

Committee of Age Reading Experts

2025 Committee Report

Prepared for the Sixty-fifth Annual Meeting of the
Canada-USA Groundfish Technical Committee

April 15 – 16, 2025



Prepared by
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2024-2027 CARE Chair

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A. CARE Overview

1. History

The Committee of Age Reading Experts (CARE) was a subcommittee of the Canada-USA Groundfish Committee's Technical Subcommittee (TSC). CARE was charged with the task to develop and apply standardized age determination criteria and techniques and operate within the Terms of Reference, approved by the TSC in 1986, and the CARE Charter, developed in 2000 and approved by CARE in 2004. In 2024 the TSC recognized that they had not operated under the parent committee for several years and voted to adopt the new name of Canada-United States Groundfish Technical Committee (GTC), with CARE to operate as a subcommittee under the GTC.

2. Report Period

This report covers the work period of April 6, 2024 – March 24, 2025. This reporting period covers activities occurring between formal CARE meetings, gleaned from a virtual CARE check-in held March 24, 2025. An Executive Summary of the 23rd CARE meeting held April 2-4, 2024 was provided to the GTC immediately after the meeting and was summarized in the Report of the 64th Annual Meeting of the GTC. It will be referenced below to address current updates to CARE Working Group reports and recommendations. Current officers through June 30, 2027 (elected at April CARE 2024 Meeting) are:

- Chair – Mark Terwilliger (ODFW-Newport, OR)
- Vice-Chair – Chelsea Cooke (CDFO-Nanaimo, BC)
- Secretary – Nikki Paige (NWFSC-Newport, OR)

The Secretary will prepare a draft of the minutes from the recent virtual CARE check-in to be distributed to CARE members for review and subsequent approval prior to June 30, 2025, and posted to the CARE website. Due to the proximity of the GTC meeting following the virtual CARE check-in, it is necessary for the Chair to prepare the report to GTC to include proceedings of the recent check-in as an executive summary.

3. CARE check-in – Executive summary

a. Overview

CARE typically meets biennially for a conference that usually lasts three days. The meeting is split between “business” and hands-on calibrations at microscopes to review and standardize age reading criteria. Occasionally extra time is scheduled for a specific focus group or workshop, which meet during the hands-on calibration portion of the meetings. During the April 2023 CARE meeting, CARE membership voted to move the meetings back to ‘even’ years to stagger our meeting with the Western Groundfish Conference, and agreed to meet in Newport, OR in 2024. Three weeks after the 2023 CARE meeting, Western Groundfish voted to move their conference back to even years (next meeting in 2026), so CARE followed suit at the 2024 meeting and voted to convene on odd years once again, with the next in-person meeting scheduled for Nanaimo, BC in 2027. The specific dates will be finalized sometime after July 31st, 2026.

Due to the long period between in-person meetings, a virtual CARE check-in was held on March 24, 2025 to update ageing activities and progress on CARE Working Groups, ageing structure exchanges, and recommendations from the 2024 CARE meeting. The CARE check-in was virtually attended by 32 CARE members and the U.S. Co-Chair of the GTC (Table 1).

b. Agency Reports

AFSC (Derek Chamberlin), CDFO-PBS (Steve Wischniowski/Audrey Ty), CDFO-Freshwater Institute (Tracey Loewen), IPHC (Kelsey Magrane), ADFG-Juneau-ADU (Kevin McNeel), ADFG-Homer-Sport Fisheries (Marian Ford), ADFG-Kodiak (Kevin McNeel), NWFSC-PSMFC (Patrick McDonald/Emily Wallingford), WDFW (Andrew Claiborne), ODFW (Mark Terwilliger), SWFSC-La Jolla (Kelsey James) and SWFSC-Santa Cruz (Melissa Monk) provided reports summarizing and updating agency activities, staffing, organization, new species, and projects. There was no update given at CARE from ADFG-Homer-Commercial Fisheries but a written report was received. Details from the agency reports will be available in the finalized CARE minutes and posted to the CARE website by year's end.

