

Regional Coordination and Agreements on Marking and Tagging Pacific Coast Salmonids

The Regional Mark Committee
(Pacific States Marine Fisheries Commission)
(April 18, 2001)

I. Overview

Anadromous salmonid stocks range the length of the Pacific coast from California northward to Alaska in their migratory path from natal streams to the ocean and then back to spawn. In the process, they typically traverse many different fisheries in many different political jurisdictions. As such, fisheries agencies face a daunting challenge to effectively assess stock abundance, manage fisheries, and protect those stocks that are depressed, threatened or endangered. The principal means of developing this information has been to mark key stocks as juvenile fish and then recover the returning adults in the various fisheries, on the spawning grounds, and at the hatcheries.

A wide variety of marking techniques has been used for stock identification and research purposes over the years. These techniques include fin clipping, branding, and various types of external tags. Internal coded-wire tags (CWT) were introduced in the late 1960s and are now the primary marking procedure used coastwide for salmonid stock assessment, harvest management, and enhancement evaluation. In addition, scale analysis techniques, otolith marking, gel electrophoresis, mitochondrial DNA, and passive integrated transponder (PIT) tags are now being used for specific stock identification applications.

The highly migratory nature of salmonids has necessitated all marking agencies to join in a cooperative coastwide effort for marking, sampling, mark recovery, and data exchange. Under the umbrella of the Pacific States Marine Fisheries Commission (PSMFC), the Regional Mark Committee ("Mark Committee") has provided the necessary forum since the early 1950s for fisheries agencies to mutually establish guidelines, coordination, and reporting agreements for fin marking and coded-wire tagging on the Pacific coast.

II. Role of the Mark Committee

The Mark Committee is a technical committee that evaluates regional marking proposals and coordinates coastwide agreements on marking salmonid stocks. Its function is to ensure the integrity of the stock identification information provided by marking, sampling, and data exchange programs. Special emphasis has been placed on the coordination and protection of the coastwide CWT program.

1. Specific Objectives

- a. Coordinate the coastwide CWT marking program, in collaboration with Pacific Salmon Treaty technical committees, to insure the integrity of information used in stock assessment, harvest management, and enhancement evaluation.
- b. Establish regional agreements* and coordination for stock identification marking and recovery techniques for anadromous salmonids.
(Regional agreements: A decision of the Mark Committee, either by consensus or voting.)
- c. Evaluate and report the technical impacts of proposed marking and tagging programs that impact mark-sampling programs or the information they provide.
- d. The Pacific Salmon Commission has the lead role in evaluating proposals for adipose mass marking and selective fisheries when there are international impacts on CWT and/or mark sampling programs or the information they provide.
- e. The Mark Committee can provide technical review and recommendations to the proposing agency, affected agencies, and the Pacific Salmon Commission for all marking and tagging proposals with international impacts.
- f. The Mark Committee will review all marking and tagging proposals that do not have international ramifications. The Mark Committee will recommend that the program is acceptable as presented if there is full consensus or agreement by majority vote. Otherwise, the Mark Committee will deny approval for the program or recommend to the applicant how the proposal should be modified so that it will be acceptable. Once the revised program is presented to, and approved by, the Mark Committee, the program can proceed as modified.
- g. Provide data management consultation and technical advice to the Pacific Salmon Commission's technical committees (i.e., Selective Fishery Evaluation Committee, Data Sharing Committee, and Working Group on Data Standards).
- h. Establish priorities and coordinate plans to improve the efficiency, effectiveness, and timeliness of data acquisition and delivery.
- i. Promote the development and implementation of coastwide data collection and reporting standards to facilitate the merging of CWT and catch/sample data into unified databases.
- j. Foster exchange and discussion of research and development of marking and recovery technology via the annual Mark Meeting and periodic workshops.
- k. Provide oversight and guidance to the Regional Mark Coordinator in serving as chairperson of the Mark Committee and in carrying out the duties of PSMFC's Regional Mark Processing Center

2. Interaction with the Regional Mark Processing Center

The Mark Committee provides technical guidance to PSMFC for management of the Regional Mark Processing Center. PSMFC is responsible for management, day to day supervision and administrative support of the Regional Mark Processing Center. The Regional Mark Coordinator reports to PSMFC's Executive Director and serves as chairperson of the Mark Committee.

3. Membership

The Mark Committee provides representation either directly or indirectly for all coded-wire tagging and recovery agencies on the Pacific coast. There are twelve voting member agencies.

