



Committee of Age-Reading Experts 2006 Committee Report

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

May 2 – 3, 2006

Prepared by
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2004-2006 CARE, chairperson
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CARE 2006 Report to the Technical Subcommittee of the Canada-USA Groundfish Committee

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 operates within the Terms of Reference approved by the TSC in 1986.

1. The last biennial CARE Workshop/Conference was held on April 18-20th, 2006. The minutes are currently being drafted and should be available for the 2007 TSC meeting. Workshop participants and their corresponding contact information (Appendix I) and the Workshop agenda (Appendix II) are included in this report. The structure exchange table and the summary of age reading methods table have been modified based on TSC recommendations and CARE to CARE recommendations, respectively. A draft copy of the structure exchange table has been provided for review and comment (Appendix IV). A draft copy of the new summary of age reading methods was not available at the time of this report.
2. No dates have been set for the next biennial CARE Workshop, but it is expected to be held prior to the 2007 TSC meeting.

B. CARE Working Group Reports

1. Manual/Glossary Subcommittee- Shayne MacLellan (chair, report contributor), Betty Goetz, Kristen Munk
 - a. Groundfish Ageing Manual species specific ageing chapter additions
 - I. Lingcod: Author John Sneva (WDFW) – approved by membership.
 - II. Dover sole: Author Lisa Lysak (NOAA Fisheries-NWFSC-PSMFC) – approved by membership.
 - III. Pacific whiting: Author Patrick McDonald (NOAA Fisheries-NWFSC-PSMFC) and Shayne MacLellan (Pacific Biological Station, Nanaimo, BC) – in progress.
 - b. Groundfish Ageing Manual chapter additions – other.
 - I. Statistical analysis/tools: Author Michael Schirripa (NOAA Fisheries-NWFSC) – in progress.
 - c. No new updates to the glossary.
2. Web Page Subcommittee- Jon Short (chair), Delsa Anderl, Brenda Erwin
 - a. The minutes from the 2004 CARE meeting and the CARE Charter have been sent to the Web Page Subcommittee Chair and will be available soon on-line.
 - b. The CARE web site is available at <http://www.psmfc.org/care>.
3. Charter Subcommittee – Shayne MacLellan, Kristen Munk, Betty Goetz
 - a. No new updates to the CARE Charter.

C. Agency Structure Exchanges

1. The structure exchange table (Appendix III) was updated to include all inter-lab exchanges that occurred between the last two previous CARE meetings (see CARE Workshop Business for changes to the structure exchange table).

D. Interim Workshop Updates

1. These interim or supplemental hands on workshops were discussed at the 2006 CARE.
 - a. Sablefish: The ADFG, CDFO, NOAA-Fisheries AFSC and NOAA Fisheries-NWFSC-PSMFC labs discussed the opportunity to get together in 2007 to document ageing methodologies and interpretations of growth patterns.
 - b. Petrale sole: WDFW and NOAA-Fisheries-NWFSC-PSMFC labs discussed getting together possibly in 2007 or in 2008 outside of CARE to calibrate our methods for ageing US West Coast petrale.

E. CARE Workshop Business

1. Status of 2005 Recommendations from TSC to CARE
Recommendation withdrawn
2. Status of 2004 Recommendation from TSC to CARE

Recommendation: TSC recommends eliminating the summary statistics and adding hyperlinks to any reports pertinent to the exchange. The TSC also supports the CARE representative's suggestion of standardizing the format of age structure exchange reports.

Update: This recommendation was presented to the membership and initiated the following CARE to CARE recommendation.

2006-1 CARE to CARE Recommendation:

The CARE Age Structure Exchange (CASE) table presently identifies inter-agency exchanges occurring on species of interest to the TSC, or other inter-agency calibrations as needed. CARE recommends to itself to modify the CASE table and process. We will continue to track structure exchanges per the CARE Charter, however we will drop precision test results from the CASE table. We will develop a CASE invoice, accessible on the CARE website. Upon initiating an exchange, the originating agency will contact the CASE coordinator for an exchange id number. The originating agency will conduct the exchange, fill out all information in the CASE invoice, and submit it to the CASE coordinator upon its completion. The CASE coordinator or designee will update the website to allow linked access within the CASE table. Inclusion of precision statistics is optional.

