

**Minutes of the Technical Sub Committee  
of the  
Canada-United States Groundfish Committee**

Fortieth Annual Meeting  
**May 4-6, 1999**  
National Marine Fisheries Service  
Northwest Fisheries Science Center  
Seattle, Washington

**I. Call to order**

Chairman Tom Barnes called the meeting to order at 1:10 PM Tuesday, May 4<sup>th</sup>. He thanked the Northwest Fisheries Science Center (NWFSC) and Herb Sanborn for hosting the meeting. Rick Methot thanked everyone for attending the meeting in Seattle.

**II. Appointment of Secretary**

Teresa Turk was appointed as secretary.

**III. Introductions**

Introductions were made around the table. A general list of participants was passed around for updating. The updated list of recent TSC participants is included as Attachment 1. Representatives and others in attendance were:

Canada: Department of Fisheries and Oceans (DFO)  
Marilyn Joyce, Groundfish Management Unit, Vancouver, BC  
Rob Kronlund, Pacific Biological Station (PBS), Nanaimo, BC  
Mark Saunders, Pacific Biological Station (PBS), Nanaimo, BC

United States: Alaska Department of Fish and Game  
Kristen Munk, Juneau, AK  
Tory O'Connell, Sitka, AK

California Department of Fish and Game  
Tom Barnes, La Jolla, CA

National Marine Fisheries Service  
Dave Clausen, Alaska Fisheries Science Center, Auke Bay, Juneau, AK  
Martin Dorn, Alaska Fisheries Science Center, Seattle, WA

Richard Methot, Northwest Fisheries Science Center, Seattle, WA  
Herb Sanborn, Northwest Fisheries Science Center, Seattle, WA  
Teresa Turk, Northwest Fisheries Science Center, Seattle, WA  
Mark Wilkins, Alaska Fisheries Science Center, Seattle, WA

Oregon Department of Fish and Wildlife  
Bill Barss, Newport, OR  
Bob Mikus, Newport, OR

Pacific States Marine Fisheries Commission  
David Hanson, Gladstone, OR  
Stephen Phillips, Gladstone, OR

Washington Department of Fish and Wildlife  
Tom Jagielo, Olympia, WA  
Mary Lou Mills, Olympia, WA

#### **IV. Approval of 1998 Report**

The 1998 TSC report, prepared by Tom Jagielo was approved without amendment. Minutes of the 1998 report were posted on the TSC web site.

#### **V. Approval of 1999 Agenda**

The 1999 agenda was approved with modifications. Barnes proposed the creation of a sardine working group due to its importance as a species and placed sardines in the agenda under the working group heading. Saunders suggested that discussion of sardines, including the creation of a working group, occur during the regular species review under item number 12. Jagielo suggested item VII c. marine reserves be the first item on the agenda since this was the only day Mary Lou Mills was available. In addition item VII a. IJFA-Interjurisdiction Fisheries Act was postponed until Wednesday in order for Dave Hanson to participate in the discussion.

The committee discussed whether the TSC report should continue to be provided to interested parties in a hard copy format or only available through the web. Discussions centered on placing the TSC report in PDF format with maps and logbook pages. The committee decided to continue to produce hard copies of the TSC report for the next several years as well as posting the report on the web. Several members suggested including a notice to receivers of the TSC report stating that the report was also available on the web. A disclaimer noting that the report was not peer reviewed will be added to the web site. Other members suggested a search engine be provided where scientists could query

information by species or topic rather than having to prod through six reports.

## **VI. Working Group Reports: Discussion (Full Reports in Attachment A)**

### **A. Committee of Age Reading Experts (CARE)**

CARE has biennial meetings, and 1999 is an off year. Kris Munk reported that in the past year, CARE has begun to maintain an active web page where future age structure exchanges between agencies will be posted to this web site. In addition, CARE anticipates having the 1998 minutes as well as additional appendices posted on their web page within the next two months. Munk asked for any suggestions to make the CARE web site more useful to TSC.

Munk noted that the CARE meetings had been moving more and more in the direction of presentations. In response to the wishes of the TSC, in the future they are going to try to increase the workshop aspect. However, there is a shortage of microscopes available to CARE, and opened the floor to discussion hoping that other agencies may donate some instruments. Saunders inquired about the use of projectors as a way to solve the lack of microscopes. Munk responded that projectors were good for some species but not for others when you need to see the edge or detailed patterns very clearly.

The committee discussed if CARE meetings should be held annually so that more exchanges in information could be forthcoming. Munk reported that the agencies were short on travel funds so limiting attendance to 1-2 readers would be preferable rather than the whole group attending. These representatives could attend the meeting and then summarize and share the results to the rest of the working group. Bob Mikus expressed concern that age readers would always be preparing for CARE meetings rather than performing production aging.

Munk suggested several improvements to CARE:

1. Overall increase in formality during the pre-meeting exchanges by formally initiating exchanges and documenting exchange results at the CARE web page.
2. Reduction in the business aspect of CARE meetings by increasing sub committee (working group) work tasks, which are summarized during the biennial meeting. Increasing the number of structure exchanges prior to the meeting would also focus workshop discussion.
3. Limit presentations to one half of a day so that species of concern or other topics may be addressed.

4. Update the charter (terms of reference) and address membership guidelines.
5. Continue the concept of working groups but not expand them.
6. Next year the group should focus on the terms of reference.
7. Attendance by a TSC member during the business portion of the biennial Workshop.
8. TSC should identify annually the species of concern so that CARE can focus pre-meeting exchanges and have results and discussion available at the CARE meetings.

The committee responded by identifying lingcod, sablefish, and hake as “priority species” which should be examined prior to the CARE workshop.

**Saunders:** Canada and US used to have different ages from country to country but under CARE’s direction, the ages now are consistent.

**Barnes:** CARE serves an important function in strengthening the readings for new species. For example with blackgill rockfish, CARE members aged a subset of blackgill rockfish otoliths to validate the initial ages that strengthened the quality of the assessment.

The committee discussed the need to reduce the turnover rate in age readers and to keep age readers in agreement from agency to agency.

