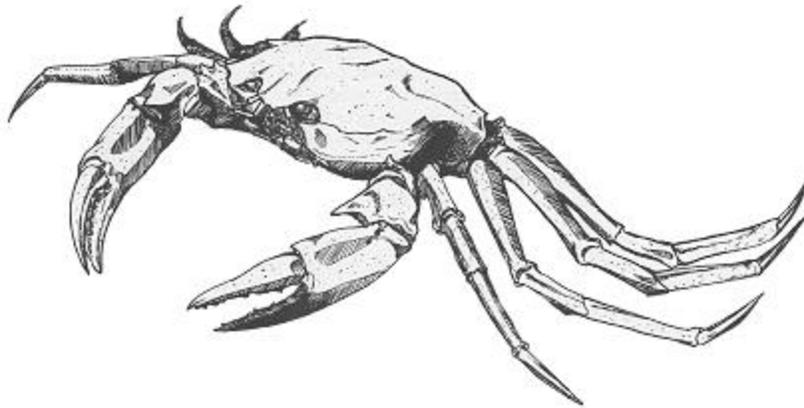


Red Crab Specifications
for the
2004 Fishing Year
(March 1, 2004 – February 28, 2005)
including the
Environmental Assessment (EA),
Regulatory Impact Review (RIR), and
Initial Regulatory Flexibility Analysis (IRFA)



Prepared by the
New England Fishery Management Council
in consultation with
National Marine Fisheries Service

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1.0 INTRODUCTION

This document contains the New England Fishery Management Council's recommended specifications for the 2004 red crab fishery, as required by the Magnuson-Stevens Act and the Red Crab FMP/EIS. It also contains the supporting analysis required under other applicable law, namely the National Environmental Policy Act (Environmental Assessment, EA), the Regulatory Flexibility Act (the Final Regulatory Flexibility Analysis, FRFA) and Executive Order 12866 and other applicable laws. For the 2005 fishing year, subsequent annual specifications will be submitted as well as a full SAFE report if new assessment information is available.

The Red Crab FMP/EIS implemented a limited access program for the directed fishery with a target TAC of 5.928 million pounds and a days-at-sea allocation of 780 fleet days to harvest the TAC. Specific permitting and reporting requirements were implemented, including an Interactive Voice Response (IVR) system for limited access vessels. A number of measures were implemented including trip limits set at 75,000 pounds per trip, unless a vessel could document one trip that had a higher trip limit. Incidental trip limits were set at 500 pounds per trip for non-limited access vessels. The FMP also implemented a limit on the number of traps permitted per vessel to 600 traps, and a prohibition of harvesting female crabs. All of these measures were intended to implement permanent management measures for the red crab fishery to prevent overfishing. As explained above, there is a provision in the FMP that requires the Council to review the annual TAC and DAS allocation. Therefore, this annual specifications package will only review the target TAC and fleet DAS allocation for FY2004; all other measures under the FMP will remain in effect.

Based on the analysis in this document, the specifications for FY2004 include a total DAS allocation of 780 for the entire limited access red crab fleet. This allocation is expected to manage the fishery at optimum yield (OY of 5.928 million lbs.), or 95% of the estimated maximum sustainable yield (MSY of 6.24 million lbs.).

2.0 PURPOSE AND NEED

The Red Crab FMP/EIS was implemented on October 21, 2002, which initiated a management plan for the deep-sea red crab fishery located off the coast of the Northeast United States. Provisions within the FMP require the Council to review the status of the stock and the fishery every year, as well as prepare a biennial Stock Assessment and Fishery Evaluation (SAFE Report). The 2003 fishing year (March 1, 2003 through February 28, 2004) is the first full year the FMP will be in place. The day-at-sea (DAS) allocations, and total allowable catch (TAC) provisions were implemented at an appropriate level for the first year of the FMP, and those provisions need to be reviewed each year to determine if adjustments are necessary.

Section 303 of the Magnuson-Stevens Act describes the primary requirements of FMP's, and one provision includes:

(3) assess and specify the present and probable future condition of, and the maximum sustainable yield and optimum yield from the fishery, and include a summary of the information utilized in making such specifications.

Furthermore, the Red Crab FMP states that the NMFS Regional Administrator, after consultation with the Council will determine the annual specifications. The FMP requires the Council and the Regional Administrator to review annually the best available data on the fishery and to develop specifications.

3.0 AFFECTED ENVIRONMENT

A complete description of the affected environment was part of the Red Crab FMP/EIS, which was submitted in 2002 (NEFMC, March 2002:Section 8.0). There is no new biological information that would suggest that red crab distribution or EFH have changed since that time. Another useful source for information about the affected environment of the red crab fishery is the Essential Fish Habitat Source Document for Red Crab (Steimle et al. 2001). Any new information collected about the status of the stock or the economic and social changes that have occurred since the implementation of the FMP are described in Section 3.1 and Section 7.0 of this document.

In summary, the Affected Environment section of the FMP describes the biological and ecological characteristics of red crab, the habitat needs of the resource and various threats to EFH, as well as the economic and social characteristics of the fishery over time. In general, the red crab resource is slow growing and may live for fifteen years or more (Serchuck and Wigley, 1982). Red crabs are patchily distributed along the continental shelf edge and slope of the western Atlantic, primarily at depths of 200-1800 meters. A recent study assessed the genetic subdivisions of deep-sea red crabs in the North Atlantic and the Gulf of Mexico (Weinberg et al., 2003). Genetic differences between the species found in southern New England and the Gulf of Mexico were large enough to conclude that these are two different fishery stocks.

Red crabs have not been a commercially exploited species for very long in this region. During the 1960s and 1970s the resource was considered an underutilized species, and several vessels began experimenting in the early 1970s to develop a deep-sea red crab fishery in this region. The directed red crab fishery is entirely a trap fishery. The primary fishing zone for red crab, as reported by the fishing industry, is in depth of 400-800 meters along the continental shelf in the Northeast region, and is limited to waters north of 35° 15.3N (Cape Hatteras, NC) since implementation of the FMP, and south of the Hague Line. The fishery has fluctuated over the years in terms of the number of vessels pursuing red crab and the annual landings. On March 1, 2000 a control date was implemented to limit the number of vessels that could pursue the fishery, and the FMP was implemented on October 21, 2002. Although this is a small fishery in terms of the number of vessels that participate, the individuals that are involved in this fishery have a very high dependence on the red crab resource. The handful of vessels that received limited access permits were surveyed during the development of the FMP, and the majority of harvesters reported that revenues from the red crab fishery make up the vast majority of their annual income. Six ports were identified in the FMP as primary ports of vessel operations and mooring including: Fall River, Gloucester, and New Bedford, MA; Bristol, ME; and Portsmouth and Tiverton, RI.

The protected species and marine mammals that may be found in the environment utilized by the deep sea red crab fishery are described in Section 8.7.1 of the Red Crab FMP/EIS. The list of species protected by either the Endangered Species Act or the Marine Mammal Protection Act that are found in this region are cetaceans (14 different species), sea turtles (5 different species), fish (2 species), and birds (2 species). However, since the red crab fishery is limited to the narrow shelf edge of the continental shelf, the extent of interaction between the fishery and protected species is not expected to be significant, and the fishery is not expected to adversely affect these populations.

3.1 Updated Fishery Information

The Red Crab FMP contains a comprehensive description of the biological, physical, and human environment affected by management measures for the red crab fishery. This section updates that information and describes what changes have occurred since the FMP has been implemented. Keep in mind, the trends in the fishery are only preliminary because there has not been a sufficient amount of time to collect data and monitor the resource and fishery since the FMP was implemented.

Catch and landings for the red crab fishery is monitored using two harvester-reporting systems: Vessel Trip Reports (VTR), and Interactive Voice Reporting (IVR). Any vessel that lands red crab needs to report with the VTR system, and vessels that have a limited access permit are required to report using both the VTR and IVR systems. VTR reports are due by the 15th of each month after the date of a fishing trip, while vessels are obliged to report to the IVR database within 24 hours of landing red crab. The values recorded in each database may be different due to time lags in reporting, incomplete recording, or errors in submission or entering the data into the database. Luckily, the red crab fishery is relatively small, and almost all of the landings are from a handful of vessels, so tracking their activity is more effective. Red crab vessels are also required to “call-in” their days-at-sea usage to NOAA Enforcement after each trip, so that DAS can be monitored. Between the DAS Enforcement database and the IVR database, the average landings per day can be calculated for each trip for the entire fleet. However, since there are only several vessels involved in this fishery, there are confidentiality issues in reporting their activity; therefore, the fishery information is presented in aggregate form to protect the vessels involved in this fishery. Therefore, for the majority of this document the analysis will describe the DAS allocations and expected total landings for the entire fleet, rather than individual vessels.

It is important to note that we do not have data for one full year under the FMP. Instead, this analysis will include FY2002, which was a partial year that began as soon as the FMP was implemented (October 21, 2002 through February 28, 2003), and FY2003, which began on March 1st, 2003 through present. Five vessels qualified for a limited access permit. Under the FMP, the fleet was allocated 780 DAS for FY2003, which translated into 156 DAS for each of the five qualified limited access vessels. For the portion of FY2002 under which the limited access and DAS program was effective, individual qualified limited access vessels were each allocated 49 DAS. This DAS allocation was intended to account for uncertainty regarding the number of fishing vessels that might qualify to participate in the DAS program, the fact that less than 4 ½ months remained of the fishing year, and that only 37% of the target TAC remained to

be harvested after accounting for documented red crab landings prior to implementation of the FMP.

Table 1 describes the DAS usage and total landings for the fleet for FY2002 and FY2003 to date. According to the DAS database, four of the five vessels that received a limited access permit used a total of 191 days for FY2002, instead of the full 294 that were awarded (65% of total days used). That effort resulted in 1,137,462 lbs. landed by the entire directed fleet. Fishing year 2003 began on March 1st, 2003 and to date (as of September 1, 2003), four of the five limited access vessels have used 184 DAS and landed 1,744,961 pounds of red crab. Since the fleet has only used 24% of the annual DAS allocated for FY2003 (184/780), it is likely that the fleet will fish more DAS in the remainder of the fishing year. There are also incidental red crab permits that allow a vessel to land 500 lbs of whole red crab per trip. To date, there are about 865 vessels with incidental red crab permits.

Fishing Year	Number of calendar days in fishing year	Number of DAS allocated	DAS usage from DAS database	Red Crab landings (lbs.) from IVR database	Total RC landings per used DAS for the entire fleet
2002 (10/21/02-02/28/03)	131	294	191	1,137,462	5,955
2003 (03/01/03 – Present)*	184*	780	234*	1,744,961*	7,457
2002 and 2003 (10/21/02 – Present)*	315	1074	425*	2,882,423*	6,782

Table 1 – DAS usage and total landings for the red crab fleet for FY2002 and FY2003.

* Note that this fishing year is not complete yet, so values will likely increase (March 1, 2003- Present is as of September 1, 2003).

The total landings and DAS used by month by the fleet are described in Table 2 as well as Figure 1 and Figure 2. Since the FMP has not been in place for a full fishing year, the two partial fishing years have been combined. Table 2 is a summary of the effort data to date broken down by month. The average landings per DAS-used does seem to vary by month; overall the fleet landed more per day in the beginning of FY2002 and more recently in the summer of FY2003 (Table 2). According to Figure 1 and Figure 2 there does seem to be some seasonable variability in fishing activity, but the FMP has not been implemented long enough to accurately evaluate seasonal trends at this time. For both fishing years combined, 425 DAS have been used, and 2,882,423 pounds of red crab have been landed (October 21, 2002 through present). Note that even when the two fishing years are combined, they still only add up to 315 calendar days, not a full calendar year. So there is potential for the effort values to increase as the fishing year goes on. As of September 1, 2003, all of the five vessels with limited access permits had DAS left for the remainder of the 2003- fishing year.

Month	Total DAS Used by Fleet	Total Landings by Fleet (pounds)	Average Landings per DAS used by Month
Oct-02	13	124,038	9,541
Nov-02	43	378,044	8,792
Dec-02	29	155,256	5,354
Jan-03	52	201,094	3,867
Feb-03	54	279,030	5,167
Mar-03	30	162,048	5,402
Apr-03	38	209,496	5,513
May-03	36	220,237	6,118
Jun-03	21	164,674	7,842
Jul-03	59	505,263	8,564
Aug-03	50	483,243	9,665

Table 2 – Total DAS usage, landings by month, and average landings per DAS used for the limited access Red crab fishery.

