

ACTION 2

WITH CHAPTERS 2, 4, AND APPENDIX

Action 2 – New Areas for HAPC Status in the Southeastern Gulf

Alternative 1: No Action. Do not establish any HAPCs in the Southeastern Gulf.

Preferred Alternative 2: Establish a new HAPC named Long Mound bound by the following coordinates, connecting in order:

| Area | Point | Longitude (West) | Latitude (North) |
|---|-------|------------------|------------------|
| Long Mound Depth Range: 984-2298 ft (164-383 fathoms) Area: 13.6 nm ² | A | 84°47.955' | 26°28.835' |
| | B | 84°45.051' | 26°28.790' |
| | C | 84°45.153' | 26°23.562' |
| | D | 84°48.055' | 26°23.607' |
| | A | 84°47.955' | 26°28.835' |

Option a. Do not establish fishing regulations in the Long Mound HAPC

Preferred Option b. Prohibit bottom-tending gear in the Long Mound HAPC. Bottom-tending gear is defined as: bottom longline, bottom trawl, buoy gear*, dredge, pot or trap, and bottom anchoring by fishing vessels.

Preferred Alternative 3: Establish a new HAPC named Many Mounds bound by the following coordinates, connecting in order:

| Area | Point | Longitude (West) | Latitude (North) |
|--|-------|------------------|------------------|
| Many Mounds Depth Range: 654-2298 ft (109-383 fathoms) Area: 13.0 nm ² | A | 84°45.246' | 26°13.000' |
| | B | 84°39.559' | 26°13.015' |
| | C | 84°39.611' | 26°10.401' |
| | D | 84°45.435' | 26°10.565' |
| | A | 84°45.246' | 26°13.000' |

Option a. Do not establish fishing regulations in the Many Mounds HAPC

Preferred Option b. Prohibit bottom-tending gear in the Many Mounds HAPC. Bottom-tending gear is defined as: bottom longline, bottom trawl, buoy gear*, dredge, pot or trap, and bottom anchoring by fishing vessels.

Preferred Alternative 4: Establish a new HAPC named North Reed bound by the following coordinates, connecting in order:

| Area | Point | Longitude (West) | Latitude (North) |
|---|-------|------------------|------------------|
| North Reed Depth Range: 984-2952 ft (164-492 fathoms) Area: 13.6 nm ² | A | 84°48.104' | 26°20.993' |
| | B | 84°42.302' | 26°20.902' |
| | C | 84°42.354' | 26°18.289' |
| | D | 84°48.154' | 26°18.380' |
| | A | 84°48.104' | 26°20.993' |

Option a. Do not establish fishing regulations in the North Reed HAPC

Preferred Option b. Prohibit bottom-tending gear in the North Reed HAPC. Bottom-tending gear is defined as: bottom longline, bottom trawl, buoy gear*, dredge, pot or trap, and bottom anchoring by fishing vessels.

SSC Recommended Alternative 5: Establish a new HAPC named West Florida Wall bound by the following coordinates, connecting in order:

| Area | Point | Longitude (West) | Latitude (North) |
|---|-------|------------------|------------------|
| West Florida Wall Depth Range: 1308-1974 ft (218-329 fathoms) Area: 36.3 nm ² | A | 84°47.955' | 26°28.835' |
| | B | 84°46.754' | 26°28.816' |
| | C | 84°42.076' | 26°10.471' |
| | D | 84°44.577' | 26°10.528' |
| | E | 84°47.986' | 26°25.028' |
| | F | 84°47.980' | 26°25.100' |
| | G | 84°47.955' | 26°25.835' |

Option a. Do not establish fishing regulations in the West Florida Wall HAPC

Option b. Prohibit bottom-tending gear in the West Florida Wall HAPC. Bottom-tending gear is defined as: bottom longline, bottom trawl, buoy gear*, dredge, pot or trap, and bottom anchoring by fishing vessels.

