



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
 NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office  
 263 13<sup>th</sup> Avenue South  
 St. Petersburg, Florida 33701-5505  
 (727) 824-5317; FAX (727) 824-5300  
<http://sero.nmfs.noaa.gov/>

F/SER:DD

JUN 26 2018

Dr. Carrie Simmons  
 Executive Director  
 Gulf of Mexico Fishery Management Council  
 4107 W. Spruce Street  
 Suite 200  
 Tampa, Florida 33607

Dear Dr. Simmons:

NOAA's National Marine Fisheries Service, Southeast Regional Office (SER), has reviewed the *Final Report 5-Year Review of Essential Fish Habitat Requirements (Five-Year Review)* provided by Gulf of Mexico Fishery Management Council (Council) staff to support the five-year review of the Council's essential fish habitat (EFH) designations. The regulations implementing the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) require the EFH components of fishery management plans (FMP) to be reviewed no less often than every five years to determine if those components require revision or amendment.

The Southeast Region (SER) was pleased to provide the Council with supplemental funding from the Office of Habitat Conservation to support the Council's 5-year review of EFH information. An extensive literature review was conducted to determine if any new EFH information was available and existing habitat association tables from the 2004 EFH environmental impact statement were revised to make them more readable and incorporate information from the literature review. This update served three primary purposes: (1) to make the tables more user-friendly, (2) to improve formatting so they can easily transition from a text document to internet resources, and (3) to assign habitat designation information that can be geo-referenced for the creation of mapped descriptions of EFH by species and life-stage. The habitat association tables were used to generate species profiles which include brief synopses of pertinent literature obtained during the review, a description of habitat information by species and life stage, graphs of growth by age and recent fishing effort, a brief fishery history, and a composite map of benthic habitat use by life stages for each species. Online web resources include searchable references, interactive maps, and species profiles.

Amending the Council's FMPs to incorporate these new habitat life-history functional



relationships into existing EFH identifications and descriptions would be necessary for the National Marine Fisheries Service to utilize the new information for purposes of sections 303(a)(7) and 305(b) of the Magnuson-Stevens Act. Absent development of an abbreviated (e.g., framework-type) procedure, any changes to EFH information necessitates development of FMP amendments to include information required by 50 CFR Subpart J. Section 600.815(a). The enclosed table, based on the EFH regulations, provides SER's comments and recommendations of the required and recommended components of FMPs with respect to EFH.

The Council's current five-year review of its EFH information is complete. The next comprehensive periodic review should be submitted no later than December 2021. The partnership between the Council and SER for promoting the protection, conservation, and enhancement of EFH within the Gulf of Mexico is an important component of conserving and managing fisheries under the Magnuson-Stevens Act. SER greatly appreciates the efforts by the Council and its staff to complete the five-year review of information used to identify and describe EFH.

Sincerely,



*for* Roy E. Crabtree, Ph.D.  
Regional Administrator

Enclosure

cc:

F/SER4-Swafford, Dale  
F/SER2-McGovern, Gerhart  
F/HC-Mueller

**Southeast Region Review of Gulf of Mexico Fishery Management Council  
Essential Fish Habitat Information Pursuant to 50 CFR Subpart J. Section 600.815(a)**

<b>Subpart J. Section 600.815(a) Mandatory Contents of Fishery Management Plans:</b>	<b>MUST:</b>	<b>SHOULD:</b>
<p><b>(1) Describe &amp; Identify EFH</b> <b>(ii) Habitat Information by Life Stage</b></p> <p>Councils need basic information to understand the use of various habitat by each managed including:</p> <ul style="list-style-type: none"> <li>- Geographic range and habitat requirements by life stage</li> <li>- Distribution and characteristics of those habitats</li> <li>- Current and historic stock size as it affects occurrence in available habitats</li> </ul>	<p>...demonstrate that the best scientific information available was used in the description and identification of EFH, consistent with national standard 2 (600.815(a)(1)(ii)(B))</p>	<p>...summarize life history information in text, tables and figures as necessary to understand each species relationship to, or dependence on its various habitats (600.815(a)(1)(ii)(A))</p> <p>... document patterns of temporal and spatial variation in the distribution of each major life stage (600.815(a)(1)(ii)(A))</p> <p>...summarize (in tables) all available information on environmental and habitat variables that control or limit distribution, abundance, reproduction, growth, survival and productivity of the managed species (600(a)(1)(ii)(A))</p> <p>... obtain information from the best available sources including:</p> <ul style="list-style-type: none"> <li>- peer-reviewed literature</li> <li>- unpublished scientific reports</li> <li>- data of government resource agencies</li> <li>- fisheries landings reports</li> <li>- any other information according to its scientific rigor (600.815(a)(1)(ii)(B))</li> </ul> <p>...support information with citations (600(a)(1)(ii)(A))</p>

