

REPORT
AD HOC WORKING GROUP ON GROUND FISH MANAGEMENT
MARCH 4-5, 2003

The Scientific and Statistical Committee/Plan Team/Alaska Fisheries Science Center ad hoc working group met on March 4-5, 2003 to continue its discussions of revising management of BSAI and GOA target and non-target species. Sue Hills, Steven Hare, and Pat Livingston represented the SSC; Grant Thompson, Sarah Gaichas, and Jane DiCosimo represented the Plan Teams; Galen Tromble represented the NMFS Regional Office; and Paul Spencer, Rebecca Reuter, Doug Limpinsel, and Joe Terry represented the NMFS AFSC. The group made significant progress in identifying goals and an overall approach to modifying the existing management categories. This report summarizes the progress made by the working group to date. It should be emphasized that this report is neither a complete nor a final description of the modifications to the existing management categories that might result from the approach currently envisioned by the working group. Several issues remain to be addressed and the working group's thinking continues to evolve as the approach is developed. Some informal notes on such issues are included in the appendix to this report. Material contained in the appendix should be viewed as a preliminary discussion of possible future directions rather than a final recommendation.

At its March meeting, the working group reviewed the current groundfish categories in the North Pacific and reached two general conclusions.

1. Some stocks/species are true targets of groundfish fisheries, in the sense that groundfish fishermen actively seek to catch and market fish from these stocks/species in significant quantities. The groundfish FMPs need to insure that these stocks/species are managed on the basis of National Standard 1, where both optimum yield and overfishing are defined relative to maximum sustainable yield.
2. Some stocks/species are not true targets of groundfish fisheries, in the sense that groundfish fishermen do not actively seek to catch and market fish from these stocks/species in significant quantities. The groundfish FMPs need to insure that these stocks/species are adequately protected, but such protection need not always be based on criteria related to maximization of yield from these stocks/species.

GOALS

- Provide appropriate protection for all species in the ecosystem impacted by the groundfish fisheries, including species for which little biological information is available.
- Provide appropriate opportunities for all groundfish fisheries, including those which might be impacted by measures designed to protect species for which little biological information is available.

APPROACH

- Divide the BSAI and GOA groundfish species into two categories:
 - (1) species intended to be caught ("target" species)
 - (2) species not intended to be caught ("non-target" species)
- Clarify that the fisheries being managed under the groundfish FMPs are the fisheries for the target groundfish species.
- Manage the target groundfish fisheries accordingly, for example by:
 - (1) specifying optimum yield and overfishing definitions for the target species relative to MSY and
 - (2) establishing additional management measures such that all species in the ecosystem receive appropriate protection from potential impacts of the target groundfish fisheries.
- Establish a mechanism for transitioning species between the categories.

OVERVIEW: TARGET SPECIES (THOSE FOR WHICH FISHERIES ARE DESIGNED)

All target species will be listed individually in the groundfish fishery management plans. They will be managed under OFLs, ABCs, and TACs with the objective of optimizing yield while preventing overfishing, as defined under the Magnuson-Stevens Act. Complex-wide OFL, ABC, and TAC specifications will exist only in those cases where identification to the species level is not practical or as a temporary measure during transition to the new approach. For the most part, these species are already being managed under Tiers 1-3. For those few cases in which *de facto* target species are not already managed under Tiers 1-3, a high priority will be placed on obtaining the data necessary to manage them under Tiers 1-3 as soon as possible. For all future transitions between categories, Tier 3 management will be a minimum condition of becoming a target species.

Broadly speaking, management of target species in the new approach will be similar to the current approach. Clear priorities for management and research will typically arise from the objectives for in-season management and stock assessment preparation, which then filter down to the observer program and AFSC survey designers to collect appropriate data on these species, etc.

OVERVIEW: NON-TARGET SPECIES (THOSE WE DON'T MEAN TO CATCH)

Non-target species will not necessarily be listed individually in the FMPs, but will be monitored at the lowest practical taxonomic level. This category would include most species currently in a target category management complex but not specifically assessed, and all those currently in the nonspecified category. The target groundfish fisheries will be managed such that the non-target species are provided appropriate protection from potential impacts of the groundfish fisheries. This protection will be based on criteria such as maintaining healthy populations of the non-target species and maintaining the non-target species' roles in the overall functioning of the ecosystem. Such protection will typically *not* be related to maximizing the sustainable yield from the non-target groundfish species. Therefore, if stock assessments for non-target species are conducted, they will not include OFL and ABC recommendations, and TAC specifications will not be set.

