

Committee of Age-Reading Experts

2000 Committee Report

Prepared for the Forty-first Annual Meeting of the Technical
Subcommittee of the Canada-USA Groundfish Committee

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Prepared by
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CARE 2000 Report to the Technical Subcommittee of the Canada-USA Groundfish Committee

A. CARE Overview, 1999-2000

History - The Committee of Age-Reading Experts, CARE, is a subcommittee of the Canada-USA Groundfish Committee's, Technical Subcommittee, charged with the task to develop and apply standardized age determination criteria and techniques, and operating within the Terms of Reference approved by the TSC in 1986.

1. The last biennial CARE Workshop/Conference was held April 28-30, 1998, with reporting of events in the 1999 CARE Annual Report to the TSC.
2. The next biennial CARE Workshop will be held May 16-18, 2000 (three annual TSC meetings will have occurred in the interim), with expected attendance by agency members from California, Oregon, Washington, British Columbia, and Alaska.
3. The CARE web page continues to be updated, though with some lag time because of opportunistic use of resources. It is available at <http://www.psmfc.org/care/>. New to the website will be posting of recent and historical age-structure exchange results.

B. CARE Working Group Reports

1. CARE Manual/Glossary Subcommittee- Shayne MacLellan (chair, report contributor), Betty Goetz, Kristen Munk

1.1 CARE Glossary- No action. This working group served an individual purpose at inception, however will likely be formally rolled into the Manual committee during this year's workshop.

1.2 CARE Manual- The CARE Ageing Manual has undergone the addition of three addendas. It is also in the process of being reformatted to facilitate future additions and to improve referencing. The new structure is intended to satisfy the "living document" requirement of the TSC allowing CARE members to "trace" the history of fish ageing method documentation over years.

The three addendas are entitled International Birthdate, Validation, and Clearing of Otoliths. The first describes the usage of January 1st as a policy and standard for determining the age class of fish. The validation section defines validation and briefly describes methods of validating fish ageing methods. The third section briefly describes some methods/media used to improve the clarity of the annual growth patterns found on otolith surfaces.

The reformat of the CARE manual includes: re-arranging some of the current sections, addition of new sections, dating of sections, revised Table of Contents, addition of figures into the text closer to where they are cited, and the linking of Table of Contents, Figures and Tables and their lists. The figures have also been rescanned. Altogether, this should produce a document for "best" presentation on the CARE website that will download effectively and efficiently and create good quality hardcopies. The new format will make it easier for CARE to make future additions of text, tables and figures. It is the committee's aim to have the reformat ready to present to CARE members at the May workshop for approval.

2. Web Page Subcommittee- Brenda Erwin (chair, report contributor), Delsa Anderl, Mark Blaisdell, Marion Mann

The CARE web page is located on the PSMFC server at www.psmfc.org/care and has four basic sections at this time. They are the history of CARE, Ageing Manual, Summary of Age Reading Methodology and CARE meeting minutes. The only recent addition was the meeting minutes from the 1998 CARE meeting. Liza Bauman, a Technical Information Specialist with PSMFC, has been very helpful in the construction of the web page.

There are several sections that should be added to the web page soon. There has been one submission for a logo for the web page by Joan Forsberg. Marion Mann created a fisher interaction page that explains what an otolith is, how the otolith is aged, and how to remove the otolith. New sections that will be added soon also include an otolith exchange document, the CARE Participants list, and ageing links.

The Ageing Manual is a living document and as such is continually changing. The images in the Ageing Manual have been rescanned to improve quality of the images on the web page; however, it was decided to wait on uploading the improved images until the manual has been reformatted. Once the manual has been reformatted, the version on the web page will be updated as well and identical to the hard copy version of the manual.

The TSC is encouraged to contribute ideas for this web page which would aid their processes.

3. Charter Subcommittee – Shayne MacLellan, Betty Goetz, Kristen Munk, (more members to be volunteered)

This working group hopes to preserve the original intention of CARE by: a) better documenting past goals and accomplishments; b) clarifying elements of organization in accord with past and present understanding of the original Terms of Reference; and c) develop organizational structure and responsibilities of CARE officers, members, etc. The future of CARE will be best served if those members of longest tenure develop this charter. The goal is to have 1 member from each agency participate in this process...more members are encouraged.

C. Agency Structure Exchanges – Brenda Erwin

Tracking of agency structure-exchanges has been delegated to the CARE vice-chair, currently Brenda Erwin (CDFG). Table 1 summarizes the status of exchanges from 1998-2000. Exchange of primary species of interest designated as high priority by the TSC are still in process, with final results expected by July 1, 2000.