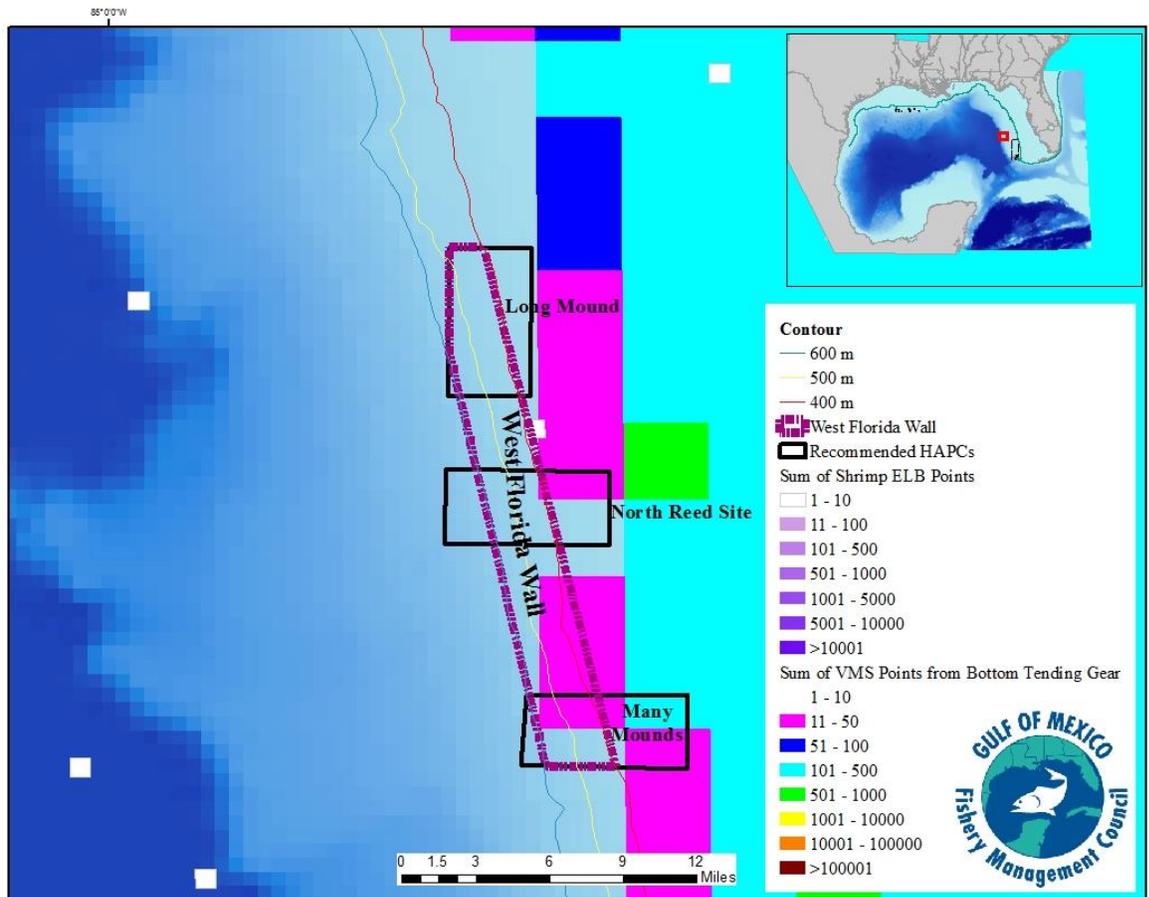
***Note:** Buoy gear is defined as in 50 CFR 622.2 and does not refer to HMS buoy gear (defined by 50 CFR 635.2) which is not a bottom-tending gear.