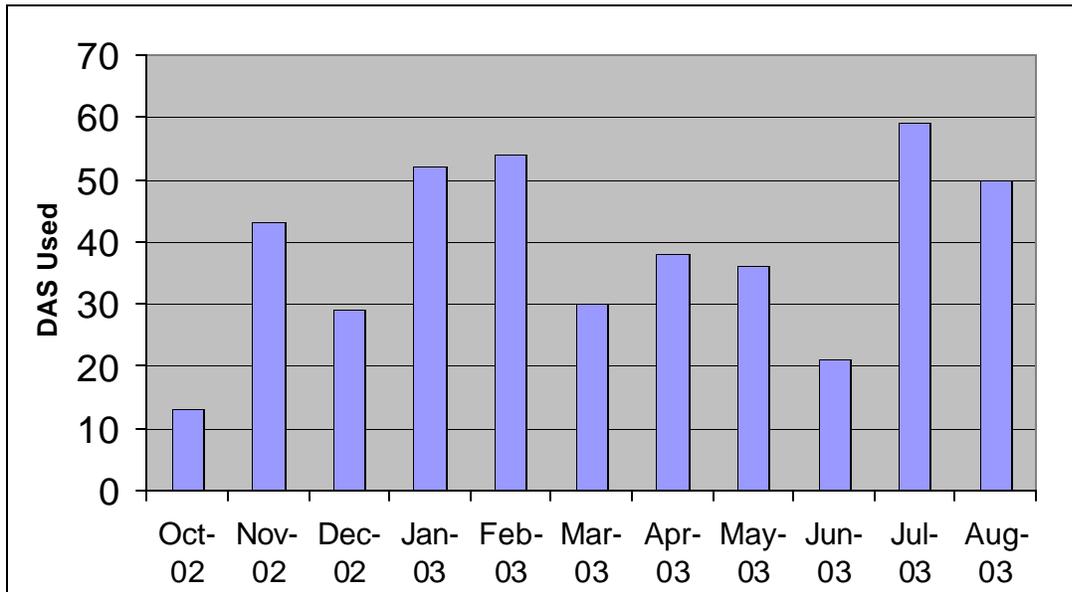


Figure 1 – Total DAS used by the red crab fleet in FY2002 and FY2003 to date (as of September 1, 2003).
Source: NMFS Day-at-sea database

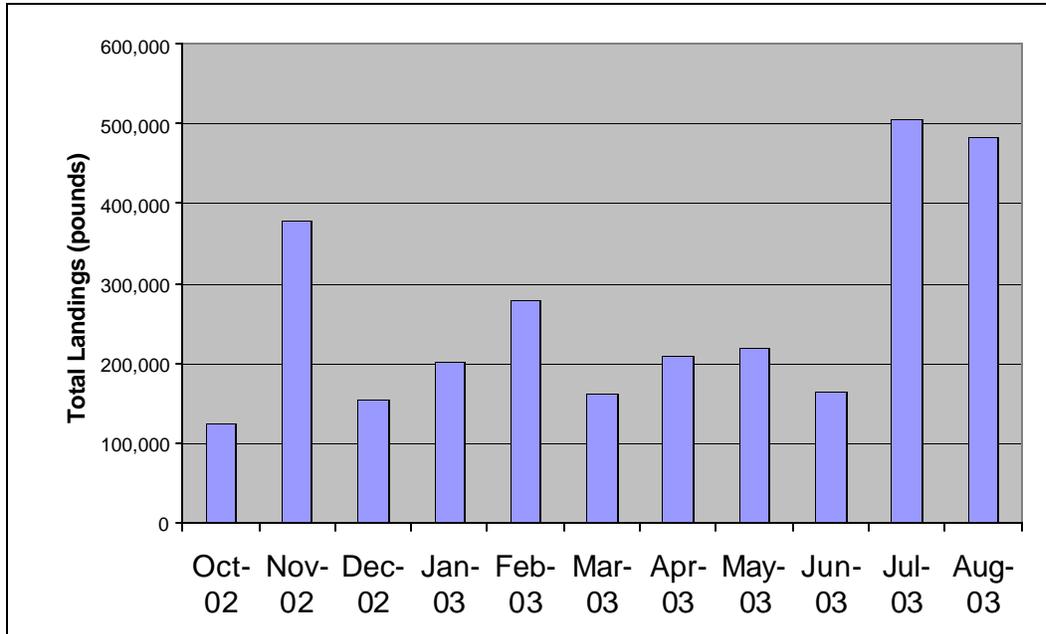


Figure 2 – Total pounds landed by the red crab fleet for FY2002 and FY2003 to date (as of September 1, 2003). Source: NMFS Individual-vessel-report database

3.2 Bycatch of Red Crab

Harvesting of red crab is not the only source of red crab mortality. The Red Crab FMP identified the bycatch of red crabs in the offshore monkfish fishery as a potential concern. Based on data from the 1974 NMFS bottom trawl survey that was a survey specifically designed to assess the red crab resource, 33 tows caught 1,436 red crabs (630 females and 806 males). The range of red crabs caught per tow was 1 to 218. The average water depth of the tows that caught red crabs from the NMFS bottom trawl survey was approximately 565 meters. Figure 3 shows the locations where red crabs were caught in the survey, and the overlap with directed Monkfish otter trawl effort from the vessel trip report database for 1999 and 2001. It would be more appropriate to compare monkfish effort and red crab location data from the same year, but monkfish effort data from 1974 are not available, and 1974 is the only year red crabs were assessed throughout the region. Therefore, these are the best available data on the location of red crabs and directed monkfish trawl effort.

There is one source of more recent data from the F/V Mary K, which was involved in a cooperative NMFS/ industry monkfish survey in 2001. The bycatch of red crab was evaluated on these cruises as well. From that survey, approximately 6,900 red crabs were caught in 24 tows (about 1800 females, and 5100 males) (See Figure 4). The range of red crabs caught from these tows was 1 to about 2,600. The average water depth of the tows from the industry survey that caught red crabs was approximately 240 meters. Both of these sources suggest that red crab bycatch may be an issue, but there is not enough data to conclude the magnitude of the overlap, and we do not have any information about how many tows did *not* contain red crab. It is also important to note that the Albatross survey was conducted in June and July of 1974, while the

cooperative survey was conducted in March-May of 2001. There is not enough data to conclude whether there is an issue with seasonality, but it is important to note that the surveys were conducted during different times of the year, and with different gear.

Some anecdotal reports suggest that bycatch levels of red crab may be quite high occasionally, and that the mortality of red crabs caught may be high as well. In order to determine this for sure, requires more information on the level of bycatch from the monkfish fishery (as well as other deep-water fisheries such as lobster and tilefish), the mortality of red crab bycatch, and the sex and size distributions of the red crab bycatch.

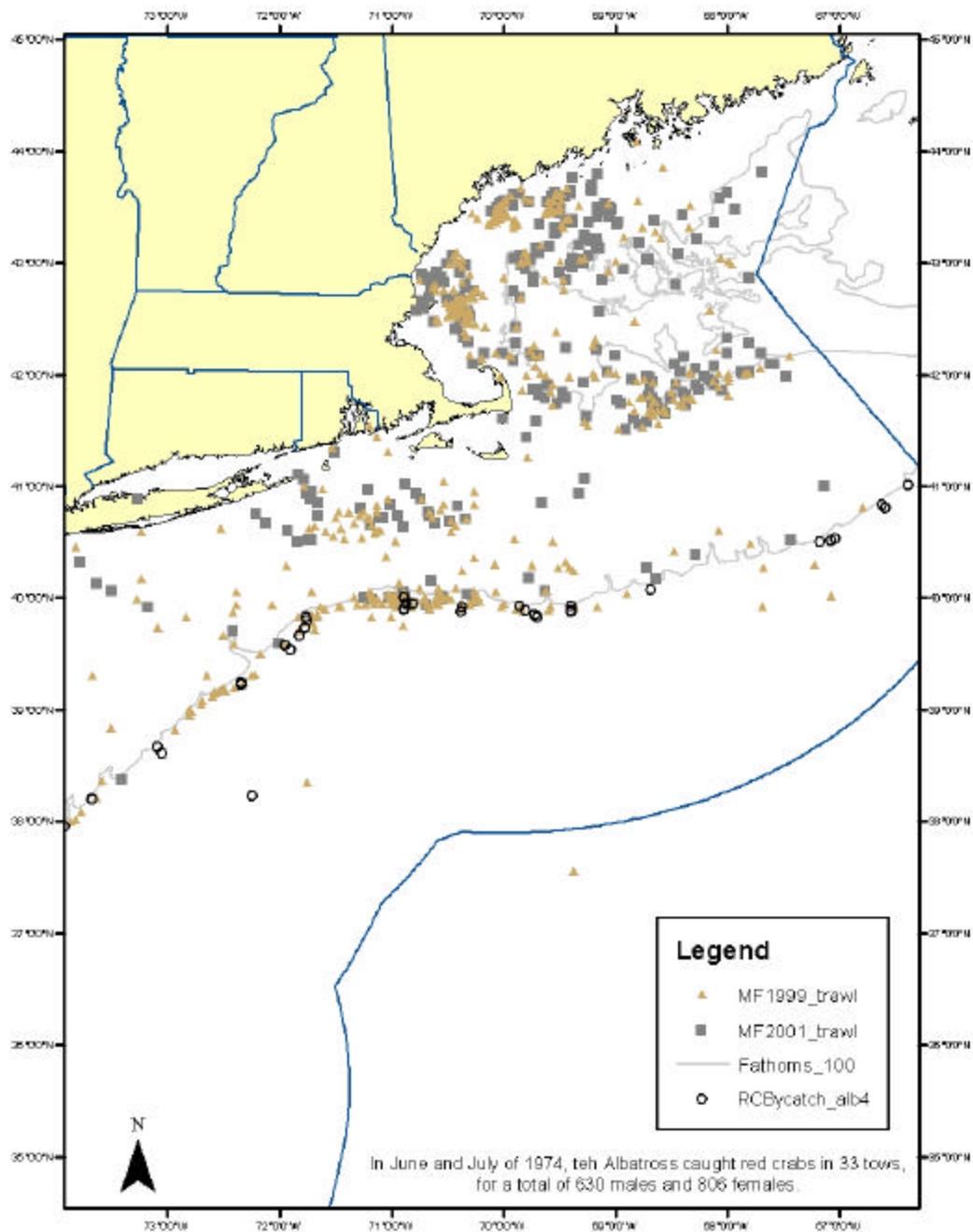


Figure 3 – Display of where red crab was caught in 1974 on the Albatross survey, overlapped with directed monkfish trawl effort from fishing years 1999 and 2001

