SUMMARY MINUTES
Scientific and Statistical Committee

Pacific Fishery Management Council
Seattle Marriott Hotel Sea-Tac
Washington Ballroom C
3201 South 176th Street
Seattle, Washington 98188
206-241-2000

March 6-7, 2006

Call to Order and Scientific and Statistical Committee (SSC) Administrative Matters

The meeting was called to order at 8 a.m. Dr. Donald McIsaac briefed the SSC on priority agenda items.

Mr. Robert Conrad was elected chair and Dr. Steven Ralston was elected vice-chair. They will serve as officers for the April 2006 through March 2007 term.

The SSC reviewed subcommittee assignments. The SSC renamed the Marine Reserve Subcommittee the Ecosystem-Based Management Subcommittee and expanded its role. The SSC anticipates this subcommittee will continue to address issues associated with science of marine protected areas. Additionally, the Ecosystem-Based Subcommittee will review scientific issues on matters such as essential fish habitat, habitat areas of particular concern, ecosystem assessment, and ecosystem-based approaches to fishery management. Mr. Steve Berkeley was elected the chair of the Ecosystem-Based Management Subcommittee.

Subcommittee assignments for 2006 are detailed in the table at the end of this document.

Members in Attendance
Mr. Tom Barnes, California Department on Fish and Game, La Jolla, CA
Mr. Steve Berkeley, University of California, Santa Cruz, CA
Mr. Alan Byrne, Idaho Department of Fish and Game, Nampa, ID
Mr. Robert Conrad, Northwest Indian Fisheries Commission, Olympia, WA
Dr. Ramon Conser, National Marine Fisheries Service, La Jolla, CA
Dr. Michael Dalton, California State University, Monterey Bay, CA
Dr. Martin Dorn, National Marine Fisheries Service, Seattle, WA
Dr. Owen Hamel, National Marine Fisheries Service, Seattle, WA
Dr. Kevin Hill, National Marine Fisheries Service, La Jolla, CA
Mr. Tom Jagielo, Washington Department of Fish and Wildlife, Olympia, WA
Dr. Peter Lawson, National Marine Fisheries Service, Newport, OR
Dr. André Punt, University of Washington, Seattle, WA
Dr. Hans Radtke, Yachats, OR
Dr. Steven Ralston, National Marine Fisheries Service, Santa Cruz, CA
Dr. David Sampson, Oregon State University, Newport, OR
Ms. Cynthia Thomson, National Marine Fisheries Service, Santa Cruz, CA

Scientific and Statistical Committee Comments to the Council

The following is a compilation of March 2006 SSC reports to the Council. (Related SSC discussion not included in written comment to the Council is provided in italicized text).

Salmon Management

C.1. Mass Marking and Coded-Wire Tagging

The Scientific and Statistical Committee (SSC) received a briefing from Professor Dave Hankin, Humboldt State University and Chair of the Expert Panel that recently reviewed the coastwide salmon coded-wire-tag (CWT) recovery program for the Pacific Salmon Commission (PSC). The Panel conducted a comprehensive review of the existing CWT program and how the system provides data that are crucial to the support of the Pacific Salmon Treaty and salmon management on the U.S. West Coast. The Panel's report identifies various problems with the existing CWT system and provides 15 recommendations on how to rectify them. One is to consider a "Grand Experiment" to test critical assumptions underlying stock and fishery assessment methods, such as mortality rates of released fish and the adequacy of hatchery stocks as indicators of natural stocks.

The SSC commends the Expert Panel for their very thorough investigation of the CWT program, for the excellent documentation of the CWT system that their report provides, and for proposing steps to implement its recommendations. The SSC understands that the PSC has established a Working Group to develop an Action Plan to further define the tasks associated with the Expert Panel's recommendations; the SSC urges the Council to support the activities of the Working Group and to provide them with a clear statement of the Council's goals and objectives for the CWT program. The SSC sees merit in conducting experiments to test model assumptions and gather additional data, but will not be able to evaluate whether the proposed Grand Experiment would deliver new information at a reasonable cost until details of the experiment have been developed. The SSC concurs with the Expert Panel's finding that mass marking and mark-selective fisheries compromise the integrity of the CWT system and its ability to provide reliable data in support of salmon management. However, the SSC concurs that the CWT system currently provides the best available data.