3. 2006-2 CARE to CARE Recommendation:

CARE recommends making changes to the Summary of Ageing table regarding format and information included. The current table info will be split into two tables; one to include "Methods" information (agency, species, method, validation, area, structure, validation & validation citation). The method, validation & citation columns would provide anecdotal information that will be updated. The method column would include all methods used historically or currently and provide dates when methods were adopted. The validation column would indicate method and extent (e.g. all ages, up to age 30, longevity) and the validation citation column would indicate dates and contact. The new 2nd table would include agency, species, calendar year and number of fish per species aged. Total fish and total species aged would be calculated. Numbers of readers involved per calendar year for all fish aged will also be included. It is recommended that this data would reside on the website and that a small relational database would house the data. A mechanism would be developed to query the database to assess the breadth and depth of expertise for species by agency for all species aged. Development of database will be in small steps. The Vice-chair will be responsible for updating both tables on an annual basis.

4. 2006-1 CARE to TSC Recommendations:

The biennial CARE meetings have been traditionally held at the Seattle NMFS-AFSC facilities. The Pacific Biological Station (PBS), Nanaimo representatives offered to host the 2008 CARE meeting. Two reasons were given for this proposed departure. First, this invitation coincides with the PBS 100th anniversary (1908-2008). Second, agency travel policy can prohibit all age readers from different participating agencies and labs to attend the CARE meeting at the Seattle AFSC facilities. The CARE requests TSC members to support this recommendation and encourage travel funding. This rotation will allow PBS to share in the hosting responsibilities and for greater CARE participation among their personnel. It would also appropriately acknowledge PBS's substantial contributions to the field of fish age and growth.

F. During the workshop portion of the meeting structures from at least 15 species of fish examined: petrale sole, arrowtooth flounder, sablefish, lingcod, Pacific hake, P. cod, sardine, shortspine thornyheads, spiny dogfish, canary rockfish, yelloweye rockfish, Quillback rockfish, roughey rockfish, black rockfish and longnose skate.

Appendix I.

2006 CARE Attendee List				
Count	Last	First	Agency	email
1	Munk	Kris	ADFG-ADU	Kristen_munk@fishgame.state.ak.us
2	Neil	Jodie	ADFG-ADU	jodi_neil@fishgame.state.ak.us
3	Cowen	Phil	ADFG-Homer	philip_cowan@fishgame.state.ak.us
4	Dunne	Willy	ADFG-Homer	willy_dunne@fishgame.state.ak.us
5	Russ	Chris	ADFG-Homer	chris_russ@fishgame.state.ak.us
6	Brodie	Joan	ADFG-Kodiak	joan_brodie@fishgame.state.ak.us
7	Gillespie	Darlene	DFO	GillespieD@pac.dfo-mpo.gc.ca
8	MacLellan	Shayne	DFO	MacLellanSh@pac.dfo-mpo.gc.ca
9	Blood	Cal	IPHC	cal@iphc.washington.edu
10	Forsberg	Joan	IPHC	joan@iphc.washington.edu
11	Gibbs	Linda	IPHC	lindagibbs17@gmail.com
12	Wischniowski	Steve	IPHC	steveW@iphc.washington.edu
13	Cailliet	Greg	MLML	Cailliet@mml.calstate.edu
14	Anderl	Delsa	NOAA-Fisheries-AFSC	delsa.anderl@noaa.gov
15	Benson	Irina	NOAA-Fisheries-AFSC	irina.benson@noaa.gov
16	Brogan	John	NOAA-Fisheries-AFSC	john.brogan@noaa.gov
17	Foy	Dan	NOAA-Fisheries-AFSC	dan.foy@noaa.gov
18	Gburski	Christopher	NOAA-Fisheries-AFSC	christopher.gburski@noaa.gov
19	Goetz	Betty	NOAA-Fisheries-AFSC	betty.goetz@noaa.gov
20	Hutchinson	Charles	NOAA-Fisheries-AFSC	charles.hutchinson@noaa.gov
21	Johnston	Chris	NOAA-Fisheries-AFSC	chris.johnston@noaa.gov
22	Kastelle	Craig	NOAA-Fisheries-AFSC	craig.kastelle@noaa.gov
23	Kimura	Dan	NOAA-Fisheries-AFSC	dan.kimura@noaa.gov
24	Piston	Charlie	NOAA-Fisheries-AFSC	charlie.piston@noaa.gov
25	Shockley	Wes	NOAA-Fisheries-AFSC	wes.shockley@noaa.gov
26	Short	Jon	NOAA-Fisheries-AFSC	jon.short@noaa.gov
27	Atkins	Nikki	NOAA-Fisheries-NWFSC-PSMFC	nikki.atkins@noaa.gov
28	Kamikawa	Betty	NOAA-Fisheries-NWFSC-PSMFC	betty.kamikawa@noaa.gov
29	McDonald	Patrick	NOAA-Fisheries-NWFSC-PSMFC	patrick.i.mcdonald@noaa.gov
30	Rodriguez	Omar	NOAA-Fisheries-NWFSC-PSMFC	omar.rodriguez@noaa.gov
31	Thompson	Josie	ODFW	thomjosi@onid.orst.edu
32	Rosenfield	Sandy	WDFW	rosenslr@dfw.wa.gov
33	Topping	Jennifer	WDFW	toppiat@dfw.wa.gov