Discussion:

Since the implementation of Generic EFH Amendment 3 (GMFMC 2005), there have been many new research cruises that have explored the west Florida shelf. Many of these cruises have taken ROVs to explore ridges and mounds that have been previously identified using multi-beam and side-scan sonar remote sensing methods. Long Mound, Many Mounds, North Reed Site, and the West Florida Wall are all on the west Florida shelf in depths of 600-3000 ft (100-500 fathoms) (Table 2.2.1, Figure 2.2.1). These areas were identified as priority areas by the 2014 Coral Working Group. Six research cruises using multi-beam sonar and ROV found hundreds of mounds and ridges on the WFS over an extensive rocky scarp more than 123.7 nautical miles long (Ross et al. 2017). Shallower mounds and ridges (those less than 1638 ft [273 fathoms]) had stony coral (*L. pertusa*) caps in higher densities than the rocky scarp, but overall, results from these research expeditions indicate that the west Florida shelf may have more deep-water coral coverage than other areas in the Gulf (Ross et al. 2017). In 2017, the NOAA Deep Sea Coral Research and Technology Program (DSCRTP) identified these areas as priorities for research to help facilitate coral management and to provide information to the Council (Wagner et al. 2017). This research expedition confirmed that in the proposed areas [in this action] there are extensive deep-water coral banks with *L. pertusa* and numerous fields of *Leiopathes* spp. which is a genus of black corals that are extremely long-lived; in the Gulf, specimens have been aged to 500 years or more with growth rates of 0.0008 cm/year to 0.0017 cm/year (Prouty et al. 2011). In the 2017 expedition, numerous individuals were identified with bases of at least 1 cm, indicating the individual colonies observed were potentially hundreds to thousands of years old (unpublished data). VMS data do not indicate that these areas are frequently visited by vessels with bottom-tending gear (Figure 2.2.1). However, there have been observations of golden crab fishing occurring here (Drs. Etnoyer and Brooke, NOAA and Florida State University, pers. comm.) despite regulations that prohibit such fishing activity.

Table 2.2.1. Sites proposed in Action 2 for Long Mound, Many Mounds, North Reed, and West Florida Wall with the area of each proposed alternative. Minimum and maximum depths are provided.

| Site | Minimum depth feet (fathoms) | Maximum depth feet (fathoms) | Area (nm ²) |
|---------------------------------------|---------------------------------|---------------------------------|----------------------------|
| Long Mound (Preferred Alternative 2) | 984 (164) | 2298 (383) | 13.6 |
| Many Mounds (Preferred Alternative 3) | 654 (109) | 2298 (383) | 13.0 |
| North Reed (Preferred Alternative 4) | 984 (164) | 2952 (492) | 13.6 |
| West Florida Wall (Alternative 5) | 1308 (218) | 1974 (329) | 36.3 |



NEW Figure 2.2.1. Fishing data overlaid on the proposed HAPCs Long Mound, North Reed, Many Mounds, and West Florida Wall. VMS data include all bottom-tending gear and span March 2007 until July 2015. VMS data are aggregated on 2.5 nm by 2.5 nm grids (the larger squares). VMS locations are collected once every hour regardless of fishing activity. ELB data include all points from 2004 to 2013 and are aggregated on 0.65 nm by 0.65 nm grids (the smaller squares). ELB data are collected once every 10 minutes and have been filtered to only include data from active fishing. Interactive maps and data are provided at: [agenta](#) and [dark blue](#) indicate areas with few VMS pings; any ELB grid that is not white in ELB data indicates shrimping activity (see description of data used in Section 1.1).

Alternative 1 would not create any new HAPCs in the southeastern Gulf, and not protect any additional deep-sea coral areas from the physical effects of bottom-tending fishing gear in the future. Currently, in the eastern Gulf there are three marine reserves, Madison-Swanson, Steamboat Lumps, and the Edges, which were put in place to protect reef fish. The existing Pulley Ridge North and Pulley Ridge South are HAPCs, but only Pulley Ridge South has regulations in place to protect corals from bottom-tending gear (see discussion on Action 3). Lastly, to the south, there are the Tortugas Marine Reserves and the Florida Keys National Marine Sanctuary, which both protect areas mostly outside of the Council's jurisdiction.

