

2023 RCMT MEETING

46th Meeting

Hosted by: RMPC,

Portland, Oregon & MS Teams Meeting

PSMFC 205 SE Spokane St. Ste. 100, Portland, OR 97202

Final Minutes

Dates, times: Wed, Apr 19 & Thu, Apr 20, 2023; start at 9:00 am

Meeting & Documents information posted: [Regional Committee on Marking and Tagging](#)

RCMT 2023 Meeting Material: [RCMT 2023 Meeting Materials](#), [Day 1 Slides](#), [Day 2 Slides](#).

RCMT Last Year's Meeting Minutes: [rcmt-2022-minutes](#)

APR 19: WEDNESDAY: 9:00 AM – 4:30 PM;

1. General RCMT Items (Nancy Leonard /PSMFC)

A. Introductions; review agenda & hybrid meeting practices.

- We wish to announce the retirement of Ron Olson of NWIFC and highlight his many years of service on the RCMT.
- The group congratulated Ron. Ron introduced Ashley Shaffer who will be replacing Ron on the RCMT

B. Future meetings

- The group confirmed the 2024 meeting will be held in Juneau, AK. Discussion about the actual date in May identified May 23rd and 25th as days to avoid (cited from chat).
- For the 2025 meeting, Canada requested that the meeting not be held in Canada, and instead be pushed out further in time such as potentially 2027. California accepted to host in 2025 and accepted PSMFC staff's offer to assist in locating a venue and with the meeting logistics.
- Nancy will work on finding a host for 2026.
- There were a couple requests to move the annual meeting to the fall because spring is field season. However, the group determined that spring is still usually the best option with March and April being a good fit. Need to avoid second week of February due to annual Pacific Salmon Commission meeting. May is possible for Alaska, but not ideal due to field season.
- May want to discuss options for new RMPC and RMIS logos during 2024 RCMT meeting.

2. Regional Mark Processing Center operations & announcements (Dan Webb /PSMFC)

A. Status of CWT Datasets

- Dan provided a summary of the reporting status of CWT database and discussed any known obstacles to reporting, validating and processing of the data. Findings for this "Data Status" report are based upon the "News & Data Status" charts by reporting agency. It is important to note the reporting agency charts may not completely show an accurate and complete representation of all datasets reported. Some datasets can be reported through various different reporting agencies.
- As part of this process, Dan contacts individual agencies as he prepares his summaries to check we have all their data in. This year, Dan also held an online virtual meeting with agency CWT data providers to confirm the dataset counts as they are represented in the CWT database and provided an opportunity to give feedback for any assumed oddities. Holding a group meeting is a new this year and also provides the opportunity for Dan to show them the draft slides he created, and provides a venue for that group to communicate any info about their status or raise other topics.
- Summary of the reporting status of CWT in the database:

Locations: It is believed that all locations necessary for Coded Wire Tag (CWT) validation and processing purposes appear to be present. For locations, an older last validated date does not necessarily indicate missing or incomplete location data sets.

Releases: There is currently only one release set (CCT) with a failed validation status. Passed in June 22, failed on resubmission Jan 23. All agencies have updated or added new releases since Feb 2022. An alternate view of the release data by querying releases within the past 10 years by release agency, last release year and reporting agency helps to identify questions to ask agencies but does not necessarily indicate missing datasets. The query results do show anomalies however reporting agencies would need to be consulted for explanation to determine if datasets are actually missing. For Release species Chinook, Coho and Steelhead:

- ADFG: appears to be a normal trend
- CCT: Started reporting releases of Chinook in 2014
- CDFO: appears to be a normal trend with a slight decrease for 2020 CWT
- CDFW: appears to be a normal trend
- CRITFC: no releases reported for 2020 thru 2022
- IDFG: appears to be a normal trend
- NMFS: decline in counts for 2016, 0 CWT released for 2020, decrease in 2022?
- NPT: appears to be a normal trend
- NWIFC: appears to be a normal trend
- ODFW: appears to be a normal trend with slight decline in Total Released
- QDNR: appears to be normal trend with increased Total Released for 2021 & 2022
- STIL: possible normal trend
- USFWS: appears to be a normal trend decline for 2022 Total Released
- WDFW: appears to be a normal trend
- YAKA: appears to be a normal trend

We are not currently aware of missing tag codes. If missing they are likely being discussed between NMT and the various agencies directly.

There are currently 0 releases in the CWT database with the Preliminary (PRELIM) / Midyear status.

Recoveries: Recoveries were reviewed for data sets with outstanding errors and years missing up to and including the 2020 run year. Missing datasets for run years 2020 and older are considered “Expected Overdue”. 2022 run year data sets are not yet evaluated as missing since reporting of the run year may be dependent upon escapement data that is still unavailable. However, missing 2021 are expected. Most reporting agencies have reported recovery data sets for run years up to and including 2021. Exceptions are as follows:

- California Department of Fish and Wildlife - Klamath/Trinity (CDFWKT): no new status. 2008 thru 2011, 2016 thru 2020 data Expected Overdue.
- Nez Perce Tribe (NPT): 2016 thru 2020 Expected Overdue, 2021 Expected Pending. Dan contacted Nez Perce about getting back to reporting recoveries
- Northwest Indian Fisheries Commission (NWIFC): 2008 last validated 2019 – 1 current error – species must match release
- Washington Department of Fish and Wildlife (WDFW): 2019 last validated Oct 2022 – resubmitted with submission date past 30 days
- Yurok Tribe Fisheries Program (YTFP): no new status. 2006 144 errors – recovery date out of range (e.g. “02000916”)

An alternate view of the recovery data by querying recoveries within the past 10 years by sampling agency, run year and reporting agency also helps to identify questions to ask agencies but likewise does not necessarily indicate missing datasets.

