of having at least 80% of fishery CWT recoveries for the 'marked component':

- is this 'screening' process [only relevant] in the field (e.g. with the wand detector)? [Could not] the lab also continues to do the screening – i.e. with the tube detector?
- There could be a tag loss issue [– that could affect the data analyses..]
- [It is noted that] tag loss and related 'errors' in the field or the lab could be regarded as an 'operational error' rather than a program design flaw.

Regulations also change by date. There is the need for a comprehensive regulation database with effective dates. In particular, [preferably] the continuation of the regulation database previously maintained by NWIFC/Marianna Alexandersdottir and WDFW.

SFEC Coho DIT Report: <https://www.psc.org/publications/technical-reports/technical-committee-reports/selective-fishery-evaluation/>.

## 6. Review Requirements for Tag Retention and Sample Sizes (Cheryl Lynch /CDFO)

Considering if the RCMT could review requirements for tag retention checks and sample sizes, with and without tagging trailers. (see further source documents below).

It had been recommended to do 2000 fish for 30 days' retention checks- but is that excessive considering what others are doing? Manual tagging may also contribute to uncertainty in estimates. They look for [well under] 5% tag loss. 5% is considered bad. Also, should there still be a 30-day check with the AutoFish System trailers?

In standardizing an estimate of tag loss, 500 tagged fish are held for 30-days to estimate tag retention and its impact on indicator programs.

Accuracy of total release size is also very important in this discussion. Standards for estimating total release size are a bit sparse. Lots of methods are used. AutoFish System trailers help with an accurate total release size.

[Generally, 3%+] tag loss indicates that something went wrong. [NWIFC is] doing daily checks -- checking them when they come out of the trailers. It could be that a fish without a tag might not be a 'shed tag'. It could easily be that it didn't have a tag to begin with – esp. with the AutoFish System trailers. USFWS does not separate those out, since they should have been tagged [after going through the trailer].

Hanford Wild fish are released after 24 hours but that tag loss is adjusted for.

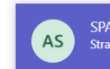
Are others using 450? Should the 30-day tag retention check still be done with AutoFish System trailers?

- NWIFC tries to hold 500 for 30 days but can't always hold them for that long. All tagging is done with AutoFish System trailers. They are checking several hundred fish/ day as they are coming out of the trailer. The quality of the trailer's tagging is such that it's almost a moot point if [all of] the quality procedures have been followed;
- USFWS also tries to hold 500 fish for 30 days. All tagging is done with AutoFish trailers. Tag retention is less than 5% loss (usually more like 1-2% loss);
- IDFG does all tagging with AutoFish trailers. They do the 30-day checks but are no longer doing pre-release checks.
- CDFG: They have the same rate of retention as IDFG and tag loss in CA AutoFish trailers as well;
- A lot of studies on tag retention were done pre-AutoFish trailer. Most tag loss takes place in the first 2 weeks (Blankenship study);
- If doing daily quality checks throughout trailer operation, it may be a moot point to do the 30-day checks on the trailers as their retentions are typically 98.5-100%.

References and comments from chat:

NUMBER OF FISH TO SAMPLE FOR TAG RETENTION, AT THREE DIFFERENT ASSUMED TAG LOSS LEVELS, TO BE 95% CONFIDENT THE ESTIMATE IS WITHIN + OR - A SPECIFIC PERCENTAGE OF THE LOSS IN THE TOTAL POPULATION.

| A<br>P ≤ .20                 |                      | B<br>P ≤ .10                 |                      | C<br>P ≤ .05                 |                      |
|------------------------------|----------------------|------------------------------|----------------------|------------------------------|----------------------|
| Number of Fish to sample (n) | Tag loss range ± (k) | Number of Fish to sample (n) | Tag loss range ± (k) | Number of Fish to sample (n) | Tag loss range ± (k) |
| 6,147                        | .01                  | 3,457                        | .010                 | 7,300                        | .005                 |
| 1,537                        | .02                  | 1,537                        | .015                 | 1,825                        | .010                 |
| 683                          | .03                  | 865                          | .020                 | 812                          | .015                 |
| 385                          | .04                  | 385                          | .030                 | 457                          | .020                 |
| 246                          | .05                  | 217                          | .040                 |                              |                      |
| 97                           | .08                  | 139                          | .050                 |                              |                      |
| 62                           | .10                  | 55                           | .080                 |                              |                      |
| 43                           | .12                  | 35                           | .100                 |                              |                      |
| 28                           | .15                  | 25                           | .120                 |                              |                      |
|                              |                      | 16                           | .150                 |                              |                      |



