

Essential Fish Habitat:

**A Marine Fish Habitat Conservation Mandate
for Federal Agencies**

Gulf of Mexico Region



*National Marine Fisheries Service
Habitat Conservation Division
Southeast Regional Office
9721 Executive Center Drive North
St. Petersburg, FL 33702
727/570-5317*

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Executive Summary

The 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) set forth a new mandate for the National Marine Fisheries Service (NMFS), regional fishery management councils (FMC), and other Federal agencies to identify and protect important marine and anadromous fish habitat. The EFH provisions of the MSFCMA support one of the Nation's overall marine resource management goals - maintaining sustainable fisheries. Essential to achieving this goal is the maintenance of suitable marine fishery habitat quality and quantity. The FMCs, with assistance from NMFS, have delineated essential fish habitat (EFH) for Federally managed species. As new FMPs are developed, EFH for newly managed species will be defined as well. Federal action agencies which fund, permit, or carry out activities that may adversely affect EFH are required to consult with NMFS regarding the potential impacts of their actions on EFH, and respond in writing to NMFS or FMC recommendations. In addition, NMFS and the FMCs may comment on and make recommendations to any state agency on their activities which may affect EFH. Measures recommended by NMFS or an FMC to protect EFH are advisory, not proscriptive.

On December 19, 1997, interim final rules were published in the Federal Register which specify procedures for implementation of the EFH provisions of the MSFCMA. These rules were subsequently revised and published as a final rule on January 17, 2002 (Federal Register, vol. 67, no. 12). The rules, in two subparts, address requirements for fishery management plan (FMP) amendment, and detail the coordination, consultation, and recommendation requirements of the MSFCMA.

Within the area encompassed by the NMFS Southeast Region, EFH has been identified for hundreds of marine species covered by 20 FMPs, under the auspices of the Gulf of Mexico, South Atlantic, or Caribbean FMC or the NMFS. A generic FMP amendment delineating EFH for species managed by the Gulf of Mexico FMC was completed and approved in early 1999. In addition, EFH for highly migratory species managed by the NMFS was identified in two Secretarial FMPs.

Wherever possible, NMFS intends to use existing interagency coordination processes to fulfill EFH consultations for Federal agency actions that may adversely affect EFH. Provided certain regulatory specifications are met, EFH consultations will be incorporated into interagency procedures established under the National Environmental Policy Act, Endangered Species Act, Clean Water Act, Fish and Wildlife Coordination Act, or other applicable statutes. If existing processes cannot adequately address EFH consultation requirements, appropriate new procedures should be developed in cooperation with the NMFS. Programmatic consultations may be implemented or General Concurrences may be developed when program or project impacts are individually and cumulatively minimal in nature. Moreover, NMFS will work closely with Federal agencies on programs requiring either expanded or abbreviated individual project consultations.

An effective, interagency EFH consultation process is vital to ensure that Federal actions are consistent with the MSFCMA resource management goals. The NMFS will strive to work with action agencies to foster an understanding of EFH consultation requirements and identify the most efficient interagency mechanisms to fulfill agency responsibilities.

ESSENTIAL FISH HABITAT:

A Marine Fish Habitat Conservation Mandate for Federal Agencies Gulf of Mexico Region

Introduction

This document has been prepared by the Southeast Regional Office of the National Marine Fisheries Service (NMFS) to provide an overview of the Essential Fish Habitat (EFH) provisions of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) and implementing rules. This document provides a brief legislative and regulatory background, introduces the concept of EFH, and describes consultation requirements. Consistent with elements of the NMFS's National Habitat Plan, Strategic Plan, and Habitat Conservation Policy, this document is intended to: provide a mechanism for information exchange; foster interagency discussion and problem-solving; and enhance communication and coordination among the NMFS, Gulf of Mexico Fishery Management Council (GMFMC), and affected state and Federal agencies. Ultimately, improved interagency coordination and consultation will enhance the ability of the agencies, working cooperatively, to sustain healthy and productive marine fishery habitats.

Legislative and Regulatory Background

The 1996 amendments to the MSFCMA (excerpted at Appendix 1) set forth a new mandate to identify and protect important marine and anadromous fisheries habitat. The regional fishery management councils (FMC), with assistance from NMFS, are required to delineate EFH in fishery management plans (FMP) or FMP amendments for all Federally managed fisheries. Federal action agencies which fund, permit, or carry out activities that may adversely affect EFH are required to consult with NMFS regarding potential adverse impacts of their actions on EFH, and respond in writing to NMFS and FMC recommendations. In addition, NMFS is directed to comment on any state agency activities that would impact EFH adversely.