C.3. Review of 2005 Fisheries and Summary of 2006 Stock Abundance Estimates

Mr. Dell Simmons, Chair of the Salmon Technical Team (STT), reviewed the 2005 fisheries and the preliminary 2006 ocean salmon stock abundance estimates for the Scientific and Statistical Committee (SSC). Much of the discussion concerned the Klamath River fall Chinook stock which may constrain Chinook fisheries south of Cape Falcon. The Klamath Ocean Harvest Model predicted a 7.7% age-four exploitation rate in the 2005 fisheries; however the postseason estimate was 24%. This was the third consecutive year that the age-four exploitation rate exceeded 16%. In the absence of all recreational, commercial, and tribal fishing, the 2006 preseason natural escapement estimate is 29,400. If the postseason estimate of natural area spawners in 2006 is less than 35,000, then it would be the third consecutive year of failing to meet the fishery management plan conservation objective for this stock, triggering an overfishing declaration. Ocean fisheries north of Cape Falcon may be constrained by the Endangered Species Act listing of lower Columbia River wild coho stocks and the 10% exploitation cap on the Thompson River coho stock.

The SSC wishes to reiterate a few recommendations it has made in the past to improve the usefulness of STT reports. Tables I-1 and I-2 in Preseason Report I present several years of preseason predictors for Chinook and coho stocks under Council management. The SSC requests the STT add postseason estimates to these tables, where available, to facilitate a reader's ability to compare the abundance predictors with the actual abundance estimates. A graphical representation of the pre and post season stock abundance estimates would facilitate this review.

The SSC would like to see confidence limits for estimates of salmon abundance and exploitation rates. Given the uncertainties in abundance projection and exploitation rate estimation it is difficult to know the likelihood of meeting management objectives or to evaluate whether or not a management goal has been attained. For example, without confidence limits we cannot know if an estimated preseason exploitation rate of 8% is actually different from an estimated postseason rate of 24%. The explicit recognition of uncertainty in salmon statistics would increase transparency in the analytical process.

Salmon Management, continued

C.7. Klamath River Fall Chinook Conservation Objective

In November 2005 the Scientific and Statistical Committee (SSC) reviewed the Salmon Technical Team report "Klamath River Fall Chinook Stock-Recruitment Analysis" and found the report technically sound. The SSC endorsed the Ricker model analysis as the best available science for evaluating the escapement floor in the Klamath River and observed that maximum sustainable yield escapement "…would likely be larger than 40,700 spawners…"

The Council is considering an amendment to the Salmon Fishery Management Plan (FMP) to revise Klamath River Fall Chinook management and provide some flexibility when stocks are subject to a Conservation Alert. Currently, under a Conservation Alert, the FMP requires the Council to "close salmon fisheries within Council jurisdiction that impact the stock." One suggestion was to amend the FMP to allow a *de minimis* fishery. However, it was unclear how a *de minimis* exploitation rate would be established and evaluated. It was also unclear how much fishery relief could be attained with a *de minimis* rate of, for example, five percent.

Several alternative management control rules were proposed for consideration in the FMP amendment. The SSC encourages exploration of these and, perhaps, other control rules. It may be useful for the Council to look at analogies with groundfish management which includes a control rule linking exploitation rates to biomass, even below the overfished threshold.