**Background/Discussion:**

In 1998, the Gulf of Mexico Fishery Management Council (Council) amended the seven fishery management plans (FMP) of the Gulf of Mexico identifying and describing essential fish habitat (EFH) based on various life stages of 26 representative managed species and the coral complex. The selected species accounted for about one third of the species under management and were considered ecologically representative of the remaining species within the respective FMPs.

A lawsuit brought forth by a coalition of environmental groups found that the agency's 1998 decisions on EFH amendments by several councils (including the Council) were found to be in accordance with the Magnuson-Stevens Fishery Conservation and Management Act but in violation of the National Environmental Policy Act. As a result, in 2004, the Gulf Council completed a Final Environmental Impact Statement (EIS) and in 2005 produced Generic Amendment 3 for addressing EFH Requirements of Gulf of Mexico FMPs.

The 2005 EFH Amendment provides textual descriptions of EFH for each fishery management plan; however, each of these EFH identifications and descriptions incorporate by reference life-history functional relationships to habitats which were analyzed and presented as tables in the appendix to the 2004 EFH EIS. Because the information supporting the textual description of EFH was contained in multiple sections of the two documents during the 2010 review, the Region recommended species specific life-stage habitat associations be organized in a manner easier for the general public to understand. We suggested a format that would aggregate EFH information into a species profile documents.

In 2010, the Council conducted a review of the EFH information which was reviewed by three Habitat Advisory Panels and the Council. This review did not result in any changes to Council FMPs.

**Southeast Region Review of Gulf of Mexico Fishery Management Council  
Essential Fish Habitat Information Pursuant to 50 CFR Subpart J. Section 600.815(a)**

During the Council's 2016 review, an extensive literature review was conducted to determine if any new EFH information was available. Existing habitat association tables from the 2004 EFH EIS were revised to make them more readable and incorporate information from the literature review. This update served three primary purposes: (1) to make the tables more user-friendly, (2) to improve formatting so they can easily transition from a text document to internet resources, and (3) to assign habitat designation information that can be geo-referenced for the creation of mapped descriptions of EFH by species and life-stage. The habitat association tables were used to generate species profiles which include brief synopses of pertinent literature obtained during the review, a description of habitat information by species and life stage, graphs of growth by age and recent fishing effort, a brief fishery history, and a composite map of benthic habitat use by life stages for each species.

**Southeast Region comments and recommendations:**

Amending the Council's FMPs to incorporate these new habitat life-history functional relationships into existing EFH identifications and descriptions is necessary for the National Marine Fisheries Service (NMFS) to utilize the new information for purposes of sections 303(a)(7) and 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). As such the Council should amend the Council's FMPs at the earliest opportunity as other Council priorities and resources allow. Comments and recommendations in the sections below should also be taken into consideration to inform any amendments to FMPs with regard to EFH.

**Southeast Region Review of Gulf of Mexico Fishery Management Council  
Essential Fish Habitat Information Pursuant to 50 CFR Subpart J. Section 600.815(a)**