**Turk:** Why not provide a higher level of compensation?

**Methot:** Try to provide a diversity of tasks to reduce production mode or offer a path to higher education.

**Barnes:** One way to diversify is get involved in the validation process.

**Munk:** The personality of the reader should enjoy sitting behind a microscope.

**Methot:** Kevin Piner is now our lead person in Newport in aging and validation.

**Wilkins:** Is there value in having one person or lab age particular species as opposed to multiple sources?

**Methot:** By having multiple labs then there is always constant assessment. It is important to keep the readers in contact and at a level of agreement.

**Munk:** Should there be a level of control?

**Jagiello:** It took about a 1000 fish being read to locate a bias in a new person who was aging.

**Kronlund:** I saw the same trend. The drive for production may have compromised some of the readings in terms of quality control and identifying drift over time and operator fatigue.

**Barnes:** Select a test set of 150 thin-sectioned otoliths that 3 experienced readers pretty much agree on. Then insist that the new person on board have a score comparable to these readers and continue to check on this individual throughout the year.

**Mikus:** This works well but not for break and burn. How are multiple ages handled in each agency's database?

**Method:** Are multiple ages included in the PacFin database?

**Munk:** ADF&G record the 2<sup>nd</sup> and 3<sup>rd</sup> ages.

**Saunders:** Rick Stanley has developed a database structure that captures most of the information on the data sheet but it has not been implemented yet. What are PacFin's new areas of development? What is the reporting on the Canadian statistics?

**Method:** PacFin is run by PSMFC and has a number of funding sources. PacFin produces a quarterly report, has a web page, and has the raw information. AkFin has summarized data as well as Canada.

The committee recommended that all ages be recorded in the databases and that PacFin and AkFin submit an annual report to TSC on current projects.

## B. Pacific Whiting Working Group.

The science portion of the hake stocks is coordinated between Canada and the United States through peer reviewed journal articles, good participation, and producing a single document on the status of the stocks. However, management of hake is very different in each country and needs to become coordinated.

Recent triennial surveys have shown massive changes in the distribution of stock. 2001 is the next scheduled survey but the Miller Freeman will be unavailable for this work. Gary Stauffer (NMFS-AFSC) has asked DFO to perform the entire survey using the F/V Ricker with the help of equipment from the United States. The triennial survey is composed of 60 vessel days in US waters and 30

days in Canadian waters.

**Wilkins:** A new keel is to be laid in 2002 and in the future we will have more F R/Vs (Fisheries Research Vessels).

**Saunders:** We need to ensure that cooperative research is occurring and use some US acoustic staff for the next triennial survey.

**Dorn:** We are anticipating an interim assessment to be conducted in the summer of 2000 with a report in 2001. After 2002 survey then we will conduct an assessment in the winter of 2003.

### C. Lingcod Working Group.

#### Update on lingcod age estimation

**Jagiello:** CARE facilitated a three lab exchange between WDFW, NMFS-Tiburon, and DFO in 1998. John Sneva, who leads the WDFW age reading lab, likes the approach of using annuli spacing information.

#### Lingcod Assessments

In 1999 a lingcod assessment of the southern area (INPFC Monterey and Conception Areas) is being produced through a cooperative arrangement between NMFS and CDF&G. A new coastwide assessment of lingcod will be lead by WDFW in 2000. It would be good to explore the possibility of US-Canada collaboration on assessment of transboundary lingcod stocks. In Canada, there doesn't appear to be any modeling of lingcod stocks at present.

Saunders: There is an ongoing collection of structures but I don't know if any aging is occurring.

#### Lingcod Rebuilding Plans

**Jagiello:** The development of rebuilding plans is required for bocaccio, Pacific ocean perch, and lingcod stocks. An analysis indicated that the lingcod stock could rebuild in about 10 years, with the appropriate reduction in catch levels. There is concern on the US side about the severity of the proposed catch reductions and a perceived lack of coordination with Canada.

**Saunders:** The concern needs to be relayed more formally. The Canadian side is starting to take a precautionary approach and tailoring this to the management regime. There is really no lingcod working group-this is misidentified in the agenda.

**Method:** There is more of a mismatch on management and assessment than there was with hake. We need further evaluation of the mixing of fish across borders and is this biologically important? Is there more than one stock? This needs to be evaluated. The US assumption is that there is one stock that extends from INPFC area Vancouver to Cape Falcon. If you reduce overall take in US waters, does Canada also reduce its take?

**Jagiello:** Lets have a binational look at this. At Cape Flattery, WDFW has an ongoing tagging program but it is not designed to address US-Canada transboundary mixing of stocks.

**Saunders:** Could this tagging program be expanded into British Columbia?

**Jagiello:** You could design a trans-boundary program but it would be costly .

The committee decided to keep Mark Saunders informed about the pressure Tom Jagiello was receiving regarding a cooperative report on lingcod stocks and management.

**Method:** what additional information do you need from Canada?

**Jagiello:** An assessment of the Canadian area would be good to compare with the US assessment. Also an ongoing age series of age composition data is needed. Allozyme results showed no difference from Alaska to California but additional genetic work would be useful. Saunders will check on new lingcod ages from Washington.

Jagiello: Welcomes collaboration from Canadian side.

**Saunders:** Will ask Canada for personnel in order to gear up for this assessment. The best approach would be a coastwide assessment.

D. Yellowtail Rockfish Working Group.

**Saunders:** Scientists responsible for yellowtail rockfish from both Canada and the United States did not feel strongly enough for a joint assessment review. Once genetic work has been performed to address stock boundaries, then they can produce an integrative report. Scientists from both countries have the same database but there is a mismatch between assessment and management boundaries for both countries.

**Method:** A new stock assessment is scheduled for 2000.

## VII. Other Topics

## A. IJFA Funding

**Hanson:** I am in the process of developing the next proposal to continue funding the West Coast states. This year's funding is secure and we are now lobbying for year 2000 funding. Alaska is on an off-cycle with the other states. At this point, we are not convinced that we are coordinating this funding as best we can. All 3 states seem to be going in different directions. Our hope was to have all the states investigate near shore rockfish in a similar fashion.