Preferred Alternative 2 would create an HAPC around the area that has been identified as Long Mound. Long Mound contains a series of mounds and ridges that have many stony corals (e.g. *Lophelia pertusa*, *Madrepora oculata*, etc.), black corals (e.g., *Leiopathes* spp.), octocorals and sponges (Brooke 2017). ROVs have been used to evaluate these areas in 2010 and 2012 (Lophelia II cruises; <http://oceanexplorer.noaa.gov/explorations/explorations.html>). Golden crab and royal red shrimp are closely associated with these deep reefs, though there is little evidence to suggest that royal red shrimping occurs here; ELB data do not indicate heavy shrimping effort here (Figure 2.2.1). The DSCRTP database lists two species of stony coral and three species of black coral in this area. **Option a** would not impose any fishing regulations on this area and would not provide protections to corals from bottom-tending gear. **Preferred Option b** is unlikely to affect current bottom-tending gear fisheries and would protect corals from damage caused by bottom-tending gear.

Preferred Alternative 3 would create an HAPC in the area identified as Many Mounds. This site has been surveyed more than both Long Mounds and North Reed and has a large number of documented mounds which provide vertical relief. This site has a high percentage cover of *L. pertusa*, black corals, octocorals, and sponges. Large numbers of golden crabs have been observed at this site (Brooke 2017). Both VMS and shrimp ELB data do not show that this is currently heavily fished with bottom-tending gear (Figure 2.2.1). The DSCRTP database lists at least four species of stony coral and at least four species of black coral in this area. **Option a** would not impose any fishing regulations on this area and would not provide protections to corals from bottom-tending gear. **Preferred Option b** is unlikely to affect current bottom-tending gear fisheries and would protect corals from damage caused by bottom-tending gear.

Preferred Alternative 4 would create an HAPC at the site labeled North Reed. This site is topographically similar to Long Mound with mounds on a deeper slope, and supports an octocoral dominated community (Brooke 2017). There are also many mounds within this site with high cover of *L. pertusa* and black coral species such as *Leiopathes* sp. (Brooke 2017). Both VMS and shrimp ELB data indicate that this area is not fished with bottom-tending gear (Figure 2.2.1). The DSCRTP database lists at least five species of stony coral and two species of black coral in this area. **Option a** would not impose any fishing regulations on this area and would not provide protections to corals from bottom-tending gear. **Preferred Option b** is unlikely to affect current bottom-tending gear fisheries and would protect corals from damage caused by bottom-tending gear.

Alternative 5 would create an HAPC at the site labeled West Florida Wall. This area has been recommended by the SSC and encompasses a continuous wall-like feature in the 1312-1970 ft (218-328 fathoms or 400-600 m) depth range. **Alternative 5** connects **Preferred Alternatives**

2, 3, and 4, which all share this feature, but does not extend deeper than 1970 ft (328 fathoms), nor shallower than approximately 1970 ft (218 fathoms). This wall feature encompasses all of the observed biota and corals that are listed in **Preferred Alternatives 2, 3, and 4**, but is slightly smaller (approximately 3.9 nm²) than the total area of the sum of area for Long Mound, North Reed Site, and Many Mounds. Both VMS and shrimp ELB data do not indicate that this is currently heavily fished with bottom-tending gear (Figure 2.2.1). **Option a** would not impose fishing regulations in this area and would not protect corals from bottom-tending gear. **Preferred Option b** is unlikely to affect current bottom-tending gear fisheries and would protect corals from damage caused by bottom-tending gear in the future.

