

## 1.1 Essential Fish Habitat (EFH) Impacts

### 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)

Option 1 would maintain current specifications levels from FYs 2014 and 2015 for FYs 2016 and 2017.

- The aggregate skate ABC/ACL would stay at 35,479 mt.
- The ACT would stay at 27,275 mt.
- The TAL would stay at 18,001 mt.

The TAL is allocated amongst the bait and wing fisheries. Each fishery has its own possession limits. By regulation, the wing fishery can only land clearnose and winter skates as they are above the preferred market size (little skates are too small) and are not prohibited from possession like barndoor, thorny, or smooth skates. Winter skates constitute the bulk of the catch. The bait fishery is also prohibited from possessing or landing barndoor, thorny, and smooth skates, and generally prefers to take smaller animals, i.e. little skates and juvenile winter skates. In FYs 2013 and 2014, the fishery did not reach either the bait TAL or the wing TAL, but 2014 landings closely approached the wing limit (Table 1).

EFH impacts are related to the amount and location of fishing effort, and the gear type used. Skates are caught using both gillnets and bottom trawls. Gillnets have a much smaller footprint overall than otter trawls because they are a fixed gear, and the quality of the per unit area impact is also lower (Stevenson *et al.* 2004, NEFMC 2011<sup>1</sup>). In addition, EFH for the northeast skate species was determined to have a low vulnerability to sink gillnet gear (Stevenson *et al.* 2004). Combining these two findings, the gillnet component of the skate fishery is not causing adverse effects to EFH. Bottom otter trawls, on the other hand, have a relatively large area swept footprint and also a larger per unit area impact (Stevenson *et al.* 2004, NEFMC 2011). Bottom trawl per unit area impact aggregated over this larger footprint causes adverse effects to EFH. Because the skate fishery is largely an incidental fishery, measures that affect fishing effort in fisheries such as NE multispecies and monkfish may influence EFH impacts attributed to the skate fishery.

Option 1 would produce minor negative impacts to the EFH resource as effort is largely controlled by regulations in other fisheries, but the magnitude of impacts is not expected to differ from the status quo. Option 1 may have low negative impacts on EFH compared to Option 2 as fishing effort would not be reduced under this Option.

**Table 1 – Catch relative to TAL in FY 2013 and 2014**

	2013		2014	
	Specification Amount	Catch/Landings (mt)	Specification Amount	Catch/Landings
TAL (Bait + Wing)	21,561	13,577	16,385	16,251
TAL Bait	7,223	5,596	5,849	4,499
TAL Wings	14,338	7,981	10,896	10,605

<sup>1</sup> New England Fishery Management Council (2011). The Swept Area Seabed Impact (SASI) approach: a tool for analyzing the effects of fishing on Essential Fish Habitat. 257pp. Available online at [www.nefmc.org/library/omnibus-habitat-amendment-2](http://www.nefmc.org/library/omnibus-habitat-amendment-2).

### 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)

Option 2 would adjust skate specifications for fishing years 2016-2017 as follows:

- The aggregate skate ABC/ACL would decrease from 35,479 to **31,081** mt.
- The ACT would likewise decrease from 27,275 to **23,311** mt.
- The TAL would decrease from 18,001 to **12,872** mt. (8,560 wing, 4,312 bait)

The lower Option 2 TALs are similar to the landings in 2013, as shown in Table 1, however, landings in 2014 exceeded the Option 2 wing TAL and were similar to the Option 2 bait TAL. Thus, under Option 2, catch and effort in the wing fishery is expected to decline relative to Option 1/No Action, and therefore the adverse impacts of Option 2 are lower than the impacts associated with Option 1.

### 1.1.2 Skate Wing Possession Limit Alternatives

#### 1.1.2.1 Option 1: No Action – 2,600 lbs from May 1 to Aug 31; 4,200 lbs from Sept 1 to Apr 30

Option 1 would maintain the Framework Adjustment 1 skate wing possession limits of **2,600** lbs. from May 1 to Aug 31 and **4,100** lbs. from Sep 1 to Apr 30, or until the 85% TAL trigger has been met and it appears that without adjustment the fishery would exceed the annual TAL. Reaching the 85% trigger may lead to an incidental limit of 500 lbs, if such a limit is deemed necessary by the Regional Administrator to prevent overage of the TAL. This alternative does not alter the 85% trigger. Under the Option 1/No Action possession limits, especially in combination with the lower Option 2 specifications, it is expected that the 85% trigger may be reached earlier, such that the fishery may not remain open throughout the year for directed trips. However, effort and therefore impacts are capped by the overall TAL, and total impact on EFH is controlled by fishing effort in the multispecies and monkfish fisheries, where the vast majority of skate landings are derived. Thus, this alternative may affect the seasonality of fishing activity, frontloading effort into the early part of the fishing year, but not the overall magnitude of effort and impacts to EFH. Fish use habitats differently for shelter or feeding as they grow, such that fishing activities conducted in one season may have less impact on a particular individual than activities occurring at another time of year. However, considering the diversity of managed species that occupy habitats within the footprint of the skate fishery, it is uncertain whether a more summer-oriented fishery vs. a more year round fishery would have positive or negative benefits overall on fish habitat usage, and overall impacts of Option 1 on EFH are uncertain.

