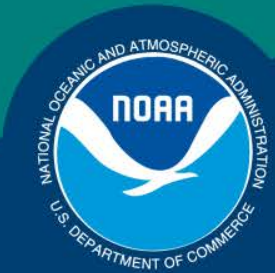


Science, Service, Stewardship



Tab P, No. 4(a)

Gulf of Mexico Fishery Management Council EFH

David Dale, EFH Coordinator
Habitat Conservation Division
Southeast Regional Office

**NOAA
FISHERIES
SERVICE**

Southeast Region

Habitat Conservation Division Organization Chart

ASSISTANT REGIONAL ADMINISTRATOR
Virginia Fay

ADMINISTRATIVE ASSISTANT
Emily O'day

EFH/NEPA SPECIALIST
David Dale

Benjamin Duffin
Contract MHRS

GULF OF MEXICO BRANCH
Rusty Swafford
Branch Supervisor
Galveston, TX

SOUTH ATLANTIC BRANCH
Pace Wilber
Branch Supervisor
Charleston, SC

Galveston, TX

Baton Rouge, LA

St. Petersburg, FL

Beaufort, NC

West Palm Beach

N.E. Florida Office

Charleston, SC

US Caribbean

VACANT
Fishery Biologist

Craig Gothreaux
Fishery Biologist
January Murray
Ecologist
Patrick Williams
Fishery Biologist
Dawn Davis
Fishery Biologist
Brandon Howard
Fishery Biologist
Jan Koellen
Admin

Mark Sramek
Fishery Mgmt Spec.
St. Petersburg, FL
David Rydene
Fishery Biologist
FHWA/FDOT
St. Petersburg, FL
VACANT
Fishery Biologist
Florida Panhandle

Twyla Cheatwood
Fishery Biologist
Fritz Rohde
Fishery Biologist
Hydropower Team

Jocelyn Karazsia
Ecologist
Coral Reef Lead
Jennifer Schull
Fishery Biologist
FHWA/FDOT
Kurtis Gregg
Contract Ecologist
CRCP Fisheries Liaison

VACANT
Ecologist

Cindy Cooksey
Fishery Biologist
Jordan Taylor
Contractor
GIS
Kevin Mack
Contractor
FHWA
VACANT
Admin

Jose A. Rivera
Fishery Biologist
San Juan, PR
Ashley Ruffo
Contract CRCP Liaison
St. Croix, USVI

