

Committee of Age-Reading Experts

2010 Committee Report

Prepared for the Fifty-second Annual Meeting of the Technical
Subcommittee of the Canada-USA Groundfish Committee

3-5 May 3-5 2011

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CARE 2010 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.

CARE Workshop

CARE meets biennially at the "CARE Workshop" with workshops typically comprising a "business" day and generally 1.5 days for hands-on calibration at microscopes to review and standardize age reading criteria. There was no meeting in 2010.

Report Period

This report covers the work period 01 January – 31 December 2010. However, to promote timely reporting of work and recommendations occurring during the recent CARE workshop (April 2011), a separate Executive Summary of the 2011 CARE workshop is included in Appendix I.

B. CARE Subcommittee (Working Group) Reports

1. CARE Manual/Glossary Committee-Kamikawa, Goetz, Munk

The Manual/Glossary working group members develop age reading chapter sections or definitions for age-reading terms suggested by CARE members, which are subsequently approved by CARE members and added to the CARE Manual/Glossary.

During 2010 two new sections for the manual were drafted by CARE members. B. Campbell produced a section on quality assurance/quality control procedures and Forsberg produced one on age determination of halibut.

2. CARE Website – Short (Co-chair & webmaster), Atkins (Co-chair)

The CARE website working group administers to the 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/>.

Substantial work was completed on the CARE website in 2010:

- 2.1 The CARE Charter page was updated on the website. New sections (CASE Invoice Protocol, Edit Log) and Appendices A (CARE meetings minutes format), B (CARE annual report to the TSC) and C (CASE invoice for sample exchanges) were added. An additional appendix "Precision Test Statistics and Formulation" is yet to be drafted. In addition, the Charter's introduction page was revised to include an Index with links to enhance searching the Charter contents.
- 2.2 The Vice Chair, Rosenfield, chased down almost all missing CASE invoices for the exchanges listed on the websites' Structure Exchanges page carried out from 2006 – 2009.

Short updated the exchange table with the missing CASE invoices and updated the page by adding links that connect to the CASE invoice for each exchange. Once the 2006-2009 CASE invoices were updated Rosenfield searched for age data resulting from exchanges 1998 – 2005, before CASE invoices existed. She has been successful in recovering some of these historical data which were transferred to CASE invoices and were updated to the Exchanges Table.

3. Charter Committee – Munk, MacLellan, Goetz

The Charter, initiated in 2000, provides a framework within which the original intent of CARE may continue. It also expedites familiarization of new CARE members to the function of CARE and the responsibilities of its officers and members. The committee is responsible for facilitating changes and updates to the Charter.

The committee was not active in 2010.

C. CARE Agency Structure Exchanges

Age structure exchanges periodically occur to assess calibration among age-reading facilities, following which specimens with widely varying age estimates are reviewed and discussed. Exchanges are tracked by the CARE vice-chair. Data from exchanges is now mostly available found on the CARE website in the Structure Exchanges table.

There were 3 age structure exchanges initiated in 2010 and one exchange that started out in late 2009 that was concluded in 2010. Species exchanged were sablefish, Pacific whiting, Pacific ocean perch and lingcod.

D. Recommendations CARE ~ TSC

Recommendations are made by both CARE and the TSC to CARE during their meetings. Some recommendations may take more than one cycle to complete.

CARE did not initiate any new recommendations in 2010 because they did not meet that year. TSC made a recommendation to CARE in 2010 that would not be addressed till the CARE meeting April 2011.

Status of 2010 or previous pending recommendations are summarized below:

1. 2006 Recommendations

1.1. CARE to CARE: Proposed changes to the original Summary of Age Reading Methods Table are mostly complete. The Species Aged Table is currently posted on the website and updated annually. The “detail” links to a page that provides the following information: agencies, species they have aged, how many they aged each year as well as the general location of stocks, age structure used, ageing method and if any validation has occurred.

2. 2008 CARE to CARE

2.1. CARE posted a disclaimer and citation to their website.

3. 2009 CARE to CARE

3.1. Members were encouraged to check the CARE forum on a regular basis to continue the trial to assess its usefulness. Atkins reported that use was not high in 2010. To cut down on time spent deleting spam accounts the forum membership was locked down so that new members could only be created by an administrator.

