1.1 Impacts on Endangered and Other Protected Species (ESA, MMPA)

The protected resources that may be impacted by interactions with fishing gear used to catch skates are identified in Section **Error! Reference source not found.** Marine Mammals and Protected Species.

1.1.1 Updates to Annual Catch Limits

1.1.1.1 Option 1: No Action (ACL= ABC of 35,479 mt, ACT of 27,275 mt, TAL of 18,001 mt, Wing TAL =11,169 mt, Bait TAL 5,626 mt)

The No Action alternative would maintain the ACL limits as those established in Framework 2 (NEFMC, 2014). As a result, fishing behavior would remain similar to current operating conditions (e.g., no spatial or temporal shifts in effort; no changes in gear type, quantity, or relative soak/tow time).

MMPA Protected Species Impacts

Impacts of the No Action on marine mammals (i.e., species of cetaceans and pinnipeds) are somewhat uncertain as quantitative analysis has not been performed. However, we have considered, to the best of our ability, available information on marine mammal interactions with commercial fisheries, including the skate fishery over the last 5 or more years (Waring *et al*. 2014, Waring et al. 2015, NEFOP/ASM observer site). Aside from several large whale species (e.g., North Atlantic right, humpback, and fin), harbor porpoise, and several stocks of bottlenose dolphin, there has been no indication that takes of any other marine mammal species in commercial fisheries has exceeded potential biological removal (PBR) thresholds, and therefore, gone above and beyond levels which would result in the inability of each species population to sustain itself (Waring *et al*. 2014, 2015). Although, as noted above, several species of large whales, harbor porpoise and several stocks of bottlenose dolphin have experienced levels of take that have resulted in the exceedance of each species PBR threshold, take reduction plans have been implemented to reduce bycatch in the fisheries affecting these species(Atlantic Large Whale Take Reduction Plan, Harbor Porpoise Take Reduction Plan, and the Bottlenose Dolphin Take Reduction Plan; see affected environment for details);)these plans are still in place and are continuing to assist in decreasing bycatch levels for these species. Although the information presented in Waring *et al*. (2014, 2015) is a collective representation of commercial fishery interactions with marine mammals, and does not address the effects of any FMP specifically, the information does demonstrate that fishery operations over last 5 or more years have not resulted in a collective level of take that threatens the continued existence of marine mammal populations (aside from those species noted above).

In conjunction with the above, additional analysis on the impacts of the operation of fisheries in the northeast region have also been conducted by NMFS, pursuant to section 7 of the ESA, for ESA-listed species of marine mammals. Specifically, in a Biological Opinions issued by NMFS in 2013, it was concluded that the operation of the skate fishery, in addition to seven other FMPs, may affect, but will not jeopardize the continued existence of any ESA listed species of marine mammals. Since issuance of the 2013 Opinion, there has been no indication that these fisheries have changed in any significant manner such that levels of take have gone above and beyond those considered by NMFS in its assessment of fisheries affects to listed species (if they had, NMFS would have re-reinitiated the Opinions). As a result, we do not expect impacts to ESA-listed species of marine mammals under the No Action (i.e., status quo conditions) to be different from those already considered by NMFS (NMFS 2013). Specifically, fishing behavior under the No Action is not expected to introduce any new risks or additional takes to ESA listed species that have not already been considered by NMFS to date. As a result, the No Action is not expected to result in interactions with protected species that are above and beyond levels

previously considered by NMFS. Based on this, the No Action, and the resultant fishing behavior under this Alternative, is not, as concluded by NMFS, expected to result in levels of take that would jeopardize the continued existence of ESA listed species of marine mammals.

Based on the above information, and the fact that the skate fishery must comply with specific take reduction plans (i.e., HPTRP, the BDTRP, ALWTRP); and that voluntary measures exist that reduce serious injury and mortality to marine mammal species incidentally caught in trawl fisheries (see the Atlantic Trawl Gear Take Reduction Team), the No Action is expected to have low negative to neutral impacts on marine mammal species . Relative to Option 2, Option 1, which has a higher Annual Catch Limits than Option 2, may result in more negative impacts to marine mammals as higher allocations may result in increases in fishing effort, which may equate to increased interactions with marine mammals.