NOTE: Unlike the required release agency field on the release datasets, the sampling agency is not a required field on a recovery dataset. Therefore, tracking sampling agencies is more difficult to determine when recovery records are reported by another reporting agency.

The recovery trends will be made available outside of this presentation to keep to a manageable presentation time line. However, they will be included with the meeting minutes as we did last year.

Catch/Sample: Catch/Sample was reviewed with the same criteria as the recovery data for missing data sets and data sets with errors. Catch/Sample datasets typically mirror the results of recoveries. Following is a list of identified exceptions:

- As indicated in past years, Idaho Department of Fish and Game (IDFG) and Nez Perce Tribe (NEZP) submit recovery datasets but do not submit catch/sample datasets.
- California Department of Fish and Wildlife (CDFW): 2013 last validated in 2014 has 2 current errors - escapement estimation method must be absent.
- California Department of Fish and Wildlife – Klamath/Trinity (CDFWKT): 2008 thru 2011, 2016 thru 2020 Expected Overdue, 2021 Expected Pending
- Northwest Indian Fisheries Commission (NWIFC): 2015 last validated Jan 2017 – 17 current errors submission of wrong catch year
- Yakama Nation (YAKA): No longer submit Catch/Sample datasets. 2008 data has 1 error - Adclip Selective Fishery must be present
- Yurok Tribe Fisheries Program (YTFP): no new status.

NOTE about public data download areas:

- Access to the public area does not require a CWT Data Provider account and is updated nightly when new datasets are validated and added to the CWT database. <https://www.rmmpc.org/pub/data/>
- The public data area can be used to track new datasets by file date where users can download csv and files locally use internally.
- Log files for datasets submitted for validation are also available in the public area at <https://www.rmmpc.org/pub/logs>

Monthly Data Integrity Reports: We continue to notice occasional data discrepancies in monthly data integrity reports and notify agencies as they occur. Most agencies are quite responsive at resolving the discrepancies that are identified.

The example given was how complicated tracking related group records is because of the way they are uploaded into RMIS. A tagged group and an untagged group of data can be submitted while also being able to submit a single record at a different time, which can cause the Related Group ID to mismatch and the requirement for data specification is no longer met. This is when the agency is notified and the discrepancies are fixed.

Carrie Cook- labor requested an example be provided of a data discrepancy. The example provided was that Related group ID is complicated to track and validate because of the way they come in. .

There was a request to have easier access to the error log files.

B. RMPC Data Transfer Upgrade to Webservice API

- The new RMPC webservice for submitting data appears to be working well. Dan plans to test the GET function of the new API later in the summer, and should have that function available later in 2023 to support retrieval. Dan is interested in the type of datasets agencies would like to download to inform the development of the GET function.
- Test auto-validation is in development. Dan is working on adding a validation routine so agencies can test the dataset but that will be a year or two down the road and likely will be made available after V5.0 implementation.

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

A. Discussion on recruitment & retention of CWT field staff

- Everyone agreed that staffing marking and tagging trailers is currently difficult. Hiring staff, finding housing in remote locations, , and retaining staff is tough. ODFW has hired a traveling team but it is expensive to pay for hotel and vehicle costs, and there is competition with other permanent jobs and benefits. There are options to using prison crews but that also comes with complications. ODFW has looked at changing the job series for the CWT position. IDFG has also gone to Future Farmers of America to get interest. The Mount Hood Community College program that Stan, George Nandor and Dave Knutson used to go to is running again, so that might be an option.

Add to 2024 RCMT agenda an item to have Ashley Shaffer (NWIFC) and Trevor Clark (ODFW) provide a summary of their experience with the alternative approaches they have explored to recruit staff for CWT tagging.

Stan Allen is willing to work with a key group of people to brainstorm how to hire marking and tagging crew members. RCMT members interested in participating in this discussion include Stan Allen, Trevor Clark (ODFW), Ashley Shaffer (NWIFC), Ben Cross (USFWS), Jillian Cady (WDFW) and Dave Knutson (NMT).

B. Member agencies update

- Individual agencies update document are included in the 'AllAgencyUpdte2023.pdf' file within the [RCMT 2023 Meeting Material zip file](#).
- Additional notes from the Member agencies are captured in the below table:

Agency or Organization	2023 Tagging Levels, Marking Plans, Comments
ADFG / Alaska Dept. Fish & Game: 2 agencies in SE have auto marking machines. 2022 was first year we fully massed marked Chinook before released. Everything is still as is. See agency-provided document in the <i>RCMT 2023 Meeting Material</i> zip file for additional details.	
MIC / Metlakatla Indian Community: Reporting electronically through ADFG. Alaska is trying to incorporate MIC reporting to align with Alaska so that all reporting can be done online. Steve Leask, the current MIC representation, has possibly retired or moved on,	
NMFS / National Marine Fisheries Service, Alaska: No updates as NMFS doesn't mark and release fish. NMFS only reports tags.	
NWIFC / Northwest Indian Fisheries Commission: Ron reported that mass marking has increased for Chinook. Mass marking is mostly done WDFW but not separated in the table submitted. See agency-provided document in the <i>RCMT 2023 Meeting Material</i> zip file for additional details.	
IDFG / Idaho Dept. Fish & Game: Little change noted with the exception of limited releases for broodstock management programs. All Non-tribal fisheries are marked selective tagging. See agency-provided document in the <i>RCMT 2023 Meeting Material</i> zip file for additional details.	
USFWS / U.S. Fish & Wildlife Service: No southern resident killer whale production increases at Spring Creek NFH in 2022 or 2023 for Fall Chinook. Slightly higher increase (200K) increase in SRKW production for Spring Chinook at Little White Salmon NFH in 2023 compared to 2022 Production of Spring Chinook at NFH was down likely due to less available broodstock. There was a projected increase in fall Chinook being released from Makah NFH in 2023 compared to 2022 because there was more fish return in 2023 to get closer to broodstock goals. Dworshak in 2023 will shift from USFWS to NPT agency code. See agency-provided document in the <i>RCMT 2023 Meeting Material</i> zip file for additional details.	
WDFW / Washington Dept. Fish & Wildlife: No major changes. Kalama falls Chinook production was reduced at the Hatchery to the match the Mitchell Act BiOp. See agency-provided document in the <i>RCMT 2023 Meeting Material</i> zip file for additional details	
CRITFC / Columbia R. Intertribal Fish Commission: Resuming Hanford Reach tagging. So, tagging back to normal. We skipped tagging in 2020.	
CDFW / California Department of Fish & Wildlife: Adding another coho marking and tagging program, to track better and be more precise with this particular group of coho See agency-provided document in the <i>RCMT 2023 Meeting Material</i> zip file for additional details.	
CDFO / Fisheries & Oceans Canada ■ : Moving to documenting mass marking but no formal commitment made for mass marking for chinook. See agency-provided document in the <i>RCMT 2023 Meeting Material</i> zip file for additional details.	
ODFW / Oregon Dept. Fish & Wildlife: Marking a few more fish and that is the only change. Their agency updates document does not include release numbers. See agency-provided document in the <i>RCMT 2023 Meeting Material</i> zip file for additional details.	

