

**Minutes**  
**Forty-Sixth Annual Meeting of the TSC**  
**May 3-4, 2005**  
**Parksville, British Columbia**

**I. Call to order** – Rick Stanley, Chair, called the meeting to order at 8:40am, May 3.

**II. Appointment secretary** – Jonathan Martin, and Janet Lohead

**III. Introduction** – Attendees introduced themselves:

<b>Rick Stanley (TSC Chair)</b>	- Science Branch, DFO, Nanaimo
<b>Diana Trager (IGC*)</b>	- Fisheries Branch, DFO, Vancouver Canadian Parent Committee Representative
<b>Stephen Phillips (IGC*)</b>	- Pacific States Marine Fish Commission, Portland U.S. Parent Committee Representative
Dave Clausen	- Alaska Fisheries Science Center, NMFS, Auke Bay
Eric Coonradt	- Commercial Fisheries Division, ADFG, Sitka
Jane DiCosimo	- North Pacific Fisheries Management Council, Anchorage
John Field	- Southwest Fisheries Science Center, NMFS, La Jolla
Tracee Geernaert	- International Pacific Halibut Commission, Seattle
Janet Lohead	- Science Branch, DFO, Nanaimo
Tom Jagielo	- Marine Fish Science, WDFW, Montesano
Rob Kronlund	- Science Branch, DFO, Nanaimo
Shayne MacLellan	- Science Branch, DFO, Nanaimo
Patrick McDonald	- Northwest Fisheries Science Center, NMFS, Newport
Steve Parker	- Marine Resources Program, ODFW, Newport
Kate Rutherford	- Science Branch, DFO, Nanaimo
Michael Schirripa	- Northwest Fisheries Science Center, NMFS, Newport
Mark Wilkins	- Alaska Fisheries Science Center, NMFS, Seattle
Lynne Yamanaka	- Science Branch, DFO, Nanaimo

\*IGC – International Groundfish Committee

**IV. Approval of 2004 Report** – A draft Report of the 2004 TSC meeting was presented to the group by S. Phillips. Members were asked to review the document and bring any changes to Stephen's attention. Approval was deferred until later.

**V. Approval of 2005 Agenda** – Under other topics – "Completion date for 2005 Report" was added.

## **VI. Working Group Reports**

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

P. McDonald (Chair: CARE) summarized the 2004 workshop. The agency report will be finalized for the next CARE meeting. With respect to the Manual CARE Subcommittee, the lingcod and pacific whiting ageing chapters are still in progress. The Moss Landing Marine Laboratory is now one of the participating agencies in CARE (as of last fall). There have been otolith exchanges between DFO and NWFSC with respect to Pacific ocean perch and darkblotched rockfish. Pre-exchange samples of Dover sole have been submitted.

An interim workshop on sablefish ageing is planned to be part of the sablefish symposium. Chris Monk (ADFG) is coordinating this workshop and has sent out a list of tentative objectives for the workshop. She is awaiting feedback.

The PBS lab recently hosted two NWFSC staff (Newport Lab) to examine hake ageing.

TSC asked about the Dover sole annual workshop. They suggested rotating among species rather than fixed on Dover sole every year. The consensus was to have one every year. S. MacLellan indicated that CARE was looking for support to plan and travel to meetings. It would take 2-4 people and not more than 6 people with 2-3 days sufficient. (~US\$5000/meeting). Newport (NWFSC) currently funds the Dover sole workshop. M. Schirripa will draft a recommendation to the Parent Committee (see XI.B)

### **B. Groundfish Trawl Survey Meeting**

R. Stanley noted that the annual Trawl Survey meeting was invaluable for Canada. Among the many benefits, Canadian surveys had modified tow length and introduced bottom sensors on advice and with assistance from U.S. scientists. M. Wilkins concurred with the Canadian viewpoint. The TSC noted that the hake acoustic survey has been a cooperative venture for 15-20 years and was a good example of survey cooperation.