ESA Listed Species

Ascertaining the potential impacts of the No Action on ESA-listed species (i.e., certain species of whales, sea turtles, and fish)are difficult and somewhat uncertain, as quantitative analysis has not been performed. However, we have considered, to the best of our ability, how the fishery has operated in regards to listed species since 2013, when NMFS issued a Biological Opinion (Opinion) on the operation of seven commercial fisheries, including the skate FMP, and its impact on ESA listed species (NMFS 2013). The 2013 Opinion concluded that the seven fisheries may affect, but would not jeopardize the continued existence of any ESA listed species.The Opinion included an incidental take statement authorizing the take of specific numbers of ESA listed species of sea turtles, Atlantic salmon, and Atlantic sturgeon [1] The skate FMP is currently covered by the incidental take statement authorized in NMFS 2013 Opinion.

Since 2013, the specifications for the skate fishery has either increased, decreased, or remained stable; however, fishing behavior over this time period has never resulted in the exceedance of NMFS authorized take of any ESA listed species (NMFS 2013). Therefore, the specifications under *status quo* conditions, and the resultant fishing behavior under these conditions, are not expected to introduce any new risks or additional takes to ESA listed species that have not already been considered and authorized by NMFS to date. As a result, impacts of the No Action on ESA listed species are not expected to be different from those already considered by NMFS (NMFS 2013) and therefore, are not, as concluded by NMFS, expected to result in levels of take that would jeopardize the continued existence of ESA listed species. For these reasons, the *status quo* conditions would likely have low negative impacts on ESA listed species.

Relative to Option 2, Option 1, with slightly higher Annual Catch Limits than Option 2, may result in more negative impacts to ESA listed species as higher allocations may result in increased fishing effort, which may equate to increased interactions with ESA listed species.

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1.1.1.2 Option 2: Revised Annual Catch Limit Specifications (ACL= ABC of 31,081 mt, ACT of 23,311 mt, TAL of 12,872 mt, Wing TAL =8,560 mt, Bait TAL 4,312 mt)

[1] The 2013 Opinion did not authorize take of ESA listed species of whales; however, it assessed interaction risks to these species and based on the best available information, concluded that the summer flounder, scup, and black sea bass fisheries, in addition to the other six FMPs assessed, would not jeopardize the continued existence of any ESA listed species of whales (NMFS 2013).

Option 2 would revise the ACL for the skate complex; specifically, annual catch limit specifications will be reduced from the 2014-2015 fishing year. The reduction in the ACL may result in less directed fishing effort.. Further, since the possession of skates mostly requires vessels to be fishing on a NE Multispecies, Scallop, or Monkfish DAS, fishing effort on skates are largely constrained by other FMPs. As a result, fishing effort would not only be restricted by the revised specifications, but also by the above nature of the fishery and the associated AMs that account for any overage of ACLs.

Based on this information, impacts to protected species are not expected to be any greater than those under status quo conditions (see Option 1, section 1.1.1.1), and in fact, may be less than status quo conditions. Specifically, fishing effort is likely to remain similar to status quo conditions or potentially decrease; the latter potentially equates to less fishing time, and therefore, gear being present in the water for a shorter duration. As protected species (ESA listed and MMPA species) interactions with gear, regardless of listing status, is greatly influenced by the amount of gear, and the duration of time gear is in the water, any decrease in either of these factors will reduce the potential for protected species interactions with gear and therefore, reduce the potential for serious injury or mortality to these species. As a result, Option 2 may have some positive impacts on protected species. Taking this into consideration, while Option 2 is likely to have more of a positive impact on protected species relative to Option 1 (No Action), as interactions may still occur under Option 2, and the reduction in specifications is not significant relative to status quo allocations (Option 1), overall, Option 2 is likely to have low positive to low negative impacts on protected species.

As noted above, relative to Option 1, Option 2 is likely to have a more positive impact on protected species than Option 1 as fishing effort may decrease under this Option and therefore, interactions with protected species also have the potential to decrease.