Groundfish Management

F.2. Stock Assessment Planning for the 2009-2010 Fishing Season

The Scientific and Statistical Committee (SSC) reviewed the first draft of the revised Terms of Reference for the Groundfish Stock Assessment Review process. This document was revised by members of the SSC Groundfish Subcommittee following recommendations developed at the January 2006 Groundfish Stock Assessment Review Workshop. Additional modifications to the

Terms of Reference will be made by the SSC. Two new sections were added to the Terms of Reference: 1. STAT Team Responsibilities and 2. Stock Assessment Updates. The STAT Team's responsibility is to produce a stock assessment document that follows a standardized format, an outline of which is provided in appendices B and C.

The draft Terms of Reference document specifies the conditions that must be met for an assessment to qualify for a stock assessment update. Assessments that qualify for updates will be reviewed during a meeting of the SSC Groundfish Subcommittee, scheduled early in the assessment cycle. The Groundfish Subcommittee will determine if the putative update stock assessment followed the Terms of Reference for updates and if there is consistency with previous assessments. If either of these criteria is not met, or if the subcommittee determines that the stock assessment update is inadequate for Council decision making, then a full assessment will be requested and reviewed by the wrap-up STAR Panel. With the return to fewer stocks per STAR Panel, the SSC recommends that the number of STAR Panelists be based on the N+2 rule, the standard for choosing the number of STAR Panel reviewers prior to 2005 (where N= the number of stock assessments). The STAR Panel should include at least one reviewer from outside the Council process.

This current draft will be revised prior to the April Council meeting.

Recommended List of Stocks to be Assessed and Schedule

The SSC heard a presentation by Dr. Elizabeth Clark on the proposed list and schedule of stocks to be assessed in 2007, 2009, and 2011. The proposed list was developed following the Groundfish Stock Assessment Review Workshop, which recommended that no more than 8-10 full stock assessments should be conducted in each cycle, and that no more than 2 species should be reviewed by each STAR panel. In setting priorities, overfished species are always assigned a high priority. Higher priority was also given to stock assessments that are more than 5 years old, and stocks whose most recent assessment was conducted with modeling software other than SS2. Given these constraints, only two previously unassessed species can be accommodated in the proposed schedule, longnose skate and spiny dogfish (in 2007).

Dr. Clark also reported that the NWFSC would convene workshops to address the shelf-slope survey, data and modeling, and the juvenile rockfish survey. These workshops would be held in addition to B_0/B_{msy} and RecFIN catch estimation procedure workshops.

Although the SSC recognizes that with the current constraints on the number and frequency of stock assessments, very few new species assessments will be possible in the foreseeable future. Nevertheless, since stock assessments drive the management process, it is important that new assessments be conducted on the most critical species. The SSC notes that the current way of prioritizing a list of species for assessments is very informal and is not based on well defined, objective criteria. The SSC recommends that a more formal process be developed for prioritizing species for assessment that would include an evaluation of economic and ecological importance, potential use as ecosystem or habitat indicator species and perceived exploitation status. The SSC is prepared to take the lead and work in conjunction with other Council advisory bodies to develop a set of guidelines for prioritizing species to be assessed in future assessment cycles.

Groundfish Management, continued

F.3. Yelloweye Stock Assessment

Following completion of an updated stock assessment and Stock Assessment Review (STAR) Panel review of yelloweye rockfish in 2005, the Council in November requested that the stock assessment team (STAT) further develop the analysis to include new data sources, and in particular, fishery-independent catch rate data from the International Pacific Halibut Commission (IPHC) survey. The STAT completed a new stock assessment (F.3.a., Supplemental Attachment 1), which was reviewed at a STAR Panel held from 13-15 February (F.3.a., Supplemental Attachment 2). Subsequently, using results from the new assessment the STAT conducted an updated rebuilding analysis, contained in (F.3.a., Supplemental Attachment 3).

