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EXECUTIVE DIRECTOR
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G. L. FISHER

PACIFIC MARINE FISHERIES COMMISSION

528 S.W. MILL STREET
PORTLAND, OREGON 97201
PHONE (503) 229-5840

1984 MARK MEETING

Commission Room
Oregon Department of Fish and Wildlife
506 S.W. Mill Street
Portland, Oregon

February 15, 1984
9:00 AM - 4:00 PM

FINAL AGENDA

1. Approval of 1983 Mark Meeting minutes
2. Status of backlogged recovery data and proposed solutions
3. Update on 1983 high seas sampling program (Alex Wertheimer, NMFS-Alaska)
4. Review of adipose clip policy for Columbia Basin steelhead and coastwide considerations
5. Request to re-use half-length tag codes on Alaskan pink salmon
6. Request to Ad clip sockeye fry in Cook Inlet, AK without a CWT
7. Proposal to change Mark Meeting to early fall
8. Report on coastwide stock identification plan (Roy Wahle, PMFC)
9. Report on CWT statistical research (Frank de Libero, PMFC/WDF)
10. Commitment needed to establish new historical CWT recovery data base
11. Identification of key elements needed in regional CWT documentary data base (Lee Blankenship, WDF; Richard Comstock, USFWS)
12. Need to standardize hatchery names for CWT release data base
13. Update on advances in microtag technology
    a. Passive integrated transponder (PIT) tags (Earl Prentice, NMFS-Seattle)
    b. Binary coded-wire tags (Keith Jefferts, NWMT)
    c.
14. Revised format proposed for Mark List
15. Fin mark allocations for 1984

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MEMORANDUM

DATE: 31 January, 1984

TO: Committee on Anadromous Fish Marking and Tagging

FROM: Ken Johnson, Regional Mark Center Ken

SUBJECT: Final Agenda for Mark Meeting

I. Final Agenda

The enclosed final agenda for the 1984 Mark Meeting outlines a busy workday for us, starting at 9 a.m., Wednesday, February 15. Therefore, please review carefully the information and attachments provided herein, and those provided previously with the preliminary agenda (December 27, 1983 memo) in order that we can move effectively over the considerable breadth of topics.

The preliminary agenda reflected a 4 p.m. ending time. However, you should be prepared to stay longer since we have two additional agenda items (#2 and #6), the first of which could take a substantial amount of time. These two new items are:

Item 2: Status of backlogged recovery data and proposed solutions.

Oregon requested that the current status of recovery data for all agencies be reviewed. This is provided in Attachment 1, along with prospects for data submission to PMFC in 1984. The established goal of providing recovery data within six months of the year's end will be considered as to whether it is attainable or should be revised. Solutions will be proposed to accelerate publication of the data.

Item 6: Request to Ad clip sockeye fry in Cook Inlet, AK, without a CWT.

A researcher in the Anchorage area has requested permission to Ad clip sockeye fry without using the required CWT in order to use the mark as a control for evaluating differential mortality due to clipping other fins (see Attachment 2). It is unlikely that this would have any adverse effect on recovery programs of other agencies.

II. Revised Minutes of the 1983 Mark Meeting (Agenda Item 1)

As you may recall, the USFWS and NWIFC expressed some concern last year that the minutes of the 1983 Mark Meeting did not adequately clarify that the newly desequestered steelhead adipose clip for coastal Washington, Puget Sound, and British Columbia still required an annual review by the Mark Committee before use in order to maintain regional coordination. This oversight was corrected and the agreed upon revisions in Section III.A, paragraphs 4 and 5, plus a few other minor corrections are included in the enclosed revised minutes (Tag Coordinators only). Formal approval of the revised minutes is required.

III. Proposed X-ray System for Decoding Modified Binary Tags (re: Agenda Item 13.b)

Also attached for your information (Attachment 3) is a description of Northwest Marine Technology's proposed development of an automated X-ray-based system to decode modified binary tags. Dr. Jefferts will address progress to date and the envisioned niche that such tags would have vis-a-vis the PIT tags.