**Jagiello:** In Washington, we are using those funds to evaluate survey methodologies for nearshore rockfish populations.

**Wilkins:** Some of the real challenges are for the person watching all those videotapes.

**Clausen:** In Alaska, one person, Scott Johnson, purchased a small ROV for \$25,000. It is working well for near shore work and can operate to depths of 200 feet.

**Turk:** Also Brad Stevens in Kodiak should be contacted. He's frequently used ROV's to investigate podding behavior in tanner crabs.

**Hanson:** Lots of people within the industry think that refugia are going to happen in areas that are untrawlable for rockfish. So how would you monitor these refugia? The Pacific Fishery Management Council (PFMC) is going to set goals and directions and possible implementing in year 2000. The Gulf Council just set aside quite a bit of area. We try not to tell the states what to do with the IJFA funding but we want it to more coordinated with rockfish and a complete transition for all the states. We don't want to follow the lead of other agencies by simply funding workshops that don't accomplish much.

**Barnes:** There is a proposal on coordinating near shore rockfish in California by Brian Baird. Brian contacted field biologists on near shore research. NOS is being represented by Don Scavia.

**Method:** An effort between some universities and the Packard Foundation that will put some money into the system for monitoring.

**Phillips:** These monies will be available in 2001 for particular projects that Barnes mentioned.

**Hanson:** I initially thought that \$1.6 million would not push the science further, but just pay for people's salaries. How can we coordinate and direct this research?

**Phillips:** The states would implement the pilot program but we need the scien-



tific advice from NOS.

**Hanson:** will the money come from somewhere else? Now with the Balkan problem, there will not be a surplus in the budget. In the discretionary pool, defense will be competing for all other agencies. New initiatives will be carved from somewhere (agencies or line item). PSMFC is a for-profit agency. We are a specific line item in the budget.

**Saunders:** Within DFO the habitat folks are the ones driving the agenda and have diverted money away from the fisheries end.

**Method:** There is a sense that fisheries information is different from research on fish habitat, etc. We are all looking to develop our capabilities from a different perspective. Research vs. regulation of the fishery.

**Saunders:** I watched a lot of money going into Marine Protected Areas and did not see many results in terms of understanding an ecosystem.

**Hanson:** Foundations will not fund research work but will fund workshops. The key is not to have the agency follow their lead.

**Method:** We received inquiries from Ecotrust to publish all our EFH work on their website.

**Barss:** We have used the IJFA funding for doing rockfish work on charter boats from Depoe Bay to northern Oregon. The habitat people under Dave Fox have been doing habitat survey work using RoxAnn and some drop photography. And we have hired a new sport fish ager to age our own lingcod and rockfish.

**Barnes:** California has not started to change our investigations from coastal pelagic to near shore rockfish. We are trying to finish up the coastal pelagic work. I suggest trying to expand the dive survey method for obtaining densities for nearshore benthic fish and get more divers on board. We should be looking for additional information outside of the reserves-more information than just habitat data.

**O'Connell:** At ADF&G we are looking at Black rockfish trying to come up with an abundance estimate. We are also trying to estimate the nearshore rockfish component by using a tagging and recapture ratio. Dave Carlile and Jonathan Heifitz are working on this.

## B. Age Validation

**Mikus:** New projects haven't started yet using the marginal growth increment analysis with Optimus-Imaging validation techniques. We just finished assessing the ages and need to be trained on the new machine. Joe O'Malley is

working on sablefish age validation and will defend his thesis in June.

**Wilkins:** Frank Shaw is applying Oxytetracycline (OTC) tags on sablefish.

**Mikus:** Marion Mann will be working on shortspine thornyhead (SST) this summer and fall.

**Munk:** Looking at SST and shorttraker rockfish (SR), I found no consistent age pattern. At the Alaska Fisheries Science Center (AFSC) SR are still considered experimental.

**Clausen:** I suggest you separate out production from experimental aging. Age validation for juvenile sablefish was recently published by NMFS and should be included in Chris's table.

**Barnes:** Should the definition of production aging include that these results be included in stock assessment? Or should a distinction be made that you have the technical capability to perform production aging, but do not have the personnel to do the work? Last year TSC recommended that CARE include mackerel and sardines.

**Munk:** This issue will be discussed at next year's CARE meeting. Barnes: There is a new NOAA Tech Memo published for aging methods on sardines and should be included in the manual.

### C. Marine Reserves.

Mary Lou Mills presented a report based largely from Wayne Palsson's work using video acoustic surveys to identify near shore habitat for lingcod and rockfish and to estimate species density. They are seeing an increase in sizes and numbers of animals in areas that were designated marine reserves. Some marine reserves would be for non use, dive use only, or protection of unique habitat.

There will be a transboundary conference from May 17-18. We expect about 50 people to attend. The talks will be focused on Fish and invertebrate assemblages, ecosystem and habitat assessment, ocean and physical habitat, and some modeling. This is an opportunity to brainstorm on issues and to lay the groundwork for a more formal meeting in late 1999. This will be an application of MPA science to benefit Puget Sound and the Georgia Basin. On May 12, 1999 the PFMC subcommittee on Marine Protected Areas will be meeting. They will be talking not just about finfish habit but also ecosystem issues.

**Barnes:** It would be of value to find differences between inside and outside reserves especially since some areas have been protected for a lot time.

California has created four reserves off California. After 5 years, we are just starting to see statistical differences by changes in the numbers of fish but not in their sizes, particularly at the Big Creek site in the Morro Bay area.

**Mills:** Marine reserves are not an instant fix. The ones where it works well have high site fidelity. We've also conducted dive transects at Edmonds Park, Shady Cove in 1991, and two complete no take areas last year. Edmonds has been a complete no take area because the city posted signs. San Juan County has adopted 8 voluntary no take zones. They have posted signs, created brochures and hired one person to inform the public. This no take area hasn't been tested yet because of salmon season. Most rockfish and lingcod are taken as bycatch. In order for these no take areas to be effective, we have to have a buy-in from recreational fishers and truly make them 100% no take zones. The tribes are concerned but also want to be involved in the process. We invited tribal biologists to the MPA meeting but we did not have great attendance. The tribes are concerned about salmon restrictions. The other source of concern is from local landowners. WDF&W stopped the reserve short of the near shore area in order to avoid conflicts with landowners. The Edmonds site is only 200ft. x 500 ft. The Orchard Rocks no take zone resembles a pie with a piece cut out. It is an octopus hole in a stretch of shoreline that did not have objections.