■ : Agency CDFO represents two votes (members) of the RCMT;

Other reporting agencies:

Agency or Organization	2023 Tagging Levels, Marking Plans, Comments
YAKA / Yakama Nation: See agency-provided document in above link;	

NPT / Nez Perce Tribe:

Mass marking of all summer chinook as well as spring. Numbers are consistent year to year.

CCT / Colville Confederated Tribe(s):

Mass marking, numbers are consistent year to year.

See agency-provided document in the *RCMT 2023 Meeting Material* zip file for additional details

4. Need to Develop Standard Procedures for New CWT Labs (Ron Olson /NWIFC)

See: [CWT-Lab-Standards-Proposal-for-a-Workshop-14April2023.docx](#)

- Group discussed the proposed task to create a working group to develop recommended guidance to labs for extracting, reading, and reporting CWTs. The group agreed that it should be addressed by RCMT.
- Kathy indicated that CDFO has improved documentation of their standards but not in one document.
- Ken Phillipson (NWIFC) volunteered to help coordinate the working group but will need assistance from PSMFC staff.
- The group indicated that PSC's CE2 funding is designed to improve CWT and would be a good option for writing a proposal in the summer. Ken can do the proposal with the help from Nancy and Marianne. Contact Ken and Nancy if you would like to participate.
- RCMT members interested in working with Ken on this task include: Eric, Kathy, Cheryl, Angus from CDFO hatchery/SFEC, and Nancy
- Nancy will email Ken to inform him of the group's decision and communicate the names of RCMT members interested to assist. The group is interested in having this task address
 - Hold a workshop ideally during the 2023 or 2024 fall season depending on funding.
 - Produced a documentation or other publication that would include suggested best practices such as: lab tech read and re-read approach; process for extraction and reading; subsampling guidance; guidance on data to include along with the tag
 - Ken could be Principle Investigator on the PSC proposal
 - Request for RCMT members to locate any written guidance they have within their agency to inform this task
 - Interest to also include in this task review of 'expansion factors' best practices to assist new staff

5. Update on PSC Data Exchange Committees (Jim Longwill /PSMFC)

A. Jim provided an update on the upcoming data specification version 4.2 -- to be implemented in 2023

(see: [approved changes version 4 2](#)) The proposed modifications for version 4.2 of the data specifications are identified and the final approval for version 4.2 will be done during the May 2023 PSC Technical Committee on Data Sharing Meeting. No changes are expected from the current list.

- Jim has started the database conversion work, which includes no major changes, and should be completed by Aug/Sept 2023. RMIS will continue to accept older versions of data until mid-2024, but wants all data providers to be fully switched to 4.2 by end of 2024. There is emphasis to make the conversion by end of 2024 so we can move forward and be ready for version 5.0.
- Jim is also working on bringing in additional changes to the data specification document that were requested by the PSC Technical Committee on Data Sharing including how to cite the document.

B. Jim provided an update on the PSC Technical Committee on Data Sharing's Workplan: Proposals are being reviewed in 2023/2024 for version 5.0, aimed for late 2024 implementation

- Data exchange v 5.0 is being revisited over the next few months with 5 core issues to be revisited. There is a significant push to have 5.0 finalized (agreed to) by end of May 2024. The upcoming Data Sharing Tech Committee meeting, will be discussing changes for 5.0.
- [TCDS-1989-1 \(Blue book\)](#) content to be updated, with task initiated through the PSC Technical Committee on Data Sharing in 2023 & 2024

No other changes were requested by RCMT members to bring back to the PSC Technical Committee on Data Sharing for their consideration.

6. Presentations & Discussion: Parental-Based Tagging (PBT) & GSI: (see below)

A. Presenters:

- Todd R. Seamons /WDFW: Summary of WDFW Molecular Genetics Lab GSI and PBT activities

There was no presentation for this talk

WDFW doesn't have systematic sampling of hatchery brood stock for PBT to support CRITFC and fish and game efforts in the Columbia Basin, especially in lower Columbia hatcheries.

Outside hatchery programs, there is minimal PBT sampling which is localized and usually for brood stock management.

The lab developed reference baselines for genetic stock ID through support from PSC. GSI baselines are developed, usually with the PSC and for some use in international fishery management. Work has gone into updating Chinook FRAM baselines

- Matthew Campbell /IDFG: The status of PBT/GSI technology in the Snake River Basin
Presentation slides are in the RCMT Meeting Material zip file.

