# 2006 MARK MEETING

#### April 26-27, 2006

# Red Lion Inn – 221 N. Lincoln, Port Angeles, WA

Special note from Jim Longwill: The production of these minutes has been shared by Ken Johnson, Amy Millikin, and I. The following conventions have been used throughout most of this document:

- Statement excerpts from the meeting that are paraphrased (i.e. not known verbatim for whatever reason) are identified in square-brackets "[..]".
- Comments that are updates since the April meeting are indicated in *italics*.
- There is an itemized list of the meeting results placed at the end of this document (see Appendix P).

# 1. General business items

# A. Welcome and introductions: (see roster, Appendix O).

- B. **2007 Meeting in Oregon: Site and date:** to be held 4/25 4/27, 2007 at Kah-nee-tah resort in Oregon; hosted by CRITFC and ODFW. The meeting is set to be hosted by California in 2008, by Alaska in 2009, and by Idaho in 2010.
- C. *The RMPC announces the retirement of two long distinguished (founding) members of the committee:* 
  - C.a. Rodney Duke, IDFG Tag Coordinator, 29 years; Rodney is succeeded by Paul Kline, new IDFG Tag Coordinator.
  - C.b. Ken Johnson, Regional Mark Coordinator, 27 years; (Please see tribute information & materials enclosed with these minutes.) Ken is succeeded by George Nandor, new RMPC Program Manager.

# 2. Status of Mark Center Operations (see Appendix A)

A. **RMIS web pages** (Dan Webb, PSMFC)

Dan illustrated the new RMPC web site and its key features including:

- Bread crumbs feature to help track what page is current throughout the site
- Navigation bar and other aspects of navigating the web site
- Google search box enabling a quick search of the complete site by topic keyword
- PSMFC icon as a link to the parent PSMFC organization
- The new layout for access to the RMIS databases

Dan also mentioned that changes will be forthcoming to other parts of the website as well.. such as replacing outdated content regarding the CWT program, etc.

# B. Status of CWT data files (Dan Webb, PSMFC)

Dan handed out charts with Release data by agency and reviewed the status of all datasets by 1) data type, and 2) reporting agency, proceeding as follows:

Location Codes: All datasets are current to date.

**Release Data**: Status was shown with graphs by agency showing counts of the largest submission per agency since January of this year and the total counts per agency in the database.

Agencies with some outstanding issues were identified as follows:

- ADFG: currently stands at 10,006 records; status OK
- CDFO: currently stands at 26,059 records; the question was raised as to when CDFO intends to convert their datasets from format V3.2 to V4.0. Kathy indicated that by the summer (2006) was the intended goal.
- CDFG: currently stands at 3,407 records; Per Dan's question, CDFG is currently using the. "RDE" application and Dan indicated that the RMPC will work with Robert Kano later to facilitate conversion of CDFG data from version 3.2 to 4.0.
- CRFC: currently stands at 256 records; clarification was sought as to the status of 2004 and 2005 data as well as who is now submitting their data.
- USFWS: currently stands at 5,982 records; status OK
- IDFG: currently stands at 1,881 records; 68 records updated recently (Apr 21<sup>st</sup>); question asked about progress of outstanding release data; Chris Harrington explained that 2004 releases are now submitted. Also, someone is being hired to work on their anadromous hatchery program and CWT data reporting so there should be a great deal of progress on this over the next 2 years.
- NWIFC: currently stands at 6,897 records; status OK
- NMFS: currently stands at 2,055 records; Adrian Celewycz /NMFS-AK noted that this has been a sparse year for NMFS-AK releases; status OK
- ODFW: currently stands at 10,286 records; there are some; Christine Mallette said that John Leppink is working on finishing 2005 data. It should be in by August;
- WDFW: <current record count not given>; status OK

**Recovery Data:** Status chart was shown for all agencies and years. Agencies with outstanding data issues were discussed as follows:

- USFWS: question asked about timing of reporting; it was indicated that delays are normal this year. They are awaiting hatchery rack returns.
- IDFG: questions re status of Run Years 2000, and 2005; Chris Harrington said that they are still going through snouts and expect to have it done soon.
- NWIFC: dataset was updated Mar 2<sup>nd</sup>; question about timing of reporting; Ron Olson indicated that the timing is normal because this is all escapement data.

Catch/Sample Data: Status chart was shown for all agencies and years. Agencies with

outstanding data issues were discussed.

- CDFO: Re-visit the 1978 dataset per minor errors
- USFWS: The 1997 C/S dataset remains unvalidated and should be re-submitted
- IDFG: C/S data for Idaho will entered into electronic form and prepared for reporting now that there is a new person hired to work on CWT data issues (per discussion above).

# Catch&Effort Data:

- CDFG: is working on C&E data and seeking to submit it at a later date
- WDFW: remains the only agency to have submitted all their Catch & Effort datasets.

Norma Sands /NMFS and Kathy Fraser /CDFO asked about how to better track what datasets are missing and why—improving the means of tracking data status. In particular it was asked whether the Descriptions file and systems used to maintain it at the RMPC can be improved. Perhaps RMPC staff could insert a "standard" description during dataset processing in the (frequent) cases where one is not provided by the reporting agency. Then perhaps the agency could as well be provided a means to later edit the "standard" description and enhance it.

The region wide CWT Expert Panel (see agenda item #19 and Appendix "L") has over the last year been identifying various data integrity problems within the CWT database. One problem is that over many years historical data can be rendered obsolete and fail to meet changing validation requirements unless it is re-visited and re-submitted by the agency. Other problems might include data values being out of a reasonably expected range.

Dan discussed the problem of identifying these "logical" errors in the data which are not as readily identifiable as "format" errors – which are caught at the time of validation. There can be values for total caught in Catch/Sample that don't match up well with the counts and estimations in Recoveries. Also, when Location Code records are replaced with new ones, there can be problems maintaining a unique Name for the given Location Type. The RMPC now has internal data integrity reports which run periodically (e.g. monthly) and can identify some logical errors—such as Recovery Length value greater than 1600mm; and a single (isolated) instance of a Related Group Id, (as improperly identified DIT groups), etc. As the more serious errors are found, the Reporting Agencies are asked to re-submit the dataset. More data integrity reports are needed as these problems are identified.

Dan and Ken emphasized that there is an increasing desire to improve the geo-referencing aspects of Location Code datasets—in particular-- to provide Latitude and Longitude values for as many records as possible. Kathy Fraser /CDFO noted that at present these values are not required in the database, and discussion of this issue is more relevant to the PSC Data Standards Working Group rather than the Mark Committee. This was agreed and the issue deferred to the DSWG.

