# PROPOSED AGENDA
# Coastal Pelagic Species Advisory Subpanel

Pacific Fishery Management Council Meeting
Sheraton Portland Airport Hotel
Mt. St. Helens B
8235 NE Airport Way
Portland, OR 97220
April 9-10, 2013

*This meeting of the Coastal Pelagic Species Advisory Subpanel (CPSAS) will be held in conjunction with the April Pacific Fishery Management Council meeting. The CPSAS meeting begins at 8:00 a.m. Tuesday, April 9. However, the CPSAS should plan to attend the Council session on the Fishery Ecosystem Plan, scheduled for 8:00 a.m.-11:00 a.m. the same day. Similarly, the CPSAS should plan to attend the Council session on the Sardine Harvest Parameters Workshop, 8:00 a.m.-12:00 p.m. Wednesday April 10, and then report to Mt. St. Helens B.*

*Note: The Coastal Pelagic Species Management Team (CPSMT) will join the CPSAS in Mt. St. Helens B on Tuesday April 9th from 1:00 p.m. to 5:00 p.m.*

TUESDAY APRIL 9, 2013 – 8:00 A.M.

**A. *Fishery Ecosystem Plan***
*(8:00 a.m., 3 hours, on Council Floor)*

**B. *Call to order, introductions, approve agenda, Assign rapporteurs*** — Mike Okoniewski, Kerry Griffin
*(11:00 a.m., 0.5 hour)*

**C. *Discussion of FEP and forage fish issues*** — Diane Pleschner-Steele
*(11:30 a.m., 0.5 hour)*

LUNCH

**D. *Using projection-based biomass estimate for management decisions*** — Kevin Hill
*(1:00 p.m., 1 hour) – Discussion only*

**E. *Pacific sardine harvest parameters workshop*** — Andre Punt
*(2:00 p.m., 1.5 hours) - via webinar*

BREAK

***F. Start date change for sardine fishing season*** — Diane Pleschner-Steele, Lorna Wargo
*(4:00 p.m., 1 hour)*

***G. Public comment and wrap up*** — Mike Okoniewski
*(5:00 p.m., 0.5 hours)*

WEDNESDAY APRIL 10, 2013 – 8:00 a.m.

***H. Pacific sardine Harvest Parameters Workshop***
*(8:00 a.m., 4 hours) – Council Floor*

***I. Classification of Pacific mackerel as monitored*** — Kerry Griffin
*(1:00 p.m., 1 hour)*

***J. Future meeting planning***
*(2:00 p.m., 1 hour)*

BREAK

***K. Enforcement discussion: registration of VMS devices*** — Jim Seger/Dayna Matthews
*(3:30 p.m., 0.5 hours)*

***L. Report review and wrap up*** — All
*(4:00 p.m., 1 hour)*

ADJOURN

PFMC
03/25/13

# PROPOSED AGENDA
## Coastal Pelagic Species Management Team

Pacific Fishery Management Council Meeting
Sheraton Portland Airport Hotel
Cascade A
8235 NE Airport Way
Portland, OR 97220
April 9-10, 2013

*This meeting of the Coastal Pelagic Species Management Team (CPSMT) will be held in conjunction with the April Pacific Fishery Management Council meeting. The CPSMT meeting begins at 8:00 a.m. Tuesday, April 9. However, the CPSMT should plan to attend the Council session on the Fishery Ecosystem Plan, scheduled for 8:00 a.m.-11:00 a.m. the same day. Similarly, the CPSMT should plan to attend the Council session on the Sardine Harvest Parameters Workshop, 8:00 a.m.-12:00 p.m. Wednesday April 10, and report to Cascade A.*

**Note: The CPSMT will meet jointly with the CPSAS, in meeting room Mt. St. Helens B, 1:00 p.m. – 5:00 p.m. on Tuesday April 9th.*

TUESDAY APRIL 9, 2013 – 8:00 A.M.

**A. *Fishery Ecosystem Plan***
*(8:00 a.m., 3 hours, on Council Floor)*

**B. *Call to order, introductions, approve agenda, Assign rapporteurs*** Lorna Wargo
*(11:00 a.m., 0.5 hour)*

**C. *Elections*** Kerry Griffin
*(11:30 a.m., 0.5 hour)*

LUNCH

**D. *Using projection-based biomass estimate for management decisions*** Kevin Hill
*(1:00 p.m., 1 hour) – Discussion only*

**E. *Pacific sardine harvest parameters workshop*** Andre Punt
*(2:00 p.m., 1.5 hours) - via webinar*

BREAK

**F. *Start date change for sardine fishing season*** Lorna Wargo
*(4:00 p.m., 1 hour)* Diane Pleschner-Steele

***G. Public comment and wrap up*** Lorna Wargo
*(5:00 p.m., 0.5 hours)*

WEDNESDAY APRIL 10, 2013 – 8:00 a.m..

***H. Pacific sardine harvest parameters workshop***
*(8:00 a.m., 4 hours) – Council Floor*

***I. Classification of Pacific mackerel as monitored*** Lorna Wargo
*(1:00 p.m., 1 hour)*

***J. Future meeting planning***
*(2:00 p.m., 1 hour)*

BREAK

***K. SAFE document – assignments and schedule*** Paul Crone
*(3:30 p.m., 0.5 hours)*

***L. Report review and wrap up*** All
*(4:00 p.m., 1 hour)*

ADJOURN

PFMC
03/25/13

# PROPOSED AGENDA
# Ecosystem Advisory Subpanel

Pacific Fishery Management Council
Sheraton Portland Airport Hotel
Mt. St. Helens B
8235 NE Airport Way
Portland, OR 97220
Telephone: 503-281-2500
April 7-8, 2013

Ecosystem Advisory Subpanel (EAS) meetings are open to the public and public comments will be accepted as time allows at the discretion of the EAS. Please note that this proposed schedule is subject to change at the onset and during the EAS meeting. Coordination with other advisory bodies, the availability of presenters, and the Pacific Fishery Management Council (Council) schedule may warrant adjustments.

SUNDAY, APRIL 7, 2013 – 8 A.M.

***A. Ecosystem Advisory Subpanel (EAS) Administrative Matters***

1. Call to Order — Paul Dye
2 Introductions
3. Approve Agenda
4. Open Discussion
   (8 a.m.) *No Report to Council*

***B. Council Administrative Matters***

4. Legislative Matters
   - *Managing Our Nation's Fisheries 3 Overview* — Mike Burner

   (9 a.m.) *Report to Council – Thursday*

BREAK

***H. Ecosystem Based Management***

1. Final Fishery Ecosystem Plan
   - *Review of Draft Fishery Ecosystem Plan (FEP) and Ecosystem Initiatives Appendix*

   (11 a.m.) *Report to Council – Tuesday*

LUNCH

***H. Ecosystem Based Management***

1. Final Fishery Ecosystem Plan - Continued
   - *Discussion and Preliminary EAS Recommendations on FEP*

   (1 p.m.) *Report to Council – Tuesday*

***A. EAS Administrative Matters, Continued***

5. Report Development and Review

MONDAY, APRIL 8, 2013 – 8 A.M.

***A. EAS Administrative Matters, Continued***

6. Report Review

***H. Ecosystem Based Management, Continued***

1. Final Fishery Ecosystem Plan - Continued
   (9 a.m.) *Report to Council on Tuesday*
   - *Discuss Initiatives, priorities, recommendations, and next steps.*

LUNCH

***H. Ecosystem-Based Management, Continued***

1. Final Fishery Ecosystem Plan - Continued
   (1 p.m.)
   - *Develop Final EAS Recommendations on FEP and Initiatives*
   - *Develop EAS Priorities for Next Steps*

***B. Council Administrative Matters***

7. Future Council Meeting Agenda and Workload Planning
   *(2:30 p.m.) Report to Council – Thursday* Mike Burner

***A. EAS Administrative Matters, Continued***

7. Finalize EAS Reports

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PFMC
03/22/13

# PROPOSED AGENDA

Enforcement Consultants
Pacific Fishery Management Council
Sheraton Portland Airport Hotel
Club Lounge – 4th Floor
8235 NE Airport Way
Portland, OR 97220
Telephone: 503-281-2500
April 6-10, 2013

SATURDAY, APRIL 6, 2013 – 8:00 AM

**A. Call to Order** Dave Anderson, Chair

1. Introductions
2. Review and Adopt Agenda

**B. Council Agenda Items for Possible Comment**

There may or may not be enforcement issues associated with all of the following items. Items on the Council Agenda, but not listed here, may also be considered during the Enforcement Consultants (EC) meeting.

**Groundfish Management**

D.7 Trawl Rationalization Trailing Actions – Electronic Monitoring Regulatory Process

**Salmon Management**

E.1 Tentative Adoption of 2013 Ocean Salmon Management Measures for Analysis

**Enforcement Issues**

J.1 Regulations for Vessel Monitoring System (VMS) Declarations

**C. Other Topics**

1. Enforcement Presentations at Future Council Meetings
2. Items for Enforcement Corner of the Council Newsletter
3. Other

**D. Public Comment**

SUNDAY, APRIL 7, 2013 THROUGH WEDNESDAY, APRIL 10, 2013

**Meeting continues as necessary.**

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PFMC
03/20/13

# PROPOSED AGENDA
# Essential Fish Habitat Review Committee

Pacific Fishery Management Council Meeting
Sheraton Portland Airport Hotel
Garden Foyer
8235 NE Airport Way
Portland, OR 97220
April 7, 2013

*This meeting of the Essential Fish Habitat Review Committee (EFHRC) will be held in conjunction with the April Pacific Fishery Management Council meeting. The EFHRC meeting begins at 8:00 a.m. Sunday, April 7 and concludes at 5:00 p.m. or when business for the day has been completed. Public comment will be taken at the discretion of the Chair.*

SUNDAY APRIL 7, 2013 – 8:00 A.M.

***A. Call to order, introductions, approve agenda, Assign rapporteurs*** — Brad Pettinger, Kerry Griffin
*(8:00 a.m., 0.5 hour)*

***B. Request for Proposals*** — Megan Mackey
*(8:30 a.m., 1 hour)*

***C. NMFS Synthesis Report Presentation*** — Michelle McClure
*(9:30 a.m., 1 hour)*

BREAK

***D. NMFS Synthesis Report - Discussion*** — Gary Greene
*(11:00 a.m., 1 hour)*

LUNCH

***E. Process for Proposal Review*** — Chris Goldfinger
*(1:00 p.m., 1 hour)*

***F. Review Supplemental Report(s)*** — All
*(2:00 p.m., 1 hour)*

BREAK

***G. Workload and Future Meeting Planning*** — Kerry Griffin
*(3:30 p.m., 1 hour)*

***H. Public Comment and Wrap Up*** Brad Pettinger, All
*(4:30 p.m., 0.5 hours)*

ADJOURN

PFMC
03/25/13

# PROPOSED AGENDA
# Groundfish Advisory Subpanel

Pacific Fishery Management Council
Sheraton Portland Airport Hotel
Mt. Adams
8235 NE Airport Way
Portland, OR 97220
Telephone: 503-281-2500
April 5-8, 2013

***Note: Dates and times on this agenda are subject to change once the meeting begins.***

FRIDAY, APRIL 5, 2013 – 8 AM

***GAP Administrative Matters***

1. Roll Call, Introductions, Announcements, etc. — Tommy Ancona, Chair
2. Opening Remarks and Agenda Overview — Kelly Ames
3. Approve Agenda

***D. Groundfish Management***

7. Trawl Rationalization Trailing Actions – Electronic Monitoring Regulatory Process
*(8:30 a.m.; Report to the Council on Tuesday)* — Jim Seger

***B. Administrative***

2. Expansion of Gulf of Farallones and Cordell Banks National Marine Sanctuaries
*(10:30 a.m.; Report to the Council on Sunday)* — Lisa Wooninck

***D. Groundfish Management***

4. Implementation of the 2013 Pacific Whiting Fishery under the U.S.-Canada Pacific Whiting Agreement
*(11:30 a.m.; Report to the Council on Sunday)* — Dan Waldeck