Alternatives 2-4 are all unique areas and it is not reasonable to compare them to each other. When compared to the other alternatives in **Action 2**, **Alternative 1** would have the least effects on the fishing community because it would maintain status quo, and not establish HAPCs. However, **Alternative 1** would also not protect the identified coral communities from future fishing impacts from bottom-tending gear. **Option a** in **Preferred Alternatives 2-4** and **Alternative 5** would not be different for the biological community than **Alternative 1** because fishing regulations in these areas that are documented to have corals would not be implemented. **Options a and b** in **Preferred Alternatives 2-4** and **Alternative 5** are not likely to change how fisheries in the area are prosecuted because there is little to no documented fishing activity with bottom-tending gear in these areas. **Alternative 5** would likely be more beneficial than **Preferred Alternatives 2-4** because it would create a continuous boundary along a feature known to have deep-sea corals, and would also only provide one set of coordinates for boundaries (instead of three separate areas), which is likely to aid law enforcement. **Alternative 5** would create an HAPC that is 36.3 nm², whereas, **Preferred Alternatives 2-4** would create three separate HAPCs for a total area of 40.2 nm². Additionally, the depth range of **Preferred Alternatives 2-4** would be broader from 654-2952 ft (109-492 fathoms); **Alternative 5** would only be from 1308 – 1974 ft (218-329 fathoms). Similar species compositions are found throughout **Preferred Alternatives 2-4** and **Alternative 5**.

Chapter 4, Action 2

4.2.1 Direct and Indirect Effects on the Physical and Biological/Ecological Environments

This action proposes to establish new HAPCs in the Southeastern Gulf. **Alternative 1** (No Action) would maintain the status quo. None of the areas proposed in this action would be considered HAPCs. **Alternative 1** is the least conservative, and would have the most negative effects on the physical and biological/ecological environment compared to the other alternatives in this action. Any bottom-tending gear fishing effort that occurs on the sites proposed in Action 2 would continue, as would the potential harm to coral habitat and associated fauna inflicted by such fishing gear at these locations; specific effects of bottom-tending gear are noted in Section 4.1.1. However, it would have no effects when compared to the current management scheme, as there are no regulations on the areas in this action at this time.

Preferred Alternatives 2, 3, and 4, Option a would not be different for the biological or physical environments than the status quo or **Alternative 1** as the establishment of an HAPC with no regulations does not have any effect on the area. The area proposed for protection in **Preferred Alternatives 2, 3, and 4** is already considered coral EFH, any extractive purpose would require consultation with NMFS. **Preferred Alternatives 2, 3, and 4, Preferred Option b** would implement bottom-tending gear regulations to protect benthic corals from potential damage from bottom-tending gear in the area identified as Long Mound; it would also protect fish and other organisms (listed in Chapter 2, Action 2) from fishing with bottom-tending gear. **Preferred Alternatives 2, 3, and 4, Preferred Option b** would have positive physical effects by extending protections from bottom-tending gear to an area that has been documented to have coral by recent scientific survey. This option would prevent any future damage to the area from bottom-tending gear. **Preferred Alternatives 2, 3, and 4, Preferred Option b** would have direct positive physical and biological/ecological effects on the area encompassed by the coordinates outlined, but could have indirect negative effects if fishing effort shifted and concentrated in an area outside of this proposed alternative by adding more fishing mortality stress and bottom habitat contact to other areas. However, a shift in fishing effort is unlikely as heavy fishing activity by vessels with bottom-tending gear has not been documented in the area proposed for protection under **Preferred Alternatives 2, 3, and 4**. Thus, information on species targeted in this area cannot be gleaned.

Alternative 5, option a would not be different than the status quo or **Alternative 1** as the establishment of an HAPC with no regulations does not have any effect on the area. The area proposed in **Alternative 5** is already considered coral EFH, thus, any extractive purpose would require consultation with NMFS. **Alternative 5, Option b** would have direct positive physical and biological/ecological effects on the area encompassed by the West Florida Wall coordinates outlined, but could have indirect negative effects if fishing effort shifted and concentrated in an area outside of this proposed alternative by adding more fishing mortality stress and bottom habitat contact to other areas. However, a shift in fishing effort is unlikely as the West Florida Wall is not an area that has been identified as having bottom-tending gear used to target species. The West Florida Wall encompasses a steep wall feature that extends along the west Florida shelf in the 1312-1969 ft (218-328 fathom) depth range. This feature is present in Long Mound,