# C. Introduction of new RMIS Analysis Reporting system (Jim Longwill, PSMFC)

The "RMIS Analysis Reporting" system (originally based on the NWIFC CRAS data retrieval application) was first introduced last year during development and testing. The application is now largely completed and has been integrated into the new RMPC website (www.rmpc.org). Note that an e-mail based login is now required for the RMIS reporting systems; furthermore, the former

querying systems known as "Coded-Wire-Tag Database 4.0", and "Catch&Effort Database 4.0" have been renamed "RMIS Standard Reporting" and "RMIS Catch&Effort Reporting" respectively.

Jim outlined the basic procedures for getting started using the new login and RMIS Analysis application. Items covered included:

- how to log in and log out
- how to build a *criteria object*, then generate a *tag list* from the criteria object
- how to choose a *report* to run from the *tag list*
- how to geographically look up release and recovery sites using Google Maps for a given tag code
- definition of the "management-fishery" and how it is mapped to recovery data
- current fishery mapping strategy in use: CRAS (identified as CRAS1)
- Discussion of new management-fishery mapping strategies under consideration.. 1<sup>st</sup> for PSC Coho Tech Committee use, then another for PSC Chinook Tech Committee use

D. Demo of new RMIS Analysis Reporting system (Dietrich Schmitt, NWIFC, see Appendix B)

Dietrich illustrated RMIS Analysis in further detail and demonstrated how to run reports based on either CWT criteria, or management-fishery criteria using the CRAS1 mapping scheme.

# Following the demonstration, there was a discussion of RMIS coding schemes and how they were developed and used for coastwide data reporting...

- {Marianne McClure /CRITFC} commented on the utility of the PSC Region, PSC Basin coding system, indicating that they were able to calculate hatchery contribution rates by subbasin. There was also the [question of current completeness] and usability of Latitude/Longitude (lat/long) codes.
- {Kathy Fraser /CDFO} pointed out that there [can be] problems with the interpretation and assignment of lat/long codes to [many types of] Location Codes such as catch area "WCVI", etc. Regarding the region/basin codes she said that the codes [were created more for] U.S. agencies and to make them [more pertinent] internationally would require [re-visiting them] by defining regions, basins that make more sense for DFO/Canada and thus changing the tables. This could be done, but on the scale of priorities it is not very high at this time. Also, these codes should come from the agencies and it would be a concern if they were being created elsewhere.
- {Ken Johnson, Jim Longwill /PSMFC} mentioned that the region/basin coding system is to date only defined and specified for release data, not recoveries. Ken and Jim emphasized that this coding system was developed many years ago in consultation with all agencies involved and that maps and tables were obtained from CDFO among other agencies. Jim explained some of the relationships between the basins and higher levels of region and domain and how they were assembled into the composite scheme. Also, every effort was made to utilize existing coding schemes where similarly coded regions or basins were in place. Ken discussed the utility of the region/basin coding for querying and data extraction– particularly for data users that are external to the data providing agency and are seeking a geographic perspective on the data rather than simply a tag code based perspective.

- {Ken} also discussed the utility of the management-fishery strategy in RMIS Analysis and its links to the PSC Format recovery location codes. He talked about the inspiration behind it in reference to NWIFC and Dietrich's presentation.
- {Kathy} emphasized the importance of keeping the mappings up to date and of having a better illustration of [how the mapping strategy works available] for review. It is [important to have] transparency for this mapping scheme and to be able to download the mapping [tables] and refer to it externally. This was agreed that the RMPC has the need to improve [the application and associated documentation] in this regard.
- {Ron Olson /NWIFC} said that the application was motivated originally as a tool for hatchery managers and fishery managers to [greatly simplify] their analyses. The CRAS-based mapping therefore does have a Washington bias in that it has a more detailed mapping for Washington locations and fisheries. It is anticipated that other agencies will benefit from other mappings that focus on a broader coastwide mapping and/or schemes that focus on other locales.

# 3. Status of 2007 funding for Mark Center (Ken Johnson, PSMFC)

Ken mentioned that the RMPC is having problems with funding—regarding in particular the US-Canada funds (\$250,000) coming through US Dept. Interior /USFWS which comprise roughly half of the annual RMPC budget. This funding issue has been referred from the federal level to the regional level of USFWS (Region 1). Last year, letters were sent to the USFWS from some PSMFC Commissioners and from management in the US section of US-Canada structure. The letters focused on endorsing and supporting the regional data management work and the funding issue. This has resulted in a positive response for funding through the end of 2006; however, the status of 2007 funding remains unknown.

# 4. Need to update "Regional Coordination and Agreements on Marking and Tagging Pacific Coast Salmonids" (see Appendix C /hardcopy only)

David Zajac was reviewing the 'Regional Agreements' (RA) for blank tag references and realized that section III, subsection 1 "*Adipose Fin Mark as an Indicator of a CWT*" may need to be updated to reflect the mass marking law.

The process for "amendments" to the Charter requires a proposed change to be considered by the Mark Committee at the annual meeting. Ideally this agenda item would have been circulated to the Committee several weeks ago, but the changes should be relatively straight forward to do during the meeting.

As an alternative solution, David suggested consideration of just adding a footnote to the referenced section or to add a new item (e). Language could say something like:

'In 2003, Federal Legislation was enacted that requires the U.S. Fish and Wildlife Service to "...implement a system of mass marking of salmonid stocks, identified for harvest, that are released from federally operated or federally financed hatcheries including but not limited to fish releases of Coho, Chinook, and steelhead species." In this context, mass mark means adipose clip.'

# Discussion:

This and other sections of the RA were discussed as to their relevance and wording. Some points discussed:

- {David Zajac /USFWS}: Item 5 (see below) might be worth adding to this document in addition to the language changes mentioned above.
- {Robert Bayley /NMFS} § III.1.b is no longer accurate and should be deleted.
- {Christine Mallette /ODFW}: alternative: Change/edit § III.1.b w/ a footnote to reflect different dated versions of it. Hence some sections would be labeled "no longer required.." etc.
- {Marianne}: This is no longer decided by us. It is a political process.
- {Kathy}: Many of these points have been addressed in § II.1.a as well. Perhaps there could be a "snapshot" description for each year described.
- {Robert}: Re-title § III.2.
- {Kathy, Bill Johnson /ADFG}: It is questionable how useful is the table in § III.2.b.
- {Ron}: suggestion: Perhaps wait and visit this document after the "CWT Working Group" completes their recommendations.
- {Ken}: Form a subcommittee to address this further.

<u>Result</u>: It was decided to form a subcommittee to address this document and indeed wait until after the CWT Working Group recommendations have come out (later this year). The subcommittee will consist of: Robert Bayley /NMFS, Mark Kimbel /WDFW, Ken /PSMFC with additional participation by Marianne McClure /CRITFC. This item will thus be revisited at the 2007 meeting.