The purpose of addressing habitat in this act is to further one of the Nation's important marine resource management goals - maintaining sustainable fisheries. Achieving this goal requires the long-term maintenance of suitable marine fishery habitat quality and quantity. Measures recommended to protect EFH by NMFS or an FMC are advisory, not proscriptive. An effective EFH consultation process is vital to ensuring that Federal actions are consistent with the MSFCMA resource management goals.

Guidance and procedures for implementing the 1996 amendments of the MSFCMA were provided through an interim final rule established by the NMFS in 1997 and published as a final rule in 2002 (50 CFR Sections 600.805 - 600.930). These rules specify that FMP amendments be prepared to describe and identify EFH and identify appropriate actions to conserve and enhance those habitats. In addition, the rules establish procedures to promote the protection of EFH through interagency coordination and consultation on proposed Federal and state actions.

EFH Designation

The MSFCMA requires that EFH be identified for all fisheries which are Federally managed. This includes species managed by the FMCs under Federal FMPs, as well as those managed by the NMFS under FMPs developed by the Secretary of Commerce. EFH is defined in the MSFCMA as "...those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The rules

promulgated by the NMFS in 1997 and 2002 further clarify EFH with the following definitions: **waters** - aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; **substrate** - sediment, hard bottom, structures underlying the waters, and associated biological communities; **necessary** - the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and **spawning, breeding, feeding, or growth to maturity** - stages representing a species' full life cycle. EFH may be a subset of all areas occupied by a species. Acknowledging that the amount of information available for EFH determinations will vary for the different life stages of each species, the rules direct the FMCs to use the best information available, to take a risk averse approach to designations, and to be increasingly specific and narrow in their delineations as more refined information becomes available.

Applicable FMP authorities for the Gulf of Mexico, along with some of the species covered by those FMPs, are listed in Appendices 2 and 3. Species listed are those for which data were adequate to define and describe EFH. The listed species collectively occur throughout the areas managed by the NMFS and GMFMC, therefore, inclusion of additional species for which life history data are limited would not encompass a greater geographic area. The areas designated as EFH by the GMFMC are generalized in Appendix 4.

The rules also direct NMFS and FMCs to consider a second, more limited habitat designation for each species in addition to EFH. Habitat Areas of Particular Concern (HAPC) are described in the rules as subsets of EFH which are rare, particularly susceptible to human-induced degradation, especially ecologically important, or located in an environmentally stressed area. In general, HAPC include high value intertidal and estuarine habitats, offshore areas of high habitat value or vertical relief, and habitats used for migration, spawning, and rearing of fish and shellfish. Areas identified as HAPC by the NMFS and the GMFMC are presented in Appendix 5. For a complete description of designated HAPC the reader should reference the appropriate FMP amendment. HAPCs are not afforded any additional regulatory protection under the MSFCMA; however, Federal actions with potential adverse impacts to HAPC will be more carefully scrutinized during the consultation process and will be subject to more stringent EFH conservation recommendations.

Designating the spatial and seasonal extent of EFH has taken careful and deliberate consideration by NMFS and the GMFMC. The effort to identify and delineate EFH was a rigorous process that involved advice and input by numerous state and Federal agencies and the public at large. Appendices 6 and 7 present summaries of many of the Federally-managed species and the associated categories of EFH for each life stage based on information developed by the NMFS and the GMFMC (note, information for all species and all life stages is not available). These two appendices are intended to provide a summary of habitat and geographic information on species managed by the council as well as for species managed the NMFS, where EFH has been identified for the managed species within oceanic, coastal, and estuarine habitats of the Gulf of Mexico. These summaries, in some cases, are interpretative and are not intended to be definitive descriptions of EFH. For detailed discussions and descriptions, the reader should refer to the FMP amendments.

Additional sources of information, useful for preparing EFH assessments, and to further one's understanding of EFH designations and Federally managed fishery resources are available through the NMFS and GMFMC. Appendix 8 provides citations for the FMPs for the Gulf of Mexico and identifies web sites containing information on the MSFCMA, the NMFS final rules governing EFH designation and consultation, and data on specific managed fisheries and associated habitats. NMFS Southeast Region and FMC points of contact for the for activities within the Gulf of Mexico are identified in Appendix 9.

Besides delineating EFH, the FMPs produced for managed fisheries in the Gulf of Mexico identify and describe potential threats to EFH, which include threats from development, fishing, or any other sources.

Also identified are recommend EFH conservation and enhancement measures. Guidelines used in the development of EFH amendment sections for each of these issues were established by the EFH rules.