Genetic sampling parents and offspring are tagged to use Parentage technology. Other methodology includes GSI, but it is focused on wild fish because we can't get hands on the parents. Early on we demonstrated PBT is accurate and matched CET assignments, we found that there are high PBT rates in the Snake River basin. Then, we used this technology to address multiple management research questions and created the [FishGen](#) database. These programs are used as part of monitoring and effectiveness of integrated hatchery programs. Provide sex and estimates of diversity and structure. Currently doing some work in Lower Columbia looking at wild and hatchery stock composition, where adult steelhead are harvested. It is suspected that Steelhead are harvested at high rates and PBT was able to provide accurate composition estimates. NOAA uses these technologies to help evaluate pops by abundance, growth rate, spatial structure, and diversity. We are also sampling adults and juveniles at Lower Granite Dam, which gives parameters that can get estimated yearly. PBT helps with precision of estimates with harvest, and making sure enough brood stock goes back to hatchery and we are able to monitor gene flow between hatchery and wild pops.

Q & A:

Sharing results of estimates of strays?

- Still testing and trying to work with all hatcheries in Snake River Basin. Hopeful to apply to basin wide level.
- Shawn Narum /CRITFC
Presentation slides are in the RCMT Meeting Material zip file.

Lot of work maintaining the genetic and phenotypic diversity of the fish that are remaining but also working to rebuild and recover these different stocks and species. Non-lethal tissue samples taken at Bonneville dam and other locations, then the samples are taken back to lab to determine the origin and the age of those fish as they are returning to the to the Snake River basin. Bonneville is one of the important sampling locations because it is the first dams fish pass through to return to the Columbia Basin. Fish can be sampled at the trap in the adult fish facility, then we can calculate abundance estimate and get good estimates of hatchery and natural origin proportions. We use two genetic tools: PBT and for natural origin fish use the GSI tool. Our samples are sent to our lab with a quick turnaround, and those

numbers are provided to people in the basin, through the Technical Advisory Committee (TAC), to give them an idea if the hatchery stock is increasing or the natural origin stock is decreasing.

In addition to hatchery stocks, we also cover some of the natural origin stocks or at least the reintroduced stocks that are being used by the Yakama Nation up in the Yakima River. In addition to hatchery stocks and the GSI stocks, we are genetically determining sex for all of these species and we are getting a scale age on all the fish. CWT are primarily used for management, comparing results from PBT to CWT in a way to just validate our methods and to look for concordance. There is a very high concordance rate (90%) of CWT hatchery stock recoveries that also have PBT assignments.

Chinook is our test fishery. We are fishing each week and using numbers of fish caught per drift to predict run size above Bonneville. Magnitude and timing of fish can be predicted, up to 2 weeks in advance. Using PBT or GSI can break stocks up by brood stock.

Coho is new up and coming PBT method. Working with fisheries to create a better escapement estimate for coho. Coho is not regularly sampled but hoping to sample more to incorporate into in-season analysis. Can we help manage lower river natural origin coho with PBT? What is level of coho exploitation in ocean? Can answer with PBT if there were more hatcheries sampled for PBT and ocean harvest sampled to test some of the assumptions of the Fishery Regulation Assessment Model. All data from this talk can be found in fish gen database.

- Joseph Feldhaus /ODFW: Tagging salmon in NE Oregon: the who, what, when, and how we use the data
Presentation slides are in the RCMT Meeting Material zip file.

We rely heavily on CWT data because there is no centralized, standard database for PBT. Umatilla is a hard area because it is not part of the Lower Snake Compensation Plan so funding is difficult. We are not part of the FINS database and buy in from hatcheries for sample collection is hard. Because of this Umatilla is suffering from a lack in Monitoring & Evaluation presence and budget cuts.

If we are going to start using PBT data, we need to recognize it's hard to track fish from tagging to release. You have to wait on fish to return to see if we can sample adults and then match them back up to their release locations and backtrack and there isn't a current database to do this.

There is frustration expressed about why there isn't a centralized database for PBT. PBT data has been invaluable for identifying these previously unidentified hatchery strays in our hatchery. There are instances where PBT data can replace CWT especially with budget cuts. We need to think ahead of the game but it is difficult when there is no public DB. Currently don't use PBT data for SAR reports.

- Sara Gilk-Baumer /ADFG: ADF&G Gene Conservation Laboratory (GCL)
Presentation slides are in the RCMT Meeting Material zip file.

Alaska is mostly using GSI, not PBT. They are a full-service lab, aiming to provide genetic information and advice specifically for management and to support policies and have several different genotyping capabilities. They are constantly updating capabilities to take advantage of cost savings, and trying to apply the most cost-effective methods to meet project objectives. Everything is entered into an Oracle database, called Loki, which can access and locate both tissue and DNA samples for analysis and all genotypes.

In the postseason, analysis for GSI projects all have direct management implications. The information that's used for postseason run reconstructions help develop brood tables, estimates of productivity and development of escapement goals. There are several in-season projects that give managers real time information.

There was a large program started in 2012, looking at concerns surrounding potential genetic and ecological interactions between hatchery and wild stocks in Pink hatchery program. The main question is looking at the impact on fitness or productivity of natural pink and chum stocks due to straying of hatchery pink and chum salmon. They looked at pedigree data for hatchery versus natural-origin fish and the initial findings were lower fitness in wild streams for hatchery-origin fish versus natural-origin fish. In the Prince William Sound, the information shows hatchery-origin fish produced about half as many progeny as

natural-origin fish and the relative reproductive success values varied extensively among streams in years.

The lab is currently finishing up the genotyping and they're going to be looking at some of the grandparent and offspring relationships

B. Q & A:

Advancement in common wording, common fields, stock location code can be used for a greater effect, be more specific about what stock that is. For example, hatchery location isn't always the hatchery, sometimes it is acclimation site.

C. Discussion:

Would it be valuable for some of these genetic data to be accessible from RMIS or other regional system?