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

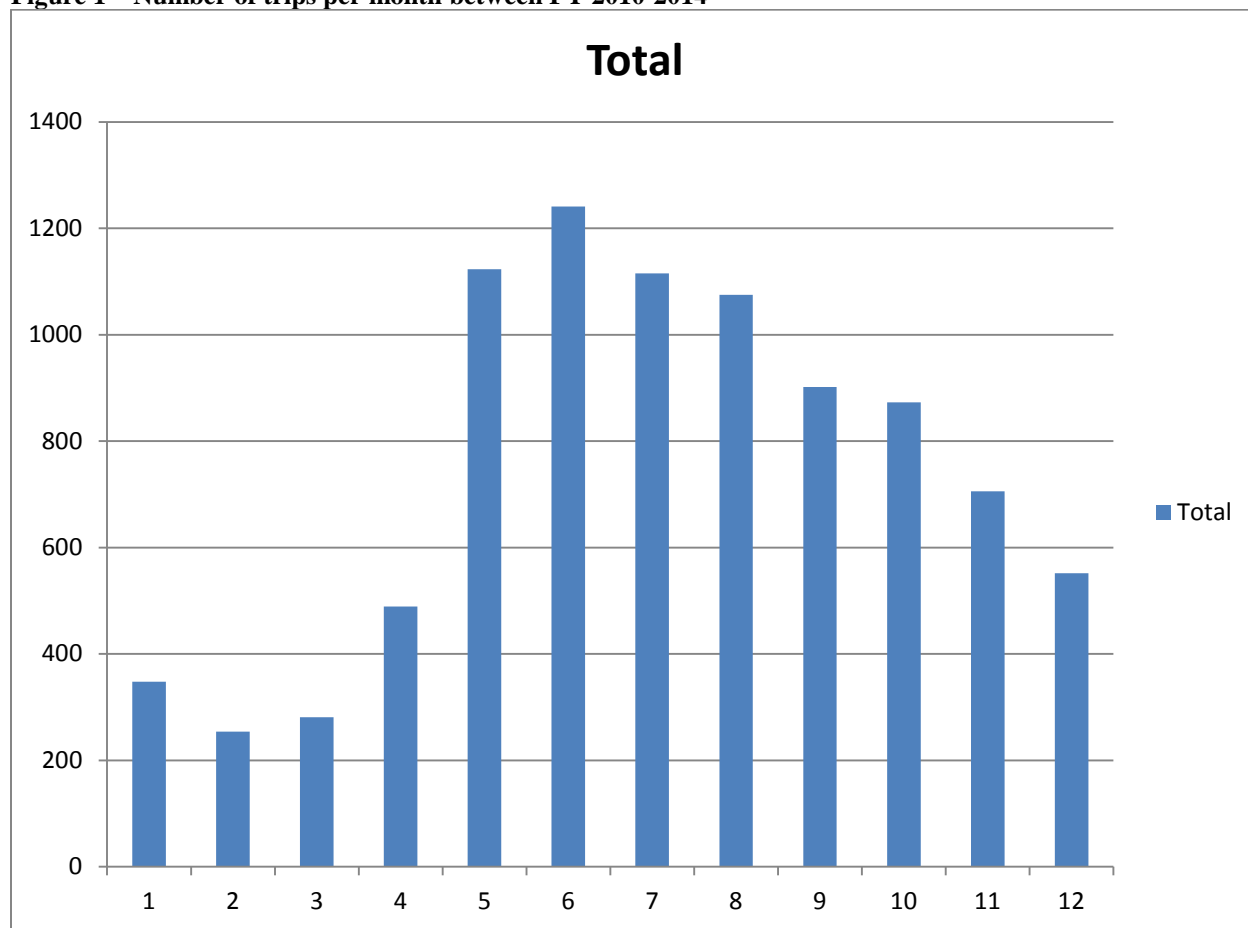
Option 2 would decrease the wing possession limits to 1,500 lbs. (May 1 to Aug 31) and 2,400 lbs. (Sep 1 to Apr 30). This change in possession limit could affect the fishery's ability to achieve the wing TAL, could redistribute effort seasonally, or both. Although vessels do not hit the possession limit on every trip (**Error! Reference source not found.**), the lower limits could decrease landings in the wing fishery (which would likely happen under the lower Option 2 wing TAL specification regardless of the possession limit option selected). The potential for lower wing landings overall can be inferred from the fact that roughly 5,000 of the FY 2011 and FY 2012 wing trips would have been above the limits suggested in this alternative (see biological impacts section). If effort in the wing fishery declines, impacts to EFH would likely decline for this option relative to Option 1/No Action limits. In addition to lower wing effort overall under this option, it is expected that the lower possession limits will allow the

fishery to operate across a longer season before the incidental limit is triggered. Thus, it is possible that the overall magnitude of effort and EFH impacts may be similar, just redistributed more evenly throughout the fishing year. As noted under Option 1 above, there could be habitat usage implications associated with seasonal shifts in effort, but the positive or negative implications of these seasonal shifts are difficult to evaluate and will probably vary by managed species. Combining potential reductions in wing fishery effort with seasonal shifts, it is expected that Option 2 will have slightly positive to neutral impacts on EFH relative to Option 1/No Action. As stated previously, under any of these options, overall EFH impacts are influenced by effort in the multispecies and monkfish fisheries.