The new assessment model treats the West Coast population of yelloweye rockfish in two different ways: as a single coastwide stock (consistent with the 2002 and 2005 assessments) and as separate and distinct sub-populations for the States of California, Oregon and Washington. Other significant changes that were incorporated into the new model included: (1) inclusion of an abundance trend calculated from the IPHC survey, (2) a detailed re-examination and evaluation of all recreational CPUE statistics available from each State, (3) a thorough summary of historical catch data that extended the model back to as early as 1923, (4) a change from dome-shaped selectivity curves to simpler asymptotic ones, and (5) a reduction in natural mortality rate from 0.045 to 0.036 yr^{-1}. Collectively, the new assessment model that includes all of these alterations, indicates that the spawning biomass of the coastwide yelloweye stock is currently 17.7% of the unfished level.

The SSC considered the attempt to build separate State-specific sub-population models for yelloweye rockfish to be an ambitious undertaking, given the sparseness of the available data. While considerable progress was made in that direction, including the development of plausible models for California and Oregon, the SSC was concerned with the Washington sub-population model, which had difficulty converging and required additional constraints. Moreover, there was an apparent discrepancy in the implied coastwide distribution of the species based on modeling results at the sub-population level and long-term distributional data from the triennial shelf trawl survey. As a consequence of these concerns, the SSC favors using the coastwide yelloweye rockfish model for setting the optimum yield (OY) of the stock, which is consistent with current practice. Nonetheless, given the apparent vulnerability of this species to localized depletion the SSC encourages future development of area-specific models and notes that results from the California and Oregon models may be of use to the Council in characterizing regional patterns of depletion. The continued development of *in situ* submersible surveys and focused sampling in yelloweye habitat during the IPHC survey should be of considerable value in improving the Washington sub-population model. However, the SSC wishes to strongly reiterate, as it did following the 2005 assessment, that without the development of new trend indices, especially for the States of California and Oregon, any future attempt to assess the yelloweye rockfish stock will be fruitless.

Concern was also expressed that the change from dome-shaped to asymptotic selectivity curves was not fully evaluated during the STAR Panel and a request was made that the SSC explore this issue (letter from P. Anderson to D. McIsaac dated February 28, 2006). With respect to this matter the SSC notes that models using dome-shaped selectivity were problematic due to frequent lack of convergence, resulting in difficulties in interpreting model results. Furthermore, the information

presented in Tables 26a and 26b compare and contrast results from fitting the model to both types of selectivity curves. From the information presented in those tables, albeit from pre-STAR versions of the models, it is apparent that only modest gains in fit are obtained with the increase in parameters required by the dome-shaped (double logistic) model, which generally are statistically insignificant. Based on this consideration the SSC supports the STAT's use of asymptotic selectivity curves in the yelloweye model.

Results presented in the latest rebuilding analysis that are derived from the coastwide model indicate that rebuilding of yelloweye rockfish is lagging behind the current Council adopted schedule, i.e., the probability of rebuilding by the current T_{target} (2058) = 0.005. Given the numerous changes that have been incorporated into the yelloweye model, including a substantial alteration in the natural mortality rate, the SSC considers it appropriate to re-estimate T_{max}, T_{target}, and a suite of harvest rates that would rebuild the stock over a range of probability values. If the Council elects to maintain a probability of rebuilding before the new, re-estimated T_{max} (2096) equal to 0.80, which is the current policy, the calculated OY in 2007 from the coastwide model is 12.6 mt. The SSC notes, however, that this approach to establishing fishery yields during rebuilding has been deemed inappropriate by the 9th Circuit Court of Appeals.

The 2006 re-assessment and review of yelloweye rockfish was completed in a very short time by the STAT and STAR Panel and both are to be commended for completing the task in the available time. Nonetheless, from an evaluation perspective the SSC does not view this kind of rapid response analysis in a favorable light. The accelerated turn-around that was required between completion of the STAR Panel report, conducting rebuilding analyses, finalizing the assessment document, and distribution of all these material to meeting participants led to both inadequate and inaccurate reporting in the assessment document and multiple versions of the rebuilding analysis, which clearly hampered the SSC's review.

