

## Amendments 73 and 65 to the Fishery Management Plan for Groundfish of the Gulf of Alaska

1. Amendment 73 supersedes Amendment 55.
2. In Table ES-2, the following text is added to the list of Time and Area Restrictions to read as follows:

<b>Time and Area Restrictions</b>	<p><b>Fishing Year:</b> January 1-December 31.</p> <p><b>All vessels:</b> Fishing or anchoring within the Sitka Pinnacles Marine Reserve is prohibited at all times.</p> <p><b>All trawl:</b> Use of trawl gear is prohibited at all times in the Southeast Outside district.</p> <p><b>Non-pelagic trawl:</b> The use of non-pelagic trawl is prohibited in Cook Inlet. Three types of closure areas are designated around Kodiak Island. Type I areas prohibit non-pelagic trawling year-round; Type II prohibit non-pelagic trawl from February 15 to June 15; adjacent areas designated as Type III may be reclassified by the Regional Administrator as Type I or Type II following a recruitment event. The Gulf of Alaska Slope Habitat Conservation Area is closed to non-pelagic trawling year-round.</p> <p><b>Bottom contact gear:</b> The use of bottom contact gear is prohibited in the Gulf of Alaska Coral and Alaska Seamount Habitat Protection Areas year-round.</p> <p><b>Anchoring:</b> Anchoring by fishing vessels in the Gulf of Alaska Coral and Alaska Seamount Habitat Protection Areas is prohibited.</p> <p><b>Marine mammal measures:</b> Regulations implementing the FMP may include conservation measures that temporally and spatially limit fishing effort around areas important to marine mammals.</p> <p><b>Gear test area exemption:</b> Specific gear test areas for use when the fishing grounds are closed to that gear type, are established in regulations that implement the FMP.</p>
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3. Add section 3.5.2.1.2 to read as follows:

### **3.5.2.1.2 Anchoring in Habitat Protection Areas**

Anchoring by any federally permitted fishing vessel, as described in 50 CFR part 679, in the GOA Coral or Alaska Seamount Habitat Protection Areas is prohibited. See Figures 3-7 and 3-8 and Appendix B for the coordinates.

4. Add Section 3.5.2.2.4 to read as follows

### **3.5.2.2.4 GOA Slope Habitat Conservation Areas**

The use of nonpelagic trawl gear in the GOA Slope Habitat Conservation Areas by any federally permitted fishing vessel, as described in 50 CFR part 679, is prohibited. See Figure 3-6 and Appendix B for the coordinates.

5. Add figure 3-6 (GOA Slope Habitat Conservation Areas)

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6. Renumber section 3.5.3 and 3.5.4 to 3.5.4 and 3.5.5, respectively. Add a new section 3.5.2 to read as follows

### **3.5.3 Bottom Contact Gear**

#### **3.5.3.1 GOA Coral Habitat Protection Areas**

The use of bottom contact gear, as described in 50 CFR part 679, is prohibited in the GOA Coral Habitat Protection Areas. See Figure 3-8 and Appendix B for the coordinates.

#### **3.5.3.2 Alaska Seamount Habitat Protection Areas**

The use of bottom contact gear, as described in 50 CFR part 679, is prohibited in the Alaska Seamount Habitat Protection Areas. See Figure 3-7 and Appendix B for the coordinates.

7. Add figures 3-7 and 3-8 as follows:

**Insert g:\fmgroup\amendments 78-73 EFH-HAPC\GOA GF FMP\Figure 3-7 ASHPA.wpd**

Insert g:\fmgroup\amendments 78-73 EFH-HAPC\GOA GF FMP\Figure 3-8 GOACHPA in the GOA.wpd

8. In section 3.10.2, revise the Essential Fish Habitat Components section to read as follows:

#### Essential Fish Habitat Components

To incorporate the regulatory guidelines for review and revision of essential fish habitat (EFH) FMP components, the Council will conduct a complete review of all the EFH components of each FMP once every 5 years and will amend those EFH components as appropriate to include new information.

Additionally, the Council may use the FMP amendment cycle every three years to solicit proposals for habitat areas of particular concern and/or conservation and enhancement measures to minimize the potential adverse effects from fishing. Those proposals that the Council endorses would be implemented through FMP amendments.

An annual review of existing and new EFH information will be conducted and this information will be provided to the GOA Groundfish Plan Team for their review during the annual SAFE report process. This information could be included in the “Ecosystems Considerations” chapter of the SAFE report.

9. In section 4.2,

a. Retain Figure 4-1 at the end of section 4.2.1.

b. Section 4.2 is revised and Figure 4-2 is added after Figure 4-1 to read as follows:

## **4.2 Habitat**

### **4.2.1 Habitat Types**

The GOA has approximately 160,000 km<sup>2</sup> of continental shelf, which is less than 25 percent of the EBS shelf (Figure 4-1). The GOA is a relatively open marine system with land masses to the east and the north. Commercial species are more diverse in the GOA than in the EBS, but less diverse than in the Washington-California region. The most diverse set of species in the GOA is the rockfish group; 30 species have been identified in this area.