NMFS and FMCs also are required to implement management measures to minimize, to the extent practicable, any adverse impacts to EFH caused by fishing gears. Those measures can include area closures, gear restrictions, seasonal restrictions, and other measures designed to avoid or minimize degradation of EFH attributable to fishing activities. Various protective measures have been imposed for some fisheries under NMFS and FMC jurisdiction and FMCs are coordinating with the NMFS to identify research necessary to determine where additional conservation measures might be appropriate.

EFH Consultations

In the regulatory context, one of the most important provisions of the MSFCMA for conserving fish habitat is that which requires Federal agencies to consult with NMFS when any activity proposed to be permitted, funded, or undertaken by a Federal agency may have adverse affects on designated EFH. The consultation requirements in the MSFCMA direct Federal agencies to consult with NMFS when any of their activities may have an adverse affect on EFH. The EFH rules define an **adverse affect** as “any impact which reduces quality and/or quantity of EFH...[and] may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species’ fecundity), site-specific or habitat wide impacts, including individual, cumulative, or synergistic consequences of actions.”

The consultation provisions have caused some concern among Federal action agencies regarding potential increases in workload and the regulatory burden on the public. NMFS has addressed these concerns in the EFH rules by emphasizing and encouraging the use of existing environmental review processes and time frames. Provided the specifications outlined in the EFH regulations are met, consultations should be incorporated into interagency procedures previously established under the National Environmental Policy Act, Endangered Species Act, Clean Water Act, Fish and Wildlife Coordination Act, or other applicable statutes.

To incorporate EFH consultations into coordination, consultation and/or environmental review procedures already required by other statutes, three criteria must be met:

- (1) The existing process must provide NMFS with timely notification of the action;
- (2) Notification of the action must include an *EFH Assessment* of the impacts of the proposed action as outlined in the EFH rules; and
- (3) NMFS must have completed a written *finding* that the existing coordination process satisfies the requirements of the MSFCMA.

An *EFH Assessment* is a critical review of the proposed project and its potential impacts to EFH. As set forth in the rules, *EFH Assessments* must include: (1) a description of the proposed action; (2) an analysis of the effects, including cumulative effects, of the action on EFH, the managed species, and associated species by life history stage; (3) the Federal agency’s views regarding the effects of the action on EFH; and (4) proposed mitigation, if applicable. If appropriate, the assessment should also include the results of an on-site inspection, the views of recognized experts on the habitat or species affects, a literature review, an analysis of alternatives to the proposed action, and any other relevant information.

Once NMFS learns of a Federal or state activity that may have an adverse effect on EFH, NMFS is required to develop EFH conservation recommendations for the activity, even if consultation has not been initiated by the action agency. These recommendations may include measures to avoid, minimize, mitigate, or otherwise offset adverse effects on EFH and are to be provided to the action agency in a

timely manner. The MSFCMA also authorizes FMCs to comment on Federal and state projects, and directs FMCs to comment on any project which may substantially impact EFH. The MSFCMA requires that Federal agencies respond to EFH conservation recommendations of the NMFS and FMCs in writing and within 30 days.

Consultations may be conducted through programmatic, general concurrence, or project specific mechanisms. Evaluation at a programmatic level may be appropriate when sufficient information is available to develop EFH conservation recommendations and address all reasonably foreseeable adverse impacts under a particular program area. General Concurrences can be utilized for categories of similar activities having minimal individual and cumulative impacts. Programmatic and General Concurrence consultations minimize the need for individual project consultation in most cases because NMFS has determined that the actions will likely result in no more than minimal adverse effects, and conservation measures would be implemented. For example, NMFS might agree to a General Concurrence for the construction of docks or piers which, with incorporation of design or siting constraints, would minimally affect Federally managed fishery resources and their habitats.

Consultations at a project-specific level are required when critical decisions are made at the project implementation stage, or when sufficiently detailed information for development of EFH conservation recommendations does not exist at the programmatic level. To facilitate project-specific consultations, NMFS and the action agency should discuss how existing review or coordination processes can be used to accomplish EFH consultation. With agreement on how existing coordination mechanisms will be used, the NMFS will transmit a *findings* letter to the action agency describing the conduct of EFH consultation within existing project review frameworks.

Project specific consultations must follow either the abbreviated or expanded procedures. Abbreviated consultations allow NMFS to quickly determine whether, and to what degree, a Federal action may adversely impact EFH, and should be used when impacts to EFH are expected to be minor. For example, the abbreviated consultation procedure would be used when the adverse effect of an action or proposed action could be alleviated through minor design or operational modifications, or the inclusion of measures to offset unavoidable adverse impacts.