Highly Migratory Species Management

J.3. Drift Gillnet Management

Since 2001, the National Marine Fisheries Service, Southwest Region (SWR) has closed an area off the California/Oregon coast to drift gillnet (DGN) fishing during August 15-November 15. The purpose of this closure was to avoid jeopardy to leatherback turtles associated with entanglement and mortality in DGN operations. This closure (hereafter referred to in this statement as the leatherback closure) was based on a worst-case scenario, that is, the peak level of turtle takes reported in 1995 by the observer program.

The objective of the Draft Environmental Assessment (DEA) - "Management of the Drift Gillnet Fishery Exempted Fishing Permit And/Or Regulatory Amendment", dated March 2006 - is "to restore fishing opportunity in the California DGN fishery without jeopardizing the continued existence of species listed under the ESA" (DEA, p. 2). The general approaches considered in the DEA for achieving this objective include: (1) an exempted fishing permit (EFP) issued to a subset of DGN vessels (with 100% observer coverage), and/or (2) a change to the boundaries of the existing leatherback closure that would apply to all DGN vessels (with 20% observer coverage).
Of the seven alternatives to the status quo considered in the DEA, alternatives 1-3 include varying provisions related to establishment of an EFP, alternatives 4-5 include both EFP provisions and a

change to the boundaries of the leatherback closure, and alternatives 6-7 pertain to a boundary change without the EFP. The boundary changes considered in alternatives 5-6 would open part of the southern portion of the current leatherback closure, an area considered productive with regard to target species. Alternative 7 would eliminate the leatherback closure altogether.

The EFP alternatives included suboptions related to: (a) a leatherback mortality cap of 1, 2 or 3 turtles per year; (2) a cap on DGN effort of 300, 500 or 600 sets per year, and (3) three alternative geographic suboptions defining the portion of the current leatherback closure within which the EFP would be allowed to operate. The EFP would be subject to 100% observer coverage, with the option of renewal in future years.

The analysis of management alternatives provided in the DEA is based on a number of assumptions regarding leatherback contact and mortality rates and changes in the level/distribution of DGN fishing effort. For instance:

- Mean turtle catch per unit of effort is assumed to be 7.7 leatherbacks per 1000 sets north of Point Conception and 0.5 leatherbacks per 1000 sets south of Point Conception (based on 1990-2004 observer data).

- Leatherback mortality is assumed to be 70% (based on 1990-2004 observer data), with the associated inference that leatherback mortality caps of 1, 2 and 3 translate into take limits of 1, 3 and 4 respectively.

- Effort projections for the EFP alternatives assume that fishing will not cease until the relevant set or take limit is reached.

- The average annual baseline level of effort for the fishery under the boundary change alternatives is assumed to be 1,463 sets (based on 2001-2004 observer data).

- DGN effort associated with each management alternative is estimated by scaling the anticipated level of effort under the alternative to the historical spatial distribution of DGN effort prior to the leatherback closure (derived from 1991-2000 logbook data).

The Scientific and Statistical Committee notes the following regarding the management alternatives:

- There is a high degree of uncertainty in the effort projections contained in the DEA. For instance, effort projections for the EFP alternatives are treated differently from effort projections for the boundary expansion alternatives. This inconsistency is particularly apparent for alternatives 4-5 (which include both EFP and boundary expansion provisions) and alternative 7 (for which the projected number of sets reported in DEA Table 4.4 is curiously lower than the effort projections for some of the less restrictive alternatives). Also, the expectation of effort expansion under the various alternatives appears inconsistent with the negative economic producer surplus indicated in a 2003 economic survey of DGN vessels (DEA, p. 147).

- The EFP alternatives include provisions (100% observer coverage, numeric caps on leatherback take) that strictly limit the effect of the fishery on leatherback turtles. Given these provisions, a cap on the number of sets would be superfluous with regard to leatherback

protection. However, given the potential for contact between the DGN fishery and other sensitive species (e.g., sperm whales, shortfin pilot whales), a direct cap on take of these other species or a general cap on the number of sets may serve to limit these broader effects. Given the rare occurrence of leatherback interactions with the DGN fishery, an EFP without a set cap may lead to considerable expansion of effort in the fishery before the leatherback cap is reached.