The dominant circulation in the GOA (Musgrave et al. 1992) is characterized by the cyclonic flow of the Alaska gyre. The circulation consists of the eastward-flowing Subarctic Current system at approximately 50° N and the Alaska Coastal Current (Alaska Stream) system along the northern GOA. Large seasonal variations in the wind-stress curl in the GOA affect the meanders of the Alaska Stream and nearshore eddies. The variations in these nearshore flows and eddies affect much of the region’s biological variability.

The GOA has a variety of seabed types such as gravely sand, silty mud, and muddy to sandy gravel, as well as areas of hardrock (Hampton et al. 1986) (Figure 4-2). Investigations of the northeast GOA shelf (less than 200 meters [m]) have been conducted between Cape Cleare (148° W) and Cape Fairweather (138° W) (Feder and Jewett 1987). The shelf in this portion of the GOA is relatively wide (up to 100 km). The dominant shelf sediment is clay silt that comes primarily from either the Copper River or the Bering and Malaspina glaciers. When the sediments enter the GOA, they are generally transported to the west. Sand predominates nearshore, especially near the Copper River and the Malaspina Glacier. Most of the western GOA shelf (west of Cape Igvak) consists of slopes characterized by marked dissection and steepness. The shelf consists of many banks and reefs with numerous coarse, clastic, or rocky bottoms, as well as patchy bottom sediments. In contrast, the shelf near Kodiak Island consists of flat relatively shallow banks cut by transverse troughs. The substrate in the area from Near Strait and close to Buldir Island, Amchitka, and Amukta Passes is mainly bedrock outcrops and coarsely fragmented sediment interspersed with sand bottoms.

Temperature anomalies in the GOA illustrate a relatively warm period in the late 1950s, followed by cooling (especially in the early 1970s), and then by a rapid temperature increase in the latter part of that decade. Subsurface temperature anomalies for the coastal GOA also show a change from the early 1970s into the 1980s, similar to that observed in the sea surface (U.S. GLOBEC 1996). In addition, high latitude temperature responses to El Niño southern oscillation events can be seen, especially at depth, in 1977, 1982, 1983, 1987, and the 1990s. Between these events, temperatures in the GOA return to cooler and more neutral temperatures. The 1997/98 El Niño southern oscillation event, one of the strongest recorded this century, has significantly changed the distribution of fish stocks off California, Oregon, Washington, and Alaska. The longer-term impacts of this event remain to be seen.

Piatt and Anderson (1996) provide evidence of possible changes in prey abundance due to decadal scale climate shifts. These authors examined relationships between significant declines in marine birds in the northern GOA during the past 20 years and found that significant declines in common murre populations occurred from the mid- to late-1970s to the early 1990s. Piatt and Anderson (1996) found marked changes in diet composition of five seabird species collected in the GOA from 1975 to 1978 and from 1988 to 1991. Their diet changed from capelin-dominated in the former period to one in which capelin was virtually absent in the latter period.

On a larger scale, evidence of biological responses to decadal-scale climate changes is also found in the coincidence of global fishery expansions or collapses of similar species complexes. For example, salmon stocks in the GOA and the California Current are out of phase. When salmon stocks do well in the GOA, they do poorly in the California Current and vice versa (Hare and Francis 1995, Mantua et al. 1997). For more information about the GOA physical environment, refer to the final programmatic groundfish SEIS (NMFS 2004).

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Insert g:\fmgroup\amendments 78-73 EFH-HAPC\GOA GF FMP\Figure 4-2.wpd

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c. Sections 4.2.2 through 4.2.4 are revised to read as follows:

#### **4.2.2 Essential Fish Habitat Definitions**

EFH is defined in the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” EFH for groundfish species is the general distribution of a species described by life stage. General distribution is a subset of a species population and is 95 percent of the population for a particular life stage, if life history data are available for the species. Where information is insufficient and a suitable proxy cannot be inferred, EFH is not described. General distribution is used to describe EFH for all stock conditions whether or not higher levels of information exist, because the available higher level data are not sufficiently comprehensive to account for changes in stock distribution (and thus habitat use) over time.

EFH is described for FMP-managed species by life stage as general distribution using new guidance from the EFH Final Rule (50 CFR 600.815), such as the updated EFH Level of Information definitions. New analytical tools are used and recent scientific information is incorporated for each life history stage from updated scientific habitat assessment reports (see

Appendix F to the NMFS 2005). EFH descriptions include both text (Section 4.2.2.2) and maps (Section 4.2.2.3 and Appendix E), if information is available for a species' particular life stage. These descriptions are risk averse, supported by scientific rationale, and accounts for changing oceanographic conditions, regime shifts, and the seasonality of migrating fish stocks.

