

Committee of Age-Reading Experts 2006 Committee Report

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

April 24, 25 2007

Prepared by

Kristen M. Munk
2006-2008 CARE Chairperson
Alaska Department of Fish and Game
Age Determination Unit
Box 25526
Juneau, Alaska 99811 USA

CARE 2006 Report to the Technical Subcommittee of the Canada-USA Groundfish Committee

A. CARE Overview

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 and the CARE Charter developed in 2000 and approved by the CARE in 2004.

1. The most recent biennial CARE Workshop was held April 18-20, 2006 attended by 32 agency members from Oregon, Washington, British Columbia, and Alaska, and 1 participant from California. Please see the summary of this workshop prepared and previously submitted by past chair Patrick McDonald, the 2005 CARE-TSC report dated May 2-3, 2006. The final minutes from these proceedings are completed however failed the first attempt at passage (October 2006) due to lack of meeting e-quorum guidelines, and will be presented again to CARE members at the 2008 biennial workshop.
2. Highlighting and restating a recommendation in 2006 made by CARE to CARE (included in McDonald's May 2-3, 2006 report), is the proposed dropping of precision statistics in the CARE Age Structure Exchange table. This recommendation also proposed use of a data invoice, termed CASE (CARE Age Structure Exchange) invoice, which documents all ages for any exchange. These data will be available to TSC members to use in the manner they choose. The CASE invoice of data will be available via the CARE website and hyperlinked from the CASE table as a pdf file. Raw data may be made available later, however, the web-mechanics of this are not yet resolved.

B. CARE Subcommittee (Working Group) Reports

1. CARE Manual/Glossary Committee-MacLellan, Goetz, Munk
Manual/Glossary working group members develop suitable and agreed upon age reading sections or definitions for terms suggested by CARE members, which are then approved by CARE members and added to the CARE Manual/Glossary.
 - 1.1 The term "dark/light boundary" was developed and will be added to the glossary (pending approval at the 2008 CARE workshop).
 - 1.2 The manual's cover has been replaced with a Steve Wischniowski original composition.
 - 1.3 Two new sections describing age reading of lingcod fin spines and Dover sole otoliths have been added to Manual.
2. CARE Website – Anderl, Short (webmaster)

The CARE website working group administers to appearance, operation, and access to the site, through the cooperation of the PSMFC website and webmaster. The CARE web page is located at <http://www.psmfc.org/care/>.

- 2.1 Website work has included making updates to CARE documents.
 - 2.2 Additional edits and updates are awaiting available time of coordinating members.
3. CARE Charter – Munk, MacLellan, Goetz
The CARE Charter working group developed Charter guidelines, which were then considered, suggestions made, and then approved by CARE members.
 - 3.1 The CARE Charter was previously completed and approved by CARE in 2004.
 - 3.2 The Charter working group—mission completed—disbanded in 2006.

C. CARE Agency Structure Exchanges

Agency structure-exchange organizers provided CARE vice-chair Shayne MacLellan the status and summary of structure exchanges (Table 1).

D. Recent Topics of Interest Raised by Age-Readers

1. Effect of Aging Error on Age Structured Models
 - 1.1 Edge detection due to growth-response differences by latitude: rockfish likely have different timing in the onset of deposition of light and dark zones of an (emergent) annulus relative to latitude (eg, across shared stock boundaries). How is this factor accounted for in determining the marginal increment (edge)? (CARE response needed)
 - 1.2 What are the implications to age structured models for differences between one lab assigning an age of (for example) 6y when it is actually 5+y? (TSC response appreciated)
2. Attrition of Age Readers
 - 2.1 CARE, and its mandate, has been relatively stable due to a high volume of very experienced age readers. Data utilized by the TSC through agency avenues is greatly dependant upon this experience and institutional knowledge. Many of these age readers are close to retirement.
 - 2.2 CARE collectively took a step forward in 2000 by expanding the original Terms of Reference, the CARE Charter, to aid continuity of CARE's mandate especially in response to pending retirements.
 - 2.3 A poll of CARE will soon be taken in 2007 to identify a) the number of full-time age readers (>6mo/y spent aging), b) the number >10y from retirement, c) 5-10y from retirement, d) <5y from retirement.

