

Proposed Workshops and SSC Subcommittee Meetings for 2012

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	Groundfish/CPS Assessment Process Review (Post Mortem)	COMPLETED Dec. 2011	NWFSC Teleconferenc e/Webinar	2011 STAR Panel Participants.	2011 CIE participation		DeVore Burner
2	Acoustic ROV survey for Rockfishes	COMPLETED Feb. 15-17	SWFSC La Jolla	Dorn, Punt	3 CIE		
3	Groundfish Impact and Economic Model Reviews	Held the day after 2012 SSC sessions	Council Various	GF/Econ Subctes & GMT	None	GMT Reps	Burner, Dahl
4	Clarification on the Conservation Performance of Rebuilding Plans	April 2 SSC Subcommittee/GMT Meeting	Council Seattle	GF/Econ Subctes & GMT reps.	None	GMT Reps	Burner, DeVore, Dahl, Ames
5	CPS Methodology Review – Canadian Survey Data	May 29-31	Council La Jolla	Chair: Punt Conser	CIE: TBD	CPSAS CPSMT	Griffin
6	Data Poor Species Assessment	June 26-29	NWFSC Seattle	Dorn, Punt, Conser	CIE: TBD	GMT GAP	DeVore
7	Pacific Sardine Updated Assess. Review	First Week of Oct	Council Portland	CPS Subcte. Hamel	CPS Subcte.	CPSMT	Griffin

Proposed Workshops and SSC Subcommittee Meetings for 2012

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	Salmon Methodology Review	Early-October	Council Portland	Salmon Subcte.	None	STT MEW	Tracy
9	Integrated Ecosystem Assessment – Annual Report and App. to Stock Assessments	Fall 2012	NWFSC/ SWFSC TBD	EBM Subcte.	?	EPDT EAS	Burner
10	Harvest Parameters for Pacific Sardine	Fall – Combine with Sardine Update Rev.?	Council La Jolla?	2-3 TBD	CIE: TBD	CPSMT CPSAS	Griffin Burner
11	Reference Points (Bzero) Workshop II	Summer/Fall	Council Portland	GF Subcte?	CIE/External 1-3:	GMT GAP	DeVore
12	Groundfish Historic Catch Reconstructions	NMFS Rpt. at Council Mtgs – Poss. Workshop in late 2012	Council Meetings - Wrkshp	2-3 TBD	None	GMT GAP	DeVore
13	Assessing Socioeconomic Impacts in Ecosystem-Based Fisheries Management	?	NWFSC Seattle?	Econ and EBM Subctes.?	?	EPDT IEA	Burner
14	Transboundary Groundfish Stocks	Initial Steps in 2012	Council	2?		GMT GAP	DeVore

HARVEST PARAMETERS FOR PACIFIC SARDINE

MANAGEMENT STRATEGY EVALUATION PLANNING WORKSHOP

The SSC CPS Sub-committee is proposing that a workshop be held in autumn of 2012 to plan a management strategy evaluation for Pacific sardine. The primary objectives of the workshop are to determine the overall scope of the analysis and to identify the important features of the models which will be used to represent the sardine population and the ecosystem. Potential participants of the workshop include stock assessment scientists, ecosystem modelers, ecologists, fisheries managers, and fishery and conservation representatives.

Outline / Aim

The primary aim of the management strategy evaluation would be to provide the Council with the trade-offs achieved by alternative OFL/ABC/HG control rules. These trade-offs need to consider performance in terms of fishery yield, resource conservation, and impact on the broader ecosystem (through trophic interactions).

Methodology

Management strategy evaluation involves a number of key steps which can be broadly divided into:

1. Identification of management objectives and quantification of these by means of performance statistics (e.g. average catch, probability the resource drops below a threshold biomass level over a 20-year projection period, impact on abundance of other ecosystem components).
2. Identification of a set of models of the system to be managed (referred to as operating models). This set of models needs to be selected to cover (to the extent possible and feasible given available data) the key uncertainties which may impact the performance of control rules.
3. Identification of candidate OFL/ABC/HG control rules.
4. Projection of the system as reflected in each operating model given catch limits set by each candidate control rule.

Step 1 of the process should be based on Council and advisory body input on specific management objectives. However work can commence based on the stated goals and objectives in the CPS Fishery Management Plan, such as to prevent overfishing, to promote efficiency and profitability in the fishery, and to provide adequate forage for dependent species.