### **C. Sablefish Working Group Report**

M. Schirripa noted there were previous sablefish symposia in 1983, 1993. The proposed date for the next symposium is the week of January 8, 2007. The backup date is the week of January 15. These dates will be brought to the Steering Committee to finalize and TSC will be updated at the 2006 meeting. S. Phillips suggested holding it at Sand Point in Seattle, or another government facility to keep costs low. M. Schirripa suggested Newport because this will be easier for him to organize. A pre-symposium list of interested individuals was developed at the 2004 WGC. The plan is to prepare a NOAA technical report or Alaska Fisheries Bulletin publication of the proceedings.

## **VII. Other Topics**

### **A. IDFA – Interdepartmental fisheries**

S. Phillips gave a brief overview. It doesn't look like funds will be available in the near future. T. Jagielo's funding from ODFA has been terminated.

### **B. Genetics and stock structure**

M. Wilkins commented that many agencies are increasing their focus on genetics studies. At the AFSC, Pacific ocean perch and other rockfishes as well as Atka Mackerel are receiving attention. T. Geernaert noted the IPHC is attempting to determine whether Bering Sea populations of halibut are isolated from those of the Gulf of Alaska (GOA). This work also involves otolith elemental work. There are some indications that the Aleutian chain may be isolated; research continues this year (fin clips).

### **C. WGC 2006 Update**

S. Parker commented that about six people meet monthly to plan the WGC 2006. The venue will be the Agate Beach Best Western in Newport, Jan 30-Feb 3, 2006. The logo has been decided. The website is hosted by the IPHC. Deadlines for abstracts will be posted soon. September 20<sup>th</sup> is the deadline for suggesting themes/sessions. Abstracts will be accepted starting June 1<sup>st</sup>. Socials are being planned; the banquet will be at the aquarium. The committee is investigating having a special bottling done at Rogue Brewery. The hotel can only hold ~375, so registration may be held at 300. The committee is looking into web-based registration and payment. M. Schirripa enquired about publishing the papers. The TSC noted that the objective is to be informal to encourage emerging work. There is not a lot of time available to have any workshops. One may be appended at the end of the conference.

### **D. Data Acquisition**

T. Geernaert stated that the IPHC wishes to develop GIS applications which integrate their spatial data with a data management system. IPHC is also still using pencil and paper in the field. They would like to host a workshop somewhere to look at new technology in the field and the integration of database management and data acquisition.

R. Stanley suggested a split between data acquisition and GIS and perhaps developing two workshops. This was followed by a discussion of the forms of the workshops. T. Geernaert offered to draft a resolution. L. Yamanaka asked about whether the 2004 Dave Somerton technical workshop (Quantitative Video) will be repeated. M. Wilkins said probably not.

The TSC then discussed a GIS workshop. M. Wilkins indicated there have been previous GIS-based workshops, but broader-scale than just fisheries. It would be useful to have one focused only on groundfish work. L. Yamanaka expressed interest in the

workshop, in particular with respect to multibeam/bottom type/habitat classification. There was a consensus that a Groundfish-GIS workshop would be a useful. The Recommendation to be drafted by Lynne Yamanaka (see XI. B).

### **E. Role of TSC**

M. Schirripa noted that certain agencies have questioned the utility of attending TSC meetings. “What would we tell someone when they ask why they should attend the meeting? Why should we go every year?” It has also been suggested that WGC has replaced the need for the TSC. S. Phillips noted that workshops are a ground-up approach to get our voices heard and to bring forward important information. Symposia help but provide different benefits. T. Jagielo noted that TSC is an agency-specific sit-down, question-answer format, unlike a general forum like WGC. TSC’s utility is that it’s agency-specific.

M. Schirripa questioned whether it should meet every second year. T. Jagielo commented that there is a lot of material to discuss each year; it is also useful to brainstorm about needed workshops. Perhaps TSC’s most valuable contribution is as a catalyst in creating working groups.

## **VIII. 2005 report**

S. Phillips indicated that members need to get their reports done if they haven’t already. We require reports for 2004 and 2005 to be completed by June/July.

*Coffee Break – 10:14-10:30*

*J. DiCosimo joined by conference call. 10:30*

## **IX. Other topics**

### **A. Marine Reserves**

J. DiCosimo reported that the North Pacific Council designated a large area within the Aleutian Islands as marine reserve. They will be scheduling discussions about creating similar reserves in the Bering Sea in the next year. Information is available on the website, Jane also arranged for documents to be distributed at the meeting.