<b>Subpart J. Section 600.815(a) Mandatory Contents of Fishery Management Plans:</b>	<b>MUST:</b>	<b>SHOULD:</b>
(1) Describe & Identify EFH (iii) Analysis of Habitat Information		<p>...organize information necessary to describe and identify EFH by:</p> <ul style="list-style-type: none"> <li>- Level 1 – Distribution</li> <li>- Level 2 – Habitat-related Densities</li> <li>- Level 3 – Habitat-related Growth, Reproduction or Survival Rates</li> <li>- Level 4 – Habitat-related Production Rates</li> </ul> <p>(600.815(a)(1)(iii)(A))</p> <p>...strive to describe habitat based on the highest level of detail (600(a)(1)(iii)(B))</p>
<p><b>Background/Discussion:</b></p> <p>The 2005 EFH Amendment provides textual descriptions of EFH for each fishery management plan; however, each of these EFH identifications and descriptions incorporate by reference life-history functional relationships to habitats which were analyzed and presented as tables in the appendix to the 2004 EFH EIS. While satisfying the requirements of the EFH rule, the overall organization of EFH information across documents creates difficulty in determining the extent of EFH particularly to the non-fishing-regulated public (i.e., those whose activities require federal permits or licenses that may require EFH consultation).</p> <p>During the 2010 review the Region recommended species specific life-stage habitat associations be organized in a manner that is easier for the general public to understand and suggested a format that would aggregate EFH information into species profile documents. Additionally, the Region noted that although the discussion provided much of the information represented by the four-level system it did not explicitly follow the recommended approach for organizing the information. As a result, the Region recommended any updates to EFH identifications follow the four-level system to improve accessibility and organization of the underlying technical information and facilitate updating.</p> <p>During the Council’s 2016 review, an extensive literature review was conducted to determine if any new EFH information was available. Existing life-history habitat association tables from the 2004 EFH EIS were revised to make them more readable and incorporate information from the literature review.</p>		
<p><b>Southeast Region comments and recommendations:</b></p> <p>The new life-history habitat association tables and species profiles are a vast improvement from the 2004 EFH EIS; however, it remains difficult to discern what level of information the EFH identifications and descriptions are based on in accordance with the final rule. The Region recommends the level be explicit because we believe this would better inform the regulated public who are affected by recommendations made during EFH consultations as well as identify and guide future research needs to refine EFH identifications and descriptions for species managed by the Council.</p>		

**Southeast Region Review of Gulf of Mexico Fishery Management Council  
Essential Fish Habitat Information Pursuant to 50 CFR Subpart J. Section 600.815(a)**

<b>Subpart J. Section 600.815(a) Mandatory Contents of Fishery Management Plans:</b>	<b>MUST:</b>	<b>SHOULD:</b>
<p><b>(1) Describe &amp; Identify EFH</b> <b>(iv) EFH Determination</b></p> <p>The information in (a)(1)(ii) &amp; (iii) will allow Councils to assess the relative value of habitats. (600.815(a)(1)(iv)(A))</p> <p>If a species is overfished and habitat loss or degradation may be contributing to the species being identified as overfished, all habitats currently used by the species may be considered essential in addition to certain historic habitats that are necessary to support rebuilding the fishery (600.815(a)(1)(iv)(C))</p> <p>Areas described as EFH will normally be greater than or equal to aquatic areas that have been identified as “critical habitat” for any managed species listed as threatened or endangered under the ESA (600.815(a)(1)(iv)(D))</p>	<p>...include text that clearly states the habitats or habitat types determined to be EFH for each life stage of the managed species (600.815(a)(1)(i))</p> <p>...identify specific geographic location or extent of habitats described as EFH using boundaries such as latitude/longitude, isotherms, isobaths, political boundaries or major landmarks (600.815(a)(1)(i)) and (600.815(a)(1)(iv)(B))</p> <p>...justify and scientifically rationalize EFH designated for species groupings or assemblages (600.815(a)(1)(iv)(E))</p>	<p>...not designate EFH if there is no information on a given species or life stage and habitat use cannot be inferred from other means (600.815(a)(1)(iii)(B))</p> <p>...analyze available ecological, environmental, and fisheries information and data relevant to the managed species, the habitat requirements by life stage, and the species’ distribution and habitat usage to describe and identify EFH (600.815(a)(1)(iv)(A))</p> <p>...interpret information in a risk-averse fashion to ensure adequate areas are identified as EFH for managed species (600.815(a)(1)(iv)(A))</p> <p>...explain the analyses conducted to distinguish EFH from all habitats potentially used by a species (600.815(a)(1)(iv)(A))</p> <p>...evaluate the distribution data, when only Level 1 data is available, to identify EFH as those habitat areas most commonly used by the species (600.815(a)(1)(iv)(A))</p> <p>...explain the physical, biological, and chemical characteristics of EFH and, if known, how these characteristics influence the use of EFH by species/life stage (600.815 (a)(1)(i)) and (600.815(a)(1)(iv)(B))</p> <p>...have static boundaries for EFH (600.815(a)(1)(iv)(B))</p> <p>...review the identification of EFH when a fishery is no longer considered overfished (600.815(a)(1)(iv)(C))</p> <p>...include degraded or inaccessible habitats that have contributed to reduced yields and would be necessary to a species to obtain increased yields where the conditions can be reversed through technologically and economically feasible measures (600.815(a)(1)(iv)(F))</p>
<p><b>Background/Discussion:</b></p> <p>The 2005 EFH Amendment provides textual descriptions of EFH for each fishery management plan; however, each of these EFH identifications and descriptions incorporate by reference life-history functional relationships to habitats which were analyzed and presented as tables in the appendix to the 2004 EFH EIS and inland boundaries were based on National</p>		