Canada

Federal

Fisheries and Oceans Canada (CDFO)

Province

British Columbia Ministry of Environment, Lands and Parks (MOELP)

United States

Federal

National Marine Fisheries Service (NMFS)

U.S. Fish and Wildlife Service (USFWS)

State

Alaska Department of Fish and Game (ADFG)

California Department of Fish and Game (CDFG)

Idaho Department of Fish and Game (IDFG)

Oregon Department of Fish and Wildlife (ODFW)

Washington Department of Fish and Wildlife (WDFW)

Tribes

Metlakatla Indian Community (MIC)

(1 tribe; S.E. Alaska)

Northwest Indian Fisheries Commission (NWIFC)

(20 Treaty Tribes of western Washington)

Columbia River Intertribal Fish Commission (CRITFC)

(4 Treaty Tribes; Columbia Basin)

The U.S. federal agencies (NMFS, USFWS) may have more than one committee member to represent different regions and marking programs but are limited to a single vote as are other member agencies. Private aquaculture, universities, and other marking entities are represented through the respective State, Federal, or Province coordinator. All "Mark Meetings" are open to interested parties and input from the floor is encouraged.

Membership requests will be considered by the Committee and treated as any other mark related issue as explained in the 'Operating Procedures' section below.

The Pacific States Marine Fisheries Commission serves as the umbrella organization for the Mark Committee but does not vote on marking issues.

4. Operating Procedures

The Mark Committee meets at least annually on a rotational basis by state/province to facilitate coastwide coordination of anadromous salmonid marking and CWT programs. Marking proposals, proposed marking restrictions, and requests for exemptions/variances to marking agreements are presented, discussed, and if possible, agreed upon. Ad hoc committees or subcommittees may be established as needed to address specific issues.

Issues requiring attention prior to the annual meeting can be resolved through telephone conferences, PSMFC's website forum, or polling of committee members by the Regional Mark Coordinator.

Whenever possible, agreements are reached by "full consensus*". When full consensus is not possible, agreements are reached by majority vote. Agency cooperation with marking agreements is voluntary, but fully expected of all agencies.

*(*Full Consensus: A decision reached unanimously with no formal objections)*

Agreement by Full Consensus

Following a thorough discussion of an issue, the chairperson will lay out the apparent consensus of the committee. If there are no expressed objections or disagreements, the proposal will stand as approved by full consensus. A 30-day review period will follow to allow for agency reversal on an issue if an error has been made or if other factors require it. If no objections are received in writing in the 30-day period, the agreement stands.

If an objection is received during the review period, committee members will be polled to ascertain the course of action to be taken. Possible options include reversal of action, delay action until the next meeting, or seek a committee vote.

Agreement by Majority Vote

- a. A quorum is required for all issues requiring a vote. A quorum is defined as 75% (i.e. 9) of the Mark Committee members or their proxies.
- b. A two thirds majority vote of members present (excluding abstentions) is required to approve all non-consensus issues.

<u>Number Voting</u>	<u>2/3 majority</u>
12	8
11	8
10	7
9	7
8	6

- c. Agencies may designate a proxy for voting purposes if its representative is unable to attend the meeting. Proxy designation shall be in writing provided to the Regional Mark Coordinator prior to the meeting. Agencies shall indicate if the proxy has 'carte blanche' or can only vote on specific issues. If an agency is not represented by one of its staff or a proxy, it will be counted as an absence unless a vote is submitted in writing prior to the meeting.
- d. The 30-day review period will apply to all decisions on non-consensus issues to permit a change in an agency's position if necessary. Agencies absent from the Mark Meeting may submit a written vote during the 30 day period.
- e. The Regional Mark Coordinator will provide a tentative agenda to the Committee at least two weeks before the Mark Meeting. Agencies are responsible for submitting tentative agenda items at least 30 days before the Mark Meeting. Late additions will be discussed as appropriate for inclusion by consensus.

5. Travel Expenses

Each participating agency will be responsible for its own travel, per diem, and salary expenses incurred in attending the Mark Meeting and in doing other related work.

6. Agreement of Voluntary Participation

Each member agency agrees to the above procedures and guidelines, and also to participate fully in the activities of the Regional Mark Committee. It is further agreed that any member agency may terminate its membership on the Committee upon 30 days written notice to the other parties.

Agencies will be expected to follow the technical recommendations of the Mark Committee and obtain agreement on the proposed marking within the management forum(s) for the affected region prior to implementing the proposal(s).

In the event of non-compliance of an agency with an agreement, the Mark Committee can request the assistance of PSMFC's Executive Director to approach the Agency Director(s) to resolve the problem.

7. Amendments

Amendments to the Regional Agreements may be proposed and considered at the annual Mark Meeting. If agreement is reached, the amendment shall be distributed to the member agencies for their review. A response will be requested within 30 days of receipt and incorporated into the Regional Agreements.