***G. Pacific Halibut***

1. Final Incidental Catch Recommendations for Salmon Troll and Fixed Gear Sablefish Fisheries — Kelly Ames
*(1 p.m.; Report to the Council on Monday)*

***D. Groundfish Management***

3. Stock Complex Assemblages — John DeVore and Jason Cope
   *(2 p.m.; Report to the Council on Sunday)*

SATURDAY, APRIL 6, 2013 – 8 AM

***GAP Administrative Matters (continued)***

4. Draft and Review Statements
   (*8 a.m.*)

5. Council Information Session: Fishery Ecosystem Plan
   *(9 a.m.; Council Session in Mount Hood Ballroom)*

***D. Groundfish Management (continued)***

8. Consideration of Inseason Adjustments — Sean Matson
   *(10:30 a.m.; Joint Session with GMT; Report to the Council on Tuesday)*

2. Status of the Rationalized Fishery — Sean Matson and Brent Paine
   *(11:30 a.m.; Report to the Council on Sunday)*

6. Groundfish Essential Fish Habitat Synthesis Report and Request for Proposals
   *(2 p.m.; Report the Council on Monday)* — Michelle McClure

5. Consider Barotrauma Device Mortality Rates — John Budrick
   *(3 p.m.; Report to the Council on Monday)*

SUNDAY, APRIL 7, 2013 – 8 AM

***GAP Administrative Matters (continued)***

5. Draft and Review Statements
   (*8 a.m.*)

***H. Ecosystem Based Management***

1. Final Fishery Ecosystem Plan
   *(11 a.m.; Report to the Council on Tuesday*)

***J. Enforcement***

1. Regulations for Vessel Monitoring System Declarations — Dayna Matthews
   *(1 p.m.; Report to the Council on Thursday)*

***D. Groundfish Management (continued)***

7. Trawl Rationalization Trailing Actions – Electronic Monitoring Regulatory Process
   *(3 p.m.; Report to the Council on Tuesday)* Jim Seger

MONDAY, APRIL 8, 2013 – 8 AM

***GAP Administrative Matters (continued)***

5. Draft and Review Statements
   (*8 a.m.*)

***B. Administrative***

7. Future Meeting Agenda and Workload Planning
   *(10 a.m.; Report to the Council on Thursday)*

ADJOURN

PFMC
03/21/13

# PROPOSED AGENDA
# Groundfish Management Team

Pacific Fishery Management Council
Sheraton Portland Airport Hotel
Cascade A
8235 NE Airport Way
Portland, OR 97220
Telephone: 503-281-2500
April 5-8, 2013

***Note: Dates and times on this agenda are subject to change once the meeting begins.***

FRIDAY, APRIL 5, 2013 – 8 AM

***GMT Administrative Matters***

1. Roll Call, Introductions, Announcements, etc. — Dan Erickson, Chair
2. Opening Remarks and Agenda Overview
3. Approve Agenda

***D. Groundfish Management***

2. Status of the Rationalized Fishery — Sean Matson
   *(8:30 a.m.; Report to the Council on Sunday)*

3. Stock Complex Assemblages — John DeVore and Jason Cope
   *(9 a.m.; Joint Session with the SSC; Report to the Council on Sunday)*

5. Consider Barotrauma Device Mortality Rates — John Budrick
   *(11 a.m.; Joint Session with the SSC; Report to the Council on Monday)*

8. Consideration of Inseason Adjustments — Sean Matson
   *(2:30 p.m.; Report to the Council on Tuesday)*

3. Stock Complex Assemblages *(continued)* — Jason Cope
   *(3:00 p.m.; Report to the Council on Sunday)*

SATURDAY, APRIL 6, 2013 – 8 AM

***D. Groundfish Management (continued)***

4. Implementation of the 2013 Pacific Whiting Fishery under the U.S.-Canada Pacific Whiting Agreement — Dan Waldeck
   *(8 a.m.; Report to the Council on Sunday)*

***GMT Administrative Matters (continued)***

5. Council Information Session: Fishery Ecosystem Plan
   *(9 a.m.; Council Session in Mount Hood Ballroom)*

***D. Groundfish Management (continued)***

8. Consideration of Inseason Adjustments *(continued)* — Sean Matson
   *(10:30 a.m.; Joint Session with GAP; Report to the Council on Tuesday)*

5. Consider Barotrauma Device Mortality Rates *(continued)* — John Budrick
   *(1 p.m.; Report to the Council on Monday)*

6. Groundfish Essential Fish Habitat Synthesis Report and Request for Proposals
   *(3 p.m.; Report the Council on Monday)* — Michelle McClure

SUNDAY, APRIL 7, 2013 – 8 AM

***GMT Administrative Matters (continued)***

5. Draft and Review Statements
   *(8 a.m.)*

***H. Ecosystem Based Management***

1. Final Fishery Ecosystem Plan — Corey Niles
   *(1 p.m.; Report to the Council on Tuesday*)

***D. Groundfish Management (continued)***

7. Trawl Rationalization Trailing Actions – Electronic Monitoring Regulatory Process
   *(2 p.m.; Report to the Council on Tuesday)* — Jim Seger

8. Consideration of Inseason Adjustments *(continued)* — Sean Matson
   *(4 p.m.; Report to the Council on Tuesday)*

MONDAY, APRIL 8, 2013 – 8 AM

***GMT Administrative Matters (continued)***

5. Draft and Review Statements
   *(8 a.m.)*

***J. Enforcement***

1. Regulations for Vessel Monitoring System Declarations — Dayna Matthews
   *(1 p.m.; Report to the Council on Thursday)*

***B. Administrative***

7. Future Meeting Agenda and Workload Planning
   *(2 p.m.; Report to the Council on Thursday)*

ADJOURN

PFMC
03/21/13

# PROPOSED AGENDA
# Habitat Committee

Sheraton Portland Airport Hotel
Mt. St. Helens C Room
8235 NE Airport Way
Portland, OR 97220
Phone: 503-281-2500

*Process notes: Numbering reflects the Council agenda. Starred* ***** *items appear on the Council agenda. Joel Kawahara will be Chair for this meeting, and Fran Recht will be timekeeper. Presenters, please write background for reports prior to the meeting. If your item is an informational update, please circulate it prior to the meeting. Note-takers should take notes primarily on committee discussion (not background).*

- *An optional field trip to Former Condit and Marmot Dam Sites will be held on April 4.*
- *An optional informational session on the Fishery Ecosystem Plan will be held on Saturday, April 6.*
- *The Chair's Reception will be held Saturday, April 6 at 6:00 p.m. in the Mt. Hood Foyer.*

FRIDAY, APRIL 5, 2013 – 8:00 AM

***A. Call to Order and Habitat Committee (HC) Administrative Matters*** **Joel Kawahara**

1. Introductions and Approval of Agenda

***C. Council Administrative Matters (8:15 a.m.)***

1. Expansion of Cordell Banks and Gulf of the Farallones National Marine Sanctuaries* — **Lisa Wooninck**, **Kerry Griffin**, *Notes: Eric Chavez*

***E. Salmon Matters (9:15 a.m.)***

3. Council Guidance on Columbia Basin Situation Assessment* — **Liz Hamilton**, *Notes: David Price*

***F. Habitat Matters (9:30 a.m.)***

1. Klamath flows letter — **Mike Orcutt**, *Notes: Liz Hamilton*

BREAK (9:45-10:00 a.m.)

***E. Salmon Matters***

4. Salmon Amendment 18: Essential Fish Habitat Revisions* — **Eric Chavez**, **Kerry Griffin**, *Notes: Fran Recht*

LUNCH (11:45-1:00 p.m.)

***D. Groundfish Matters***

8. Groundfish Essential Fish Habitat Synthesis Report and Request for Proposals* — **Eric Chavez**, *Notes: Arlene Merems*

***Administrative Matters (2:30 p.m.)*** ***HC***

D. Other Urgent Issues for Council Attention HC
E. June HC Agenda
F. Comments/Questions on HC Structure/Function (if any) HC
G. Finalize Reports (C.1, E.3 [if necessary], E.4, D.8, and Habitat Report) All

***PUBLIC COMMENT (3:30 p.m.)***

*Agenda items included for information only:*

***C. Council Administrative Matters***

6. Future Council Meeting Agenda and Workload Planning*

***ADJOURN***

PFMC
03/21/13

# PROPOSED AGENDA
# Legislative Committee

Pacific Fishery Management Council
Sheraton Portland Airport Hotel
Garden A Room
8235 NE Airport Way
Portland, OR 97220
503-281-2500

**April 5, 2013**

THURSDAY, APRIL 5, 2013 – 2 PM

***A. Call to Order*** Dave Hanson
1. Introductions
2. Approval of Agenda

***B. Council Staff Summaries of Federal Legislation and MSA Reauthorization Hearings*** Jennifer Gilden

***C. Managing Our Nations Fisheries 3 Conference: Legislative Priorities*** Don McIsaac

***D. General Discussion***

***E. Public Comment***

***F. Future Meeting Plans and Other Business***

***G. Develop Report to Council***

ADJOURN

PFMC
03/22/13

Relevant Materials:

- Article: "Menhaden are Overfished" Reports Were Premature
- Staff Summary of Current Legislation (Agenda Item B.1.a Attachment 1)
- Staff Summary of House MSA Reauthorization Hearing (Agenda Item B.1.a. Attachment 2)
- PFMC Letter to Representatives Thompson and Herrera Beutler (Agenda Item B.1.a Attachment 3)

# "Menhaden are Overfished" Reports were Premature

*by Saving Seaood staff*

*WASHINGTON (Saving Seafood) -- 13 March 2013 -- On February 20, the Atlantic States Marine Fisheries Commission (ASMFC) concluded that there is insufficient evidence to support claims that menhaden are overfished. The full ASMFC approved a report adapted from a January 2013 Menhaden Technical Committee teleconference which determined that based upon currently-available information, the status of the resource is unknown and will remain so until a new stock assessment is conducted.*

*Leading up to last December's highly-charged and emotional ASMFC meeting when new regulations on Atlantic menhaden were adopted, numerous conservation and recreational fishing groups made the claim that the stock was overfished, dismissing scientific arguments to the contrary, and disparaging evidence presented by the commercial fishing industry. These groups included the Coastal Conservation Association, the National Coalition for Marine Conservation, and in several instances, the Chesapeake Bay Foundation, whose senior scientist Chris Moore wrote in December that the "Menhaden Technical Committee says that if the new population standards it recommends are adopted, the population would be considered overfished."*

*One particularly high-profile appearance of the claim was in a November 2012 letter to the ASMFC signed by 94 "scientists," many of whom had affiliations with the Pew Environment Group. Few if any of the signers had actual experience in menhaden stock assessments and one of the "scientists" is an English professor. In the letter, the group alleged that "the best scientific information we have indicates that menhaden is subject to overfishing and is overfished when evaluated against a 15% MSP biomass threshold." Citing this letter, Pew's Northeast Fisheries Program Director Peter Baker wrote, in a December 2012 op-ed, "the stock is thus overfished according to the most recent science," and argued that the commercial industry's position, which has turned out to be true, was "an outdated picture of the science."*

*The claim that menhaden are overfished was echoed in media outlets, both national such as the New York Times ("Battle Brews Over a Small, Vital Fish," 12/13/12) and local, such as the Newport News (Virginia) Daily Press ("New draft plan to manage menhaden," 9/18/12).*

*All of these claims were made -- and reported -- before the facts were in.*

*The Determination of "Overfished" Status*

*"Overfished" is a regulatory determination, not a scientific concept. A population of fish reaches overfished status when the stock falls below a threshold set by regulators. This threshold, called a reference point, is set by fishery managers in consultation with scientists in an effort to determine levels at which fish stocks are healthy.*