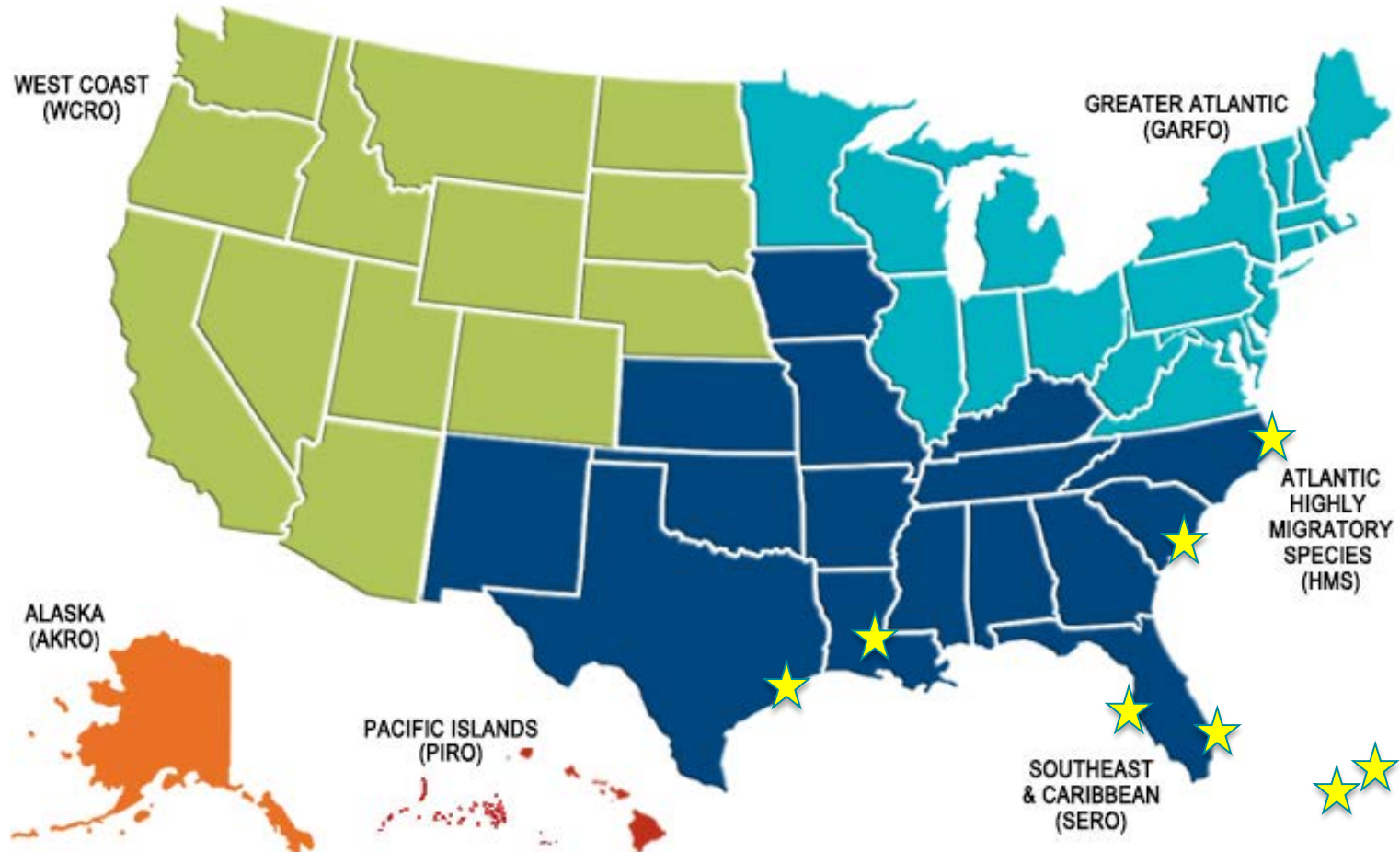


NOAA FISHERIES

ACRONYMS – CRCP: Coral Reef Conservation Program; CWPRA: Coastal Wetlands Planning, Protection, and Restoration Act; EFH: Essential Fish Habitat; FHWA: Federal Highways Administration; FDOT: Florida Department of Transportation; NEPA: National Environmental Policy Act

Southeast Region

Habitat Conservation Division Office Locations



Essential Fish Habitat

Magnuson-Stevens Act & Implementing Regulations

1996 Amendments to Magnuson-Stevens Act

- § 3(10) The term “essential fish habitat” means those means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.
- § 303(a)(7): FMP’s shall...describe and identify essential fish habitat...minimize adverse effects caused by fishing...identify actions to encourage conservation and enhancement
- § 305(b): NMFS & Councils identify EFH and Federal agencies consult on projects affecting EFH

1998 Interim Final Rule & 2002 Final Rule

50 CFR Part 600

- **Subpart J: Guidelines for identifying and describing EFH**
- Subpart K: Consultation Procedures and Requirements

50 CFR Part 600 Subpart J

§ 600.815(a) Mandatory Contents of Fishery Management Plans

- (1) Description and identification of EFH
 - i. Overview
 - ii. Habitat Information by Life Stage
 - iii. Analysis of Habitat Information
 - iv. EFH Determination
 - v. Mapping Requirements
- (2) Fishing activities that may adversely impact EFH
- (3) Non-Magnuson-Stevens Act fishing activities that may adversely affect EFH
- (4) Non-Fishing related activities that may adversely affect EFH
- (5) Cumulative impacts analysis
- (6) Conservation and Enhancement
- (7) Prey Species
- (8) Identification of habitat areas of particular concern
- (9) Research information needs
- (10) Review and revision of EFH components of FMPs

Gulf of Mexico Fishery Management Council (GMFMC)

- Original Designations in 1998
- **Revised in 2004/2005**
- Reviewed in 2010 & 2016
- Coral 9 for deepwater coral HAPCs

Highly Migratory Species (HMS): Billfish, Tuna, Sharks

- Original Designations 1999
- Reviewed & Revised in 2009 & 2017

Extensive Literature Review

- Determine if any new information is available

Revision of Habitat Association Tables

- Make the tables more user friendly
- Improve formatting so they can be used for web-based resources
- Assign habitat designation information that can be geo-referenced for mapping

Species Profiles Created

- Synopsis of pertinent literature
- Description of habitat information by species & life stage
- Graphs of growth by age and recent fishing effort
- Fishery history
- Maps of benthic habitat use by life stage for each species

Presented on-line with searchable references, interactive maps, and species profiles

Essential Fish Habitat

Existing EFH Designations for GMFMC Managed Species

EFH consists of areas of high species density, based on the NOAA Atlas (NOAA 1985) and functional relationships analysis for the Red Drum, Reef Fish, Coastal Migratory Pelagics, Shrimp, Stone Crab and Spiny Lobster FMPs; and on known distributions for the Coral FMP.