4. CARE Subcommittee (Working Group) Reports - Executive Summary

a. GTC Meeting 2024

Patrick McDonald (NWFSC) and Mark Terwilliger (ODFW) presented to the GTC in Juneau, AK proceedings of the 2024 CARE meeting and reviewed progress on the GTC recommendations to CARE. Patrick informed GTC that the CARE meeting was to be moved to odd years, with the next meeting being in Nanaimo, BC in 2027. Highlights from the 2024 CARE meeting were noted, including summaries of scientific talks given by attendees and updates to CARE Working Group reports. Mark gave a brief presentation of preliminary results from the Lingcod comparative structure study that showed fish size ranges and precision estimates among participating ageing labs. Patrick provided an overview of the two CARE-to-GTC recommendations approved unanimously at the 2024 CARE meeting (1. CARE recommends PSFMC fund some or all travel of age lab leads to the biennial CARE meetings & 2. CARE recommends that Lingcod age comparison and validation be added to federal research priorities to facilitate current and future age research). The GTC thanked CARE for their recommendations and recognized the significant progress CARE has made on past recommendations.

b. Structure Exchanges

There were 13 exchanges initiated in 2024 and early 2025 (Table 2). Six of the exchanges were for species to be assessed in 2025 (Widow, Rougheye/Blackspotted, and Yellowtail rockfishes), and of those, only two exchanges (both Yellowtail) have been completed and their invoices posted to the CARE website. Exchanges of easy-to-read and difficult-to-read Lingcod unpaired structures (as part of the structure comparison study, see below) were initiated and remain in progress. Exchanges of Spiny Dogfish spines and otoliths from Pacific Cod, Greenspotted Rockfish, Northern Anchovy, and Pacific Sardine remain open and are ongoing.

5. GTC-to-CARE Recommendations

a. 2024 GTC-to-CARE Recommendations

1. The GTC recognizes the significant progress made on recommendations by CARE. We thank CARE for their efforts and look forward to hearing about further results at future meetings. The GTC thanks CARE for their 2024 recommendations to the GTC.
2. The GTC recognizes the important work that occurs at the CARE meeting, and we recommend that age reader experts from west coast agencies continue to meet in person in order to verify that groundfish ageing is consistent across agencies on the Pacific Coast.

- a. The GTC will highlight this in its supervisor's letter to agency leadership and supports exploring additional potential funding sources, such as PSMFC, to fund travel for CARE meetings.
3. The GTC further recognizes the progress made on Lingcod age comparisons and validation work completed to date by CARE. The GTC recognizes this Lingcod comparison addresses a critical research need to develop consistent sampling plans across agencies and for accurate stock assessments.
 - a. The GTC suggests that an interagency meeting, including Lingcod biologists and assessors is needed to communicate the results of CARE's work and develop next steps. The GTC and CARE will work together to identify participants.
 - b. The GTC continues to recommend publishing the results of this project when available.
4. The GTC requests that CARE consider methods to advance communication between CARE and the GTC, particularly mechanisms to be able to respond more quickly to emerging issues. The use of virtual platforms might be a potential mechanism, in addition to the forum on the CARE website. The GTC continues to recommend that a GTC representative attend the biennial CARE meeting.
 - a. The GTC suggests that the CARE and GTC leadership connect periodically (1-2 times per year, as appropriate) between meetings.
5. The GTC requests that CARE add a link to the updated GTC website and the GTC will do the same to the CARE website.

b. Progress on 2024 GTC-to-CARE Recommendations

1. CARE Chair, Mark Terwilliger, will attend the 65th Annual Meeting of the GTC. Due to funding uncertainties and travel restrictions, this meeting will be held virtually for the third time in the past 5 years (meetings were virtual in 2021 and 2022 due to the Covid pandemic). The Chair will highlight CARE activities since April 2024 in a Powerpoint presentation to GTC members.
2. At the 2024 meeting, CARE voted to have the next in-person meeting in 2027 in Nanaimo, BC. CARE held a virtual check-in on May 24, 2025 to update production numbers and CARE-to-CARE and GTC-to-CARE recommendations. During the check-in it was noted that more progress could be made on recommendations after the 2025 assessment cycle was completed. CARE will hold another virtual check-in in early 2026 to maintain momentum prior to the 2027 meeting.
3. Care Chair, Mark Terwilliger, updated CARE on progress made on the Lingcod comparative structure survey. CARE leads from ODFW (Mark Terwilliger, Leif Rasmuson), WDFW (Andrew Claiborne), and ADFG-Juneau-ADU (Kevin McNeel) worked with Jessica Miller (Oregon State University) to write a Saltonstall-Kennedy (SK) grant preproposal to fund a graduate student project comprising three major tasks: 1) assigning a final age to collected fin rays and otoliths and comparing precision of age data within and between structures and across all ages and collection areas; 2) evaluating the potential for otolith elemental composition and Fourier-transform near infrared spectroscopy (FT-NIRS) to complement or expand ageing efforts; and 3) examining the effects of variable sample size and precision on

stock assessments. SK did not encourage a full proposal, so alternative funding sources were discussed. Discussion was tabled until after the 2025 assessment cycle was complete.

