

regimes for these fisheries are conducted in an environmentally sound manner.

*Response:* A final environmental impact statement (FEIS) for the Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region was completed in March 2001. A supplemental pelagic fisheries EIS has been proposed to cover additional issues, such as the potential development of a pelagic squid fishery based in Hawaii. Draft EISs for the Council's Bottomfish, Crustaceans, and Precious Corals Fishery Management Plans are either under review by NMFS or under preparation. NMFS will consider the need for a programmatic EIS apart from these supplemental amendments.

*Comment 6:* One commenter stated that the definitions of "overfished" and "overfishing" should be broadened to account for adverse effects from ecosystem overfishing and control rules and other management procedures should be developed that require consistent, rigorous, and systematic evaluation of potential adverse effects of fishing activities.

*Response:* The recommendation to expand the definitions of "overfished" and "overfishing" is acknowledged, but these supplemental FMP amendments are not the appropriate place to implement such changes. In NMFS' National Standard Guidelines, stock or stock complex is used synonymously for "fishery"; that is, as one or more stocks of fish that can be treated as a unit for the purposes of conservation and management and that are identified on the basis of geographic, scientific, technical, recreational, or economic characteristics. The guidelines make the terms operational by requiring that FMPs specify, to the extent possible, objective and measurable status determination criteria, including control rules, for each stock or stock complex. The criteria must specify both a maximum fishing mortality threshold (MFMT) and a minimum stock size threshold (MSST), or reasonable proxies thereof. NMFS finds that the supplemental FMP amendments satisfy these requirements.

*Comment 7:* One commenter stated that the supplemental amendments do not include a suitable discussion of seamount groundfish species; specifically, what it means exactly that armorhead will serve as an indicator species for the other seamount groundfish species.

*Response:* Seamount groundfish management unit species in the Fishery Management Plan for Bottomfish and Seamount Groundfish Fisheries of the

Western Pacific Region (Bottomfish FMP) include only alfonsoin (*Beryx splendens*), raftfish (*Hyperoglyphe japonica*), and armorhead (*Pseudopentaceros richardsoni*), and of these three species armorhead dominated the historical catch by number, weight, and value. Armorhead is the primary target species in this fishery, which has been closed since 1986. Regarding indicator species, NMFS will manage this fishery on the basis of established reference points for the armorhead (indicator species or key target species) and, to the extent possible, manage the other minor species based on the indicator species.

*Comment 8:* One commenter stated that using a single natural mortality rate of 0.3 for the entire bottomfish species complex would likely be inaccurate for many of the species; additional alternatives should be considered.

*Response:* The supplemental FMP amendments for the bottomfish FMP specify that a single natural mortality rate (M) will be used to assess the status of multi-species stock complexes in cases where individual species cannot be assessed, but it does not specify that a natural mortality rate of 0.3 will be used. Instead, the latest available estimate will be used, and the range of M among species within a stock complex will be taken into consideration.

*Comment 9:* Several commenters questioned the use of multi-species complexes. One commenter stated that individual species should not be combined into complexes for the purpose of allowing fishing on those complexes or assessing the effects of fishing on them. One commenter stated that the use of the mixed stock exception in the national standard guidelines is an inappropriate manner in which to manage marine fish species, that it is contrary to the requirements of the Magnuson-Stevens Act, and that it should not be considered in the amendments. One commenter stated that consideration should be given to breaking down the bottomfish complex into at least three components based on families or other applicable subdivisions as an interim step towards generating individual species status determination criteria.

*Response:* The overfishing criteria and control rules will be applied to individual species whenever possible, and only where it is not possible will they be applied to indicator species or multi-species complexes. The fishery that targets the bottomfish species complexes fishes simultaneously for many different species. Although catch data by species are available, NMFS

does not have fishing effort data on a species-by-species basis. Since fishing effort cannot be partitioned among the various species, a multi-species approach to the overfishing assessment will be used, consistent with the National Standard Guidelines.

*Comment 10:* One commenter stated that the supplemental amendment for bottomfish and seamount groundfish provides an unclear definition of the minimum stock size threshold (MSST); specifically, no information is given to clarify the meaning of the phrase " $c = \max(1-M, 0.5)$ ."

*Response:* In the specifications of the MSST and MFMT,  $c$  is a scalar that modifies  $B_{msy}$ . The phrase " $c = \max(1-M, 0.5)$ " means that  $c$  is equal to whichever is greater,  $1-M$  or  $0.5$ , where  $M$  is the natural mortality rate or instantaneous natural mortality rate. If  $M$  is greater than or equal to  $0.5$ , then  $c$  is equal to  $0.5$ ; if  $M$  is less than  $0.5$ , then  $c$  is equal to  $1-M$ .

*Comment 11:* One commenter stated that the supplemental amendments need to specify objective and measurable status determination criteria, not merely a framework for doing so.

*Response:* NMFS finds that the supplemental FMP amendments do more than establish a framework for specifying objective and measurable status determination criteria; they actually specify those criteria, including the MSST and the MFMT, and they do so largely following the default recommendations in NMFS' "Technical Guidance on the Use of Precautionary Approaches to Implementing National Standard 1 of the Magnuson-Stevens Fishery Conservation and Management Act."

*Comment 12:* One commenter stated that for the pelagic stocks, since the fishing mortality rate associated with maximum sustainable yield ( $F$  at  $MSY$ ), the biomass associated with  $MSY$  ( $B$  at  $MSY$ ), and the natural mortality rate ( $M$ ) can be directly estimated for some species, the supplemental amendments should state where this information is available and propose a range of values for public consideration.

*Response:* Although  $M$ ,  $F$  at  $MSY$ , and  $B$  at  $MSY$  have been estimated and are currently available for some of the pelagic stocks, the Council has determined that rather than specifying such values in the Pelagics FMP and treating them as constants, the preferred method is to use the best available estimate of each of them at the time of a given assessment. NMFS agrees that this is a sound approach, both because they are in fact variables that are subject to change and because our ability to