**Method:** How is the evaluation done?

**Mills:** The state is not investing in groundfish management. This is federal grant money that Palsson is using. Our initial measure of success will be an increase in numbers at the site and down the road hopefully increase in sizes. Our target is 1/3 of the rocky/reef habitat. This is based on Palsson number for sustainability. Harvest rates are another tool for reducing take and I would not be surprised if there will be a further reduction of lingcod and rockfish recreational takes.

In places where no salmon fishery occurs and where fishers target on groundfish, then we conduct creel surveys, which consist of interviewing persons and telephoning to confirm salmon and lingcod bycatch. The initial reason for the fishing trip determines what the target is even though there may be a side trip that targets on rock piles. We don't know if a decreased harvest throughout Puget Sound will decrease the take in no take zone. Some reserves came up against a lot of resistance for example, Friday Harbor. There is no correlation between harvest and opposition. Some want to close areas and most importantly they want to be included in the process. In Friday Harbor, the University of Washington did no outreach and had a lot of opposition. It took us 3 years to close them. Do the leg work before hand in bringing them forward to closure.

**O'Connell:** We just closed a pinnacle area outside of Sitka. It is closed to bottomfish but still open to salmon. The Board of Fisheries will consider this at their next meeting. There was significant opposition by trollers because this is

a troller turn around area.

**Barnes:** CDF&G is assuming responsibility and trying to develop a process to follow in order to adopt new reserves. Recently a proposal was submitted by NRDC to create a marine no take reserve around the Channel Islands. If approved, the marine reserve would incorporate about 20% of the total area from the beach to outside. We are putting this issue on the fast track within the agency. The California Fish and Game Commission wants to make a decision by December 1999 but agency doubts it will happen by then. We are trying to create a working group with a scientific advisor to draw up some criteria and objectives.

**O'Connell:** How is halibut handled? Our experience is that more rockfish are killed during a halibut fishery than one targeted on rockfish. I went to the International Pacific Halibut Commission (IPHC) and asked them for a closure.

**Barnes:** This is not an issue in California because there are no Pacific halibut.

**Saunders:** Canada can close areas to halibut fishing and can be more restrictive than IPHC.

**O'Connell:** That was my impression but then I found out differently.

**Saunders:** The British Columbia government is under DFO, so perhaps states should go through NMFS, but this will take time.

**Barnes:** When Proposition 132 designated four new reserves, the proposed sites had to be taken to the PFMC for a consistency ruling with the Groundfish Management Plan since it was a federal fishery. Fortunately the reserves were found to be consistent with the plan.

**Phillips:** PFMC separated out habitat areas of particular concern and MPA's. The habitat steering group of the PFMC has asked for development of criteria for MPA's.

**Kronlund:** In British Columbia there is direction to take an ecosystem approach to fisheries assessment and management. Marine Protected Areas (MPAs) are one component of that approach. There are three pilot MPAs: Race Rocks, Bowie Sea Mount, and Gabriola Passage. At a minimum, there is no dredging, drilling, or resource (non-fishery) extraction permitted from Marine Protected Areas. Stakeholder consultation is ongoing regarding these areas. In the interim, the Groundfish Management Unit has closed a number of areas to directed hook and line rockfish fishing, and is working to extend the closures to other sectors, including the recreational sector. For example, about one half of the Scott Archipelago off the north-west tip of Vancouver Island is closed. Minor closures are in place in the Strait of Georgia that are agreed to by both the commercial

and sport sectors. We attempt to select areas that are easily identifiable, and some are selected to avoid a particular sector. For example, open coast closures may be hazardous for sport fishing vessels to access. On the other hand, these areas may be difficult to enforce. Advisors from the commercial hook and line rockfish sector have admitted to spatial depletion of the nearshore rockfishes and declines in catch rates (e.g. the “mining” analogy for rockfish harvest.). The attempt to introduce large-scale closed areas has been accompanied by a reduction in total allowable catch.

**Mills:** We have stolen a lot of ideas from Canada because they are farther along than we are.

**Methot:** How large do MPA’s need to be in order to have an impact? Are there any tagging studies going on? Depends on what the closure has been defined to do.

**Saunders:** Canada funded some genetic rates of mixing and found an appropriate area and space to be working with a distinct population. They are a long way away from this with sablefish.

**O’Connell:** Rick Starr’s tagging is starting to show some results.

**Mills:** We have started to tag in the Edmonds area. Our approach is that it would have to be very good science in order to sacrifice fish out of the 30 year old reserve. We have collected dead lingcod. The lingcod may be at maximum capacity and may be stressed. This area is not great habitat to begin with. It is a bar. Divers did some lingcod nest surveys and wanted to identify which lingcod nested where. WDF&W encouraged them to do some non destructive identification. There are some fish with a discernable scar and are seen in the same location year after year. Our second observation is that males take up a station and sometimes eggs break loose. If an egg mass begins to move, the male goes back and forth from egg mass to station until egg mass is moving too far away.

**Saunders:** Canada has designated the Bowie Sea Mount as a MPA because it is unique and also has hydrothermal vents. There have been some oceanographic cruises and some video cruises over the sea mounts and vents.

#### D. GIS

**Barnes:** CDF&G is moving forward on trying to get together a coast wide GIS for intertidal species and we have hired Rick Kavetec from Cal Poly and Gary Greene of Moss Landing. There is some information on sediment type and kelp canopy and we can use canopy as a proxy estimate of near shore rocky habitat. We also have some sidescan sonar data. We have good information on kelp beds since they are leased out for harvesting. In 1980 CDF&G conducted good aerial surveys for kelp canopy and very carefully mapped these out due to the lease agreements.