Expanded consultations allow NMFS and a Federal action agency the maximum opportunity to work together in the review of an activity's impact on EFH and the development of EFH conservation recommendations. Expanded consultation procedures must be used for Federal actions that would result in substantial adverse effects to EFH. Federal action agencies are encouraged to contact NMFS at the earliest opportunity to discuss whether the adverse effect of a proposed action makes expanded consultation appropriate. In addition, it may be determined after review of an abbreviated consultation that a greater level of review and analysis would be appropriate and that review through expanded consultation procedures should be employed. Expanded consultation procedures provide additional time for the development of conservation recommendations, and may be appropriate for actions such as the construction of large marinas or port facilities and activities subject to preparation of an environmental impact statement.

The MSFCMA mandates that a Federal action agency must respond in writing to EFH conservation recommendations from NMFS and FMCs within 30 days of receiving those recommendations. The rules require that such a response be provided at least 10 days prior to final approval of the action, if a decision by the Federal agency is required in fewer than 30 days and that decision is inconsistent with the recommendations of the NMFS. The response must include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with NMFS conservation recommendations, the agency must explain its reasons for not following the recommendations, including the scientific rationale for any disagreements with NMFS over the anticipated effects of the proposed action and the measures needed to offset such effects.

The regulations provide an important opportunity to resolve critical and outstanding EFH issues prior to an action agency rendering a final decision. When an agency decision is inconsistent with NMFS conservation recommendations, the NMFS Assistant Administrator may request a meeting with the head of the action agency to further discuss the project and achieve a greater level protection of EFH and Federally managed fisheries. The process for higher level review of proposed actions is not specified in the regulations, rather it is to be addressed on an agency-by-agency basis. In keeping with NMFS's effort to minimize the regulatory burden of EFH consultation requirements, review by the Assistant Administrator and action agency representative should be streamlined and tightly focused.

Conclusion

The EFH mandates of the MSFCMA represent an integration of fishery management and habitat management by stressing the dependency of healthy, productive fisheries on the maintenance of viable and diverse estuarine and marine ecosystems. Federal action agencies are required to consult with the NMFS whenever a construction, permitting, funding, or other action may adversely affect EFH. The EFH consultation process will ensure that Federal agencies explicitly consider the effects of their actions on important habitats, with the goal of supporting the sustainable management of marine fisheries. The NMFS is committed to working with Federal and state agencies to implement these mandates effectively and efficiently, with the ultimate goal of sustaining of the Nation's fishery resources.

Comments, questions, and suggested revisions may be directed to Rickey Ruebsamen (EFH Coordinator), 9721 Executive Center Drive, N. St. Petersburg, FL 33702; phone: 727/570-5317; email: ric.ruebsamen@noaa.gov.

Appendix 1. Selected Text from the Magnuson-Stevens Fishery Conservation and Management Act (As Amended Through October 11, 1996)

16 U.S.C. 1855

SEC. 305. OTHER REQUIREMENTS AND AUTHORITY

104-297

(b) FISH HABITAT.

(1) (A) The Secretary shall, within 6 months of the date of enactment of the Sustainable Fisheries Act, establish by regulation guidelines to assist the Councils in the description and identification of essential fish habitat in fishery management plans (including adverse impacts on such habitat) and in the consideration of actions to ensure the conservation and enhancement of such habitat. The Secretary shall set forth a schedule for the amendment of fishery management plans to include the identification of essential fish habitat and for the review and updating of such identifications based on new scientific evidence or other relevant information.

(B) The Secretary, in consultation with participants in the fishery, shall provide each Council with recommendations and information regarding each fishery under that Council's authority to assist it in the identification of essential fish habitat, the adverse impacts on that habitat, and the actions that should be considered to ensure the conservation and enhancement of that habitat.

(C) The Secretary shall review programs administered by the Department of Commerce and ensure that any relevant programs further the conservation and enhancement of essential fish habitat.

(D) The Secretary shall coordinate with and provide information to other Federal agencies to further the conservation and enhancement of essential fish habitat.

(2) Each Federal agency shall consult with the Secretary with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any essential fish habitat identified under this Act.

(3) Each Council--

(A) may comment on and make recommendations to the Secretary and any Federal or State agency concerning any activity authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by any Federal or State agency that, in the view of the Council, may affect the habitat, including essential fish habitat, of a fishery resource under its authority; and

(B) shall comment on and make recommendations to the Secretary and any Federal or State agency concerning any such activity that, in the view of the Council, is likely to substantially affect the habitat, including essential fish habitat, of an anadromous fishery resource under its authority.

(4) (A) If the Secretary receives information from a Council or Federal or State agency or determines from other sources that an action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by any State or Federal agency would adversely affect any essential fish habitat identified under this Act, the Secretary shall recommend to such agency measures that can be taken by such agency to conserve such habitat.