E. Future CARE Work/Workshop

1. CARE Workshop
 - 1.1 The next CARE workshop is scheduled to occur April 2008, held at the Pacific Biological Station in Nanaimo, British Columbia, Canada.
2. CARE Website
 - 2.1 The CARE website serves as a shared access to generally static documents. CARE has some perpetual documents which chronicle age structure exchanges, etc. These require continuity and posting of additional data. These documents have been “secured” through individual maintenance on personal computers (generally the CARE chair and vice chair), which are passed along upon changes in administration. These documents may not always have received or retained all information. CARE will investigate web-placement of these documents with write-protection access by CARE administrators.

F. Recommendations from CARE to TSC

1. 2006-1 CARE to TSC: The biennial CARE meetings have been held traditionally 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 policies can prohibit 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.

G. Status of Recommendations from TSC to CARE

None.

Table 1a. An abbreviated list of most recent age structure exchanges and their a) completion status and b) reported precision statistics.

EXCHANGE ID NO.	EXCHANGE YEAR	ORIGINATING AGENCY	COORDINATOR	COOPERATOR(S)	DATE INITIATED	SPECIES	STOCK	STRUCTURE	TECHNIQUE	STATUS
02-001	2002	NMFS-Seattle	D.ANDERL	ADFG-Juneau	12/?/01	Sablefish(known-age)	Gulf of Alaska	otolith	Break and burn	complete
02-002	2002	ODFW	B. MILLER	ODFW, NMFS-AFSC, CDFG, IPHC	1-Feb-02	Dover sole	West Coast	otolith	Break and burn	complete
02-004	2002	ODFW	P. MCDONALD	ODFW,NMFS-AFSC,DFO,ADFG-J	1-Dec-02	sablefish	West Coast	otolith	Break and burn	incomplete
03-001	2003	ODFW	B. MIKUS			Dover sole		otolith	Break and burn	incomplete
03-002	2003	PSMFC	O. RODRIGUEZ	PSMFC-CAP, CDFO	3-Oct-03	Pacific Whiting	West Coast	otolith	Break and burn	complete
03-003	2003	CDFO	S. MacLELLAN	CDFO, PSMFC-CAP	3-Nov-03	Pacific Whiting	West Coast	otolith	Break and burn	complete
03-004	2003	ADFG-Kodiak	J. Brodie	NMFS-AFSC	1-Dec-03	Pacific Cod	Alaska	otolith	Break and burn	in process
04-001	2004	NMFS-AFSC	C. KASTELLE	NMFS-AFSC, ADFG -Juneau	Spring 2002	Pollock	Shelikof st.	otolith	Break and burn	complete
04-002	2004	PSMFC-CAP	P. MCDONALD	PSMFC-CAP, NMFS-AFSC	4-Feb-04	sablefish	West Coast	otolith	Break and burn	complete
04-003	2004	PSMFC-CAP	J. MENKEL	PSMFC-CAP, NMFS-AFSC	4-Mar-04	Darkblotched rockfish	West Coast	otolith	Break and burn	
04-004	2004	ODFW	B. MIKUS	ODFW, PSMFC-CAP, CDFG	4-Mar-04	Dover sole	West Coast	otolith	Break and burn	
04-005	2004	NOAA-CAP	O. Rodriguez	CDFO	5-Aug-04	Hake	West Coast	otolith	Break and burn	complete
04-006	2004	CDFO	O. Rodriguez	NOAA-CAP	20-Aug-04	Hake	West Coast	otolith	Break and burn	complete
04-007	2004	NOAA-CAP	O. Rodriguez	CDFO	17-Nov-04	Hake	West Coast	otolith	Break and burn	complete
05-001	2005	CDFO	O. Rodriguez	NOAA-CAP	17-Mar-05	Hake	West Coast	otolith	Break and burn	complete
05-002	2005	CDFO	O. Rodriguez	NOAA-CAP	13-Nov-05	Hake	West Coast	otolith	Break and burn	complete
05-003	2005	NOAA-CAP	O. Rodriguez	CDFO	11-Nov-05	Hake	West Coast	otolith	Break and burn	complete
05-004	2005	NMFS-NWFSC	S. CONCETTI	NMFS-AFSC	20-Dec-05	Pacific Ocean Perch	West Coast	otolith	Break and burn	complete
06-001	2006	ADFG	K. MUNK	PSMFC,NMFS-AFSC,DFO,ADFG-	1-Jan-06	Sablefish	Alaska	otolith	Break and burn	complete
06-002	2006	PSMFC	P. MCDONALD	PSMFC,NMFS-AFSC,DFO,ADFG-	1-Jan-06	Sablefish	West Coast	otolith	Break and burn	complete
06-003	2006	CDFO	S. MacLELLAN	PSMFC,NMFS-AFSC,DFO,ADFG-	1-Jan-06	Sablefish	West Coast	otolith	Break and burn	complete
06-004	2006	NMFS-AFSC	D. ANDERL	PSMFC,NMFS-AFSC,DFO,ADFG-	1-Jan-06	Sablefish	Alaska	otolith	Break and burn	complete
06-005	2006	PSMFC	O. RODRIGUEZ	PSMFC, CDFO	16-Jan-06	Hake	West Coast	otolith	Break and burn	complete
06-006	2006	CDFO	S. MacLELLAN	CDFO, PSMFC	1-Aug-06	Hake	West Coast Vanc	otolith	Break and burn	complete