# 5. Proposal to eliminate LV as flag for CWT marked steelhead in the Columbia Basin (see

Appendix D /hardcopy only)

- How extensive is the use of the LV as a flag?
- Idaho reportedly marks some B-run steelhead with a LV+CWT
- How is current sampling done (visual or electronic)?

\*\*Note: David Zajac and Christine Mallette both called to report that this issue had been resolved during the 2001 Mark Meeting (see minutes below). *Interestingly, the perception continues to exist that the LV is a required flag for CWT marked steelhead.* 

# Minutes: 2001 Mark Meeting (Agenda #7, page 10-11) Adipose clip as flag for CWT marked steelhead in the Columbia Basin

Geraldine Vander Haegen (WDFW) noted to Rodney Duke (IDFG) that there was growing interest in switching from the use of the LV as the flag for CWT marked steelhead in the Columbia Basin to electronic detection. Rod Duke replied that Idaho is already using electronic detection in most cases as the LV mark is not a reliable mark because of regeneration. As such, Idaho wanted to give up the LV mark as the CWT flag in the Columbia River.

He felt that the electronic wands were stable and reliable, and that he didn't feel that there was any difference between species in terms of detection. He further stressed that problems in detection were typically not an issue of equipment but rather one of adequate training.

Christine Mallette concurred with Rodney and noted that Oregon was supportive of the switch to electronic sampling for tagged steelhead. Geraldine Vander Haegen also reported that Washington was willing to do so. The Mark Committee endorsed the recommendation, with the stipulation that it would be part of the new Regional Agreements (see agenda 13). Agenda # 13 (page 21)

<u>Result:</u> After some discussion, it was agreed that the LV fin mark on Columbia Basin steelhead no longer requires a CWT. Agencies are encouraged to use electronic tag detection.

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This new agreement desequestering the LV mark as a flag for CWT marked steelhead in the Columbia Basin is not present in the latest version of the Regional Agreements and thus needs to be added!

# Discussion:

Ken started by relaying questions from Scott Marshall /USFWS. Scott was asking: 1) Is the LV still being used as an identifier for CWT in the Columbia basin (i.e. still required)?; 2) why not convert to wanding.. Incl. for Steelhead? The consensus (since 2001 per notes above) is that an agency is not required to use the LV mark, but is free to do so if they wish. Ken relayed from Joe Hymer /WDFW that in some circumstances they in fact do sub-sampling (visual) for the LV in the Columbia basin. They believe it represents a CWT Steelhead. Comments followed:

- {Rodney Duke /IDFG} wonders.. Are they still relying on LV clip to determine CWT in lower Columbia, zone-6 fisheries, Deschutes R Steelhead, etc. This is [an important issue] for Idaho and NOAA Fisheries incl. at Lower Granite complex, Dworshak. They are looking for assurances that lower-river sampling is being done properly. They still LV clip all B-Sthd. They do not LV clip smaller (A run) sized fish. MATS cannot do LV clipping [so cannot be automated, etc.] WA and OR are doing all the sampling of these [LV clipped Sthd].
- {Christine} cannot say regarding Zone-6 sport fishery; however, Steelhead fishery sampling programs in the main stem Columbia River and some Oregon tributaries are limited in scope and should be 100% e-sampled since 2002. Some LV clips are used for tributary fisheries management but are not required to have CWT and may not have.

- {Mark Kimbel /WDFW}: They are not doing e-sampling of these fish in Columbia R. All is visual. Example: Lyons Ferry has many combinations of marks, [so warrants e-sampling.]
- {Rodney}: I thought that this was settled in 2001. We switched to [this] assuming the fish would be e-sampled...
- {Marianne}: At Hanford Reach... Sthd are sampled visually... If they need to start wanding another species it may slow them down on reaching their CWT goals. In the Lewis R net pen program the LV means no CWT.
- {Mark}: The LV has lost the connection to the CWT, so e-sampling is now required. [Mark] will talk w/ Joe Hymer regarding [sampling w/this and Lewis R].
- {Ron O}: The other relevant issue is fish survival. There is the possibility of decreased survival from the LV clip.
- {Christine} and Mark could write a memorandum to program managers including to Paul Kline /IDFG...

<u>Result</u>: Christine and Mark will produce a joint memorandum to program managers including the Oregon sampling program and Paul Kline regarding the use of LV clipping and desequestering the LV clip and is to contain a more thorough explanation of the issue than was addressed in the 2001 minutes.

# 6. Update requested on status of reporting hatchery production by all reporting agencies

- Which species and how far back does reporting go?
- All releases (i.e. all tagged, associated, unassociated)?

The question was asked: What Release data are yet un-reported to the Mark Center? Agencies were requested to indicate any missing Release datasets—including any untagged/unassociated release datasets. Responses were:

- {ADFG}: All datasets reported to date.
- {NMFS-AK}: There are some "research" data records outstanding, but very few.
- {MIC}: All datasets reported to date (since 1978).
- {CDFO}: All datasets reported to date.
- {NWIFC}: All datasets reported to date.
- {USFWS}: All datasets reported to date.
- {ODFW}: Most datasets confirmed reported to date. Note that there is some Sockeye rearing for IDFG being done at ODFW facilities and hence, ODFW CWT codes are used with IDFG releases. Also, there are Oregon reared fall run Chinook released at tribal acclimation sites in Washington and direct releases at Hell's Canyon Dam. These data records may need to be visited.
- {IDFG}: There are 3 categories not yet reported: 1) Sockeye untagged data, to arrive soon; 2) some untagged fish from the 80s to mid-90s including eyed-egg releases (egg box) such as about 1 million Steelhead from Shoshone-Bannock tribe; 3) some additional non-migrating Steelhead.
- {CRITFC}: There are releases from Nez Perce Tribe, Cherry Lane that have questionable status and warrant checking into.
- {CDFG}: Tagged data is in to date; however, the untagged datasets from coastal tribs, Central Valley [, and other untagged ] remain outstanding. These data will be visited soon.