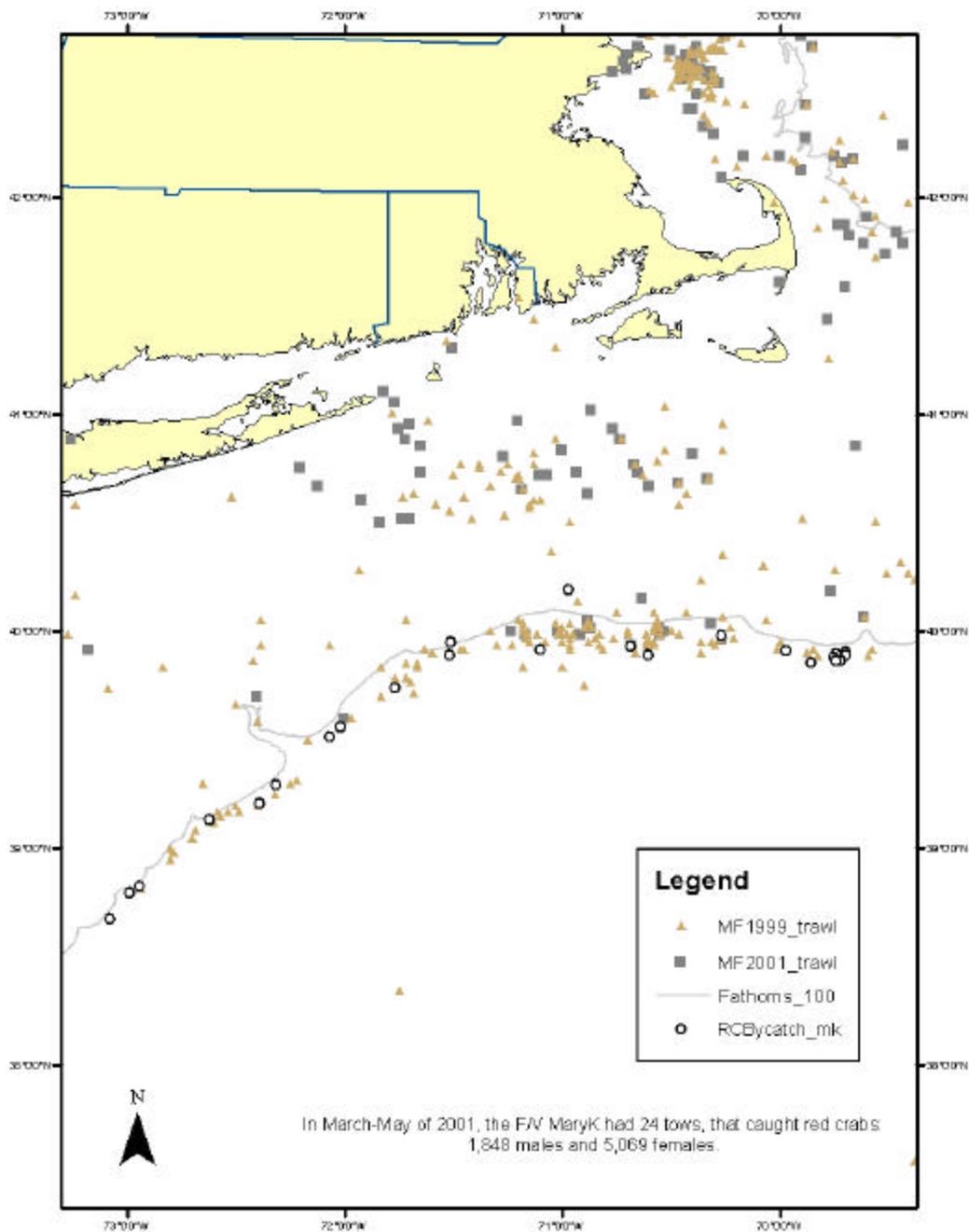


Figure 4 – Display of where red crab was caught in the 2001 cooperative survey (F/V MaryK), overlapped with directed monkfish trawl effort from fishing years 1999 and 2001

4.0 PROPOSED ACTION AND ALTERNATIVES

This section describes the alternatives being considered. The only difference between the alternatives is that each one uses a different method to determine the annual fleet DAS for the fishery. Each method utilizes a different technique to calculate catch per unit effort. The catch per unit effort value is then divided by the total allowable catch of the fishery (TAC) for FY2004. The result of that equation is the annual fleet DAS allocation for FY2004. The primary objective is to allocate fleet DAS in an appropriate amount that would provide the fleet with the greatest likelihood of being able to harvest the target TAC, without exceeding it. Therefore, alternatives that would likely result in the fleet significantly underutilizing the available TAC are as undesirable as those that would likely overharvest the target TAC. Since this is the first fishing year under the FMP, it is important that the Council consider various methods to calculate annual fleet DAS each year until the most appropriate method is determined.

Since there is no new biological information to consider, the maximum sustainable yield (MSY) and optimum yield (OY) for FY2004 will remain the same as FY2003; thus, total allowable catch (TAC) will remain the same as well. The FMP defines target yield to equal OY, and OY equals 95% of MSY; therefore, MSY and OY will remain the same for FY2004. Maximum sustainable yield for FY2004 is still estimated to be 6.24 million pounds; therefore OY and TAC are still 5.928 million pounds. However, the days-at-sea allocations for each vessel in this fishery may need to be adjusted based on the updated analysis of the catch per unit effort, or average pounds landed per day for the fishery. After completion of this analysis, the Council has determined that 780 fleet DAS is the appropriate level of effort for FY2004 (same as FY2003).

4.1 No Action Alternative: Status quo DAS Allocation (780 fleet DAS)

It is important to note that while this alternative is termed the “No Action” alternative, there really is no true “No Action” alternative, because the FMP requires the Council and NMFS to set annually the fleet DAS allocation for the coming year. Even though this alternative would maintain the same annual fleet DAS allocation that was allocated in FY2003, implementing it requires an affirmative action on the part of the Council and NMFS to determine what the 2004 DAS allocation should be, and NMFS must prepare a proposed and final rule to establish the annual specifications for 2004. If this alternative were selected, the limited access fleet would be awarded 780 total DAS for FY2004. In terms of annual DAS allocation, the No Action and Status quo are the same for this action.

** This is the Council's preferred alternative for the FY2004 fleet DAS allocation.*

4.2 Alternative 1: Status quo Method for Calculating DAS Allocation

This alternative would maintain the same *method* of calculating DAS allocation that was used for FY2003, but the calculation would be based on more up-to-date effort data. The total fleet DAS allocation may not be the same value as in FY2003 (780 DAS), but the method used to calculate it would be. Total Fleet DAS calculation would be based on the upper 95% confidence limit of the mean CPUE (lbs/trip/day) for all vessels in FY2002-2003 (=7592 lbs/day). Total DAS is calculated by dividing the 2004 TAC by the 95% confidence limit of the mean CPUE. Total estimated fleet DAS for FY2004 would be 745.

4.3 Alternative 2: “Mean of Means” Method for Calculating DAS Allocation

This alternative would calculate the fleet annual DAS allocation on the grand mean of mean CPUE for each vessel in FY2002 and FY2003 (mean of vessels per day of trip). This is calculated by determining the mean pounds landed per day/per vessel for each fishing year for FY2002 and FY2003. A grand mean of all vessel-FY mean CPUE is calculated. Every vessel's mean CPUE gets equal weight under this scenario. Total estimated fleet DAS for FY2004 would be 861.

4.4 Alternative 3: Weighted Average Method for Calculating DAS Allocation

This alternative would calculate the fleet annual DAS allocation on the weighted grand mean of mean CPUE for each vessel in FY2002 and FY2003 (mean of vessels per day of trip). A vessel's mean CPUE for each fishing year is weighted by the vessel's fishing year total landings. This is calculated by determining the mean pounds landed per day/per vessel for each fishing year for FY2002 and FY2003. A grand mean of all vessel-FY mean CPUE weighted by that vessels proportion of total landings is calculated. The CPUEs of vessels landings a greater proportion of the total landings carry more influence than vessels with smaller proportion of landings. Every vessel's fishing year's mean CPUE is weighted under this scenario. Total fleet DAS for FY2004 would be 840.

4.5 Alternative 4: Projected Method for Calculating DAS Allocation

This alternative calculates CPUE by dividing total landings 2002-2003 by total days fished 2002-2003. DAS for FY2004 are calculated by dividing the 2004 TAC by CPUE, which in this case is a ratio of landings/DAS fished. Total fleet DAS for FY2004 would be 874.

5.0 CONSIDERED BUT REJECTED ALTERNATIVES

5.1 Alternative 5: Catch per Trap for Calculating DAS Allocation

Catch per trap is a good measure of the status of the resource, but there is not enough data available to use this method because it is calculated from the VTR database. The PDT suggests that this method be re-evaluated in several years, when there more VTR data are available for this fishery.

6.0 ANALYSIS OF VARIOUS METHODS FOR CALCULATING THE ANNUAL DAS ALLOCATION

Determination of the appropriate DAS allocation is based on an estimation of effort (CPUE). Since all vessels harvest different amounts of red crab depending on vessel capacity and other factors, the average landings per trip, per day will give a better estimate of effort, rather than a simple average for the entire fleet. Therefore, the average landings per day is the primary value used in the calculation of annual DAS allocations. The annual DAS allocation is determined by dividing the annual target TAC (5.928 million pounds) by the average landings per day value estimated for each alternative. The equation used to determine fleet DAS (X) for each alternative is:

$$\text{Annual Fleet DAS (X)} = \frac{\text{Target TAC (constant of 5.928 million pounds)}}{\text{Average landings per day (varies for each alternative based on the method used)}}$$

In addition to considering the various alternatives developed by the PDT for calculating DAS, the Council also considered what time frame is most appropriate to use when calculating the average landings per day. There are three possible time periods: 1) data from the 2002 fishing year only (October 21, 2002- February 28, 2003); 2) data from the 2003 fishing year to date (March 1, 2003 – September 1, 2003); and 3) data from fishing year 2002 and fishing year 2003 combined (See Table 3). The Red Crab PDT and the Council determined that the combined data sets for both years are the most appropriate to used since they include the most data points, and most up-to-date effort data.

Fishing Year	Dates	Number of Calendar days in Fishing Year
FY 2002	October 21, 2002 – February 28, 2003	131
FY 2003	March 1, 2003 – Present (09/01/03)	184
*FY 2002 and FY2003	October 21, 2002 – Present (09/01/03)	315

Table 3 – Summary of calendar days in each fishing year

* Council's preferred time period to be used for calculating fleet DAS allocation.

Table 4 describes the estimated DAS allocations for the limited access fleet for fishing year 2004, based on the combined 2002 and 2003 data. The total fleet DAS allocations range from 745 to 873 depending on the various methods being proposed for calculating DAS. Once the alternative for the appropriate method for counting DAS is selected, which will determine the total fleet DAS allocation for FY2004, then NMFS will allocate the individual DAS allocations to the limited access fleet. The individual DAS allocations are based on the number of limited access vessels that intend to participate in the fishery. It is important to note that the FMP allows for a vessel to opt out of the fishery each year by sending a letter to NMFS at least 180 days prior to the start of the fishing year. For FY2004 that deadline has passed, September 3rd, 2003. If a vessel opts out of the fishery for the 2004 fishing year, the DAS allocation for that vessel is then divided equally among the remaining vessels. For comparison purposes, Table 4 describes the individual DAS allocations for several different scenarios if some limited access vessels decide to opt out of the fishery.

Alternative	Estimated average landings per day/ per vessel	Total Fleet DAS	Individual DAS if 5 vessels participate	Individual DAS if 4 vessels participate	Individual DAS if 3 vessels participate
*No Action	N/A (7594)	780	156	195	260
1	7952	745	149	186	248
2	6883	861	172	215	287
3	7052	840	168	210	280
4	6782	874	174	218	291

Table 4 – Potential DAS allocations for FY2004 for each of the proposed alternatives (Based on data from both FY2002 and FY2003).

* Council's preferred alternative for fleet DAS allocation for FY2004

Table 5 describes the estimated DAS allocations for the limited access fleet for fishing year 2004, based on the data from two time periods, FY 2002 and FY 2003 to date. Although the PDT did not recommend that these data periods be used to calculate annual DAS allocations, they have been provided for comparison purposes.

Alternative	Estimated average landings per day/ per vessel (FY 2002)	Total Fleet DAS (Based on FY 2002 data)	Estimated average landings per day/ per vessel (FY 2003 to date)	Total Fleet DAS (Based on FY 2003 to date data)
No Action	N/A (7594)	N/A (780)	N/A (7594)	N/A (780)
1	7747	765	8755	677
2	6176	959	7590	781
3	6292	942	7812	758
4	5955	995	7457	794

Table 5 – Potential DAS allocations for FY2004 for each of the proposed alternatives (Based on two different time periods, FY2002 and FY2003 to date).

7.0 ENVIRONMENTAL CONSEQUENCES AND ASSESSMENT OF IMPACTS

The following section is based on and refers to information contained in the Red Crab FMP/EIS as well as Section 8.0 of this document, *Regulatory Impact Review and initial Regulatory Flexibility Analysis*.

7.1 Biological Impacts

The preferred alternative in this specifications package is expected to have the same biological impacts as those assessed under the FMP. Since this FMP is managed under a target TAC, rather than a hard TAC, there is no guarantee that the fishery will not exceed the quota; however, the DAS management program implemented under the FMP was designed to manage the red crab resource at a level that produces the maximum sustainable yield, while harvesting the target TAC. Therefore, if DAS are adjusted, the level of red crab harvest will adjust accordingly, assuming a constant harvest rate. For example, under Alternative 4, 874 DAS would be allocated compared to 745 under Alternative 1. If you assume a constant harvest rate, then

Alternative 1 would result in an approximate 4.5% decrease in red crab landings, and Alternative 4 would result in an approximate 12% increase in landings, relative to the No Action/Status Quo alternative of 780 fleet DAS. Using the same rationale, Alternative 2 would increase landings by approximately 10% and Alternative 3 would increase landings by approximately 8%, relative to the No Action/Status Quo alternative. Therefore, the Council's preferred alternative is to maintain the same DAS allocation since there are not sufficient data to suggest that the current level of harvest should change.