(B) Within 30 days after receiving a recommendation under subparagraph (A), a Federal agency shall provide a detailed response in writing to any Council commenting under paragraph (3) and the Secretary regarding the matter. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on such habitat. In the case of a response that is inconsistent with the recommendations of the Secretary, the Federal agency shall explain its reasons for not following the recommendations.

Appendix 2. Fishery Management Plans and Managed Species for the Gulf of Mexico.

GULF OF MEXICO FISHERY MANAGEMENT COUNCIL

Shrimp Fishery Management Plan

brown shrimp - *Farfantepenaeus aztecus*
pink shrimp - *F. duorarum*
royal red shrimp - *Pleoticus robustus*
white shrimp - *Litopenaeus setiferus*

Red Drum Fishery Management Plan

red drum - *Sciaenops ocellatus*

Reef Fish Fishery Management Plan

black grouper - *Mycteroperca bonaci*
gag grouper - *M. microlepis*
gray snapper - *Lutjanus griseus*
gray triggerfish - *Balistes capriscus*
greater amberjack - *Seriola dumerili*
lane snapper - *L. synagris*
lesser amberjack - *S. fasciata*
red grouper - *Epinephelus morio*
red snapper - *L. campechanus*
scamp grouper - *M. phenax*
tilefish - *Lopholatilus chamaeleonticeps*
yellowtail snapper - *Ocyurus chrysurus*
vermilion snapper - *Rhomboplites aurorubens*

Stone Crab Fishery Management Plan

stone crab - *Menippe spp.*

Spiny Lobster Fishery Management Plan

spiny lobster - *Panulirus argus*

Coral and Coral Reef Fishery Management Plan

varied coral species and coral reef communities comprised of several hundred species

Coastal Migratory Pelagic Fishery Management Plan

bluefish - *Pomatomus saltatrix*
dolphin - *Coryphaena hippurus*
cobia - *Rachycentron canadum*
king mackerel - *Scomberomorus cavalla*
little tunny - *Euthynnus alletteratus*
Spanish mackerel - *S. maculatus*

Appendix 3. Species Managed under Federally-Implemented Fishery Management Plans.

NATIONAL MARINE FISHERIES SERVICE

Billfish

blue marlin - *Makaira nigricans*
longbill spearfish - *Tetrapturus pfluegeri*
sailfish - *Istiophorus platypterus*
white marlin - *T. albidus*

Swordfish

swordfish - *Xiphias gladius*

Tuna

albacore - *Thunnus alalunga*
Atlantic bigeye - *T. obesus*
Atlantic yellowfin - *T. albacares*
skipjack - *Katsuwonus pelamis*
western Atlantic bluefin - *T. thynnus*

Sharks

Atlantic angel shark - *Squatina dumerili*
Atlantic sharpnose shark - *Rhizoprionodon terraenovae*
basking shark - *Cetorhinus maximus*
bigeye sand tiger - *Odontaspis noronhai*
bigeye sixgill shark - *Hexanchus vitulus*
bigeye thresher shark - *Alopias superciliosus*
bignose shark - *Carcharhinus altimus*
blacknose shark - *C. acronotus*
blacktip shark - *C. limbatus*
blue shark - *Prionace glauca*
bonnethead - *Sphyrna tiburo*
bull shark - *C. leucas*

Caribbean reef shark - *C. perezi*
Caribbean sharpnose shark - *R. porosus*
common thresher shark - *A. vulpinus*
dusky shark - *C. obscurus*
finetooth shark - *C. isodon*
Galapagos shark - *C. galapagensis*
great hammerhead - *S. mokarran*
lemon shark - *Negaprion brevirostris*
longfin mako shark - *Isurus paucus*
narrowtooth shark - *C. brachyurus*
night shark - *C. signatus*
nurse shark - *Ginglymostoma cirratum*
oceanic whitetip shark - *C. longimanus*
porbeagle shark - *Lamna nasus*
sandbar shark - *C. plumbeus*
sand tiger shark - *O. taurus*
scalloped hammerhead - *S. lewini*
sharpnose sevengill shark - *Hepranchias perlo*
shortfin mako shark - *I. oxyrinchus*
silky shark - *C. falciformis*
sixgill shark - *H. griseus*
smalltail shark - *C. porosus*
smooth hammerhead - *S. zygaena*
spinner shark - *C. brevipinna*
Tiger shark - *Galeocerdo cuvieri*
whale shark - *Rhinocodon typus*
white shark - *Carcharodon carcharias*

Sharks (cont.)

