1 Considered But Rejected Alternatives

Action 1. Establish Maximum Sustainable Yield (MSY) for octocorals in the South Atlantic.

The Coral Plan (Coral FMP; SAFMC & GMFMC 1990) cited lack of sufficient data on biomass and mortality, and the absence of a fishery from which catch and effort data may be obtained, as factors preventing any calculation of MSY from the entire management area for the octocoral fishery. When the Council revisited this in developing their Comprehensive Sustainable Fisheries Amendment (SAFMC, 1998), the same conclusions were drawn and no estimate of MSY was provided. An estimate of MSY has been determined for several species at specific reefs in the Florida reef tract, but cannot be expanded to other corals due to great differences in species, densities, growth rates, and other factors. While there is currently no Maximum Sustainable Yield (MSY) specified for the octocoral fishery, the 50,000 colony quota and accountability mechanism in place serve as a functional equivalent. Although the MSY value is unknown, it is some value higher than the 50,000 colony status quo and overfishing is not occurring. This is based upon discussions about the unique characteristics of this fishery (organisms are caught and sold live to wholesale and retail dealers and aquarium owners; commercial octocoral collectors only make trips when they have an order to fill for specific organsisms), the fact that the fishery is small and effort and participation in Florida waters (where most of the harvest comes from) is capped by a limited entry program, and that there are no signs of local depletion in areas where the fishery operates, or any other indication that the fishery has been operating at unsustainable levels. Thus, the Council removed this Action during their September 2010 meeting.

Action 2. Establish an Overfishing Level (OFL) for octocorals in the South Atlantic

Per the Comprehensive Sustainable Fisheries Amendment (SAFMC, 1998), overfishing is defined as the level of harvest that exceeds Optimum Yield (OY). OY for allowable octocorals in the SA and Gulf EEZ is not to exceed 50,000 colonies per year and fishing for octocorals in the EEZ will cease when the quota is reached. The level of harvest in the SA and Gulf EEZ has not exceeded OY and the fishery has not closed in federal waters, thus overfishing has not occurred. At their August, 2010 meeting, the SSC discussed the fact that there is no stock assessment for octocorals, landings information is limited, and an estimate of OFL could not be provided but is considered to be an unknown value above ABC. The Council further discussed that there are no signs of local depletion in areas where the octocoral fishery operates, or any other indication that the fishery has been operating at unsustainable levels. Thus, the Council removed this Action from consideration during their September 2010 meeting.

Action 3. Establish Acceptable Biological Catch (ABC) for octocorals in the South Atlantic

In April 2010 the SSC met to discuss development of an ABC control rule for unassessed stocks, including octocorals. The SSC received information on landings and possible reference points for corals in a presentation made at their April 2010 meeting. The Council received the proposed data-poor control rule in June 2010. However, some aspects of the proposed ABC control rule

and its criteria were considered inappropriate considering guidance that the rule should account for scientific uncertainty. The SSC was asked to reconvene in August 2010 to reconsider an ABC control rule for unassessed (data-poor) stocks, including octocorals. At their August 2010 meeting, the SSC reviewed and discussed background information on octocoral landings, life history, and possible fishery reference points. The SSC discussed the fact that there is no stock assessment for octocorals, landings information is limited, and an estimate of OFL could not be provided but is considered to be an unknown value above ABC. Fishery-independent information is also limited but available survey data (monitoring programs and directed studies conducted by FL FWC, UNC-Wilmington, and UGA) suggest relatively high octocoral abundance in the historically known distribution area (Florida Keys). The SSC recommended no changes to the current quota and recommended an ABC of 50,000 colonies annually for Gulf and South Atlantic EEZ waters, combined. The SSC was asked to clarify their ABC recommendation during their November 2010 meeting. They discussed that the current quota is set at a value higher than what is historically landed. Based upon the number of licensed participants (100-140 fishers), the magnitude of landings, and the quota never having been met, they clarified that it was their intent to include Gulf and South Atlantic EEZ and state waters in their ABC recommendation for octocorals. The Council removed this action during their September 2010 meeting because the value is already provided by the SSC and can be placed in the context of a discussion within the document.

Action 4. Establish an Allowable Catch Limit (ACL) for octocorals in the South Atlantic

Amendment 1 to the Fishery Management Plan for Coral, Coral Reefs and Live/Hardbottom Habitat (Coral FMP; SAFMC & GMFMC 1990) established a 50,000-colony combined quota for octocoral harvest in federal waters of the South Atlantic and Gulf of Mexico. This status quo is the current ACL for octocorals in the South Atlantic and Gulf of Mexico EEZ. The ACL also serves as a status quo AM, once the federal quota of 50,000 colonies is met, the fishery is closed in federal waters. State regulations correspond to this AM and close state waters to commercial harvest of octocorals when the 50,000 colony quota is met in federal waters. The Council discussed that Amendment 1 of the Coral Plan provides an existing ACL (50,000 colony quota for South Atlantic and Gulf of Mexico EEZ) and therefore removed the action from consideration during their September 2010 meeting. A new ACL action was added to the document to modify the existing ACL to consider including state waters in the 50,000 colony quota.