The only measure being evaluated in this annual specifications package is DAS limits, since that is the only measure that is under review in this document that may vary from the analysis in the FMP. The FMP describes that alone, DAS allocation is unlikely to have any direct effects on the red crab resource. However, since there are only a certain number of vessels that participate in the directed red crab fishery, the amount of red crab harvested is constrained. Therefore, the DAS program is the principle fishing effort control mechanism by limiting the amount of time a red crab vessel may harvest red crab.

In terms of the biological impacts on other non-target species and the ecosystem, based on analysis in the FMP/EIS, it is not likely that any of the alternatives in this document will have an impact. There is very little known about the interactions of the deep-sea red crab with other species and their associated communities. The FMP explains that initial reports from industry members indicate that there is very little, if any, bycatch of other species in the directed red crab fishery. The FMP did identify that the bycatch of red crab in other fisheries may be a more significant issue. There are some updated data on the spatial overlap of red crab bycatch and directed monkfish trawl effort (Section 3.2), but there are not sufficient data to conclude that bycatch is a significant concern for the offshore deep-water monkfish trawl fishery. More research through observers is needed to determine the level of red crab bycatch in other fisheries, as well as the level of bycatch of other fisheries in the red crab fishery.

The biological impacts are not expected to change with this action since the Council's preferred alternative is the No Action/Status Quo alternative for fleet DAS allocation, which maintains effort to 780 fleet DAS. Furthermore, the biological impacts on protected species and EFH is not expected to change as a result of this action.

7.2 Economic Impacts

The economic impacts of this action vary based on which method is selected to calculate annual fleet DAS. If the individual DAS are less than what was allocated in FY2003, then it is probable that the economic impacts will be negative for the directed fleet. On the other hand, if an alternative is selected that allocates a greater number of individual DAS to each vessel, economic impacts are expected to be beneficial if individual vessels utilize the additional DAS awarded. It is important to note that a vessel may opt out of this fishery, and if it does, that vessel's DAS are allocated equally among the remaining vessels. This measure is important to consider when evaluating the alternatives because one alternative may allocate less fleet DAS than FY2003, but if one vessel opts out of the fishery, then the individual DAS may actually be higher than each active vessel received in FY2003. Sections 8.8 and 8.9 of the *Regulatory Impact Review and Initial Regulatory Flexibility Analysis* section of this document highlights the economic impacts

that are expected from each of the alternatives. According to Section 8.8, Alternative 1 would generate the lowest level of landings and revenue; this alternative would allocate 35 less fleet days than the No Action/Status Quo Alternative. On the other hand, Alternatives 2, 3, and 4 would allocate more fleet days than the No Action/Status Quo Alternative; 81 more days, 60 more days, and 94 more fleet DAS respectively. The additional allocated days would enable each vessel to take a couple of extra trips, and the economic impacts are expected to increase with more days available depending on which alternative is selected. For example, Alternative 4 would provide greater economic benefits in the short term than both Alternative 2 and 3 because it used a method for calculating DAS that generates the greatest number of annual DAS. Refer to Section 5.0 of the FMP for more detailed economic impact analysis of DAS measures. A Red Crab Committee meeting was held in September of 2003 to review this document, and none of the Red Crab Advisors present indicated that this action would cause any negative economic impacts on the fishery or participants involved in the fishery; they supported the No Action alternative for DAS allocation unanimously.

With the No Action fleet DAS allocation alternative, the economic impacts are not expected to change from the FMP. However, the Regional Office has informed the Council that one vessel has opted out of the fishery for 2004. Therefore, the four remaining vessels will receive more individual DAS for 2004 than in 2003, so the economic impacts of this action are expected to be positive for the individuals that remain in the fishery if they utilize the additional individual DAS awarded.

7.3 Social Impacts

The social impacts of this action are not expected to be significant, nor are they expected to be different than those discussed in the FMP/EIS. As the FMP describes, there are no data available to evaluate the potential impacts of this action on fishing communities. This fishery is relatively small, has few participants, and is distributed in a way that social impacts to fishing communities are expected to be negligible. A Red Crab Committee meeting was held in September of 2003 to review this document, and none of the Red Crab Advisors present indicated that this action would cause any negative social impacts on the fishery or participants involved in the fishery; they supported the No Action alternative for DAS allocation unanimously.

With the No Action fleet DAS allocation alternative, the social impacts are not expected to change from the FMP. However, the Regional Office has informed the Council that one vessel has opted out of the fishery for 2004. Therefore, the four remaining vessels will receive more individual DAS for 2004 than in 2003, so the economic impacts of this action are expected to be positive for the individuals that remain in the fishery if they utilize the additional individual DAS awarded. The social impacts of the individuals involved in the limited access red crab fishery are expected to relate directly to the number of DAS awarded. The more DAS awarded, the more beneficial the social impacts of the action. Thus, Alternatives 2, 3, and 4 are expected to have more positive social impacts, while Alternative 1 may have negative social impacts, as compared to the No Action/Status Quo Alternative.

7.4 Other Impacts

Impacts of this action on habitat and protected species are not expected to be different than those discussed in the FMP/EIS. Section 5.0 of the FMP/EIS should be referenced for an assessment of the impacts of the proposed action on protected species, and Section 8.7 of the FMP/EIS describes all the marine mammals and other protected species that may be found in the management area of the red crab resource. Section 5.3.10.6 of the FMP/EIS, evaluates the impacts of DAS limits on protected species more specifically. The FMP assessed that the proposed TAC of 5.928 million pounds will cut landings back to 1999 levels (a 25% reduction from 2001), thus the existing entanglement threat to protected species would not likely increase. The EFH Assessment of this action (Section 7.6) concludes that this fishery does not have adverse impacts on EFH because it is a small fishery that is now limited, the gear used by the limited access fleet does not have adverse impacts on EFH, and the amount of fishing gear is limited to 600 traps per limited access vessel. Therefore, because the fleet is still limited to the same target TAC under this action, additional impacts will not occur to red crab EFH or protected species as a result of this action, which rolls over the TAC and total DAS allocation from 2003 to the 2004 fishing year. Other fishery management actions in the region may impact red crab EFH, but those impacts are being addressed in other FMPs.

7.5 Cumulative Impacts

Cumulative effects result from the proposed action's incremental impacts when these impacts are added to the impacts of other past, present, and reasonable foreseeable future actions. These impacts can result from individually minor but collectively significant actions taking place over a period of time. The Red Crab FMP/EIS has already assessed the cumulative impacts of the management plan using the eight principles of cumulative effects analysis from the Council on Environmental Quality's (CEQ) 1997 handbook (See Section 12.10.7.2 of the FMP/EIS). Since the FMP is the first and only action for the red crab fishery, there are no other actions in the past that need to be assessed from the perspective of the red crab management plan. Since this annual specifications package is the first new action since the FMP, and essentially rolls over measures implemented under the FMP, there is no need to assess the cumulative impacts of the present action. Furthermore, since there is no indication that future actions will differ from what has been implemented so far, there are no actions under the Red Crab FMP in the reasonable foreseeable future that will have different cumulative impacts on the resource, the environment, or the participants of the fishery. Instead, the cumulative impacts assessed under the FMP/EIS are summarized in the following paragraphs and the cumulative impacts of this action are not expected to be different.

The Red Crab FMP/EIS assessed all the principles identified by the CEQ guidance including the direct and indirect impacts on the natural and human environment, the cause and effect relationships of the measures being proposed, the synergistic interactions, the spatial and temporal boundaries of the action, and the capacity of the resource to accumulate additional effects. Below is a summary of the cumulative impacts assessment from the FMP/EIS (See Section 12.10.7 of the FMP/EIS for more details). The FMP determined that the long-term results of the FMP would have a positive effect on the red crab resource and ecosystem, its environment, and the directed red crab fishery because the FMP was implemented to prevent overfishing, prevent overcapitalization and stabilize the fishery, as well as prevent or minimize

the likelihood of adverse impacts to the ecosystem associated with the red crab fishery. Likewise the direct and indirect effects of the FMP were expected to protect the resource from overexploitation and maintain a sustainable fishery. In addition to the direct and indirect effects, there are sometimes synergistic interactions with other species and management plans that have cumulative impacts, but the red crab fishery is a single-species fishery with very little interaction with other fisheries, thus the majority of the participants are only affected by the regulations in the Red Crab FMP. The spatial and temporal boundaries of the red crab fishery are within federal waters of the United States Exclusive Economic Zone, primarily in deep waters (400-800 meters) on the continental shelf. There is not sufficient research on the red crab resource, more specifically the capacity and resilience of the stock to fishing impacts, but researchers in the region believe that the stock is sensitive to overfishing, and its capacity to absorb cumulative effects may be lower than other species in the ecosystem. Therefore, the cumulative impacts of other fisheries and other sources of mortality need to be monitored closely.

There are other sources of mortality on red crab that should be kept in mind when evaluating this action. According to some cooperative research conducted with the monkfish industry in 2001, there is some evidence of red crab bycatch from the offshore monkfish trawl fishery (See Section 3.2). In addition, red crabs that are caught incidentally, (either by vessels without permits, or undersize or female crabs by limited access vessels), do not necessarily live when they are thrown back. The FMP describes red crabs as relatively fragile and describes them as “bleeders”, which means that if they get injured during handling and lose a limb, they bleed to death. Some of these issues are taken into account in the definition of OY (95% of MSY), but it is important to keep these other sources of mortality in mind when managing this resource until we have more data to accurately assess the resource.

There are no other actions in the region that may have cumulative impacts on the resource that the Council is aware of. In terms of other fisheries in the region, only a handful of fisheries occur in deep waters and potentially overlap with the red crab fishery, specifically tilefish, monkfish, and offshore lobster fisheries. All of these fisheries are under management plans that assess the impacts of that fishery on the red crab resource and EFH for red crab. One action in the reasonably foreseeable future that may impact the red crab resource and EFH is Monkfish Amendment 2. This Amendment is proposing to restore offshore monkfish trawl effort in the Southern Management Area. Only a handful of vessels will qualify for this offshore fishery, but it is possible that effort in deeper waters may increase. Amendment 2 is also considering offshore closures in deep-water canyons to protect coral. It is possible that some of these closures will prevent monkfish trawling in areas where corals have been found which also happen to overlap with portions of designated red crab EFH. It is important to note that if one of these closures are implemented in the Monkfish FMP/EIS, it is possible that these areas will also be recommended as closures in the future for the Red Crab FMP as well, in order to maximize benefits to deep-water corals in the region.

There are no cumulative impacts of this fishery action on protected species and EFH from this fishery action that occurred in the past, present, or reasonable foreseeable future. Since the Red Crab FMP was implemented, any potential impacts on EFH and protected species are expected to decrease as a result of implementing a limited access directed fishery. The number of vessels

that participate in this fishery is small, the amount of gear is limited, and the impacts to EFH and protected species are not significant.

7.5.1 Conclusions

This action builds on actions taken in the Red Crab FMP/EIS. Based on the information and analyses presented in this document, as well as the FMP, there are no significant cumulative effects associated with the proposed action to rollover the fleet DAS allocations from 2003 through the 2004 fishing year (780 days). The cumulative effects on the red crab resource, red crab fishery, other fishery resources, EFH, and protected species in the region is not expected to change. In fact, since this fishery has been under a fishery management plan, the impacts on red crab, other fisheries, EFH and protected species are expected to be positive, when compared to the impacts of the unregulated red crab fishery before the FMP was implemented. Fewer boats are now fishing a limited amount of days, and red crab landings have decreased significantly from when the fishery was unregulated. Red crab landings have varied over time, but since 1991 they have ranged from about 2,500 pounds (1994) to almost 9 million pounds (2001). Under the FMP, as well as this annual specifications package, the target TAC of the fishery is 5.928 million pounds, significantly less than the total landings before the FMP was implemented. The effort from vessels that did not qualify for a limited red crab permit are not expected to shift into other fisheries in the Northeast region, because according to anecdotal information, the vessels that did not qualify have moved to other regions of the country.

