



Gulf Council Scientific and Statistical Committee July 31, 2024

Overview of the Council Essential Fish Habitat Process and Developing Amendment

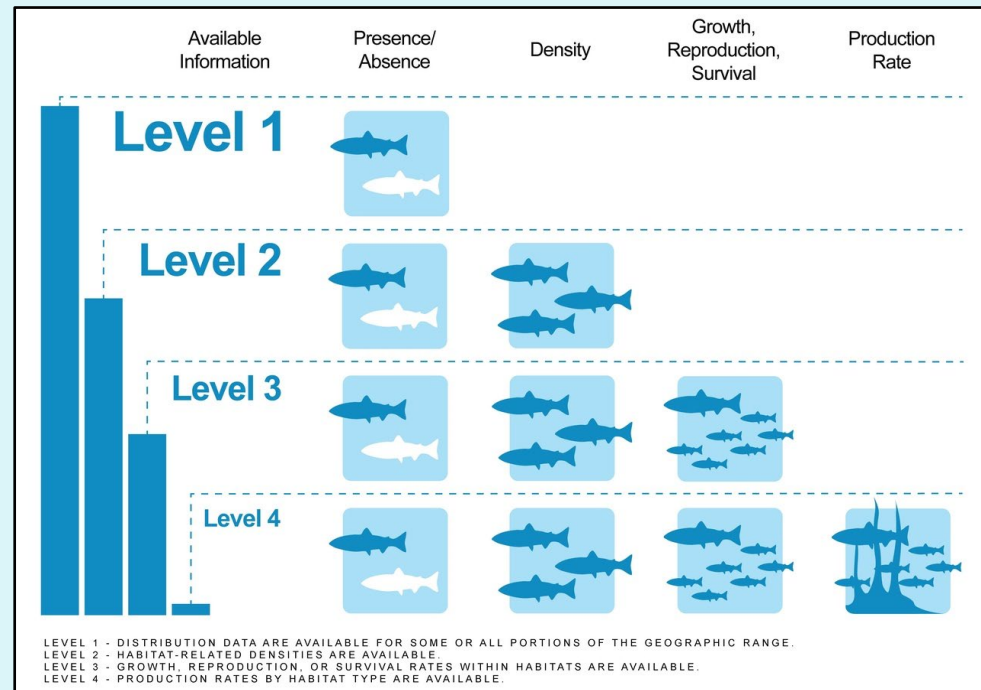
Presentation Outline

- **What is essential fish habitat (EFH)?**
- **Current methodology for Council EFH descriptions**
- **EFH Management History**
- **Purpose and need for contracting work**
- **Tasks for the SSC**



What is EFH?

- ❖ Established with the implementation of the 1996 Sustainable Fisheries Act
- ❖ Defined as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity”
- ❖ Councils create amendments which describe EFH for all managed species
- ❖ Used in the NOAA consultation process¹