*At the ASMFC meeting in December, not only were harvest cuts made to the menhaden fishery, but the reference points for the species were lowered. Many observers incorrectly anticipated that under the new reference points, the previous years' fishing efforts would be determined to be in an overfished status. In fact, during the December meeting, even the Board's Chair, Louis Daniel of North Carolina, stated that menhaden "is most likely overfished based on the newly adopted reference points." However, when the Atlantic Menhaden Technical Committee met via teleconference on January 25 to revisit the status of the stock, they reviewed the scientific evidence, and found the situation was not as clear-cut as many assumed. "I don't believe anybody is able to make that call at this point," said Committee member Amy Schueller. The committee came to the conclusion that there was insufficient evidence to label the menhaden stock as overfished, noting that there was too much uncertainty in the data.*

*When scientists evaluate stock size estimates, they run assessments with varying data inputs, called sensitivity runs. The results showed disagreement among different sensitivity runs as to whether or not the stock is overfished. One of the variables in the mathematical model is known as "selectivity". "Selectivity" refers to the likelihood of particular fish being caught by a fishery. This varies within a species based on factors such as age, size, or location. The age assumptions used in the model can be charted on a "selectivity curve," quantifying and comparing the extent to which different age groups within a species are susceptible to fishing.*

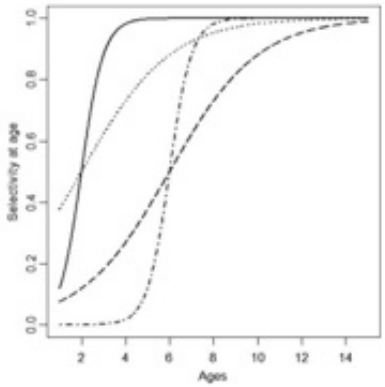
*The data used in assessing menhaden populations come primarily from fishery landing data, not from random scientific surveys. This is the result of funding decisions made by state and federal regulators. As a result, the fish caught and counted are not a random sample, but instead they are the fish targeted by fishermen. So the statistical model must compensate for the non-random nature of the catch.*

*Age groups that are most susceptible to being caught are said to have higher selectivity, whereas age groups that are less susceptible to being caught have lower selectivity. The selectivity curve used in the current assessment for menhaden, and a majority of the sensitivity runs, plots each age against its corresponding selectivity value.*

*Selectivity*

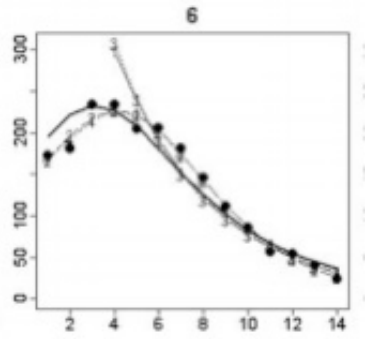
*The model run used for one of the selectivity curves, known as a "flat-topped curve" assumes that fish ages one and older are equally likely to be caught by the fishery up to the age of three, at which point the fish are assumed to have been caught. Very few fish age four and older are caught in the commercial menhaden fishery. The selectivity curve pattern plateaus at maximum selectivity, creating a flat top, hence the name of this*

*model. (View an example of a flat-topped selectivity curve from James T. Thorson and Michael H. Prager's 2010 report in Transactions of the American Fisheries Society, "Better Catch Curves: Incorporating Age-Specific Natural Mortality and Logistic Selectivity" below).*




*However, this assumption may not reflect actual conditions within the fishery. Menhaden become increasingly vulnerable to being caught as they grow to three years old, and then become decreasingly susceptible to harvest. Fish under the age of one inhabit shallow waters and are not often caught by the fishery, while older fish are not available to be caught because they are in the northern Atlantic waters during the fishing season. So, the true selectivity curve for the fishery may very well take a different shape than the current model.*

*The majority of the fishery only catches a high proportion of fish in the middle age group of one to three year olds, so selectivity is likely higher for these age groups than all of the others. The increasing propensity of menhaden up to age three to be caught, and their decreasing availability beyond that age creates a curve that is bell-shaped. This is known as a "dome-shaped" selectivity curve (View an example of a dome-shaped selectivity curve from the Thorson report below, age is represented on the x-axis and catch is represented on the y-axis).*




*Of the base run and the five sensitivity runs analyzed by the Technical Committee during their January conference call, only one used the dome-shaped selectivity curve; and this model - the one that very likely most represents the true selectivity - was the model that indicated that the menhaden population was not overfished.*

*Since the flat-topped model assumes that the fishery is catching an equal proportion of*

*fish over the age of three, while the evidence indicates the fishery actually catches a declining proportion of older fish, the catch is probably overestimated in the flat-topped model, resulting in the runs that estimated the menhaden population was overfished.*

*Alexei Sharov, a member of the Technical Committee (TC) from Maryland, spoke during the conference call of the uncertainty between the two selectivity curves: "Since the TC has no means at this point to verify which one is correct, we remain uncertain in that sense," he said. "Nobody in my mind would be able to say firmly that one run is more believable than another one."*

*In their report to the ASMFC's Atlantic Menhaden Management Board, the Technical Committee stated that "there was not sufficient evidence to determine an overfished status," and upon reviewing the data, the full ASMFC agreed with the Technical Committee, approving their report.*

*Last December's ASMFC menhaden meeting was dominated by the charges that menhaden was consistently overexploited, and had the ASMFC adopted the "best available science" the species would clearly be revealed as overfished. But the science available then and now never supported such a definitive claim. The status of menhaden was and remains unknown, and new and better data are needed to effectively manage the future of the species.*

**Sign up for daily news updates from Saving Seafood.**

**Visit www.SavingMenhaden.org for the latest industry news.**

**Menhaden Fisheries Coalition contact information:**
phone: 202-595-1212
e-mail: info@savingmenhaden.org

Join Our Mailing List!

**Forward email**

# PROPOSED AGENDA
# Model Evaluation Workgroup

Pacific Fishery Management Council
Sheraton Portland Airport Hotel
Club Lounge – 4th Floor
8235 NE Airport Way
Portland, OR 97220
Telephone: 503-281-2500
April 5, 2013

This is a public meeting and time for public comment may be provided at the discretion of the Model Evaluation Workgroup (MEW) Chair. This is not a public hearing; it is a work session for the primary purpose of reviewing items coming before the Pacific Fishery Management Council at their concurrent meeting.

FRIDAY, APRIL 5, 2013 – 8 a.m.

**MEW Administrative Matters**

| | |
|---|---|
| Call to Order | |
| Roll Call, Introductions, Announcements, etc. | Andy Rankis, Chair |
| Opening Remarks and Agenda Overview | Mike Burner |
| Approve Agenda | MEW |
| Project Updates | MEW |
| Summer Workload Planning | MEW |

**Council Agenda Items for Review and Possible Comment**

***E. Salmon Management***

5. Methodology Review Process and Preliminary Topic Selection for 2013 — STT
   (3 *p.m. Discussion with the SSC on Friday;*
   *2 p.m. Report to the Council on Wednesday*)

***B. Administrative Matters***

6. Future Council Meeting Agenda and Workload Planning — Mike Burner
   (1:30 *p.m. Report to the Council on Thursday*)

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PFMC
03/21/13

# PROPOSED AGENDA
# Salmon Advisory Subpanel

Pacific Fishery Management Council
Sheraton Portland Airport Hotel
Mt. St. Helens D
8235 NE Airport Way
Portland, OR 97220
Telephone: 503-281-2500

April 5-10, 2013

This is a public meeting and time for public comment may be provided at the discretion of the Salmon Advisory Subpanel (SAS) Chair. This is not a public hearing; it is a work session for the primary purpose of reviewing items coming before the Pacific Fishery Management Council at their concurrent meeting.

FRIDAY, APRIL 5, 2013 – 8 a.m.

**SAS Administrative Matters**

| | |
|---|---|
| Call to Order | |
| Roll Call, Introductions, Announcements, etc. | Butch Smith, Chair |
| Opening Remarks and Agenda Overview | Mike Burner |
| Approve Agenda | SAS |
| Assignments to Monitor Other Advisory Bodies and Draft Statements | Butch Smith |

**Council Agenda Items for Review and Possible Comment**

***G. Pacific Halibut Management***

1. Final Incidental Catch Regulations for the 2013 Salmon Troll Fishery (3 *p.m. Report to the Council on Monday*) — SAS

***E. Salmon Management***

1. Tentative Adoption of 2013 Ocean Salmon Management Measures for Analysis (*8:30 a.m. Discussion with the STT Friday; 2:30 p.m. Report to the Council on Saturday*) — STT

***B. Administrative Matters***

2. Expansion of Gulf of Farallones and Cordell Banks National Marine Sanctuaries (11 *a.m. Report to the Council on Thursday*) — Lisa Wooninck

SATURDAY, APRIL 6, 2013 – 8 a.m.

**SAS Administrative Matters (continued)**

Review Statements (Finalize E.1 for Secretariat Center by 9 a.m.) SAS

**Council Agenda Items for Review and Possible Comment**

***F. Habitat***

1. Current Habitat Issues Jim Hie
   (2 *p.m. Report to the Council on Sunday*)

***H. Ecosystem-Based Management***

1. Fishery Ecosystem Plan Mike Burner
   (Attend 9:30 a.m. Council Informational Session;
   *8 a.m. Report to the Council on Tuesday*)

SUNDAY, APRIL 7, 2013 – 8 a.m.

**SAS Administrative Matters (continued)**

Review Statements SAS

**Council Agenda Items for Review and Possible Comment**

***E. Salmon Management (continued)***

2. Clarify Council Direction on 2013 Management Measures SAS
   (3 *p.m. Report to the Council on Sunday*)
3. Salmon Amendment 18 – Essential Fish Habitat Revisions
   (1 *p.m. Report to the Council on Monday*)
6. Council Guidance on Columbia Basin Situation Assessment NMFS
   (4 *p.m. Report to the Council on Wednesday*)

MONDAY, APRIL 8, 2013 – 8 a.m.

**SAS Administrative Matters (continued)**

Review Statements SAS

Attend 8:30 a.m. Workshop on Potential Abundance Based Management of California Coastal Chinook Salmon (Joint Session with STT).

Attend 1 p.m. Informational Briefing on Predation of Juvenile Salmonids by Birds in the Columbia River Estuary. Sondra Ruckwardt

MONDAY, APRIL 8, 2013 – Continued

**Council Agenda Items for Review and Possible Comment**

***E. Salmon Management (continued)***

4. Final Action on 2013 Management Measures — SAS
(*3 p.m. Report to the Council on Wednesday*)

***F. Ecosystem Based Management***

1. Final Fishery Ecosystem Plan — Mike Burner
(8 *a.m. Report to the Council on Tuesday*)

TUESDAY, APRIL 9, 2013 – 8 a.m.

**SAS Administrative Matters (continued)**

Review Statements — SAS

**Council Agenda Items for Review and Possible Comment**

***E. Salmon Management (continued)***

4. Final Action on 2013 Management Measures — SAS
(*3 p.m. Report to the Council on Wednesday*)

5. Methodology Review Process and Preliminary Topic Selection for 2013 — SAS
(*3 p.m. Report to the Council)*

***J. Enforcement Issues***

1. Regulations for Vessel Monitoring System Declarations — Dayna Matthews
(*9 a.m. Report to the Council on Thursday*)

WEDNESDAY, APRIL 10, 2013 – 8 a.m.

**SAS Administrative Matters (continued)**

Review Statements — SAS

**Council Agenda Items for Review and Possible Comment**

***B. Administrative Matters***

6. Future Council Meeting Agenda and Workload Planning — Mike Burner
(1:30 *p.m. Report to the Council on Thursday*)

ADJOURN

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03/21/13

# PROPOSED AGENDA
# Joint Session of the Salmon Advisory Subpanel and the Salmon Technical Team

Pacific Fishery Management Council
Sheraton Portland Airport Hotel
Mt. St. Helens D
8235 NE Airport Way
Portland, OR 97220
Telephone: 503-281-2500
April 8, 2013

This is a public meeting and time for public comment may be provided at the discretion of the Salmon Advisory Subpanel (SAS) and Salmon Technical Team (STT) Chair. This is not a public hearing; it is a workshop for the primary purpose of reviewing management of California Coastal Chinook and Sacramento River winter Chinook in preparation for preliminary selection of 2013 Salmon Methodology Review topics under Agenda Item E.5 on the Pacific Fishery Management Council's April 2013 agenda. All times are approximate and subject to change.