See notes from Joseph Feldhaus talk.

If everyone is already using RMIS data, there is value in adding some of the genetic data, but the request will need to go through the formal process to be added. There have been efforts in the past to start building a genetic marker database, but those efforts failed due to lack of funding.

There are genetic databases out there but none of them are standardized to talk to each other.

Canada is currently working on one and it would be beneficial to keep an eye on their progress so the efforts aren't duplicated. It was emphasized that for some, PBT tagging can save their programs money when they have to cut budgets, on top of being a powerful tool.

Stan Allen and Ken Johnson (past RMPC program manager) assessed feasibility of RMIS to manage GSI and PBT data and determined that it was possible but needed to identify funding for this additional work.

What about other types of marks such as thermal marks? ADFG is not using thermal marking coastwide. PSC is funding some projects that uses thermal marks.

There is interest to support a PBT scoping to determine the minimum information needed to improve connection between PBT and existing RMIS fields/ Matt Campbell (IDFG) and Jon Hess (CRITFC) have taken a preliminary look at this,

Stock location code, hatchery location, acclimation site location could help increase connection with PBT data.

7. RCMT: Update to Regional Agreements & Agency Roles, Etc.: (Nancy Leonard)

See current document that was last [updated in 2011](#) and the proposed 2023 edits reviewed by the group that are focused on adding details on existing process for new Tag Coordinators. These documents can be found in the [Meeting Materials](#)

- The group reviewed and discussed potential additional updates to *Regional Coordination and Agreements on Marking and Tagging Pacific Coast Salmonids*, with the understanding that in 2024 we will further discuss updates to this document. Thus, the discussion during the 2023 meeting the group identified sections we want to focus on in 2024 and identify any that would benefit from a workgroup developing proposed edits in advance of our 2024 meeting.
- Topics that should be clarified or considered when updating this document include:
 - There needs to be adjustments to the overview section to provide context for PSC and RCMT: define what the relationship is and how they interact with other groups.
 - RMPC can clarify tech guidance, clean the section up and look into how roles might overlap with PSC.
 - Section 2: This will be revisited next year. Need to define the role, how has it evolved, and bring new things to the committee so it stays relevant. Canada also has ideas that refine what they do in this role and clear up what they don't do anymore. US vs Canada responsibilities need to be cleared up. In general, need to clear up roles of what is expected from whom. It was mentioned that the SFEC group should be considering roles and responsibilities of the 2 groups and where that should be part of their agenda item. Ron is in both groups and can help.
 - There will be a discussion around May 2023 about the idea of combining the PSC's Joint Technical Committee on Data Sharing and the Data Standards Work Group. There is potential for this committee to get better input but allow ad-hoc tech teams (within the existing group) as needed. This is a concern for Canada because they are showing up for all the tech committees and it would make it easier for them. Combining the two groups would be more efficient and elevate the time lag between groups meetings, possibly making decisions happen faster.
 - Voting and Membership updates could include additional votes for representation of multiple tribes. For voting in the past there was a full consensus, how we reach decisions and an agreement by majority vote, but the last vote was about 20 years ago. There have been changes with roles in committee and it might be time for a new voting approach. However, need to also remember that sometimes there are PSC/federal mandates that create changes, not the Mark Committee
 - On Page 8: the edits in the draft are based on edits that were requested during development of the new website and work from last year. Need to review these edits and confirm what should be included in the document and whether updates/corrections are needed for the website.
 - Need to refine Section 4 and 8: There is conflicting language in both sections about reporting final release data, causing double reporting. There is confusion about who is responsible/ contact for submitting released data. Clarifications need to be made about who last handled the fish should report the data. Tag coordinator is responsible for who got the tags. Who to contact is confusing? Tag coordinator or releasing agency. The last sentence about releasing agency reporting should be changed in Section 8
 - Creating a section 8C that addresses double reporting and how to resolve the issue.
 - Possibly create a Section 8D about reporting non CWT or bang records. There are a lot of releases that are bang records but no current way to create validations on those releases.

- Update CDFG to CDFW throughout the document
- Wording needs to be more specific about the tagging process data so it is not confused with the releasing data.
- Do we need to add Best Practices about resampling with tube detectors and blue wands being used? And more diligent in training?
- Do we need preliminary data? Is it still relevant? Canada doesn't create preliminary data. It was mentioned it can be relevant as midyear data in historical documents.
- There is confusion about Canada's roles and reporting to RMIS need to be cleared up in 2024. Canada has their people use their database and not using RMIS as the front end of their database anymore.

Because of timelines there is a lag in Canada reporting data into RMIS. Link sent in chat from Kathy illustrating the intention of maintaining two CWT data system, one being RMIS and the other being the Canadian system:

https://www.rmpec.org/files/Action_Plan_in_Response_to_CWT_Expert_Panel_RecommendationsMarch2008.pdf

- o Nancy offered to include in the minutes, links to the TCDS89-1 document: [Information Content and Data Standards for a Coastwide Coded-Wire Tag Database Report TCDS \(89\)-1](#) and text from its Appendix related to the RMIS data system. The content is included below:

Appendix II FEATURES FOR A U.S. SECTION PSC CWT DATA BASE, includes a letter from Frank de Libero (Chairman of US Section, Working Group on Mark Recovery Databases) to

At the PSC meetings in Portland (November 15-20, 1987), Mr. Shinnors (Canadian Commissioner) stated that Canada intended to maintain its own CWT database rather than support a single bilateral system that would be maintained by a third party system. This action effectively ruled out a PSC-based CWT database. It also compelled the U.S. to identify a single site for processing and exchanging U.S. data with Canada. The U.S. Commissioners announced on December 17, 1987, that PMFC's Mark Center had been selected to serve as the U.S. site for exchanging PSC data with Canada. Given these decisions, and not because it had finished its technical considerations, the U.S. Section of the WIG cut short its work on a preferred system . (page 176)