EFH consists of the following waters and substrates areas in the Gulf of Mexico:

Red Drum FMP: all estuaries; Vermilion Bay, Louisiana to the eastern edge of Mobile Bay, Alabama out to depths of 25 fathoms; Crystal River, Florida to Naples, Florida between depths of 5 and 10 fathoms; and Cape Sable, Florida to the boundary between the areas covered by the Gulf of Mexico Fishery Management Council and the South Atlantic Fishery Management Council between depths of 5 and 10 fathoms.



50 CFR Part 600 Subpart J

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- (10) Review and revision of EFH components of FMPs

Amending the Council's FMPs would be necessary for NMFS to utilize the information for purposes of sections 303(a)(7) and 305(b) of the MSFCMA

Recognized vast improvement of the information but:

- EFH Levels of information not explicit
- Presence-Absence/Relative Density information not transparent
- Inland boundary is ambiguous
- How to define offshore boundaries

Eliminate EFH descriptions for species no longer under management
Make future reviews and updates to EFH information easier



NOAA
FISHERIES

Thank you!

**Comments, questions and
discussion**



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The Weeds

Background/Back-up Materials



Gulf of Mexico EFH

6 Fishery Management Plans (41 species)

Red Drum (1)

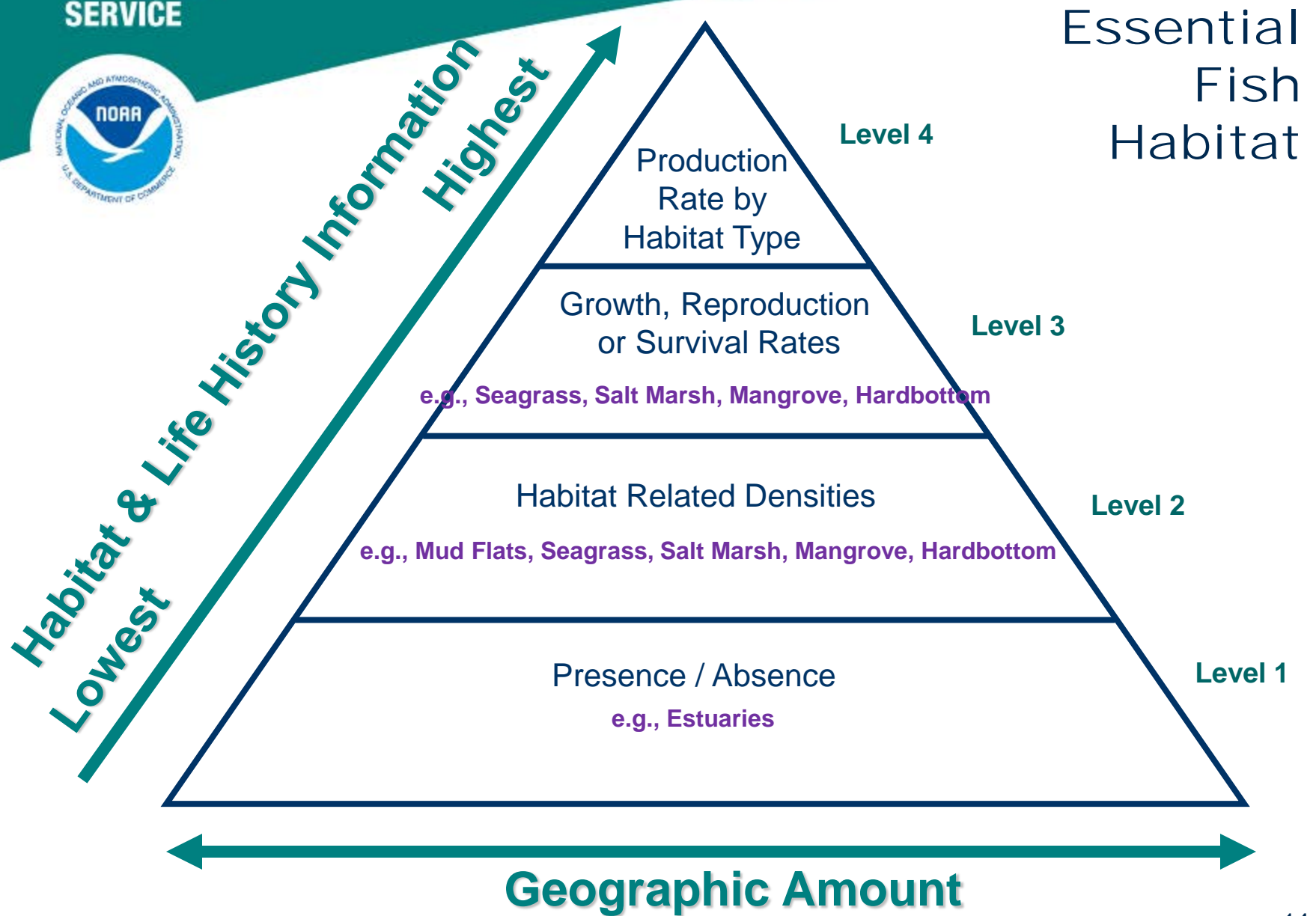
Shrimp (4)