MONDAY, APRIL 8, 2013 – 8 a.m.

***A. Administrative Matters***
Call to Order — Butch Smith (SAS Chair)/Robert Kope (STT Chair)
Roll Call and Introductions
Opening Remarks and Agenda Overview — Mike Burner
Approve Agenda

***B. Sacramento River Winter Chinook*** (8:30 am) — Dr. Michael O'Farrell
Data, Science, and Management

***C. California Coastal Chinook*** (9 am) — Dr. Michael O'Farrell
Data, Science, and Management

BREAK

***D. Management Entity Perspectives*** (10:15 am)
National Marine Fisheries Service, State Agencies, Tribal Entities, etc.

***E. Advisory Body Perspectives*** (11 am)
SAS, STT, Scientific and Statistical Committee, etc.

***F. Discuss Next Steps and 2013 Salmon Methodology Review*** (11:30 am) — All

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03/25/13

# PROPOSED AGENDA
# Scientific and Statistical Committee

Pacific Fishery Management Council
Sheraton Portland Airport Hotel
Mt. St. Helens B
8235 NE Airport Way
Portland, OR 97220
503-281-2500

**April 5-6, 2013**

Scientific and Statistical Committee (SSC) meetings are open to the public and public comments will be accepted during the scheduled public comment period. Public comment at times other than the established public comment period will be taken at the discretion of the SSC Chair.

Committee member work assignments are noted in parentheses at the end of each agenda item. The first name listed is the discussion leader and the second, the rapporteur. A suggestion for the amount of time each agenda item should take is provided. At the time the agenda is approved, priorities can be set and these times revised. Discussion leaders should determine whether more or less time is required and request the agenda be amended.

FRIDAY, APRIL 5, 2013 – 8 a.m.

## *A. Call to Order and Scientific and Statistical Committee (SSC) Administrative Matters*

1. Introductions
2. Report of the Executive Director — Donald McIsaac
3. Approve Agenda and March 2013 Minutes
4. Subcommittee Assignments - Current assignments are listed at the end of this agenda.
5. Open Discussion and Future Meeting Planning
   (8 a.m., 0.75 hours) *No Report to Council*

## *B. Council Administrative Matters*

6. Membership Appointments and Council Operating Procedures (SSC Closed Session)
   (8:45 a.m., 0.25 hours) *Report to Council – Council Closed Session, Sunday*

## *D. Groundfish Management*

3. Stock Complex Assemblages
   a. Overview of Analyses — Jason Cope
   b. Proposed Complex Restructuring Alternatives — John DeVore
   (9 a.m., 2 hours; **Dorn, Gertseva**) *Report to Council – Sunday*

5. Consider Barotrauma Device Mortality Rates — John Budrick
   (11 a.m., 2 hours; **Punt, Sampson**) *Report to Council – Monday*

LUNCH

***D. Groundfish Management, continued***

6. Groundfish Essential Fish Habitat Synthesis Report and Request for Proposals — Michelle McClure
   (2 p.m., 1 hour; **Heppell, Thomson**) *Report to Council – Monday*

***E. Salmon Management***

5. Methodology Review Process and Preliminary Topic Selection for 2013 — Robert Kope/Mike Burner
   (3 p.m., 1 hour; **Lawson, Petrosky**) *Report to Council – Monday*

PUBLIC COMMENT PERIOD
4:00 p.m. (or immediately following Agenda Item E.5)
Public comments, including comments on issues not on the agenda, are accepted at this time.

***A. SSC Administrative Matters, Continued***

6. Review Statements
   (4:00 p.m. or following public comment period)

SATURDAY, APRIL 6, 2013 – 8 a.m.

***A. SSC Administrative Matters, continued***

7. Review Statements
   (8 a.m., 1 hour)

***H. Ecosystem-Based Management***

1. Fishery Ecosystem Plan (FEP)
   (9 a.m., 1 hour; **Thomson, Heppell**) *Report to Council – Tuesday*

***D. Groundfish Management, continued***

7. Trawl Rationalization Trailing Actions – Electronic Monitoring Regulatory Process — Jim Seger
   (10 a.m., 1 hour; **Lee, Jagielo**) *Report to Council – Tuesday*

***I. Coastal Pelagic Species Management***

1. Sardine Harvest Parameters Workshop Report — André Punt
   (11 a.m., 1 hour; **Key, Hamel**) *Report to Council – Wednesday*

LUNCH

***I. Coastal Pelagic Species Management, continued***

2. Shifting Sardine Season Start Date — Kerry Griffin
   (1 p.m., 1 hour; **Jagielo, Huppert**) *Report to Council – Thursday*

***A. SSC Administrative Matters, continued***

8. Review Statements
   (2 p.m.)

ADJOURN

# SSC Subcommittee Assignments, April 2013

| **Salmon** | **Groundfish** | **Coastal Pelagic Species** | **Highly Migratory Species** | **Economic** | **Ecosystem-Based Management** |
|---|---|---|---|---|---|
| **Robert Conrad** | **Vlada Gertseva** | **André Punt** | **Selina Heppell** | **Cindy Thomson** | **Martin Dorn** |
| Owen Hamel | Martin Dorn | Owen Hamel | Robert Conrad | Vlada Gertseva | Vlada Gertseva |
| Meisha Key | Owen Hamel | Selina Heppell | André Punt | Dan Huppert | Selina Heppell |
| Pete Lawson | Tom Jagielo | Dan Huppert | | Todd Lee | Pete Lawson |
| Charlie Petrosky | Meisha Key | Tom Jagielo | | André Punt | Todd Lee |
| Will Satterthwaite | André Punt | Meisha Key | | David Sampson | André Punt |
| | David Sampson | | | | Will Satterthwaite |
| | Tien-Shui Tsou | | | | Cindy Thomson |
| | | | | | Tien-Shui Tsou |

**Bold** denotes Subcommittee Chairperson

PFMC
03/25/13

# DRAFT SUMMARY MINUTES
# Scientific and Statistical Committee

Pacific Fishery Management Council
Hotel Murano
Venice 1
1320 Broadway Plaza
Tacoma, WA 98402
888-862-3255

**March 6-7, 2013**

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

The meeting was called to order at 8 a.m. on Wednesday, March 6, 2013. Council Executive Director, Dr. Donald McIsaac briefed the SSC on priority agenda items.

**Members in Attendance**

Mr. Robert Conrad, Northwest Indian Fisheries Commission, Olympia, WA
Dr. Martin Dorn, National Marine Fisheries Service, Seattle, WA
Dr. Vladlena Gertseva, National Marine Fisheries Service, Seattle, WA
Dr. Owen Hamel, SSC Chair, National Marine Fisheries Service, Seattle, WA
Dr. Selina Heppell, Oregon State University, Corvallis, OR
Dr. Daniel Huppert, University of Washington, Seattle, WA
Mr. Tom Jagielo, Seattle, WA
Ms. Meisha Key, SSC Vice-Chair, California Department of Fish and Game, Santa Cruz, CA
Dr. Peter Lawson, National Marine Fisheries Service, Newport, OR
Dr. Todd Lee, National Marine Fisheries Service, Seattle, WA
Dr. Charles Petrosky, Idaho Department of Fish and Game, Boise, ID
Dr. André Punt, University of Washington, Seattle, WA
Dr. David Sampson, Oregon Department of Fish and Wildlife, Newport, OR
Dr. William Satterthwaite, National Marine Fisheries Service, Santa Cruz, CA
Ms. Cindy Thomson, National Marine Fisheries Service, Santa Cruz, CA
Dr. Tien-Shui Tsou, Washington Department of Fish and Wildlife, Olympia, WA

**Members Absent**

None.

| **SSC Recusals for the March 2013 Meeting.** | | |
|---|---|---|
| **SSC Member** | **Issue** | **Reason** |
| Mr. Tom Jagielo | CPS Exempted Fishing Permits for 2013 | Mr. Jagielo is one of the EFP sponsors |

**Scientific and Statistical Committee Comments to the Council**

The following is a compilation of March 2013 SSC reports to the Pacific Fishery Management Council (Council) in the order they were discussed by the SSC. (Related SSC discussion not included in written comment to the Council is provided in *italicized text*).

***Groundfish Management***

H.2. Status Determination Criteria for Data-Moderate Stocks

*SSC Groundfish Subcommittee Report on Review of Proposed Methods for Constructing Abundance Indices*

Dr. Vladlena Gertseva gave a summary of the Scientific and Statistical Committee (SSC) Groundfish Subcommittee meeting which occurred on March 5 to review proposed methods for constructing and analyzing abundance indices that may be used in data-moderate stock assessments later this year. The topics reviewed included 1) recreational catch-per-unit-effort indices, 2) design and methods used to construct an abundance index for the Northwest Fisheries Science Center (NWFSC) hook and line survey, 3) delta-GLMM method for constructing trawl survey indices, and 4) alternative methods for analysis of trawl surveys. The SSC endorsed some of the methods being developed, but made a number of specific recommendations to the analysts with an emphasis on ways to facilitate the review of the abundance indices during the data-moderate review panel meeting. Major recommendations are listed below (more detailed recommendations are contained in the SSC Groundfish Subcommittee report).

- The SSC agrees that the proposed approaches for developing recreational catch-per-unit-effort indices are adequate and recommends using them in data-moderate assessments. The SSC notes that sampling protocols for collecting "Type 3" data in RecFIN have not been consistent between the States over time, and this may have an effect on the indices derived from these data.

- The SSC recommends using the hook-and-line survey index in data-moderate assessments but only if the Fishing Time-related concerns are addressed in the analysis. The SSC further recommends revisiting the decision to not include hook-and-line survey sites within the Cowcod Conservation Areas, which is a major limitation of this dataset. Technology is now available to return cowcod to depth with relatively high survival.

- The SSC endorses the new software for the development of abundance indices from trawl survey data and recommends using it in stock assessments.

- A novel multi-step survey analysis approach was proposed to combine the triennial and NWFSC combo survey and to select survey observations that are most likely to be informative about trends in abundance for a particular species. The SSC recommended that this approach not be used in base-case runs for data-moderate assessments being developed this year. Depending on the outcomes from the Data-moderate Panel, this proposed method could be the focus for work during the 2014 "off year."

In addition, the SSC reviewed an updated prior for spawner-recruit steepness for rockfish and discussed its use in the 2013 assessment cycle. The SSC endorsed improvements made to the analysis and recommended using a prior estimated based on Tier 1 stocks (mean=0.779, SD=0.152) in this year assessments. For assessments that fix the steepness parameter, it should

be set at the mean value (0.779) unless there is strong justification for an alternative value.

*Proposed Status Determination Criteria*

John DeVore gave a report on a webinar workshop on December 21, 2012, that developed a framework for status determination criteria for data-moderate stocks (Category 2). A status determination is a quantitative evaluation of whether the stock is below its minimum stock size threshold and is therefore overfished and whether fishing mortality is above $F_{MSY}$ and therefore being subject to overfishing. Data-moderate assessments are intermediate between full assessments (Category 1), which have been used for status determination, and data-poor assessments (Category 3), which have not. Data-poor assessment methods such as Depletion Based-Stock Reduction Analysis (DB-SRA) do provide estimates of stock status, but these estimates are strongly dependent on the assumed distribution of depletion. Therefore, the SSC has previously recommended against using data-poor assessments for status determination.

Data-moderate assessments differ from full assessments in several ways. First, the input data are intentionally restricted to abundance indices. The assessment models are highly simplified and only a few key parameters are estimated. Review of these assessments focuses on identifying and rejecting those assessments that do not adequately fit the available abundance indices. The benefits of this approach are that more data-moderate assessments can be developed and reviewed during a single stock assessment cycle, but it should be recognized that these assessments are inherently less certain than full assessments. Previous workshops comparing data-moderate assessments and full assessments indicated that in most cases the agreement is quite good. However, there were cases when data-moderate assessments gave different results than full assessments (including both higher and lower estimates of depletion). Diagnostic tools have been developed to help identify data-moderate assessments with questionable performance.