**Southeast Region Review of Gulf of Mexico Fishery Management Council  
Essential Fish Habitat Information Pursuant to 50 CFR Subpart J. Section 600.815(a)**

Wetland Inventory Maps. Because the information supporting the textual description of EFH was contained in multiple sections of the two documents, during the 2010 review the Region recommended species specific life-stage habitat associations be organized in a manner easier for the general public to understand. We also suggested a format that would aggregate EFH information into species profile documents and also that future maps include static boundaries such as latitude/longitude, political boundaries (e.g., state/county lines), or other static features (e.g., highways).

During the Council's 2016 review, an extensive literature review was conducted to determine if any new EFH information was available. Existing life-history habitat association tables from the 2004 EFH EIS were revised to make them more readable and incorporate information from the literature review. The life-history habitat association tables were used to generate species profiles which include brief synopses of pertinent literature obtained during the review, a description of habitat information by species and life stage, graphs of growth by age and recent fishing effort, a brief fishery history, and a composite map of benthic habitat use by life stages for each species.

**Southeast Region comments and recommendations:**

The 2016 review focused considerable effort on improving the life-history habitat association tables, creating species profiles, and creating species and life-stage specific maps based on benthic habitat usage. In the 2004 EFH EIS, presence/absence, as well as relative density were utilized as an initial criteria to determine if EFH would be identified and described for each species' life-stage within each of the five eco-regions established by the Council. The presence/absence and density level of analysis does not appear to be brought forward in the life-history habitat association tables in the 2016 review. The Region believes this criteria was important to address criticism regarding the expansive nature of EFH identifications and descriptions. The Region also recognizes the 2004 EFH EIS utilized the 1985 NOAA Atlas for much of this information and better presence/absence and relative density information should be utilized for future EFH designations as both anecdotal and scientific information suggests a northward expansion of the distribution of some Council managed species such as Goliath grouper and gray snapper.

The ambiguity of the inland-boundary of EFH is still identified as an issue to be resolved in Chapter 5 of the 2016 review. As we previously recommended in 2010, future EFH identifications and descriptions and associated maps should include static boundaries such as latitude/longitude, political boundaries (e.g., state/county lines), or other static features (e.g., highways) to provide certainty to the regulated public and federal agencies where they can expect to encounter EFH and therefore may be required to consult under the Magnuson-Stevens Act.

The offshore extent of EFH is also identified as a potential issue in Chapter 5 of the 2016 review to be addressed in future EFH descriptions. The 1998 EFH designations encompassed the entire exclusive economic zone (EEZ) of the Gulf of Mexico. The 2005 EFH amendment refined the descriptions to the 100-fathom bathymetric contour for all Council managed species except coral and royal red shrimp. If future EFH designations extend further offshore, the Council may wish to reconsider relying on the NMFS statistical grids for establishing eco-regions with the Gulf of Mexico because as the boundaries extend offshore, eco-region 2 is boxed in a manner that may not align with the intended purpose of the eco-regions. With updated life-history habitat association tables and species specific maps, EFH identifications and descriptions can be better refined; however, the EFH rule still suggests a static boundary be identified for EFH designations.

**Southeast Region Review of Gulf of Mexico Fishery Management Council  
Essential Fish Habitat Information Pursuant to 50 CFR Subpart J. Section 600.815(a)**