EFH descriptions are interpretations of the best scientific information. In support of this information, a thorough review of FMP species in the Environmental Impact Statement for Essential Fish Habitat Identification and Conservation (NMFS 2005) (EFH EIS) is contained in Section 3.2.1 Biology, Habitat Usage, and Status of Magnuson-Stevens Act Managed Species and detailed by life history stage in Appendix F: EFH Habitat Assessment Reports.

#### 4.2.2.1 EFH Information Levels

A summary of the habitat information levels for each species is listed in Table 4-1.

**Table 4-1 EFH Information Levels for GOA Groundfish** Juveniles were subdivided into early and late juvenile stages based on survey selectivity curves. NOTE: "1" indicates that there is sufficient information available to describe EFH; "x" indicates that there is insufficient information available to describe EFH.

GOA Species	Eggs	Larvae	Early Juvenile	Late Juvenile	Adult
Walleye pollock	1	1	x	1	1
Pacific cod	1	1	x	1	1
Yellowfin sole	1	1	x	1	1
Arrowtooth flounder	x	1	x	1	1
Rock sole	x	1	x	1	1
Alaska plaice	1	1	x	1	1
Rex sole	1	1	x	1	1
Dover sole	1	1	x	1	1
Flathead sole	1	1	x	1	1
Sablefish	1	1	x	1	1
Pacific ocean perch	x	1	x	1	1
Shortraker/rougheye rockfish	x	1	x	x	1
Northern rockfish	x	1	x	x	1
Thornyhead rockfish	x	1	x	1	1
Yelloweye rockfish	x	1	x	1	1
Dusky rockfish	x	1	x	x	1
Atka mackerel	x	1	x	x	1
Sculpins	x	x	x	1	1
Skates	x	x	x	x	1
Sharks	x	x	x	x	x
Forage fish complex	x	x	x	x	x
Squid	x	x	x	1	1

Octopus	x	x	x	x	x
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#### 4.2.2.2 EFH Text Descriptions for GOA Groundfish

##### EFH Description for GOA Walleye Pollock

###### **Eggs**

EFH for walleye pollock eggs is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m), upper slope (200 to 500 m), and intermediate slope (500 to 1,000 m) throughout the GOA, as depicted in Figure E-1.

###### **Larvae**

EFH for larval walleye pollock is the general distribution area for this life stage, located in epipelagic waters along the entire shelf (0 to 200 m), upper slope (200 to 500 m), and intermediate slope (500 to 1,000 m) throughout the GOA, as depicted in Figure E-2.

###### **Early Juveniles—No EFH Description Determined**

Limited information exists to describe walleye pollock early juvenile larval general distribution; however, the data cannot be analyzed in the same manner as directed by the approach for Alternative 3.

###### **Late Juveniles**

EFH for late juvenile walleye pollock is the general distribution area for this life stage, located in the lower and middle portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf along the throughout the GOA, as depicted in Figure E-3. No known preference for substrates exist.

###### **Adults**

EFH for adult walleye pollock is the general distribution area for this life stage, located in the lower and middle portion of the water column along the entire shelf (0 to 200) and slope (200 to 1,000 m) throughout the GOA, as depicted in Figure E-3. No known preference for substrates exist.

##### EFH Description for GOA Pacific Cod

###### **Eggs**

EFH for Pacific cod eggs is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and upper (200 to 500 m) slope throughout the GOA wherever there are soft substrates consisting of mud and sand, as depicted in Figure E-4.

###### **Larvae**

EFH for larval Pacific cod is the general distribution area for this life stage, located in pelagic waters along the inner (0 to 50 m) and middle (50 to 100 m) shelf throughout the GOA wherever there are soft substrates consisting of mud and sand, as depicted in Figure E-5.

###### **Early Juveniles—No EFH Description Determined**

Insufficient information is available.

###### **Late Juveniles**

EFH for late juvenile Pacific cod is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are soft substrates consisting of sand, mud, sandy mud, and muddy sand, as depicted in Figure E-6.

#### **Adults**

EFH for adult Pacific cod is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the GOA wherever there are soft substrates consisting of sand, mud, sandy mud, muddy sand, and gravel, as depicted in Figure E-6.

#### **EFH Description for GOA Yellowfin Sole**

##### **Eggs**

EFH for yellowfin sole eggs is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and upper (200 to 500 m) slope throughout the GOA, as depicted in Figure E-7.

##### **Larvae**

EFH for larval yellowfin sole is the general distribution area for this life stage, located in pelagic waters along the shelf (0 to 200 m) and upper slope (200 to 500 m) throughout the GOA, as depicted in Figure E-8.

##### **Early Juveniles—No EFH Description Determined**

Insufficient information is available.

##### **Late Juveniles**

EFH for late juvenile yellowfin sole is the general distribution area for this life stage, located in the lower portion of the water column within nearshore bays and along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the GOA wherever there are soft substrates consisting mainly of sand, as depicted in Figure E-9.