4. CARE recognizes the importance of communication with the GTC. GTC co-chairs Ali Whitman (ODFW) and Dana Haggarty (CDFO) were extended invitations to attend the 2025 CARE remote check-in, with Ali Whitman accepting.
5. The CARE website currently has a link to the Minutes and Reports page of the old TSC website, as the new GTC website is still under construction. A new link will be added to the CARE site once the new GTC site is functional.

6. CARE-to-CARE Recommendations

a. 2024 CARE-to-CARE Recommendations

1. CARE Manual Working Group
 - CARE Manual Working Group will work to update the current edition of the manual and incorporate the completed sections and add changes to reviewed sections by the next CARE. The details will be in a 2024 CARE-to-TSC working group report (approved unanimously).
2. CARE Website Working Group
 - The website committee will post a protocol on the CARE website for members to submit agency updates and contact information (approved unanimously).
3. Lingcod Working Group
 - The Lingcod Working Group will initiate a CARE exchange of easy and difficult unpaired structures for training purposes among participating ageing labs, followed by N=50 paired structures in a subsequent exchange among participating agencies to determine ageing lab bias. Grant funds will need to be acquired for a graduate student to perform validation, simulation, and generate single reader ages for publication purposes (approved unanimously).
4. Sablefish Working Group
 - The Sablefish Working Group will provide to the website committee a summary document to go into a working group tab that outlines the accomplishments of the sablefish working group efforts since its formation. This will include a summary of exchanges, known-age images and juvenile otolith measurement data. This will be a living document (approved unanimously).
5. CARE Charter Group
 - CARE recommends the Charter Working Group review and submit to the Chair, modifications to the charter for distribution to the membership for approval by the next CARE meeting (approved unanimously).
 - CARE meetings are to move to odd years again to alternate with the 2026 Western Groundfish Conference, with the next meeting to be held in 2027 (approved unanimously).

6. Otometrics Working Group

- The Otometrics Working Group recommends that CARE reports current practices for the collection and use of otolith measurements. Records should include equipment and the types of measurements, the time required to collect data, data storage, and its use in QA/QC procedures. A document describing these practices should be completed by the 2027 CARE meeting (approved unanimously).

b. Progress on 2024 CARE-to-CARE Recommendations

1. CARE Manual Working Group

- ADFG created a TEAMS channel and have created a formatted working draft of the CARE manual. Barb Campbell (CDFO) has done a lot of work on manual updates but was on leave when the CARE check-in took place. Kali Stone (AFSC) and John Brogan (AFSC) have been working on the Pacific Cod chapter and Beth Matta (AFSC) has been providing edits. Kevin McNeel (ADFG-Juneau-ADU) suggested the Working Group touch base in a few weeks to regain momentum.

2. CARE Website Working Group

- Jamie Hale (NWFSC) reported that some updating of the website occurred immediately following the CARE 2024 meeting, and that all agency contacts are current, and all finalized CARE exchange invoices are uploaded and available for viewing. Jon Short (AFSC) updated all CARE 2023 production numbers, and reminded CARE leadership that the 2024 meeting minutes had not yet been submitted for uploading. Pat McDonald (NWFSC, past CARE Chair) said that he would submit the 2024 minutes for uploading.

3. Lingcod Working Group

- Mark Terwilliger (ODFW) reported that a Lingcod structure exchange had been initiated. These structures were from WDFW and ADFG-Juneau-ADU and represented difficult-to-interpret and easy-to-interpret structures, respectively. This exchange is on hold due to current lack of funding (see Section 5, subsection b(3) above).

4. Sablefish Working Group

- No updates to this Working Group were reported.

5. CARE Charter Working Group

- No updates to this Working Group were reported.

6. Otometrics Working Group

- No updates to this Working Group were reported.

7. CARE-to-GTC Recommendations

a. 2025 CARE-to-GTC

- CARE currently has no recommendations for the GTC.