7.6 Essential Fish Habitat (EFH) Assessment

The EFH Assessment is provided pursuant to 50 CFR 600.929 of the EFH Final Rule to initiate EFH consultation with the National Marine Fisheries Service.

Description of the proposed action:

See Section 4.0 of this document for a description of the action proposed in this annual specifications package. The activity described by this proposed action, the annual specifications for the red crab fishery, occurs in a limited area and narrow depth range (400 to 800 meters) along the continental slope of the United States, from the southern flank of Georges Bank south to Cape Hatteras, North Carolina. The range of this activity occurs across designated EFH for eleven species managed by the New England, Mid-Atlantic, or the South Atlantic Fishery Management Councils. The list of species with EFH designated in this area are: monkfish, offshore hake, red hake, redfish, white hake, whiting, witch flounder, black sea bass, scup, tilefish, and golden crab.

Analysis of the effects of the proposed action:

This action proposes to rollover the target TAC and DAS allocations implemented through the Red Crab FMP, and all other measures under the FMP will remain in effect as well. The EFH Assessment in the Red Crab FMP/EIS determined that there are no adverse impacts to the EFH of any species in the region for the following reasons: 1) this fishery has a small number of limited access vessels (five or less), 2) the gear for the limited access fleet is restricted to pots (which do not have adverse impacts on EFH), and 3) the number of pots per vessel is limited. Since this action will not change the amount of overall fishing effort in the region, this action is

not expected to cause additional adverse impacts on the EFH of any managed species relative to the baseline conditions presented in the Red Crab FMP/EIS.

Conclusions:

In that fishing takes place as a result of this action, the action potentially has adverse effects on EFH that are less than substantial but does not increase any of the adverse effects as established in the baseline condition under the FMP. Since adverse effects are not increased, the Council has determined that the potentially adverse effects of fishing on EFH from this action have been minimized to the extent practicable; therefore, only an abbreviated EFH consultation is required.

Proposed mitigation:

None required.

7.7 Finding of No Significant Impacts (FONSI)

Based on guidance in Section 6.01(b) of NOAA Administrative Order NAO 216-6, May 20, 1999, and the analysis of impacts and alternatives in this document and the Red Crab FMP/EIS, the proposed 2004 specifications that rollover the total DAS allocation under the FMP are not deemed to be significant. The proposed action, which does not increase the total DAS allocated to vessels, is a constraint on the amount of red crab that fishing vessels may harvest, thus this measure will not likely impact the target species, non-target species, or the ecosystem biota. These specifications would not impact physical structures or the habitat of any endangered species. They do not threaten or violate a Federal, State, or local law or requirements imposed for the protection of the environment. Based on public comments the Council received when considering the specifications, the action is also not deemed to be controversial.

NOAA Administrative Order 216-6 provides guidance for the determination of significance of the impacts resulting from the management measures contained in fishery management plans, their amendments, and framework adjustments. The nine criteria to be considered are addressed below:

1. *Can the proposed action be reasonably expected to jeopardize the sustainability of any target species that may be affected by the action?*

The proposed action is not expected to jeopardize the sustainability of the target species affected by this action – red crab. The impacts of the proposed action on the red crab resource are discussed in Section 7.0 and 8.0 of this document. In addition, the Red Crab FMP/EIS contains additional biological assessment information on days-at-sea limits (Section 5.3.8 of the FMP/EIS).

2. *Can the proposed action be reasonably expected to jeopardize the sustainability of any non-target species?*

The proposed action is not expected to jeopardize the sustainability of any non-target species. The red crab fishery is a single species fishery that does not have significant bycatch levels of non-target species (Red Crab FMP/EIS). Since this action proposes to maintain the status quo in 2004, the expected impacts on non-target species have not changed.

3. *Can the proposed action be reasonably expected to allow substantial damage to the ocean and coastal habitats and/or EFH as defined under the Magnuson-Stevens Act and identified in FMPs?*

Impacts of the specifications on ocean and coastal habitats and/or EFH were assessed in Section 5.0 of the Red Crab FMP/EIS, and apply to the proposed specifications for fishing year 2004. This action is not expected to allow substantial damage to the ocean and coastal habitats and/or EFH as defined under the Magnuson-Stevens Act and identified in the FMP. In general, this fishery takes place in very deep waters of the continental shelf, which do not overlap with a significant number of EFH designations for the regions. Furthermore, pots are the only gear type utilized to harvest red crab by the limited access fleet, and this gear type does not have adverse impacts on EFH.

4. *Can the proposed action be reasonably expected to have a substantial adverse impact on public health or safety?*

When developing management measures, the Council usually receives extensive comments from affected members of the public regarding the safety implications of measures under consideration. The proposed specifications are not expected to have substantial adverse impacts on public health or safety. The Council has received no comments suggesting that such impacts could be expected from maintaining the status quo through the 2004 fishing year.

5. *Can the proposed action be reasonably expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species?*

Impacts of the red crab fishery on endangered and threatened species and marine mammals were assessed in Section 5.0 of the FMP/EIS for each management measure. Section 5.3.10.6 of the FMP/EIS explains that the DAS limits under the FMP will not likely increase the existing entanglement threat to endangered species, and the same applies for this action, which rolls over the same DAS limits as the FMP. The activities to be conducted under the proposed action are within the scope of the FMP and do not change the basis for the determinations made in previous consultations.

6. *Can the proposed action be reasonably expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?*

Cumulative effects related to the proposed action are discussed in Section 7.5 of this document. Because this action maintains the status quo for the red crab fishery through the 2004 fishing year, cumulative effects are not expected to be significant, and there is no change from the original analysis of cumulative impacts as assessed in the FMP.

7. *Can the proposed action be expected to have a substantial impact on biodiversity and ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships)?*

The proposed rollover is not expected to have a substantial impact on biodiversity and ecosystem function within the affected area. There is insufficient information available on the ecosystem function of the red crab resource, and how it impacts other aspects of the environment. There is little indication that red crab constitutes a major prey item for any species in the region (Steimle

et al., 2001). Red crabs are most likely opportunistic omnivores due to the limited availability of food at the water depths where red crabs live (Gray, 1969). The proposed action will likely continue to ensure biodiversity and ecosystem stability over the long-term.

8. *Are significant social or economic impacts interrelated with significant natural or physical environmental effects?*

A discussion of the impacts of the proposed action is presented in Section 7.0 and Section 8.0 of this document, as well as Section 5.0 of the Red Crab FMP/EIS. There are no significant social or economic impacts, nor are there any significant natural or physical environmental effects expected to result from the proposed rollover. The industry members present at the Red Crab Committee meeting when this document was reviewed did not indicate that any of the measures proposed in this document, or the FMP had negative economic or social impacts.

9. *To what degree are the effects on the quality of human environment expected to be highly controversial?*

The annual specifications presented in this document are not expected to be highly controversial. The Red Crab Plan Development Team (PDT), the Red Crab Advisory Panel, the Red Crab Committee, and the New England Council approved the No Action Alternative for this package unanimously. According to the Advisory Panel, all limited access permit holders support this action.

FONSI Statement

In view of the analysis presented in this document, the EA/RIR/FRFA for the 2004 specifications, and in the EIS for the Red Crab Fishery Management Plan, the 2004 specifications will not have a significant effect on the human environment, with specific reference to the criteria contained in Section 6.02 of NOAA Administrative Order NAO 216-6, Environmental Review Procedures for Implementing the National Environmental Policy Act, May 20, 1999. The impacts and alternatives in this document were analyzed with regard to both context and intensity and are deemed not to be significant. Accordingly, the preparation of a Supplemental Environmental Impact Statement for the proposed action is not necessary.

Assistant Administrator for Fisheries, NOAA

Date

8.0 REGULATORY IMPACT REVIEW AND INITIAL REGULATORY FLEXIBILITY ANALYSIS

This red crab specifications package for the 2004 fishing year has been prepared primarily in response to the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). This chapter addresses the components of the Regulatory Impact Review (RIR) and Initial Regulatory Flexibility Act Analysis (IRFAA).

8.1 Introduction

An RIR is required by NMFS for all regulatory actions, which are part of the “public interest.” The Regional Fishery Management Council (in this case, the New England Council) prepares the RIR with assistance from NMFS when proposing a regulatory action. The RIR is a required component of the process of preparing and reviewing FMPs, amendments or annual specifications and provides a comprehensive review of the economic impacts associated with proposed regulatory actions. The RIR addresses many concerns posed by the regulatory philosophy and principles of Executive Order (E.O.) 12866. The RIR serves as the basis for assessing whether or not any proposed regulation is a “significant regulatory action” under criteria specified by E.O. 12866.

The RIR must provide the following information: (1) a comprehensive review of the level and incidence of economic impacts associated with a proposed regulatory action or actions; (2) a review of the problems and policy objectives prompting the regulatory proposals; and (3) an evaluation of the major alternatives which could be used to meet these objectives. In addition, an RIR must ensure that the regulatory agency systematically and comprehensively considers all available alternatives such that the public welfare can be enhanced in the most efficient and cost effective manner.

The RIR includes a description of each alternative, including the “no action” alternative, and an economic analysis of the expected effects of each selected alternative relative to the baseline.

Under the Regulatory Flexibility Act (RFA) of 1980 as amended by Public Law 104-121, new FMPs or amendments also require an assessment of whether or not proposed regulations will have a significant economic impact on a substantial number of small business entities. The primary purposes of the RFA are to relieve small businesses, small organizations, and small government agencies from burdensome regulations and recordkeeping requirements, to the extent possible.

The following section provides an assessment and discussion of the potential economic impacts, as required of an RIR and the RFA, of various proposed management and regulatory actions and alternatives.

8.2 Problems and Objectives

The problems which should be resolved or addressed by the proposed management action are covered in Section 2.0. The Red Crab FMP/EIS requires that the Council and the Regional

Administrator will review annually the best available data on the fishery to develop specifications.

8.3 Framework for Analysis

This section provides an overview and description of the procedures used to assess the potential economic impacts of four alternatives as well as the No Action or Status quo alternative.

Under different circumstances and data availability, an analysis of economic impacts would be assessed in terms of changes in landings, prices, revenues, and net returns for each of the regulatory options and the status quo. Net returns would be estimated by deducting from the estimated ex-vessel revenues total operating costs, all fixed costs, and repair and maintenance costs. The impacts on landings, revenues, operating and total costs, and net returns would also be assessed. However, in the absence of projected landings for each of the alternatives, prices, economic impacts and net benefits could not be quantitatively assessed.

8.4 Description of the alternatives

The objective of the FMP was to allow the appropriate number of days at sea to harvest, but not exceed, the target TAC. The effectiveness of this approach does not depend on the number of vessels participating, but on the calculation of the total number of days that would allow for the target catch to be landed. The annual specifications process allows for this to be adjusted each year based on the most current information available.

The target TAC, which may be adjusted each year to account for the previous year's difference between the realized and target catch, will not be changed, as there is no reason to believe that current year's landings will exceed or be lower than the TAC. Also, the TAC established in the FMP is still appropriate due to the lack of any new information about the resource or stock status that would suggest re-estimating MSY or OY. No known changes have occurred during the past year in fishing gear, hold capacity, or in any of the regulations (e.g., trip limits) which would impact the calculation of the appropriate number of days at sea to achieve the target TAC.

In this case, the "no action" and "status quo" alternatives are the same; they refer to what would happen in the absence of the completion of the annual specifications package. The FMP states that "An annual specifications process for OY, TAC, DAS, etc., will be implemented for this FMP" and also that "The PDT will review the most recent landings and effort data on an annual basis in order to provide the information necessary for the Council to recommend the specifications for the following fishing year". The "no-action/status quo" alternative would therefore consist of no changes in the target TAC available to the fishery and the number of fleet DAS would be unchanged and divided among those in the controlled access fishery. At this point in the process, it is very unlikely that the specification process will not be completed prior to the start of the FY2004. However, this "no-action/status quo" alternative remains as an option, with fleet DAS being equal to 780.

There are four alternatives (Alternatives 1, 2, 3, and 4) in addition to the No Action/Status quo Alternative. The selection of the measure of central tendency used to determine the number of days allocated to the fleet is the only criteria being evaluated. The different methods proposed cause the alternatives to vary by only one issue: that is the number of Fleet DAS (and corresponding vessel DAS). The no action alternative would maintain the same annual fleet DAS allocation that was allocated in fishing year 2003. The DAS allocation for the no-action alternative and alternatives 1,2,3,and 4 are respectively 780, 745, 861, 840, and 874. Since this is the only factor that differs among the alternatives, the comparison of economic impacts will be in relative terms. For a full description of the alternatives, see Section 4.0.