##### **Adults**

EFH for adult yellowfin sole is the general distribution area for this life stage, located in the lower portion of the water column within nearshore bays and along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the GOA wherever there are soft substrates consisting mainly of sand, as depicted in Figure E-9.

#### **EFH Description for GOA Arrowtooth Flounder**

##### **Eggs—No EFH Description Determined**

Insufficient information is available.

##### **Larvae**

EFH for larval arrowtooth flounder is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and slope (200 to 3,000 m) throughout the GOA, as depicted in Figure E-10.



### **Early Juveniles—No EFH Description Determined**

Insufficient information is available.

### **Late Juveniles**

EFH for late juvenile arrowtooth flounder is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf and upper slope (200 to 500 m) throughout the GOA wherever there are softer substrates consisting of gravel, sand, and mud, as depicted in Figure E-11.

### **Adults**

EFH for adult arrowtooth flounder is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50), middle (50 to 100 m), and outer (100 to 200 m) shelf and upper slope (200 to 500 m) throughout the GOA wherever there are softer substrates consisting of gravel, sand, and mud, as depicted in Figure E-11.

### **EFH Description for GOA Rock Sole**

#### **Eggs—No EFH Description Determined**

Insufficient information is available.

#### **Larvae**

EFH for larval rock sole is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and upper slope (200 to 1,000 m) throughout the GOA, as depicted in Figure E-12.

#### **Early Juveniles—No EFH Description Determined**

Insufficient information is available.

#### **Late Juveniles**

EFH for late juvenile rock sole is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are softer substrates consisting of sand, gravel, and cobble, as depicted in Figure E-13.

#### **Adults**

EFH for adult rock sole is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are softer substrates consisting of sand, gravel, and cobble, as depicted in Figure E-13.

### **EFH Description for GOA Alaska Plaice**

#### **Eggs**

EFH for Alaska plaice eggs is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and upper slope (200 to 500 m) throughout the GOA in the spring, as depicted in Figure E-14.

### **Larvae**

EFH for larval Alaska plaice is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and upper slope (200 to 500 m) throughout the GOA, as depicted in Figure E-15.

### **Early Juveniles—No EFH Description Determined**

Insufficient information is available.

### **Late Juveniles**

EFH for late juvenile Alaska plaice is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are softer substrates consisting of sand and mud, as depicted in Figure E-16.

### **Adults**

EFH for adult Alaska plaice is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the BSAI wherever there are softer substrates consisting of sand and mud, as depicted in Figure E-16.

### **EFH Description for GOA Rex Sole**

#### **Eggs**

EFH for rex sole eggs is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and upper slope (200 to 500 m) throughout the GOA in the spring, as depicted in Figure E-17.

#### **Larvae**

EFH for larval rex sole is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and upper slope (200 to 500 m) throughout the GOA, as depicted in Figure E-18.

#### **Early Juveniles—No EFH Description Determined**

Insufficient information is available.

#### **Late Juveniles**

EFH for juvenile rex sole is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the GOA wherever there are substrates consisting of gravel, sand, and mud, as depicted in Figure E-19.

#### **Adults**

EFH for adult rex sole is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the GOA wherever there are substrates consisting of gravel, sand, and mud, as depicted in Figure E-19.

### **EFH Description for GOA Dover Sole**

**Eggs**

EFH for Dover sole eggs is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and slope (200 to 3,000 m) throughout the GOA, as depicted in Figure E-20.

**Larvae**

EFH for larval Dover sole is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and slope (200 to 3,000 m) throughout the GOA, as depicted in Figure E-21.

**Early Juveniles—No EFH Description Determined**

Insufficient information is available.

**Late Juveniles**

EFH for late juvenile Dover sole is the general distribution area for this life stage, located in the lower portion of the water column along the middle (50 to 100 m), and outer (100 to 200 m) shelf and upper slope (200 to 500 m) throughout the GOA wherever there are substrates consisting of sand and mud, as depicted in Figure E-22.

**Adults**

EFH for adult Dover sole is the general distribution area for this life stage, located in the lower portion of the water column along the middle (50 to 100 m), and outer (100 to 200 m) shelf and upper slope (200 to 500 m) throughout the GOA wherever there are substrates consisting of sand and mud, as depicted in Figure E-22.

**EFH Description GOA Flathead Sole****Eggs**

EFH for flathead sole eggs is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and slope (200 to 3,000 m) throughout the GOA, as depicted in Figure E-23.

**Larvae**

EFH for larval flathead sole is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and slope (200 to 3,000 m) throughout the GOA, as depicted in Figure E-24.

**Early Juveniles—No EFH Description Determined**

Insufficient information is available.

**Late Juveniles**

EFH for juvenile flathead sole is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the GOA wherever there are softer substrates consisting of sand and mud, as depicted in Figure E-25.