**Total Tagged Population (tagged fish only with all tag codes for one species pooled)**

**Recommended Number of Tagged Fish to Retain for Long-Term Tag Retention Check**

10,000  
20,000  
30,000  
40,000 or greater

500  
1,000  
1,500  
2,000

Vreeland (1987, as cited in Johnson 2004) recommended sampling approximately 2,000 tagged fish for tag loss to get a precision around 1%.

Further source documents (from Nancy in coordination with Columbia Basin Library):

Johnson report: <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.177.2095&rep=rep1&type=pdf>

Johnson re: tag loss rate and holding period Current problem areas include inadequate sample sizes and short-term retention before release. Vreeland (1987) pointed out that a 1% post release tag loss can translate into a 10% underestimate of the contribution if tag loss is not accounted for. He recommended that approximately 2,000 tagged fish be sampled for tag loss to get the necessary precision to within 1%. In practice, however, sample sizes for tag loss estimation are typically much lower. Regarding short term retention, roughly half of the tagged coho and over a quarter of the tagged Chinook groups are released within the first five days of tagging (PSC 1999A). This is the period of greatest tag loss (Blankenship 1990). Hence more effort is needed to extend the retention period to 30 days at which time tag loss has essentially ceased.

NWCouncil reference Independent Scientific Review Process (ISRP):

<https://www.nwcouncil.org/sites/default/files/198201302.pdf>

Finally, tag retention and fin clip quality are checked at least 1 month after marking (PSC 1995). This check may be conducted by hatchery staff or by research and/or management staff associated with the tagging requested. Minimum sample size for the pre-release tag retention and fin clip quality check is 500 fish (Blankenship 1981). Due to the use of the adipose fin clip for mass marking of coho and spring Chinook salmon, fish for tag retention samples must be collected at the time of tagging and held separate from the mass marked fish.

Blankenship, L. 1981. Coded-wire tag loss study. Washington Department of Fisheries, Technical Report No. 65, Olympia, Washington.

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Independent Scientific Review Panel (ISRP). 2002. Preliminary Review of Fiscal Year 2003 Mainstem and systemwide Proposals. Northwest Power Planning Council Document ISRP 2002-13.

Pacific Salmon Commission (PSC). 1995. Hatchery methodology workshop. Held January 10th through 12th 1995, Seattle, Washington.

PSC 1995 hatchery methodology workshop: <http://www.adfg.alaska.gov/fedaidpdfs/RIR.1J.1995.12.pdf>  
Page 1: 2. Specific procedures to help resolve problems in tagging programs were identified: a) tag retention estimates should be made from a minimum sample size of 500 fish held for at least 30 days; Ron Olsen was moderator for 'Adult Sampling'.

## **7. Guest Presentations [2:30pm +]: (Laurie Weitkamp, Brian Beckman /NOAA-NWFSC)**

### **A. What is going on in the North Pacific? – Laurie Weitkamp**

PowerPoint Presentation

This is a presentation of marine heat waves, changing ocean temperatures, year by year, and the impacts on salmon throughout the greater Pacific region.

The current La Nina event is favored to continue through the summer.

There are marine heat waves with huge biological impacts to marine ecosystems at all trophic levels. They are seeing the impacts of the heat waves on salmon.

They did not see Coho on 2022 returns. No one knows where they are.

### **B. How do we link changing ocean conditions to hatchery rearing and release strategies? – Brian Beckman**

PowerPoint Presentation

This presentation looks to [introduce &] address the question of whether and how current hatchery practices engage with future ocean variation [(e.g. scenarios that might be expected of ocean temperature and stability)].