Appendix II

2006 Biennial Meeting Agenda

Committee of Age Reading Experts
A Working Group of the Technical Subcommittee of the Canada-USA Groundfish Committee

2006 Biennial Meeting Agenda
April 18-20, 2006

NOAA-NMFS Alaska Fisheries Science Center
Seattle, WA

Tuesday – April 18th, 2006

8:30am – 10:00am

- I. Introductions, Attendance and Announcements
- II. Approval of 2006 Agenda
- III. Approval of 2004 Minutes
- IV. Working Group Reports - Updates
 - A. Charter (MacLellan, Goetz, Munk)
 - B. Manual/Glossary (MacLellan, Goetz, Munk)
 1. Ageing Chapter Additions
 - C. Web site (Short/Anderl)
- V. Additional Updates
 - A. Summary of Age Reading Methods
 1. Definitions
 2. Modifications
- VI. Inter-lab Structure Exchanges (Kris Munk)

Morning Break

10:20am – 12:00pm

- VII. Overview and Updates by Agency (Ageing Priorities, personnel, research, workshops/meetings attended, publications, new species responsible for ageing).
 - A. ADFG (Kris Munk)
 - B. CDFO (Shayne MacLellan)
 - C. CDFG –Could Not Attend
 - D. IPHC (Joan Forsberg/Steve Wischniowski)
 - E. NMFS – AFSC (Dan Kimura)
 - F. ODFW (Josie Thompson)
 - G. WDFW (Sandy Rosenfield/Jennifer Topping)
 - H. NMFS-NWFSC-PSMFC (Betty Kamikawa/Omar Rodriguez)
- VIII. Recommendations
 - A. 2005 Recommendations from TSC to CARE:
 1. None
 - B. 2004 Recommendations from CARE to CARE:
 1. CARE members are encouraged to hold workshops/calibration sessions as needed to address specific age reading issues.
 2. Draft a chapter on statistics to include in the CARE manual.

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C. 2004 Recommendations from TSC to CARE:

1. In response to CARE's request for guidance on the content of their "Summary of Age Structure Exchanges" table (refer to <http://care.psmfc.org/structtable.htm>), the TSC recommends eliminating the summary statistics and adding hyperlinks to any reports pertinent to the exchange. The TSC also supports the CARE representative's suggestion of standardizing the format of age structure exchanges reports.

12:00pm – 1:15pm
Lunch

1:15pm – 3:15pm
Recommendations Continued if needed
IX. Presentations

- A. Craig Kastle (AFSC) – Age validation of POP using Bomb Radiocarbon
- B. Darlene Gillespie (CDFO) – Progress on Developing a Method for Ageing Pacific Cod
- C. Charles Hutchinson (AFSC) – Developing Ageing Criteria for Shortraker Rockfish
- D. Jodi Neil (ADFG) – Age validation of SST using Bomb Radiocarbon

3:15pm – 3:30pm
Break

3:30pm – 4:45pm
E. Jon Short (AFSC) – Age reading demonstration; an interactive ageing program
F. Shayne MacLellan (CDFO) – Greenland Halibut Ageing Workshop Summary

- X. Election of 2006-2008 CARE Officers
- A. Chair (Kris Munk)
 - B. Vice Chair/Age Structure Exchange Coordinator
 - C. Secretary/Rapporteur

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Wednesday – April 19th, 2006

8:15am – 8:45am

- XI. Age and Growth Lab Overview and Updates by Agency
- I. Moss Landing Marine Laboratories (Greg Cailliet)

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8:45am – 10:15am
Microscope Work at Scheduled Workstations
Species Specific Meetings

Morning Break

10:30am – 12:00pm
On-going Microscope Work at Scheduled Workstations

12:00pm – 1:15pm
Lunch

1:15pm – 3:15pm
On-going Microscope Work at Scheduled Workstations

Afternoon Break

3:30pm – 5:00pm

On-going Microscope Work at Scheduled Workstations

6:00pm Evening Social event and potluck hosted by Cal Blood and Family!