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

Option 3 would increase the possession limit to 5,000 lbs. year round. Given a fixed TAL and similar number of trips, higher catches per trip could trigger the 85% TAL limit earlier in the year, thus shifting fishing effort earlier into the fishing year relative to Option 1/No Action (see discussion of this in the biological impacts section **Error! Reference source not found.**). There is precedent for such a pattern, as the 85% TAL trigger was reached earlier in FY 2010 when the possession limit was higher than it is now. Higher trips limits could also reduce discards, and could lead to more efficient harvest of the TAL. For example, discards in 2012 were approximately 36,000 mt, and discards in the most recent completed fishing years were roughly 42,000 mt under lower trip limits. Less fishing time would reduce impacts to EFH. Overall, in terms of EFH impacts, Option 3 probably has neutral to slightly positive impacts relative to Option 1/No Action, although those impacts may be distributed differently throughout the year, and neutral impacts relative to Option 2, which could have lower landings overall, but a greater number of trips due to the lower possession limit. To the extent that catch rates for large winter skate vary seasonally, it may be more efficient to target these skates during particular times of year. Given a fixed TAL, more efficient fishing will reduce habitat impacts as compared to less efficient fishing. As noted under Option 1 above, there could be habitat usage implications associated with seasonal shifts in effort, but the positive or negative implications of these seasonal shifts are difficult to evaluate and will probably vary by managed species. In recent years, effort in terms of number of trips has peaked during the early summer (Figure 1), and the higher possession limit would probably reinforce this trend, as compared to the lower Option 3 possession limits which could spread effort more evenly throughout the summer and fall. As stated previously, under any of these options, overall EFH impacts are influenced by effort in the multispecies and monkfish fisheries.

**Figure 1 – Number of trips per month between FY 2010-2014**



### 1.1.3 Bait Possession Limit Alternatives

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

This alternative would maintain the skate bait possession limit at 25,000 lbs. Vessels that obtain a Skate Bait Letter of Authorization would be able to retain up to 25,000 lbs. of whole skates. Option 1 may have low negative impacts on EFH compared to Option 2 as fishing effort would not be reduced under this Option.

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

This alternative would reduce the skate bait possession limit from 25,000 lbs. to **20,000** lbs. This alternative is included for analysis to meet NEPA requirements, but is not expected to be selected by the Council. The lower bait limit would probably decrease effort in the bait fishery, which is largely conducted on an order by order basis. It is possible that if orders remain high an increased number of trips might be necessary, however, per-trip costs incurred by fishing may limit potential increases. Thus, impacts to EFH would likely decline under these lower limits relative to No Action limits. Option 2 would have low positive impacts on EFH compared to Option 1 as fishing effort would likely be reduced under this Option.

### 1.1.4 Wing Fishery Seasonal Management Alternatives

### 1.1.5 Option 1: No Action, No Seasonal Sub-division of TALs

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) with possession limits specific to each, but no limit on the percent of the TAL that could be harvested in the first season. Setting aside possible changes in the wing TAL or possession limits, seasonal patterns in effort, and therefore in habitat impacts, would be expected to remain similar to what is currently observed. Therefore, Option 1 would have neutral impacts on EFH.

### 1.1.6 Option 2: Modification of Wing fishery Seasonal Management

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, the Regional Administrator would have the discretion to implement the incidental possession limit if the fishery is projected to exceed the TAL. Option 2 would be expected to affect the timing of fishing more than the amount of fishing. Therefore, Option 2 would not be expected to result in additional impacts on EFH relative to Option 1/No Action. As noted above, there could be habitat usage implications associated with seasonal shifts in effort, but the positive or negative implications of these seasonal shifts are difficult to evaluate and will probably vary by managed species.

### 1.1.7 Option 3: Revised Skate Wing Seasonal Structure

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, the Regional Administrator would have the discretion to implement the incidental possession limit if the fishery is projected to exceed the TAL. The mandated incidental possession limit during August and September would reduce directed fishing effort on skates during that time period, which may affect the amount of fishing occurring in that time period. Vessels may shift fishing effort to areas of lower skate density to reduce skate encounters that could be costly/time consuming if the skates would be discarded. Overall, Option 2 would be expected to affect the timing of fishing more than the amount of fishing. Therefore, Option 3 would not be expected to result in additional impacts on EFH relative to Option 1/No Action. The August/September incidental limit could lead to larger changes in the seasonal distribution of effort as compared to Option 2, but this six week period is already a time of lower effort in the gillnet fishery, so the regulation could simply be reinforcing existing patterns of effort. As noted above, there could be habitat usage implications associated with seasonal shifts in effort, but the positive or negative implications of these seasonal shifts are difficult to evaluate and will probably vary by managed species.