Many Mounds, and the North Reed Site (**Preferred Alternatives 2-4**), but would focus the HAPC status on the wall feature and not surrounding areas that do not have the same bathymetric vertical relief, but could include smaller mound-like features. Lastly while the feature extends through Long Mound, Many Mounds and North Reed Site (**Preferred Alternatives 2-4**), the areal extent of the West Florida Wall Boundary is slightly smaller at 36.3 nm², whereas the combined area of Long Mound, Many Mounds, and North Reed Site is 40.2 nm². Thus selecting **Alternative 5** as the preferred alternative would convey protections to a continuous feature, but to less overall area.

4.2.2 Direct and Indirect Effects on the Economic Environment

This action considers establishing new HAPCs in the Southeastern Gulf, either with or without fishing gear regulations. **Alternative 1** (No Action) would not establish new HAPCs. **Preferred Alternatives 2, 3, and 4, and Alternative 5** would establish, respectively, new HAPCs named Long Mound, Many Mounds, North Reed, and West Florida Wall. **Preferred Alternatives 2, 3, and 4, and Alternative 5** each contain an **Option a**, which would not establish fishing gear regulations, and a **Preferred Option b**, which would prohibit bottom tending gear.

Selection of **Alternative 1** would not be expected to result in any direct or indirect economic impacts. Selection of **Preferred Alternatives 2, 3, or 4, or Alternative 5** with **Option a** would not be expected to result in any direct economic impacts. These new HAPCs may result in indirect economic impacts by drawing attention to the rarity and vulnerability of these coral communities, which in turn could lead to fishermen being more aware of potential gear effects as well as an increase in the intrinsic value the public places on these coral communities.

Preferred Alternatives 2, 3, 4, and 5 with **Preferred Option b** would each create a new HAPC with a prohibition on bottom tending gear. Minor negative direct economic effects would be expected to result, as neither VMS nor shrimp ELB data indicates significant shrimping effort in the area. Recreational fishing could also be impacted by the gear restriction. Some of these commercial and recreational losses would be mitigated by the shift of these activities to other areas. Commercial fishing could incur additional operating costs if they would have to avoid the new HAPC area for continuous fishing. Some positive indirect economic impacts may result by providing protection not just to coral but also to fish species that are targeted commercially or recreationally, if the areas act as a source.

The alternatives can also be analyzed in terms of the number of ELB data points and unique vessels as well as the number of VMS data points and unique vessels. None of the proposed HAPCs in **Preferred Alternatives 2-4** or in **Alternative 5** had any ELB data points or vessels from 2004-2013. VMS data points and unique vessels for **Preferred Alternatives 2-4** and **Alternative 5** cover the years 2007-2015. The Long Mound HAPC (**Preferred Alternative 2**) had 6 VMS data points and 4 unique vessels. The Many Mounds HAPC (**Preferred Alternative 3**) had 16 VMS data points and 9 unique vessels. The North Reed HAPC (**Preferred Alternative 4**) had 4 VMS data points and 4 unique vessels. The West Florida Wall HAPC (**Alternative 5**) had 15 VMS points and 6 unique vessels. While recognizing that the presented VMS data includes both fishing and non-fishing points and therefore serves as an upper bound for potential impacts on fishing effort through **Preferred Option b** for **Preferred Alternatives**

2-4 and **Alternative 5, Preferred Alternative 3** had the most VMS data points and unique vessels, followed by **Alternative 5** and then **Preferred Alternatives 2 and 4**. **Preferred Alternatives 2 and 4** each had the same number of unique vessels, with 2 additional VMS data points contained within **Preferred Alternative 2**.