**Adults**

EFH for adult flathead sole is the general distribution area for this life stage, located in the lower portion

of the water column along the inner (0 to 50 m), middle (50 to 100 m), and outer (100 to 200 m) shelf throughout the GOA wherever there are softer substrates consisting of sand and mud, as depicted in Figure E-25.

### **EFH Description for GOA Sablefish**

#### **Eggs**

EFH for sablefish eggs is the general distribution area for this life stage, located in deeper waters along the slope (200 to 3,000 m) throughout the GOA, as depicted in Figure E-26.

#### **Larvae**

EFH for larval sablefish is the general distribution area for this life stage, located in epipelagic waters along the middle shelf (50 to 100 m), outer shelf (100 to 200 m), and slope (200 to 3,000 m) throughout the GOA, as depicted in Figure E-27.

#### **Early Juveniles—No EFH Description Determined**

Insufficient information is available.

#### **Late Juveniles**

EFH for late juvenile sablefish is the general distribution area for this life stage, located in the lower portion of the water column, varied habitats, generally softer substrates, and deep shelf gulleys along the slope (200 to 1,000 m) throughout the GOA, as depicted in Figure E-28.

#### **Adults**

EFH for adult sablefish is the general distribution area for this life stage, located in the lower portion of the water column, varied habitats, generally softer substrates, and deep shelf gulleys along the slope (200 to 1,000 m) throughout the GOA, as depicted in Figure E-28.

### **EFH Description for GOA Pacific Ocean Perch**

#### **Eggs—No EFH Description Determined**

Insufficient information is available.

#### **Larvae**

EFH for larval Pacific ocean perch is the general distribution area for this life stage, located in the middle to lower portion of the water column along the inner shelf (0 to 50 m), middle shelf (50 to 100 m), outer shelf (100 to 200 m), and upper slope (200 to 500 m) throughout the GOA as depicted in Figure E-29.

#### **Early Juveniles—No EFH Description Determined**

Insufficient information is available.

#### **Late Juveniles**

EFH for late juvenile Pacific ocean perch is the general distribution area for this life stage, located in the middle to lower portion of the water column along the inner shelf (0 to 50 m), middle shelf (50 to 100 m), outer shelf (100 to 200 m), and upper slope (200 to 500 m) throughout the GOA wherever there are substrates consisting of cobble, gravel, mud, sandy mud, or muddy sand, as depicted in Figure E-30.

#### **Adults**

EFH for adult Pacific ocean perch is the general distribution area for this life stage, located in the lower portion of the water column along the outer shelf (100 to 200 m) and upper slope (200 to 500 m) throughout the GOA wherever there are substrates consisting of cobble, gravel, mud, sandy mud, or muddy sand, as depicted in Figure E-30.

### **EFH Descriptions for GOA Shortraker and Rougheye Rockfish**

#### **Eggs—No EFH Description Determined**

Insufficient information is available.

#### **Larvae**

EFH for larval shortraker and rougheye rockfish is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and slope (200 to 3,000 m) throughout the GOA, as depicted in Figure E-29, General Distribution of Rockfish Larvae.

#### **Early Juveniles—No EFH Description Determined**

Insufficient information is available.

#### **Late Juveniles—No EFH Description Determined**

Insufficient information is available.

#### **Adults**

EFH for adult shortraker and rougheye rockfish is the general distribution area for this life stage, located in the lower portion of the water column along the outer shelf (100 to 200 m) and upper slope (200 to 500 m) regions throughout the GOA wherever there are substrates consisting of mud, sand, sandy mud, muddy sand, rock, cobble, and gravel, as depicted in Figure E-31.

### **EFH Description for GOA Northern Rockfish**

#### **Eggs—No EFH Description Determined**

Insufficient information is available.

#### **Larvae**

EFH for larval northern rockfish is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and slope (200 to 3,000 m) throughout the GOA, as depicted in Figure E-29, General Distribution of Rockfish Larvae.

#### **Early Juveniles—No EFH Description Determined**

Insufficient information is available.

#### **Late Juveniles—No EFH Description Determined**

Insufficient information is available.

#### **Adults**

EFH for adult northern rockfish is the general distribution area for this life stage, located in the middle and lower portions of the water column along the outer slope (100 to 200 m) and upper slope (200 to 500 m) throughout the GOA wherever there are substrates of cobble and rock, as depicted in Figure E-32.

### **EFH Description for GOA Thornyhead Rockfish**

#### **Eggs—No EFH Description Determined**

Insufficient information is available.

#### **Larvae**

EFH for larval thornyhead rockfish is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and slope (200 to 3,000 m) throughout the GOA, as depicted in Figure E-29, General Distribution of Rockfish Larvae.

#### **Early Juveniles—No EFH Description Determined**

Insufficient information is available.

#### **Late Juveniles**

EFH for late juvenile Thornyhead rockfish is the general distribution area for this life stage, located in the lower portion of the water column along the middle and outer shelf (50 to 200 m) and upper to lower slope (200 to 1,000 m) throughout the GOA wherever there are substrates of mud, sand, rock, sandy mud, muddy sand, cobble, and gravel, as depicted in Figure E-33.