# 7. Update on mass marking, selective fisheries and electronic sampling (see Appendices D, E, F

#### /hardcopy only)

- Alaska (ADFG, NMFS, MIC):
  - {ADFG}: There is some experimental Sitka Troll sampling taking place, but no other mass marking.
  - {MIC}: No mass marking, selective fisheries, electronic sampling to report.
  - {NMFS-AK}: Similarly, no major activity to report. Ad-clip is in use; high seas samp. not wanded; could be up to 100 observations.
- Canada (CDFO)
  - Coho- mass marking since 1996; no change in activity from last year; numbers are at 7-8 million.
  - Chinook- no mass marking
  - Sockeye- 55,000 with cwt and ad clip, <sup>1</sup>/<sub>2</sub> million with only ad clip planned
  - Selective fisheries: no change from last year
  - Fraser, high seas.. all heads are taken
  - North coast.. not taking DIT heads; Freezer Troll.. all heads taken
  - South coast.. heads are shipped to WDFW; the policy (for 2006) is currently under review
- Washington (WDFW, Tribes, USFWS) \*\*\*see Handout: Appendix D
  - Ongoing- mass marking nearly all Coho and steelhead
  - Chinook- marking Puget Sound Chinook and Columbia River Spring Chinook
    - Willapa Bay: 11.8 million Fall Chinook
    - Fall Chinook/Mitchell Act: 3 facilities this year, seeking to continue next year
  - Selective fisheries: not much change from last year
  - Electronic Sampling: Fall Chinook in Lower Columbia is just starting; WA coast is not yet starting

#### -. NWIFC

- {Ron O}: Mass marking essentially all Coho and production Chinook
- Presently not conducting mark-selective fisheries
- All sampling is electronic

#### -. USFWS

- Mass marking is same as last year, at 100% Chinook, Steelhead, Coho
- -. Oregon (ODFW) \*\*\*see Handout & footnotes: Appendix E
  - Production same as last year
  - Electronic sampling is 100% for spring run Chinook and Coho salmon.
- Idaho (IDFG, Tribes, USFWS) \*\*\*see Handout: Appendix F
  - Everything is mass marked
  - Some tribal Steelhead not mass marked
- California (CDFG)
  - Mass marked only Steelhead, sampling is visual
  - Marked 19% Chinook in 2005 (30% in '04, 26% in '03, 17% in '02, 12% in '01)

# 8. Marking variance requests for adipose-only marking studies

- Snake River stocks (IDFG / USFWS update)
  - IDFG: All are marked in Idaho & maintaining status quo; All fish are clipped by mandate; variance for Oxbow (Idaho Power Cooperation {IPC} facility) not requested, didn't submit; ID is now working on Pahsimeroi facility.
  - {Christine}: OR is rearing 750,000 fall run Chinook at Umatilla Fish Hatchery this year to supplement IPC funded production. Similar agency cooperation is most likely to continue until annual production needs are met by the Oxbow and/or Pahsimeroi facilities.
- Others? No formal requests submitted

# 9. Marking requests involving use of blank wire (see Appendix G /hardcopy only)

• ODFW: Blank wire \*\*\*see Handout

ODFW is requesting agency only tags (09BLANK); ongoing for a long time; 450,000 fall run Chinook; program established in 1994, and reduced in 2001. Note research objectives, etc. [Projects contingent on funding. There are issues with acclimating fish. Information expected within about 2 months.] Consists of 2 tag codes to be used w/each 25,000 released Ad+CWT (no DITs).

Result: OK, approved.

• Others? WDFW/ NWIFC- minor use, agency-only wire used for Steelhead

# Further Discussion:

- NMT- noted that there is very little agency-only wire sold now.
- {Ken}: NMT no longer sells any completely blank wire. Is use of the agency-only wire going away or not?
- {Kathy, Doug Herriott/CDFO}: CDFO has some next year.. Cultus Lk, Sakinaw 25,000 each. They are not planning on recoveries; it involves monitoring of endangered stocks; project sought to control costs. It is not expected they will be sampled. Kathy noted that the impact of CWT-only releases is significant and should be of concern to releasing agencies.
- {Ron O}: With regards to Chinook and DIT groups, this is still a live issue. If agencies don't have electronic sampling, people need to understand that these programs are compromised.. This is being looked at by PSC. In regards to blank wire, if another agency's sampling is impacted, another variance request is required.
- {Ken}: It will be warranted to update the Regional Agreements regarding this—to better document it.

# 10. Significant changes in agency tagging levels for 2006

# (in terms of impacting sampling programs of other agencies)

• This will include a discussion of CDFG's move to a constant fractional marking program

#### Discussion/Result:

- Question.. What is issue when stocks go into Canadian waters?
- {Kathy}: Fisheries sampled by CDFO..[ There is not an expectation they will be seeing them.] Recognize that there is an impact to the Releasing agency. Is there a requirement to discuss [/document] this when CWT-only is in use? (CWT w/ no mark)? Is that a variance?
- {Marianne}: There was never a requirement [before]. There is the [default] assumption of visual sampling being done.
- {Rodney}: So.. If CDFO is doing no sampling on the high seas.. Is it OK? [What is the impact?]
- {Ron O}: This issue is ongoing, still being addressed.
- {Kathy}: Consider to put a warning notice in section of [documents, Regional Agreements,] or a link to other reference, etc.
- CDFG's fractional marking program:

# Result:

Tagging levels for 2006 will remain stable. They only major change in tagging levels is for CDFG. Oregon will be the only other [agency] significantly impacted. They (CDFG) have purchased 4 tagging trailers from NMT to conduct Constant Fractional Marking (through PSMFC). Beginning in 2007 they will CWT and Ad-clip 25% of the Central Valley Fall-run Chinook (approx. 7 million fish beyond the usual 2-3 million for research marking purposes). Number will increase to 10 million the following year. 3 million of the fish will be from Coleman National Fish Hatchery.

# 11. Demo of ODFW's electronic data collection with a Pocket PC (Mike Twede) (see

Appendix H)

# Demonstration:

The program allows for electronic data collection onto a Dell Axiom Pocket PC.° This program is aimed at streamlining data analyses and could potentially be linked to the ODFW CWT and Hatchery Management Information System data bases. In a nutshell, all fish marking project information from mark type and species to°payroll information of the workers is collected°in electronic format and can be analyzed within days from project start.

Christine also noted that they are keeping track of marks and their respective quality (various categories). This information is worth its weight in gold to managers! Mike Twede notes some problems still exist with correcting errors, and their goal is to eventually include direct upload capabilities.

# 12. Recent improvements to ADFG data acquisition processes (Bill Johnson, see Appendix I)

# Demonstration:

ADFG has recently developed "paperless" CWT field sampling tools based in handheld computing. They are being rolled out for commercial sampling this season. A brief overview of how they have applied the technology was presented.

The approach was based on how samplers would use it. They received over 200 "business rules" from programs. Bill made an online tutorial for his handheld unit.

A further demonstration can be seen at: http://www.taglab.org/CWT/demo .

# 13. Is there a time limit on applying binary tags that some agencies still have in stock?

• Some agencies still have substantial supplies of binary CWT wire in stock and want to use the wire. Is this going to pose a problem for tag reading labs? If so, when will be the cut-off date?

