

**Non-target Species Committee Meeting  
Seattle, WA  
March 14-15, 2005**

Committee members Dave Benson (chair), Lori Swanson, Julie Bonney, Paul Spencer, Eric Olson, Dave Wood attended. Ed Richardson attended for Karl Haflinger and Lisa Butzner and Thorn Smith attended for Janet Smoker. Whit Sheard and Michelle Ridgway were absent. Jane DiCosimo and Sarah Gaichas provided staff support. Approximately ten agency staff and two members of the public also attended. The meeting convened at approximately 10:30 am on March 14, 2005 at the Alaska Fisheries Science Center (AFSC) and adjourned at noon, March 15. The committee approved the agenda, with the addition of a presentation on localized depletion of rockfish.

In February 2005, the Council requested that the committee address two management issues at this meeting and report its conclusion to the Council in April 2005. The Council expanded the charge to the committee to also address management of target rockfish species. The Council requested that the committee develop an outline for the rockfish paper that organizes material in the following manner: (a) by FMP area and (b) by species; and then by: (i) harvest rates, (ii) spatial and temporal bycatch information, and (iii) habitat considerations/refugia. The Council also requested that the committee review the other species category discussion paper prepared by Council staff in February 2005 and provide recommendations on a proposal to break the complex into groups for setting catch specifications.

**National Standard 1** No update on proposed revisions to agency guidelines for National Standard 1 was available since the proposed rule has not been published. At issue is whether all FMP species must have overfishing status determinations. The Council and staff have communicated directly with NOAA-Fisheries headquarters staff on the Council's interest in using alternative management methods to catch specifications for non-target groundfish, which may require modification of proposed draft guidelines released in February 2003.

**Rockfish discussion paper** Jane DiCosimo reported that she and Paul Spencer met briefly with five members of the AFSC rockfish working group immediately prior to the committee meeting. Group members suggested that the proposed rockfish discussion paper should address localized depletion studies and summaries of research to be presented at the Lowell Wakefield Symposium, "Biology, Assessment, and Management of North Pacific Rockfishes" on September 12-14, 2005 [<http://www.uaf.edu/seagrant/Conferences/rockfish/info.html>].

Paul Spencer presented a paper on localized depletion of Pacific ocean perch (POP) in the Aleutian Islands (AI) during the 2000-2004 fisheries, which he and Rebecca Reuter prepared in February 2005 at the request of the SSC. Localized depletion is defined as a reduction in population size over a relatively small spatial area as a result of intensive fishing. Local depletion is a potential conservation issue for rockfish because their stock structure could occur at relatively small spatial scales and thus local depletions could affect local aggregations to a greater degree than the overall population. For example, genetic information indicates that Pacific ocean perch (POP) have fine spatial structure (smaller than management areas), while other rockfish species exhibit stock structure consistent with our management areas. Three study areas, approximately half a degree square each, near Buldir and Atka islands were examined. These areas represented approximately half the western AI POP commercial catch, so was deemed representative of the 5-6 day fisheries, comprised of 3-5 vessels. The short fisheries and few participants resulted in only a few data points to determine whether catch-per-unit-effort (CPUE) was significantly reduced during the course of the fishery, which is taken as an indicator of localized depletion. Only two of ten datasets exhibited significant declines in CPUE.

The committee discussed the paper in detail and offered a number of comments on the POP fishery and our ability to detect depletion from this fishery. These include: (1) the short duration of the fishing season reduces the number of data points from which we can determine depletion; (2) the fleet may top off on different species at the end of a reporting week; (3) high CPUE at the start of the season may be due to naïve behavior and the fish may become hook smart; (4) there may vessel specific effects; (5) the last day is often not a full day of fishing. Further investigation could explore: (1) age structure of the population; (2) how to separate fishing effects from strong

recruitment; (3) hierarchical analysis which would treat each data point as a random sample of where fishing could occur; and (4) potential changes to behavior of the population once it is fished.