Reef Fish (32)

Coastal Migratory Pelagics (3)

Spiny Lobster (1)

Coral





Gulf of Mexico Fishery Management Council

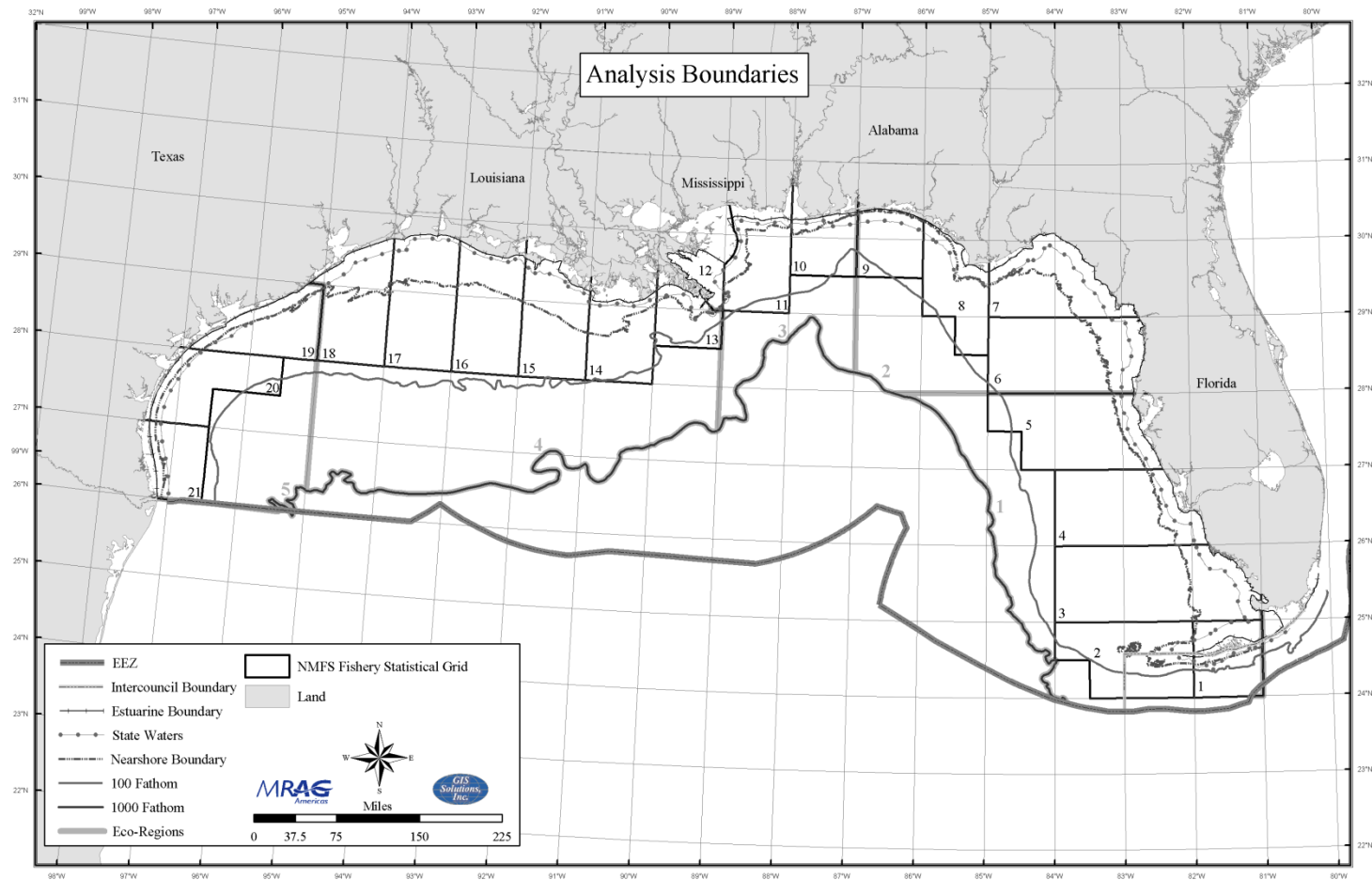
Functional Relationship: Species/Life Stage & Habitat