Species association will also be part of the database. These two researchers have planned a fall workshop but are on fast track and expect that within a year of the workshop it will be completed and the data will fit on 30 CDs.

**O'Connell:** That's impressive that most of their near shore area is mapped.

**Barnes:** Dave Vantresca and another biologist are using RoxAnn along with sidescan sonar to validate some of these areas.

**Wilkins:** At the Alaska Fisheries Science Center we have a centralized and standardized GIS set. Mark Zimmerman has been looking at trawlable and untrawlable areas (50-500 meters) from Vancouver Island to Pt. Conception. He is looking at ways to demark the search area and plot in some untrawlable areas. The intent is that in the future we can write off the untrawlable areas for our standard survey gear. Those area designated as untrawlable area will be assessed with different gear or other techniques. Zimmerman is also working on assembling a coast wide sediment table cooperatively with USGS. He has compiled about 4000 data points with quantitative samples along the West Coast. Using the Questar Tangent Viewer (QTV) in Alaska, someone in the ADFG western region has been able to look at black rockfish habitat. Both sidescan sonar and the QTV require ground truthing.

**Saunders:** In Canada, we have also worked with various vendors to get exact positioning of sampling.

**Method:** We have put together an Essential Fish Habitat (EFH) database for the West Coast and have a full time person, Allison Bailey. Waldo Wakefield is also now at the NWFSC and rapidly expanding our capabilities. In addition NWFSC have been approached by some NGO's that are ready to publish information for us. Would they publish confidential information, etc? Legally the US government can't give data sets out that they have purchased.

**O'Connell:** Alaska was shocked that logbook information was used in producing some of the documents for the Council.

**Clausen:** This is a gray area on how to handle this level of precision.

**O'Connell:** At ADFG it is the rule of 3. **Phillips:** At PacFin it is automatically aggregated to the rule of 3.

**Saunders:** In Canada, we can't disclose individual locations.

**Wilkins:** There is a problem with a large group of fishers buying off on the disclosure of the database. Accuracy is still a real problem.

**Turk:** I was able to contact about 80% of the scallopers in Alaska. They signed a disclosure form and ADFG released the data to me. I'm able to map almost all of the scallop grounds harvested since 1993. This data has been entered into Arcview and recently I have been mapping these beds.

**Saunders:** In Canada, we are just starting down the Arcview road and looking at 100% observer data from 1996. We are pasting together the mosaic of bathymetry that is not available to all the biologists. We are willing to exchange the transboundary bathymetry between the US and Canada.

#### E. Web Pages

**O'Connell:** The western groundfish conference will be held in Sitka, Alaska in April 2000 and we are going to put together a web page. Soon you will be able to do online registration. At least 50 people are interested so this is a very positive sign.

#### F. Straddling stocks and how this relates to terms of reference

**Barnes:** The current terms of reference are on TSC web site at [www.psmfc.org/tsc](http://www.psmfc.org/tsc). Do we want to amend our terms of reference to include ecosystem concepts and others? Should we compare our terms of reference with UN straddling stocks document and have this document emphasizes sharing as opposed to exchanging information?

**Phillips:** Nothing really jumped out to me when I reviewed these comparisons. I don't see a reason to change the language.

**Barnes:** Article 10 divides regional and subregional management. TSC fits well on a number of these UN straddling stocks terms of reference, but not all of them. There is some reference that any existing organization should be brought in to the process.

**Methot:** Where would TSC fit with the other organizations i.e. PISCES, IPHC?

**Barnes:** Are there areas of overlap between TSC and other organizations?

**Methot:** Yes, such as PISCES and with the TSC inclusion of ecosystem then this would be even more in line with PISCES.

### VIII. Review of Agency Groundfish Research, Assessment and Management.

#### A. Agency Overviews.

**Wilkins:** Agency draft reports are posted on the web and will be replaced with final reports when those become available.

**O'Connell:** The fisheries division has been renamed from "Commercial Fisheries and Development Division" to "Commercial Fisheries Division".

**Clausen:** The AFSC Kodiak field station is moving to a new location next to the FITC building on Near Island. The Auke Bay lab in Juneau is moving to Lena Point.

**Barnes:** There is a significant publication in press on nearshore rockfish by Bob Lee et al. The 1998 state legislation called AB 1241 (the Marine Life Management Act) will change the way CDF&G approaches management in general. Up until this law, management was done by the legislature. With this new law the legislature has voluntarily given up authority and has created a Commission that will have responsibilities similar to the Council and will be responsible for FMP's, starting with two new FMP's for near shore fishes and white sea bass. CDF&G will have until 2002 to submit a nearshore FMP to the commission. The process of the FMP submission is spelled out in great detail, and includes peer review (analogous to STAR process) and public comment. This new system is an attempt in trying to control our nearshore fishery. We can't even get landing data due to the number of vessels and number of ports. Although the coverage and volume of data has improved, CDF&G feels they are still missing a great deal. As part of the FMP, CDF&G is requiring a \$250 permit for participants in the nearshore fishery. In the future this could be a way of determining limited entry. In the trap fishery there is also a permit. The only open fishery is hook & line and we have recently limited the number of hooks. In AB 1241 there are minimum size limits for several nearshore rockfish (size at 50% maturity for females). In Canada they have avoided size limits because the mortality associated with bringing them to the surface. In California, these are kelp bed species and would survive release. These fish are the mainstay of the live fish industry and so they have survived until market.

**Kronlund:** I have held rockfish in captivity for an extended period of time. Even ones that survive, the swim bladder is in tatters, the gut is atrophied with possible damage to the eye.

**O'Connell:** Advocates a size limit on SST because they appear to have high survivability. I will suggest to Board of Fisheries to ban live fish in Alaska, but there may be some problem with halibut.

**Jagiello:** There is a law against transporting live fish? The live fishery is reported to be worth \$5 million with fishers receiving \$5/lb.

**O'Connell:** This fishery is hard to document and this is just one reason why



I feel compelled to go to the Board of Fisheries and say this fishery is a bad thing.