# Discussion:

- ODFW: We still use binary wire, mostly because of odd groups sizes that were purchased in the past, but then not used for various reasons. Extended storage may become an issue. There would be additional concern if a deadline [were imposed]. ODFW still has approximately 2 million of these tags.
- FWS: has 3.5 million remaining
- WDFW: has 200,000 remaining
- {Geraldine Vander Hagen, Ray Glaze /NMT}: Suggestion: pre-1993 wire should not be used on index groups. They won't use cut-off dates.

# Result:

Consensus of the group was that it was OK to keep using the tags, and there would be no cut-off date for binary wire.

# 14. Proposal to assign new agency codes on CWT wire to most release agencies

- The value of the agency code on current CWT tags is questionable in many cases now because of extensive sharing of a given agency's code with other release agencies. This in turn creates confusion for data users trying to use the agency code in any meaning way. It also complicates matters for Tag Recovery Labs trying to return recovered tags to the correct tag coordinator.
- As a case in point, agency code 21 has traditional been used by NWIFC for tribal releases in coastal Washington and Puget Sound. However, the agency code has been also used by the Yakama Tribe with CRITFC as the reporting agency. More recently, tag codes 210490 and 210491 were reported with CRITFC as both the tagging agency and the reporting agency.

- A similar story exists for agency codes '61' and '62' which has long been shared by multiple releasing agencies. Others could be cited as well.
- With the move to decimal tags, the expanded number of possible codes increased from 63 to 99. In addition, there no longer are 'poor' codes because of decoding problems. It is also evident that there are other potential coding options to further expand the coding possibilities. Hence, it is proposed that NMT assign unique agency code to most tagging agencies that have maintained a long term tagging program.

# Discussion:

- {Ken}: Explained problem further, mentioned Yakama instance. they had mistakenly gotten the incorrect wire. What can be done?
- {Ron Josephson /ADFG}: Perhaps get codes to RMPC/RMIS to distribute to Release Agencies? [Could the database be used to track this?]
- {Mark}: Further instance of it: Some Bonneville fish from Ringgold facility went out. They were [/could have been] identified as NWIFC fish.
- {Christine}: There is confusion as to who should receive the tag.
- {Kathy, Mark, Dan}: discussed whether the [existing] Tag Coordinator field could [be used to] resolve this.
- {Adrian Celewycz /NMFS-AK}: notes the problem of intercepting juvenile releases not yet reported. There is a problem finding out who released it.
- {Ron O}: This [is not necessarily a problem].
- {Robert}: Should not the tag coordinator [always] know how the wire was allocated?
- {Ray}: mentions visiting the NMT order entry system to make sure the tag coordinator is notified of who is getting what wire, etc.
- {Ken} would like to see documentation made of what agency codes go with which tag coordinators.

# Result:

-- 1) There needs to be table provided on RMIS which shows which agency codes correspond to which coordinators. A priority will be getting codes distributed to RL agencies.

-- 2) Another 'Note' will be placed in the Tag Code field itself in the database specification document to explain this.

# 15. Surprising number of unreadable tags seen by ODFW Tag Lab

In 2003, ODFW's Tag Lab found 256 unreadable tags out of 48,932 tags processed.
(46 were in Chinook; 196 in Coho; 13 in steelhead)

- Final numbers aren't available for 2004 but the pattern is persisting.

- The problem is believed to be primarily caused by the tag codes being cut too short. This could happen if length and a half wire is cut as standard length wire.

#### **Discussion**:

- Drive rollers cut the tags increasingly shorter over use, causing tags to become too short and unreadable
- {Rodney}: uses drive rollers for up to 250,000 tags (in the MATS trailers) and watches for the developing groove. The drive rollers can wear and start cutting shorter lengths even when still working OK otherwise. The rollers are changed on a regular basis to prevent cutting short.
- {Christine}: pulls her rollers after 200,000, and sets the Mark IV at tag length of 1.5 as a default, in case operators forget to change. There are varying reasons for unreadability. Ways to deal with this: 1) Set Mark IV to default "length + <sup>1</sup>/<sub>2</sub>" to assure a read; 2) If wire is erroneously cut too short, the [visit] tag placement checks should reveal the incorrect tag length to the operator. 3) Supplement the tag group with a second tag group of properly cut wire.
- {Norma Jean Sands /NMFS}: said that random tags are not as big of a problem as having a lot on 1 tag code. If the tag gets cut too short, then identify it in the comments with a warning.
- {Robert}: noted there were two issues: 1) identifying the problem and 2) the statistical effect of the problem.
- Question: can unraveled wire impact readability? Rodney- yes, it can wear and scrape against other areas of wire
- {Joe Duran /CDFG}: is there a standard set for "unreadable"? Answer: No
- {Norma}: if the problem is random, then it's probably not a big deal; but if the problem is with a given machine, this likely leads to reduced recoveries for that particular code and thus impacts the expansion.
- {Ron O}: it should be important for the Recovery Agency to contact the Release Agency to ask them to put a 'W' in the record to warn them. Ken and Jim emphasized this as well.
- {Kathy}: there needs to be some trigger in place so that someone fixes the RL records
- {Ron J}: pointed out that it's hard to do that if you can't ID the tag

# Result:

Instances of this [or suspected instances] should be identified in the Study Integrity field with "W" /warning, and a comment – as space permits -- would be recommended as well.

# 16. CWT report from Alaska (Ron Josephson, see Appendix J)

- Ron will present a few slides on ADFG's sampling program, the number of fish sampled without CWTs, and results of their test wanding efforts.

# Presentation:

The wands are very good. Missed tags fell due to human error. Samplers need to use several passes plus have a positive attitude (they need to expect to find a tag!).

# **17. High Seas Sampling Program** (see Appendix K)

# A. Results for 2004 and 2005 (Adrian Celewycz, NMFS)

Adrian Celewycz (NMFS-Alaska) presented his annual review of the high seas sampling program for CWT-marked fish. His complete report is provided in Appendix K.

# B. Status of reporting high-seas groundfish tag recoveries off CA/OR/WA

Ken Johnson reported that the long awaited high seas groundfish tag recoveries off California, Oregon and Washington were literally within a week of being reported to the Mark Center in Format 4.0. Thanks to the focused efforts of Jon Cusick (NMFS Northwest Fisheries Science Center, Seattle), John Leppink (ODFW), and Adrian Celewycz (NMFS-Auke Bay Lab), a total of 201 recoveries taken in the high seas groundfish fisheries in 2002 and 2003 will soon be available with those already being reported through NMFS's Auke Bay Lab in Juneau, Alaska.