D. CARE Workshop Business

1. The 2000 C.A.R.E. workshop is returning to a more hands-on event, with 2 days scheduled for microscope work and 1 day for administrative work. Highlights to include:
 - 1.1 Theme of the workshop “Back to Basics” will emphasize most routine considerations in age determination.
 - 1.2 C.A.R.E. standards to be discussed are software, electronic image formats, and development of formulae used in calculating age-reading precision.

- 1.3 Summary reports from hands-on work for species of greatest priority/interest (sablefish, hake, thornyhead, lingcod [fin], black rockfish, pollock, pacific cod...), to be attached to minutes.
 - 1.4 Equipment demo by Bartels and Stout, Inc, of MZFL3 fluorescent stereomicroscope, plus latest digital camera and imaging software.
2. The present status of recommendations between C.A.R.E. and the TSC are presented in Appendix 1.
3. A final agenda for the 2000 CARE Workshop is presented in Appendix 2.

Table 1. Disposition of interagency age-structure exchanges, current to May 4, 2000.

EXCHANGE YEAR	ORIGINATING AGENCY	COORDINATOR	COOPERATOR	SPECIES	STRUCTURE	TECHNIQUE	PURPOSE	SAMPLE n=	NO. READERS	% AGREE	AVG % ERR	MEAN VAR	ST.DV	MEAN CV	D-INDEX OF PRECISION	STATUS	RESULTS
1998	WDF	J. SNEVA	ODFW	English Sole	interopercles	SURFACE	training		3							incomplete	
1998	WDF	J. SNEVA	ODFW	Black Rockfish	otolith	BB	training		3							incomplete	
1999	ODFW	B. MIKUS	CDFG,IPHC,NMFS	Dover Sole	otolith	BB	annual calibration	50	12							incomplete	
1999	ADFG-Kodiak	C. WORTON	ADFG-Juneau	Black Rockfish	otolith	BB	calibration	23	2	70%	0.75%	0.3409	0.2892	0.0106	0.0075	complete	satisfactory
1999	ADFG-Kodiak	C. WORTON	ADFG-Juneau	Pacific Cod	otolith	BB	calibration	21	2	43%	6.65%	0.9286	0.6398	0.094	0.066494826	complete	satisfactory
1999	ADFG-Homer	S. MEYER	IPHC	Halibut	otolith	SURFACE	annual calibration	102		77%	--	--		--	--	complete	satisfactory
1999	WDFW	J. SNEVA	CDFO,NMFS-Tiburón	Lingcod	fin rays	THIN SECTION	criteria calibration	50-100	3	"high"						incomplete	
1999	ADFG-Juneau	K. MUNK	CDFO,ODFW	Rougheye Rockfish	otolith	BB	calibration	20	3	10%	9.10%	11.76		0.1222	0.0706	incomplete, 1reader more	
1999	ADFG-Juneau	K. MUNK	CDFO,ODFW,WDFW	Yelloweye Rockfish	otolith	BB	calibration	20	7	0%	7.20%	12.57		0.093	0.0378	incomplete, 1reader more	
1999	ADFG-Juneau	K. MUNK	CDFO,ODFW	Thornyhead rockfish	otolith	BB	calibration	20	2	--	--	--		--	--	sample compromised	
1999	ADFG-Juneau	K. MUNK	CDFO,ODFW,WDFW	Quillback Rockfish	otolith	BB	calibration	20	6	0%	7.19%	24.34		0.093	0.0378	incomplete, 1reader more	
1999	ADFG-Juneau	K. MUNK	CDFO,ODFW,WDFW	Dusky Rockfish	otolith	BB	calibration	20	9	0%	5.72%	1.57		0.0817	0.0272	incomplete, 1reader more	
1999	ADFG-Homer	C. STOCK	CDFO?	Lingcod	fin rays	THIN SECTION	calibration	40 ?									
1999	CDFO	S. MacLELLAN	NMFS-AFSC	Pacific Whiting	otolith	BB		118 ?								incomplete	
2000	ADFG-Juneau	K. MUNK	ODFW,NMFS-AFSC	Sablefish	otolith	BB	calibration	20								incomplete	
2000	ODFW	B. MIKUS	CDFG,IPHC,NMFS,CDFO	Dover Sole(1)	otolith	BB	calibration	?	15			2.951	1.596	0.126	0.0315	incomplete, tentative stats	
2000	ODFW	B. MIKUS	CDFG,IPHC,NMFS	Dover Sole(2)	otolith	BB	calibration	?	12			5.012	2.0138	0.1386	0.04	incomplete, tentative stats	
2000	ODFW	B. MIKUS	CDFG,IPHC,NMFS	Dover Sole(3)	otolith	BB	calibration	7	12			57.865	6.9121	0.2169	0.0654	incomplete, tentative stats	
2000	ADFG-Juneau	K. MUNK	NMFS-AFSC	Pollock	otolith	SURFACE+BB	calibration	200	3							incomplete	in progress
2000	ADFG-Juneau	K. MUNK	CDFO	Thornyhead rockfish	otolith	BB	calibration	12	2	0%	6.30%	23		0.0891	0.063	complete	satisfactory