#### **Adults**

EFH for adult Thornyhead rockfish is the general distribution area for this life stage, located in the lower portion of the water column along the middle and outer shelf (50 to 200 m) and upper to lower slope (200 to 1,000 m) throughout the GOA wherever there are substrates of mud, sand, rock, sandy mud, muddy sand, cobble, and gravel, as depicted in Figure E-33.

### **EFH Definition for GOA Yelloweye Rockfish**

#### **Eggs—No EFH Description Determined**

Insufficient information is available.

#### **Larvae**

EFH for larval yelloweye rockfish is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and slope (200 to 3,000 m) throughout the GOA, as depicted in Figure E-29, General Distribution of Rockfish Larvae.

#### **Early Juveniles—No EFH Description Determined**

Insufficient information is available.

#### **Late Juveniles**

EFH for late juvenile Yelloweye rockfish is the general distribution area for this life stage, located in the lower portion of the water column within bays and island passages and along the inner (0 to 50 m), middle (50 to 100 m), and outer shelf (100 to 200 m) throughout the GOA wherever there are substrates of rock and in areas of vertical relief, such as crevices, overhangs, vertical walls, coral, and larger sponges, as depicted in Figure E-34.

#### **Adults**

EFH for adult Yelloweye rockfish is the general distribution area for this life stage, located in the lower portion of the water column within bays and island passages and along the inner shelf (0 to 50 m), middle

shelf (50 to 100 m), outer shelf (100 to 200 m) and upper slope (200 to 500 m) throughout the GOA wherever there are substrates of rock and in areas of vertical relief, such as crevices, overhangs, vertical walls, coral, and larger sponges, as depicted in Figure E-34.

#### **EFH Description for GOA Dusky Rockfish**

##### **Eggs—No EFH Description Determined**

Insufficient information is available.

##### **Larvae**

EFH for larval dusky rockfish is the general distribution area for this life stage, located in pelagic waters along the entire shelf (0 to 200 m) and slope (200 to 3,000 m) throughout the GOA, as depicted in Figure E-29, General Distribution of Rockfish Larvae.

##### **Early Juveniles—No EFH Description Determined**

Insufficient information is available.

##### **Late Juveniles—No EFH Description Determined**

Insufficient information is available.

##### **Adults**

EFH for adult Dusky rockfish is the general distribution area for this life stage, located in the middle and lower portions of the water column along the outer shelf (100 to 200 m) and upper slope (200 to 500 m) throughout the GOA wherever there are substrates of cobble, rock, and gravel, as depicted in Figure E-35.

#### **EFH Description for GOA Atka Mackerel**

##### **Eggs—No EFH Description Determined**

Insufficient information is available.

##### **Larvae**

EFH for larval atka mackerel is the general distribution area for this life stage, located in epipelagic waters along the shelf (0 to 200 m), upper slope (200 to 500 m), and intermediate slope (500 to 1,000 m) throughout the GOA, as depicted in Figure E-36.

##### **Early Juveniles —No EFH Description Determined**

Insufficient information is available.

##### **Late Juveniles—No EFH Description Determined**

Insufficient information is available.

##### **Adults**

EFH for adult Atka mackerel is the general distribution area for this life stage, located in the entire water column, from sea surface to the sea floor, along the inner (0 to 50 m), middle (50 to 100 m), and outer shelf (100 to 200 m) throughout the GOA wherever there are substrates of gravel and rock and in vegetated areas of kelp, as depicted in Figure E-37.

#### **EFH Description for GOA Sculpins**

**Eggs—No EFH Description Determined**

Insufficient information is available.

**Larvae—No EFH Description Determined**

Insufficient information is available.

**Juveniles**

EFH for juvenile sculpins is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), outer shelf (100 to 200 m) and portions of the upper slope (200 to 500 m) throughout the GOA wherever there are substrates of rock, sand, mud, cobble, and sandy mud, as depicted in Figure E-38.

**Adults**

EFH for adult sculpins is the general distribution area for this life stage, located in the lower portion of the water column along the inner (0 to 50 m), middle (50 to 100 m), outer shelf (100 to 200 m) and portions of the upper slope (200 to 500 m) throughout the GOA wherever there are substrates of rock, sand, mud, cobble, and sandy mud, as depicted in Figure E-38.

**EFH Description for GOA Skates**

**Eggs—No EFH Description Determined**

Insufficient information is available.

**Larvae—No EFH Description Determined**

Insufficient information is available.

**Early Juveniles—No EFH Description Determined**

Insufficient information is available.

**Late Juveniles—No EFH Description Determined**

Insufficient information is available.

**Adults**

EFH for adult skates is the general distribution area for this life stage, located in the lower portion of the water column on the shelf (0 to 200 m) and the upper slope (200 to 500 m) throughout the GOA wherever there are of substrates of mud, sand, gravel, and rock, as depicted in Figure E-39.