Subdivided GOM into five Eco-Regions (21 NMFS statistical grids)

1. South Florida: Florida Keys to Tarpon Springs
Subtropical influence, mangrove, reef, hard bottom
2. N. Florida: Tarpon Springs to Pensacola Bay
Temperate influence, hard/sand bottom & SAV
3. E LA, MS & AL: Pensacola Bay to Mississippi Delta
Heavily influenced by Mississippi River
4. W LA & E TX: Mississippi Delta to Freeport
Less River influence, more marsh and offshore rocky reefs
5. W TX: Freeport to Mexico Border
Subtropical influence, lower rainfall – hypersaline lagoons



Gulf of Mexico Fishery Management Council EFH





Gulf of Mexico Fishery Management Council EFH

NOAA Gulf of Mexico Coastal and Ocean Zones Strategic Assessment Data Atlas (NOAA 1985)

- Provided species distribution and density data for 36 life stages of 28 managed species
- Identified entire range of a species
- Areas of higher relative abundance
 - Numbers of individuals per unit area
 - Higher fishing effort resulting in higher CPUE



Red Drum: Summary Life Stage Occurrence by Eco-Region

Common name	Eggs	Larvae	Post larvae	Early juveniles	Late juveniles	Adults	Spawning adults
Eco-region 1							
Red Drum	Common	Common	Common	Nursery Area	Nursery Area	Adult Area	Spawning Area
Eco-region 2							
Red Drum	Common	Common	Common	Nursery Area	Nursery Area	Adult Area	Spawning Area
Eco-region 3							
Red Drum	Common	Common	Common	Nursery Area	Nursery Area	Major Adult Area and Commercial\ Fishing Ground	Spawning Area
Eco-region 4							
Red Drum	Common	Common	Common	Nursery Area	Nursery Area	Major Adult Area and Commercial Fishing Ground	Spawning Area
Eco-region 5							
Red Drum	Common	Common	Common	Nursery Area	Nursery Area	Adult Area	Spawning Area



Red Drum: Summary Life Stage Habitat Utilization by EFH Ecological Function

Zone	Habitat Type	Eggs	Larvae	Post Larvae	Early Juveniles	Late Juveniles	Adults	Spawning Adults
Red drum (<i>Sciaenops ocellatus</i>)								
EST	SAV		Growth Feeding	Growth Feeding		Growth Feeding	Feeding	Feeding
EST	Soft bottoms		Growth Feeding	Growth Feeding	Growth Feeding		Feeding	Feeding
EST	Sand/ shell			Growth Feeding			Feeding	Feeding
EST	Emergent marshes			Growth Feeding	Growth Feeding		Feeding	
NS	Pelagic	Growth					Feeding	
NS	Sand/ shell					Growth Feeding	Feeding	Spawning
NS	Hardbottom					Growth Feeding	Feeding	Spawning
OS	Sand/ shell						Feeding	
OS	Hardbottom						Feeding	

NOTES: Adults common offshore in 40-70 m of water. Early juvenile growth rates higher in backwater areas than in seagrass beds. Spawns in passes, inlets, and nearshore areas.



Red Drum: Summary Habitat Utilization by Life Stage

Scientific name	Eggs	Larvae	Postlarvae	Early Juveniles	Late juveniles	Adults	Spawning adults
<i>Sciaenops ocellatus</i>	Pelagic	SAV Soft bottoms	Sand/ shell Bottoms SAV Soft bottoms Emergent marshes	Emergent Marshes SAV Soft bottoms	Hard bottoms Sand/ shell Bottoms SAV	Hard bottoms Pelagic Emergent Marshes Sand/ shell Bottoms SAV Soft bottoms	Hard bottoms Sand/ shell Bottoms SAV Soft bottoms



Red Drum: Summary Depth Preference by Life Stage

Species	Life stage	Minimum depth (m)	Maximum Depth (m)	Comments
Red Drum	Eggs			
	Larvae			
	Postlarvae			
	Early Juveniles	0	3	
	Late Juveniles	0	5	
	Adult	1	70	
	Spawning Adults	40	70	