Accordingly, when the U.S. Section of the WIG met again January 18, 1988, to finalize its recommendations on a preferred system, there was unanimous agreement to support PMFC's Regional Mark Center as the preferred system for PSC data sharing at this point in time. There was also unanimous agreement that as the information systems and needs of participating PSC agencies continue to evolve, every effort should be made to include preferred features such as networking, one logical data set, etc., in the PSC database assuming, of course, that these would prove to be cost-effective. (Page 176)

Having considered the above various advantages and disadvantages, the majority of the U.S. Section WIG is of the opinion that PMFC's Mark Center will be able to serve PSC data needs effectively. In addition, the Mark Center is seen as providing the most efficient transition to eventually establishing all of the preferred features of a PSC database. I trust that this information will explain the rationale for the recommendations of the U.S. Section Working Group on Mark Recovery Databases to the Data Sharing Committee. (page 177)

Appendix 6.2 (page 179)

The Canadian position on an "Ideal System" would be to exchange data in the proposed format, but in a more timely manner (electronically and on demand). We do not believe that the system should be more than the exchange of data. Analyses can be carried out jointly, but separate systems (American and Canadian) would be maintained.

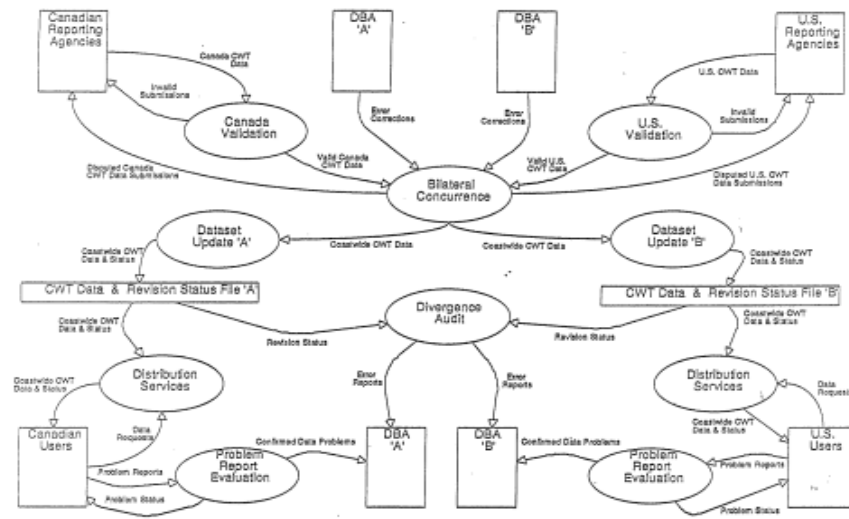
Appendix 6.3 PSC Standard Coastwide Coded Wire Tag Data Set Exchange Protocol

Purpose

The Working Group on Mark/Recovery Databases recommends the Standard Coastwide Coded Wire Tag Data Set be implemented as two identical data sets. The agencies recommended to administer the data sets are CDFO in Nanaimo for the 'A' copy, and PMFC's RMPC in Portland for the 'B' copy. (page 181)

Recommended data flow (page 183)

PSC Standard Coastwide Coded-Wire Tag Dataset Exchange



- Ron, Marianne, Eric, Nancy, Cheryl, Kathy, Carrie, Rob Houtman (SFEC) volunteered to be on a small core group to do prework before next meeting.
 - The small core group will look at what was drafted by PSC SFEC in their Memorandum of Understanding (MOU) terms reference that is included in the PSC annual review report and see what can be used. MOU is available <https://www.psc.org/wpfd/file/sfec-mou-and-tor-feb-2004/>
 - Per the group's discussion, Ron and Marianne will take a look at the first 3 sections of the document and propose some edits for the core group to review in preparation for the 2024 RCMT meeting.
- Monica and Nancy look through past meeting mins to make sure decisions were captured.

8. CTUIR as New Data Coordinator in RCMT (Marianne McClure /CRITFC, Rob Hogg /CTUIR, Travis Olson /CTUIR)

- Confederated Tribes of the Umatilla Indian Reservation (CTUIR) has requested to become a data coordinator and direct data provider to the RMPC/RMIS. Henceforth CTUIR would report to the RCMT as a new Reporting Agency, and to be using new (NMT) tag prefix(es).
- CTUIR has a fully operational spring chinook hatchery and doing CWT releases and recoveries so it is a good time for them to start reporting. Purchased 3 CWT prefix numbers and the Coordinator code is 19 (bang records).
- A proposal to add new language that any new Mark Coordinators are considered members of the committee and therefore expected to be participating and attend meetings.
- Marianne will catch him up and work with him to get data reported under the 61 codes.
- Jim adding them as reporting agency with the official acronym, CTUIR and will appear on RMIS status table.

9. Special Marking Requests & Announcements for 2022, 2023: (Nancy Leonard, Ron Olson)

A. Group reviewed the proposed revisions to the Variance form: This document can be found in the [Meeting Materials](#)

- Ron summarized that in 2001 the RCMT changed the title of this form from mass marking form to variance form, asking that members use the form to report any different types or marking that would interfere with current marking methods.
- Ron reviewed the latest proposed changes to the form and indicated that it is possibly this form is not needed in the near future, but there are language changes stated in the document and it would be good to keep around for a couple years for agencies to use up their variance types of tags they still have. Even if the form is dropped an ongoing agenda item 'Announcements' should be kept as the RCMT forum is the only forum for California to share their tagging plans and updates.