The Council's June 2004 request for a discussion paper on rockfish occurred in the context of the Programmatic Groundfish SEIS. It is difficult, however, to identify a management solution until a problem in the fishery has been identified. While the AFSC has responded to the "F<sub>40</sub> review" by Goodman et al. (2002) that current harvest rate policies are appropriate for rockfishes, other management issues have been raised: (1) harvest rate studies have been explored only for a few species (e.g., POP and northern rockfish); (2) high discard rates (e.g., northern rockfish); (3) whether the occurrence of species at the edge of its range should lead to more or less protection; (4) managing small TACs; and (5) stock identification .

The committee identified two management issues for Council consideration: (1) the need to enhance rockfish management for data poor species; and (2) the need to build a research framework to gather sufficient data to determine whether a management problem for data poor rockfish species exists. Therefore, rockfish biology makes these species different from other managed groundfish species and managers should identify short term and long term research plans to gather the information needed to identify and address management problems.

The committee identified the following management priorities for the BSAI and GOA rockfishes. Major management issues in the BSAI include: (1) bycatch and discards; (2) area splits of catch specifications between BS and AI; (3) small TACs; (4) genetic stock structure for POP in AI, northern rockfish in BSAI; and (5) the need for refugia. Major management issues in the GOA include: (1) disproportionate fecundity in adult female rockfishes (i.e., do older spawners produce more viable larvae (do "mothers matter"?)); and (2) appropriate harvest rates for target species and bycatch assemblages [these two issues could be examined for the AI as well].

The committee recommended that the discussion paper should be structured by applying the proposed alternative to all rockfish species in a given management area and focus on management issues related to target and non-target rockfishes separately. The paper would address appropriate harvest rates for target rockfish species, and spatial refugia for non-target rockfish species. Under Alternative 4a, the first step is to define target vs. non-target rockfish species. Target species would remain under the current catch specification system. Non-target species would not. Under the second step, non-target rockfishes would be characterized as sensitive or non-sensitive. Sensitive species would be managed; non-sensitive species would be monitored. How sensitive species would be managed would be based on individual life history and management needs to be identified by the Council. Lastly, a process for moving species between the target and non-target category would be developed.

If the proposed NS1 guidelines require that all species be managed under an OFL, then a different procedure would be analyzed. Under the first step, all target species, and stocks considered sensitive or important with sufficient information to set species-specific status determination criteria, would be identified as core stocks. Any species not to be managed under quotas may have to be removed from the FMU(s) as defined in the FMPs. All remaining single species and complexes that are not intentionally caught would be managed as assemblages. Both core stocks and assemblages would be managed under the specification process.

For instance, the other rockfish category includes: dark dusky, light dusky, harlequin, red banded, redstripe, yelloweye, shortspine thornyhead, and aurora rockfishes. It also includes the following 20 rockfish species, which individually comprise <1 percent of the fishery and would not be managed under quotas under the proposed management regime: blackgill, blue, bocaccio, canary, chillipepper, copper, dark blotched, greenstriped, pygmy, rosethorn, silvergray, splitnose, stripetail, tiger, vermillion, widow, yellowmouth, yellowtail, and longspine thornyhead. Currently, the specifications are set based on the first 8 species, although catches of the remaining 20 species also count against the quota. More importantly, catches of these 20 species could be taken up to the total quota for the 8 species.

**Research review** The committee discussed scientific and policy needs that may be conflicted, or how to better link science to specific management goals. Defining different management goals for target species vs. non-target species may guide scientific research. Harvest strategies and whether "mothers matter" could be focused for target species. If mothers matter, for instance, refugia or other innovative approaches may be identified as an alternative

management measure. Setting quotas for EBS northern rockfish is an example of a management problem that could become a research priority.

The committee reviewed a summary on proposed rockfish research for 2005 that was presented by Paul Spencer (see Appendix). The committee addressed the need for more information on stock structure (e.g., rougheye rockfish; northern rockfish stock identification is being researched by Tony Gharrett), improved survey techniques for estimating rockfish biomass (e.g., longline survey), gear modification to reduce northern rockfish in the Atka mackerel fishery (what accounts for difference in selectivity of northern rockfish in the trawl survey vs. fishery?). Buck Stockhausen, AFSC, reported that he is developing an analysis of potential rockfish refugia. Within a year, he plans to use physical oceanographic models which use larval dispersion to look at potential locations for marine reserves/refugia. Ideally, these areas would be a source of larvae for the overall population, but also within the refugia itself. Ideally, some retention would occur within refuges but larvae also would flow out and not be dependent on recruitment from fished areas.