J. Field reported that the NOAA Marine Protected Area Centre in the Santa Cruz lab has developed a technical working group to examine the effects that MPA’s will have on science and assessment. Charlie Wall is the director. They met for the first time last October, and will be meeting every 6 months for the next few years. The next meeting is in June 2005. Additional information can be found on their website ([http://mpa.gov/mpa\\_center/science\\_institute.html](http://mpa.gov/mpa_center/science_institute.html)).

L. Yamanaka reported that last fall DFO completed consultations on proposed RCA's in B.C.'s outside waters to protect inshore rockfish. Approximately 15% of the inshore rockfish habitat on the outside is closed. This summer and fall further consultations will lead to closing more areas in B.C.'s inside waters. The goal is to close 50% of rockfish habitat on the inside. The Rockfish Conservation Strategy was implemented in 2002 and has four main facets: reduced harvests, closed areas, and improved stock assessment and monitoring.

S. Parker noted for Oregon that essential fish habitat implementation is currently being reviewed in council. Implementation may occur soon for some small areas and these may be a research focus in the near future. Closures are being implemented by legislation.

## **x. Review of Groundfish Research Assessment and Management**

### **A. Agency Overviews**

**Alaska:** E. Coonradt noted that Senate bill 113 for "Groundfish Rationalisation" is being introduced in Alaska. It is intended to "end the race for fish". J. DiCosimo commented that an IFQ or cooperative fishery may be introduced in the Gulf of Alaska for Pacific cod.

**AFSC:** M. Wilkins noted that the AFSC was establishing an infrastructure to handle "big-picture" research. They will establish a team to draw expertise from the various divisions in the center to build an infrastructure to handle ecosystem project activities. Ecosystem management is the focus. The new research trawler, the Oscar Dyson is heading to Kodiak after sea trials.

D. Clausen commented that the Auke Bay lab is conducting a procedure to hire a new director and that a new facility will replace the Auke Bay lab. It will be called the Ted Stevens Marine Research Laboratory.

**Canada:** D. Trager explained the "Integrated Groundfish Fishery" plan is progressing in Canada. All groundfish fisheries will be moving to IQ's with transferability of quota between the licence groups. Fishers will be accountable for all retained and discarded catch with some form of 100% catch monitoring funded by the fleet. This year 20% of the vessels will have electronic monitoring as a pilot program. R. Stanley will present a paper on this subject at the Wakefield Rockfish Symposium. This initiative is currently intended for the commercial fishery only.

L. Yamanaka summarized the reorganization within the Science Branch in DFO, Pacific Region. The Groundfish Section is now in the Marine Ecosystem and Aquaculture Division (MEAD). The research trawler the CCGS W. E. Ricker has a blown engine.

Various repair options are being considered; existing plans for a replacement vessel are being fast-tracked.

**PSMFC:** S. Phillips noted that the sea squirt, which has blanketed a lot of the scallop/bottom habitat on the east coast, and is now found in Puget Sound.

**Washington:** T. Jagielo noted that most groundfish research in Washington is focussed on Puget Sound.

**Oregon:** S. Parker commented that Oregon has launched a process to develop a new nearshore management strategy. This is being conducted with a federal grant to develop management plans for exploited species state-wide. Public consultation is ongoing to prioritize species and areas and consider approaches. Consultation will be completed this summer with a proposed strategy and fishery plan finished in the fall. The State is assuming responsibility for habitat mapping, developing survey techniques and general research, including monitoring sports and commercial landings data, for all nearshore fish species.

The trawl vessel buyout has been completed. The final impact is yet to be determined. There has been a shift in effort into the other fisheries. There is no estimate of how many people have actually left the fisheries. Scientific impact includes a reduced opportunity for sampling. Four vessels were donated to Oregon State University. Some catch histories were “bought out” with the vessels.

**NWFSC:** M. Schirripa commented on the change in stock assessment scheduling. Rather than ½ of the species every year, they’ve adopted an on-year/off-year assessment program. This has created a very busy year. They are having trouble finding reviewers. Most assessments are using Stock Synthesis Two (SSII) which now has capability for a full Bayesian approach. The template is available to anyone.

**SWFSC:** J. Field noted that the SWFSC is conducting 6-7 assessments this round. At least 3 species may be “overfished” and are being assessed for the first time.