**Kronlund:** We do not know about the discard at sea from the targeting live fish. Fishers have started to divulge some information. The preferred size is 1 1/2 to 2 1/4 lbs. DFO is trying to get observers on board so that we have information on the discarding of non-target rockfish species and any non-size classes of the target fishery of Copper and Quillback.

**Joyce:** Recently I told the public that we are embarking on a rockfish conservation plan because don't have data on discards. They are resistant to keeping nontarget fish because there is a weight limit on fishing. We can stipulate on the license that they must retain species but there is no way to enforce it. Although it is in the law, DFO isn't seeing these other sizes. The experienced guys (10-15 yr.) have seen the stock decline but new guys are resistant to the law. It is almost too late for limited entry because of the serial depletion of reefs. How can you manage individual stocks on these reefs? We have cut the quota dramatically for the past 4 years, this year by 25%.

**Barnes:** CDF&G is behind the curve and hoping that the new law will be effective. In California it is not the species but the size that is very important. Initially a new species gets a lower price but then they start to develop a new market.

**Joyce:** In Canada, they are developing cabezon and kelp greenling.

**Barnes:** In California, enforcement is trying to make an example of fishers that don't report their landings. The hope is to get better compliance. If CDF&G had additional funding for port biologists, then more port samplers could go to different places and at different times.

**Joyce:** Canada has designated landing ports and has to notify the dockside monitor to meet the boat.

**Barnes:** In California, this would be hard to enforce.

**Saunders:** In Canada, another sort of discarding is the discarding of females with eggs. Canada solved this by closing the fishery when females are running. In the Strait of Georgia, live fish are caught with a rod and reel, which is indistinguishable from sport. Some fishers longline on the outside coast. CDF&G has 35 staff members assigned to the near shore fishery, but staff is also investigating reserves so not exclusive to near shore fishery. CDF&G continues to be understaffed in monitoring landings and other aspects.

**Barss:** ODF&W is concerned about live fish being imported into Oregon because

of parasites.

**Barnes:** Doesn't monitor the transport from different areas of the state and the state has no control about the export of these fish. With abalone they are looking at sabellid worms that make their product unsellable. Currently abalone are exported to Asia. The sabellid worms bore into the shell but this parasite doesn't kill the shellfish. CDF&G requires that imported animals be certified for aquaculture, but I'm not sure about imported fish from another state that are to be sold commercially. Currently there is not a limited number of the near shore fishery permits – it just cost \$250.

**Tory:** In Alaska we can't do limited entry because there are already too many people, but perhaps a lottery system?

**Barnes:** We are probably already way overcapitalized in California.

**Kronlund:** In Canada there are 70 licenses in the Strait of Georgia and 180 licenses on the outside coast.

#### B. Multi-species Studies:

**Method:** We started the slope trawl survey in 1998 and are in the process of reviewing the bids for 1999. This survey was done in lieu of the Miller Freeman. This year we will have overlapping surveys with NWFSC's slope survey and the Miller Freeman. We can take a look at seasonally of the fish between these two different surveys. At this point we don't have sufficient funding for future surveys. At the annual ICES meeting, several members of our team presented a poster quantifying the behavior of the trawl between the start of haul back and the time the net actually lifts off the bottom.

**Barnes:** Several biologists went out on spot prawn trawlers out of Morro Bay. They have some concern from what they saw that they would like to expand observer coverage, although we are unsure if we have the personnel or funding to do so. Currently there is no discard attributed to that fishery other than what is landed. We would like to get some statistical estimate of bycatch, discard and mortality. Further south out of Santa Barbara is the ridgeback prawn fishery. No distinction between the spot prawn fishery and ridgeback prawn fishery is being made at the Council level. I understand that these two fisheries are different. The spot prawn nets have re-bar excluders sewn into the net. The ridgeback fishery has smaller boats and nets do not have excluders. A variety of fish were observed as bycatch and brought to CDF&G's attention because of gear conflicts.

**O'Connell:** Using visual observations from the sub is important.

## C. By species

### Pacific cod

**O'Connell:** In central and westward area there are cod pots. Folks fishing in Yakutat were getting lingcod in their Pacific cod pots and so pot escape panels need to be modified.

### Near Shore rockfish

**Phillips:** We submitted an SK proposals but were turned down. I'm planning on documenting how each state carries out their rockfish research. If the SK money stays at 1.5 million, then stock assessment will not stay a priority. But if Congress increases the money in SK, then PSMFC will submit a proposal for rockfish funding. If SK only has 1.5 million, then SK will have to change their funding priority list. The funding source was a tax on imports but some of it has been siphoned off into the federal budget. Stevens is talking of a bill to rejuvenate SK. Last year, SK was funded to increase port sampling of rockfish and given to the states. Now there is a need to see if these new data records overlap with AkFin. We clearly need to identify it as a new task.

### Shelf rockfish

**Saunders:** Rick Stanley is performing some new studies on widow rockfish by making multiple passes as many as 20 with acoustics over spawning aggregations. We are hoping to do get an estimate of spawning biomass. We are planning on performing the same biomass estimate techniques on other shelf species. These aggregations are very clean and industry fishes on them at the same time. It is tough to discriminate different species with *S. reedi*.

### Slope rockfish

**Methot:** The NWFSC is trying to implement a Port Interview Project (PIP) to facilitate a frank dialogue with industry.

**Saunders:** How does the logbook correspond with the PIP project?

**Methot:** We have to identify the common jargon between the two groups.

**Saunders:** Could you use the observer data for stock assessment? Fishers behavior was tied very closely with what they had in terms of IFQ rather than what was really there. My suggestion is to try to have observers identified what the target is prior to the tow rather than identification after the haul is brought on board.

**Clausen:** A sizeable part of the catch for Pacific ocean perch in the Yakutat area is being caught off bottom. The skippers say this is truer off Yakutat than anywhere else in Alaska. 78% of the POP were caught with pelagic gear. I'm curious to see if the age composition is different from fish caught on the bottom.

**Hanson:** You have to remember what defines a midwater net. It is not the trawl performance but the actual construction of the net. Often these midwater nets defined by not having any bobbins are trawled on the bottom of the ocean.