Action 5. Establish Accountability Measures (AMs) for octocorals in the South Atlantic
Accountability Measures (AMs) are management controls that prevent ACLs or sector-ACLs from being exceeded, where possible, and correct or mitigate overages if they occur. The octocoral fishery in federal waters is shut down once the federal quota (50,000 colony quota for South Atlantic and Gulf of Mexico EEZ) is reached and can be considered to be equivalent to an AM. Florida state regulations correspond to this accountability mechanism and close state waters to commercial harvest of octocorals when the 50,000 colony quota is met in federal waters. The Council removed the action during their September 2010 meeting because of the existing mechanism in place that serves as the AM. Discussion of the AM is placed in the context of a discussion within the document.

Action 6. Modify the existing Live Rock Aquaculture program to allow harvest of octocorals

The federal live rock aquaculture fishery for the South Atlantic EEZ takes place exclusively in the Florida Keys, mostly due to the narrow continental shelf off Southeast Florida and unsuitable conditions north of there. Most of the permit holders are also marine life fishermen, and the live rock is one of many products they harvest for the marine ornamental trade. The Council wanted to assess whether octocoral harvest could take place exclusively as part of the live rock aquaculture program and be prohibited elsewhere in Federal waters. However, it was determined that federal live rock sites would likely not support the majority of targeted species. According to the Coral AP, nine of the top 10 harvested species in 2008 originated in state waters. In addition, initial seed from wild stock would be required to harvest octocorals within aquacultured sites as there would not be enough natural recruitment. The Coral AP suggested allowing transplants/clippings (specify max. size and with no holdfast attached). However, this would have presented an enforcement challenge. Moreover, no modification to the exiting program would have been required to allow harvest of octocorals. Hence the Council voted at their June 2010 meeting to remove this action from further consideration.

Action 8. Add two species of encrusting gorgonians (Erythropodium sp. and Briaerum sp.) to the list of allowable octocorals.

Amendment 2 to the Coral FMP (SAFMC & GMFMC 1994) redefined allowable octocorals to mean "erect non-encrusting species of the subclass Octocorallia, except the prohibited sea fans *Gorgonia flabellum* and *G. ventalina*, including only the substrate covered by and within one inch (2.54 cm) of the holdfast." If more than 1 inch (2.54 cm) of the substrate is harvested, then this is considered to be live rock and not allowable octocoral (CFR 622 .2). Therefore, harvest of encrusting octocorals is not permitted since this usually entails harvesting the rock on which the colony is growing in its entirety. At the request of the Coral AP, the Council considered allowing harvest of the encrusting gorgonian corky seafingers (*Briareum* sp.) and *Erythropodium* sp. The former exhibits an erect morphotype that is easily removed and the latter can easily be peeled off the substrate (Coral AP, 2009).

Florida's Fish and Wildlife Commission (FWC) rule 68B-42, F.A.C. does not allow harvest ("catch") of these two species, therefore the species would not be allowed to be landed in Florida pursuant to 50CFR 622.3(c). The Council's action to allow harvest of these species would be inconsistent with Florida's Marine Life Rule. In addition, in order for regulations to be changed and applied within waters of the Florida Keys National Marine Sanctuary (FKNMS), the rules would have to be approved by the Sanctuary, the FWC, and the Gulf of Mexico Fishery Management Council. Moreover, the State of Florida indicated to the Council that conflicting regulations should be avoided due to difficulties in enforcing rules that are stricter in state waters than in Federal waters.

Action 9. Modify management of Special Management Zones throughout the South Atlantic.

North Carolina has reefs outside of state waters that are currently not designated as SMZs. In fall 2009, NC reported having problems in some of these reefs and their inability to control or affect any kind of management measures in those areas. In order to address any problems, NC would have to go through the Council process. Therefore, NC requested that NOAA General Counsel look into the feasibility of the Council ceding management of those reef areas to the state. NOAA General Counsel reported at the September 2010 Council meeting that transferring management of SMZs off the South Atlantic to the respective states would be difficult to accomplish. Seeing the transfer of management as a delegation of management, general counsel advised that delegation as defined within the Magnuson Act pertains to fisheries, and parsing out a piece of the snapper grouper fishery to address the SMZs and not an entire fishery would be a difficult task. Hence the Council voted at their September 2010 meeting to remove this action from consideration.