Catch of species in this category would continue to be monitored and managed (at incidental levels) with Maximum Retainable Allowances (MRAs) or other mechanisms. Additional management measures may be applied to increase protection of particularly sensitive non-target species. While some level of retention and utilization will be permitted to avoid waste, target fisheries (intentional exploitation) would not be allowed to develop on these species without the information necessary to conduct stock assessments and set quotas using at least Tier 3 criteria.

These species will be monitored using fishery-independent information (abundance/biomass estimates, planned schedule for research, rotating through species, collecting life history data for major bycatch species), and annual total catches. Species complexes will be allowed in this category if the species are actually caught together and share some form of life history or habitat characteristics, or if species are currently indistinguishable to fishery observers.

One objective of AFSC research would be to increase the amount of information available for species in this category. Such new information could be used to allow development of future target fisheries, but its primary purpose would be to provide a basis for evaluating the appropriate level of protection and both the adequacy and efficacy of existing or potential protective measures. It is likely that such research would require the observer program and surveys to collect baseline and monitoring data on these species—but not necessarily annual age collections or other stock assessment data on the same scale as would be expected for target species.

APPENDIX:
INFORMAL NOTES ON SOME IDEAS DISCUSSED BUT NOT FULLY DEVELOPED

Process and criteria for distinguishing intended target species from non-target species

Intended target species:

- Are already target species with fully developed fisheries (e.g., pollock, Pacific cod)
- Have market value and are currently marketed
- Are species fishermen say they want to catch (because they have market value)
- Would be the targets of fisheries if we allowed them (currently on bycatch only status)??
- Are caught and retained over threshold levels (set by NMFS)??

If it is not defined as an intended target species, it is automatically a non-target species.

Transition between categories

Transition between categories can happen two ways:

1. Fishermen request that the Council/NMFS create a target fishery on species that is not currently listed as a target species. NMFS may initiate an experimental fishing permit regulatory analysis to collect appropriate data to manage the species at Tier 3 (minimum criteria for target fishery) or
2. NMFS staff or Council Plan Teams may identify an increasing trend in capture and retention of a non-target species (e.g., at or above the MRA) that is not currently on the target list. The Council or NMFS may initiate an EFP to get collect data to manage the species at Tier 3.

In either case, additional protection measures (unspecified as yet) will go into effect for the transitional species until data are adequate to set quotas. The transitional management objective is to protect species from fishing effects until NMFS has appropriate information to responsibly optimize yield. Transitional fisheries may take one to two years to become fully open with a quota, depending on time needed to collect necessary data.

Note on Tier 3 level data quality

The transition procedure described above requires data quality standards that are recognized to provide quality stock assessments at Tier 3. The working group noted that determining when the appropriate level of data quality has been achieved for Tier 3 assessment is at the discretion of the SSC. These criteria can be used to move new target category species to Tier 3 management and to improve target species to a higher tier level. The working group requests that the SSC provide guidelines for the collection of data necessary to meet Tier 3 data quality requirements.

Process and criteria for determining sensitivity and additional management measures for non-target species and complexes

All species not listed as targets will continue to be monitored. Targeting will be discouraged by the use of MRAs or other management measures. Monitoring will include both fishery dependent and fishery independent elements. NMFS staff will monitor survey biomass and or abundance trends, fishery catch-per-unit-effort trends, and fishery retention rates at the lowest practical taxonomic level (although bycatch MRAs might be set at higher, complex levels). In addition, “representative species” from each major taxon will be monitored for changes in length composition or age composition if ageing methods exist. Representative species would be most useful indicators for a group if they were the most commonly encountered in the fishery. Improvements to fishery species identification, which are already in progress in the observer program, will be required for this program to succeed.

Non-target species will be divided into two general categories: (1) those unlikely to suffer negative population effects from fishing and (2) those more likely to suffer negative population effects even as bycatch. The latter category is termed “sensitive” non-target species. The only management measure proposed for non-sensitive non-target species will be monitoring and an MRA. Sensitive non-target species may require additional management measures to ensure protection from fishing effects.

The working group identified four possible criteria for defining non-target species as sensitive (formerly known as “vulnerable” in previous reports):

- (1) rapidly declining abundance trend,
- (2) sensitive life history traits,
- (3) restricted range and or specific habitat, and
- (4) crucial role in ecosystem (predator prey or other dependent association).

The working group attempted to outline methods for assessing species sensitivity within each of these broad criteria. It is possible to specify criteria for *rapid decline in an abundance trend* (x% per year) although the working group did not do so at this meeting.