**EFH Description for GOA Sharks**

**Eggs—No EFH Description Determined**

Insufficient information is available.

**Larvae—No EFH Description Determined**

Insufficient information is available.

**Early Juveniles—No EFH Description Determined**

Insufficient information is available.



**Late Juveniles—No EFH Description Determined**

Insufficient information is available.

**Adults—No EFH Description Determined**

Insufficient information is available.

**EFH Description for GOA Forage Fish Complex—Eulachon, Capelin, Sand Lance, Sand Fish, Euphausiids, Myctophids, Pholids, Gonostomatids, etc.**

**Eggs—No EFH Description Determined**

Insufficient information is available.

**Larvae—No EFH Description Determined**

Insufficient information is available.

**Early Juveniles—No EFH Description Determined**

Insufficient information is available.

**Late Juveniles—No EFH Description Determined**

Insufficient information is available.

**Adults. No EFH Description Determined**

Insufficient information is available.

**EFH Description for GOA Squid**

**Eggs—No EFH Description Determined**

Insufficient information is available.

**Young Juveniles—No EFH Description Determined**

Insufficient information is available.

**Late Juveniles**

EFH for older juvenile squid is the general distribution area for this life stage, located in the entire water column, from the sea surface to sea floor, along the inner (0 to 50 m), middle (50 to 100 m), and outer (200 to 500 m) shelf and the entire slope (500 to 1,000 m) throughout the GOA, as depicted in Figure E-40.

**Adults**

EFH for adult squid is the general distribution area for this life stage, located in the entire water column, from the sea surface to sea floor, along the inner (0 to 50 m), middle (50 to 100 m), and outer (200 to 500 m) shelf and the entire slope (500 to 1,000 m) throughout the GOA, as depicted in Figure E-40.

**EFH Description for GOA Octopus**

**Eggs—No EFH Description Determined**

Insufficient information is available.

### **Young Juveniles—No EFH Description Determined**

Insufficient information is available.

### **Late Juveniles—No EFH Description Determined**

Insufficient information is available.

### **Adults. No EFH Description Determined**

Insufficient information is available.

#### **4.2.2.3 EFH Map Descriptions**

Figures E-1 through E-40 in Appendix E show EFH distribution for the GOA groundfish species.

#### **4.2.2.4 Essential Fish Habitat Conservation**

In order to protect EFH, certain EFH habitat conservation areas have been designated. A habitat conservation area is an area where fishing restrictions are implemented for the purposes of habitat conservation.

The following areas have been designated in the GOA:

##### **Gulf of Alaska Slope Habitat Conservation Areas**

The coordinates of these areas are described in Appendix B; management measures associated with this area are described in Section 3.5.2.

### **4.2.3 Habitat Areas of Particular Concern**

50 CFR 600.815(a)(8) provides guidance to the Councils in identifying habitat areas of particular concern (HAPCs). HAPCs are areas within EFH that are of particular ecological importance to the long-term sustainability of managed species, are of a rare type, or are especially susceptible to degradation or development. HAPCs are meant to provide for greater focus of conservation and management efforts.

HAPCs are those areas of special importance that may require additional protection from adverse effects. Regulations at 50 CFR 600.815(a)(8) provide the following:

FMPs should identify specific types or areas of habitat within EFH as habitat areas of particular concern based on one or more of the following considerations:

- (i) The importance of the ecological function provided by the habitat.
- (ii) The extent to which the habitat is sensitive to human-induced environmental degradation.
- (iii) Whether, and to what extent, development activities are, or will be, stressing the habitat type.
- (iv) The rarity of the habitat type.

#### **4.2.3.1 HAPC Process**

The Council may designate specific sites as HAPCs and may develop management measures to

protect habitat features within HAPCs.

50 CFR 600.815(a)(8) provides guidance to the Councils in identifying HAPCs. FMPs should identify specific types or areas of habitat within EFH as habitat areas of particular concern based on one or more of the following considerations:

- (i) The importance of the ecological function provided by the habitat.
- (ii) The extent to which the habitat is sensitive to human-induced environmental degradation.
- (iii) Whether, and to what extent, development activities are, or will be, stressing the habitat type.
- (iv) The rarity of the habitat type.

Proposed HAPCs, identified on a map, must meet at least two of the four considerations established in 50 CFR 600.815(a)(8), and rarity of the habitat is a mandatory criterion. HAPCs may be developed to address identified problems for FMP species, and they must meet clear, specific, adaptive management objectives.

The Council will initiate the HAPC process by setting priorities and issuing a request for HAPC proposals. Any member of the public may submit a HAPC proposal. HAPC proposals may be solicited every 3 years or on a schedule established by the Council. The Council may periodically review existing HAPCs for efficacy and considerations based on new scientific research.