Appendix 4. Essential Fish Habitat Identified in the Fishery Management Plan Amendment of the Gulf of Mexico Fishery Management Council. (Generally, EFH for species managed under the NMFS Billfish and Highly Migratory Species plans falls within the marine and estuarine water column habitats designated by the Council)

Estuarine areas

Estuarine emergent wetlands
Mangrove wetlands
Submerged aquatic vegetation
Algal flats
Mud, sand, shell, and rock substrates
Estuarine water column

Marine areas

Water column
Vegetated bottoms
Non-vegetated bottoms
Live bottoms
Coral reefs
Artificial reefs
Geologic features
Continental Shelf features
West Florida Shelf
Mississippi/Alabama Shelf
Louisiana/Texas Shelf
South Texas Shelf

Appendix 5. Geographically Defined Habitat Areas of Particular Concern Identified in the Fishery Management Plan Amendment of the Gulf of Mexico Fishery Management Council.

Florida

Apalachicola National Estuarine Research Reserve

Dry Tortugas (Fort Jefferson National Monument)

Florida Keys National Marine Sanctuary

Florida Middle Grounds

Rookery Bay National Estuarine Research Reserve

Alabama

Weeks Bay National Estuarine Research Reserve

Texas/Louisiana

Flower Garden Banks National Marine Sanctuary

Mississippi

Grand Bay

Appendix 6 Summary of EFH Requirements for Species Managed by the Gulf of Mexico Fishery Management Council.

<u>Species</u>	<u>Life Stage</u>	<u>System</u>	<u>EFH</u>
Brown shrimp EFH identified from Apalachicola Bay to Mexico	eggs larvae postlarvae/juvenile subadults adults	Marine (M) M Estuarine (E) E M	<110 m, demersal <110 m, planktonic marsh edge, SAV, tidal creeks, inner marsh mud bottoms, marsh edge <110 m, silt sand, muddy sand
White shrimp EFH identified from Suwannee River to Mexico	eggs larvae postlarvae/juvenile subadults adults	M M E E M	<40 m, demersal <40 m, planktonic marsh edge, SAV, marsh ponds, inner marsh, oyster reefs same as above <33 m, silt, soft mud
Pink shrimp EFH identified from Florida	eggs larvae postlarvae/juvenile subadults adults	M M E E M	<65 m, demersal <65 m, planktonic SAV, sand/shell substrate SAV, sand/shell substrate <65 m; sand/shell substrate
Royal red shrimp EFH identified from NE Gulf of Mexico	adults	M	250 - 500m, terrigenous silt and silty sand & calcareous mud
Red drum EFH identified from Florida through Texas	eggs larvae postlarvae/juvenile subadults adults	M M M/E E M/E	planktonic planktonic SAV, estuarine mud bottoms, marsh/water interface mud bottoms, oyster reefs Gulf of Mexico & estuarine mud bottoms, oyster reef
Red grouper EFH identified from eastern Gulf of Mexico (W. FL Shelf)	eggs juvenile adults	M M M	planktonic, 25 - 50 m hard bottoms, SAV, reefs reefs, ledges, outcrops
Black grouper EFH identified from eastern Gulf of Mexico	juvenile adults	M/E M	FL estuaries & Gulf of Mexico rocky coral reefs to 150 m
Gag grouper EFH identified from eastern Gulf of Mexico	eggs juvenile adults	M M/E M	planktonic SAV & oyster beds in coastal lagoons and estuaries hard bottoms, reefs, coral; 10 - 100 m
Scamp EFH identified from eastern Gulf of Mexico	juvenile adults	M M	hard bottoms, reefs; 12 - 33 m hard bottoms; 12 - 189 m

Appendix 6 Continued.

<u>Species</u>	<u>Life Stage</u>	<u>System</u>	<u>EFH</u>
Red snapper EFH identified from Florida through Texas	larvae postlarvae/juvenile adults	M M M	structure, sand/mud; 17-183 m structure, sand/mud; 17 - 183 m reefs, rock outcrops, gravel; 7 - 146 m
Vermilion snapper EFH identified from Florida through Texas	juvenile	M	reefs, hard bottom, 20 - 200 m
Gray snapper EFH identified from eastern Gulf of Mexico	larvae postlarvae/juvenile adults	M E M/E	planktonic SAV, mangrove, mud SAV, mangrove, sand, mud
Yellowtail snapper EFH identified from eastern Gulf of Mexico	juvenile adults	M/E M	SAV, mangrove, sand, mud reefs
Lane snapper EFH identified from Florida & Texas	juvenile adults	M/E M	SAV, mangrove, sand, mud reefs, sand, 4 - 132 m
Greater amberjack EFH identified from Florida through Texas	juvenile adults	M M	floating plants (Sargassum), debris pelagic over reefs/wrecks
Lesser amberjack EFH identified from Florida through Texas	juvenile adults	M M	floating plants (Sargassum), debris oil rigs, irregular bottom features
Tilefish EFH identified from Florida through Texas	juvenile adults	M M	burrows rough bottom, 250 - 350 m
Gray triggerfish EFH identified from FL & LA/TX Shelves	eggs larvae postlarvae/juvenile adults	M M M M	sand floating plants (Sargassum), debris floating plants (Sargassum), debris, mangrove reefs, >10 m
King mackerel EFH identified from FL & LA/TX Shelves	juvenile adults	M M	pelagic pelagic
Spanish mackerel EFH identified from Florida through Texas	larvae juvenile adults	M M/E M	<50 m isobath offshore, beach, estuarine pelagic
Cobia EFH identified from Florida through Texas	eggs larvae postlarvae/juvenile adults	M M/E M M	pelagic estuarine & shelf coastal & shelf coastal & shelf