- NMT mentioned they are no longer going to be selling blank wires and agency only are dropping off sales
- There is a request to change the title of the form to Request for use of non CWT
- Washington is the same. We currently have some body tagging for brood stock purposes. We anticipate we may see more body tagging needs as secondary mark types become necessary
- Carrie Cook-Tabor offered to share a sample form of transfer data to inform this discussion.
- The group supported the proposed edits to the form
- RMPC will make the changes to the form and upload to the website, which will consist of the proposed modifications in the edited document with the following changes per today's discussion:
 - Change form name to: Request for Use of Non-CWT Wire Form"
 - Keep this form until Blank Wire are in no longer used
- Change Agenda item title to be "Special Announcements"

B. Any variance requests from members?

- No requests shared at meeting
- RMPC will change title 'Special Announcements' even if the Special Marking Requests is removed from the agenda in the future this item will remain on agenda.

10. PSC Calendar Year Exploitation Rate Work Group (Rob Houtman /CDFO)

Mr. Houtman and CYER WG will present the: Recommended Transition Plan for Estimating Calendar Year Exploitation Rates for Chinook Salmon Escapement Indicator Stocks Impacted by Mark-Selective Fisheries. See: *Recommended Transition Plan for Estimating Calendar Year Exploitation Rates for Chinook Salmon Escapement Indicator Stocks Impacted by Mark-Selective Fisheries PSC Technical Report No.50*. [psc-technical-report-no-50](#).

Presentation slides are in the RCMT Meeting Material zip file.

- The CYER has been acting as group for 4 years but hoping it will fade out and hand off to the CTC.
- Single Index Tag (SIT) methods are simpler to implement. Expected Double Index Tag (DIT) methods to perform better, but SIT outperformed DIT, which led to the recommendations in the link above, including Recommendation 2.1:
 - Recommendation 2.1. Estimate CYERs using SIT 2 or SIT 4. These methods *provided estimates of CYERs with minimal bias and the highest precision over the range of simulations evaluated. An additional advantage is that implementation can occur with the existing CWT indicator stock tagging and fishery monitoring programs, although tagging and sampling rates may need to be increased in some fisheries (Anderson and Reid 2020) to match the 20% sample rate used in the simulations. Since SIT 2 and SIT 4 had similar performance in the simulation, the CYER WG proposes to select one of the two methods for application to CWT indicator stocks after discussions with the CTC regarding the relative ease of implementing each method in the cohort analysis program among other factors.*
- Still waiting to talk to CTC about which SIT they implement in operations
- The CYER will insure all of the work gets technical review (Recommendation 2.2).
- Insure methods account for imperfect Mark-selective fisheries (MSF) (pure MSF with Mark-Recognition Error (MRE) and Unmarked-Retention Error (URE), mixed bag MSF, mixed fishery strata with MSF and non-MSF regulations that can't be divided)
 - To account for these, CYER developed analytical adjustment called "Mixed Fishery Adjustment" MFA.
- Recommendation 3.1: monitor releases and retention by clip status in MSF
- Recommend 3.2 that we maintain a coastwide DIT network
- Escapement can be estimated at the hatchery and river return, and then we can look at the intensity and pattern that the stocks experience, so we have indicators for different fishery experiences of stocks.
- Recommendations directed at PSC included recommendations number 4.1, 4.2, 4.3, 4.4, 4.5 and 4.6 in PSC Technical Report No.50.
- CYER have not tackled complicated mixed bag.

11. Developing a Multi-agency Coastwide Salmon Fishery Regulations Database (Derek Dapp, Tyler Garber /WDFW)

Presentation slides are in the RCMT Meeting Material zip file.

- The prototype will be ready at the end of May 2023.
- Complexity of regulations can be tough to capture in the database and then later link to RMIS-DFO
- The concept is to have the Regulations database be used as a helping tool to RMIS. They are creating an API of the database so that it can connect to RMIS
- Capturing dates with regulations and releases will be tricky. The idea of using a HUC unit in the RMIS location codes could help.
- Link to the database diagram: <https://dbdiagram.io/d/62b49dbf69be0b672c2daaff>

12. Integrated Models for Chinook Salmon in the Ocean (Andrew Shelton /NOAA)

Presentation slides are in the RCMT Meeting Material zip file.

Dr Shelton will present: Integrated models for Chinook salmon in the ocean: developing methods for using multiple data types simultaneously (CWT, GSI, climate, fleets, effort and more)

- When integrating other data with CWT data, you become very aware about how incomplete other data sets are.
- Using various types of fleet data, from FRAM database and using CTC models, we can look at ocean distribution and how total abundance changes over time. We are interested in how to stack all these layers of information to make inference about where fish are in the ocean. By looking at only one fleet, you can get a totally different interpretation of where different stocks are in the ocean because different fleets are catching fish at different locations and times. Then the struggle is that all the various databases don't talk to each other. The process of combining the datasets revealed what we do and don't know about fish in the ocean. There are also some great models out there for salmon, but they are only CWT, or only no CWT, they are all doing different things and asking different questions.
- These models can show us how much fishing effort there was, what was the ocean temperature, who was fishing where, how many boats were out there, and can give us other information such as for example at the Coleman National Fish Hatchery we learned that most of the fish are caught as three-year old, then at age 4, 5 and 6, they are gone. Snake River has a different pattern and the recoveries are more northerly.
- We can also look at how the fish distributions change among different seasons, recoveries accounting for effort and sampling for a range of different stocks, and how the ocean temperature is changing.
- He looked at trying to figure out how to formally make CWT and GSI information talk to each other, which is important because some stocks aren't tagged. Most CWT are hatchery raised, and we want to get information on wild fish. After listening to the last two days of the meeting, tagging and recovery are hard, and it would be better to not have as much effort going into tagging or it can be more targeted. An example is the sparse tagging in CA stocks. Some CA stocks have good CWT coverage, whereas others have GSI data and the two don't overlap. This is where we can see if GSI can help. We can derive spawner data from the GSI data, and then add observations from RMIS. Then we can add more observations from GSI data, and connect these with particular catches at particular times, to obtain total catches across different stocks and get total abundance. You can look at different years and ask what is the relative distributions for these stocks in the ocean. The examples shown were Sacramento high and low abundance years. This proved to be a fussy statistical estimation problem.
- A lesson learned was that you need age data with GSI data. Also, you want to know what are the age of the different GSI identified stocks. And that is something that's not routinely collected but should be.