Sensitive life history traits were identified as those contributing to the overall potential for a population to increase (the “r” parameter in the logistic growth equation or its equivalent). A spectrum of life history patterns were identified which ranged from “high resilience” to “very low resilience” categories. In general, “high resilience” species with high potential rates of population increase have one or more of the following traits: fast growth rates, low age at maturity, high fecundity, and are relatively short lived. At the other end of the spectrum, “very low resilience” species with low potential rates of population increase may have slow growth rates, late age at maturity, low fecundity, and / or very long lives. Two intermediate categories were identified, such that species could be classified generally as high resilience, average resilience, moderate to low resilience, and very low resilience. Perhaps non-target species could be classified as having sensitive life history traits if they were classified as moderate to low resilience or very low resilience species. No strict boundaries were drawn between these categories at this meeting, nor was it clear to all working group members that strict boundaries are necessary.

The working group discussed definitions for *restricted range* and *habitat specificity*. The working group agreed that these characteristics should be examined, but it was difficult to establish criteria for the amount of range restriction that would cause concern. However, because we know so little about the specific habitat associations of most current target species, let alone non-target species, the working group agreed that observed restricted range or occurrence in specific locations over time might indicate a habitat association and be evidence enough for additional management measures (likely spatial) to protect the species from fishing effects.

Crucial role in the ecosystem also remains undefined at this time. The main questions that can be answered with current data are who eats the species, and who is eaten by the species? The working group suggested that simply gathering adequate data to address this would be useful and would likely identify which non-target species were candidates for special management under this criterion. One example would be the already existing Forage Species FMP category where multiple families were placed off limits as target species because of their collective importance as prey for marine mammals, birds, and target groundfish. It may be possible to assign other non-target taxa to this existing category as it becomes clear that they are essential forage species (e.g., squid, octopus, and eelpouts).

Additional management measures would be designed to apply to the criterion of highest concern. For example, a non-target species with an extremely restricted range would receive additional protection from fishing effects by closing part or all of the range to fishing (with certain gear types, during certain seasons, as appropriate). Alternatively, a more evenly distributed species with sensitive life history traits and a severely declining abundance trend might be managed with a bycatch cap to limit take to a known amount each year.

Real life details:

Current intended target species are pollock, Pacific cod, sablefish, Atka mackerel, rock sole*, yellowfin sole, flathead sole, rex sole, Dover sole, Greenland turbot, Pacific ocean perch, shortraker rockfish, roughey rockfish*, shortspine thornyheads, northern rockfish, yelloweye rockfish (perhaps Arrowtooth flounder and dusky rockfish). All these would be managed under single species TACs at Tier 3 or above. Species with asterisks include more than one species (e.g., rock sole and a newly identified sister species). Management agencies would have to decide whether to separate the rock sole species (can be distinguished in observer data, but not by industry), and what to do about species that can only be distinguished genetically at present.

Some of the species identified above as intended targets are not currently assessed at Tier 3 or above. It might be prudent to recommend that within one year of implementation of the proposed management regime, NMFS would be required to implement a plan to improve data quality to the level established by the SSC for Tier 3 assessment (getting the appropriate data may take longer than one year, but the plan must be done within a year). If NMFS and the SSC determine that it is not cost effective to improve data quality to Tier 3 for any intended target species, then no target fishery would be allowed on that species and it would be moved to the non-target species category and protective measures would be implemented for it

All current rockfish and flatfish complexes would be eliminated in the following manner. An intended target species (or multiple species if appropriate) from each complex would be split out to the individual species level. The remainder of the complex will go into the non-target category and be managed under MRAs or other management measures. It appears that some complexes, like GOA Other Slope Rockfish, are entirely non-target species. This resulted from a long history of splitting out target species. These complexes would be moved to the non-target species category. If the remaining non-target species are caught together in real life then the MRA may be set at the complex level; if they are not then non-target catch complexes should be reorganized based on which species are actually caught together as bycatch of target fisheries to determine what MRA(s) should be by target fishery.

The working group may determine that some species currently managed with a single species TAC are not in fact the intended target of any fishery. BSAI Alaska plaice is one example. The working group would not recommend that a TAC be set for these species, and annual stock assessments would not be necessary. AFSC staff may continue to prepare full age structured stock assessment for non-target species, but highest priority would be given to improving stock assessments for intended target species (e.g., shortraker and roughey rockfishes), for those non-target species proposed for target fishing, or for those non-target species whose ecosystem role is deemed important to assess annually (e.g., Arrowtooth flounder).