1.1.2 Skate Wing Possession Limit Alternative

1.1.2.1 Option 1: No Action – 2,600 lbs from May 1 to Aug 31; 4,100 lbs from Sept 1 to Apr 30

The No Action alternative would maintain the seasonal wing possession limits as established in FW 1. The impact of possession limits on fishing effort is unknown as skates are typically landed on trips targeting groundfish, monkfish or scallops. The maintenance of the existing possession limits would not allow for an increase in directed fishing effort. Based on this information, impacts on protected species (ESA listed and MMPA species) are expected to be similar to those described in Section 1.1.1.1 (i.e., low negative to neutral).

Relative to Options 2 and 3, Option 1, may result in more negative impacts to ESA listed species as higher possession limits combined with the seasonal structure to the fishing year, may result in increased fishing effort, which may equate to increased interactions with ESA listed species.

1.1.2.2 Revised Skate Wing Possession Limit – 1,500 lbs from May 1 to Aug 31; 2,400 lbs from Sept 1 to Apr 30

Option 2 would reduce the wing possession limit for skates. It is not clear that changing the skate possession limit changes the level of fishing effort as an analysis of the frequency of pounds landed indicates that the majority of trips are landing at or below the incidental possession limit of 500 lbs (See Bio Impacts. Any trips over the incidental possession limit would be considered to be part of the directed

fishery. If however, the reduction in the possession limit reduces directed fishing effort on skates, interactions with protected species could decrease. Vessels may shift fishing effort to areas of lower skate density to reduce skate encounters that can be time consuming, however, effort would be expected to stay within a statistical area. Based on this information, we expect impacts to protected species to be similar to those described in Section 1.1.1.2 (i.e., low positive to low negative).

Relative to Option 1, Option 2 is expected to have more of a positive impact on protected species as fishing effort may decrease under this Option and therefore, interactions with protected species also have the potential to decrease.. Options 2 and 3 would have a similar range of low positive to low negative impacts on protected species.

1.1.2.3 Option 3: Revised Skate Wing Possession Limit – 5,000 lbs year round

Option 3 would raise the wing trip limit to 5,000 lbs which is projected to trigger the incidental trip limit. This would be expected to have biological impacts on skates and economic impacts, however, skates are typically landed on trips targeting other species and this trip limit may not impact protected species. It is not clear how changing the skate wing possession limit affects fishing effort as an analysis of the frequency of pounds landed indicates that the majority of trips are landing at or below the incidental possession limit of 500 lbs (see Bio Impacts). The increased trip limit may affect fishing effort and negatively impact protected resources as this possession limit would be less restrictive and would not dis-incentivize additional fishing effort. It may have a low positive impact on vessels operating in the directed fishery as quotas could be achieved in a shorter amount of time, thus reducing the amount of time gear is in the water. Vessels may choose to fish in areas of high skate density under this possession limit, which may impact any protected species in these areas, but effort would be expected to stay within a statistical area.

Impacts on non-ESA listed species and ESA listed species would be similar to those described in Section 1.1.1.1.

Option 3 would have more of a positive impact on protected species compared to Option 1, but would have similar impacts when compared to Option 2. .

1.1.3 Skate Bait Possession Limit Alternatives

1.1.3.1 Option 1: No Action – 25,000 lbs year round

The No Action alternative would maintain the current trip limit of 25,000 lbs with a Letter of Authorization. This would not change current fishing effort and would likely not change the impacts on protected species as established in previous management actions. As a result, we expect impacts on protected species to be similar to those described in Section 1.1.1.1.

Relative to Option 2, impacts of Option 1 could be neutral to low negative. As only a small number of trips land the full bait trip limit in a fishing year, the likelihood that any changes in possession limit, as proposed by Option 2, would result in changes in fishing behavior that differ from status quo conditions is unlikely. Should the latter be the case, relative to Option 2, impacts of Option 1 on protected species would be neutral. However, as described below in section 1.1.3.2, although unlikely, should fishing effort decrease under Option 2, then Option 1, would have more of a negative impact on protected species relative to Option 2.

1.1.3.2 Option 2: Revised Skate Bait Possession Limit – 20,000 lbs year round

Option 2 would lower the bait possession limit to 20,000 lbs with a Letter of Authorization. This would have a positive impact on protected species if fishing effort was impacted (i.e., reduced) by the reduction, however, this may be unlikely as only a small number of trips land the current bait possession limit. Based on this information, impacts on protected species would be similar to those described in Section 1.1.1.2 (i.e., low positive to low negative).