- 3.2. CARE proposed that a focus for the 2011 meeting be digital imaging. The membership was poled for input on the agenda in 2010. The agenda is planned to include a focus on image presentations, demos and discussions to review software, hardware, image taking protocols, annotation and storage options.
- 3.3. CARE submit a poster to IOS 2009: CARE successfully assembled and presented a poster regarding CARE history, accomplishments and activities.
- 3.4. Charter updates: Charter updates were accepted by the membership at the 2009 meeting. These (minor wording, Charter Edit log & Appendices: A. CARE meeting minutes format, B. CARE annual report to TSC & C. CASE invoice samples) have been posted to the website. Appendix D "Precision Test Statistics and Formulation" is yet to be written. The Charter's website introduction page has been revised to clarify & make contents easier to access by adding an index & links. No advancement was made to the recommendation to add a Working Group section to highlight their purpose and current activities with a link to a past achievements "archive" to the website.
- 3.5. Posting all CASE invoices to the website: All 2006-2009 CASE's have been posted on the CARE website that can be accessed by links on the Structure Exchanges Table. A search for pre-2006 exchanges to add CASE invoices to the table has turned up some additional CASE's to link to historical exchanges.
- 3.6. 6. The Manual/Glossary Committee: The committee put forward an ambitious recommendation to review the current CARE manual and that any changes or updates be submitted to the CARE Manual Committee Chair by April 2010. The suggestions were also to complete or initiate sections on hake, lingcod otoliths, skates, halibut, quality assurance and age validation techniques, and increase resolution to the existing rockfish ageing section. No updates were forwarded by that April 2010. However, two new sections were drafted (halibut & QA/QC) in late 2010/early 2011 to present at CARE 2011.
- 3.7. The Sablefish Working Group: As recommended the group conducted an exchange of AFSC known-age samples (15 fish) to test lessons learned from the CARE 2009 mini-workshop. A report on the results was completed and was circulated to participating agencies. The group was unable to meet in 2010.

2009 CARE to TSC (none made)

2009 TSC to CARE (none made)

2010 TSC to CARE

1. Recognizing the value of carbon dating and other potential uses of archived ageing material, TSC recommends that CARE examine the feasibility of preparing an on-line summary of the material that is archived by each of the west coast groundfish research agencies. This recommendation was added to the CARE 2011 agenda for discussion.

APPENDIX I

EXECUTIVE SUMMARY 2011 CARE Workshop

This Executive Summary of the recent 2011 CARE Workshop is appended to the '2010 CARE Annual Report to the TSC' in order to promote timely reporting of work that would otherwise not be reported till 2012, and to facilitate work and action to occur over the remaining year.

Overview

The 2011 CARE Workshop was held 11-14 April at Sand Point, Seattle, WA, USA at the Alaska Fisheries Science Center, hosted by Anderl/Helser and the Age and Growth program staff. A total of 38 individuals representing eight agencies attended (Table 2). An agenda from this workshop follows under Appendix I-A. This was an active and productive workshop, highlighted by the addition of one day to the front end of the general meeting to convene a Sablefish Working Group mini-workshop. Discussions took place regarding varied topics such as imaging, CARE's mandate and the usefulness of the CARE forum. There were six scientific presentations, notable accomplishments made by the working groups, participation by more/new CARE members in working groups and finally nominations to administration positions. There were no Recommendations made by CARE to the TSC, however, there were five Recommendations made by CARE to itself. CARE constructed a reply to the TSC to CARE 2010 recommendation.

Working Groups and Reports

There were four working groups active prior to/during and reporting at the Workshop. The same four (Website, Manual/Glossary, Charter, Sablefish) will be active during the next rotation.