**Other rockfish management initiatives** The Council has also tasked staff with preparing an FMP amendment to separate light and dark dusky rockfish (in the GOA only) and defer management of GOA dark dusky rockfish to the State of Alaska. The Council may expand this analysis to separate black, blue, and dark rockfish in the BSAI and defer management to the State, for parity. The Council is scheduled to take final action on a pilot program to rationalize the rockfish fishery in central GOA. And the committee discussed how the Council's February 2005 preferred alternative on essential fish habitat (EFH) and habitat areas of particular concern (HAPC) in the GOA and AI may relate to possible closed areas/refugia for non-target groundfish species. It discussed how to reconcile EFH (e.g., leave some areas pristine and fish already fished areas) with rockfish depletion (e.g., do not fish the same area all the time). The committee noted that the BS was not included in the preferred alternative, but was recommended for future action. It considered whether such recommendations would occur under the non-target initiative or a separate call for proposals under EFH/HAPC.

**Other species complex** The committee reviewed the suite of alternatives for other species management. It noted that Alternative 2 (to revise the TAC-setting formula for GOA other species) was scheduled for action by the Council for implementation for 2006. It recommended that the Council proceed with a revised Alternative 3 to break out some of the groups from the other species category in the GOA and BSAI. It recommended separate alternatives to break out: (1) skates in the BSAI (already separated in the GOA); or (2) skates in the BSAI and sculpins in the GOA and BSAI (and leave sharks, octopus and squid (in the GOA) in the other species category). The rationale for these alternatives is: (1) TACs for high biomass species (skates and sculpins) could overwhelm smaller groups; (2) only BSAI skates might become a target fishery and is the dominant biomass in the BSAI; (3) grenadiers should not be added as a catch specification category at this time. The committee discussed but did not recommend that octopus be re-categorized as a forage fish.

The committee scheduled its next meeting for May 31<sup>st</sup> in Anchorage/Girdwood to review staff progress on an annotated outline of the proposed rockfish discussion paper that is described above. The committee would not report to the Council in June. It would reconvene in the latter part of Summer 2005 to review the draft rockfish discussion paper, which would be presented to the Council at its October 2005 meeting.

## **Appendix. Proposed AFSC rockfish research projects, FY 2005**

- 1) **Rockfish stock structure.** Improve knowledge of northern and rougheye rockfish genetics and stock structure.
- 2) **Estimation of key life-history parameters.** Determine maturity at age for northern rockfish and Pacific ocean perch in the Aleutian Islands, and evaluate the effects of spawner age on reproductive output and larval mortality rates.
- 3) **Improve age determinations for selected species.** Upgrade equipment, provide support to prepare otoliths for reading.
- 4) **Design and evaluate survey sampling protocols to improve rockfish biomass estimates.** Hire worker to compare rockfish signal observed in echosounder on hydroacoustic surveys to signal on echosounder on trawl survey. This research will be used to evaluate the utility of using trawl-based echosign data in survey designs that reduce the variance of biomass estimates.
- 5) **Evaluation of the catchability of selected rockfish to the groundfish trawl survey and their habitat associations.** Compare density estimates of the trawl to those made from a submersible – used to assess how well our research survey trawl nets sample rockfish. Also, collect observations on habitat and the rockfish densities in various habitats.
- 6) **Investigate the genetics and spatial distribution of young of the year rockfish.** Examine the interannual variation and genetic stock structure over small spatial scales using fish from the same cohort – these samples are pelagic young of the year POP collected opportunistically in salmon surveys.
- 7) **Assessment of nursery area requirements of age 1+ slope rockfish.** Locate age 1+ slope rockfish and identify their nursery habitat during the critical life stage when rockfish settle into demersal habitat
- 8) **Evaluate potential sites for rockfish marine reserves based on patterns of larval dispersal.** Conduct computer simulation studies of dispersal of rockfish larvae from natant sites in the Aleutian Islands, eastern Bering Sea and Gulf of Alaska.