Hatchery production strategies (and what we think of as “normal”) were developed during a “cool” (good) phase in the 1950s-1970s.

Natural fish migration timing is extended and variable (over 6 months). Hatchery fish migration timing has become unimodal and short (over 6 weeks); with releases happening around the same time and with fish being about the same size.

Marine heat waves are increasing in frequency and magnitude, and are predicted to continue to increase in the future. They are impacting mortality in different ways and at different times than usual.

We may not be able to count on the oceans flipping back and forth between warm and cool phases as they historically have done. We may need to adjust hatchery strategy accordingly.

Should the hatchery goal be to maximize returns each year (current strategy), or to minimize variation in returns between years (something else)?

## **8. Update on PSC Data Exchange Committees (Jim Longwill /PSMFC)**

- A. Changes to committee representatives for: SFEC, TCDS, DSWG  
Lara Erikson (PSMFC) new SFEC member



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Nancy Leonard (PSMFC) new co-chair of TCDS  
Jim Longwill (PSMFC) new co-chair of DSWG

B. Year 2022 Work Plan

See: [PSC-2022-TCDS-WORK-PLAN-excerpt-1.pdf](#)

C. Possible return to in-person meetings

D. PSC data exchange format upgrade process & active documentation.

Jim reviewed document with previously identified issues that the group expects to revisit this year to make recommendations.

- [DSWG-v5-0-recommendations-RMPC-DRAFT.pdf](#): This document contains the set of 'Recommended' proposals which had been provisionally approved back in 2015 by DSWG. These are being revisited in the new round of discussions.
- [DSWG-Active.pdf](#): This document contains the set of 'Active' proposals which had not been fully approved by DSWG in 2015 but were pending further research and discussion. These may also be revisited in the new round of discussions.
- Two items that we are aware of that are not currently on the above lists are:
  - Explore the idea of extending length of recovery ID (per a revision of an original proposal);
  - Define and implement technical changes to the Data Exchange protocols (new proposal);

**9. Special Marking Requests & Announcements for 2021, 2022:** (Nancy Leonard)

Requests & Announcements received to date: none

There is a discussion on whether there is value to keep this item on the agenda in future meetings as a reminder to people and a way to make sure the information is shared with the group/ region. It is decided that we **should update the RCMT Regional Agreements and process for special marking requests via a work group (Ron Olson, Dion Oxman, Kathy Fraser).**

CDFO has 3 pending requests (will submit for this year):

Sockeye Project using blank/ agency-only wire is under discussion

- Is there interest in Sockeye tagging irrespective of using blank wire?

CDFO does not mass mark Chinook, so puts in a variance any time they do

- In Year 4 of existing program
- MM proposals are reviewed by SFEC

Yukon River is requesting to mass mark their hatchery fish for in-river sampling

- There is no fishery sampling in those areas
- Unlikely they will put tags in the fish

Increase in PIT tag research in Salish Sea; a group wants to put together a database modeled after PTAGIS and is looking for others in the area that would want to be involved (**Ron O. will pass along the email/ info**).

**10. Northwest Marine Technology** (Dave Knutzen, Geraldine Vanderhaegen /NMT)

- Product update

Provide as much advance notice as you can of products/ orders you may need. Contact NMT by email at [office@nmt.us](mailto:office@nmt.us) or call us at (360)764-8850.

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NMT has worked on modernizing and updating their database program.

They are reducing the use of plastic company-wide.

Will be able to scan the QR codes that come with the tags and upload tag info to the trailers.

ADFG and CDFO added AutoFish trailers to their programs.

NMT sent out two new WDFW trailers with the newly redesigned Mk4's that are controlled via table; have more robust cabling that is better located, and have improved programming that tracks the data better.

NMT is looking for feedback on the tag viewer:

The viewers are great. Cord placement might make operation a little tougher for left handed folks. They would also love to see them as a computer peripheral that ran through a desktop application within windows, but they are a great tool as-is.