<b>Subpart J. Section 600.815(a) Mandatory Contents of Fishery Management Plans:</b>	<b>MUST:</b>	<b>SHOULD:</b>
<p><b>(1) Describe &amp; Identify EFH (v) EFH Mapping</b></p> <p>Councils and NMFS should confer regarding mapping standards to ensure mapping and data compatibility (600.815(a)(1)(v)(A))</p> <p>If there are differences between the descriptions of EFH in text, maps and tables, the textual description is ultimately determinative of the limits of EFH (600.815(a)(1)(iv)(B))</p>	<p>...include maps of the geographic locations of EFH or geographic boundaries within which EFH for each species and life stage is found (600.815 (a)(1)(i)) &amp; (600.815(a)(1)(v)(A))</p>	<p>...identify different types of habitat designated as EFH on maps to the extent possible (600.815(a)(1)(v)(A))</p> <p>...explicitly distinguish EFH from non-EFH areas on maps (600.815(a)(1)(v)(A))</p> <p>...incorporate data into GIS to facilitate analysis and presentation (600.815(a)(1)(v)(A))</p> <p>...include maps of HAPCs identified (600.815(a)(1)(v)(C))</p> <p>...include maps of historical habitat boundaries, if known, when the present distribution or stock size (of a species or life stage) is different from historical distribution or stock size (600.815(a)(1)(v)(B))</p>
<p><b>Background/Discussion:</b></p> <p>The 2004 EFH EIS and 2005 EFH Amendment were produced at a time when GIS capabilities at the Region and Council were extremely limited. In 2008, NMFS and Council staff, with assistance from the National Coastal Data Development Center, produced maps that correctly reflected the textual description of the EFH designation and created associated metadata. However, those maps only provide the geographic extent of EFH within each of the seven FMPs and do not provide any habitat related spatial information. The 2010 review identified several problems with the maps produced during the development of the 2004 EFH EIS and 2005 EFH Amendment, and the Region recommended species-specific and life-stage specific EFH maps be produced as staff and funding resources allow. The Region cautioned that larger mapping units may not capture certain habitat areas (e.g., fringing marsh/mangrove shoreline) NMFS strives to protect during EFH consultations and any maps and supporting materials should clearly identify the spatial resolution and minimum mapping unit used so the non-fishing public and regulatory agencies understand the limitations to using the maps for decision making purposes.</p> <p>The 2010 review identified several coral and hard-bottom habitats that had been recently mapped but were not mapped as EFH in the 2005 EFH Amendment. At that time the Region recommended: (1) maps of species and life-stage specific EFH designations should be produced, (2) future maps and supporting materials should clearly identify the spatial resolution and minimum mapping unit used to create maps, and (3) maps with clearly defined boundaries that delineate the geographic extent of EFH for each fishery would be helpful to those engaged in EFH consultations.</p> <p>The 2016 review identified the availability and quality of GIS data as an issue affecting how EFH identifications and descriptions are mapped. The Region agrees this may be an on-going concern as new information becomes available as more areas of the Gulf of Mexico are surveyed and mapped. The Council is in the process of designating new habitat area of particular concern (HAPC) for deepwater corals.</p>		
<p><b>Southeast Region comments and recommendations:</b></p> <p>The Region recommends any future amendments to EFH identifications and descriptions identify a process or mechanism that does not require preparation of FMP amendments simply to update or provide the best available habitat information and maps.</p>		



**Southeast Region Review of Gulf of Mexico Fishery Management Council  
Essential Fish Habitat Information Pursuant to 50 CFR Subpart J. Section 600.815(a)**