- In addition to providing DGN fishing opportunities, the DEA notes the potential use of the EFP "to gather additional information under more controlled conditions, in terms of the amount of fishing effort that would occur and the maximum impact to leatherback sea turtles" (DEA, p. 4). If this is the intent, a well-defined hypothesis, a sample stratification scheme and a power analysis should be specified. Given the low probability of leatherback interactions with the DGN fishery and the need to keep leatherback mortalities to a minimum, EFP data will likely need to be collected for many years in order to statistically detect spatial and temporal differences in leatherback contact rates.

Groundfish Management, continued

F.4. Pacific Whiting Management for 2006

Mr. Tom Jagielo from the Scientific and Statistical Committee (SSC), and Chair of the Joint Canadian and U.S. Stock Assessment and Review (STAR) Panel for Pacific whiting, presented the SSC with an overview of the STAR Panel report. Members of the Stock Assessment (STAT) Team responded to questions arising during the SSC discussions. The Panel was conducted using Terms of Reference for Groundfish Stock Assessments.

Unlike the 2005 assessment, the 2006 assessment is based on the stock assessment package Stock Synthesis 2 (SS2). The assessment authors compared the results from SS2 with those from a variant of the model applied for the 2005 assessment. The time-series of biomass estimates from the two models are very similar.

The assessment considered two alternative and equally plausible models based on the value for the catchability coefficient (q) for the hydroacoustic survey. One of these values (q=1) is the same as that included in the 2005 assessment. The alternative model involved estimating q taking into account a prior distribution on q selected by the STAR Panel. The value of q from this alternative model is 0.69, which is higher than the value used in the last assessment (0.6). The SSC endorses the use of the 2006 Pacific whiting assessment for management purposes. The SSC notes that the results from both models could be combined to form the basis for management advice giving each model equal weight.

The 2006 assessment was based on setting the steepness of the stock-recruitment relationship to 0.75 whereas the 2005 assessment was based on a value of 1. Assuming a steepness of 1 in a stock assessment implies that recruitment is expected to be the same at high as well as low stock size. As a result, assuming that steepness is 1 can lead to over-optimistic projections. The SSC agrees with the STAT Team that assuming a steepness value less than 1 is appropriate. However, little justification is provided in the assessment report for the value for steepness actually used in the assessment (0.75). The SSC recommends that the basis for the value of steepness be explored further in the next assessment.

The projections based on the models are driven by the 1999 year-class, which has been sustaining the stock in recent years. The spawning biomass is predicted to decline in the future for almost any level of harvest. If the 40-10 control rule is used to determine Optimum Yields (OYs), the stock is predicted to drop to below the overfished threshold of 25% of the unfished biomass (25% B_0) even though the OYs are predicted to decline from over 500,000t to, for the base model, 184,000t. As such, the whiting stock should be considered to be "Approaching an Overfished State" if catches are to be based on the 40-10 control rule. The catch for 2005 was 360,306t. The results of the assessment can be used to determine the ability to remain above the overfished threshold. For example, a constant catch of 200,000t would maintain the spawning biomass above the overfished threshold until 2009 with 50% probability while a constant catch of 400,000t would result in the stock being below the overfished threshold in 2008 with at least 50% probability.

$F_{40\%}$ was selected as an F_{MSY} proxy for Pacific whiting based on the results of a meta-analysis that used stock and recruitment data for other whiting species. However, the Pacific whiting stock is predicted to fall below 25% B_0 if management is based on $F_{40\%}$ owing to the impact of variable recruitment. There is therefore a lack of consistency for Pacific whiting between aiming to maximize yield on average and preventing depletion to below 25% of B_0. The SSC can examine the issue of how to develop a control rule which maximizes yield subject to keeping the spawning biomass above the overfishing threshold with a pre-specified probability at its B_0 workshop.