Step 2 of the process is usually the most complicated and involves two main steps: (a) selection of hypotheses which need to be included in the operating model and (b) parameterization of the operating model given available data. The operating model would be selected in particular so that it can make forecasts of the performance statistics selected by the Council. It would be expected that any operating models would include at least the fisheries in Mexico, California, Pacific Northwest, and Canada (as the sizes of fish caught by these fleets differ and because the performance metrics would likely relate to catches by these fleets) and would simulate the outcomes of stock assessments or monitoring in general.

The complexity of any operating model would depend on the objectives to be addressed and the available resources, and might include: (a) an economic component, (b) environmentally-driven productivity and biological processes, in particular the per-capita recruitment rate and

demographic parameters such as growth and maturity, and (c) a model for ecological interactions between Pacific sardine and other ecosystem components (Fig. 1). The ecosystem aspects (if implemented) would have the greatest impact on how long it will take to develop the MSE.

A simple approach would be to construct what amounts to a single-species operating model and supplying ecosystem models such as Atlantis or Ecosim, with catch streams to determine the impacts of removals on other ecosystem components. Inclusion of environmentally-driven productivity could involve allowing for trends and regime-shift changes in productivity. An alternative approach would be to implement the entire MSE within an ecosystem model such as Atlantis or Ecosim (and Atlantis was developed for this purpose), but this could make the task of parameterizing the operating model very substantial (and the task of reviewing the final product more challenging).

Step 3 of the process should be initiated by the CPS Management Team (CPSMT) with further input from other Advisory Bodies, the Council and the Public. As a start, control rules of the form currently applied could be evaluated.

The objective of the proposed workshop is technical in nature, namely to scope the operating models and how they could be parameterized, and is not intended to address policy issues. The International Whaling Commission has developed a protocol for developing MSEs (Punt and Donovan, 2007¹) which could provide a framework for this scoping process. The SSC is willing to work with the SWFSC and CPSMT to establish the timing and scope for the workshop, as well as a list of participants who are willing and able to take on the work needed to implement the MSE.

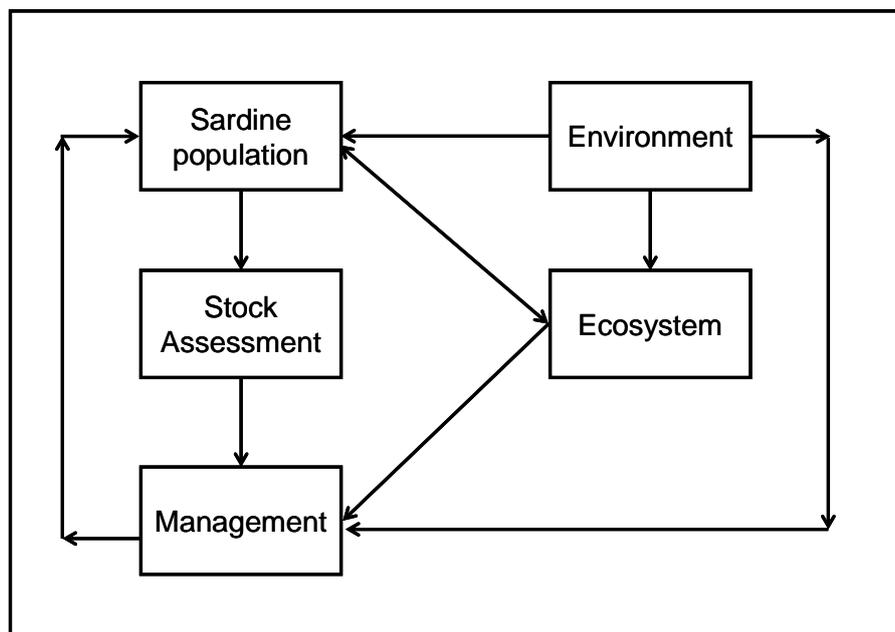


Figure 1. Potential components of a management strategy evaluation for Pacific sardine.

¹ Punt, A.E. and G. Donovan. 2007. Developing management procedures that are robust to uncertainty: Lessons from the International Whaling Commission. *ICES J. Mar. Sci.* 64: 603-612.