Given the small number of vessels participating in this fishery in the controlled access program, we will concentrate on the calculation of fleet DAS, rather than individual DAS. The alternatives can all be viewed in relative terms, and since fleet DAS are divided up equally among vessels, no one vessel would be better off than another. This assumes that they are equally efficient and that an increase or a decrease in their individual allocation will not result in differential effects. Of course, the number of vessels that have valid permits would determine the individual allocation of DAS.

8.5 Data

Data Used for the Analysis and Limitations

This section describes the data sources available for management of the red crab fishery and the limitations for use in economic analyses.

Landings Data

Several basic types of data were available: (1) data from the Interactive Voice Reporting (IVR); (2) data from the dealer weight-outs purchase reports; (3) data from the vessel logbooks (VTRs); and (4) a voluntary survey from the Council's industry advisors which was conducted prior to the completion of the FMP, representing the majority of the current directed red crab fleet. The development of the Red Crab FMP/EIS was unique because many of the Red Crab Advisors are active members of the red crab industry, and their expertise was an integral part of the development of the FMP. A report was issued summarizing the baseline and demographic information on the social and economic aspects of this fishery, and was included in the FMP/EIS, as Appendix B.

Additional data exists from the limited amount of time since the FMP was implemented. This is due to the issuance of federal permits for all vessels, operators or dealers who catch, possess, and/or land red crab in the U.S. EEZ and the corresponding reporting requirements. Additionally, vessels are required to declare their intent prior to each fishing year so that the annual allocation of DAS can be adjusted based on the number of vessels that will actually participate in the fishery.

Ex-Vessel Price Data

The ex-vessel price of red crab, according to the dealer weigh-out database, which is the only available source of revenue information, ranged from \$.76 to \$.91 per pound for individual vessels in 2002. This range in ex-vessel price among vessels is partly due to their different methods of processing and marketing, whether landed whole or with some degree of processing having taken place at sea. The ex-vessel price of red crab by month ranged from \$.75 to \$1.04.

Cost and Revenue Data

In most other fisheries, vessels land other species along with their target species (joint in inputs) or fish for other species during other parts of the year independent of their target species (nonjoint in outputs). In the red crab directed fishery, these complications for assessing fixed costs are minimal. The best information for cost data comes from the voluntary survey, dated September 2001, where we have estimates of fixed and variable costs as well as an estimate of the gross revenue per day needed to break even. For the non-directed fleet (those who are regulated under the incidental catch restriction), we have no cost information.

The reported gross revenue per day, for the period 1998-2000, required to break even ranged from \$4,000 to \$5,000. Based on the prices listed above for 2002, this would require minimum landings ranging from 3,846 pounds to 6,667 pounds per day. An average trip lasting 8 days means vessels would have to land between 31,000 pounds and 53,000 pounds per trip to break even. The current regulation for trip limits, remains at a trip limit of 75,000 pounds (or the highest recorded landing prior to the control date). The current trip limit would not prohibit a red crab vessel from breaking even, that is, covering their variable costs.

Vessel owners and operators were also questioned on the fixed and variable costs associated with the red crab fishery during 1998-2000. The average variable cost/trip is approximately \$15,000. Vessels must cover their variable costs in the short run in order to continue fishing. In the long term, vessels must cover their fixed costs to remain profitable. It appears from this information that red crab vessels would be able to allocate some of their trip revenue to cover their fixed costs. On average, red crab vessels spent approximately \$12,600 per trip on trip expenses, such as fuel, oil and lubrication, water, ice, bait, food and groceries, gear expenses and repairs, and others. They listed their annual expenses to maintain their business, vessel, and participation in the fishery as an average \$397,000 per year.

Total variable and fixed costs were calculated. Variable costs include all per trip expenses, plus half of the annual vessel repair costs divided by the average number of fishing trips taken per year. Fixed costs include all annual expenses plus the other half of the annual vessel repair costs. Based on the responses, the variable costs average \$15,000 per trip and the fixed costs average \$470,000 per year. See Appendix B of the FMP/EIS for a complete discussion of the revenues and costs of red crab vessels

Limitations and Simplifying Assumptions

Although the analysis of the potential economic impacts was largely qualitative, it is still necessary to point out the numerous problems with the data. The first problem is incomplete information on landings, revenue and ex-vessel prices. Second, although not a big problem, red crab is sometimes caught with other species (lobster and hagfish, for example), and data necessary for adequately assessing the multi-species nature of the fishery were not available.

8.6 Description of the Economic Characteristics of the Fishery

The FMP/EIS includes a description of the baseline economic characteristics of the fishery, including that of the harvest sector, the processing sector, the wholesale and retail sector, fishery-dependent service industries, and the markets for red crab. It also identifies and characterizes the baseline conditions of the social and cultural entities involved in the fishery, including vessel owners/operators, vessel crew, processors, fishery-dependent service industries, and fishing communities. A description of the affected human environment (red crab fishermen and fishing communities) is included in the section of the FMP/EIS labeled “Description of the Resource and the Affected Environment (sections 8.4 and 8.5)”. A description of the available baseline social and economic information on the red crab fishery is provided in Appendix B of the FMP/EIS. A summary of the baseline characteristics is provided below.

Harvesting Sector

Harvesters’ economic dependence upon commercial fishing and red crab fishing is presented in Appendix B of the FMP/EIS. Most respondents report 100% dependence on the red crab fishery for their annual income. Some, but not all, of the red crab directed fleet hold permits in other fisheries. This action will not eliminate any participants from the fishery; it may change the number of days that they are eligible to land red crab.

According to the survey, the number of crew employed by each vessel ranged from 5 to 20 and averaged 8.2 crew per vessel. Most vessels reported spending a significant portion of the year on the water. Days on the water from all fishing activities ranged from 200 to 300 days annually prior to the development of the FMP, with an average for all vessels of 266 (n = 7) days per year. All red crab fishing trips were reported to be at least a week in duration, ranging from 7 to 10 days and averaging 8.2 days per trip. Vessels report that a working day on a red crab trip averages just less than 18 hours, ranging from 17 to 20 hours per day

Processing Sector

From Appendix B to the FMP/EIS, we can see how dependent red crab processors are on red crab. They all process other fishery products in addition to red crab. On average, red crab accounts for 11.5% of their total fishery-related processing operations, with a maximum of 25% of total processing operations. Most processing employees work on other fishery-related products in addition to red crab. Since the goal of this action is not to affect the number of pounds landed, it is not expected to have an impact on the processing sector. Processors will continue to be assured of a steady supply of fresh product.

Wholesaling and Retail Sector

The people and businesses that sell red crab product at the wholesale or retail level are a component of the fishing industry and of fishing communities. Assuming the DAS are allocated in a manner to achieve the target TAC, the amount of red crab coming into the markets will not be affected by this regulation. For a description of the baseline economic characteristics of the red crab fishery, particularly as they relate to business and markets, please see Appendix B of the FMP/EIS.

International Sector

A large portion of the live red crab landed in New England is sold to U.S. dealers and shipped to Canada for processing. Respondents to the survey indicated that most use only a single processor. Three respondents reported that the processor they use is located in their community, one primarily uses one out of their community and three report that the processors are not in their community. Of the processors not located in the respondents' communities, these processors are reported to be located in Portland, Maine; New Brunswick, Canada; and Prince Edward Island, Canada. Most respondents indicated that they choose to sell their red crab to a particular processor out of loyalty to that processor. Again, since the regulation does not aim to change the amount of red crab landed, there should be no change to the international sector as a result of this document.

Fishery-Dependent Service Industries

For a description of the baseline economic characteristics of the red crab fishery, particularly fishery-dependent service industries please see Appendix B of the FMP/EIS. There should be no affect on these services due to this action. The current suppliers of these services would easily handle any change in services needed. Given the small number of fishing vessels involved, it is unlikely that a small change in services to red crab vessels would effect the fishery related revenue of the service industry.

8.7 Social Impacts

There are no additional data since the FMP to evaluate the potential impacts of this measure on the social and cultural aspects of New England and Mid-Atlantic fishing communities. The small size, few participants, and the distributed nature of the fishery, suggests that any social or cultural impacts to these fishing communities will be negligible. Since the size of the fishery is so small, and so few vessels participate, the impact of any change in the red crab fishery is overwhelmed in the community by the influence of larger fisheries, which generate greater revenue.

8.8 Impacts of the Alternatives

There are some comments that apply to all alternatives. These comments are made first, rather than repeating them several times, keeping the individual discussions for each of the alternatives rather short. Some economic factors will not be affected by any of the alternatives and so will not be discussed for each of the alternatives. Employment is one. It will not be affected by a minor change in the number of DAS that are allocated, since the existing crew would absorb the change in effort. Under a target TAC, there should be no substantial change in harvest product levels to cause changes in processing levels.

No changes are proposed for the incidental fleet and therefore, no effects on this fleet are expected. An estimate of 40,000 pounds landed by incidental catch vessels in calendar year 2002 is less than 0.67% of the TAC, and therefore more than accounted for by the setting of OY at 95% of MSY.

Given the small number of vessels participating in this fishery in the controlled access program, we will concentrate on the calculation of fleet DAS, rather than individual DAS. The alternatives can all be viewed in relative terms, and since fleet DAS are divided up equally among vessels, no one vessel would be better off than another. Of course, the number of vessels that have valid permits would determine the individual allocation of DAS. The allocation of the fleet DAS among the number of vessels in the fishery is a simple calculation dividing the fleet DAS equally among those participating vessels that remain in the fishery. Each vessel that remains in the fleet would benefit if one or more vessels opted out of the fishery.

The long-term impact of each alternative is related to the number of vessels that enter the fishery, in each year. All vessels authorized to receive a controlled access red crab permit must, on an annual basis, declare if they are going to opt out of the directed fishery for the next fishing year at least six months prior to the start of the fishing year. This will allow the annual allocation of DAS to be calculated based on the actual number of participants in the fishery. The small number of vessels in the fishery means that each vessel's participation has a large impact on the appropriate number of DAS that the fleet will utilize in catching the target TAC. The advance knowledge and planning for efficient harvest will have economic benefits from harvesting to processing to marketing.

One provision in the FMP that is important when considering economic impacts is the ability to carry over unused DAS to the next fishing year. Any DAS allocated to a vessel in one fishing year could be carried over to the next fishing year, up to a maximum of 10 DAS or 10 percent of the total allocated DAS, whichever would be less. Given the average length of red crab trips, this would amount to an additional trip for any vessel that had a balance of that magnitude. The partial end of the year DAS carryover ensures that at least some unused fishing effort is not wasted, while providing no incentive to hoard DAS. It also limits the potential annual fishing capacity to roughly 10% above the baseline.

The principle mechanism to control effort in the fishery is through the use of vessel days-at-sea (DAS). The objective would be to allow the appropriate number of DAS to harvest, but not exceed, the target TAC. The effectiveness is not directly dependent on the number of vessels

participating, but on the calculation of the total number of days that would allow for the target catch to be landed. Vessels are able to maximize their outputs from a given level of inputs, assuming the biomass increases over time. A high degree of flexibility is afforded to participants in the fishery concerning when and how long to fish. The continuous annual adjustment in target TAC enables the Council to respond to changes in stock condition without costly and time-consuming management process.

A decrease in effort always results in a short-term decrease in catch rate, but importantly, may lead to an increase in the long term. In standard yield-effort relationships, the short-term catch will always increase with increasing levels of effort. It is only over the long term, when excess fishing decreases fish stocks, that yield will ultimately decline. The use of days-at-sea as a management option would allow more continuity of effort and supplies to the market, and avoids any response to short term fluctuations.

The difference in the alternatives appears to be only in the Fleet DAS to be divided up equally among those vessels with a valid permit. The actual difference in the alternatives comes from the manner or methods that were used to calculate the average pounds per day, which in turn determines the Fleet DAS. Each alternative differs by the way that “average” is defined, or the measure of central tendency used to represent the per day efficiency of the vessels in the directed red crab fishery.

As expected, the highest number of fleet DAS (Alternative 4) would generate the highest level of landings and revenue in the short term. The level of landings and revenue is directly related to the allocated number of DAS. Alternative 1 would generate the lowest level of landings and revenue in the short term.