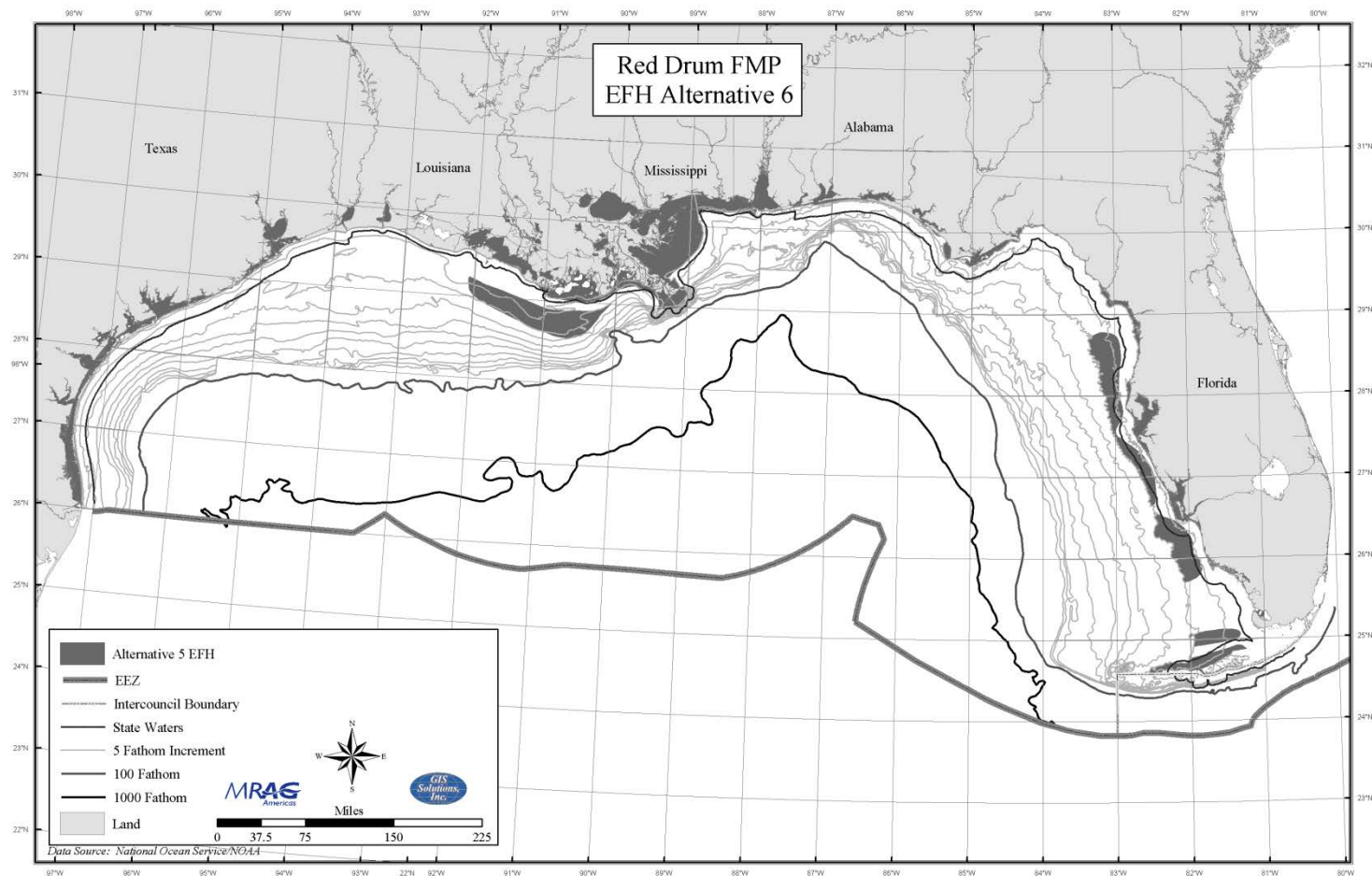
Red Drum: EFH

EFH consists of the following waters and substrates areas in the Gulf of Mexico:

Red Drum FMP: all estuaries; Vermilion Bay, Louisiana to the eastern edge of Mobile Bay, Alabama out to depths of 25 fathoms; Crystal River, Florida to Naples, Florida between depths of 5 and 10 fathoms; and Cape Sable, Florida to the boundary between the areas covered by the Gulf of Mexico Fishery Management Council and the South Atlantic Fishery Management Council between depths of 5 and 10 fathoms.