4.2.3 Direct and Indirect Effects on the Social Environment

No additional effects would be expected from **Alternative 1**, as no new HAPCs would be established on the west Florida shelf (WFS). Establishing an HAPC does not result in positive or negative effects. Rather, regulations established for an HAPC may affect human activity by prohibiting fishing or the use of certain gear, including anchoring. **Preferred Alternatives 2, 3, and 4** would each create a new HAPC on the WFS, which do not include prohibitions on bottom-tending gear (**Options a**) or do include prohibitions on all bottom-tending gear (**Preferred Options b**), including anchoring by fishing vessels. **Alternative 5** would establish an HAPC that overlaps areas proposed under **Preferred Alternatives 2, 3, and 4**, and provides the same options on bottom-tending gear. The fewest effects would be expected from **Option a** under each of the alternatives, as an HAPC would be established with no attending restrictions to human activity within each area. It is possible that fishing or gear prohibitions could be established for these HAPCs in the future, resulting in negative effects if human activity is disrupted.

The potential for negative effects is greater under **Preferred Options b**, as all bottom-tending gear would be prohibited within the boundaries of each new HAPC. However, in contrast with the potential expansion of the Pulley Ridge HAPC (Action 1), the proposed WFS HAPCs are deeper and farther from shore and each covers a smaller area of roughly 13 nm² (except **Alternative 5** which overlaps the HAPCs proposed under **Preferred Alternatives 2, 3, and 4** and would cover an area of approximately 36 nm²). Further, there is little evidence of human activity that would be affected by the fishing and gear restrictions under **Preferred Options b**. From March 2007 until July 2015, there is no evidence of shrimping or use of bottom-tending gear by reef fish fishermen within the proposed Long Mound HAPC (**Preferred Alternative 2**; Figure 2.2.1), or the proposed North Reed Site HAPC (**Preferred Alternative 4**), suggesting there would be no additional effects in establishing either of these HAPCs compared to **Alternative 1**. Over the same time period, there is no evidence of shrimping within the proposed Many Mounds HAPC (**Preferred Alternative 3**) and only a very small number of VMS pings (less than 15) from bottom longline vessels over the same 8-year time period. Nevertheless, this suggests the potential for negative effects would likely be greatest from establishing the Many Mounds HAPC (**Preferred Alternative 3**), but these effects would be minimal to negligible. Ultimately, the recorded activity over eight years suggests that any effects of establishing these HAPCs would be minimal. It is possible that some fishing effort could shift, although any effects from such effort shifting remain unknown.

The proposed HAPCs under **Preferred Alternatives 2, 3, and 4** are discrete in area; thus, all three may be selected as new HAPCs. **Alternative 5** overlaps parts of each of the proposed HAPCs under **Preferred Alternatives 2, 3, and 4**. **Alternative 5** would encompass an area slightly smaller than the total area covered by the three proposed HAPCs under **Preferred Alternatives 2, 3, and 4** (Table 2.2.1), but would occupy a continuous area that parallels the

1312-1969 ft (218-328 fathoms) depth range. The amount of current fishing activity in the proposed HAPC under **Alternative 5** is minimal and similar to that within the proposed HAPCs under **Preferred Alternatives 2, 3, and 4**. Thus, any effects from **Alternative 5** would be minimal and similar to the cumulative effects of adopting the three proposed HAPCs under **Preferred Alternatives 2, 3, and 4**.

4.2.4 Direct and Indirect Effects on the Administrative Environment

Alternative 1 would have no effect on the administrative environment because nothing further would be required. **Option a** for **Preferred Alternatives 2, 3, 4, and 5** would have analogous effects on the administrative environment to because they would both require that the new HAPC boundaries be incorporated for EFH consultations, but would not require any associated fishing regulations. As HAPCs are a subset of EFH, and these areas are already considered coral EFH, it is unlikely that there would be much additional administrative burden. **Preferred Option b** for **Preferred Alternatives 2, 3, 4, and 5** would require an additional administrative burden of developing and implementing regulations for prohibiting bottom-tending gear. Identification of EFH, HAPCs or potential restrictions on fishing activities may have some impact on other Federal laws and policies. The implementation of a number of Federal, state, and local laws, regulations, and policies have a direct effect on habitat and waters that may be considered EFH or HAPCs to the fish species managed by the Council and NMFS. The designation of EFH requires other Federal agencies with responsibility for proposed non-fishing actions to consult with NMFS on actions with potential adverse impacts on EFH. As a subset of EFH, HAPCs require these consultations.