NMT is working on continuing the tag reader project. They hope to have it ready soon.

The R9500 is now over 20 years old. Repair & replacement takes time so advance notice is appreciated.

They repaired 14 tunnel detectors in 2021. Contact NMT if you need them repaired before fall.

V-Detectors and T-wands: check the battery before sending back. If needing repair, send them before the season starts; Remove batteries prior to storing wands.

Older QCDs with a black tube cannot be upgraded or worked on.

The multi-shot tag injector has been discontinued (have some in the rental pool).

- Q&A: other issues with equipment & usage, etc.

**REVIEWED**

*By Jim Longwill at 9:10 am, Jun 15, 2022*

# APPENDIX A: ROSTER OF ATTENDANCE

|                              |  |  |
|------------------------------|--|--|
| <b>Meeting Summary</b>       |  |  |
| Total Number of Participants |  | 32   |
|                              |  | <i>some participants appeared only briefly</i> |
| Meeting Title                |  | RCMT Virtual Meeting for 2022; MS-Teams        |
| Meeting Start Time           |  | 4/19/2022, 08:00:00 AM                         |
| Meeting End Time             |  | 4/19/2022, 5:34:36 PM                          |
|                              |  |  |
| <b>Full Name</b>             |  | <b>Email</b>                                   |
| Dan Webb                     |  | DWebb@psmfc.org                                |
| Nancy Leonard                |  | NLeonard@psmfc.org                             |
| Jim Longwill                 |  | JLongwill@psmfc.org                            |
| Amy Roberts                  |  | ARoberts@psmfc.org                             |
| Cady, Jillian L (DFW)        |  | Jillian.Cady@dfw.wa.gov                        |
| Dettlaff, Yvonne             |  | yvonne_dettlaff@fws.gov                        |
| Gilmore, Todd                |  | todd_gilmore@fws.gov                           |
| Azat, Jason@Wildlife         |  | Jason.Azat@wildlife.ca.gov                     |
| Ash Shaffer NWIFC            |  | ashaffer@nwifc.org                             |
| Cross, Benjamin K            |  | benjamin_cross@fws.gov                         |
| Oxman, Dion S (DFG)          |  | dion.oxman@alaska.gov                          |
| Michele Masuda               |  | Michele.Masuda@noaa.gov                        |
| Stan Allen                   |  | SAllen@psmfc.org                               |
| Marianne McClure             |  | mccm@critfc.org                                |
| Fraser, Kathryn              |  | Kathryn.Fraser@dfo-mpo.gc.ca                   |
| Geraldine VanderHaegen       |  | Geraldine.Vanderhaegen@nmt.us                  |
| Funston, Larry * ODFW        |  | Larry.FUNSTON@odfw.oregon.gov                  |
| Lynch, Cheryl                |  | Cheryl.Lynch@dfo-mpo.gc.ca                     |
| Bill Bosch                   |  | bill_bosch@yakama.com                          |
| Keller, Eric K (DFG)         |  | eric.keller@alaska.gov                         |
| Ron Olson                    |  | rolson@nwifc.org                               |
| Brian Leth                   |  | bleth@idfg.idaho.gov                           |
| Dave Knutzen                 |  | Dave.Knutzen@nmt.us                            |
| Anneliese Myers              |  |  |
| Andrea (CCT)                 |  | andrea.pearl@colvilletribes.com                |
| Koerber, Lea@Wildlife        |  | Lea.Koerber@wildlife.ca.gov                    |
| Joseph Greef                 |  | joseph.greef@nmt.us                            |
| Ryding, Kristen E (DFW)      |  | Kristen.Ryding@dfw.wa.gov                      |
| Lara Erikson                 |  | LErikson@psmfc.org                             |
| Brian Beckman                |  | brian.beckman@noaa.gov                         |
| Laurie Weitkamp              |  | laurie.weitkamp@noaa.gov                       |
| Ridgway, Brenda              |  | Brenda.Ridgway@dfo-mpo.gc.ca                   |