<b>Subpart J. Section 600.815(a) Mandatory Contents of Fishery Management Plans:</b>	<b>MUST:</b>	<b>SHOULD:</b>
<p><b>(2) Fishing Activities</b></p> <p>Councils must act to prevent, mitigate, or minimize any adverse effects from fishing, to the extent practicable, if there is evidence that a fishing activity adversely affects EFH in a manner that is more than minimal and not temporary in nature based on evaluation conducted pursuant to (a)(2)(i) or (a)(5)</p> <p>Options for managing adverse effects from fishing may include, but are not limited to:</p> <ul style="list-style-type: none"> <li>(A) Equipment restrictions including seasonal and areal restrictions and equipment modifications</li> <li>(B) Time/area closures to all fishing or specific equipment types during certain seasons or designating marine protected areas to protect certain vulnerable or rare species or habitats (such as HAPCs)</li> <li>(C) Harvest limits to limit the take of species that provide structural habitat for other species and limits on the take of prey species (600.815(a)(2)(iv))</li> </ul>	<p>...evaluate potential adverse effects on EFH designated under this FMP of fishing activities regulated under this and other FMPs (600.815(a)(2)(i))</p> <p>...describe each fishing activity, review and discuss all available relevant information (such as intensity, extent, and frequency) and provide conclusions whether and how each fishing activity adversely affects EFH (600.815(a)(2)(i))</p> <p>...minimize, to the extent practicable, adverse effects from fishing on EFH designated under this and other FMPs (600.815(a)(2)(ii))</p> <p>...when amended, continue to minimize to the extent practicable adverse effects on EFH caused by fishing (600.815(a)(2)(ii))</p> <p>...explain the reasons for the Council's conclusion regarding past and/or new actions that minimize to the extent practicable the adverse effects of fishing on EFH (600.815(a)(2)(ii))</p>	<p>...list past management actions that minimize potential adverse effects on EFH and describe the benefits of those actions to EFH (600.815(a)(2)(i))</p> <p>...give special attention to adverse effects of fishing on HAPC (600.815(a)(2)(i))</p> <p>...consider measures to evaluate the impacts of fishing activities on EFH such as the establishment of research closure areas (600.815(a)(2)(i))</p> <p>...identify a range of potential actions that could be taken to address adverse effects of fishing on EFH (600.815(2)(ii))</p> <p>...include an analysis of the practicability of potential new actions and adopt any new measures that are necessary and practicable (600.815(2)(ii))</p> <p>...should consider the practicability of minimizing adverse effects from fishing based on long and short-term costs and benefits of potential management measures to EFH, associated fisheries, and the Nation, consistent with national standard 7 (600.815(a)(2)(iii))</p> <p>...use the best scientific information available as well as other appropriate information sources according to its scientific rigor (600.815(a)(2)(i))</p>
<p><b>Background/Discussion:</b></p> <p>The 2010 review discussed research on the affects of fishing gears on various habitats that occurred since the 2004 EFH EIS and the Region had no recommendations at the time.</p> <p>The 2016 review did not produce any new information on how current fisheries in the Gulf of Mexico are impacting habitat.</p>		
<p><b>Southeast Region comments and recommendations:</b></p> <p>None.</p>		

**Southeast Region Review of Gulf of Mexico Fishery Management Council  
Essential Fish Habitat Information Pursuant to 50 CFR Subpart J. Section 600.815(a)**

<b>Subpart J. Section 600.815(a) Mandatory Contents of Fishery Management Plans:</b>	<b>MUST:</b>	<b>SHOULD:</b>
<b>(3) Non Magnuson-Stevens Act Fishing Activities</b>	...identify any fishing activities that are not managed under the Magnuson-Stevens Act that may adversely affect EFH (600.815 (a)(3))	
<p><b>Background/Discussion:</b></p> <p>The 2010 review included comments from a Habitat Advisory Panel member who provided a personal account of lost spiny lobster traps causing “extensive damage” to mangroves when deposited there following a storm event. The spiny lobster fishery is largely prosecuted in state waters and the Region noted the fishing gear sensitivity matrix in the 2004 EFH EIS did not consider lobster traps to have adverse affects on mangrove habitat because the gear is not fished in mangrove habitat.</p> <p>The 2016 review did not produce any new information on how current fisheries around the Gulf of Mexico are impacting habitat.</p>		
<p><b>Southeast Region comments and recommendations:</b></p> <p>None.</p>		

<b>Subpart J. Section 600.815(a) Mandatory Contents of Fishery Management Plans:</b>	<b>MUST:</b>	<b>SHOULD:</b>
<b>(4) Non-Fishing Related Activities</b>	...identify activities other than fishing that may adversely affect EFH (600.815 (a)(4))  ...describe known and potential effects on EFH (600.815 (a)(4))	
<p><b>Background/Discussion:</b></p> <p>The 2010 review identified a 2008 NOAA Technical Memorandum that could supplement the discussion of the affects of various non-fishing activities on EFH contained in the 2004 EFH EIS. The Habitat Advisory Panel noted the affects of vessel use (both fishing and non-fishing vessels) were not included in the list of affects analyzed in the 2010 review. The Region recommended information regarding the affects of non-fishing activities be updated, as appropriate.</p> <p>The 2016 review discussed the impacts of the Deepwater Horizon oil spill, invasive species, and offshore aquaculture.</p>		
<p><b>Southeast Region comments and recommendations:</b></p> <p>None.</p>		

**Southeast Region Review of Gulf of Mexico Fishery Management Council  
Essential Fish Habitat Information Pursuant to 50 CFR Subpart J. Section 600.815(a)**