III. Current Status on Use of CWTs and/or Adipose Fin Marks

1. Adipose Fin Mark as an Indicator of a CWT

- a. The adipose fin mark is no longer exclusively used to indicate the presence of a CWT in the snout of chinook and coho salmon. Except for Snake River spring and summer chinook, use of the adipose clip as a mass mark for chinook and coho without CWTs occurred through agency actions, rather than as an agreement of the Mark Committee.
- b. Although not required, much of the hatchery production of chinook and coho in Oregon, Washington and Idaho, and hatchery coho in British Columbia is now released with the adipose fin mark. Fish tagged for stock recovery programs are generally not adipose clipped if they will be subjected to potential selective fisheries.
- c. Electronic detection equipment can be used to detect the presence of a CWT regardless of adipose fin mark status. This is now the primary means of CWT sampling in southern British Columbia, Washington, Idaho, and the Columbia River.
- d. In order to assess the impacts of selective fisheries, double index tagging (DIT) is conducted on certain chinook and coho indicator stocks. This involves tagging the indicator stock with two paired tag codes, one with an adipose fin mark, the other without.

2. Required Use of the Adipose Fin Mark with the CWT^a as of April, 2001

Region	Chinook	Coho	Steelhead	Sockeye	Chum	Pink
Alaska	Yes	Yes	No	Yes ^b	Yes ^b	Yes ^b
Canada	Yes	No	No	No	No	No
Washington	No ^{c,d}	No	No	No	No	No
Oregon	No ^{c,d}	No	No	No	No	No
Idaho	No ^d	No	No	No	No	No
California	Yes	Yes	No	No	No	No

- a. These requirements on CWT use with the adipose fin mark apply equally if the adipose is clipped in combination with another fin(s).
- b. Adipose fin marked steelhead, sockeye, chum and pinks do not require a CWT because there is no coastwide recovery program for tags in these species. (*Alaska is an exception in requiring a CWT in adipose marked sockeye, chum and pinks.*)
- c. Use of the adipose fin clip with a CWT is presently required for all chinook from the Strait of Juan de Fuca and coastal Washington and for fall chinook from the Columbia Basin.

- d. Use of the adipose clip is currently being resolved for spring chinook from the mainstem Columbia River above Bonneville Dam. Adipose mass marking of Snake River spring chinook has been approved by majority vote of the Mark Committee.
- e. Use of the adipose clip on summer chinook in the Columbia River remains unresolved. Adipose mass marking of Snake River summer chinook has been approved by majority vote of the Mark Committee.

3. Use of Blank Wire and Agency Only Wire

Blank wire or agency only tag use requires a proposal (Request for a Marking Variance) to the Mark Committee. The proposal will be reviewed for its impact on the regional CWT recovery programs.

4. Tag codes can not be Re-Issued by the Manufacturer

Tag codes must be unique across all tag types (i.e. if a tag code is released as a standard length code, it can not be re-issued as a half length or sequential tag code).

5. Re-use of Surplus Wire

- a. Tag codes can be used **only once** in anadromous salmonids:
 - in only one species
 - in only one year
 - in only a single watershed that is suitable for stock assessment
- b. Surplus wire can be used in land locked trout populations or other types of organisms (e.g. non-salmonid fishes, invertebrates, etc.)

6. Restrictions on Tags Used

- a. Any new type of tag affecting regional recovery programs must be approved by the Mark Committee before being used by the agencies. The intent is to ensure that the numerous independent tagging programs remain compatible with the regional recovery efforts.
- b. Coded-wire tags produced by Northwest Marine Technology, Inc., and the former Micro Mark are currently the only tags reviewed, approved and available.

7. Sequential Tags

Purchase of sequential tags will be possible only through the approval of the appropriate tag coordinator to ensure proper use.

8. Responsibility for Reporting Releases of "Shared" Tag Codes

- a. No "universal" reporting rule could be established that would work for all types of tag releases in which more than one agency was involved. In some cases, it is logical for the "owner" of the tags to be the reporting agency, and in other cases, it might be the releasing agency since they typically have the best numbers.
- b. The tag coordinator is ultimately responsible for seeing that any tag codes shared with another agency(ies) are reported, regardless of which agency ends up doing the reporting.

IV. Current Status of Non-CWT Related Marking

1. No Regional Recovery Effort

Recovery agencies no longer sample the ocean fisheries for fin marks other than the adipose clip. As a result, single and multiple fin marks are primarily used for stock identification in terminal fisheries, on the spawning grounds, and at the hatchery.

2. Duplication of Marks Possible

Duplication of fin marks (single or multiple) for a given species is acceptable since there is no regional recovery effort. However, all marks must be coordinated with other potentially impacted agencies to ensure the integrity of their respective marking programs.

3. Coordination of New Mark Requests

Agency fin mark coordinators are no longer required to submit mark requests to the Mark Committee. However, mark coordinators still have the responsibility to work with other agencies to ensure the integrity of all fin marking programs.

4. Reporting Otolith Marks

The Mark Committee (Feb, 1992) approved the annual listing of otolith marks in the annual Mark List to facilitate regional coordination. For a variety of reasons, otolith marked releases were never reported. In addition, the Mark List was eventually discontinued.

More recently, the Regional Mark Center developed a prototype website for both images and the associated release data for otolith marked salmonids. It remains to be seen if this effort will succeed or if the marking agencies take a different approach for reporting and coordinating otolith releases.