Thursday – April 20th, 2006

8:00am – 12:00pm

On-going Microscope Work at Scheduled Workstations

Morning Break

12:00pm – 1:15pm

Lunch

1:15pm – 3:00pm

Wrap-Up Unfinished Microscope Work

Afternoon Break

3:15pm – 4:15pm

Business/Unfinished Business Wrap-Up

4:30pm - Meeting Adjourned

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Appendix III

Truncated copy of the updated CARE structure exchange table with highlighted rows indicating the changes from the last update in 2004.

EXCHANGE ID NO.	EXCHANGE YEAR	ORIGINATING AGENCY	COORDINATOR	COOPERATOR(S)	DATE INITIATED	SPECIES
98-001	1998	WDF	J. SNEVA	ODFW	1998-1999	English Sole
98-002	1998	WDF	J. SNEVA	ODFW	1998-1999	Black Rockfish
99-001	1999	ODFW	B. MIKUS	CDFG,IPHC,NMFS	spring 1999	Dover Sole
99-002	1999	ADFG-Kodiak	C. WORTON	ADFG-Juneau	spring 1999	Black Rockfish
99-003	1999	ADFG-Kodiak	C. WORTON	ADFG-Juneau	spring 1999	Pacific Cod
99-004	1999	ADFG-Homer	S. MEYER	IPHC	1999	Halibut
99-005	1999	WDFW	J. SNEVA	CDFO,NMFS-Tiburon	spring 1999	Lingcod
99-006	1999	ADFG-Juneau	K. MUNK	CDFO,ODFW	10/25/1999	Rougheye Rockfish
99-007	1999	ADFG-Juneau	K. MUNK	CDFO,ODFW,WDFW	10/25/1999	Yelloweye Rockfish
99-008	1999	ADFG-Juneau	K. MUNK	CDFO,ODFW	10/25/1999	Thornyhead rockfish
99-009	1999	ADFG-Juneau	K. MUNK	CDFO,ODFW,WDFW	10/25/1999	Quillback Rockfish
99-010	1999	ADFG-Juneau	K. MUNK	CDFO,ODFW,WDFW	10/25/1999	Dusky Rockfish
99-011	1999	ADFG-Homer	C. STOCK	CDFO?	10/1/1999	Lingcod
99-012	1999	CDFO	S. MacLELLAN	NMFS-AFSC	1/31/1999	Pacific Whiting
00-001	2000	ADFG-Juneau	K. MUNK	ODFW,NMFS-AFSC	1/15/2000	Sablefish
00-002	2000	ODFW	B. MIKUS	CDFG,IPHC,NMFS,CDFO	1/27/2000	Dover Sole(1)
00-003	2000	ODFW	B. MIKUS	CDFG,IPHC,NMFS	1/27/2000	Dover Sole(2)
00-004	2000	ODFW	B. MIKUS	CDFG,IPHC,NMFS	1/27/2000	Dover Sole(3)
00-005	2000	ADFG-Juneau	K. MUNK	NMFS-AFSC	3/1/2000	Pollock
00-006	2000	ADFG-Juneau	K. MUNK	CDFO	3/1/2000	Thornyhead Rockfish
01-001	2001	ADFG-Juneau	K. MUNK	CDFO	1/12/2000	Yelloweye Rockfish
01-002	2000	WDFW	J. SNEVA	WDFW,DFO,ODFW	2001	Lingcod
01-003	2001	NMFS-Seattle	D.ANDERL	NMFS-AFSC,ODFW	1-Aug	Pacific Whiting
01-004	2001	ODFW	P. MCDONALD	ODFW,NMFS-AFSC	1-Nov	Pacific Whiting
02-001?	2002	NMFS-Seattle	D.ANDERL	ADFG-Juneau	12/?/01	Sablefish(known-age)
02-002	2002	ODFW	B. MILLER	ODFW, NMFS-AFSC, CDFG, IPHS	Feb-02	Dover sole
02-004	2002	ODFW	P. MCDONALD	ODFW,NMFS-AFSC,DFO,ADFG-Juneau	1-Dec	sablefish
03-001	2003	ODFW	B. MIKUS			Dover sole
03-002	2003	PSMFC	O. RODRIGUEZ	PSMFC-CAP, CDFO	Oct-03	Pacific Whiting
03-003	2003	CDFO	S. MacLELLAN	CDFO, PSMFC-CAP	Nov-03	Pacific Whiting
03-004	2003	ADFG-Kodiak	J. Brodie	NMFS-AFSC	Dec-03	Pacific Cod
04-001	2004	NMFS-AFSC	C. KASTELLE	NMFS-AFSC, ADFG -Juneau	Spring 2002	Pollock
04-002	2004	PSMFC-CAP	P. MCDONALD	PSMFC-CAP, NMFS-AFSC	Feb-04	sablefish
04-003	2004	PSMFC-CAP	J. MENKEL	PSMFC-CAP, NMFS-AFSC	Mar-04	Darkblotched rockfish
04-004	2004	ODFW	B. MIKUS	ODFW, PSMFC-CAP, CDFG	Mar-04	Dover sole
04-005	2004	NOAA-CAP	Omar Rodriguez	CDFO	05-Aug-04	Hake
04-006	2004	CDFO	Omar Rodriguez	NOAA-CAP	20-Aug-04	Hake
04-007	2004	NOAA-CAP	Omar Rodriguez	CDFO	17-Nov-04	Hake
05-001	2005	CDFO	Omar Rodriguez	NOAA-CAP	17-Mar-05	Hake
05-002	2005	CDFO	Omar Rodriguez	NOAA-CAP	13-Nov-05	Hake
05-003	2005	NOAA-CAP	Omar Rodriguez	CDFO	11-Nov-05	Hake
05-004	2005	NMFS-NWFSC	S. CONCETTI	NMFS-AFSC	Dec-05	Pacific Ocean Perch
06-001	2006	ADFG	K. MUNK	ODFW,NMFS-AFSC,DFO,ADFG-Juneau	Jan 1 2006	Sablefish
06-002	2006	ODFW	P. MCDONALD	ODFW,NMFS-AFSC,DFO,ADFG-Juneau	Jan 1 2006	Sablefish
06-003	2006	CDFO	S. MacLELLAN	ODFW,NMFS-AFSC,DFO,ADFG-Juneau	Jan 1 2006	Sablefish
06-004	2006	NMFS-AFSC	D.ANDERL	ODFW,NMFS-AFSC,DFO,ADFG-Juneau	Jan 1 2006	Sablefish