1. Manual/Glossary Committee (Kamikawa, Goetz, Campbell, Russ, Failor)
Goetz reported on Kamikawa's behalf and undertook the committee chair duties during the 2011 meeting. New participants in the committee are B, Campbell, Russ and Failor. Two new draft sections for the manual, halibut ageing by Forsberg and Quality assurance/Quality control by B. Campbell, were submitted. These will be reviewed by the committee and sent out for approval by the membership. During the meeting the CARE Chair asked the committee to review the 2009 CARE to CARE recommendation. The recommendation stands. The rockfish section was reviewed during the meeting and updates/revisions were identified. Goetz will take care of these revisions which will include a baked otolith section by Russ. The committee plans to work on the following new species additions to the manual: a hake section by McDonald and CDFO members, a lingcod otolith section by ADFG-Juneau members and a skate section by Matta, Gburski, Thompson & Russ. The age validation section was reviewed by Kastle who agreed to provide minor revisions and updates. Goetz offered to draft a section on ergonomics. The committee generated a CARE to CARE recommendation for 2011.
2. Website Committee (Short, Atkins)
Short reported on work completed 2009 through to the 2011 meeting. The CARE citation and disclaimer have been added to the website. The Charter page had been updated with an index to link to Charter sections and includes a number of minor word changes and additions: Edit log and Appendices A, B & C. The structure exchange and Species Aged

tables have been updated. Some agencies still need to provide Short with their 2010 species aged information. Still to be added to the website are updates for the Species aged table (2010) and all of the exchanges made in 2010. Short indicated that for security reasons and to fix some bugs CARE should consider updating the version of Joomla used to manage content of the system and submitted a CARE to CARE 2011 recommendation to that effect.

3. Charter committee (Munk, MacLellan, Goetz)

MacLellan reported for Munk that the committee was not active in 2010. MacLellan said that she would be stepping down from the committee and called for some new members to come forward. None did. MacLellan and Goetz met to discuss a CARE to CARE 2009 recommendation to identify and describe ongoing Working Groups in the Charter so that new members would understand the purpose of each group and promote membership. They suggested that perhaps the website might be a better platform for this information and would forward the discussion to Munk for further thought and present a recommendation at the next CARE meeting in 2013.

4. Sablefish Age Readers Ad hoc Working Group (MacLellan, B. Campbell, Charles,

Gillespie; Anderl, Brogan, Kautzi; Munk, Niel, Hilwig, McNeel; McDonald, Cavanagh) MacLellan reported that the group was very active since the 2009 meeting working towards completing the original three work objectives stated in 2008 and the 2009 mini-workshop agenda. An AFSC known-age sample (n=15) was sent to each agency with the exchange starting at the end of 2009 and was completed in early 2010. The results were analyzed & distributed to the group. Generally all agencies had a tendency to under-age. The CV's calculated for each lab showed that the greatest age differences from known ages were highest with NWFSC (19.42%) followed by ADFG (16.48%), CDFO (11.74%) and AFSC (6.22%).

Instead of meeting in 2010, the group organized a virtual WebEx meeting on the 22nd March 2011 to make some focused headway towards completing the 2009 agenda. There were 15 participants from the four agencies. Further analytical results for otoliths measured in 2008 & new results for the 2009 exchange were presented and discussed. And, the results of the known-age exchange were reviewed.

Measurement project: Turns out there is no difference in size of the 1st year for the one year old otoliths sent by each agency. However, the ADFG zero age otoliths were smaller than other agencies. The thinking is that this may be a catch year issue associated with El Nino's. This needs further investigation.

2009 exchange: Was analyzed for the first time comparing ages against average age. It showed that there was a general tendency for NWFSC to age younger, ADFG to age older & that CDFO & AFSC were closer to the average age. May do further analysis.

WebEx meeting: Focused in on procedure & pattern issues and reviewed otoliths, some known-age. The group discussed various pattern types and how to apply criteria to standardize. Known-age/not otoliths and/or their images were reviewed with agencies giving feedback on their interpretations for growth pattern issues such as juvenile years, grouping vs. splitting, older patterns and transition zones. The WebEx was a great tool that allowed each agency to annotate simultaneously to see how each group was interpreting patterns. However, all agreed that nothing is better

than having the otolith in front of you to manipulate and view under your own scope, but this was a good 2nd best. Feedback was solicited from each group for an agenda of day 1 of CARE 2011.

