

1996 Biennial Meeting

Full text PDF

MINUTES TO THE CONFERENCE OF THE COMMITTEE OF AGE READING EXPERTS (C.A.R.E.)

Â

April 30-May 2, 1996

National Marine Fisheries Service, Sandpoint

Seattle, Washington

Â

Betty Goetz, chair of CARE, opened the meeting April at 9:00 am.

INTRODUCTIONS: Participants stood, introduced themselves, and stated the agency they represented:

AK Dept. of Fish and Game (Kristen Munk and William Foster)

AFSC (Betty Goetz, Julie Lyons, Delsa Anderl, Mark Blaisdell, Charles Hutchinson, Chris Johnston, Craig Kastle, Jill McKay, Nancy Roberson, and Kent Scott)

WA Dept. of Fish and Wildlife (Sandra Rosenfield)

International Pacific Halibut Commission (Cal Blood, Joan Forsberg, and Tom Kong)

Dept. of Fisheries & Oceans, Canada/ Nanaimo (Shayne MacLellan, Diana Little)

California Dept. of Fish and Game / Menlo Park (Rachael Miller)

Oregon Dept. of Fish and Game (Bob Mikus, Marion Mann, Joe O'Malley, and Bruce Pederson)

Cal. Fish and Game/La Jolla (Marci Yaremko and Tom Barnes)

OPENING REMARKS BY MARK WILKINS (TSC)

There were no formal recommendations made for CARE by the Technical Subcommittee. However, several members of TSC made individual proposals: validation, sample sizes, subsampling, and a CARE homepage. TSC will be meeting in Newport, Oregon during the week of May 6-10.

APPROVAL OF PROPOSED AGENDA

All participants approved the 1996 agenda proposed by the chair

MINUTES OF THE LAST CARE CONFERENCE (1994)

Copies of the last meeting's minutes were made available for participants.

UPDATE LIST OF THE SPECIES READ BY EACH AGENCY

STATUS OF THE AGE DETERMINATION MANUAL

Shayne MacLellan stated the current needs of the manual: 25 hard copies to be published (two per agency). In order for this to occur, sources of funding need to be established. The bulk of publication costs will stem from the photographic plates. She recommended that CARE pursue funding from TSC since the creation of an age determination manual was a direct proposal of TSC. She also mentioned that the person who has possession of the photos should be the one to investigate the pricing. Mark Wilkins proposed the creation of a homepage in lieu of publishing a hard copy; a homepage

costs less to create and maintain plus it's able to attract a larger audience. Shayne countered that the group needs a hard copy. Sandra Rosenfield asked the members if they would be interested in raising money and letting CARE pay for the manual, in the event that no one else provides funding. There was little response from the group. Bob Mikus proposed finding a professional group for private funding. No decisions with regards to funding sources were arrived at by the group although most felt TSC should be involved with it.

Discussion turned to what should be included in the manual. Delsa suggested that the history of CARE be available for new agers. Shayne recommended that each office use the same outlined procedures in the manual for aging rockfish, sablefish, etc. In addition, fish exchanges should be placed in an addenda. Betty offered that the manual would provide beneficial instruction and directions to new age readers and beginners.

NEW BUSINESS

New Age Unit personnel were introduced: Tom Barnes and Marci Yaremko (California Fish and Game, La Jolla, CA), Marion Mann (ODFW/PSMFC, Newport, Oregon), and Nancy Roberson (AFSC, Seattle, WA) .

Ms. Goetz requested that each agency give a synopsis of the following aging procedures:

- Sample collection
- Data recording
- Precision testing procedures
- Uses of data by users
- Miscellaneous

New Items Discussed

Ms. MacLellan asked for input on species that should be discussed. Mr. Wilkins mentioned that Ms. Munk uses otoliths to age lingcod rather than the conventional fin rays and wanted to know more about the procedures. Ms. Miller responded that Pete Adams used fin rays in the Tiburon Lab. Goetz suggested that elaboration on lingcod be discussed with Bob Mikus later when the discussion centered on work in progress.

Martin Dorn (Status of Stocks, AFSC) presented subsampling procedures and the values of smaller sample sizes.

Break for Lunch

The meeting resumed updating the summary of age reading methodology of species.

Exchange Results and Work-in-Progress.

Calif. Fish and Game/ Menlo Park Since the last CARE meeting (1994), Ms. Miller set up a Bocaccio exchange with Ms. Munk. Ten otoliths were exchanged. There was 40% agreement +/- 0. The first year was in question. Ms. Miller felt the exchange would have been more helpful had there been more specific information about how Monk derived the age rather than just the age itself. Goetz recommended that in future exchanges, there be set goals prior to ageing:

Alaska Fish and Game

Ms. Munk read results of a sablefish exchange program, which consisted of three exchanges between five age readers over a six year period. Twenty specimens were sent out to individuals. The results demonstrated a decrease in average error and covariance over a three year period. Graphs showed that over a three-year period the readers used and applied the same criteria. The next topic dealt with possible two different sablefish stocks-Chatham and Clarence in Prince William Sound area. Ms. Munk characterized the Chatham stock as being more stationary than the Clarence; the younger fish in the Clarence tend to be more migratory.