It is not possible to quantify the net benefits of each of the alternatives, but it is possible to determine the comparable net benefits of all alternatives. The most important question to evaluate the alternatives, becomes, what is the number of DAS that limited access vessels need in the red crab fishery, to be profitable? Public comments in the development of the FMP indicated that 5 vessels were in favor of the preferred alternative and felt that they would remain profitable at the 183 DAS per vessel in the preferred alternative.

The available data on vessel landings and trip length can be used to estimate a per day vessel efficiency. This per day vessel efficiency represents the “average” amount of landings a vessel can harvest on each day of a trip. Dividing the target TAC by average landings per day efficiency provides the fleet DAS value. These average landings per day are shown in Table 2. The PDT also evaluated an additional alternative that is a variation of Alternative 4. The only difference is that it is based on data from FY 2003 only, not FY2002 and FY2003 combined (See Table 3 for DAS allocations for Alternative 4).

No Action Alternative

The “no-action” alternative would consist of no changes in the target TAC available to the fishery and the number of fleet DAS would be unchanged and divided among those in the controlled access fishery. This “no-action” alternative remains as an option, with fleet DAS

being equal to 780. If five vessels participate in the fishery then each vessel will receive 156 DAS, and if four vessels participate in the fishery, each vessel will receive 195 individual DAS.

Alternative 1

The fleet annual DAS allocation would be 745 days. This would translate into 149 DAS per vessel if five vessels were fishing up to 186 DAS per vessel if only four vessels were fishing. This was calculated in the same manner as in the FMP, dividing the OY by the average pounds landed per day by the fleet (based on data from FY2002 and FY2003 combined). Note that this method is the same as that used in the FMP, but with updated data.

This alternative would generate the lowest level of landings and revenue; given the assumption that increasing effort would bring in greater landings. This Alternative would allocate 35 less fleet DAS than under the No Action alternative. If five vessels participate in FY2004, then each vessel will receive 7 less DAS than under the No Action, but if only four vessels participate, then each vessel will actually receive 30 DAS more than the 156 they were each allocated in FY2003. Alternative 1 is the most risk averse, as it was designed to provide the most conservative results of the techniques used in the FMP. Alternative 1 does not provide an accurate manner to compare the effort needed by the fleet to obtain OY; instead it calculates a DAS allocation that has a low probability of exceeding the TAC.

Alternative 2

This alternative would allow an annual fleet allocation of 861 DAS. This would translate into 172 DAS per vessel if 5 vessels were fishing, and up to 215 DAS per vessel if only four vessels were fishing. The mean-of-means technique is problematic in such a small fishery because of the tendency for one vessel to influence the mean. Since this fishery is so small, this issue is particularly important, because there is sufficient diversity among the fleet in hold capacity and fishing style that could affect the results.

The additional 81 days above No Action/Status quo Alternative would enable each vessel to take a couple additional trips (of varying length depending on the number of vessels). Trip length varied between 5 and 12 days for those who fished between October 21, 2002 and July 18, 2003.

Alternative 3

This alternative would allow an annual fleet allocation of 840 DAS. This would translate into 168 DAS per vessel if 5 vessels were fishing up to 210 DAS per vessel if only four vessels were fishing. Alternative 3 (as with alternative 2) has the potential to have a single vessel influence the mean CPUE.

The addition of 60 days, over the No Action/Status quo Alternative, would enable each vessel to take a couple additional trips (of varying length depending on the number of vessels). Trip length varied between 5 and 12 days for those who fished between October 21, 2002 and July 18, 2003. The average length of a trip during that period was 8.9 days.

Alternative 4

This alternative would allow an annual fleet allocation of 874 DAS. This would translate into 174 DAS per vessel if 5 vessels were fishing up to 218 DAS per vessel if only four vessels were fishing. One of the advantages of Alternative 4 is that it utilizes a direct ratio of % DAS used to % target TAC landed when it calculated DAS. The other alternatives also use landings and DAS-used, but in a less direct manner. Alternative 4 results in a DAS used to TAC landed ratio of 1.11, which suggests that the DAS allocation necessary to obtain OY was underestimated by 11%, so DAS should be increased. The additional 94 fleet DAS, over the No Action/Status quo Alternative, would enable the limited access vessels to take extra trips, depending on how many vessels participate in FY2004. More trips allow vessels to generate more revenue.

The PDT later evaluated an additional alternative, referred to as alternative 4a in this Section. This alternative would allow an annual fleet allocation of 794 DAS. This would translate into 159 DAS per vessel if 5 vessels were fishing up to 198 DAS per vessel if four vessels were fishing. Alternative 4a also provides feedback, by comparing % DAS used to % target TAC landed, but relies on the data from March 1, 2003 to September 1, 2003, instead of FY2002 and FY2003 combined, as in Alternative 4. Alternative 4a results in a DAS used to TAC landed ratio of 1.019, which, because it is close to 1, represents an allocation of DAS very close to what is necessary to catch OY.

The additional 14 fleet DAS in Alternative 4a, over the No Action/Status quo Alternative, would enable vessels to extend a trip or two, potentially increasing their ability to generate additional revenue. It is noteworthy that The FMP allows vessels to carry over 10 DAS to the next fishing year. The additional 94 fleet DAS in Alternative 4, over the No Action/Status Quo Alternative would enable each vessel to take a couple additional trips.

8.9 Summary of Economic Impacts

Compared to the No Action/Status quo Alternative vessels under Alternatives 2, 3, and 4 would be able to use a greater number of DAS than under the FMP in FY 2002 and 2003. This is because it appears that the vessels currently in the fishery are not able to harvest the current target TAC with the current DAS allocation. Alternative 1 would allocate slightly less annual DAS than the No Action/Status quo alternative.

Prior to the FMP, vessels reported the number of days absent among the red crab vessels varied from 200 to 300. They would only approach numbers in that range if at least one vessel opted out of the fishery.

As expected, the highest number of fleet DAS (Alternative 4) would generate the highest level of landings and revenue in the short term. In accordance with the FMP, this level of DAS may be adjusted in another year to further improve the estimate. The level of landings and revenue is directly related to the allocated number of DAS and alternative 4 provides the greatest fleet DAS. The ranking of alternatives (using FY2002 and FY2003 combined data) based solely on DAS,

from highest to lowest, would be Alternative 4, Alternative 2, Alternative 3, Alternative 4a, No Action/Status quo Alternative, and finally Alternative 1.

Uncertainty about the status of the red crab stock, as well as the limited time-series available in the data has limited the confidence with which we can predict the economic outcomes of the various alternatives. We have assumed that the OY in the FMP is accurate. One of the most positive outcomes from the FMP has been the collection of data that have already partially reduced the uncertainty about the future of the resource and its management.

8.10 Determination of Significance under E.O. 12866

E.O. 12866 requires that the Office of Management and Budget review proposed regulatory programs that are considered to be significant. A “significant regulatory action” is one that is likely to: (1) have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, safety, or state, local or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligations of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in this Executive Order.

A regulatory program is “economically significant” if it is likely to result in the effects described above. The RIR is designed to provide information to determine whether the proposed regulation is likely to be “economically significant.”

NOAA Fisheries has determined that, given the information presented above, there will be net benefits derived from the implementation of this annual adjustment. Because none of the factors defining “significant regulatory action” are triggered by this proposed rule, the rule has been determined to be not significant for the purposes of E.O. 12866.

8.11 Initial Regulatory Flexibility Analysis

8.11.1 Introduction and Methods

The Regulatory Flexibility Act (RFA) requires federal rule makers to examine the impacts of proposed and existing rules on small businesses, small organizations, and small governmental jurisdictions. In reviewing the potential impacts of proposed regulations, the IFRA determines whether the proposed action would have a “significant economic impact on a substantial number of small entities.” The Small Business Administration (SBA) size standards define whether a business entity is small and, thus, eligible for Government programs and preferences reserved for “small business” concerns. Size standards have been established for all for-profit economic activities or industries in the North American Industry Classification System (NAICS). The SBA defines a small business in the commercial fishing and recreational fishing sector, as a firm

with receipts (gross revenues) of up to \$3.5 million. The SBA has issued an interim final rule (IFR), which adjusts for inflation in its criteria for defining a small business. In related businesses that deal in canned and cured fish and seafood or prepared fish or frozen fish and seafood, a small business is one that employs 500 employees or fewer. In fish and seafood wholesalers, a small business is defined as one that employs 100 or fewer employees. For fish and seafood markets, a small business is defined as a firm with receipts of up to \$6.0 million.

The objective of the Regulatory Flexibility Act is to require consideration of the capacity of those affected by regulations to bear the direct and indirect costs of regulation. If an action will have a significant impact on a substantial number of small entities, an Initial Regulatory Flexibility Analysis must be prepared to identify the need for action, alternatives, potential costs and benefits of the action, the distribution of these impacts, and a determination of net benefits.

If an action is determined to affect a substantial number of small entities, the analysis must include:

1. A description and estimate of the number of small entities and total number of entities in a particular affected sector, and a total number of small entities affected: and
2. Analysis of economic impact on small entities, including the direct and indirect compliance costs of completing paperwork or recordkeeping requirements, effect on the competitive position of small entities, effect on the small entity's cash flow and liquidity, and ability of small entities to remain in the market.

The criteria for determining significance is based on 2 criteria: disproportionality and profitability. A disproportional effect would put certain classes at a substantial competitive disadvantage. Since different classes of entities are not an issue here (all of the vessels can be defined as small entities), there are no entities that are disproportionately affected. This regulation will not cause increased costs or reduction in revenues from the 2003 annual specifications. A positive change in the number of days at sea should increase the profitability of those vessels that choose to utilize them.

8.11.2 Reasons the Action is Being Considered

A complete description of the alternatives being considered in the annual specifications package for the 2004 Fishing Year are found in Section 4.0 of this document. In addition, the rationale for the proposed action can be found in Section 2.0 of this document. The Red Crab FMP/EIS required the annual specifications to be examined every year.

8.11.3 Management Objectives and Legal Basis

The purpose and need for this annual specifications action is found in Section 2.0. For a more thorough discussion of the objectives of red crab management, see Section 3.1 of the FMP. IN general, the primary intent of the management program for red crab is to prevent overfishing of the resource, and prevent potential overcapitalization of the red crab fishery.

8.11.4 Description of the Affected Entities

The proposed measures could affect any vessel that has participated in the red crab fishery under the FMP. All these vessels readily fall within the definition of small business. The characteristics and composition of the red crab industry is unique. The vessels expected to participate in the fishery under this action will be equally impacted, but will be able to maintain their competitive relationship with each other. Since this action solely affects the allocation of DAS among the fleet and individual vessels, none of the alternatives have adverse impacts when compared to the fishing year 2003. The RFA asks agencies to implement less burdensome regulations on small entities if the objectives of the regulation are not compromised as a result. Vessels were impacted in the FMP due to the qualification criteria, but this action does not negatively impact any of the vessels that are qualified to participate in the fishery. The burden, in this case, on small entities, remains unchanged.

For the purposes of the RFA, we need to examine all vessels that reported landing at least one pound of red crab. Total reported landings in 2002 from the weigh-out data equaled 4,781,552 pounds. Three vessels landed less than 250 pounds each while four additional vessels landed over 99% of the total. Less than 1 % of the total landed pounds was reported as “unknown, but tonnage vessel”. For reasons of confidentiality, we will not report on the details of the individual vessels.

The RFA asks agencies to implement less burdensome regulations on small entities if the objectives of the regulation are not compromised as a result. In this case, the magnitude of the impact will be different for each of the alternatives, but will be equally shared among those limited access vessels that qualified under the FMP. It is important to acknowledge that there is nothing in the specifications that would favor one vessel over another.

8.11.5 Description of the Reporting, Record-Keeping, and Compliance Requirements

Catch and landings for the Red crab fishery is monitored using two harvester-reporting systems: Vessel Trip Reports (VTR), and Interactive Voice Reporting (IVR). Any vessel that lands red crab needs to report with the VTR system, and vessels that have a limited access permit are required to report using both the VTR and IVR systems. VTR reports are due by the 15th of each month after the date of a fishing trip, while vessels are obliged to report to the IVR database within 24 hours of landing red crab.