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- Agencies
 ADFG = Alaska Department of Fish and Game (ADFG-ADU [Juneau]; ADFG-Kodiak; ADFG-Homer)
 CDFG=California Department of Fish and Game
 CDFO= Canada Department of Fisheries and Ocean
 IPHC=International Pacific Halibut Commission
 NOAA-NMFS=National Oceanic and Atmospheric --- National Marine Fisheries Service
 ODFW= Oregon Department of Fish and Wildlife
 PSMFC=Pacific States Marine Fisheries Commission
 WDFW= Washington Department of Fish and Wildlife

Appendix IV

This is a rough draft copy of CARE Age Structure Exchange Invoice (CASE) that will take the place of the current Age Structure Exchange Table shown in Appendix III.

COMMITTEE OF AGE READING EXPERTS							
AGE STRUCTURE EXCHANGE INVOICE							
EXCHANGE ID NO.	DRAFT COPY NOT FINALIZED			SPECIES			
EXCHANGE YEAR				AREA			
ORIGINATING AGENCY				STRUCTURE			
O.A. COORDINATOR*				TECHNIQUE			
COOPERATOR(S)				PURPOSE			
DATE INITIATED				SAMPLE n=			
				NO. READERS			
SPECIMEN NUMBER	CAPTURE MM/DD/YY	AGENCY (1)	AGENCY (2)	AGENCY (3)	AGENCY (4)	AGENCY (5)	ORIGINAL SAMPLE ID
1							
2							
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COMMENT

DRAFT VERSION NOT

USE AND USER INFO: A CARE member initiates an exchange by requesting an Exchange Id number from the CARE Age Structure Exchange (CASE) Coordinator, the CARE vice chair. The CARE member conducts and completes the exchange and submits this completed invoice to the CASE Coordinator. Precision statistics are optional. This CARE Age Structure Exchange Invoice documents data resulting from a formal interlab exchange. Questions of these or associated data may be made to the above listed *coordinator of the originating agency.

PRECISION STATISTICS

AVERAGE % ERROR
 COEFFICIENT OF VARIATION

INDEX OF PRECISION
 %AGREEMENT