

8. Puget Sound Key Groundfish Species Trend Analysis – (Briefing)

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“GREEN SHEET”

Meeting dates: August 5-6, 2011, Commission Meeting

Agenda item #8: Puget Sound Key Groundfish Species Trend Analysis – (Briefing)

Staff Contact: Theresa Tsou, Senior Research Scientist (Fish Program) and
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Presenter(s): Theresa Tsou, Senior Research Scientist, (Fish Program)

Background:

In October 2010, the Commission received a memo from the Director outlining the Department’s plan to evaluate the “status” of Puget Sound Groundfish. This agenda item is the follow-up to the memo.

Groundfish in Puget Sound, such as lingcod, Pacific cod, spiny dogfish, and flatfishes, have been harvested by commercial and recreational fishers since the early 1900’s. The Department adopted the Puget Sound Groundfish Management Plan in 1998 to manage the fisheries and fishery resources. Since then, fishing regulations were established based on ad hoc evaluations of stock status due to data limitation. Recently, new analytical tools in fishery science have been developed for data-poor situations to help inform managers of current stock status and trends. The main objective of this agenda item is to provide an overview of “relative” stock trends for several key groundfish species, their vulnerability to harvest, and recommendations for setting harvest guidelines.

Policy issue(s) you are bringing to the Commission for consideration:

N/A

Public involvement process used and what you learned:

N/A

Action requested:

N/A

Draft motion language:

N/A

Justification for Commission action:

N/A

Communications Plan:

N/A



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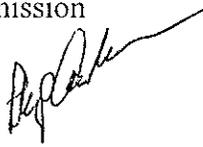
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October 1, 2010

TO: Fish and Wildlife Commission

FROM: Phil Anderson, Director 

SUBJECT: Puget Sound Groundfish Conservation and Management

The Department's 2009-2011 Strategic Initiative entitled "Systematic Review of the Status of Groundfish in Puget Sound" is designed to create a conservation based management strategy for Puget Sound groundfish. There are 28 rockfish species and 98 groundfish species in Puget Sound. To reach the Department's conservation and management objectives for Puget Sound groundfish species, regular or systematic assessments are required. There are three main tasks under this activity including: 1) establish a framework to prioritize species to be assessed; 2) identify management benchmarks for Puget Sound groundfish, especially under the data-poor situation; and 3) compile a trend report summarizing catch statistics, CPUE trends, and fishing activities. A stock status assignment, such as healthy, average, cautionary, or depleted, will be provided to each of the stocks included in the trend report.

By June of 2011, we expect to complete a framework for conducting systematic reviews of Puget Sound groundfish stock status and complete a trend report for key management species.

A framework to prioritize species for assessment

Conducting stock assessment/evaluation demands significant amount of staff time. Given the high number of groundfish species in Puget Sound, some criteria need to be indentified when selecting species for assessment. We will conduct a Productivity and Susceptibility Analysis (PSA), which is used by the National Marine Fishery Services (NMFS) nationally, for determining the vulnerability of a stock to becoming overfished.



The productivity and susceptibility of a stock will be determined by providing a score for a set of attributes related to each component. The table below lists possible attributes to be evaluated in the PSA:

<u>Productivity Attributes</u>	<u>Susceptibility Attributes</u>
population intrinsic growth rate (r)	management strategy
maximum age	areal overlap
maximum size	geographic concentration
natural mortality	vertical overlap
measured fecundity	fishing rate relative to M
breeding strategy	biomass of spawners
recruitment pattern	seasonal migrations
age at maturity	schooling/aggregation behaviors
mean trophic level	gear selectivity
	survival after capture and release
	desirability/value of the fishery
	fishery impact to habitat

A prioritized species list for assessment will be based on the PSA results and other criteria that include, but are not limited to: 1) economic or social importance of the species; 2) amount of data available; 3) potential risk to the stock from the current or foreseeable management regime; 4) qualitative trends from surveys; and 5) overfished status, etc.

Systematic review of stock status of groundfish in Puget Sound

By June 2011, a trend report will be compiled to document commercial and recreational landing statistics, fishing activities, catch rates, and survey biomass over time. The trend report will not be used to evaluate stock status, but it will provide information for evaluating management rules.

Proposed schedule for completion

- Establishing stock assessment framework
 - Productivity and Susceptibility Analysis (PSA)
 - Construct PSA questionnaires – July 2010
 - Conduct survey – August 2010
 - PSA data analysis – November 2010
 - PSA report – December 2010
 - Establish tier system
 - Review PFMC and NPFMC systems – January 2011
 - Review available data – January 2011
 - Construct a suitable tier system – February 2011
 - Establish management benchmarks – March 2011
 - Report writing – April 2011
 - Trend report

- A consolidated database – September 2010
- Data analysis – March 2011
- Report writing – May 2011

Long-term goal

Our long-term goals are to update the trend report and to conduct detailed stock assessments periodically, provided sufficient funds are available for staffing and collecting necessary fisheries dependent and independent data. Stock status determination and estimates for mortality, recruitment, and spawning biomass over time cannot be achieved without conducting more detailed stock assessment analyses.