Appendix 6 Continued.

<u>Species</u>	<u>Life Stage</u>	<u>System</u>	<u>EFH</u>
Dolphin EFH identified from Florida through Texas	larvae postlarvae/juvenile adults	M M M	epipelagic epipelagic epipelagic
Bluefish EFH identified from Florida through Texas	postlarvae/juvenile adults	M/E M/E	beaches, estuaries, inlets Gulf and estuaries, pelagic
Little tunny EFH identified from Florida through Texas	postlarvae/juvenile adults	M M	coastal & shelf, pelagic coastal & shelf, pelagic
Stone crab EFH identified from Florida estuaries and nearshore waters	larvae juvenile adults	M/E M/E M/E	planktonic, moderate-high salinity shell, SAV shell, SAV, coral
Spiny lobster EFH identified from eastern Gulf of Mexico	larvae juvenile adults	M M M	algae, SAV sponge, coral hard bottoms, crevices
Coral Flower Gardens FL Middle Grounds	all stages	M	

Appendix 7. Summary of EFH Requirements for High Migratory Species Managed by the National Marine Fisheries Service.

<u>Gulf of Mexico Species</u>	<u>Life Stage</u>	<u>EFH</u>
Offshore		
Atlantic bluefin tuna	spawning/eggs/larvae adults	Gulf-wide, 15 mi offshore to EEZ 200 m to EEZ, Terrebonne LA to Galveston TX
Atlantic skipjack tuna	spawning/eggs/larvae adults	Gulf-wide, 200 m isobath to EEZ 200 to 2000 m, Terrebonne LA to Galveston TX
Atlantic yellowfin tuna	all life stages	from 200 m isobath to EEZ
Swordfish	spawning/eggs/larvae juvenile adults	Gulf-wide, 200 m isobath to EEZ as above, except to 2000 m from 88° to 86.5° W 200 to 2000 m from Tampa to Mobile Bays; MS
Blue marlin	all stages	variable, but generally Gulf-wide 200 - 2000 m, except adults not shown E. of Choctawhatchee Bay, FL
White marlin	juvenile adult	Gulf-wide 200 - 2000 m isobath, except S of Galveston & Cape San Blas 100 m to EEZ, W of 86.5° W
Sailfish	all stages	Gulf-wide 200 to 2000 m isobath or EEZ, whichever is closer & within 5 mi of Padre Island & to 50 m in DeSoto Canyon
Silky shark	early juvenile late juvenile	DeSoto Canyon MS/AL, 200 - 2000 m isobath FL Keys -10,000 Islands, 50 - 2000 m isobath
Longfin mako shark	all life stages	FL Keys to 92.5° W, 200m isobath to EEZ
Nearshore/Inshore		
Great hammerhead shark	late juvenile adult	FL Bay and adjacent waters off FL, to 85.5° W (<100 m isobath)
Scalloped hammerhead shark	late juvenile/subadult	off MS/AL, shoreline to 50 m & FL Keys
Nurse shark	early juvenile late juvenile/adult	FL Keys <25 m as above & Charlotte Harbor to Tampa Bay, FL
Blacktip shark	early juvenile late juvenile adult	<25 m Ten Thousand Isl to Cedar Key, FL <25 m FL Keys to Cedar Key, Cape San Blas to MS delta, and Galveston to Mexico <50 m FL Bay to Cape San Blas, FL
Bull shark	juvenile adults	inlets, estuaries, coastal waters <25 m, Ten Thousand Isl. to Cedar Key, Appalachicola to Mobile, and Galveston to Mexico inlets, estuaries, coastal waters <25 m, Charlotte Harbor to Anclote Key, FL
Lemon shark	early juvenile late juvenile/adult	inlets, estuaries, coastal waters <25 m, FL Bay, Tampa Bay, and TX from 95.5° N to Mexico inlets, estuaries, coastal waters <25 m, FL Keys to Anclote Key, FL

Appendix 7 Continued.