Relative to Option 1, impacts of Option 2 could be neutral to low positive. As only a small number of trips land the full bait trip limit in a fishing year, the likelihood that any changes in possession limit, as proposed by Option 2, would result in changes in fishing behavior that differ from status quo conditions is unlikely. Should the latter be the case, relative to Option 1, impacts of Option 2 on protected species would be neutral. However, as described above, although unlikely, should fishing effort decrease under Option 2, relative to Option 1, Option 2 would have more of a positive impact on protected species.

1.1.4 Wing Fishery Seasonal Management Alternatives

1.1.4.1 Option 1: No Action

The No Action alternative would maintain the seasonal structure established in Framework Adjustment 1 for skate wing possession limits. The fishing year would remain divided into two seasons: season 1 (May 1 to Aug 31) and season 2 (Sep 1 to Apr 30). This would maintain the current levels of fishing opportunities for vessels. Therefore no change in fishing effort would be expected under Option 1. Based on this information, we expect impacts on protected species to be similar to those described in Section 1.1.1.1.

Option 1 would be expected to have neutral impacts on protected resources. Option 1 would have similar neutral impacts compared to Options 2 and 3.

1.1.5 Option 2: Revised Skate Wing Possession Limit

This alternative would create seasonal TALs for the wing fishery consistent with the existing seasonal skate wing possession limits. The first season would be allocated XX % of the annual TAL (representing XX,XXX in 2016 and 2017) for May 1 to August 31. The second season would be allocated XX% of the annual TAL (representing XX,XXX in 2016 and 2017) for September 1 to April 30. Once 85% of the allocated TAL is reached between September 1 and April 30, the Regional Administrator would have the discretion to implement the incidental possession limit if the fishery is projected to exceed the TAL. Trip limits would be dictated under Section 4.4.1. The impact of possession limits on fishing effort is unknown as skates are typically landed on trips targeting groundfish, monkfish or scallops. Therefore it is not clear that changing the skate possession limit seasonally changes the level of fishing effort. If however, the hard in-season trigger is reached, the incidental possession limit reduces directed fishing effort on skates, and therefore, interactions with protected species could decrease. Vessels may shift fishing effort to areas of lower skate density to reduce skate encounters that can be time consuming, however, effort would be expected to stay within a statistical area. Based on this information, impacts to protected species would be similar to those described in Section 1.1.1.2 (i.e., low positive to low negative).

Relative to Option 1, Option 2 may have more of a positive impact on protected species with the potential for effort to decrease under this Option. Relative to Option 3, impacts to protected species would be neutral.

1.1.6 Option 3: Revised Skate Wing Possession Limit

This alternative would create seasonal TALs for the wing fishery consistent with the existing seasonal skate wing possession limits. The first season would be allocated XX % of the annual TAL (representing XX,XXX in 2016 and 2017) for May 1 to August 31. Between August 1 and September 15, the incidental possession limit of 500 lbs would be implemented, regardless of whether the in-season trigger point had been reached. The second season would be allocated XX% of the annual TAL (representing XX,XXX in 2016 and 2017) for September 1 to April 30. Once 85% of the allocated TAL is reached between September 1 and April 30, the Regional Administrator would have the discretion to implement the incidental possession limit if the fishery is projected to exceed the TAL. Trip limits would be dictated under Section 4.4.1. The impact of possession limits on fishing effort is unknown as skates are typically landed on trips targeting groundfish, monkfish or scallops. Therefore it is not clear that changing the skate possession limit changes the level of fishing effort. If however, the hard in-season trigger is reached, the incidental possession limit reduces directed fishing effort on skates, and therefore, interactions with protected species could decrease. Vessels may shift fishing effort to areas of lower skate density to reduce skate encounters that can be time consuming, however, effort would be expected to stay within a statistical area. Based on this information, impacts to protected species would be similar to those described in Section 1.1.1.2 (i.e., low positive to low negative).

Relative to Option 1, Option 2 may afford more of a positive impact to protected species with the potential for fishig effort to decrease under this Option. Relative to Option 3, impacts of Option 2 on protected species are likely to be neutral.