The basic structure of the framework developed during the webinar workshop is that the process for data-moderate assessments would be different depending on estimated stock status and the availability of additional data. If stock status is estimated to be above the target biomass, no further assessment work would be required. If the stock is in the precautionary zone, the Council would adopt precautionary management measures, such as the 40-10 harvest control rule, and the stock would be given elevated priority for a full assessment. If the stock is estimated to be below the overfished level and additional data are available, the stock would be scheduled for full assessment in the next assessment cycle (and precautionary management measures would be implemented in the interim). The SSC considered the framework developed during the webinar workshop a reasonable approach that makes appropriate use of data-moderate assessments as a screening tool to identify stocks whose status is a potential concern, and prioritizes further assessment work to reduce uncertainty where possible.

The SSC recommends that stock status estimates from data-moderate assessments should not automatically be accepted for use in status determination. An evaluation of available information to conduct a full assessment should be a crucial element in deciding whether to adopt a status determination from a data-moderate assessment. Since an overfished status determination cannot easily be undone, the SSC would prefer to not to make a recommendation to the Council on overfished status until results from a full assessment are available if it is determined that a full assessment can be conducted in the next assessment cycle.

Dr. Jim Hastie presented an alternative framework with the same overall structure and the same ultimate outcome, but in which stocks that are potentially overfished would be required to undergo a full assessment under a compressed time schedule. The SSC notes that a rushed timetable is not generally conducive to producing good science, and the Council and NMFS should anticipate the possibility that some assessment issues will not be addressed fully under the proposed schedule. In addition, a compressed time schedule might not allow additional data to be assembled, for example, by ageing additional otoliths to estimate age composition. Additional data would help to reduce the uncertainty of the assessment results and the status determination. While the SSC understands that the alternative framework was developed to accommodate statutory requirements, in the SSC's opinion it is not in accord with the principle of using best scientific information available.

***Council Administrative Matters***

F.1. Research Planning

The Scientific and Statistical Committee (SSC) reviewed the February 2013 draft (for public review) of the Research and Data Needs Report (Attachment 1). The SSC endorses the changes made to the document since November 2012. However, the SSC recommends categorizing the research needs within the Ecosystem-Based Fisheries Management section based exclusively upon potential benefits since it is premature to anticipate costs associated with the research projects listed in this section of the document.

***Salmon Management***

C.1 Review of 2012 Fisheries and Summary of 2013 Stock Abundance Forecasts

*2012 Review of Ocean Salmon Fisheries*

Dr. Robert Kope discussed the Review of 2012 Ocean Salmon Fisheries report with the Scientific and Statistical Committee (SSC). The report includes sections on status determination criteria in chapters II and III for Chinook and coho salmon stocks, respectively. Table II-5 reports the performance of Chinook stocks relative to 2012 preseason conservation objectives while Table II-6 summarizes Chinook stock status relative to overfished and overfishing criteria. There were no Chinook stocks classified as overfished based on the geometric mean spawning escapement using the most recent three years of available data. Tables III-6 and III-7 present this same information for coho salmon. There were no coho stocks classified as overfished.

The SSC notes that the initial estimate of the combined marine and freshwater exploitation rate on Oregon coastal natural (OCN) coho was 18.1 percent, which is above the 15.0 percent maximum allowed under the Fishery Management Plan and the OCN workgroup matrix.

*2013 Stock Abundance Forecasts*

Dr. Kope also discussed Chinook and coho stock abundance predictions for 2013. There was considerable discussion of the abundance forecast for Sacramento River fall Chinook. The forecast presented used the ratio of jacks to the Sacramento Index (SI) for the years 1990-2012. This resulted in a SI forecast of 834,208 Chinook for 2013. This forecast is slightly greater than the 2012 forecast (819,400) which was 1.3 times the postseason abundance based on preliminary total return data. The 2012 SI forecast was based on data from a truncated series of years (2009-2011). Using last year's forecast methodology based on the truncated data series gives a 2013 SI forecast of 285,323.

The SSC asked for an explanation for the change from the truncated data series used in 2012 to using the full data series in 2013. The longer data series had been used for forecasts prior to 2012. The return to the previous forecast methodology was justified largely based on the ratio of jacks returning in two consecutive years. This ratio for 2013 was more similar to those years used in the previous forecast methodology (1990-2012). The SSC discussed the change in the data series used for the 2013 forecast and whether it was justified. Although several other options for producing the forecast were discussed, there was no recommendation to replace the methodology proposed for 2013. However, the SSC recommends that SI forecast methods be reviewed in a salmon methodology review so that other options can be more rigorously explored and this issue properly resolved.

Because of the exploitation rate ceiling in place for management, the projected catch levels of Sacramento Fall Chinook for 2013 should still allow the escapement threshold of 122,000 to be achieved, even at the lower abundance forecast.

A time series of age composition data for the catch and the escapement of Sacramento River fall Chinook is critically needed to improve the SI forecast.

The SSC endorses the 2013 forecasts, acceptable biological catches, and overfishing limits in Preseason Report I as the best available science for use in 2013 salmon management.

***Ecosystem-Based Management***

Fishery Ecosystem Plan (FEP)

*The SSC discussed the public draft copy of the Fishery Ecosystem Plan, its initiatives, and scientific products related to ecosystem-based fisheries management. Ms. Yvonne de Reynier of the Ecosystem Plan Development Team provided a summary of report updates and participated in the discussion. A report to the Council on the FEP will be finalized at the April meeting. As ecosystem information is added to assessments and increasingly considered in management, the SSC will continue to evaluate the science used in each analysis and how the results are incorporated into predictions of ecosystem condition and effects on FMP stocks. Currently, the SSC can assist this effort in 4 ways:*

1) *Review of the initiatives in Appendix 1 of the FEP, identifying those that are largely science driven, feasible with existing tools and data, and most likely to improve management. The EPDT has requested SSC input on prioritization of initiatives.*
2) *Provide feedback on the State of the California Current report document to improve its utility as an advisory document.*
3) *Review the Ecosystem Considerations sections added to this year's stock assessments for future standardization of the content of these sections.*
4) *Meet with the Integrated Ecosystem Assessment teams at NWFSC and SWFSC to discuss IEA products and their incorporation into assessments and other Council documents. This meeting is an important step for FEP implementation and is currently scheduled for summer 2013.*

*The SSC discussed its role in the evolving applications of ecosystem-based management by the Council. Some review tasks are straightforward, such as evaluation of the data or analyses used to create the California Current report. A more difficult task is to evaluate and advise on the appropriate use of ecosystem-based indicators and proposed thresholds. This will require the same scrutiny as the methods used in stock assessments. The IEA workshop will be a solid first step in that review process. Review of the initiatives in Appendix 1 of the FEP can also lead to recommendations for workshops next year.*
*The SSC identified some outdated information in the FEP about models and data used in economic analyses (Section 4). Regrettably, these errors were not found during the comment period last fall. Suggested corrections have been forwarded to Ms. de Reynier.*

*Todd Lee FEP Comments*
*March 6, 2013*

1. *3.4.2.1 Commercial Fisheries: This seems to exclude the at-sea fisheries. If so, why should they be excluded.*
2. *P 56, para 2: This seems to imply that there isn't any bycatch data or rec data on removals. It may not be in PacFIN, but it does exist.*
3. *P 77, last para: This is a bit confusing. Is this saying that the net value to charter anglers aren't included? Or maybe that this doesn't consider effects in secondary markets? Maybe this doesn't consider charter operator profits? "Does not capture the economic value" is vague.*
4. *3.4.2.3 Recreational Fisheries: This section uses FEUS for WA, TCW Econ for WA, and The Research Group for OR -- why not be consistent and stick with FEUS?*
5. *P 84: The entire section that discusses FEAM should be updated. I don't think FEAM is used any longer, and for sure not for groundfish. IO-PAC, a new model is now used. There is a NOAA Tech Report that describes IO-PAC. It has been updated and expanded since that publication. See Jerry Leonard ant the NWC for more info; he developed the IO-PAC model.*
6. *P 157: Revenues (commercial) and expenditures (recreational) can be bad proxies for net values -- why is this seemingly recommended here? Also "the movement of fish or the fishing experience as commodities within the economy, and resulting expenditures from*

*revenues may be considered largely cumulative effects of an action or of the Council's activities as a whole" is very confusing and perhaps misleading if suggesting that all of these changes should be attributed to Council actions. Is "expenditures from revenues" trying to get at economic impacts / IO model.*

7. *P 158: Recreational values are commonly quantified. Also since the preceding section recommends using expenditures to infer minimum rec values, I find this confusing. It seems to be saying that values can be approximated with expenditures (again, not a good idea), but values aren't easily quantifiable.*
8. *4.4.2 Costs of Participating in Fisheries: The last part here is not correct. There is cost data for a lot of the commercial fisheries. There are dedicated mothership, catcher-processor, LE trawl groundfish, LE fixed gear groundfish, most of the WA, OR and CA state fisheries (esp. shrimp, crab), also some cost data is available for tuna and perhaps other HMS and CPS. There is a NOAA Tech report by Carl Lian for the LE fisheries and Open access groundfish. These collections have expanded since then. All of these surveys are ongoing. There is also the new mandatory Economic Data Collection for catch shares. 2009-2011 data have been collected (see the EDC website). It probably won't help much for this report, due to timing, but 5 EDC reports will be completed in April for SSC review.*

***Council Administrative Matters***

F.4 Future Council Meeting Agenda and Workload Planning

The Scientific and Statistical Committee (SSC) Economics Subcommittee is in the process of reviewing various datasets and models that are and/or could be used to analyze the socioeconomic effects of management alternatives on fisheries. These include the mandatory Economic Data Collection for catch share participants, projection models used by the Groundfish Management Team, and models used to estimate economic impacts on local economies and net economic benefits to fishery participants. The purpose of these reviews is to improve the economic analysis of fishery alternatives associated with the specifications process and other regulatory actions, and also provide input into the indicators being developed to monitor socioeconomic outcomes of the catch shares program. The SSC will review the Subcommittee reports at the June meeting. The SSC recommends that the results of those reviews be included in the materials that the Council considers in its discussion of the final 2015-16 specification schedule and process in June.

The methodologies for conducting the aerial survey and acoustic trawl survey for Pacific sardine have been reviewed separately, with issues still left unresolved. The SSC recommends that a formal review of the two surveys be conducted in fall of 2013 or winter of 2014, combined, if possible, at a single meeting, with a focus on how the two surveys might best be used in the sardine stock assessment.

***Coastal Pelagic Species Management***

D.1 Exempted Fishing Permits for 2013

The 2013 exempted fishing permit (EFP) to conduct an aerial survey for Pacific sardine in the Pacific Northwest is a recurring proposal under Council Operating Procedure 23. As such, a notice of intent and a research plan were submitted for the November 2012 Council meeting. The survey methodology and design, including general timing, amount of fish that will be taken, general survey protocols, and the purpose of the research, are similar to those on which previous aerial surveys have been based.

A key objective of the survey is to associate the point sets with aerial photographs to develop a relationship between the area of sardine schools and the weight of those schools. The primary concern of the Scientific and Statistical Committee (SSC) is that the survey has consistently failed to achieve adequate point sets to meet the objectives specified in the sampling plan. The 2012 survey resulted in a high fraction of point sets which were not associated with aerial photographs. Industry anticipates that it will likely be easier to take point sets that are associated with photographs this year given the lower harvest guideline. The data collected from point sets for which there are no photographs do provide information to estimate survey selectivity. However, this is not the primary reason for conducting point sets.

The SSC notes that changing the start date for the fishery to, for example, July 1, would allow additional time to complete the analysis of the survey data before the assessment is conducted.