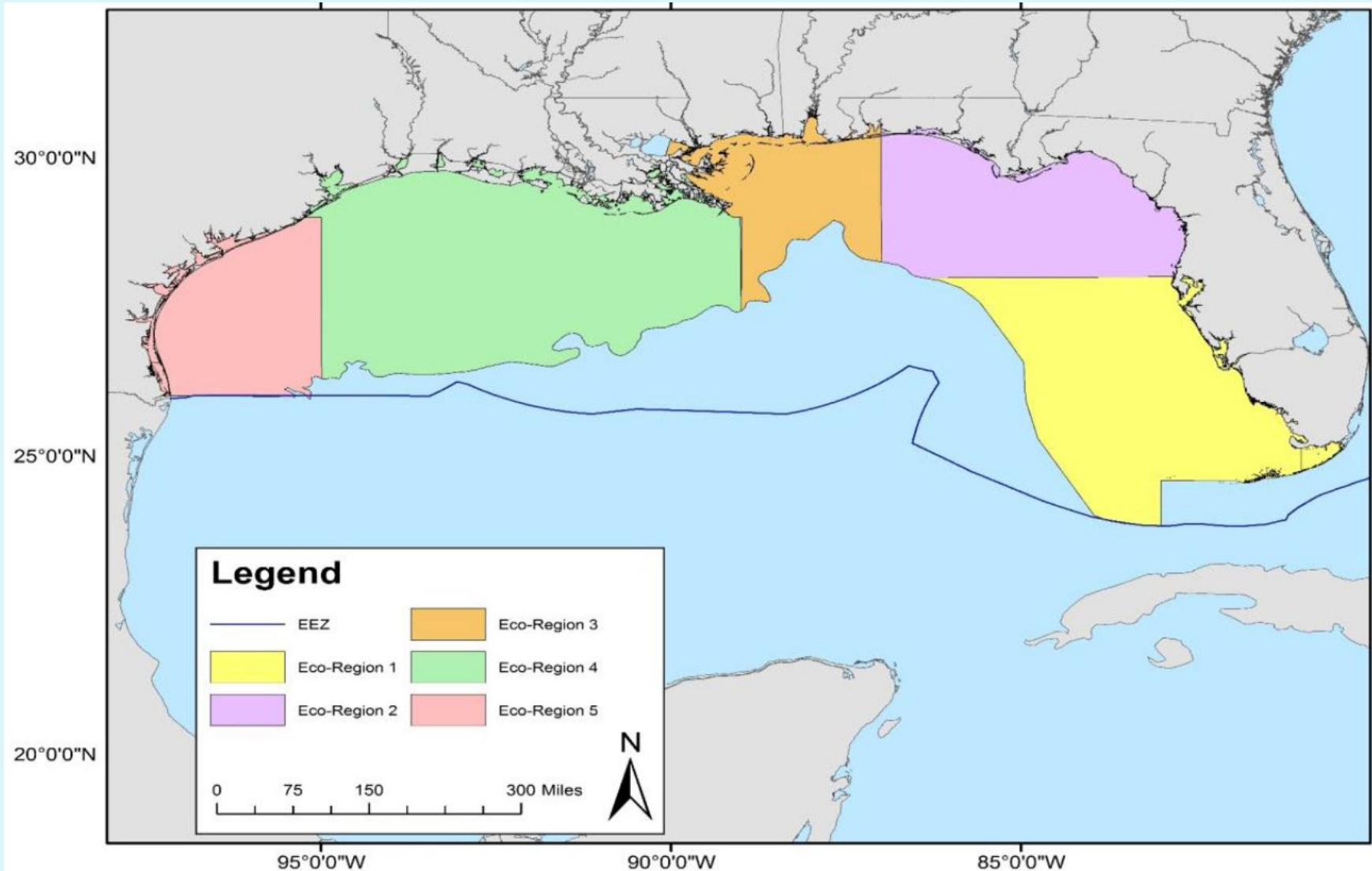


1. [NOAA's EFH Consultation Webpage](#)

Current Methods for Describing EFH

Eco-region Name	Bounds	NOAA Stat Grids
1. South Florida	Florida Keys to Tarpon Springs	1-5
2. North Florida	Tarpon Springs to Pensacola Bay	6-9
3. East Louisiana, Mississippi and Alabama	Pensacola Bay to the Mississippi Delta	10-12
4. East Texas and West Louisiana	Mississippi Delta to Freeport, Texas	13-18
5. West Texas	Freeport, Texas to the Mexican border	19-21