## **B. Multispecies studies**

**AFSC:** M. Wilkins noted that they are going to start a mesopelagic index for the North Pacific during the annual return of the NOAA Freeman from Alaska. Now that the Oscar Dyson is coming on line it frees up some vessel days. They will conduct a pilot survey at the end of August. The plan is for a MOC net, fitted to a towed body, to conduct trawls at 250, 500, and 1000m although there is concern that the net will not be ready.

**Oregon:** S. Parker noted that Oregon has spent 3-4 years developing a selective flatfish trawl. It was implemented last year. The shelf flatfish fishery is now no longer constrained by rockfish bycatch. It also doesn’t catch hake. Most of the semi-pelagic/demersal rockfish tend to escape except for darkblotched, rosethorn and

greenstripe rockfish. The net does not do well below the scattering layer, or in deeper waters. In the dark, the fish tend to have more erratic responses, and thus get caught in the trawl.

S. Parker commented that he just returned from a NWFSC cruise. Using a bycatch reduction grant, Didson technology was used on a bottom trawl to observe fish behaviour in the dark with promising results from 10 tows.

Oregon has been conducting a lot of work on barotrauma in rockfishes with reasonable success. Recompression seems to work. They built a cage with a video camera on one end. Black rockfish caught at 60-80 m, were brought to surface then lowered and released from the cage at 80-90ft, and filmed. Even “blown-out” yelloweye rockfish seem to recover when recompressed.

**SWFSC:** J. Field noted that there have been discussions in the Multispecies Ecosystem Modelling group on the management of kill. They are considering the impacts of placing moratorium on the developing krill fisheries.

### **C. By species (items mentioned for emphasis or are were not included in the reports)**

#### ***Nearshore Rockfish***

**Canada:** L. Yamanaka noted that the Inshore Rockfish Group placed an observer on the IPHC setline survey and conducted a jig survey/longline survey in the Strait of Georgia. They attempted a submersible survey but were unsuccessful owing to labour issues within DFO. They plan to try again in 2005. This survey will include staff from WDFG, ADFG, NMFS, University of Southern Florida, Parks Canada and the Pacific GeoScience Center (to do bottom profiling). In addition to rockfish enumeration, the project will try to delineate of better habitat maps. Parks Canada will investigate flooded river valleys for evidence of civilization. Video footage will be used to ground truth multibeam classification.

COSEWIC (Committee on the Status of Endangered Species in Canada) has asked for status report on quillback, yelloweye, canary, and roughey rockfish, and longspine thornyheads. DFO staff will be the principal authors of these papers. They are due in early September 2005.

**Oregon:** S. Parker summarized a project which looked at home range and use of space in black rockfish off the coast of Newport. The project was successful. It examined 18 square km of ocean covered with an ultrasonic receiver grid. Forty fish were tagged with transmitters, providing depth and position. Transmitters lasted about 8 months.

**SWFSC:** J. Field noted that the cowcod submersible work underwent extensive review. Recent work suggested that there are 2-3 times as many cowcod in the conservation areas

as indicated in earlier research. The State of California has moved to a new recreational data-collection system. The new system indicates lower estimates of recreational landing, so it's popular with the recreational fisheries. However, they are investigating weaknesses in the new system.

### ***Shelf Rockfish***

**Alaska:** E. Coonradt noted that the sport harvest of demersal shelf rockfish was included in the assessment this year. The recreational estimates of catch exceeded those for the commercial fishery (yelloweye, quillback, canary, china, and rosethorn rockfish). The numbers were based on landings, not estimates of "other" catch. It is likely that discard mortality from recreational fishing is much higher.

**Canada:** R. Stanley commented that the decision as to whether to accept the "Threatened" designation for bocaccio is under review by the Ministers of Fisheries and Environment. Voluntary avoidance of trawlers has decreased catch by about 2/3 in the trawl fishery.

**NWFSC:** M. Schirripa reported that canary rockfish ageing is being examined with bomb radiocarbon methodology. It was not successful with darkblotched rockfish. It is joint work with the Moss Landing Marine Laboratory. The ageing symposium in Australia was 90% microchemistry papers.