Age Structure Exchanges (Vice-chair: Rosenfield)

Rosenfield reported on exchanges for 2009-2010 and activities aimed at updating past exchange information. An updated summary of the exchanges is covered in Table 1. There were nine exchanges in 2009 of which seven occurred before the 2009 CARE meeting and two after. Before the meeting there were: four sablefish exchanges from the Sablefish Working Group (ADFG-Juneau, AFSC, CDFO and NWFSC), one Pacific whiting (NWFSC, CDFO) exchange and two Pacific cod exchanges (AFSC, ADFG-Kodiak). Post meeting there were two exchanges: a Pacific Whiting (CDFO, NWFSC) and a known-age sablefish exchange (AFSC, CDFO, NWFSC, ADFG-Juneau) that was initiated late 2009 and completed in early 2010. There were 3 age structure exchanges initiated and completed in 2010. Species were Pacific whiting (CDFO, NWFSC), Pacific ocean perch (WDFW, CDFO) and lingcod (ADFG-Juneau, ODFW). With respect to updating the Exchanges Table, almost all 2006 to present CASE invoices are now available on the website. Some of the pre-2006 CASE invoices are also available, but Rosenfield recommended that the next Vice-chair continue to try and track down more.

Business Session Highlights and Discussion:

Demonstrations: There were four demonstrations available for CARE members to sign up for: Forum (Atkins), imaging (Anderl), micro-milling (Kastelle) and elasmobranch vertebrae staining (Matta, Gburski). No one signed up for a Forum demonstration but several members did ask Atkins to create an account for them. Anderl worked with ten members (B. Campbell, MacLellan, Rodriguez, Hillier, Wells, Pollak, Russ, El Mejjati, Failor, McDonald) to demonstrate AFSC's soft/hardware used for imaging. The demonstration included information on Photoshop (image manipulation, hot keys, macros, annotation, layers, stitching, scale bars) and Portfolio (image storage). Six members (Russ, Pollak, Failor, Wells, Rodriguez, Thompson) attended Gburski and Matta's demonstration showing their staining technique for vertebrae. The stained-thin-section method was applied to big skate, *Raja binoculata*, longnose skate, *Raja rhina*, and Alaska skate, *Bathyraja parmifera*. Vertebral thin section removal from whole vertebrae was described. Thin sections were decalcified, stained, destained, soaked in glycerin, and slide mounted. Both untreated and stained thin sections were examined under a dissecting microscope for comparing preparations. Kastelle demonstrated AFSC's new micro-mill hard/software to nine members (Rodriguez, Hillier, Sizemore, Wells, Atkins, Gibbs, B. Campbell, MacLellan).

Agency reports: ADFG-all sites (Hilwig), WDFW (L. Campbell), AFSC (Helser), ODFW (Thompson), NWFSC (McDonald), IPHC (Forsberg) and CDFO (MacLellan) provided reports summarizing and updating agency activities, staffing, organization, new species and projects since the 2009 meeting.

Scientific presentations:

Six PowerPoint presentations were given: New CDFO groundfish age data sheet (MacLellan), Preliminary age validation of Pacific cod using stable oxygen isotopes (Kastelle), AFSC imaging system & its uses (Anderl), Digital reference collections via Photoshop (Wischniowski), Management of AFSC images (Short) and Digital camera & AFSC new micromill (Kastelle).

Discussion - three discussion topics of note:

1. There was considerable discussion surrounding a concern raised that CARE was not following its mandate. The conclusion by the members present was that this was not the case. They cited many current activities that they felt exemplified CARE's mandate of "documenting and standardizing methods used to age groundfish". It was agreed that CARE members were expected to participate in activities as their agency/work allowed. Members felt that the website, and information posted on it, was an efficient way to record CARE/member information and that it was a very useful tool that was not overly time consuming for CARE members to maintain. Newer members found the website to be particularly helpful. Longer term members recognized it as a permanent home for relevant CARE information that would otherwise be lost if left at individual member agencies.

2. The three year trial period for the CARE Forum was up and members discussed its usefulness. The Forum was not receiving heavy traffic, but some members felt it had been useful. The moderator and members felt that it still had potential to grow. In the future the forum could be used for discussions between multiple people, keeping things more organized than numerous e-mails back and forth. It could be a good way to disseminate information to CARE members when access to e-mail may be limited or unavailable. Along that vein, e-mails sometimes change and those keeping lists find themselves faced with "bounced" message issues; being able to post important information to the forum as well as to the regular mailing list gives the opportunity for those with invalid or changed e-mails to still access the information. The moderator indicated that the Forum did not require a lot of effort to maintain. Other options, such as Facebook, were briefly discussed. CARE members voted to continue supporting the Forum for one more rotation.