<b>Subpart J. Section 600.815(a) Mandatory Contents of Fishery Management Plans:</b>	<b>MUST:</b>	<b>SHOULD:</b>
(5) Cumulative Impacts		...analyze, to extent feasible and practicable, how the cumulative impacts of fishing and non-fishing activities influence the function of EFH on an ecosystem or watershed scale (600.815(a)(5))
<p><b>Background/Discussion:</b></p> <p>The 2004 EFH EIS provided an analysis of cumulative impacts of fishing and non-fishing activities. During the 2010 review the Region noted that cumulative impact assessments remain a technically difficult goal to achieve in many regulatory activities and suggested partnering with the Southeast Fisheries Science Center and others to develop a research program that assesses cumulative impacts.</p> <p>The 2016 review did not produce any new information on cumulative impacts of fishing and non-fishing activities.</p>		
<p><b>Southeast Region comments and recommendations:</b></p> <p>None.</p>		

<b>Subpart J. Section 600.815(a) Mandatory Contents of Fishery Management Plans:</b>	<b>MUST:</b>	<b>SHOULD:</b>
(6) Conservation and Enhancement	... identify actions to encourage the conservation and enhancement of EFH including options to avoid, minimize or compensate adverse effects identified in (3), (4) and (5); especially in HAPCs (600.815(a)(6))	
<p><b>Background/Discussion:</b></p> <p>The 1998 EFH EA and Amendment as well as the 2004 EFH EIS discussed activity-based impacts based on guidance documents produced by the Region for Fish and Wildlife Coordination Act and EFH consultations.</p> <p>The 2010 review discussed newer technologies and activities that may have adverse affects on EFH. The Region recommended the Council consider development and adoption of a comprehensive habitat protection policy document and procedure to periodically review and update this information, as needed, to satisfy this section of the EFH rule.</p> <p>The 2016 review did not produce any new conservation and enhancement information.</p>		
<p><b>Southeast Region comments and recommendations:</b></p> <p>The Region continues to recommend the Council consider updating their habitat protection policy.</p>		

**Southeast Region Review of Gulf of Mexico Fishery Management Council  
Essential Fish Habitat Information Pursuant to 50 CFR Subpart J. Section 600.815(a)**

<b>Subpart J. Section 600.815(a) Mandatory Contents of Fishery Management Plans:</b>	<b>MUST:</b>	<b>SHOULD:</b>
(7) Prey Species		...list major prey species for the species in the FMU and discuss location of prey species habitat (600.815(a)(7))
<p><b>Background/Discussion:</b></p> <p>Prey species were identified, as required, for each fishery management unit in the 2004 EFH EIS and the 2010 and 2016 reviews did not identify any new information.</p>		
<p><b>Southeast Region comments and recommendations:</b></p> <p>None.</p>		

<b>Subpart J. Section 600.815(a) Mandatory Contents of Fishery Management Plans:</b>	<b>MUST:</b>	<b>SHOULD:</b>
(8) Habitat Areas of Particular Concern		<p>...identify specific types or areas of habitat within EFH based on:</p> <ul style="list-style-type: none"> <li>(i) Importance of ecological function</li> <li>(ii) Sensitivity to human induced degradation</li> <li>(iii) Extent of development stress</li> <li>(iv) Rarity</li> </ul> <p>(600.815(a)(8))</p> <p>...identify any EFH (as HAPC) that is particularly vulnerable to fishing activities (600.815(a)(2)(i))</p> <p>...include maps of HAPCs identified (600.815(a)(1)(v)(C))</p>
<p><b>Background/Discussion:</b></p> <p>In the 2004 EFH EIS, the Council utilized a matrix and decision tree to identify candidate areas and habitat types for HAPC designation and the final list of HAPCs was determined by expert opinion of the Council.</p> <p>During the 2010 review, the Flower Garden Banks National Marine Sanctuary suggested areas of high-relief banks which were included in the 2004 matrix and the Habitat Advisory Panel suggested most of the estuaries around the Gulf of Mexico be designated as HAPCs. The Region recommended the Council develop a process to consider new information or factors affecting the four HAPC criteria, as well as a method or procedure to add, delete, or modify existing HAPC designations.</p> <p>The Council is in the process of designating new HAPCs for deepwater corals and an interactive map tool was created in association with the 2016 review to assist in the development of that FMP amendment.</p>		
<p><b>Southeast Region comments and recommendations:</b></p> <p>The Council's existing HAPCs focus on areas of coral, coral reef, and hardbottom habitats. With species and life-stage specific maps of EFH, the Council could consider utilizing the data layers to create heat maps to depict areas which serve</p>		

**Southeast Region Review of Gulf of Mexico Fishery Management Council  
Essential Fish Habitat Information Pursuant to 50 CFR Subpart J. Section 600.815(a)**

as EFH for the greatest number of species and/or life-stages managed by the Council.