**SWFSC:** J. Field reported that current projects at the center include an examination of shortbelly rockfish larval production. They are considering similar work on bocaccio in the Southern California Bight.

Coffee 2:30-2:45 pm.

### ***Slope Rockfish***

**Alaska:** E. Coonradt noted that the directed fishery for slope rockfish was closed years ago. It is now by-catch only.

**AFSC:** D. Clausen reported that Tony Gharrett just published a paper showing that there are two species of rougheye rockfish that are genetically distinct. Funding will be provided this year for Kitty Mecklenburg to look at morphological characteristics of the two reputed species. Genetic research is showing stock structure among Pacific ocean perch in Alaska. Two cruises with the Delta submersible are planned to look at slope rockfish habitat and catchability of Pacific ocean perch (trawl abundance vs. visual abundance). The center also plans to extend Steve Berkley's work on maternal effects on rockfish larval survival. For three or four years, opportunistic acoustic data has been collected survey charter vessels. A Working Group within the Center has been formed to standardize the way acoustic data is collected, calibrated, analysed, and archived in a single Center-owned database.



**Canada:** R. Stanley commented that a high Canadian dollar and rising fuel prices have reduced the fishing pressure on thornyhead fishing in Canada.

**Oregon:** S. Parker noted in their maturity work on Pacific ocean perch, that they have an extended adolescent phase where individuals abort the maturation process. This is an age effect and the proportion of its incidence reduces to zero by about age 18.

**NWFSC:** M. Schirripa commented that Center is conducting assessments for sablefish, Dover sole and both thornyheads species.

### ***Sablefish***

**Alaska:** E. Coonradt reported that PIT tagging of sablefish in S. E. Alaska has had mixed results. The sablefish successfully held the tags in their cheeks, however many tags were not successfully recovered in the shore plants due to the “noise” level within the plant environment. There will be no further effort to PIT tag sablefish by ADFG at this point.

**AFSC:** D. Clausen reported that AFSC (Auke Bay) plans to update the sablefish migration model. Tory O’Connell (ADFG) will provide the ADFG data for the model. Organizers hope that Canadian tagging data can be incorporated into the model. Mike Sigler (AFSC) is the contact for that project.

**Canada:** L. Yamanaka reported that Bowie Seamount might soon be designated a Marine Protected Area which would affect the sablefish commercial fishery. R. Kronlund asked U.S. representatives if there were issues with mercury levels in sablefish in the U.S. D. Clausen did not know of any reported problems. M. Schirripa enquired about sablefish aquaculture in Canada. R. Kronlund commented that sablefish aquaculture is still in it’s infancy in Canada. R. Stanley commented that there does not appear to be any lessening of DFO’s role in aquaculture. There are an increasing number of inquiries by managers into the impact of aquaculture on wild groundfish populations.

### ***Flatfish***

**Canada:** L. Yamanaka reported that there is no flatfish research program planned for 2004 although a southern rock sole assessment is planned for the fall of 2005. Two new supertrawlers (40m and 65m) have been brought to B.C. from Europe. They plan to fish (and process) hake and Arrowtooth flounder for growing markets in China.

**NWFSC:** M. Schirripa reported that the Center is conducting an English sole mark recapture project. English sole, petrale sole, and starry flounder assessments were just completed. English and petrale sole assessments look favourable.

**SWFSC:** J. Field reported that the Center has completed a starry flounder assessment. Run-off from the Sacramento River appears to have a strong influence on starry flounder abundance.

### ***Lingcod***

**Canada:** L. Yamanaka reported that a management framework model has been developed for Strait of Georgia lingcod. The formal model was developed by Bill de la Mare (Simon Fraser University). It will be reviewed at PSARC in May 2005.

### ***Pacific whiting***

**Canada:** L. Yamanaka commented that Steve Martel of the University of British Columbia is participating in the assessment. The hake research program in Canada is currently unfunded.

**NWFSC:** M. Schirripa reported that the joint hake survey between Canada and U.S. will be conducted again this year, as it was last year. Stomach collections will be performed this year. A manuscript on growth increments in hake otoliths related to environmental parameters will be published shortly.

### ***Walleye Pollock***

**AFSC:** M. Wilkins reported that a light meter has been placed on survey nets to investigate how light intensity might affect the vertical distribution and hence its vulnerability fishing gear.