John Sneeva asked about effects of burn degradation with sablefish exchange and why high quality photos aren't used during exchanges? Delsa Anderl replied that because the fish tend to get very old, you are required to manipulate the structure manually in order to see all of the annuli. Chris Johnston concurred.

Alaska Fisheries Science Center

Delsa Anderl (speaking for Scott) spoke about the possibility of two species of rock sole and the use of otoliths as a means of providing evidence to support that theory. Jay Orr (NMFS Taxonomist) will be collecting samples of the two species on the GOA survey. Kent will be in charge of aging. There is also a possibility that there are more than two types of yellow fin sole. Dan Nichols may be involved with yellowfin sole.

Jill McKay discussed the incidence of crystallization of Pollock otoliths. 2-15% of fish shows crystallization, 2-14% are crystallized, and 6-8% down lower in the chain. There appears to be less crystallization in the north (Bering Sea?). It also

seems that crystallization increases as a function of length. She suggested that crystallization might be a possible method of stock differentiation of walleye Pollock.

Dept. of Fisheries and Oceans, Canada

Shayne MacLellan relayed highlights of the redfish (*Sebastes mentella*) workshop she attended while she was at the I.C.E.S. (International Council for the Exploration of the Seas) conference in Germany. The goal of this workshop was to get all countries to use otoliths as the primary age structure and to standardize methodology. Few age readers at the workshop currently employed a standardized method of aging redfish; she believed the lack of political will to be responsible for this. Shayne MacLellan asserted that her experience with CARE helped greatly at the I.C.E.S. workshop and stressed the importance of standardized methodology.

AFSC

Craig Kastle presented on the subject of radiometric ageing; the purpose of which is validation (e.g. rockfish, sablefish). The presentation centered on the coring of samples and the ageing of several species of rockfish. The method is currently performed on older fish. The use of core sampling requires more than one fish to run a radiometric study. Amount of core material needed is one gram.

General Comments about presentation

- +/- 1 standard deviation is the standard for age validation
- error is inherent as age increases, error increases too
- naturally occurring radium and lead; radium decays into lead

Radiometric ageing quantifies the ratio of radium to lead. One assumption in radiometric ageing is that the otolith remains in a closed environment, there is no loss or take up of the isotope (radium 238). The reason to use the core of the otoliths is to lessen the assumption element of the closed environment in radiometric ageing.

Mark Wilkins and Kris Munk brought up questions about Craig's presentation. Mark's question was directed towards background radiation in the lab. Craig responded that the lab background radiation were at acceptable levels. Kris asked about radiometric validation as a true validation of age. The response was that radiometric methodology was based on a well-known theory radioactive decay.

Craig ended his question and answer session with the statement that radiometric aging is used to range ages of fish not to single out a specific age of a fish. Meaning to distinguish young versus old.

End of Work in Progress Discussion

End the day with small group discussions about precision testing and ways that CARE could help the TSC report.

Betty Goetz called the meeting to order on May 1st at 8:00 am

WEDNESDAY MAY 1ST

Copies of each agency's production totals were passed out to the group and briefly explained.

Discussion on CARE manual - subject glossary discrepancies in literature. Ms. MacLellan commented that we do not have a working glossary and that CARE should take it upon itself to create one. Ms. Goetz asked the group for suggestions on going about that creation. Ms. Munk responded that we should form a committee to expedite the formation. All CARE members felt this was an excellent idea.

Discussion turned to the definitions and utility of the following terms: zones (winter, summer, hyaline, opaque, fast growing and slow growing), light source, glossary terms, the location in the manual of terms. No resolutions were arrived at on any subject.

Glossary terms: annulus, fast growth, precision, accuracy, nucleus, transition zone, check, validation, edge type, core, primordium, accessory primordia, incremental growth, light source, translucence, opaque, hyaline, cleared otolith, birth date, thin section, break and burn, surface, sulcus

HANDS ON

James Nerpel of Bartel's and Stout Inc. Demonstrations of new microscopes and cameras.

THURSDAY MAY 2

HANDS ON WORKSHOP - AGEING DIFFERENT SPECIES

Lingcod - otoliths and fin rays, Sardines, Shortbelly, Sablefish, Bocaccio, Dover (opercles), Shortraker, Sharpchin, Pacific Cod, English sole (opercles), Yelloweye, Walleye Pollock, Shortspine, Mackerel

WRAP UP SESSION

Nominations of officers for CARE Conference '98

President: Cal Blood Vice Chair: Chris Monk Reporteurs: To be provided by Oregon Fish and Wildlife (Bob Mikus)

Manual

Betty recommended to TSC that the manual needs only one change in glossary -from winter and summer to slow and fast growing, respectively. Craig volunteered to write an introductory paragraph for the glossary stating that it's geared towards CARE members and Shayne volunteered to proofread and do the artwork to go along with the glossary.

Debate over the manual revisions. Participants: Delsa, Shayne, and Sandra and Betty. Shayne wanted the manual to show more historical aspects e.g. certain parts should remain the same and then add addenda. Delsa and Betty wanted changes to be placed directly in the manual rather than insertion of addenda. Discussion concluded with no clear resolutions.

Topics Members Want Addressed

- Issues of subsampling
- Acceptable aging error
- Precision testing
- Feedback using aging testing
- Influence of error age modeling

CLOSE OF CARE CONFERENCE 1996