WORKSHOP ON ALTERNATIVE APPROACHES TO USING B_0 IN HARVEST CONTROL RULES FOR GROUNDFISH

At its September 2011 meeting, the Council agreed on a list of off-year workshops related to improving groundfish stock assessments for the 2015-16 management cycle. One of the suggested workshops was a workshop on alternative methods to using B_0 in harvest control rules for groundfish species. The Council's harvest control rules depend on estimates of stock size relative to the average abundance of an unfished resource, B_0 , treated as a constant. Changes in stock assessment methods or data inputs can lead to large changes in estimated B_0 (e.g. Pacific ocean perch in 2011) and in some cases to marked changes in depletion levels, overfishing limits, acceptable biological catches, and/or rebuilding times.

In 2006, the Council conducted a Groundfish Harvest Policy Evaluation Workshop, which, among other things, reviewed methods for estimating biomass reference points used in harvest control rules by other Councils. The Pacific Council is the only one that uses B_0 in its harvest policy to calculate proxies for B_{MSY} and the overfished threshold. Other Councils set proxies for B_{MSY} directly. There may be legitimate reasons for why approaches employed by other Councils would not be applicable to West Coast groundfish. For example, in New England, the long history of exploitation precludes the use of B_0 as a useful concept. In the North Pacific, significant increases in recruitment following the 1977 regime shift made it necessary to develop biomass reference levels using recruitment during a more recent time period. The objective of the proposed workshop will be to review alternative methods to using B_0 in harvest control rules and discuss their utility for management of the West Coast groundfish species.

This proposed workshop would build on the 2006 Groundfish Harvest Policy Evaluation Workshop, but would be more focused on the performance of control rules. The goal of this document is to provide a general outline of topics to be covered by the workshop to facilitate its planning and organization. Topics to be covered:

1. **Review of methods to estimate biomass reference points used by different Councils and regions in harvest control rules.** Each Council is dealing with a group of stocks with unique biology and exploitation history, and potentially distinctive patterns of environmental forcing, which in many cases, translates into differences between management systems. Dr. Martin Dorn presented an overview of methods to estimate biomass reference employed by the North Pacific Council and the New England Council at the 2006 Groundfish Harvest Policy Evaluation Workshop. This proposed workshop would review and discuss methods used by the rest of the Councils. The workshop would also look at the methods employed by other countries, including those managed by ICES, Australia and New Zealand. Dr. Martin Dorn expressed his interest to continue to be involved in this project.
2. **Review of alternative methods to estimate B_0 , stock depletion and B_{MSY} proxies.** The 2006 Groundfish Harvest Policy Evaluation Workshop reviewed initial work conducted by Dr. Melissa Haltuch on simulation testing of alternative methods to estimate B_0 , stock depletion and B_{MSY} . Those methods differ in whether and how the stock-recruitment relationship is used, and whether explicit estimators or proxies are used for B_0 . Since then, this work was completed. This proposed workshop would review new results and further discuss the utility of alternative methods to estimate B_0 , stock depletion and B_{MSY} proxies for various groundfish species. Dr. Haltuch expressed her willingness to present her results within the workshop.

3. **Further review of dynamic management reference points.** It is unlikely that an unfished resource would be of constant abundance as ecosystem processes are dynamic across space and time. An alternative “dynamic” approach assumes that an unfished resource would change over time, based on recruitment deviations and the shape of the spawner-recruit relationship. The 2006 Groundfish Harvest Policy Evaluation Workshop reviewed one of the alternatives to the current practice used by the Council, a “dynamic B_0 ” approach. Based on the dynamic B_0 , dynamic reference spawning status is the time series of ratios of estimated spawning output to corresponding estimates of dynamic B_0 . Drs. John Field and Alec MacCall presented this approach in 2006. The results were found to be not yet sufficiently well-tested and developed to form recommendations for changes to how harvest control rules are applied by the Council. This proposed workshop would further discuss dynamic reference points and their utility within the groundfish harvest policy. Dr. MacCall expressed his interest in participating in the workshop.
4. **Next steps.** With several alternatives available to approach biomass reference points, the workshop will discuss further analyses needed to compare performance of the current system used by the Council with that of the alternatives. The workshop will also discuss what criteria should be used to evaluate differences in alternative approaches and what process should be followed if a change to the current system were to take place.

Logistics

The success of the workshop will depend on appropriate background work being conducted. The SSC is willing to work with the Northwest and Southwest Fishery Science Centers to establish the scope for the workshop, as well as discuss a list of participants who are willing and able to take on the work needed. The SSC is also willing to help organize the workshop by nominating members of its Groundfish subcommittee to participate as chair and act as reviewers.

PFMC
05/31/12