The SSC reiterates its recommendation from the November 2012 Council meeting that the survey methodology be reviewed based on the issues raised during the 2007 STAR Panel, as well as those raised subsequently. If requested by the Council, the SSC Coastal Pelagic Species (CPS) subcommittee will work with the Coastal Pelagic Species Management Team (CPSMT) to identify the key questions for a review of the survey design, the operational aspects of the survey, how the data are analyzed, how the resulting information is used in the assessment, and develop a draft Terms of Reference for a Methodology Review. The Methodology Review would consider the implications of the point sets not being collected as anticipated. The SSC CPS subcommittee and the CPSMT will work with the analysts for the survey to ensure that appropriate materials are available for review. The SSC anticipates that this Methodology Review will not be able to take place before Fall 2013.

***Groundfish Management***

H.4 Amendment 24: Improvements to the Groundfish Management Process

*Rebuilding Revision Rules*

Under current Council practice, rebuilding plans may be revised every two-year assessment cycle, when the new assessments and rebuilding analyses are developed. Rebuilding plans have been revised if progress towards rebuilding is considered inadequate. In November 2012 the Council requested the Scientific and Statistic Committee (SSC) to provide guidelines on when an overfished species rebuilding plan needs revising. In response to this request, the Groundfish

Subcommittee of the SSC (GFSSC) held a conference call on January 9, 2013 to develop recommendations on more effective policies and procedures for adopting and amending overfished species rebuilding plans.

The SSC discussed several approaches to evaluate adequacy of progress of Rebuilding Plans and determine whether a Rebuilding Plan should be revised. Formalized sets of approaches to automatically modify Rebuilding Plans are referred to as Rebuilding Revision Rules. The SSC identified Management Strategy Evaluation (MSE) as the best way to evaluate how different potential Rebuilding Revision Rules perform in terms of achieving Council objectives.

The first steps towards conducting an MSE are:

1. Identification of components of Rebuilding Revision Rules by the SSC groundfish subcommittee. Examples of such components include the time between assessment, and the range of probability of rebuilding to TTARGET for which the spawning potential ratio used to determine ACLs would not be changed.
2. Development of initial set of candidate Rebuilding Revision Rules by the GMT; these would involve combining components identified in (1).
3. Identification of species on which the MSE will be based by the GMT.
4. Identification of statistics which quantify the performance of each candidate Rebuilding Revision Rule in terms of management objectives such as average catch during the rebuilding period, probability of rebuilding by TTARGET, stability of catches, and frequency with which major changes to Rebuilding Plans are needed.

If these steps can be followed, preliminary results can be presented at the September or November Council meetings.

*Default Harvest Control Rules*

Council staff, Dr. Kit Dahl and Mr. John DeVore briefed the SSC on the concept of describing default harvest control rules (HCRs) in the Amendment 24 of the groundfish fishery management plan (FMP) to reduce future workload where the Council chooses to use default HCRs when deciding future harvest specifications.

For the default HCRs, the SSC notes that three parameters (sigma value, FMSY, and apportionment of coastwide biomass into regions) in current practice are scientific decisions and therefore will not need NEPA analyses if they are revised. To evaluate a reasonable range of 10-year annual catch limits (ACLs) within the plausible range of states of nature, the SSC recommends using ACL projections from decision tables in approved stock assessments.

# SSC Subcommittee Assignments, March 2013

| **Salmon** | **Groundfish** | **Coastal Pelagic Species** | **Highly Migratory Species** | **Economic** | **Ecosystem-Based Management** |
|---|---|---|---|---|---|
| **Robert Conrad** | **Vlada Gertseva** | **André Punt** | **Selina Heppell** | **Cindy Thomson** | **Martin Dorn** |
| Owen Hamel | Martin Dorn | Owen Hamel | Robert Conrad | Vlada Gertseva | Selina Heppell |
| Meisha Key | Owen Hamel | Selina Heppell | André Punt | Dan Huppert | Vlada Gertseva |
| Pete Lawson | André Punt | Dan Huppert | | Todd Lee | Pete Lawson |
| Charlie Petrosky | David Sampson | Tom Jagielo | | André Punt | Todd Lee |
| Will Satterthwaite | Tien-Shui Tsou | Meisha Key | | David Sampson | André Punt |
| | Tom Jagielo | | | | Cindy Thomson |
| | Meisha Key | | | | Tien-Shui Tsou |
| | | | | | Will Satterthwaite |

**Bold** denotes Subcommittee Chairperson

# DRAFT Tentative Council and SSC Meeting Dates for 2013

| Council Meeting Dates | Location | Likely SSC Mtg Dates | Major Topics |
|---|---|---|---|
| **March 6-11, 2013**<br>Advisory Bodies may begin Tue, March 5<br>Council Session begins Wed, March 6 | Hotel Murano<br>1320 Broadway Plaza<br>Tacoma, WA 98402<br>Phone: 1-888-862-3255 | Two Day SSC Session<br>**Wed, March 6 – Thur, March 7** | Final CPS EFP<br>Groundfish Am24 FPA<br>Policy for Data-Mod. Stock SDC<br>Salmon Review/Pre I<br>5 yr Research Plan |
| **April 6-11, 2013**<br>Advisory Bodies may begin Fri, Apr 5<br>Council Session begins Sat, Apr 6 | Sheraton Portland Airport Hotel<br>8235 NE Airport Way<br>Portland, OR 97220<br>Phone: 503-281-2500 | Two Day SSC Session<br>**Fri, April 5 – Sat, April 6** | Rockfish Barotrauma Mitigation<br>Groundfish EFH<br>Salmon EFH FPA |
| **June 20-25, 2013**<br>Advisory Bodies may begin Wed, June 19<br>Council Session begins Thurs, June 20 | Hyatt Regency Orange County<br>11999 Harbor Blvd.<br>Garden Grove, CA 92840<br>Phone: 714-750-1234 | Two Day SSC Session<br>**Wed, June 20 – Thurs, June21** | Mackerel HG & Mgt. Measures<br>Review 2013 GF Stock Assess.<br>Final Groundfish Stock Complexes<br>Final 2015 and Beyond Spex Process<br>Unmanaged Forage Fish Protection |
| **September 12-17, 2013**<br>Advisory Bodies may begin Wed, Sept 11<br>Council Session begins Thurs, Sept 12 | The Riverside Hotel – Boise<br>2900 Chinden Blvd<br>Boise, ID 83714<br>Phone: 208-343-1871 | Two Day SSC Session<br>**Wed, Sept 11 – Thurs Sept 12** | Review 2013 GF Stock Assess.<br>Plan Science Improvements<br>Salmon Meth. Topic Select<br>Halibut Bycatch Estimate |
| **November 1-6, 2013**<br>Advisory Bodies may begin Thurs, Oct 31<br>Council Session begins Fri, Nov 1 | Hilton Orange County/Costa Mesa<br>3050 Bristol Street<br>Costa Mesa, CA 92626<br>Phone: 714-540-7000 | Two Day SSC Session<br>**Thurs, Oct 31 – Fri, Nov 1** | Review 2013 GF Stock Assess. (if needed) & Reb. Analyses<br>Salmon Methodology Rev<br>Pacific Sardine Assess.<br>Fishery Ecosystem Plan |

**SSC Meeting Dates and Durations are tentative and are subject to change in response to Council meeting dates and agendas, workload, etc.**

## Proposed Workshops and SSC Subcommittee Meetings for 2013

**Tentative – Depended on funding, dates subject to change**

**☐ – Prep. Work Underway, Scheduled to Occur; ▭ – Status of Supporting Analyses Uncertain, Remains a Priority;**

**▨ – Setbacks exist, Questionable; ■ – Funding or Prep. Not Avail, likely to be canceled or postponed**

| | Workshop/Meeting | Potential Dates | Sponsor/ Tentative Location | SSC Reps. | Additional Reviewers | AB Reps. | Council Staff |
|---|---|---|---|---|---|---|---|
| **1** | Pacific Sardine Harvest Parameters Workshop | Feb 5-8 | Council La Jolla | CPS Subcm | ? | CPSMT/ CPSAS | Griffin |
| **2** | Review of Methods to Develop Groundfish Abundance Indices for Data-Moderate Assessments | March 5 | Council Tacoma | GF Subcm | None | GMT GAP | DeVore |
| **3** | Groundfish Nearshore and Non-Nearshore Model Reviews | March 8 | Council Tacoma | GF/Econ Subcms | None | GMT Reps | DeVore, Dahl |
| **4** | IOPAC and EDM Model Reviews | April 8 | Council Portland | Econ Subcm | None | ? | DeVore, Dahl |
| **5** | Data-Moderate STAR Panel | April 22-26 | Council Santa Cruz | Dorn, Punt, Heppell | CIE: TBD | GMT GAP | DeVore |
| **6** | Petrale/Darkblotched STAR Panel | May 13-17 | Council Seattle | Tsou | 2 CIE & 1 additional reviewer | GMT GAP | DeVore |
| **7** | Groundfish Bocaccio Update and Catch Reports Review | June 19 | Council Garden Grove | GF Subcm | None | GMT GAP | DeVore |

## Proposed Workshops and SSC Subcommittee Meetings for 2013

**Tentative – Depended on funding, dates subject to change**

**☐ – Prep. Work Underway, Scheduled to Occur; ▭ – Status of Supporting Analyses Uncertain, Remains a Priority;**

**▨ – Setbacks exist, Questionable; ■ – Funding or Prep. Not Avail, likely to be canceled or postponed**

| | Workshop/Meeting | Potential Dates | Sponsor/ Tentative Location | SSC Reps. | Additional Reviewers | AB Reps. | Council Staff |
|---|---|---|---|---|---|---|---|
| **8** | Integrated Ecosystem Assessment – Annual Report and App. to Stock Assessments | June 2013? | NWFSC/ SWFSC TBD | EBM Subcm | ? | EPDT EAS | Burner |
| **9** | Rougheye/Aurora STAR Panel | July 8-12 | Council Seattle | Sampson | 2 CIE & John Field | GMT GAP | DeVore |
| **10** | Thornyheads STAR Panel | July 22-26 | Council Seattle | TBD | 2 CIE & 1 additional reviewer | GMT GAP | DeVore |
| **11** | Cowcod/Sanddabs STAR Panel | August 5-9 | Council Santa Cruz | Gertseva | 2 CIE & 1 additional reviewer | GMT GAP | DeVore |
| **12** | Mop-up STAR Panel | Sept 23-27 | Council ? | GF Subcm | None | GMT GAP | DeVore |
| **13** | Salmon Methodology Review | Oct | Council | Salmon Subcm | None | STT SAS | Burner |
| **14** | Pacific Sardine Update Review | Oct | Council | CPS Subcm | None | CPSMT CPSAS | Griffin |

## Proposed Workshops and SSC Subcommittee Meetings for 2013

**Tentative – Depended on funding, dates subject to change**

**☐ – Prep. Work Underway, Scheduled to Occur; ▭ – Status of Supporting Analyses Uncertain, Remains a Priority;**

**▨ – Setbacks exist, Questionable; ■ – Funding or Prep. Not Avail, likely to be canceled or postponed**

| | Workshop/Meeting | Potential Dates | Sponsor/ Tentative Location | SSC Reps. | Additional Reviewers | AB Reps. | Council Staff |
|---|---|---|---|---|---|---|---|
| **15** | Reference Points (Bzero) Workshop II | ? | Council Portland | GF Subcm | CIE/External 1-3: | GMT GAP | DeVore |
| **16** | Groundfish Historic Catch Reconstructions | ? | Council Meetings - Wrkshp | 2-3 TBD | None | GMT GAP | DeVore |
| **17** | Assessing Socioeconomic Impacts in Ecosystem-Based Fisheries Management | ? | NWFSC Seattle? | Econ and EBM Subcms? | ? | EPDT IEA | Burner |
| **18** | Transboundary Groundfish Stocks | ? | Council | 2 TBD? | ? | GMT GAP | DeVore |

## Appendix A

REPORT ON THE MARCH 2013 MEETING OF
THE SCIENTIFIC AND STATISTICAL COMMITTEE'S GROUNDFISH SUBCOMMITTEE

The Groundfish Subcommittee of the Pacific Fishery Management Council's Scientific and Statistical Committee (GFSSC) met on March 5, 2013 in Tacoma, WA to review proposed methods for constructing and analyzing abundance indices that could potentially be used in data-moderate stock assessments later this year. The topics reviewed included 1) recreational catch-per-unit-effort indices, 2) design and methods used to construct an abundance index for the NWFSC hook and line survey, 3) delta-GLMM method for constructing trawl survey indices, and 4) alternative methods for analysis of trawl surveys. In addition, the GFSSC reviewed an updated prior for spawner-recruit steepness and discussed its use in the 2013 assessment cycle.