Table 1. Attendees of the 2025 Virtual CARE check-in, March 24, 2025

Last name	First name	Agency	Location	Country	Email
Whitman	Ali	ODFW/GTC	Newport	USA	alison.d.whitman@odfw.oregon.gov
Ford	Marian	ADFG	Homer-DSF	USA	marian.ford@alaska.gov
Dore	Josh	ADFG	Juneau	USA	josh.dore@alaska.gov
Johnson	Kait	ADFG	Juneau	USA	kaitlyn.johnson@alaska.gov
McNeel	Kevin	ADFG	Juneau	USA	kevin.mcneel@alaska.gov
Plumb	Mark	ADFG	Juneau	USA	mark.plumb@alaska.gov
Chamberlin	Derek	AFSC	Seattle	USA	derek.chamberlin@noaa.gov
Chin	Andrew	AFSC	Seattle	USA	Andrew.Chin@noaa.gov
Gburski	Chris	AFSC	Seattle	USA	Christopher.Gburski@noaa.gov
Helser	Tom	AFSC	Seattle	USA	Thomas.Helser@noaa.gov
Matta	Beth	AFSC	Seattle	USA	Beth.Matta@noaa.gov
Neidetcher	Sandi	AFSC	Seattle	USA	sandi.neidetcher@noaa.gov
Pearce	Julie	AFSC	Seattle	USA	julie.pearce@noaa.gov
Short	Jon	AFSC	Seattle	USA	jon.short@noaa.gov
Stone	Kali	AFSC	Seattle	USA	kali.stone@noaa.gov
Gravel	Sarah	CDFO	Nanaimo	Canada	sarah.gravel@dfo-mpo.gc.ca
Ty	Audrey	CDFO	Nanaimo	Canada	audrey.ty@dfo-mpo.gc.ca
Wischniowski	Stephen	CDFO	Nanaimo	Canada	stephen.wischniowski@dfo-mpo.gc.ca
Heuring	Laura	CDFO	Winnipeg	Canada	laura.heuring@dfo-mpo.gc.ca
Loewen	Tracey	CDFO	Winnipeg	Canada	tracey.loewen@dfo-mpo.gc.ca
Magrane	Kelsey	IPHC	Seattle	USA	kelsey.magrane@iphc.int
Hale	James	NWFSC	Newport	USA	jhale@psmfc.org
McDonald	Patrick	NWFSC	Newport	USA	pmcdonald@psmfc.org
Paige	Nikki	NWFSC	Newport	USA	npaige@psmfc.org
Ortiz	Liz	NWFSC	Newport	USA	lortiz@psmfc.org
Wallingford	Emily	NWFSC	Newport	USA	ewallingford@psmfc.org
Terwilliger	Mark	ODFW	Newport	USA	mark.r.terwilliger@odfw.oregon.gov
Monk	Melissa	SWFSC	Santa Cruz	USA	melissa.monk@noaa.gov
Erisman	Brad	SWFSC	La Jolla	USA	brad.erisman@noaa.gov
James	Kelsey	SWFSC	La Jolla	USA	kelsey.james@noaa.gov
Caltabellota	Fabio	WDFW	Montesano	USA	fabio.priorcaltabellotta@dfw.wa.gov
Claiborne	Andrew	WDFW	Olympia	USA	andrew.claiborne@dfw.wa.gov
Topping	Jennifer	WDFW	Olympia	USA	jennifer.topping@dfw.wa.gov

Table 2. CARE age structure exchanges initiated in 2024 and early 2025.

Exchange ID #	Species	Originating Agency	Coordinator	Participating Agency
24-001	Spiny Dogfish	AFSC	Beth Matta	WDFW
24-002	Lingcod	WDFW	Andrew Claiborne	ODFW, NWFSC, ADFG-Juneau, ADFG-Homer-DSF, CDFO
24-003	Lingcod	ADFG-Juneau	Josh Dore	ODFW, NWFSC, WDFW, ADFG-Homer-DSF, CDFO
24-004	Widow Rockfish	WDFW	Merrie Schultz	NWFSC
24-005	Widow Rockfish	NWFSC	James Hale	WDFW
24-006	Rougeye Rockfish	WDFW	Jenny Topping	
24-007	Yellowtail Rockfish	NWFSC	Emily Wallingford	WDFW
24-008	Rougeye/ Blackspotted Rockfish	ODFW	Mark Terwilliger	NWFSC, WDFW, AFSC, ADFG-Juneau
24-009	Pacific Cod	ADFG-Juneau	Kevin McNeel	AFSC, ADFG-Homer, ADFG-Kodiak
24-010	Yellowtail Rockfish	WDFW	Andrew Claiborne	NWFSC
24-011	Greenspotted Rockfish	NWFSC	Josh Dore	ADFG-Juneau
25-001	Anchovy	WDFW	Andrew Claiborne	SWFSC
25-002	Pacific Sardine	WDFW	Andrew Claiborne	SWFSC