<u>Gulf of Mexico Species</u>	<u>Life Stage</u>	<u>EFH</u>
Nearshore/Inshore Sandbar shark	all life stages	Key Largo to Cape San Blas, <50 m (except adults, <100 m)
Spinner shark	neonate/early juvenile	<25 m, FL Keys to 29.25° N
Tiger shark	juvenile adults	MS Sound to FL Kyes, < 100 m Cape San Blas, FL to MS Sound, 25 to 200 m isobaths
Bonnethead shark	juvenile adult	inlets, estuaries, coastal waters <25 m, FL Keys to Cedar Key; LA and TX FL Keys & Mobile Bay to S. Padre Isl. TX (<25 m)
Atlantic sharpnose shark	juvenile adults	<25 m Galveston to Mexico; <40 m MS & Atchafalaya deltas <50 m MS Sound & Galveston to Laguna Madre
Blacknose shark	juvenile adults	FL Keys to Tampa <25 m isobath FL Keys to Cedar Key <25 m; Mobile Bay to Terrebonne Parish, LA 25 to 100 m isobath

Note:

Only the bull, lemon, and bonnethead sharks are reported to commonly occur and have identified EFH in estuaries of the Gulf of Mexico, as identified above.

No HAPCs have been designated for Highly Migratory Pelagic species in the Gulf of Mexico.

Appendix 8. Sources of EFH and Related Resource Information for the Gulf of Mexico.

Fishery Management Plan Amendments

Gulf of Mexico Fishery Management Council. 1998. Generic amendment for addressing Essential Fish Habitat requirements in the following fishery management plans of the Gulf of Mexico: Shrimp Fishery of the Gulf of Mexico, United States Waters; Red Drum Fishery of the Gulf of Mexico; Reef Fish Fishery of the Gulf of Mexico; Coastal Migratory Pelagic Resources (Mackerels) in the Gulf of Mexico and South Atlantic; Stone Crab Fishery of the Gulf of Mexico; Spiny Lobster in the Gulf of Mexico and South Atlantic; Coral and Coral Reefs of the Gulf of Mexico (includes environmental assessment). Gulf of Mexico Fishery Management Council. Tampa, FL.

National Marine Fisheries Service. 1999. Amendment 1 to the Atlantic billfish fishery management plan amendment. National Marine Fisheries Service. Silver Spring, MD.

National Marine Fisheries Service. 1999. Fishery management plan for Atlantic tunas, swordfish, and sharks. National Marine Fisheries Service. Silver Spring, MD. 2 vols.

EFH Related Web Sites

Gulf of Mexico FMC	http://www.gulfcouncil.org
Gulf of Mexico EFH maps/resources	http://galveston.ssp.nmfs.gov/efh/
EFH Rules	http://www.nmfs.noaa.gov/habitat/efh
NMFS Southeast Region	http://caldera.sero.nmfs.gov
Gulf of Mexico EFH amendment	http://www.gsmfc.org
Highly migratory pelagic and billfish EFH amendments	http://www.nmfs.noaa.gov/sfa/hms/Final.html

Appendix 9. Points of Contact for Essential Fish Habitat Activities within the Southeast Region of the National Marine Fisheries Service.

National Marine Fisheries Service
Southeast Region

Assistant Regional Administrator
Habitat Conservation Division
National Marine Fisheries Service
9721 Executive Center Drive, N.
St. Petersburg, FL 33702
727/570-5317

Rickey Ruebsamen (EFH Coordinator)
National Marine Fisheries Service
9721 Executive Center Drive, N.
St. Petersburg, FL 33702
727/570-5738 ric.ruebsamen@noaa.gov

Local Offices

Russell Swafford (Texas)
National Marine Fisheries Service
4700 Avenue U
Galveston, TX 77551
409/766-3699 rusty.swafford@noaa.gov

Richard Hartman (Louisiana)
National Marine Fisheries Service
c/o Louisiana State University
Baton Rouge, LA 70803
225/389-0508 richard.hartman@noaa.gov

Mark Thompson (Florida, Alabama, Mississippi)
National Marine Fisheries Service
3500 Delwood Beach Rd.
Panama City, FL 32408-7499
850/234-5061 mark.thompson@noaa.gov

Gulf of Mexico Fishery Management Council

Executive Director
Gulf of Mexico Fishery Management Council
The Commons at Rivergate
3018 U.S. Highway 301 N., Suite 1000
Tampa, FL 33619-2266
813/228-2815 gulf.council@noaa.gov

EFH Point of Contact

Jeff Rester
(Gulf States Marine Fisheries Commission)
228/875-5912 jrester@gsmfc.org