3. Imaging was the focus for the 2011 CARE meeting. Discussion on software (image editing, tagging, metadata, archiving), hardware and image taking protocols were facilitated through the PowerPoints presented by Anderl, Wischniowski, Short and Kastle. Anderl followed up with demonstrations to a large number of members regarding AFSC imaging procedures and protocols. Photoshop was recommended as a standard for CARE members and exchanges. Imaging was recognized as a powerful tool for exchange and documentation (publication, training, reference collections) but members clearly stated that imaging could not be substituted for actual scope work. Scopes provide superior flexibility when viewing ageing structures permitting readers to manipulate lighting and structure angles as needed to more accurately present and view growth patterns.

Administration nominations:

New officers will begin their duties as of 01 July 2011 for a two year rotation. They are:

CARE Chair: Sandy Rosenfield (WDFW)

CARE Vice-chair: Elisa Russ (ADFG-Homer)

Secretary: Chris Gburski (AFSC)

Workshop and Hands-on Session Highlights and Discussion:

A total of 27 readers reviewed 12 species. Members of the Sablefish Working Group spent several sessions together reviewing known-age otoliths from AFSC to calibrate application of criteria. Several elasmobranch agers worked together to look at thin sectioned skate vertebrae that had been stained. Some Pacific ocean perch readers gathered to review different methods of preparing otoliths and how otolith growth patterns might differ between Alaska and the west coast. A group met to discuss new dogfish spine training opportunities. One group reviewed techniques, i.e. transect sites used to prepare otolith samples for LA-ICPMS (Laser ablation inductively

coupled plasma mass spectrometry). Geoduck ageing and validation methods were discussed by another group.

Recommendations C.A.R.E.~TSC

Status of 2010 or previous pending recommendations are summarized below.

2006 Recommendations

CARE to CARE: Proposed changes to the original Summary of Age Reading Methods Table are mostly complete. Addition of a publication reference list, collated from agencies by El Mejjati for the 2011 meeting, to the website page was discussed. The Website Committee will work towards this in the next rotation.

2009 CARE to CARE

1. Members were encouraged to check the CARE forum on a regular basis to continue the trial to assess its usefulness. Atkins reported that use was not high in 2010-11. To prevent spam forum membership can only be created by the administrator. Atkins will create the account for the user now.
2. CARE proposed that a focus for the 2011 meeting be digital imaging. The 2011 agenda focused on image presentations, demos and discussions to review software, hardware, image taking protocols, annotation and storage.
3. CARE submit a poster to IOS 2009: Complete.
4. Charter updates: Most aspects are complete. Addition of Appendix D “Precision Test Statistics and Formulation” to the Charter was discussed by Charter members and recommended that this information was best incorporated within the new Quality Assurance section of the CARE Manual. They need to find an author. No advancement has been made to add a Working Group section to the Charter to highlight their purpose and current activities with a link to a past achievements “archive” to the website. Charter members present at the 2011 meeting discussed this and suggested that maybe this information might be better located somewhere else on the website other than the Charter. The committee needs to discuss further and make a recommendation to the next CARE meeting in 2013.
5. Posting all CASE invoices: Completed 2006 to present. Pre-2006 exchange invoices still require some work by the next Vice-chair.
6. The Manual/Glossary Committee: Put forward an ambitious recommendation to review the current CARE manual and that any changes or updates be submitted to the CARE Manual Committee Chair by April 2010. Two new sections were produced (halibut & QA/QC) that were presented to the committee for review. The committee produced a 2011 CARE to CARE recommendation to address the rest of the 2009 recommendation.
7. The Sablefish Working Group: The group met via WebEx in March 2011 and subsequently met the day before the general 2011 CARE membership for a mini-workshop to complete the original 2008 objectives and the 2009 mini-workshop agenda. The 2011 mini-workshop completed their agenda (Appendix I-B) that included a quick review of the WebEx meeting, sketched out an outline for a documentation process in the workshop and reviewed age determination issues with an aim to: 1) confirm/identify issues, 2) define boundaries & limitations of criteria & how they are applied and 3) to establish standards to encourage consistency between agencies. The group agreed that in the next rotation they would: 1) focus first documentation efforts towards updating the current manual sablefish section after which 2) they would consider pursuing publishing in an outside technical format. The group was tasked with reviewing and editing the documentation from the 2011 mini-workshop by end of May 2011, reviewing the current manual sablefish section with an eye towards updating,

posting demonstrative images for figures on the FTP sight established for the WebEx and considering another WebEx meeting if deemed necessary.