SSC Notes:

1. *There is a discrepancy between the indices of recruitment for 2003 and 2004 from the SWFSC and the PWCC/NWFSC surveys with the SWFSC surveys suggesting that the 2003 year-class was below average and the 2004 year-class was average above and the PWCC/NWFSC surveys suggesting that the 2003 year-class was average and the 2004 year-class was strong.*

2. *B_0 was based on the weight-at-age in the first year of the modeled period whereas other biological parameters (such as MSY) as based on weight-at-age for the most recent year. The issue of how to define B_0 (and MSY) when biological parameters (and recruitment) change over time should be discussed at the B_0 workshop.*

3. *For the 2007 assessment, the assessment authors should consider: a) using a sex-structured model, b) incorporating ageing error, c) allowing for Canadian fish to be larger at age than US fish, and d) examine the sensitivity to allowing the initial biomass to be treated as an estimable fraction of B_0.*

4. *The selectivity pattern for the acoustic survey and the fisheries are notably different. The selectivity pattern for the acoustic survey suggests that selectivity is much lower than 1 for animals aged 2-4 whereas it is expected from the survey design that acoustic selectivity should be close to 1 for animals aged 2 and older. Previous Pacific whiting assessments imposed a prior on the ascending limb of the selectivity pattern for the acoustic survey. It might be possible examine this issue by collecting age data from different parts of large aggregations.*

Groundfish Management

F.4. Pacific Whiting Management for 2006

Mr. Svein Fougner met with the Scientific and Statistical Committee (SSC) to summarize the alternatives and other information used in "Measures to prohibit fishing for krill in the Economic Exclusive Zone off the West Coast" (Agenda Item H.2.b, NMFS Report). This document is intended to serve as the basis for developing Amendment 12 to the Coastal Pelagic Species (CPS) Fishery Management Plan (FMP), and also serves as a Draft Environmental Assessment for the proposed amendment. Several species of krill are included in the proposed action, although detailed biological information is only available for the two most prominent species, *Euphausia pacifica* and *Thysanoessa spinifera*.

Based upon previous Council guidance, three alternatives are presented in the document for krill conservation and management. The first alternative is a no action alternative, where the Council would take no action and each state's current prohibition on krill fisheries would remain in place. The second alternative has been identified as the preliminary preferred alternative. It creates a new "prohibited harvest" management category for all species of krill. The third alternative would add krill to the species managed under the CPS FMP and would initially prohibit fishing for krill but provide for a mechanism for possible future krill fishing.

The SSC notes that there is considerable interest in moving forward with ecosystem considerations in Council fishery management and Alternative 2 is a tangible step in that direction. Alternative 3 would likely require additional agency work on krill that may divert or dilute research resources that are important for ongoing management of other Council-managed species.

Public Comment

None.

Adjournment: The SSC adjourned at approximately 6 p.m., Tuesday, March 7, 2006.

PFMC
03/20/06

SSC Subcommittee Assignments for 2006

Salmon	Groundfish	CPS	HMS	Economic	Ecosystem-Based Management
Alan Byrne	Steve Berkeley	**Tom Barnes**	Tom Barnes	**Michael Dalton**	Tom Barnes
Robert Conrad	Ray Conser	Alan Byrne	Steve Berkeley	Hans Radtke	**Steve Berkeley**
Owen Hamel	Michael Dalton	Michael Dalton	Alan Byrne	Cynthia Thomson	Michael Dalton
Kevin Hill	**Martin Dorn**	Ray Conser	Robert Conrad	David Sampson	Martin Dorn
Pete Lawson	Owen Hamel	Tom Jagielo	**Ray Conser**		Tom Jagielo
Hans Radtke	Tom Jagielo	André Punt	Kevin Hill		Pete Lawson
David Sampson	André Punt		André Punt		André Punt
	Steve Ralston		Hans Radtke		Steve Ralston
	David Sampson				Cynthia Thomson

Bold denotes Subcommittee Chairperson