Arrangements have also been worked out for reporting subsequent recoveries. In order to maintain a single reporting agency (i.e. NMFS), all CA/OR/ WA high seas recovery data will be first forwarded to Adrian Celewycz. He will then create new location codes as required given he serves as custodian for NMFS's high seas location codes. Following that, he will merge the CA/OR/WA recoveries with those reported by the Auke Bay, Alaska Lab and then submit the combined data set to the Mark Center for processing.

# 18. What constitutes a valid DIT group of releases?

- The data exchange specs don't provide much guidance in terms of what is required for valid DIT (Double Index Tagging) release groups. Common sense, of course, would lead to the requirement that both marked (AD+CWT) and unmarked groups (CWT only) in a DIT release should be treated identically (i.e., same brood year, same release sites, comparable numbers, etc).° But that hasn't been the case for quite a few DIT groups as recently discovered by Ron Josephson (ADFG).

# Discussion:

- {Marianna}: explained two main issues that are relevant to this problem..
  - Reporting Issues-- There's no checking on this when it goes into RMIS
    - Quality Issues-- There are tagged releases used as DITs but are not really valid (i.e. illogical use of "Related Group Id" label). People are using less-than-optimal tag groups for their studies. [Often] there is 'clipped' but no 'unclipped' release. It comes down to the tagging agency to set it up (i.e. whomever within each agency that organizes the tagging). [Furthermore, some actual] DIT groups are not identified as DIT groups.
- {Marianna}: Related Group Id should be:
  - One or more were clipped and are eligible for harvest
  - One or more were unclipped and ineligible for harvest
- {Kathy}: There is no document governing this process and outlining what to do, example.. if there are 2 different release groups, 2 different tag codes, 2 paired experiments. Sometimes the [same] tag code is used incorrectly. Who knows this process intuitively. Doesn't it need to be documented?

- {Christine}: There are issues with how 'identified' is defined. Example scenario: in the Willamette, 50K fish are tagged and clipped, 50K tagged only, but there could be more than 2 tag codes involved.
- {Ken}: This is also a Data Sharing issue. The RMPC now has in place some periodic "data integrity" checks which are intended to address this problem along with other data integrity issues.

#### Result:

The RMPC will add clarification and more explanatory notes to the text of the PSC Data Exchange specification document regarding usage of Related Group Id [and Related Group Type] fields.

# **19. Recommendations of the "Report of the Expert Panel on the Future of the Coded Wire Tag Recovery Program for Pacific Salmon"** (Marianna Alexandersdottir, NWIFC, see Appendix L)

See the PSC overview letter and CWT Expert Panel Recommendations in Appendix L.

In 2004, an 'Expert Panel' of eight scientists was convened by PSC to review the existing CWT system, and provide recommendations for immediate improvements as well as evaluate future marking technologies. These eight experts included four who were well versed in CWT usage, and four others who were experts in genetics, statistical design, and population dynamics.

Key Findings:

- The CWT system still indispensable as primary fishery and stock assessment tool for at least the next 5-10 years.
- No alternative technology currently exists that is capable of providing the data necessary for cohort reconstruction and other analyses necessary to implement PST and other domestic harvest management needs.
- Mass Marking (MM) and Mark Selective Fisheries (MSF) together pose serious threats to the integrity of the CWT recovery data system. The basic problem is that adipose clipped fish are no longer suitable indicators for recovery patterns of unmarked natural stocks in MSFs.

#### Recommendations:

The Expert Panel provided 15 major recommendations for evaluation by fishery managers and policy makers. The first four recommendations (R1-R4) specifically provide remedial measures to correct current deficiencies in the CWT system:

- R-1) Focus on improvements in Quality Control/ Quality Assurance of data
- R-2) Establish statistical guidelines for tag release groups and sampling rates
- R-3) Develop methods to identify cost considerations to meet statistical criteria to improve release group sizes and sampling coverage of all fisheries, hatcheries and spawning grounds
- R-4) Undertake comprehensive survey/statistical analysis of all relevant CWT published and unpublished data.

During the February 2006 meeting of the PSC Commissioners, Ken Johnson presented a PSMFC offer to sponsor a 2-3 day symposium on CWT issues, with the primary intent of focusing on correcting the deficiencies of the CWT system (i.e. Recommendations 1-4). Given PSMFC's neutral role and the Mark Center's extensive experience with the CWT system since 1977, Ken stated that PSMFC would be in a favorable position to facilitate such a symposium.

The PSMFC proposal was discussed and but ended up not being adopted as an action plan. Rather, the PSC elected to establish an ad-hoc PSC CWT Work Group of 8-10 members to address the issues raised by the Expert Panel. Immediate plans call for addressing the first four recommendations, with initial responses due back to the PSC

Commissioners by August 1, 2006. Work will be accomplished via several scheduled conference calls and at least 3-4 committee meetings in order to meet the August 1, 2006 deadline.

# 20. Report on PSC Selective Fisheries Evaluation Committee (SFEC) activities

- Regional Coordination Working Group (Ron Olson, NWIFC, see Appendix M1)
- Analytical Working Group (Marianna Alexandersdottir)

#### Discussion:

Ron O: SFEC-RCWG is tasked with producing an annual report documenting mass marking, double- index tagging, sampling methods, and Mark Selective Fisheries (MSFs) activities. There have been problems with documenting the activities, but there is an on going effort to work with agencies to get the relevant information. The RCWG is also tasked with reviewing MM proposals. That report should be out soon. All SFEC reports are available on the PSC website.

We no longer have a synchronized interagency system for tagging and sampling. We also don't have a good method for recording the results of the MSFs. There is no consensus on a technical solution. The PSC has been asked to look at policies in an effort to resolve this situation. Some action has been proceeding on that. Note the "Expert Panel" and the CWT Working Group, etc.

The CWT system does, however, remains functional for those studies where fish are being ad-clipped. They will get sampled & processed. The system remains essential for management purposes.

#### - Special assignment: Review of alternative marks for mass marking (Ron Olson, see Appendix M2)

*RMPC* note as of September, 2006: since the 2006 Mark Meeting, this report has been published in final form. See Appendix M2. The report is also available at: http://www.psc.org/publications\_tech\_techcommitteereport.htm#SFEC

#### Discussion:

Ron O: There have been past reviews of ventral-clipping studies. It has not been viewed as a good marking alternative due to problems with fin regeneration and variable impacts on survival. For this assignment we conduced a literature review for studies regarding marking techniques on anadromous salmonids. Agencies were also consulted for "grey" literature and unpublished results. We also contacted companies involved with fish marking products, including NMT, to obtain the latest information on alternative marking technologies.