2009 CARE to TSC (none made)

2009 TSC to CARE (none made)

2010 TSC to CARE

1. Recognizing the value of carbon dating and other potential uses of archived ageing material, TSC recommends that CARE examine the feasibility of preparing an on-line summary of the material that is archived by each of the west coast groundfish research agencies. This recommendation was added to the CARE 2011 agenda for discussion.

There was much discussion regarding this recommendation. A group was assembled that included representatives from most all CARE agencies. Most are custodians to extensive and historically long term collections. The challenges and effort to post inventories on the website were discussed. It was recognized that sample inventories could lead to positive and productive collaborations. However, sample security, management of requests for use, agency ownership and keeping the inventory updated were issues of concern. For reference, the CDFO provided a nationally accepted document that included management protocols for physical samples and considerations for requests to use archival collections.

Initial CARE Reply to TSC to CARE 2010 Recommendation

With regards to "...examining the feasibility of preparing an on-line summary of the material that is archived by each of the west coast groundfish research agencies":

Most agencies do not have publicly accessible age data sample inventories now, except AFSC. CARE recognizes that there are advantages and disadvantages associated with making inventories public. A CARE portal, the website, may be a possible platform to identify inventories. CARE requests clarification on what data the TSC envisions would be made available on said inventory. Then CARE members would consult their agencies regarding the TSC recommendation and will formulate a reply by year end.

2011 CARE to CARE

1. Manual Working Group: We recommend that CARE continue revision and expansion of the CARE manual to include sections on hake, lingcod otoliths, skates, age validation, and updated rockfish ageing information. In addition, we recommend that a section on ergonomics be added. These additions or revisions should be submitted to the CARE Manual Committee lead by Betty Kamikawa by April 2012 for committee review. The Manual Committee will submit all changes and updates to CARE for consideration at the 2013 CARE workshop. The CARE manual committee will review the halibut and QA/QC sections that were submitted at the 2011 CARE meeting and distribute final drafts to the CARE membership for final review and addition to the manual by the end of 2011.
2. Forum Working Group: We recommend that the Forum continue for another cycle.
3. Website Working Group- the CARE Website Committee recommends updating the CARE website content management system from JOOMLA version 1.12 to version 1.5 to remain

current with technology for security and bug fixes. Update should be completed as time allows before the CARE 2013 meeting.

4. Recommendation to CARE members to review the method and validation species information on the species info website page to assess how current their information is and report updates or changes to Jon Short by the end of April, 2011. Reintroduce into the biennial meeting agenda that each agency updates this information.
5. CARE recommends that the effect of long term storage of otoliths and other age structures be a topic on the CARE 2013 agenda.



APPENDIX I - A

**C.A.R.E. Agenda
(Committee of Age Reading Experts)
Canada-US Groundfish Committee
11-15 April 2011
AFSC, Sand Point, Seattle, WA, USA
Traynor Room**

Monday, 11 April [9am-5pm]

Sablefish working group Mini-workshop agenda (to be determined)

Tuesday, 12 April

I. Call to Order [8:30 am] – CARE Chair (Shayne MacLellan)

II. Host Statement

1. Welcome statements & host info: safety/security orientation, refreshments, social, etc (Thomas Helser)

III. Introductions

1. Round-table intros (name, agency, location)
2. Attendance, address, phone, email sheet – electronic on dedicated laptop

IV. Approval of 2011 Agenda

V. Working Group Reports [9 -9:30 am] Activity since CARE 2009 (5 min each).

1. TSC Meeting 2010 and 2009 & 2010 CARE reports (Shayne MacLellan)
2. CARE Manual (Betty Goetz)
3. Age Structure Exchanges (Sandy Rosenfield)
4. Charter Committee (Shayne MacLellan)
5. Website (Jon Short)
6. Forum (Nikki Atkins)

VI. CARE & TSC recommendations: [9:30 – 10 am]

1. Pre-2009 CARE to CARE status
2. 2009 CARE to CARE status.
3. 2010 TSC to CARE
4. New for CARE 2011? Craft through out meeting for Thurs am.