Criteria to evaluate the HAPC proposals will be reviewed by the Council and the Scientific and Statistical Committee prior to the request for proposals. The Council will establish a process to review the proposals and may establish HAPCs and conservation measures (NPFMC 2005).

#### **4.2.3.2 HAPC Designation**

In order to protect HAPCs, certain habitat protection areas and habitat conservation zones have been designated. A habitat protection area is an area of special, rare habitat features where fishing activities that may adversely affect the habitat are restricted.

The following areas have been designated in the GOA:

Alaska Seamount Habitat Protection Areas

GOA Coral Habitat Areas of Particular Concern. Three HAPCs were established for this area. For protection measure within this HAPC, five areas are designated within the three HAPCs. See Figure 3-7 of the GOA Coral Habitat Protection Areas for the five areas with protection measures.

See Appendix B for coordinates of protection areas and Figure 4-3 for more details of the GOA Coral HAPCs.

**Insert figure 4-3 for GOA coral HAPCs.**

#### **4.2.4 Conservation and Enhancement Recommendations for Fishing and Non fishing Threats to EFH and HAPCs**

Conservation and enhancement of EFH and HAPC areas have been recommended and adopted by the designation of EFH habitat conservation areas and HAPC habitat conservation zones and protection areas. The restrictions for these areas are described in section 3.5.2. Conservation recommendations for non-fishing threats to EFH and HAPCs are located in Appendix F.

10. In section 6.1.3, renumber section 6.1.3.2 to 6.1.3.3. Add section 6.1.3.2 to read as follows:

#### **6.1.3.2 EIS for Identification and Conservation of Essential Fish Habitat**

In 2005 NMFS and the Council completed the Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska (EFH EIS) (NMFS 2005). The EFH EIS provided a thorough analysis of alternatives and environmental consequences for amending the Council's FMPs to include EFH information pursuant to Section 303(a)(7) of the Magnuson-Stevens Act and 50 CFR 600.815(a). Specifically, the EFH EIS examined three actions: (1) describing and identifying EFH for Council managed fisheries, (2) adopting an approach to identify HAPCs within EFH, and (3) minimizing to the extent practicable the adverse effects of fishing on EFH. The Council's preferred alternatives from the EFH EIS were implemented through Amendment 73 to the GOA Groundfish FMP and corresponding amendments to the Council's other FMPs.

11. Revise section 6.3 by adding the following references in alphabetical order:

Feder, H.M., and S.C. Jewett. 1987. "The Subtidal Benthos." *The Gulf of Alaska: Physical Environment and Biological Resources*, D. W. Hood and S. T. Zimmerman, eds., Alaska Office, Ocean Assessments Division, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, and the Alaska OCS Region Office, Minerals Management Service, U.S. Department of the Interior, Washington, DC. pp. 347-396. *In National Marine Fisheries Service 2001(a).*

Hampton, M.A., P.R. Carlson, H.J. Lee, and R.A. Feely. 1986. "Geomorphology, sediment, and sedimentary processes." *The Gulf of Alaska: Physical Environmental and Biological Resources*, D. W. Hood and S. T. Zimmerman, eds., U.S. Department of Commerce, NOAA and Department of the Interior, MMS. pp. 93-143. *In National Marine Fisheries Service 2001(a).*

NMFS. 2005. *Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska*. March 2005. NMFS P. O. Box 21668, Juneau, AK 99801.

North Pacific Fishery Management Council. 1999. *Environmental Assessment for Amendment 55 to the FMP for the BSAI Groundfish Fishery, Amendment 55 to the FMP for the GOA Groundfish Fishery, Amendment 8 to the FMP for BSAI Crab Fisheries, Amendment 5 to the FMP for Scallop Fisheries Off Alaska, and Amendment 5 to the FMP for Salmon Fisheries in the EEZ off Alaska: Essential Fish Habitat*. NPFMC 605 West 4<sup>th</sup> St. Ste. 306, Anchorage, AK 99501-2252. 364pp.

NPFMC. 2005. *Environmental Assessment/Regulatory Impact Review/Regulatory Flexibility Analysis for Amendments 65/65/12/7/8 to the BSAI Groundfish FMP (#65), GOA Groundfish FMP (#65), BSAI Crab FMP (#12), Scallop FMP (#7) and the Salmon FMP (#8) and regulatory amendments to provide Habitat Areas of Particular Concern*. March 2005. NPFMC 605 West 4<sup>th</sup> St. Ste. 306, Anchorage, AK 99501-2252. 248pp.

12. Remove the following references from section 6.3:

Morris et al. 1983

Sharma 1979

Hood and Zimmerman 1986

Hamilton and Mysak 1985

Tabata 1982

R:\Region\Amendments\78-65 BSAI 73-65 GOA 16-12 KTC 11-9-7 SCAL 7-8 SAL  
EFH-HAPC\GOA GF FMP text\GOA fmp amend text without maps and appendix.wpd

jlepore: 10/21/05

mnbrown:4/28/05