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

Dave provided an update on NMT and highlighted that the NMT can provide:

1. Training on wands if needed, during the sampling season
2. Information on purchased tags (e.g., who ordered the tags, and which tags were sent). Contact Geraldine

Dave reminded the group that they are a small company and encourage all to place orders early in the season, and if you can, consolidate your orders. Also, to help with purchase orders, call for a quote. Keep in mind, the

contract starts when the order is placed, not when you call for the quote. They also wanted to let everyone know they have all the materials on hand to fulfill orders, so the supply chain issue isn't a problem.

Similarly, Dave recommends that requests for sampling equipment repairs be submitted early because there is only one person working on repairs.

NMT has hired a new person for Auto fish training but they are behind on the schedule to update operations so please be patient.

Q & A:

- Will there be more workshops on auto trailers?
 - There are no current workshops but NMT is willing to provide them if there is a request. NMT also sees the value in a quick reference guide, however it hasn't been written yet.
- Marianne (CRITFIC) will follow up with CTUIR to verify they have the equipment they need for tagging this year.

REVIEWED

By Jim Longwill at 3:44 pm, Oct 24, 2023

Appendix A: Roster of Attendance

First Name	Last Name	Attendance	Affiliation	Email
Eric	Keller	In Person	ADFW	eric.keller@alaska.gov
Sara	Gilk-Baumer	Remote	ADFW	sara.gilk@alaska.gov
Andrea	Pearl	Remote	CCT	andrea.pearl@colvilletribes.com
Bryan	Barney	Remote	CFWS	Bryan.Barney@Wildlife.ca.gov
Jason	Azat	Remote	CFWS	Jason.Azat@wildlife.ca.gov
Jeff	Rodzen	CDFW	CFWS	Jeff.Rodzen@wildlife.ca.gov
Marianne	McClure	In Person	CRITFC	mccm@critfc.org
Shawn	Narum	In Person	CRITFC	nars@critfc.org
Rob	Hogg	CTUIR	CTUIR	roberthogg@ctuir.org
Travis	Olsen	Remote	CTUIR	TravisOlsen@ctuir.org
Brock	Ramshaw	Remote	DFO	Brock.Ramshaw@dfo-mpo.gc.ca
Cheryl	Lynch	Remote	DFO	Cheryl.Lynch@dfo-mpo.gc.ca
Kathryn	Fraser	Remote	DFO	Kathryn.Fraser@dfo-mpo.gc.ca
Rob	Houtman	Remote	DFO	Rob.Houtman@dfo-mpo.gc.ca
Benjamin	Cross	In Person	FWS	benjamin_cross@fws.gov
Carrie	Cook-Tabor	Remote	FWS	carrie_cook-tabor@fws.gov
Kevin	Offill	Remote	FWS	kevin_offill@fws.gov
Todd	Gilmore	Remote	FWS	todd_gilmore@fws.gov
Yvonne	Dettlaff	Remote	FWS	yvonne_dettlaff@fws.gov
Forrest	Bohlen	Remote	IDFG	forrest.bohlen@idfg.idaho.gov
Jesse	McCane	Remote	IDFG	jesse.mccane@idfg.idaho.gov
Brian	Leth	Remote	IDFG	brian.leth@idfg.idaho.gov
Dave	Knutzen	In Person	NMT	Dave.Knutzen@nmt.us
Geraldine	Vanderhaegen	In Person	<u>NMT</u>	<u>geraldine.vanderhaegen@nmt.us</u>
Joseph	Greef	Remote	<u>NMT</u>	<u>joseph.greef@nmt.us</u>
Carlos	Garza	Remote	<u>NOAA</u>	<u>carlos.garza@noaa.gov</u>
Michele	Masuda	Remote	<u>NOAA</u>	<u>Michele.Masuda@noaa.gov</u>
Ole	Shelton	Remote	<u>NOAA</u>	<u>Andrew.shelton@noaa.gov</u>
Ashley	Shaffer	In Person	<u>NWIFC</u>	<u>ashaffer@nwifc.org</u>
Ken	Phillipson	Remote	<u>NWIFC</u>	<u>kenp@nwifc.org</u>
Ron	Olsen	In Person	<u>NWIFC</u>	<u>rolson@nwifc.org</u>
Gabriel	Garza	Remote	ODFW	Gabriel.T.GARZA@odfw.oregon.gov
Joseph	Feldhaus	Remote	ODFW	Joseph.FELDHAUS@odfw.oregon.gov
Trevor	Clark	In Person	ODFW	Trevor.R.CLARK@odfw.oregon.gov
Dan	Webb	In Person	PSMFC	DWebb@psmfc.org
Monica	Diaz	In Person	PSMFC	MDiaz@psmfc.org
Nancy	Leonard	In Person	PSMFC	NLeonard@psmfc.org
Stan	Allen	In Person	PSMFC	SAllen@psmfc.org
Jim	Longwill	In Person	PSMFC	JLongwill@psmfc.org
Derek	Dapp	In Person	WDFW	Derek.Dapp@dfw.wa.gov
Gilbert	Lensegrav	Remote	WDFW	Gilbert.Lensegrav@dfw.wa.gov
Jillian	Cady	Remote	WDFW	Jillian.Cady@dfw.wa.gov
Todd	Seamons	Remote	WDFW	Todd.Seamons@dfw.wa.gov
Tyler	Garber	In Person	WDFW	Tyler.Garber@dfw.wa.gov