### 1) Recreational Catch-Per-Unit-Effort Indices

Dr E.J. Dick gave a presentation on developing CPUE indices using data from recreational fisheries for data-moderate assessments. It is anticipated that recreational abundance indices will be developed for brown rockfish, China rockfish, copper rockfish, vermilion rockfish, and yellowtail rockfish.

There are three primary data sets available for recreational abundance indices:

1) RecFIN "Type 3" dataset, which is based on dockside sampling and provides information at the level of a fishing trip, covers the years 1980-2003 for Oregon and California. (The time series is truncated in 2003 because of regulatory changes.) A similar dataset has been requested for Washington, but it is not yet available. The "Type 3" RecFIN data for Washington include data from the Marine Recreational Fisheries Statistic Survey prior to 1990 and data from the Washington Department of Fish and Wildlife Ocean Sampling Program from 1990.
2) Historical commercial passenger fishing vessel (CPFV) dataset, which covers the years 1988-1998. Sampling by onboard observers occurred primarily in central California, and is recorded at the level of fishing site.
3) Recent commercial passenger fishing vessel (Oregon and California) data collected by onboard observers from 1999 onward. These data are recorded on the basis of individual drifts, and have not been used extensively for stock assessment.

The proposed approach for analysis of the dockside data is to subset the data using the Stephens-MacCall (2004) approach, followed by analysis using delta-GLMs or models for zero-inflated count data. This approach is similar to previous analyses of recreational data to provide CPUE indices. However, development of a trip-level relational database is an important improvement over past methods for developing recreational CPUE indices, since some of the data were previously available only in aggregated formats.

For the CPFV observer data, an attempt is being made to combine both the historical CPFV dataset and more recent data, and construct a single time series of CPUE indices. To do this, the

two datasets need to have a common fundamental unit of observation. Collapsing drifts into sites proved difficult because drifts were not necessarily contained within a single site. The current proposal is to define larger spatial units, consisting of several sites that would preserve the high spatial resolution of the data, but enable a common sampling basis to be defined. **The GFSSC recommends that sampling protocols be compared between programs to ensure consistency.**

The analysts are considering approaches to define species occupancy that would allow calculation of appropriate weights for year-area interactions in the event that such interactions are found to be significant. The currently-favored approach is a GIS algorithm that estimates a convex hull using only the positive records. There is a concern, however, that the information on stock distribution from the records of zero catches is not being used to define species occupancy. **The GFSSC requested that plots of the data spatially, including records of zero catches, be provided to assist the data-moderate review panel evaluate this approach.**

**The GFSSC agrees that the proposed approaches to calculate recreational CPUE indices are adequate and recommends using them for use in data-moderate assessments**. However, the GFSSC highlights that the data-moderate review panel will be reviewing draft assessments for up to nine stocks, and there are limits on the number of new approaches that can be effectively reviewed during the panel. Therefore, in preparing a set of analyses for review at the data-moderate review panel, a standardized approach should be adopted, with a consistent set of diagnostics for each analysis. Where different approaches are needed for different species, these differences should be highlighted and justified. When key assumptions are made, such as the choice of threshold for subsetting the data for the Stephens-MacCall (2004) method, sensitivity to those assumptions should be examined.

**The GFSSC requests that the analysts prepare abundance indices for vermilion rockfish that can be compared to the index for vermilion rockfish that will be developed from the Northwest Fishery Science Center's hook and line survey of shelf rockfish in the southern California Bight (described in the next section).**

There is concern that Washington pre-1990 dockside sampling data from RecFIN are not available for stock assessments. The GFSSC discussed whether CPUE indices need to be available for all states included in the stock assessment. Generally, a stock assessment should be supported by data throughout the assessed area; therefore lack of Washington data may require limiting assessments to Oregon and California for certain stocks. The GFSSC agrees that in some cases it may be appropriate to extend the range of an assessment to an area where only total catch is available (which would be ideal given the objective of providing Overfishing Limits (OFLs) for entire stocks). However, in this case analysts should be prepared to justify such an approach, for example by demonstrating that catch trends show similar patterns for Oregon and Washington.

### 2) Hook and Line Survey Index

The GFSSC reviewed information on the Northwest Fishery Science Center (NWFSC)'s hook and line survey for shelf rockfish in the southern California Bight. Mr. John Harms (NWFSC)

summarized the basic survey methodology and results, and Mr. John Wallace (NWFSC) described the statistical model used to develop an index of abundance. Mr. Allan Hicks was also present to answer questions. The survey methodology underwent a formal review during April 2012, which included two reviewers from the Center for Independent Experts (CIE). The indices from the hook and line survey have been used previously in the 2009 and 2011 bocaccio assessments and in the 2011 greenspotted assessment.

A pilot survey was conducted during 2003 after consultation with fishing industry collaborators to identify a set of sampling sites and sampling protocols. Surveys have been conducted annually since 2004 during late September to early October using two chartered commercial passenger fishing vessels (CPFVs), and a standard approach that involves hook-and-line sampling by rod-and-reel with three 5-hook lines deployed during five drops during daylight. The spatial extent of the survey is a set of 121 fixed stations in the southern California Bight, south of Point Arguello, ranging in depth from 20 to 125 fathoms (37-229 m). None of the stations are located within the Cowcod Conservation Area (CCA). Each station is a fixed center-point of a circle of 100-yard radius within which the vessel skipper has 30 minutes to reconnoiter and choose a starting location for a sampling event. The survey has expanded from 75 stations in 2004 to 121 stations in 2008 where it remains currently. Although the survey attempts to sample each station every year, weather or other factors may occasionally preclude a sampling visit to some stations; at present 39 of the 121 stations have been sampled in all nine survey years. Information collected for each fish caught includes its species, gender, length, weight, maturity and hook-position (which of the five hooks it was caught on). Otoliths and fin-clips are taken for age-reading and for genetic identification. The sampled fish are discarded at sea after they are measured and recorded.

The survey coverage has increased over the years. The 2004 survey deployed 5,585 hooks whereas the 2012 survey deployed 9,060 hooks. Roughly 30-40% of the hooks deployed during each survey caught a fish. The species that dominated the catches were vermilion, bocaccio, greenspotted, yellowtail, and chilipepper rockfish.

The development of annual indices of numerical abundance for use in a stock assessment involves applying a complex statistical model that attempts to reflect the way in which the data were collected. The process for constructing an index using a statistical model to reflect the characteristics of the data considered the explanatory power of many potential factors, including year, sampling vessel, site, drift number, fishing time, the angler's position on the vessel, the position of the hook that caught the fish, the swell height and direction, the drift speed and direction, the wind speed and direction, the time of day, and the tide and moon phase. The dependent variable (the Y-variable) was whether or not a hook caught a fish, and each presence-absence observation was treated as an event that was independent (uncorrelated) of all other observations, conditional on the other factors considered in the model.

The fishing sites were treated as fixed effects and the statistical models that were examined always included a term for a *Year* effect, but no interactions with the *Year* main effect were considered. The coefficients for the *Site* factor from the regression model indicated considerable site-to-site variability. Also, the final statistical model included a significant $2^{nd}$-degree polynomial effect for the *Fishing Time* variable. A table showing the relative deviance

contribution of the different factors in the final model indicated that *Fishing Time* was a very important explanatory variable.

The GFSSC expressed a concern that effort (in terms of *Fishing Time*) in the model presented is determined by how quickly the hooks are being occupied (rather than being treated as an independent variable), meaning that the catch influences *Fishing Time* instead of the other way around. Therefore including *Fishing Time* in the model is likely inappropriate. For commonly caught species, such as bocaccio and vermilion, including *Fishing Time* in the model may remove the signal since hook-saturation can cause drifts in high density aggregations of fish to be cut short.

To address this concern, the GFSSC recommends exploring versions of the statistical model that do not use *Fishing Time* as a covariate to examine the sensitivity of the abundance index to the assumption that hook saturation has no important effect. Other analytical approaches can also be used to evaluate the importance of a gear saturation effect, such as dropping the data from a particular hook location as a cross-validation exercise and treating the Y-variable as the number of the 5-hooks per line that caught fish. The GFSSC also recommends exploring how speed of saturation relates to fish density.

**The GFSSC recommends using the hook and survey index in data-moderate assessments, but after the concerns about *Fishing Time* are addressed.**

The GFSSC notes that the hook and line survey does not sample CCA. As a consequence, the survey index is unlikely to reflect the abundance trends for the fish that reside predominantly in the CCA. **The GFSSC recommends that the analysts provide estimates of the spatial area of fish habitat in the southern California Bight, the proportion of fish habitat that is sampled by the survey, and the proportion that is within the CCA. Also, the decision to not include survey sites within the CCA due to concerns about cowcod catch should be revisited, given technology that is now available to return fish to depth.**

Other recommendations of the GFSSC on how to improve the method included:

- Calculate confidence intervals for the predicted catch rate values, and include these confidence intervals in plots of predicted versus observed catch rates to examine whether the 95% confidence intervals overlap the 1:1 line in 95% of the cases. This is to explore whether the statistical model, which assumes independent observations, is capturing over-dispersion in the data.
- Explore the sensitivity of the abundance index for vermillion rockfish to the reference level against which all the data used in the model are scaled. The logistic model makes an arbitrary choice for the reference level, and depending on the software, the reference levels for the fixed effects are probably associated with the factor levels from the data point that happens to occur first (or last) in the data set. If these reference levels are not supported by appreciable observations from all years in the series, then the resulting annual index values may not be reliable.
- Explore the trends in catch-rate associated with the individual sampling sites to establish (a) whether an appropriate reference site is being used and (b) whether there is evidence

of different temporal trends in abundance at different sites. If abundance trends differ among the sites, then the relative weight assigned to each site becomes an important determinant of the overall trends. The current statistical model treats each site as being equally important, i.e. the trend in catch-rate is assumed to be independent of whether a site has high or low density, and how close it is to the coast.

- Compare the index values from this survey with the abundance trends estimated from recent stock assessments (e.g., bocaccio, greenspotted rockfish), which might provide useful insights on the reliability of indices derived from the survey data.
- Explore using a video camera to monitor the fish species composition and behavior during drifts, which might provide useful information regarding the data collected by the survey.
- Convert the abundance indices to biomass indices by multiplying the catch-by-numbers by the observed average weights to facilitate their inclusion in exDB-SRA.

### 3) Delta-GLMM Method for Constructing Trawl Survey Indices

Dr Jim Thorson outlined the revisions to the methods and software used for constructing indices of abundance from the NWFSC surveys. These indices are constructed using a delta-GLMM method, i.e. the probability that a catch during a haul is positive and the size of the catch in the haul given that that is positive are modeled separately. Each of the two components of the delta-GLMM model can be functions of covariates, such as stratum, vessel, and year. The delta-GLMM model is implemented within the Bayesian framework, primarily for computational reasons.

New software was developed to (a) improve the speed with which analyses can be conducted; (b) allow additional fit diagnostics to be produced; (c) allow catches to be modeled as a mixture of distributions so that exceptional catch events can be modeled; (d) allow the coefficient of variation of the distribution for the positive catches to be estimated rather than pre-specified, and (e) treat effort as an offset. All models for the trawl survey data should include stratum and year as factors, while the vessel-year interaction can be treated as fixed or random effects, and the vessel-year random effects can be assumed to be correlated in the two components of the model.