IV. Funding Proposal for the Regional Mark Center

The descriptive portion of a proposal to NMFS requesting 1985-87 funding for the RMPC is enclosed (Tag Coordinators only). While not directly on the agenda, the proposed work objectives (see pages 7-8) are germaine to Agenda Items 10 and 11.

V. Acknowledgements

A special thanks to each of you for reporting CWT release data and fin mark requests on a timely basis! Your help is appreciated very much.

JKJ:fec

Attachments:
1) Status of Backlogged recovery data
2) W. Hauser letter (1/5/84) re Ad-no CWT clip for sockeye
3) K. Jefferts letter (1/26/84) re automated X-ray system for CWTs

Enclosures:

General Distribution:

1) Final Agenda for 1984 Mark Meeting

Committee Members Only:

2) Revised Minutes for 1983 Mark Meeting
3) Funding proposal (FY 85-87) for the RMPC

Table 1. Status of CWT recovery data by agency and year, including projections for completion.

Agency	Status	Recovery Report Year						
		1977	1978	1979	1980	1981	1982	1983
ADFG	Submitted	S	S	S	S	Prelim	(5/84)	(3/84)
	Processed	P	P	P	P	P	2	
	Distributed	D	D	(1/84)	(5/84)	(8/84)		
WDF	Submitted	S	S	S	S	S	(5/84)	?
	Processed	P	P	P	P	(1/84)	6	
	Distributed	D	D	(1/84)	(5/84)	(8/84)		
ODFW	Submitted	S	S	S	(3/84)	(5/84)	(10/84)	?
	Processed	P	P	P	2	2	6	
	Distributed	D	D	(1/84)	(5/84)	(8/84)		
CDFG	Submitted	S	(2/84)	(3/84)	(5/84)	(6/84)	(7/84)	?
	Processed	P						
	Distributed	D	(3/84)	(1/84)	(5/84)	(8/84)		
NMFS (Seattle)	Submitted	1/84	1/84	S	S	S	?	?
	Processed	(2/84)	(2/84)	P	P	P		
	Distributed	(3/84)	(3/84)	(1/84)	(5/84)	(8/84)		
NWIFC[1/]	Submitted			S	? (3/84)	? (3/84)	? (3/84)	? (5/84)
	Processed			P				
	Distributed			(1/84)				
				FWS	FWS	FWS	FWS	NWIFC

1/ NWIFC assumed responsibility for reporting tribal tag recoveries in 1983. Prior to 1983, tribal recoveries (primarily Quinault) were reported by WDF.

Attachment 2
Agenda Item 6

BILL SHEFFIELD, GOVERNOR

DEPARTMENT OF FISH AND GAME
FISHERIES REHABILITATION, ENHANCEMENT
& DEVELOPMENT DIVISION

333 RASPBERRY ROAD
ANCHORAGE, ALASKA 99502

January 5, 1984

Ken Johnson
Pacific Marine Fisheries Commission
528 S.W. Mill Street
Portland, Oregon 97201

Dear Ken:

Enclosed is the 1983 Coded-Wire Tag (CWT) Release Report and the 1984 Fin Mark Request Form for Alaska, except Southeastern Alaska. I am not aware of any conflicts of fin mark requests for any species.

Note, however, that one researcher is requesting permission to mark sockeye salmon fry released into a Cook Inlet drainage system (Tustumena Lake/Kasilof River) with an adipose fin-clip without a CWT. These marked fish will be used as part of an ongoing enhancement project (fin-clipped fry have been released into Tustumena Lake for 5 years) in an experiment to evaluate differential mortality due to clipped fins. Since most studies report little regeneration or mortality associated with a clipped adipose fin, this mark will be used as a "control".

During the past several years, for this project, substantial apparent mark loss has been observed. Though some mark loss has been attributed to clipped-fin regeneration, differential mortality of fin-clipped fish is believed to be important.