APPENDIX I

SUMMARY OF RECOMMENDATIONS AND RESPONSES BETWEEN C.A.R.E. AND THE TSC

1998 Recommendations from CARE to TSC: April 28-30,1998

1998CT-01. CARE recommends an Internet web site be established within the proposed TSC web site on the PSMFC web site to improve the exchange of ideas and information between age readers. This site would also include the ageing manual.

1998CT-01response. Regarding the CARE request for an Internet web page: PSMFC is moving forward to establish a web page for TSC in 1998 which will include a section for CARE. 5/7/1998

1998CT-02. CARE recommends a permanent liaison be established between TSC and the current Chair of CARE to coordinate the exchange of recommendations between TSC and CARE. This position should come from existing membership of TSC (for example, assigning the AFSC representative to TSC to deliver recommendations to CARE, since the CARE meeting has always been held at AFSC). This coordination is particularly important in the year when CARE does not meet.

1998CT-02response. The TSC does not see the need for a permanent liaison between the two bodies. Formal communications will take place between the respective chairs in the form of prompt exchanges of recommendations. The chairs, in turn, will assure prompt dissemination of these recommendations among the members of their committee.5/7/1998

1998CT-03. CARE recommends more emphasis be placed on age validation. Validation is still the forgotten age requirement. This may have to be accomplished at the expense of production age reading in the short term. Expert readers employed by the agency conducting the research should carry out validation.

1998CT-03response. The TSC supports the CARE's view that work on age validation should be emphasized and recognizes that this may impact the volume of production age reading. An assessment that would benefit most from age validation is shortspine thornyheads.5/7/1998

1998CT-04. CARE recommends TSC review the Terms of Reference to include the study of other species important to the management agencies. We have seen a rise in the interest of a number of pelagic species in recent years. We respectfully ask that TSC clarify under the Membership and Officers section which "other groups" CARE may include at its conference. Should there be a distinction between participants and observers? (See Appendix 8. The Terms of Reference were last revised and adopted by TSC on Jun 19, 1986.)

1998CT-04response. After reviewing the CARE Terms of Reference, the TSC does not believe they need revision. The CARE is encouraged to use their discretion to resolve questions of membership and participation.5/7/1998

1998 Recommendations from TSC to CARE May 5-7, 1998

The CARE raised several issues regarding communications between the TSC and CARE. The TSC responds as follows:

- a. *(1998CT-02response)*
- b. *(1998CT-04response)*

1998TC-01. In light of the increased importance of coastal pelagic fishery issues, the TSC recommends that the CARE include a coastal pelagics section in their age reading manual.

1998TC-01response (tbd @ C.A.R.E. 2000 Workshop)

APPENDIX I (cont.)

1998TC-02. The TSC strongly recommends to CARE that they emphasize "hands-on" work with age structures at their meeting and minimize the number of scientific presentations if they are available at other venues. Given the large attendance at the 1998 CARE meeting, TSC also encourages holding annual CARE meetings which may facilitate increased participation in technical sessions.

1998TC-02response. (cross-ref. 1998CC-01)CARE recognizes it must return to a more hands-on format. The new Chair of CARE will look into the feasibility of lengthening the conference to allow more time for age-readers to work with problems that can only be solved at the microscope.4/30/1998 Overall workshop is increased by .5d, and with elimination of age-reading presentations provides a total of 2d for hands on. KMM5/3/2000

1998TC-03. The TSC asks that the CARE submit a report to the TSC summarizing the results of any age reading exchanges initiated by CARE. The report should include any changes to criteria to be applied by age readers from the agencies involved.

1998TC-03response (tbd @ C.A.R.E. 2000 Workshop). Progress ...

