Atlantic States Marine Fisheries Commission

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MEMORANDUM

January 2, 2015

To: **American Lobster Management Board**

From: **Robert Glenn, Technical Committee Chair**

RE: **TC Task to Review Habitat Omnibus Amendment**

The American Lobster Management Board (Board) asked the Technical Committee (TC) to review the options contained in the New England Fishery Management Council's Habitat Omnibus Amendment to determine possible impacts on lobster. Specifically, one of the options contained in the amendment is the possible opening of part or all of Closed Area II (CAII) on Georges Bank to mobile gear. This task is similar to a task in 2012, which examined a lift in the prohibition on mobile gear in Closed Area II. The TC convened a call on December 29, 2014 to discuss possible consequences to lobster of opening the closed area to mobile gear. Below is a summary of their discussions.

The TC began their discussions by characterizing the lobster stock in the Georges Bank closed area. The lobster observed in this region are primarily large females, egg-bearing,with hard shells, and are much more abundant in the closed area during the summer and fall. Based on federal survey data, these female lobsters migrate into the closed area from the Gulf of Maine and deep habitats surrounding Georges Bank. In the fall, lobsters are primarily found in the central closed area (54%) and southern access area (43%) with fewer in the Habitat Area of Particular Concern (HAPC, 3%). On average, ~35% of all egg-bearing lobster biomass is within the closed area during the fall including ~45% of all egg-bearing females >120mm carapace length, for the combined stocks in the Gulf of Maine and Georges Bank that are accessible to the federal survey. In contrast, in the spring, female lobsters in the closed area represent <3% of the combined stock. Federal survey data and recent federal observer data both indicate that the habitat contained within Closed Area 2 is fairly unique to Georges Bank, with smaller sizes, lower proportions of egg-bearing females, and higher proportions of males on most of the rest of the bank. Similar analysis of the spatial management alternatives in the draft habitat amendment indicate that none of the management alternatives encompass comparable amounts of the lobster spawning stock.

The TC also discussed the uncertainties of the effects of mobile gear on the lobster population in the area. Overall, the TC is concerned with the following issues:

1) It is unclear how increased interactions with mobile gear could impact lobsters, specifically egg-bearing female lobsters. The TC suspects that egg loss would increase due to the sensitivity of egg-bearing females to egg loss with virtually any handling and or increased mechanical perturbation, as would occur in interactions with mobile gear. There are no published studies on lobster egg loss associated with mobile fishing gear interaction. The TC recommends that this be studied and not just assumed that the losses are negligible.

2) It is unclear how increased bycatch of lobster in the mobile gear fisheries would influence the lobster spawning stock and consequently the stock as a whole. The TC did note that since most lobsters are hard-shelled, it is likely that there is a lower probability of damage and mortality rate than on soft-shelled lobsters. However, the two studies on body damage and post release mortality from interactions with mobile gear (otter trawl and scallop dredge) referenced in the DEIS were both conducted in nearshore areas where the lobster size distribution is smaller. The effects of mobile gear on larger lobsters (CAII has among the largest size distribution of lobster observed across the range) have not been documented. Anecdotal observations of trawl caught lobsters by TC members indicate that the large chelae on oversized lobsters tend to be more prone to loss that those on smaller lobsters. Additionally, these large female lobsters are present on the bank in the summer and early fall when surface water and deck temperatures are at their highest, suggesting that capture by mobile gear will additionally subject these lobsters to thermal stress. This could lead to dead loss in mobile gear fisheries which presumably would be replaced by harvesters to ensure the trip limit was landed. This is another indicator of the need for a study looking at the interactions of mobile gear and large offshore lobsters.

3) The TC cautions the board on the sensitivity of the lobster population on GB. The lobster population on GB is unique in that it is primarily comprised of large, old lobsters. Management measures adopted in late 1990's and early 2000's (maximum size, v-notch prohibition, and the daily trip limits (100/500 for non-trap gear) appears to have had a profoundly positive effect on the lobster population in this stock. We have observed dramatic increases in abundance of lobsters greater than 100 and 120 mm. This represents an "old growth forest" in the crustacean world. These are older lobster (likely > 15 years old) that have very high fecundity and presumably comprise a large portion of the broodstock. Given how slowly lobsters grow and the current harvest rates, it would take an extremely long time to replace this portion of the stock. The TC warns the board that opening up these areas to mobile gear fishing even with the current trip limits in place will increase mortality rates on this very vulnerable portion of the lobster stock.

Given the importance of the lobster population in Georges Bank to the Gulf of Maine population and the uncertainties surrounding the impacts of mobile gear on the substock, the TC recommends no opening of any of the closed area that is currently in place.