### ***Dogfish and Skates***

**AFSC:** D. Clausen reported that Gerry Hoff's PhD is looking at skate nursery areas in the Bering Sea and the Gulf of Alaska. He is trying to characterise these areas by species.

**Alaska:** E. Coonradt commented that: Dean Courtenay and Vince Galluci are attempting to develop a stock assessment for sharks in Alaska. Dogfish spines have been requested and Cindy Trabuzio will be working on the ageing technique and reproductive biology for sharks. There has been some local tagging of pacific sleeper sharks just off the Auke Bay lab.

**Canada:** L. Yamanaka reported that a COSEWIC status report on elasmobranchs is being completed under contract with DFO support. Ongoing work includes aging and tagging of big skates, and a longline survey for dogfish.

**NWFSC:** M. Schirripa commented that Josie Thompson (Age Growth and Maturity for the Longnose Skate) will be defending her thesis in about three or four weeks, and this information may be useful for stock assessment purposes. They are putting observers on dogfish boats to collect age samples.

### ***Pacific Mackerel and Sardines***

TSC decided to exclude mackerel and sardines issues from the meeting.

### ***Other species***

**North Pacific Fisheries Management Council:** J. DiCosimo reported that the “Other species” in previous North Pacific management plans included sharks, skates, squids, sculpins and octopi. These were historically caught as by-catch only. Starting next year TAC’s will be set for these species by area.

**AFSC:** D. Clausen reported that the Center tried to do an assessment on grenadiers in Alaska last year. There is a small new target fishery for giant grenadier off Kodiak Island (\$0.09/lb for grenadier surimi). Estimated by-catch of giant grenadier is actually higher than the annual catch of sablefish.

### ***Other related studies***

**Surveys:** R. Stanley summarized the groundfish-related surveys on the B.C. coast. These include biennial bottom trawl surveys (Hecate Strait, Queen Charlotte Sound, and West Coast of Vancouver Island) an annual sablefish trap survey, annual shrimp trawl surveys, annual offshore and biennial inshore hake acoustic surveys, the annual IPHC longline survey, a prototype inshore rockfish longline survey, Strait of Georgia hook-and-line survey for lingcod, a Strait of Georgia lingcod larval survey, and the Strait of Georgia lingcod YOY trawl survey. We are also developing a survey simulator to estimates survey precision and evaluates a survey’s ability to track population abundance trends over time.

### ***Other items***

#### **Role of TSC**

S. Phillips noted that since the TSC was first formed, several things have changed (200 mile limit, Magnusson Act, etc.). Perhaps the role for TSC is task-based like supporting CARE, initiating survey workshops and symposia, and coordinating the sharing of survey information. These could be conducted in association with the WGC but the agenda for that conference is too full. R. Stanley suggested that holding the TSC meeting in a more central location may be a way of increasing participation and reducing travel costs....perhaps Seattle. S. Parker emphasized that release of the minutes and annual reports should be timelier. This would allow participants to summarize information for colleagues. M. Schirripa emphasized that the TSC should continue to be apolitical. R. Stanley suggested that the TSC should draft a 1-2 page executive summary which highlights the major topics and initiatives covered at the meeting. This could be given to everyone’s supervisor within two/three weeks and then posted on the website. This idea was accepted and Rick (as Chair) offered to draft the summary.

#### **TSC Funding**

M. Schirripa suggested that the TSC help fund workshops and symposiums, in addition to suggesting that they occur. S. Parker suggested looking into the Sea Grant funding. S. Phillips suggested looking into sport fish restoration funds. The TSC concluded that:

- The structure of the meeting will not change.

- The TSC should make better attempts to market/advertise itself.
- The TSC should focus on task-based items such as encouraging workshops and symposia and focus on the international coordination of projects. L. Yamanaka mentioned the importance of this especially with respect to the Species-at-risk reports now being required.
- The TSC should meet on the same time frame.
- The TSC should use the same political structure.
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## **XI. Progress on 2004 Recommendations**

### **A. From TSC to Itself**

1. TSC acknowledges notification by CARE of the differences observed when comparing ADFG Pollock ageing results to those of AFSC. TSC was advised by CARE that attempts to reconcile the differences in criteria were not successful at the 2004 meeting. TSC notes that resolution of the ageing discrepancies, if needed, will require direct focus by Pollock assessment staff.