**The GFSSC endorsed the new software for the analysis of trawl survey data and recommends using it in stock assessments.**

The GFSSC also recommended that documents presented to the data-moderate panel 1) compare alternative error models (e.g. gamma vs. lognormal) when developing indices of abundance using Q-Q plots, posterior predictive checks, and average deviance, and 2) test whether effort impacts the probability of a catch being non-zero.

The GFSSC also identified several additional analyses to be conducted (potentially during the 2014 “off year”):

- Implement the ability to include vessel and vessel*year as separate random effects, and hence test the assumption that vessels are not consistent among years. This assumption, which forms the basis for the current abundance indices, was originally

based on analyses conducted by Helser et al. (2004) using a data set which is much smaller than the current data set.
- Repeat the comparisons between the new software and the current software setting the CV for the gamma distribution in the new software to the value assumed in the current software so that the comparisons are based on identical sets of assumptions.
- Include the ability for the CV for the non-zero catches to depend on stratum.

**4) Alternative Methods for Analysis of Trawl Surveys**

Dr Alec MacCall provided an overview of suggestions for how the data from west coast trawl surveys could be analyzed to produce a longer time-series of abundance indices for use in data-moderate stock assessments. Dr MacCall noted that the available data are generally treated as four time-series: the data for 1977 AFSC shelf (triennial) survey are usually ignored, mainly because in 1977 no tows were conducted shallower than 50 fm, and the large number of "water hauls", when the trawl footrope failed to maintain contact with the bottom (Zimmermann et al. 2001). The remaining data for the triennial survey are broken pre- and post-1995 (to account for differences in spatial coverage before and after 1995, and a change in the timing of the survey), and the NWFSC shelf-slope (combo) survey is used to develop an index of abundance for recent years. Dr MacCall's proposed approach to developing an index of abundance involved the following steps:

- select a set of key depths which exclude depths in which the species of interest is very rare;
- filter the data to exclude remaining "structural zeros" (i.e. data points which given where and when they occurred could not have caught the species of interest) using logistic regression where other species, depth, latitude, week of the year, and survey type are covariates to estimate the probability of a positive catch and selecting the data points, which although they led to zero catches, had the highest probability of catching some of the species of interest;
- treat the remaining data as input to a GLM - this GLM would include factors for depth, latitude, week of the year, and survey type (triennial or combo); and
- use a jacknife procedure to estimate the standard errors for the year effects.

Dr MacCall noted that if the combo and triennial surveys were to be treated as separate series, a prior for the difference in catchability between the two survey types could be developed based on the estimates of the parameters from the GLM which relate to the difference between the two survey types in the model of whether a catch is zero or not, and that of the catch given that it is non-zero.

The GFSSC noted that the new approach proposed has the potential to create a single time-series of abundance estimates for the triennial survey and a prior which can be used to link the triennial and combo surveys. However, it noted that there is insufficient time before and/or during data-moderate panel to fully evaluate specifics of the proposed method. **Therefore, the GFSSC recommended that this approach not be used in base-case runs for data-moderate assessments being developed this year.**

The GFSSC, however, recommended that Dr MacCall (a) review past STAR Panel reports to identify the full set of reasons why the data from 1977 survey are no longer used in most assessments to check that depth was the primary reason; (b) make a presentation to the data-moderate panel on the method and the results of its application to yellowtail, sharpchin, and stripetail rockfish; and (c) show results using the indices of abundance from this method in exDB-SRA runs as sensitivity tests. Depending on the outcomes from the data-moderate panel, this proposed method could be the focus for work during the 2014 "off year".

**5) Updated prior for spawner-recruit steepness**

Dr Jim Thorson presented an updated steepness prior based upon the priors produced by Dr Martin Dorn in previous years. Two changes were made to the methodology:

1) The input prior on steepness for this analysis was changed to uniform in steepness space rather than in transformed space. This is an improvement (although steepness itself is based upon relative recruitment at an arbitrary level of depletion – 20%, and uniform in steepness space would not be uniform given any other parameterization).
2) A logit normal hyperdistribution was used, rather than the normal in logit space.

These changes made little change to the final outcome (a posterior distribution for the steepness of an "unknown" stock) if applied to the information used for the 2011 steepness prior calculations, resulting in a similar prior mean (0.76) and variance. Incorporating the results of the 2011 assessments leads to a slightly higher mean (0.78). The GFSSC agrees that the new methodology is an incremental improvement upon the old, but makes little difference.

The GFSSC discussed the validity of this prior and concerns with it. Steepness is a very difficult parameter to estimate, and combining information from multiple assessments does not remove this concern. In particular, the vast majority of the probability for steepness was near a bound (either 0.2 or 1) in a number of the assessments even though 0.2 and 1 are implausible values for steepness. Dr. Thorson presented analyses which included downweighting of data from those species. As expected, this resulted in less informative priors with lower means. However, there is not currently a simple justification for any particular level of downweighting.

Ideally, each assessment should be weighted by some measure of information about steepness contained therein. Since that is not a simple task, the GFSSC asked Dr. Thorson to re-run the analysis using only Tier 1 assessments (which should, by definition, be better informed). Dr. Thorson conducted the requested analyses, and the results did not differ noticeably from those based on all of the assessments.

**The GFSSC endorsed improvements made to the analysis and recommended using a prior estimated based on Tier 1 stocks (mean=0.779, SD=0.152) in this year's assessments. For assessments that fix the steepness parameter, it should be set at the mean value (0.779) unless there is strong justification for an alternative value.** The GFSSC also recommends further work to be conducted to develop criteria for selecting stocks to be included in the analysis and focus on assessments that would inform the steepness the best.

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## Background materials provided for the meeting

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Stefansson, G. (1996). Analysis of groundfish survey abundance data: combining the GLM and delta approaches. *ICES Journal of Marine Science* 53: 577-588.

Stephens, A. and MacCall, A. (2004). A multispecies approach to subsetting logbook data for purposes of estimating CPUE. *Fisheries Research* 70: 299-310.

Unpublished reports by Mark Wilkins (chair), Noel Cadigan (reviewer, Center for Independent Experts [CIE]) and Sven Kupschus (reviewer, CIE) of the review of the survey that took place on 4-5 April 2012 in Seattle, WA.

# PROPOSED AGENDA
# Scientific and Statistical Committee Economics Subcommittee

Pacific Fishery Management Council
Sheraton Portland Airport Hotel
PDX Room
8235 NE Airport Way
Portland, OR 97220
503-281-2500

**April 7, 2013**

The primary purpose of this meeting of the Scientific and Statistical Committee (SSC) Economic Subcommittee (Subcommittee) is to review socioeconomic impact estimation models for groundfish fisheries off the coast of Washington, Oregon, and California. Members of the SSC's Groundfish Subcommittee are encouraged to participate. This review is part of a series of reviews planned for 2012-13 in preparation for the 2015-2016 biennial groundfish management cycle. The results of this review are not considered final until reviewed by the full SSC, and are not anticipated to be implemented during the 2013-2014 biennial management cycle.

Subcommittee meetings are open to the public, and public comments will be accepted at the discretion of the Subcommittee Chair. A suggestion for the amount of time each agenda item should take is provided. At the time the agenda is approved, priorities can be set and these times revised.

SUNDAY, APRIL 7, 2013 – 8:30 a.m.

***1. Call to Order***

a. Introductions
b. Approve Agenda
c. Open Discussion
(8:30 a.m., 0.5 hours)

***2. Revisions to the Input-Output Model for Pacific Coast Fisheries (IO-PAC)***

a. Model Overview — Jerry Leonard
b. Discussion and Comment
c. Subcommittee Recommendations to the SSC
(9 a.m., 2 hours)

### *3. Review of the Economic Data Collection (EDC) Program*

| | |
|---|---|
| a. Overview of the Data Collection Methodology | Todd Lee and Erin Steiner |
| b. Data Summaries | Todd Lee and Erin Steiner |
| c. Discussion and Comment | |
| d. Subcommittee Recommendations to the SSC (11 a.m., 5 hours) | |

PFMC
03/15/13

# PROPOSED AGENDA
# Salmon Technical Team

Pacific Fishery Management Council
Sheraton Portland Airport Hotel
Cascade B
8235 NE Airport Way
Portland, OR 97220
Telephone: 503-281-2500
April 5-10, 2013

This is a public meeting and time for public comment may be provided at the discretion of the Salmon Technical Team (STT) Chair. This is not a public hearing; it is a work session for the primary purpose of reviewing items coming before the Pacific Fishery Management Council at their concurrent meeting.

FRIDAY, APRIL 5, 2013 – 8 a.m.

**STT Administrative Matters**

| | |
|---|---|
| Call to Order | |
| Roll Call, Introductions, Announcements, etc. | Robert Kope, Chair |
| Opening Remarks and Agenda Overview | Mike Burner |
| Approve Agenda | STT |
| Assignments to Monitor Other Advisory Bodies and Draft Statements | Robert Kope |

**Council Agenda Items for Review and Possible Comment**

***E. Salmon Management***

1. Tentative Adoption of 2013 Ocean Salmon Management Measures for Analysis (*8:30 a.m. Discussion with the SAS Friday; 2:30 p.m. Report to the Council on Saturday*) — STT
5. Methodology Review Process and Preliminary Topic Selection for 2013 (3 *p.m. Discussion with the SSC on Saturday; 3 p.m. Report to the Council on Tuesday*) — STT

SATURDAY, APRIL 6, 2013 – 8 a.m.

**STT Administrative Matters (continued)**

Review Statements — STT

**Council Agenda Items for Review and Possible Comment**

***H. Ecosystem-Based Management***

1. Fishery Ecosystem Plan — Mike Burner
   (Attend 9:30 a.m. Council Informational Session;
   *8 a.m. Report to the Council on Tuesday*)

SUNDAY, APRIL 7, 2013 – 8 a.m.

**STT Administrative Matters (continued)**

Review Statements

**Council Agenda Items for Review and Possible Comment**

***E. Salmon Management (continued)***

2. Clarify Council Direction on 2013 Management Measures — STT
   (3 *p.m. Report to the Council on Sunday*)
3. Salmon Amendment 18 – Essential Fish Habitat Revisions — Kerry Griffin
   (1 *p.m. Report to the Council on Monday*)
6. Council Guidance on Columbia Basin Situation Assessment — NMFS
   (4 *p.m. Report to the Council on Wednesday*)

MONDAY, APRIL 8, 2013 – 8 a.m.

**STT Administrative Matters (continued)**

Review Statements — STT

Attend 8:30 a.m. Workshop on Potential Abundance Based Management of California Coastal Chinook Salmon (Joint Session with STT).

Draft Preseason Report III — STT

**Council Agenda Items for Review and Possible Comment**

***E. Salmon Management (continued)***

4. Final Action on 2013 Management Measures — STT
   (*3 p.m. Report to the Council on Wednesday*)

***F. Ecosystem Based Management***

1. Final Fishery Ecosystem Plan — Mike Burner
   (8 *a.m. Report to the Council on Tuesday*)

TUESDAY, APRIL 9, 2013 – 8 a.m.

**STT Administrative Matters (continued)**

Review Statements — STT

***E. Salmon Management (continued)***

4. Final Action on 2013 Management Measures — STT
(*3 p.m. Report to the Council on Wednesday*)

5. Methodology Review Process and Preliminary Topic Selection for 2013 — SSTTAS
(*3 p.m. Report to the Council)*

WEDNESDAY, APRIL 10, 2013 – 8 a.m.

**STT Administrative Matters (continued)**

Review Statements — STT

Draft Preseason Report III — STT

**Council Agenda Items for Review and Possible Comment**

***E. Salmon Management (continued)***

4. Final Action on 2013 Management Measures — STT
(*3 p.m. Report to the Council on Wednesday*)

***B. Administrative Matters***

6. Future Council Meeting Agenda and Workload Planning — Mike Burner
(1:30 *p.m. Report to the Council on Thursday*)

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