**O'Connell:** In a recent meeting the Board of Fisheries banned trawling inside 3 miles around about 2/3s of Kodiak Island.

### Thornyheads

**Methot:** There is a new assessment on shortspine thornyheads from the NWFSC. We are interested in age validation because of the uncertainty in the assessment. The Alaska Fisheries Science Center already performed radiometric validation, but the report was not conclusive.

### Sablefish

**Barnes:** CDFG is conducting a sablefish cruise that is a continuation of the blue rockfish tagging study. We have completed three weeks of working out of Morro Bay in a cooperative effort with Frank Shaw and Don Pearson from NMFS. We are using traps to collect fish in Santa Maria Basin but they can also move to Cortez and Tanner banks if needed. We are trying to focus on catching juveniles and young fish to validate the annuli of young fish. We are also trying to duplicate the past sablefish surveys using the same kind of bait and tagging as many fish as possible, etc. The survey is sampling in three depth clusters going out to 450 fathoms.

**Barss:** Last year we found sablefish all the way out to 1000 fathoms but longline gear didn't work as well in the deep water. Now we have two vessels comparing two different gears – pot and longline from 400-600 fathoms. In the fall, we may be working in deeper water.

**O'Connell:** Dave Carlile is working on an age structure model using mark recapture (tag and fin clip) methods. He is seeing fish being recaptured the same year it was tagged. Results from this study will probably reduce the quotas by 1/3. Fishing is not as good in Chatham Straits as in previous years. We are attempting to combine tagging with stock assessments. However, it is a funding issue – we can only afford to tag 5000 fish. Jan Strales is putting together a proposal for sperm whale-identification of stock structure and coming up with deterrent methods. Sperm whales are eating lingcod off dingle bar gear. This interaction is becoming a much bigger problem and fishermen have pushed for

more work deterrents. This longline problem is happening all over the place. In Chile the fishers dynamite sperm whales and then the government blows them up so that no one knows. At least one gray whale was caught in crab pot line.

**Saunders:** Next week we are meeting with Ray Hilborn to discuss creating a tagging database. This year we have tagged over 15,000 fish with the collaboration of Mike Sigler. We are also conducting a larval survey on the west coast of Vancouver Island. We have no intentions to do a coastwide assessment. We have seen a couple of good year classes in the last few years. So far there is no increased in sablefish catch in Dixon entrance in the disputed zone.

**Clausen:** In 1998 we released sablefish with archival tags and the vessel had to provide the tags (\$1000 each). They released two fish/station. The procedure was to cut the fish open, place the tag inside the fish, and carefully sew the fish up. So far we have gotten 1 tag back and are paying a \$500 reward to people who turn them in. There is nothing unusual about these archival tags except they are 2 colored (pink and green). We think there is a very low mortality associated with tag placement and they acclimate in about one week.

### Flatfish

**O'Connell:** Southeast Alaska has tiny trawl fishery, less than 1000 lbs. that is sold for bait. ADF&G is going to try to close the area to flatfish fishery.

**Methot:** We will do a Petrale sole assessment this year. We may resurrect sanddab and English sole for stock assessment next year and arrowtooth flounder (ATF) has not been assessed in years.

**Saunders:** Canada had lots of ATF in the shallows where they shouldn't have been. **Barss:** We only have haul and catch for 4 ODF&W surveys with no size information. **Wilkins:** The 75 and 76 surveys are not in racebase but 71-74 are in there. I will review the survey information.

### Lingcod

**O'Connell:** Rick Starr and I have submitted a proposal to put archival tags in lingcod in the pinnacle area. The Board of Fisheries wants a new FMP for lingcod. The sport fleet is now taking more than the commercial fishery from bycatch. Sportfish is both inside and outside 3 miles. Lingcod is not an FMP fish.

**Jagiello:** We didn't get as many tagged fish released in 1998 as we had anticipated. Our goal was 1200 but only managed 500 this year. Last year we tagged 1200 fish.

**Barss:** ODF&W is considering adopting conversion rates for gilled and headed

fish. Prior to this everything was noted as in the round regardless of its dressing.  
Hake

No discussion.

Pollock

No discussion.

Dogfish

**O'Connell:** It is legal to land shark as bycatch, but there is no directed fishery. Prince William Sound started to have a targeted fishery on shark but the Board of Fisheries decided against it. With skates you have to apply for a special permit from the commissioners office. Fishermen had a hard time marketing skates in Southeast Alaska. In Southeast there is a feeling that dogfish are eating all the hatchery pink salmon.

**Saunders:** In Canada there is a growing interest in a dogfish fishery. There hasn't been a dogfish assessment in a long time.

**O'Connell:** Bill Bechtol found a huge increase in dogfish in Prince William Sound. Fishermen are trying to develop a market for small dogfish because they are a year round bycatch. There have been over 20 tag recoveries of dogfish from Japan. The shortest recovery time was 18 mos. We haven't gotten any recoveries from the Gulf of Alaska but 2 tags recovered from Mexico. We tagged about 30,000 fish. In Puget Sound historically there was a fishery for dogfish.

**O'Connell:** There is talk of having a directed salmon shark fishery. Does anyone know about any other directed salmon shark fisheries? There was an experimental fishery for blue and salmon sharks about 8-10 years ago. There was a low catch rate for these two species but also caught 6 gill sharks in the process. We need to finish investigating the use of the neural arch for aging.

**Saunders:** DFO tagged about 200-6 gill but only one tag was recovered. A sport fisher wanted to catch and release 6 gill and DFO wouldn't let it occur. Fishers are now fishing blue sharks outside and doing quite well.