*No action required.*

2. No corrections were noted for the 2004 report.

### **B. TSC to Parent Committee**

1. The TSC notes that researchers at Moss Landing Marine Laboratories (MLML) conduct significant age validation work. Given the multinational and multi-agency membership and purpose of CARE, it would be beneficial to have a MLML representative as a regular member of CARE. The TSC requests that the Parent Committee write a letter to Dr. Gregor Cailliet at MLML explaining the history of CARE, the importance of MLML participation, and encourage regular attendance by MLML at the biennial CARE meeting.

*MLML was invited and has accepted to be a participant in CARE.*

2. The TSC recommends that the parent committee support and endorse the continued effort towards planning the Third International Sablefish Symposium as discussed at the 2004 TSC meeting. Dr. Michael Schirripa is the Chair of working group. A letter of support from the Parent Committee directed to the NWFSC/FRAM Division Chief (Dr. Elizabeth Clarke) could help facilitate this effort.

*This letter was drafted and sent. The symposium is planned for early 2006.*

3. TSC notes the ongoing annual inter-agency meetings, as well as data and information exchange, related to the design, execution, and analysis of bottom trawl surveys.

TSC recommends the creation of a trans-boundary bottom trawl survey working group, to include representatives of the NMFS groups at the NWFSC and AFSC, and DFO, as well as any other interested party.

*This group has been for three consecutive years and is planning to meet in February 2006.*

4. The TSC discussed the request from CARE to support interim travel to hands-on-only, species-specific workshops between regularly scheduled biennial meetings. The TSC requests the PC consider seeking funds to accommodate this request.

*TSC was not able to obtain external funding for these meetings.*

### **C. TSC to CARE**

1. In response to CARE's request for guidance on the content of their "Summary of Age Structure Exchanges" table (refer to <http://care.psmfc.org/structtable.htm>), the TSC recommends eliminating the summary statistics and adding hyperlinks to any reports pertinent to the exchange. The TSC also supports the CARE representative's suggestion of standardizing the format of age structure exchange reports.

*No action required.*

## **XII. 2005 Recommendations**

### **A. TSC to Parent Committee**

1. The TSC recommends to the Parent Committee that CARE consider annual ageing workshops on different species of concern on a rotational basis, modeled after the current annual Dover sole workshop held in Eureka, California. The objective of this recommendation is to disperse the "hands on" workshop effort over a wider range of species and to maintain inter-lab calibration on ages that are shared for stock assessments. It was estimated that a maximum of six scientists could be accommodated for an ageing lab exchange for two to three days.

ACTION: If accepted by the parent committee Tom Jagielo will carry this forward to the PFMF and NPFMC SSC to obtain a list of candidate species for this process. Rick Stanley will do the same with respect to PSARC. Michael Schirripa will present the recommendation to the CARE committee.

### **B. TSC to Itself**

1. The TSC notes the resources required and the complexities of field data acquisition. These activities could be much improved through increased use of new and evolving technologies. The TSC recommends that the parent committee support the creation of a workshop on electronic data acquisition and database integration in the marine environment.

Workshop topics could include:

- Data collection technologies in use;
- Evaluation of existing or other appropriate technologies concerning durability, ease of use, expansion capability, programming capabilities etc.;
- How data collected with these technologies are integrated with existing data sets.

ACTION: Mark Wilkins will organize a steering committee to develop the workshop.

2. The TSC notes that habitat research is being conducted by many agencies to support groundfish management as well as stock assessments. Developments in geographical information systems (GIS) have aided much of this research. TSC recommends that a workshop be convened to present and discuss agency investigations into habitat assessment, the application of GIS tools and the incorporation of habitat information into stock assessments.

ACTION: Lynne Yamanaka will contact agencies and determine interest in the workshop and participation on a steering committee

3. R. Stanley was appointed the 2005/2006 TSC Chair.
4. The next Meeting will be held in Newport, Oregon. May 2-3, 2006.

*Meeting was adjourned at 9:47am, May 4<sup>th</sup> 2005.*