<b>Subpart J. Section 600.815(a) Mandatory Contents of Fishery Management Plans:</b>	<b>MUST:</b>	<b>SHOULD:</b>
(9) Research and Information Needs		<p>...provide prioritized recommendations of research efforts necessary to improve:</p> <ul style="list-style-type: none"> <li>- the description and identification of EFH</li> <li>- identification of fishing and non-fishing threats to EFH</li> <li>- conservation and enhancement measures for EFH</li> </ul> <p>(600.815(a)(9))</p>
<p><b>Background/Discussion:</b></p> <p>The 2004 EIS identified research recommendations and discussed a broad range of research and data collection activities supporting fishery and ecosystem-based fishery management purposes.</p> <p>The 2010 review discussed the Habitat Assessment Improvement Plan published by NMFS in 2010 and the corresponding First National Habitat Assessment Workshop (NHAW) held in May 2010. The Region recommended information needs and gaps in the 2004 EFH EIS should be more explicitly stated to identify and prioritize research needs.</p> <p>The 2016 review resulted in an extensive literature review which was conducted to determine if any new EFH information was available. Existing habitat association tables from the 2004 EFH EIS were revised and updated to make them more readable and incorporate information from the literature review.</p>		
<p><b>Southeast Region comments and recommendations:</b></p> <p>The Region recommends the Council periodically identify and prioritize EFH research needs.</p>		

<b>Subpart J. Section 600.815(a) Mandatory Contents of Fishery Management Plans:</b>	<b>MUST:</b>	<b>SHOULD:</b>
(10) Periodic Review	<p>...conduct a complete review of EFH information at least every five years or as recommended by the Secretary</p> <p>(600.815(a)(10))</p>	<p>...review, revise and amend EFH provisions based on available information</p> <p>(600.815(a)(10))</p> <p>...outline procedures the Council will follow to review and update EFH information (600.815(a)(10))</p> <p>...report their review of EFH information in annual SAFE reports (600.815(a)(10))</p>
<p><b>Background/Discussion:</b></p> <p>In 1998, the Council amended the seven FMPs of the Gulf of Mexico identifying and describing EFH based on various life stages of 26 representative managed species and the coral complex. The lawsuit brought forth by a coalition of environmental groups which required the Council to complete the 2005 EFH EIS and resultant EFH Amendment satisfied</p>		

**Southeast Region Review of Gulf of Mexico Fishery Management Council  
Essential Fish Habitat Information Pursuant to 50 CFR Subpart J. Section 600.815(a)**

the five-year review requirement of the EFH rule.

In 2010, the Council conducted a review of the EFH information which was reviewed by three Habitat Advisory Panels, the Council, and the Region. The Region recommended the Council consider updating the Council's Habitat Policy to include the process for the next five-year review within staffing and funding constraints.

An extensive literature review was conducted to determine if any new EFH information was available during the Council's 2016 review. Existing habitat association tables from the 2004 EFH EIS were revised to make them more readable and incorporate information from the literature review. This update served three primary purposes: (1) to make the tables more user-friendly, (2) to improve formatting so they can easily transition from a text document to internet resources, and (3) to assign habitat designation information that can be geo-referenced for the creation of mapped descriptions of EFH by species and life-stage. The habitat association tables were used to generate species profiles which include brief synopses of pertinent literature obtained during the review, a description of habitat information by species and life stage, graphs of growth by age and recent fishing effort, a brief fishery history, and a composite map of benthic habitat use by life stages for each species.

**Southeast Region comments and recommendations:**

The Region finds that the development of the 2016 review document and on-line web resources adequately satisfies the periodic review requirement. Amending the Council's FMPs to incorporate these new habitat life-history functional relationships into existing EFH identifications and descriptions is necessary for NMFS to utilize the new information for purposes of sections 303(a)(7) and 305(b) of the Magnuson-Stevens Act. As such, the Gulf Council should amend the Council's FMPs at the earliest opportunity as other Council priorities and resources allow.