

## Rationale for Including Grenadiers in Alaska Groundfish FMPs

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for

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### Background

Since the early 1980s, all species of grenadier in Alaska have been considered “non-specified” by the North Pacific Fishery Management Council (NPFMC), which means they are not included in any of the NPFMC fishery management plans. Therefore, there are no limitations on catch or retention, no reporting requirements, and no official tracking of grenadier catch by management. In April 2005, the NPFMC initiated a joint BSAI/GOA amendment proposal to address problems in the management of the “other-species” assemblage, specifically whether to separate the assemblage into smaller management categories. One alternative under consideration within this proposed amendment (Alternative #5) would move grenadiers into the FMPs, in which case they would become “specified” and be part of NPFMC TAC specification process. In early 2008, NPFMC staff recommended that Alternative #5 be dropped from the amendment package. However, from the perspective of staff at the Alaska Fisheries Science Center, there are strong arguments for including grenadiers in the GOA and BSAI Groundfish Fishery Management Plans and changing their status from “non-specified” to “specified”. Therefore, we recommend that Alternative #5 should not be deleted from the amendment package, for reasons that are discussed in the next section.

Among the grenadiers that occur in Alaska, giant grenadier is the main species of interest in terms of fishery management because of its large biomass, relatively high bycatch, and susceptibility to possible overfishing in the future. Compared to most other non-target or “non-specified” species, and even some target species, we now have moderately good information for assessing giant grenadier in Alaska. This information includes good species identification of giant grenadier by observers on commercial vessels, adequate biomass estimates and abundance trends in bottom trawl and longline surveys, and most recently, data on age, maturity, and mortality.

### Reasons for Changing Grenadiers to a “Specified” Status and Retaining Alternative #5

According to bottom trawl surveys, giant grenadier is the most abundant species at depths 200-1,000 m on the continental slope of the GOA, EBS, and AI. For example, in recent surveys at these depths in the EBS, giant grenadier comprised about half the biomass of all species, and in the GOA, it comprised about one third the biomass in depths 200-1,000

m. Hence, it is of great ecological importance in this habitat. Based on this ecological importance alone, giant grenadier deserves to be included in the FMPs. This is especially true given the recent emphasis on ecosystem management by NMFS and the recommendations in the Magnuson-Stevens Act to implement ecosystem management.

Giant grenadier are taken in relatively large amounts as bycatch in longline fisheries for sablefish and Greenland turbot. For the years 1997-2006, Alaska-wide annual catch estimates of giant grenadier have averaged 16,000 mt, with about 11,000 mt taken in the GOA, 3,000 mt in the EBS, and 2,000 mt in the AI. To put the GOA catches in perspective, GOA catches of sablefish during this period averaged a little over 13,000 mt. Thus, for every pound of sablefish caught in the GOA during these years, approximately 0.8 lb of giant grenadier was taken as bycatch. Furthermore, the estimated catch of giant grenadier in both the GOA and the AI far exceeds that of any other non-target species in the “other species” or “non-specified” categories. The giant grenadier are all discarded, and discard mortality is 100% because none of the fish survive when brought to the surface. Inclusion of giant grenadier in the FMPs would result in better, more accurate catch estimates than the present estimates that are based exclusively on observer data. Inclusion in the FMPs would also serve to address the problem of giant grenadier bycatch and discard waste in a formalized manner.

Although the catch of giant grenadier is high relative to other non-target species, overfishing does not appear to be occurring at this time. This is especially true in the EBS and AI, where catches of giant grenadier are lower and where its abundance is particularly high. However, giant grenadier may be particularly susceptible to overfishing for a number of reasons. These include their discard mortality rate of 100% (discussed previously), the disproportionate catch of females, and the documented vulnerability of many deep-sea fish to overfishing because of their peculiar life history traits such as longevity, slow growth, late maturation, etc. Male and female giant grenadier have different depth distributions, and females greatly predominate in depths <800 m, where virtually all the commercial fishing effort in Alaska occurs. Disproportionate removal of females by the fishery clearly reduces the spawning potential of the stocks and could put them at greater risk of overfishing if catches were sufficiently high. Except for two extremely small experimental fishing efforts from the port of Kodiak that proved unsuccessful, there has been no directed fishing for giant grenadier in Alaska. However, because of the large biomass of giant grenadier, there exists a potential for future development of a directed fishery if fishermen and processors are able to devise ways to market these fish. Food technology research on developing marketable products from giant grenadier in Alaska has taken place in recent years. A directed fishery in the GOA would increase catches in this region beyond those taken presently as bycatch, and because of the particular vulnerabilities of giant grenadier, these catches might reach a level where overfishing could be a concern. To prepare for this possible scenario, it would be advantageous for giant grenadier to be included in the FMPs, so catches could be more accurately monitored, and management actions could be used to curtail catch, if necessary.

Finally, it should be noted that according to the NPFMC's explicit definitions of "other species" and "non-specified" species in the GOA FMP, grenadiers should correctly be classified into the "other species" category and thus be part of the FMP. Amendment 8 to the GOA Groundfish FMP, which was implemented in November 1980, defined "other species" as species that have *"only slight economic value and are not generally targeted upon, but which are either significant components of the ecosystem or have economic potential"*. In contrast, "non-specified" species were defined in the amendment as a *"residual category of species and species groups of no current or foreseeable economic value or ecological importance, which are taken in the groundfish fishery as accidental bycatch and are in no danger of depletion"*. Thus, grenadiers would most appropriately fall into the "other species" category because of their great ecological importance and possible future economic value. Paradoxically, however, when the amendment was implemented in 1980, grenadiers were placed into the "non-specified" category. Perhaps the ecological importance of giant grenadiers was not realized at that time, which was before much survey information was available on this species. This omission of grenadiers from the NPFMC specification process has been maintained since 1980. Retaining Alternative #5 (which addresses grenadiers) in the present "other species" amendment package would rectify this long-standing problem.