Red crab vessels are also required to “call-in” their days-at-sea usage to NOAA Enforcement after each trip, so that DAS can be monitored. Between the DAS Enforcement database and the IVR database, the average landings per day can be calculated for each trip for the entire fleet. However, since there are only several vessels involved in this fishery, there are confidentiality issues in reporting their activity; therefore, the fishery information is presented in aggregate form to protect the vessels involved in this fishery.

8.11.6 Identification of Relevant Federal Rules

For a description of other applicable federal rules, see Section 12 of the Red Crab FMP as well as Section 9.0 of this document.

8.11.7 Description of the Alternatives

A complete description of the red crab fishery is found in Section 8.0 of the FMP/EIS, and in section 3.0 of this document. In addition, the need for, and objectives of this FMP/EIS can be found in Sections 2.0. A detailed description of the measures and alternatives evaluated in this document is presented in Section 4.0. In addition, an overall discussion of the impacts associated with each alternative is presented in Section 8.0.

8.11.8 Analyses of Impacts of Alternatives

The RFA is intended to identify impacted vessels and to characterize the potential economic impact on directly affected entities. The term “regulated entity” in this case means those vessels that would be impacted by this rule. The FMP analyzed the impact of those vessels that qualified to be in the fishery and also analyzed those vessels that were excluded from the fishery. A discussion of the potential impacts on indirectly impacted entities, and the communities within which owners of impacted vessels reside was provided in the FMP. These communities are discussed in Section 7.1.8 (National Standard 8) of the FMP/EIS.

Under this action, the only vessels to be impacted are those who qualified previously under the FMP. Based upon the economic analysis, there is no burden on those vessels.

Generally, the percent of revenue change for impacted vessels would vary considerably based on the permits it held (i.e., based on the fisheries in which it was able to participate) and species it landed. Diversity in the fleet would help to balance loss in one fishery with revenue generated from other fisheries. The general purpose of the information presented below is to provide a general overview of the potential impacts on regulated entities associated with the management alternatives.

Economic Impacts on Vessels

The effectiveness of these alternatives is not directly dependent on the number of vessels participating, but on the calculation of the total number of days that would allow for the target catch to be landed. They will be able to maximize their outputs from a given level of inputs, assuming the biomass increases over time. They would have the flexibility to plan for other sources of income. Based on public comments, the five vessels would be profitable on an allocation of 183 days.

The composition of the fleet would remain the same under any of the alternatives. Other benefits of the DAS measure would continue unchanged from the FMP, such that fishermen would retain the flexibility to operate each trip as efficiently as possible and to space their landings in an optimal manner.

Economic Impacts on Dealers

A description of red crab dealers and their overall dependence on red crab is presented in Appendix B of the FMP/EIS. In the dealer data, in 2002 there were three federal seafood dealers who handled red crab. Of these three, only one handled greater than 1 million pounds in a year. The other two depended on red crab for only a very minor portion of their revenues. Another way to look at dependence is by absolute value. By this measure, only one dealer depended on red crab revenues for over \$1,000,000. In calendar year 2002, there were three dealers listed in the dealer data, although 70% of the red crab recorded landings were from an unknown dealer. Because of this obvious inadequacy of the dealer data to provide information on dealers, we must rely on the voluntary survey for further information. Dealers would be regulated entities under the RFA only to the extent that they have to get a permit. Overall, it was felt that very few dealers would be affected by any of the alternatives.

Economic Impacts on Processors

Processors would not be considered regulated entities for purposes of the FRA. Appendix B in the FMP provides an overview of the processing sector as it relates to the red crab fishery.

Most of the vessels, dealers, and processors fall within the definition of small entities. There is some indication that there is participation in this fishery by large entities. In particular, a processor specified in the survey he employs 1000 people (greater than the 500 employees defined as a small entity). However, the maximum number of year-round employees, as opposed to seasonal, for any processor was listed as 400. There is also an indication in the survey that a fish and seafood wholesaler employs 150 people (which is greater than the 100 employees defined as a small entity). However, only a small proportion of their business revenue is derived from the sale of red crab products. The percentage of their business revenue that comes from the sale of red crab products ranges from less than 1% to 33% and averages only slightly more than 25%. This does indicate that there may be large businesses involved in the industry. Because of the small nature of the fishery and the issue of confidentiality we cannot determine if there are

disproportionate small versus large effects. There are no disproportionate costs of compliance among the effected small entities.

9.0 CONSISTENCY WITH APPLICABLE LAWS

This document has been prepared primarily in response to the requirements of the Magnuson-Stevens Fishery Conservation and Management Act and the requirements of the Red Crab FMP that specify that the Council shall review the target TAC and DAS allocations annually. This document also addresses the requirements of other applicable laws, namely the Administrative Procedures Act (APA), the Marine Mammal Protection Act (MMPA), the Endangered Species Act (ESA), the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act (RFA), the Paperwork Reduction Act (PRA), the Coastal Zone Management Act (CZMA), Data Quality Act (DQA) and Executive Orders 12612 (Federalism), 12630 (Property Rights), 12866 (Regulatory Planning), and 13158 (Marine Protected Areas). These other applicable laws and administrative orders help ensure that the Council considers the full range of alternative actions and their expected impacts on the marine environment, living marine resources, and the human communities that could be affected. Since this action is not expected to change any of the impacts already assessed in the Red Crab FMP/EIS, and the proposed DAS allocation for FY2004 specified as the No Action/Status quo alternative in this document is the same as what was allocated under the FMP for FY2003, this document is in compliance with all applicable laws defined above.

Section 12.0 of the Red Crab FMP/EIS specifies in detail how the requirements and guidelines of each law have been addressed in this fishery management program. Overall, during the development of this action, there was opportunity for public review and input, as required by APA. This annual specifications package describes and analyzes the impacts on the affected environment and human participants that may be impacted by this action, as required by NEPA. Furthermore, the document evaluates whether endangered species or marine mammals may be jeopardized as a result of this action, as required by the MMPA and ESA. The guidance and policies related to reducing paperwork and burdens on the public, particularly small businesses, from federal actions have been followed as specified in the Red Crab FMP/EIS (a requirement under the PRA and RFA). This action does not contain policies with federalism implications, thus a preparation of such an assessment under EO 12612 is not warranted. Furthermore, this action takes place in areas well outside the boundaries of areas that might be considered as marine protected areas, so the requirements of EO 13158 are not necessary. The requirements of the executive order related to Regulatory Review (EO 12866) is summarized in Section 8.0. Overall, this action is not considered a “significant regulatory action” since it impacts a small sector of the economy.

Section 307 of the Coastal Zone Management Act (CZMA) is known as the federal consistency provision. Federal Consistency review requires that “federal actions, occurring inside or outside of a state's coastal zone, that have a reasonable potential to affect the coastal resources or uses of that state's coastal zone, to be consistent with that state's enforceable coastal policies, to the maximum extent practicable”. The Council previously made determinations that the FMP was consistent with each states coastal zone management plan and policies, and each coastal state

concluded in these consistency determinations. Since the specifications for the 2004 fishing year are identical to the specifications for the 2003 fishing year under the FMP, the Council has determined that the specifications for the 2004 fishing year are consistent with the coastal zone management plan and policies of the coastal states in this region. A copy of the specifications package was sent to each coastal zone management office from Maine to North Carolina when the final submission document was submitted to NMFS (November 3, 2003). A list of the specific contacts and a copy of the letter are available upon request.

Pursuant to NOAA Fisheries guidelines implementing Section 515 of Public Law 106-554 (the Data Quality Act), all information products released to the public must first undergo a Pre-Dissemination Review to ensure and maximize the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by Federal agencies. The following section addresses these requirements.

Utility

Utility means that disseminated information is useful to its intended users. "Useful" means that the content of the information is helpful, beneficial, or serviceable to its intended users, or that the information supports the usefulness of other disseminated information by making it more accessible or easier to read, see, understand, obtain or use. The intended users of the information contained in this document are vessels participating in the direct red crab fishery. However, federally permitted red crab dealers and members of the general public may also benefit from this information. The information contained in this document will be helpful and beneficial to owners of vessels holding a limited access or incidental red crab permit since it will notify these individuals of changes in management measures for the fishery. This information will enable these individuals to adjust their fishing practices, and make appropriate business decisions based on the new management measures and corresponding regulations.

The information being provided in this specifications package concerning the status of the red crab fishery is updated information based on landings and effort information as of September 1, 2003. Information concerning changes to red crab management measures is new information that has been developed through a multi-stage process that involved members of the public. Therefore, the information pertaining to management measures contained in this document has been improved based on comments from the public, fishing industry, members of the Council, and NOAA Fisheries.

The media being used in the dissemination of the information contained in this document will be contained in a Federal Register notice announcing the proposed and final rules for this action. This information will be made available through printed publication and on the Internet website for the Northeast Regional Office (NERO) of NOAA Fisheries.

Integrity

Integrity refers to security--the protection of information from unauthorized access or revision, to ensure that the information is not compromised through corruption or falsification. Prior to dissemination, NOAA information, independent of the specific intended distribution mechanism, is safeguarded from improper access, modification, or destruction, to a degree commensurate

with the risk and magnitude of harm that could result from the loss, misuse, or unauthorized access to or modification of such information.

Objectivity

Objective information is presented in an accurate, clear, complete, and unbiased manner, and in proper context. The substance of the information is accurate, reliable, and unbiased; in the scientific, financial, or statistical context, original and supporting data are generated and the analytical results are developed using sound, commonly accepted scientific and research methods. "Accurate" means that information is within an acceptable degree of imprecision or error appropriate to the particular kind of information at issue and otherwise meets commonly accepted scientific, financial, and statistical standards.

Several sources of data were used in the development of this document, including the analysis of impacts. These data sources include, but are not limited to, landings data from vessel trip reports, landings data from individual voice reports, information concerning DAS usage from the DAS call-in system, data from the dealer weigh-outs purchase reports, data from a voluntary survey from the Council's industry advisors conducted prior to the FMP, and ex-vessel price information. Although there are some limitations to the data used in the analysis of impacts of management measures, and in the description of the affected environment, these data are considered to be the best available.

The policy choices (i.e., management measures) to be contained in this specifications package are supported by the best available scientific information. Qualitative discussion is provided in cases where quantitative information was unavailable, utilizing appropriate proxies and reference points as necessary.

The review process for any action under an FMP involves the Northeast Regional Office (NERO) of NOAA Fisheries, the Northeast Fisheries Science Center (Center), and NOAA Fisheries Headquarters (Headquarters). The Council review process involves public meetings at which affected stakeholders have the opportunity to provide comments on the proposed changes to the FMP. Review by staff at NERO are conducted by those with expertise in fisheries management and policy, habitat conservation, protected species, and compliance with the applicable law. The Center's technical review is conducted by senior level scientists with specialties in population dynamics, stock assessment methods, demersal resources, population biology, and the social sciences. Final approval of this specification package and clearance of the proposed and final rules is conducted by staff at NOAA Fisheries Headquarters, the Department of Commerce, and the U.S. Office of Management and Budget. This review process is standard for any action under an FMP, and provides input from individuals having various expertise that were not directly involved in the development of the action. Thus, the review process for any FMP amendment, including the red crab annual specifications for fishing year 2004, is performed by technically qualified individuals to ensure the action is valid, complete, unbiased, objective and relevant.

10.0 REFERENCES

Council on Environmental Quality (CEQ) 1997. Considering Cumulative Effects Under the National Environmental Policy Act. Executive Office of the President. 64 pp.

Gray, G., Jr. Investigation of the basic life history of the red crab (*Geryon quinque-dens*). RI Div. Of Conservation Completion Rept. P.L. 88-309, Project 3-46R.

Magnuson-Stevens Fishery Conservation and Management Act (PL 94-265) (16 U.S.C. 1802).

New England Fishery Management Council (NEFMC) 2002. *Red Crab Fishery Management Plan (FMP/EIS)*. Submitted to NMFS March 19th, 2002.

Steimle, F.W., C. Zetlin, and S. Chang. 2001. Essential Fish Habitat Source Document: Red Crab, *Chaceon (Geryon) quinque-dens*, Life History and Habitat Characteristics. U.S. Department of Commerce NOAA Technical Memo. NMFS-NE-163. Woods Hole, MA. 27pp.

Weinberg, J.R., T. Dahlgren, N. Trowbridge, and K. Halanych. 2003. Genetic Differences within and between species of Deep-sea Crabs (*Chaceon*) from the North Atlantic Ocean. *Biol.Bull.* 204: 318-326 (June 2003) Marine Biological Laboratory.

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