1998TC-04. The TSC notes that recent lingcod and Pacific hake exchanges found bias in ages compared between agencies. The TSC recommends that the CARE work to resolve the differences and report them to the TSC.

1998TC-04response (tbd @ C.A.R.E. 2000 Workshop)

1998 Recommendations from C.A.R.E. to C.A.R.E. April 28-30, 1998

1998CC-01. CARE recognizes it must return to a more hands-on format. The new Chair of CARE will look into the feasibility of lengthening the conference to allow more time for age-readers to work with problems that can only be solved at the microscope. (*cross ref 1998TC-02*)

1999 Recommendations from TSC to C.A.R.E. May 4-6, 1999

1999TC-01. Several species of groundfish are difficult to age and subject to drift in application of aging criteria and require routine calibration. Therefore prior to the biennial CARE workshop, CARE should coordinate a formal exchange of structures among all production labs to assess precision for priority species. The first exchange should include sablefish, hake and lingcod. The TSC and CARE should review the species to be calibrated at their respective meetings.

1999TC-01response. (tbd @ C.A.R.E. 2000 Workshop)

2000 Recommendations from TSC to C.A.R.E. May 9-11, 2000

2000 Recommendations from C.A.R.E. to TSC May 16-18, 2000

APPENDIX II

COMMITTEE OF AGE-READING EXPERTS

A Subcommittee of the Technical Subcommittee of the Canada-USA Groundfish Committee

2000 Biennial Meeting Agenda

NOAA-NMFS AK Fisheries Science Center, Sand Pt. Lab
Seattle, Washington

“Back to Basics”

TUESDAY 5/16/2000

(Breaks approx 1000-1020, 1200-1315, 1500-1515)

8:20am Assembly

Non-agenda Announcements, Introductions, Attendance,

Workshop Theme: “Back to Basics”

Approval of Agenda

Approval of 1998 Minutes

Non-assembly Work (revisions or development over next 3 days)

Summary of Age-reading Methodology updates;

Discussion of writing workshop review report for priority species (see attached format):

Primary: Hake, Sablefish, Thornyhead,

Secondary: Pollock, Pcod, Black rockfish, Lingcod (fin)

Suggest format: date, species, agencies, paragraph of main concern/how it was dealt

Working Group reports

Manual/Glossary (MacLellan, Goetz, Munk)

Web (Erwin, Anderl, Blaisdell, Mann)

- add link to PSMFC or TSC site?

Charter (Munk, Goetz, MacLellan, others?)

Structure Exchanges

Status;

Reiteration of procedures: when initiate exchange, request formal exchange tracking number,

Add column for few paragraph hyperlinked report (develop example format, provide actual; memo head of coordinating agency; minimize reiteration of stats, but describe observations and course of follow-up)

New Business

Back-to-Basics”- Reiterate basic criteria: size of first annulus, transition zones, interpretation of edge (consistency in identifying growth past hyaline zone), readability codes~ can we become consistent?

Discussion/posting of precision test statistics procedures

Discussion of other standardized procedures

Word processing (save as WORD 6.0/95...)

Spreadsheets (EXCEL ..., development of formulae...)

Electronic images (tif, jpg, ...)

Pollock otolith collections from 1960-1979??? (notify jim.thomason@noaa.gov)

Recommendations TSC<>C.A.R.E.

1998 Recommendations from TSC to C.A.R.E.

1998 Recommendations from C.A.R.E. to TSC

1999 Recommendations from TSC to C.A.R.E.

2000 Recommendations from TSC to C.A.R.E.

2000 Recommendations from C.A.R.E. <> TSC/C.A.R.E.

2:15-3:00pm Equipment Demo by Bartels and Stout

C.A.R.E. Administration:Election of Officers 2000-2002 (possible deferral to Thursday)

2000-2002 Chairperson (nominees: vice chair 1998-2000 Brenda Erwin)

2000-2002 Vice chair/Age Structure Exchange Coord. (nominees: Shayne MacLellan, ?)

2000-2002 Secretary/Rapporteur (nominees: Christine Schmale, ?)

Adjourn to Scope-work

5:00pm Adjourn for the day

WEDNESDAY 5/17/2000 through THURSDAY 5/18/2000

8:00am Begin scope work

10:00-10:20 Convenience Break

12:00-1:15 Lunch Break

3:00-3:15 Convenience Break

5:00pm End scope-work

Thursday 5/18/00

3:15 Late meeting assembly/summary (if needed)

FRIDAY 5/19/2000

Cleanup crew...