---Break --- 10 – 10:15 am ---

VII. Agency reports [10:15-10:45 am] (~3 min each) – No PowerPoints please - brief update (staffing, organizational, new species/projects etc.).

1. ADFG – (Kris Munk summarize all sites)
2. WDFW – (Lance Campbell)
3. AFSC – (Thomas Helser)
4. ODFW – (Josie Thompson)
5. NWFSC-PSMFC (Patrick McDonald)
6. California/MLML – (?)
7. IPHC (Joan Forsberg)
8. CDFO (Shayne MacLellan)

VIII. Topics for Discussion/New Business [10:45 – 11:30am]

1. Symposia/Conferences since CARE 2009 meeting & upcoming 10 min
2. Is CARE moving away from its mandate? (Kara Hilwig) 15 min
3. Discussion to assess Forum usefulness & future (Nikki Atkins) 15 min
4. Non-agenda items?

--- Lunch --- 11:30am -12:30 p.m. ---

IX. Scientific PowerPoint Presentations [12:30 -1:45pm]

1. New CDFO groundfish age data sheet (Shayne MacLellan) 10 min
2. Preliminary age validation of Pacific cod using stable oxygen isotopes (Craig Kastle) 15 min
3. Digital reference collections via Photoshop (Steve Wischniowski) 15 min
4. AFSC imaging system & its uses (Delsa Anderl) 15 min
5. Management of AFSC images (Jon Short)
6. Digital camera & AFSC new micromill (Craig Kastle) 5 min

X. Workshop Focus - Digital Imaging Topics for Discussion: [1:45 - 3:00pm]

1. Software – editing, tagging, metadata, archiving
2. Hardware
3. Image taking protocols

---Break --- 3:00 – 3:15pm ---

XI. Working groups & Hands-On Workshop [3:00 – 5:00pm]

1. Working Groups: Meet, discuss & formulate written recommendations through out rest of workshop. Prepare for Thursday morning & provide hard & digital copy to Chair.
2. Hands-On Workshop: Sign up for scope station space & time. Start on scope work.

Wednesday, 13 April

XII. Hands-On Workshop [9 am – 5 pm]

1. Hands on scope work
 - a. Elasmobranch focus group
 - b. All other species
 - c. Sablefish working group?

XIII. Demonstrations: [see posted times at meeting]

1. Leica camera demo (Leica rep)
2. AFSC camera demo (Delsa Anderl)
3. Micromill demos (Craig Kastle)
4. Forum demo (Nikki Atkins)

Thursday, 14 April

XIV. Concluding CARE business [9 – 10:30 am]

1. Recommendations 2011
2. Other activities finalization
3. Administration nominations
4. Schedule and location of 2013 Meeting
5. Closing - adjourn

XV. Continue hands-on & demonstrations [rest of day as needed]

1. Hematoxylin staining technique (Chris Gburski) 2 hrs
2. Sablefish Working Group – continue agenda

APPENDIX I - B

C.A.R.E. Sablefish Working Group Mini-workshop DRAFT Agenda 9am – 5pm, Monday, 11 April 2011

1. **Introductions** to any new members of group.
2. Quick review of **WebEx** meeting [9-9:15 am] to set the stage.
3. Sketch out an **outline for documentation**. Decide on end product format. [9:15-9:30am]
4. **Review** identified issues & **document** (secretary needed) as we go along with examples of known-age/not whole & imaged otoliths. Chose images for figures.
 - 1) Confirm/identify issues.
 - 2) Define boundaries & limitations of criteria & how they are applied.
 - 3) Establish standards to encourage consistency between agencies. [9:30am-4:30pm with lunch break]

Suggested issues:

 - a. Burning technique – is this an issue?
 - i. Discussion
 - ii. Recommendations/actions
 - b. Identifying annuli vs checks
 - i. Juvenile years
 1. Whole surface
 2. ¾ view burnt XS's
 3. Counting axes
 - ii. Transition years (age ~3-10)
 1. Fast/slow-growing patterns
 2. Grouping/splitting
 3. Compressed zones (over/under-bite, sulcus wedges, dark zones)
 4. Counting axes
 - iii. Mature years
 1. Grouping/splitting
 2. Compressed zones (dark zones, etc)
 3. Counting axes
 - iv. Edge
 1. Time of year caught
 2. Counting axes
5. **Wrap up** (recommendations/further action) [4:30-5pm]

Table 1. CARE age structure changes initiated/completed from 2009-2010.

CASE NO.	Originating Agency	Coordinator	Cooperator(s)	Date Initiated	Species	Sample n=	No. Readers	Status
09-001	ADFG	J. Niel	CDFO, NWFSC, AFSC	09 Dec	Sablefish	24	4	Complete
09-002	CDFO	S. MacLellan	ADFG, NWFSC, AFSC	15 Jan	Sablefish	24	4	Complete
09-003	NWFSC	P. McDonald	AFSC, CDFO, ADFG	21 Jan	Sablefish	24	4	Complete
09-004	AFSC	D. Anderl	NWFSC, CDFO, ADFG	15 Jan	Sablefish	20	4	Complete
09-005	CDFO	J. Groot	NWFSC	17 Feb	Pacific Whiting	100	2	Complete
09-006	NWFSC	O. Rodriguez	CDFO	15 Nov	Pacific Whiting	100	2	Complete
09-007	ADFG	S. El Mejjati	AFSC	08 Apr	Pacific Cod	13	2	Complete
09-008	ADFG	S. El Mejjati	AFSC	08 Apr	Pacific Cod	20	2	Complete
09-009	AFSC	D. Anderl	CDFO, NWFSC, ADFG	21 Oct	Sablefish	15	4	Complete
10-001	CDFO	J. Groot	NWFSC	14 Jan	Pacific Whiting	100	2	Complete
10-002	ADFG	K. Munk	ODFW,	06 Jan	Lingcod	72	2	Complete
10-003	WDFW	S. Rosenfield	CDFO	24 Feb	Pacific Ocean Perch	22	3	Complete

Table 2. Attendees of the 2010 CARE Workshop, 11-14 April 2010, Seattle, WA.

<u>Last name</u>	<u>First name</u>	<u>Agency</u>	<u>Location</u>
Anderl	Delsa	AFSC	Seattle
Atkins	Nikki	NWFSC	Newport
Benson	Irina	AFSC	Seattle
Blood	Cal	Retired	Seattle
Brogan	John	AFSC	Seattle
Campbell	Barb	CDFO	Nanaimo
Campbell	Lance	WDFG	Seattle
Cavanagh	Meredith	NWFSC	Newport
El Mejjati	Sonya	ADFG	Kodiak
Failor	Barbi	ADFG	Homer
Forsberg	Joan	IPHC	Seattle
Gburski	Chris	AFSC	Seattle
Gibbs	Linda	IPHC	Seattle
Goetz	Betty	AFSC	Seattle
Helser	Tom	AFSC	Seattle
Hiller	Lisa	WDFG	Olympia
Hilwig	Kara	ADFG	Juneau
Hutchinson	Charles	AFSC	Seattle
Johnston	Chris	AFSC	Seattle
Kastelle	Craig	AFSC	Seattle
Kautzi	Lisa	AFSC	Seattle
MacLellan	Shayne	CDFO	Nanaimo
Matta	Beth	AFSC	Seattle
McDonald	Patrick	NWFSC	Newport
McNeel	Kevin	ADFG	Juneau
Neil	Jodi	ADFG	Juneau
Piston	Charlie	AFSC	Seattle
Pollak	Andrew	ADFG	Homer
Rodriguez	Omar	NWFSC	Newport
Rosenfield	Sandy	WDFG	Seattle
Russ	Elisa	ADFG	Homer
Short	Jon	AFSC	Seattle
Sizemore	Bob	WDFG	Olympia
Thompson	Josie	ODFW	Newport