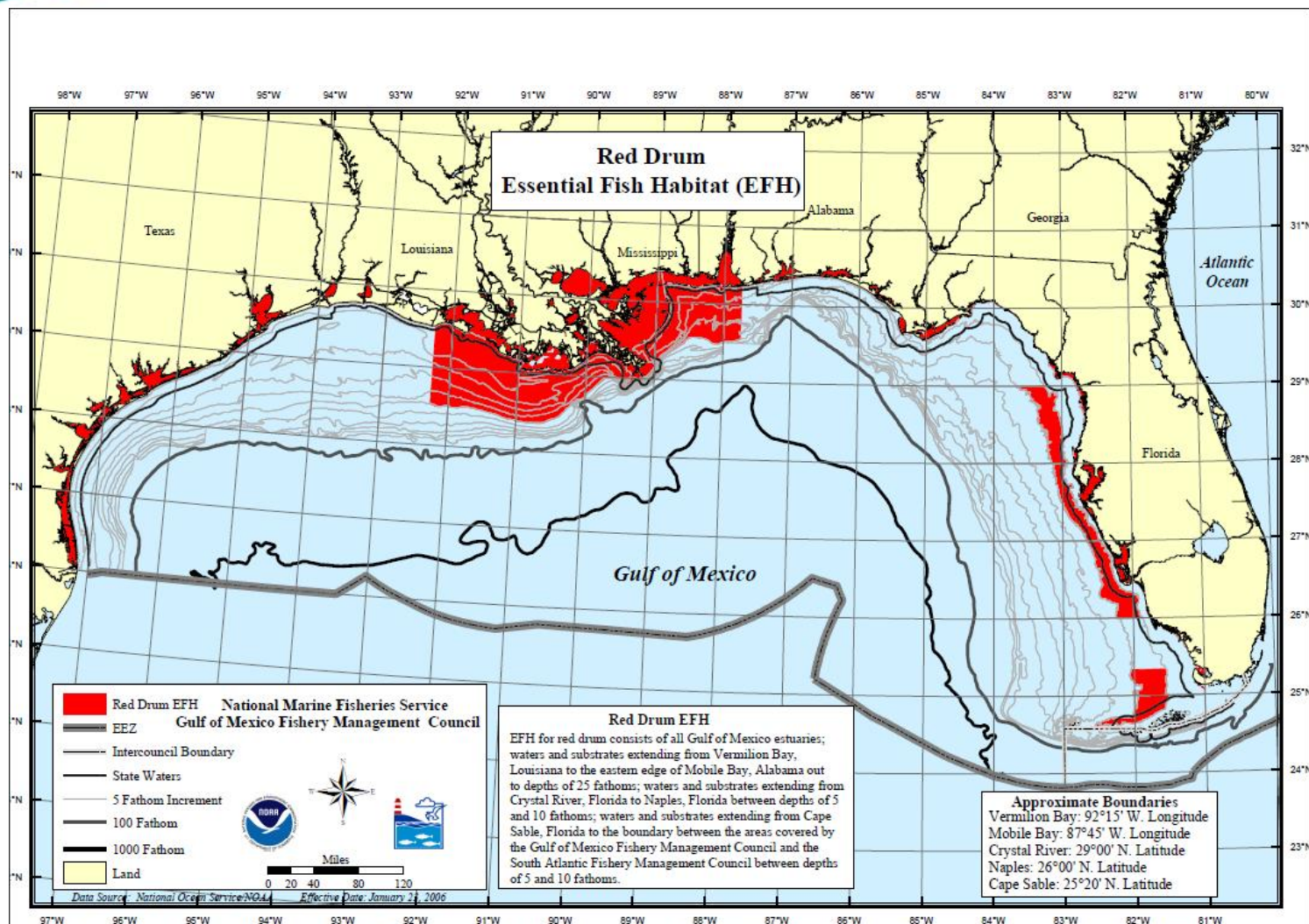


Red Drum: Draft GIS Results





Map of EFH for Red Drum

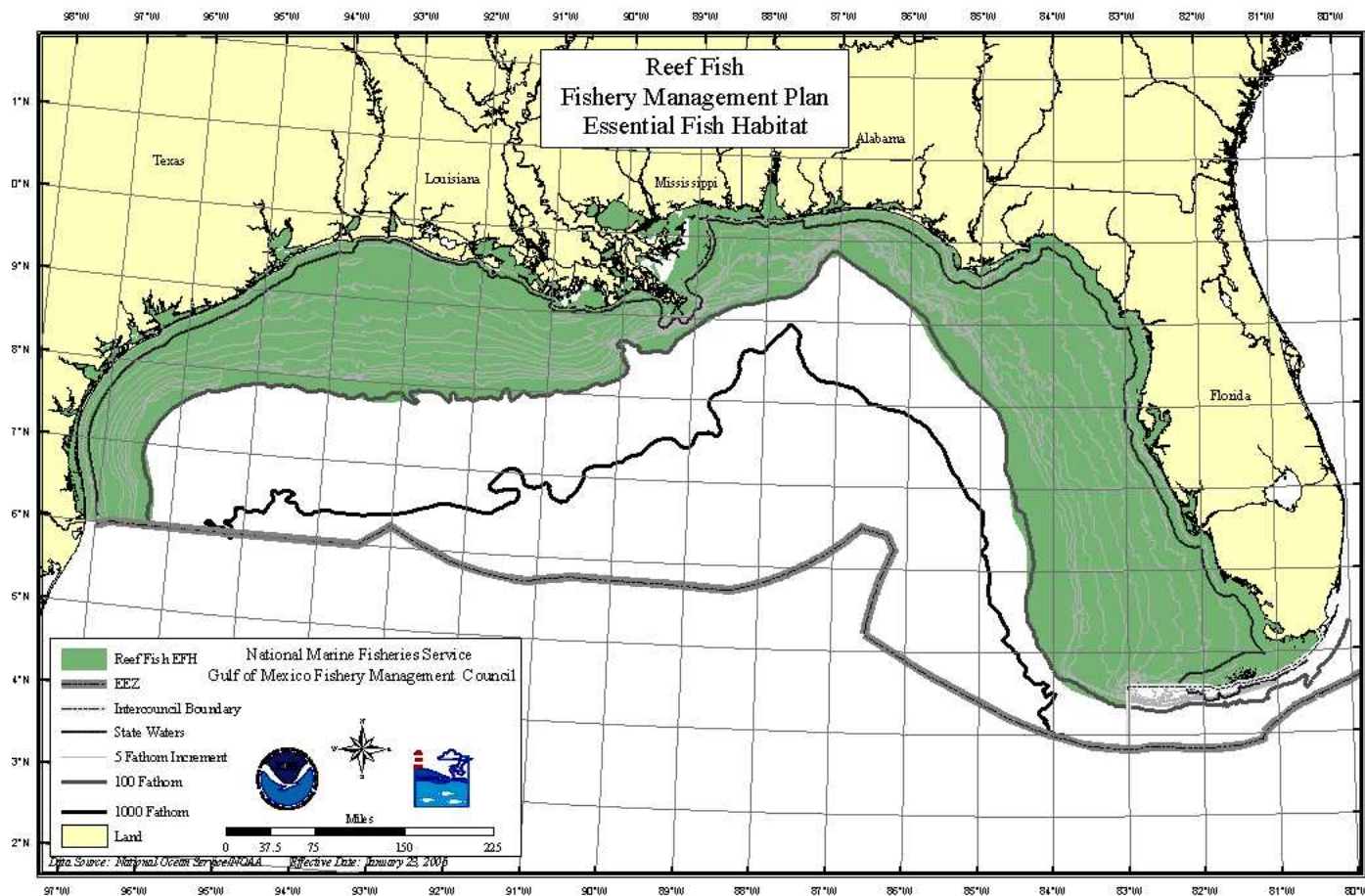


GMFMC. 2004. Final Environmental Impact Statement for the Generic Essential Fish Habitat Amendment to the Fishery Management Plans of the Gulf of Mexico. Gulf of Mexico Fishery Management Council, 2203 N. Lois Avenue, Suite 1100, Tampa, FL 33607.

GMFMC. 2005. Final Generic Amendment Number 3 for Addressing the Essential Fish Habitat Requirements to the Fishery Management Plans of the Gulf of Mexico. Gulf of Mexico Fishery Management Council, 2203 N. Lois Avenue, Suite 1100, Tampa, FL 33607.



Reef Fish EFH





Gulf of Mexico Fishery Management Council

Estuarine EFH

Emergent Wetlands

Mangrove Wetlands

Submerged Aquatic Veg.

Algal Flats

Mud, Sand, Shell and Rock

Substrates

Estuarine Water Column





Gulf of Mexico Fishery Management Council

Marine EFH



Water Column
Vegetated Bottoms
Non-vegetated Bottoms
Live Bottoms
Coral Reefs
Geologic Features
Continental Shelf Features



Gulf of Mexico Fishery Management Council

Habitat Area of Particular Concern (HAPC) is a subset of EFH

- **Important Ecological Function**
- **Sensitive to Human Induced Degradation**
- **Susceptible to Development Activities**
- **Rarity of Habitat Type**

Gulf of Mexico EFH-HAPC

- **Florida Middle Grounds**
- **Madison-Swanson**
- **Tortugas N/S Reserve**
- **Pulley Ridge**
- **E/W Flower Gardens**
- **NW Gulf Banks (Stetson, Sonnier, MacNeil, 29 Fathom, Rankin, Bright, Geyer, McGrail, Bouma, Rezak Sidner, Alderice, and Jakkula)**