# 21. Update on PSC Data Sharing Committee (Norma Sands, U.S.Co-chair, NMFS)

- WDFW proposal to unroll tag code release records
- Data quality control/ quality assurance issues
- Status of estimated mortalities of unmarked DITs (EMUDs)

#### Discussion

- {Norma}: reported on Data Sharing meeting held along with PSC annual meeting [(Feb, 2006)]
  - unrolled releases: concluded.. no demand for this type of data, ° rejected at this time

- pseudo-recoveries/ "EMUD" recoveries: issue is on hold until database issues resolved with technical committees.
- Regulations file: there is interest in getting this filled; tech committees will be consulted on type of info sought
- Role of Data Sharing: parent of Data Standards [Wk Group]/DSWG; new issues to be addressed should be put through Data Sharing
- Noted data errors introduced by conversion to V4.0, many corrected at this point
- "9000" series marks; problems with their occurrence in Releases file.. can this be changed/fixed?
- {Kathy}: noted that these (9xxx) mark codes were introduced for Recovery data -- to allow for unknown mark status situations at tag recovery. Yet it has been put into Release data. In Releases, the historical data can be corrected, and agencies [should know and indicate what marking occurred]. DSWG could also create a validation standard.
- [The following paragraph is paraphrased from the Data Sharing Mtg minutes:
- The 9xxx codes should be used for releases in limited situations at most. Tagging programs should know with few exceptions what marks are on their given release groups, but there might be some cases in which the mark might not be known for certain." The release database has a significant number of records prior to mass marking where the mark code is identified as 9000 or 9009. Those codes have to be in error as the adipose clip was still sequestered for CWT marked fish only. Hence if there were no tags, the fish weren't adipose clipped, and thus should be coded '0000'. Most if not all of those particular errors were introduced at the time that the RMPC ported over from PSC Format 3.2 to 4.0. ]
- Agreed: The RMPC is to work with the given release agency to convert the problem mark codes back to '0000'."

#### RMPC notes as of September, 2006:

In July, 2006, the RMPC found the following in the database:

1)<sup> $\circ\circ\circ$ </sup>The only field in the Releases table that has any 9xxx marks is the non\_cwt\_1<sup>st</sup>\_mark field.

2)°°°There are a total 2895 Release records with a 9xxx code.°

 $3)^{\circ\circ\circ}2869$  records are the results of the conversion from 3.2 to 4.0.

 $4)^{\circ\circ\circ}26$  release records were re-submissions as indicated by the record origin in the last query.

 $5)^{\circ\circ\circ}19$  of the 26 resubmissions with unknown adclip status (9xxx) are for years 1981 to 1986 ° prior to the advent of mass marking..

The RMPC has since contacted each Reporting Agency with lists of their "9xxx" series mark coding and asked to make corrections to these data – particularly for tagged groups released prior to the year in which they started mass-marking. Of the 2869 records, all but 584 have now been fixed. The following numbers of rows remain coded "9xxx" (either incorrectly or by intent): IDFG: 577; NMFS: 6; USFWS: 1.

*There may also be some "9xxx" codes that warrant "5xxx" values if they were known to have the adipose clip.* 

- {various..}: Question.. how to define indicator stocks.. definition is fluid.
- {Kathy}: Data Sharing concluded to have a separate table for that information. It's not necessarily related to other aspects of release. Further analysis is needed to define what [is wanted in the table].
- {Ken}: Having a tag code [record] represent an endangered stock is hard to do.
- {Robert B}: There is a report published annually by NMFS Science Ctr regarding endangered salmonids status in the Columbia Basin. It indicates what fish are listed currently, includes information on out-migrant studies.

- {Marianne}: The [new RMIS application] might be usable to report the new PSC [defined] exploitation rates, etc. See the appendix of the annual exploitation rate analysis of the CTC.
- {Norma}: PSC Expert Panel discussed the 4 field-pairs in releases for mark/mark counts introduced in version 4.0. Is this causing problems for anyone? Is there a better way to deal with this? To code this?
- {Kathy, Bill J}: It is complicated for a new person. It is not intuitive.
- {Dietrich Schmitt /NWIFC}: It does not allow one to get quickly to the number of ad clips, etc.
- {Kathy}: Is it necessary to code [these detailed marking studies] in the exchange formats? It could be sufficient to [track these local studies] internal to the agency. If we want to exchange this, it is complicated.
- {Brodie Cox /WDFW}: You could unroll [the release records].
- {Kathy}: CDFO does calculations with the 8 fields and roll it up to that which users want to see. This could be done by RMIS, but it is risky. You are creating parallel set of counts and the user might not understand that. It could be tallied up to [a double counting].
- {Dick O'Connor/WDFW}: Question: There were 2 items that were to be assigned to Data Standards Wk Gp. Have they been formally transmitted?
- {Norma}: Data Sharing has relayed the conclusions to Ken [and the technical committees] and posted them on the RMIS online forum.
- {Dick}: would like to address the process. WDFW has concerns about the process. The details about proposals [e.g. the unrolled releases proposal] are available on the forum and from Ken/RMPC where one can obtain a copy, etc. [We have believed that] proposals are to be passed from Data Sharing to Data Standards where they are evaluated. Data Standards is a very competent group. Good ideas survive and bad ones die. Ideas may be tuned up, modified, etc. but the proposals and details get a thorough vetting so that the legitimate needs of everyone else trying to use the database are not [discarded or lost] in this process. This is a tough balance [but it has worked].
- {Dick}: addressing unrolled releases. There was from Data Sharing the argument that allowing unrolled release records encourages bad behavior [by the studies, hatcheries, etc.]. Hatchery managers, those who' ve worked in that environment know that's absurd. [When exceptions occur, there is only the Comments field for this and the information can get lost.]
- {Dick}: A more significant concern: There has been this idea that if [the issue] was not brought to Data • Sharing from one of the technical committees (Chinook TC, Coho TC, etc.) then it will not be passed on to Data Standards. This is an issue of governance. The RMPC management includes many different marking studies-not just CWT. There is no longer a coastwide repository of marking information separate from that which Ken's group manages. So Ken (& the RMPC) has obligations that exist outside the treaty process and outside the CWT world. The idea that these ideas are not good enough unless they only come through] the technical committees unfairly restricts access to changes or enhancements [by others]. The committees [though relevant and good] are too finely focused. They don't [always understand things] from the perspective of those "on the ground".. who are raising, marking fish, etc. This [gets to the question of] what relationship does the Mark Committee have to the RMPC—and the funneling of ideas to [the RMPC]. Let us look at roles. Who does [/should] the RMPC respond to? In February, [it came of Data Sharing] – accurately--that they (RMPC) respond to the technical committees only. I'd like other ways to get ideas vetted. Data Standards can be the best group to do that – either as a U.S. group or as a bilateral group. It [is a bad idea] to involve [only the technical committees]. Do funnel your comments and reflections to Ken. He [in his capacity as] chair of this group, [co-]chair of Data Standards workgroup, and a member of Data Sharing. He is as heavily leveraged as he can get. At this point we are talking only about process. The Mark Committee [is encouraged to] consider this and get back to Ken later. The [view presented here] is widely shared within WDFW (if not formally confirmed by the agency director).