All planned recoveries of these marked fish will be in freshwater as fry, smolt and adult. There is no known recovery effort scheduled elsewhere -- certainly none by Alaska Department of Fish and Game. Consequently, it is highly unlikely that any of these adipose fin-clipped sockeye salmon will be recovered by any other researcher. Alternative techniques to evaluate differential mark-loss rate were considered; the most feasible of these is estimated to cost an additional $24,500.

Attachment 3
Agenda Item 13.b

Northwest Marine Technology, Inc.

Shaw Island, Washington 98286 · 206/468-2340

January 26, 1984

Mr. William Wilkerson, Chairman
Columbia Basin Fish & Wildlife Council
Lloyd Bldg. Suite 1240
700 N.E. Multnomah St.
Portland, OR 97232

Dear Mr. Wilkerson:

Northwest Marine Technology has become aware of several critical problems in the Upper Columbia River involving juvenile chinook and steelhead migrants where fish marking techniques appear to present major limitations. If our perceptions of these problems are correct, it appears that NMT could produce an identification system in the relatively near future which would be a considerable improvement over techniques presently used or likely to be available in the next few years.

Dr. Peter Bergman, of our staff, has discussed this by phone with several persons, attempting to learn the nature and extent of these problems. One purpose of this letter is to be sure we understand the important details and constraints of the problems. In addition, we would like to clarify the system NMT is proposing, and learn whether others share our view of its potential utility.

As we understand it, major studies are proposed in the Upper Columbia to determine downstream survivals and migration timings for chinook and steelhead smolts from a considerable number of specific locations, usually hatcheries. There will also be complementary studies on aspects such as barging, which share some of the important experimental constraints. While most smolts are presently relatively large (say, 50 fish/lb. or larger), in the near future there will be an important need to identify summer and fall chinook at least as small as 100 fish/lb. One critical design constraint is fish size; we are assuming the smallest individual fish which must be accommodated are approximately 65-70mm total length. Additionally, large numbers (1000's per day) of smolts are collected at each of a number of by-pass facilities on the dams. All of the marked and unmarked fish at each collection station must be counted, and the marks must be read.

costly for large-scale efforts (about $5.00 each). Among important questions, then, are what improvements are likely, and when? Speculating far into the future about electronics seems foolish given rapid evolution in that field and present PIT activity, but there doesn't appear to be optimism that the size-detection range problem will be solved for summer - fall chinook smolts in the next few years. Finally, the price seems likely to be a prime constraint for quite awhile; the most optimistic long-term speculation we could find suggests a possibility for $1.00 tags. Putting millions or even hundreds of thousands of $1.00-plus tags on fish with an ordinary recovery rate which is probably under 20% seems quite expensive. (NMT tag cost is likely to be about 10 cents per tag).

Both the NMT and PIT tags will require sophisticated detection and recovery equipment. The relative costs are simply not clear to us, but if the PIT recovery system is cheaper, then in situations - such as a series of dams - where a number of stations are required, the relative system costs of the PIT tag are reduced.

In short, our estimates lead us to believe that successful development of the PIT tag is likely to provide a tool for specialized or relatively small-scale work, and an equally successful development of the NMT concept would provide a complementary system for larger-scale efforts. It does not appear to be a situation where one tag is likely to serve all purposes.

We would like to locate the appropriate persons who will be determining which tools will be used in the upcoming Columbia experiments and acquaint them with our proposal. As you understand, we will be talking to a number of persons about this, and any help in communication would be much appreciated. Also, we are very much interested in learning the views of your organization both about the possible merits of our proposal and also whether our basic assumptions are correct. We would be pleased to meet in person with anyone you might suggest at their convenience.

Sincerely yours,

Keith B. Jefferts, PhD.
President

cc: Douglas Arndt
William Aron
Michael Dell
W.J. Ebel
Richard Harper
Chip McConnaha
Lawrence Six