Pacific mackerel and sardines

**Phillips:** Last year TSC wanted to have a group of experts to get together at the April 20-21 workshop. This was primarily attended by state agencies. Next year the Sardine Symposium 2000 is the week of May 22 and has proposed to have a larger gathering maybe 80-100 people. We are trying to get some preeminent folks to attend. Some of the objectives are: 1. Attention to PFMC importance of

sardine abundance. 2. What are the links to other species 3. Overfishing 4. What is the economic potential of the sardine burst? The symposium will either be in La Jolla or Sacramento. The year's workshop went well. Sardines are being used as an indicator species for ecosystems due to their large fluctuations and good time series. Sardines only sells for \$82/ton with much of it going to aquaculture in Asia. PSMFC will sponsor the conference. In terms of publishing the talks, we were leaning towards a unreviewed format like PISCES. The stock assessment group will develop a coast wide survey and identify some way to get coast wide age composition. There are high concentration of eggs over 100 miles off shore. The key will be getting the Mexican catch data.

**Saunders:** I don't think there is very much data from WA and OR. The data may have been collected from stomach contents from offshore sampling. When you look at the CalCofi surveys the heaviest densities are off shore. Latest sardine stock assessment is that the southern component is over 1 million MT and off shore component is over 2 million MT. The current status fits the definition of a recovered stock.

#### Other species

The inclusion of anchovy in the sardine FMP is in Silver Springs and it is scheduled to go out for public review very soon. In two areas of Alaska herring never showed up this year for spawning. Other areas of Alaska also experienced poor herring spawning.

#### D. Other related studies

#### Logbooks

The recommendation from the Total Catch Determination committee was to have fishers fill out logbooks but only if these logbooks are going to be incorporated into stock analyses.

**Barss:** I don't think the state of Oregon logbook information has been entered.

**Saunders:** In Canada, logbooks are entered and used.

**Clausen:** In Auke Bay, they are setting up a database for longline logbooks for a voluntary program for smaller boats that don't have observers.

**Method:** Off the West Coast there isn't a logbook requirement for hook and line vessels.

**Saunders:** In Canada occasionally 10% logbook coverage in the hook and line fleet, but not much more.

**Jagiello:** In Washington, there is a volunteer logbook program in the charter fishery.

**Saunders:** In Canada, we don't have the authority to require logbooks on sport or charter vessels.

#### E. Other Items

**Methot:** The Pacific Whiting Conservation Coop is proposing conducting a trawl survey on pre-recruits. Historically this species has produced a big year class after El Nino. The first vessel would use an oblique tows and then the second vessel would do bottom tows.

**Saunders:** I would be more inclined to do acoustic estimates and look for them rather than run transects.

**Methot:** One item was to prestratify the survey from shrimp fishery in order to target the fishery.

**Saunders:** Could you get sablefish index as well with the oblique tows in shallow water?

**O'Connell:** I would like a set of recording area reference maps for fish ticket landing reports and if there is one for research.

### IX. Progress on 1998 Recommendations

1. The web site was completed and is now updated by PSMFC.
2. Contact between scientists conducting sardine research occurred during the April 20-21 meeting with an additional August meeting scheduled between the two state departments.

### X. 1999 Recommendations

#### A. From TSC to itself

1. The TSC discussed lingcod, and noted that: 1) pursuant to the US Magnuson-Stevens Sustainable Fisheries Management Act, a PFMC lingcod rebuilding plan is being developed to restore depressed lingcod stocks, 2) the most recent (1997) PFMC stock assessment modeled lingcod as a Canada-US transboundary stock, and 3) the next PFMC stock assessment of lingcod in the transboundary area is scheduled for 2000. The TSC thus recommends that Canadian and US stock



assessment scientists should communicate by December 1999 to exchange any new transboundary lingcod fishery and biological data and

2. TSC request that Mark Wilkins update the TSC activities document and post it on the web site.

B. 1999 TSC to parent committee:

1. The TSC notes that the combined Canadian/U.S. harvest of hake continues to exceed the adopted coast wide yield option and recommends to the Parent Committee that the bilateral negotiations be encouraged to arrive at a solution. Further, Canadian and U.S. managers have adopted divergent yield options for transboundary stocks including yellowtail rockfish and lingcod. The TSC asks that the Parent Committee recommend that Canadian and U.S managers develop a process to discuss yield options to prevent overharvest of transboundary stocks.

2. The TSC requests that the parent committee solicit an annual summary of groundfish activities from the PSMFC, especially the PacFIN office, in order to make the annual TSC report more comprehensive.

3. The TSC endorses the Sardine Symposium 2000 to be held in California the week of May 22, 2000. The TSC requests that the Parent Committee write a letter to the Pacific States Marine Fisheries Commission asking them to host the symposium.

4. The TSC requests that the parent committee write a letter to Dr. Michael Tillman explaining the importance of the TSC and requesting his annual participation and provide an annual report to TSC by the SWFSC. Send a copy of the request to the NWFSC Director.

5. The recently created TSC web site served well as a way to give committee members access to draft agency reports prior to the 1999 meeting, which was the site's primary intended function this year. TSC is optimistic that the purpose of the site could be expanded to include posting of annual reports. This would provide much wider access, and also has the potential of reducing the need for publication and distribution of hard copies. The TSC suggest that the 1999 annual report be posted to the web site, and recipients of the 1999 published report be polled concerning whether their needs could be met solely by web site access to future annual reports. The TSC asks the Parent Committee for guidance on the best use of this resource.

6. It is anticipated that Canadian and U.S. researchers on transboundary yellowtail and lingcod stocks will continue to submit separate assessment documents. The TSC recommends that Canadian and U.S. researchers 1) assess the potential for joint assessment and technical review and 2) coordinate timing of assessment and review processes to allow managers to consider the current

advice from both countries in developing yield options. The TSC asks that the Parent Committee take action to facilitate this process.

### C. TSC to CARE

Several species of groundfish are difficult to age and subject to drift in application of aging criteria and require routine calibration. Therefore prior to the biennial CARE workshop, CARE should coordinate a formal exchange of structures among all production labs to assess precision for priority species. The first exchange should include sablefish, hake and lingcod. The TSC and CARE should review the species to be calibrated at their respective meetings.

## **XI. Schedule and Location of 2000**

The next TSC meeting will be held in Nanaimo British Columbia from May 9-11, 2000.

## **XII. Adjournment**

The meeting was adjourned at 11:00 AM, May 6<sup>th</sup>.