Appendix D Tables e-h. Number of unique vessels per area, per year, per gear type within the proposed HAPC boundaries in Action 2. Grayed squares indicate when data was unavailable. ELB indicates information from shrimp ELBs. VMS is the sum of all VMS gear types, further divided into specific gear types (as appropriate). As described in Section 1.1 regarding the data limitations, except for the ELB data, having a permit holder recorded in the area does not conclusively prove they were actively fishing or what gear they were fishing with.

APPENDIX D- ACTION

e. Action 2, Alternative 2 Long Mound

| year | ELB | VMS | bottom longline | bandit rig |
|------|-----|-----|-----------------|------------|
| 2004 | 0 | | | |
| 2005 | 0 | | | |
| 2006 | 0 | | | |
| 2007 | 0 | 0 | 0 | 0 |
| 2008 | 0 | 0 | 0 | 0 |
| 2009 | 0 | 2 | 2 | 0 |
| 2010 | 0 | 0 | 0 | 0 |
| 2011 | 0 | 2 | 1 | 1 |
| 2012 | 0 | 1 | 1 | 0 |
| 2013 | 0 | 0 | 0 | 0 |
| 2014 | | 0 | 0 | 0 |
| 2015 | | 0 | 0 | 0 |

g. Action 2, Alternative 4 North Reed

| year | ELB | VMS | bottom longline | bandit rig |
|------|-----|-----|-----------------|------------|
| 2004 | 0 | | | |
| 2005 | 0 | | | |
| 2006 | 0 | | | |
| 2007 | 0 | 0 | 0 | 0 |
| 2008 | 0 | 0 | 0 | 0 |
| 2009 | 0 | 1 | 1 | 0 |
| 2010 | 0 | 0 | 0 | 0 |
| 2011 | 0 | 2 | 1 | 1 |
| 2012 | 0 | 0 | 0 | 0 |
| 2013 | 0 | 0 | 0 | 0 |
| 2014 | | 1 | 1 | 0 |
| 2015 | | 0 | 0 | 0 |

f. Action 2, Alternative 3 Many Mounds

| year | ELB | VMS | bottom longline | bandit rig |
|------|-----|-----|-----------------|------------|
| 2004 | 0 | | | |
| 2005 | 0 | | | |
| 2006 | 0 | | | |
| 2007 | 0 | 0 | 0 | 0 |
| 2008 | 0 | 0 | 0 | 0 |
| 2009 | 0 | 4 | 3 | 1 |
| 2010 | 0 | 0 | 0 | 0 |
| 2011 | 0 | 2 | 2 | 0 |
| 2012 | 0 | 1 | 1 | 0 |
| 2013 | 0 | 1 | 1 | 0 |
| 2014 | | 0 | 0 | 0 |
| 2015 | | 1 | 0 | 1 |

h. Action 2, Alternative 5 West Florida Wall

| year | ELB | VMS | bottom longline | bandit rig |
|------|-----|-----|-----------------|------------|
| 2004 | 0 | | | |
| 2005 | 0 | | | |
| 2006 | 0 | | | |
| 2007 | 0 | 0 | 0 | 0 |
| 2008 | 0 | 0 | 0 | 0 |
| 2009 | 0 | 1 | 1 | 0 |
| 2010 | 0 | 0 | 0 | 0 |
| 2011 | 0 | 3 | 2 | 1 |
| 2012 | 0 | 2 | 2 | 0 |
| 2013 | 0 | 0 | 0 | 0 |
| 2014 | | 0 | 0 | 0 |
| 2015 | | | 0 | 1 |