Table 1b. An abbreviated list of age structure exchanges and their a) completion status and b) reported precision statistics.									
EXCHANGE ID NO.	COOPERATOR(S)	DATE INITIATED	SPECIES	STOCK	SAMPLE n=	NO. READERS	% AGREE	AVG % ERR	MEAN CV
02-001	ADFG-Juneau	1-Jan-02	Sablefish(known-age)	Gulf of Alaska	31	1	35.48%	8.36%	0.11829
02-002	ODFW, NMFS-AFSC, CDFG, IPHC	1-Feb-02	Dover sole	West Coast	20	12			0.514
02-004	ODFW,NMFS-AFSC,DFO,ADFG-Juneau	1-Dec-02	sablefish	West Coast	30	5			
03-001			Dover sole						
03-002	PSMFC-CAP, CDFO	3-Oct-03	Pacific Whiting	West Coast	99	2	51.52		
03-003	CDFO, PSMFC-CAP	3-Nov-03	Pacific Whiting	West Coast	98	2	47.96		
03-004	NMFS-AFSC	1-Dec-03	Pacific Cod	Alaska	30	2			
04-001	NMFS-AFSC, ADFG -Juneau	Spring 2002	Pollock	Shelikof st.	618	2	14.6		
04-002	PSMFC-CAP, NMFS-AFSC	4-Feb-04	sablefish	West Coast	25	2	52.00%		
04-003	PSMFC-CAP, NMFS-AFSC	4-Mar-04	Darkblotched rockfish	West Coast	50	3			
04-004	ODFW, PSMFC-CAP, CDFG	4-Mar-04	Dover sole	West Coast					
04-005	CDFO	5-Aug-04	Hake	West Coast	50	2	40.00	5.07	7.16
04-006	NOAA-CAP	20-Aug-04	Hake	West Coast	50	2	70.00	2.84	4.01
04-007	CDFO	17-Nov-04	Hake	West Coast	50	2	58.00	3.26	4.60
05-001	NOAA-CAP	17-Mar-05	Hake	West Coast	51	2	84.31		2.05
05-002	NOAA-CAP	13-Nov-05	Hake	West Coast	93	2	79.57	1.42	2.00
05-003	CDFO	11-Nov-05	Hake	West Coast	100	2	84.00	1.39	1.97
05-004	NMFS-AFSC	20-Dec-05	Pacific Ocean Perch	West Coast	100	2	56	6.23%	
06-001	PSMFC,NMFS-AFSC,DFO,ADFG-Juneau	1-Jan-06	Sablefish	Alaska	24	4	0	18.33%	0.2462
06-002	PSMFC,NMFS-AFSC,DFO,ADFG-Juneau	1-Jan-06	Sablefish	West Coast	25	4			
06-003	PSMFC,NMFS-AFSC,DFO,ADFG-Juneau	1-Jan-06	Sablefish	West Coast	20	4	15	17.14%	0.2251
06-004	PSMFC,NMFS-AFSC,DFO,ADFG-Juneau	1-Jan-06	Sablefish	Alaska	20	4			
06-005	PSMFC, CDFO	16-Jan-06	Hake	West Coast	100	2	72	2.19%	
06-006	CDFO, PSMFC	1-Aug-06	Hake	West Coast Vancouver Island	100	2	80	1.57%	0.0222