- {Kathy}: Data Standards is a working group under Data Sharing Committee under the Pacific Salmon Commission. This is a bilateral mandate by my understanding. When these issues are US-only then the [questions arise]. To say that Data Standards would form and [Canada] could choose to come or not would be unacceptable. But if you choose to form your own "data standards" committee under the Mark Committee and invited me then I might be happy to come—but you could not [turn one committee into the other.]
- {Ken}: The Mark Committee as well as PSC data committees give the RMPC direction. We [have recognized] the requirements of the RMPC for data exchange in the [PSC agreements] and the proposal conflicted with that requirement. I.e. the idea of submitting no composite record was proposed. Other fields also might not match up one to one.
- {Dick}: .. but [the proposal included] the idea of submitting both the composite and the individual (unrolled) record.
- {Ken}: Yes.. we are very sympathetic to Washington's needs, but we are caught between these [two sides. I would adamantly argue that the RMPC cannot be put in the position of creating a composite record to send to Canada. If the composite record is not sent in full V4.0 compliance then we are caught..
- {Dick}: We are not asking the RMPC [to do that]. We are talking about a proposed version 4.1 and we are not being allowed to propose this enhancement. Can we [adjust / fix] the process? Could the Mark Committee [express what it believes could be done].
- {Kathy}: This was brought before Data Standards before, then with no agency consensus [for resolution], it was sent to Data Sharing. This was why the [question arose] as to how can agencies be asked to do all this additional work when it was not even agreed upon bilaterally. The process was there. Bilaterally there has not been the interest in investing the time to provide the details that you're asking for. What [has been] a set of agreed upon summary information is [being turned into] a "one stop shop" that would include [all kinds of] detailed information as well. So [it should be asked..] if this is not to be done in the bilateral arrangement as summary information, where else can it be addressed? The process is still this bilateral exchange—it is [not necessarily] wrong. That's not the reason those committees exist. They're part of the bilateral exchange.
- {Marianne}: Given CTC, SFEC, etc. when we have needs we'll send them. [However,] I wouldn't think that the only issues Data Sharing would deal with are from the technical committees. I would think that anyone with an issue regarding data formats could go to Data Sharing—within or without the PSC.
- {Robert}: Could Data Sharing look beyond these committees and bring things to its own attention. Is the Mark Committee being asked to evaluate these data formatting issues? Are we to [suggest to] Data Sharing what to do or not do?
- {Dick}: If in Data Sharing, Canada does not see value in a given proposal and does not send it to Data Standards [as a bilateral issue], then this is perfectly fair. But then the US-only issues no longer have a venue to pursue. In the past there was an informal [nod] to deal with US issues on the side, but it [is not working well now]. There should be a way to address these things outside the treaty. Hence there is no forum for US only needs, nor a US only repository.
- {Jim}: There is also the issue of clearly defining the specification of the data if it involves new data types, new tables, etc. If / when the proposal is acted upon, it is important to have a well defined specification for data management and data integrity [down the road].

# Result:

Ken and RMPC staff will collect comments from the Mark Committee members. There is a strong need for this kind of information even though some might not be interested. The Mark Committee is asked to comment on this.

# 22. Report on WDFW study: "Effects of adipose clipping and coded wire tagging on the survival and growth of spring Chinook salmon" (Geraldine Vander Haegen)

#### Presentation:

- {Geraldine}: Discussed auto-trailers, new sensor technologies, how counts are obtained by day, new types of tag viewers, etc.
- VIE tags a new type of tag, sample handed out
- There were 22 auto trailers [involved in study]
- {Rodney}: also reviewing [trailer prototypes] with NMT
- A new type of fish counter device going into trailers, not related to the "auto fish" system.
- Aspects of T-13 detector: currently the largest detector available
- Improvements in wands: there is now an RF filter to increase sensor effectiveness
- There will be a wanding workshop in February [2007].
- It was concluded that ad clipping and CWT had no impact on the survival and growth of spring Chinook.

# 23. WDFW Comparative Study of Standard and 1.5 Length Tags: Results and Recommendations

(Geraldine Vander Haegen, see Appendix N /hardcopy only)

#### Presentation:

Geraldine recommends using the largest tag available that will fit the fish in order to increase detection rates.

2.5 cm equals the detection range for standard length tags. The bigger the tag, the better the detection. Parallel method of wanding gains you a  $\frac{1}{2}$  size, but this is very hard to do on the outside of the fish. Mouth wanding is still best.

# 24. Concerns Raised about Reliability of Electronic Detection of 1/2 Length Tags

- PSC's Selective Fishery Evaluation Committee requested that the Mark Committee address concerns about known problems in detecting 1/2 length tags with hand wands.

What tagging programs are now using 1/2 length tags and why? ADFG- 1 project, don't have other options MIC- 5-10,000 summer chum WDFW- not using but lots of tags available NIFC- stopped using CDFO- Yukon are using some, but are not worried about electronic detection ODFW- no ½ tags for the last 11 years IDFG- never used <sup>1</sup>/<sub>2</sub> tags CDFG- use <sup>1</sup>/<sub>2</sub> tag for natural production fall Chinook (100-400,000), max size of 200/lb FWS in CA- moving away from <sup>1</sup>/<sub>2</sub> tags

Reliability of  $\frac{1}{2}$  length tags- 50% detection of  $\frac{1}{2}$  length tags is by lab setting and may not be reflected adequately in the field.

Rodney- 150 ffp noted rates/tag sizes used by various agencies, pointed out comfort zone for using standard tags- his minimal level is 150/lb avg; others feel 200/lb is fine ODFW estimates 220 ffp sorting at 30% for too small Identifying average fish per pound does not tell you how many can be tagged Lower Sac Study- moving to full length tags Bob- using ½ tags on natural production fall Chinook

25. Northwest Marine Technology (Guy Thornburgh and staff)

- Annual update on CWT technology
- Opportunity to answer questions from meeting participants.

26. The "Elwha Story" (Doug Morrill, Fisheries Manager for the Lower Elwha Tribe)

# Presentation:

Ken introduced Doug Morrill, and noted while this is not exactly a marking/tagging topic, it represents one of the greatest salmon restoration efforts in the U.S. Doug gave a very impressive Powerpoint presentation on the history of the projects and the numerous biological issues involved.

# Adjourn: 12:00 Noon

Afternoon: 1:00 pm - Site visit to the Elwha Dam and environs, led by Doug Morrill.