Current Methods for Describing EFH

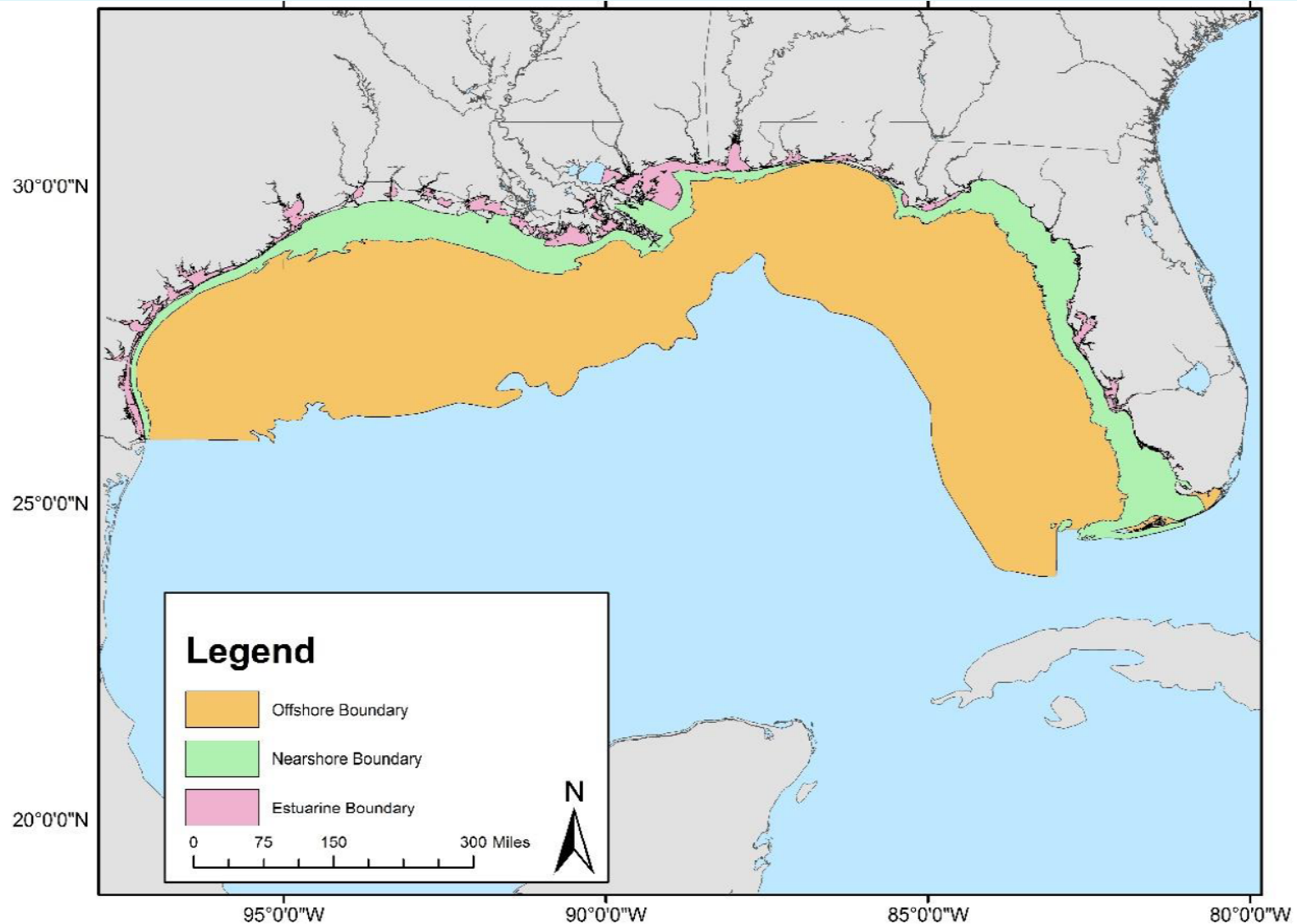


Current Methods for Describing EFH

Habitat Type	Related Terms
Submerged Aquatic Vegetation (SAV)	Seagrasses, benthic algae
Mangroves	
Drifting algae	<i>Sargassum</i>
Emergent marshes	Tidal wetlands, salt marshes, tidal creeks, rives/streams
Sand/shell bottoms	Sand
Soft bottoms	Mud, clay, silt
Hard bottoms	Hard bottoms, live hard bottoms, low-relief irregular bottoms, high-relief irregular bottoms
Oyster reefs	
Banks/shoals	
Reefs	Reefs, reef halos, patch reefs, deep reefs
Shelf edge/slope	Shelf edge, shelf slope
Water Column Associated (WCA)	Pelagic, planktonic, coastal pelagic

Note: low-relief irregular bottoms include low ledges, caves, crevices, and burrows; high-relief irregular bottoms include high ledges & cliffs, boulders, and pinnacles.

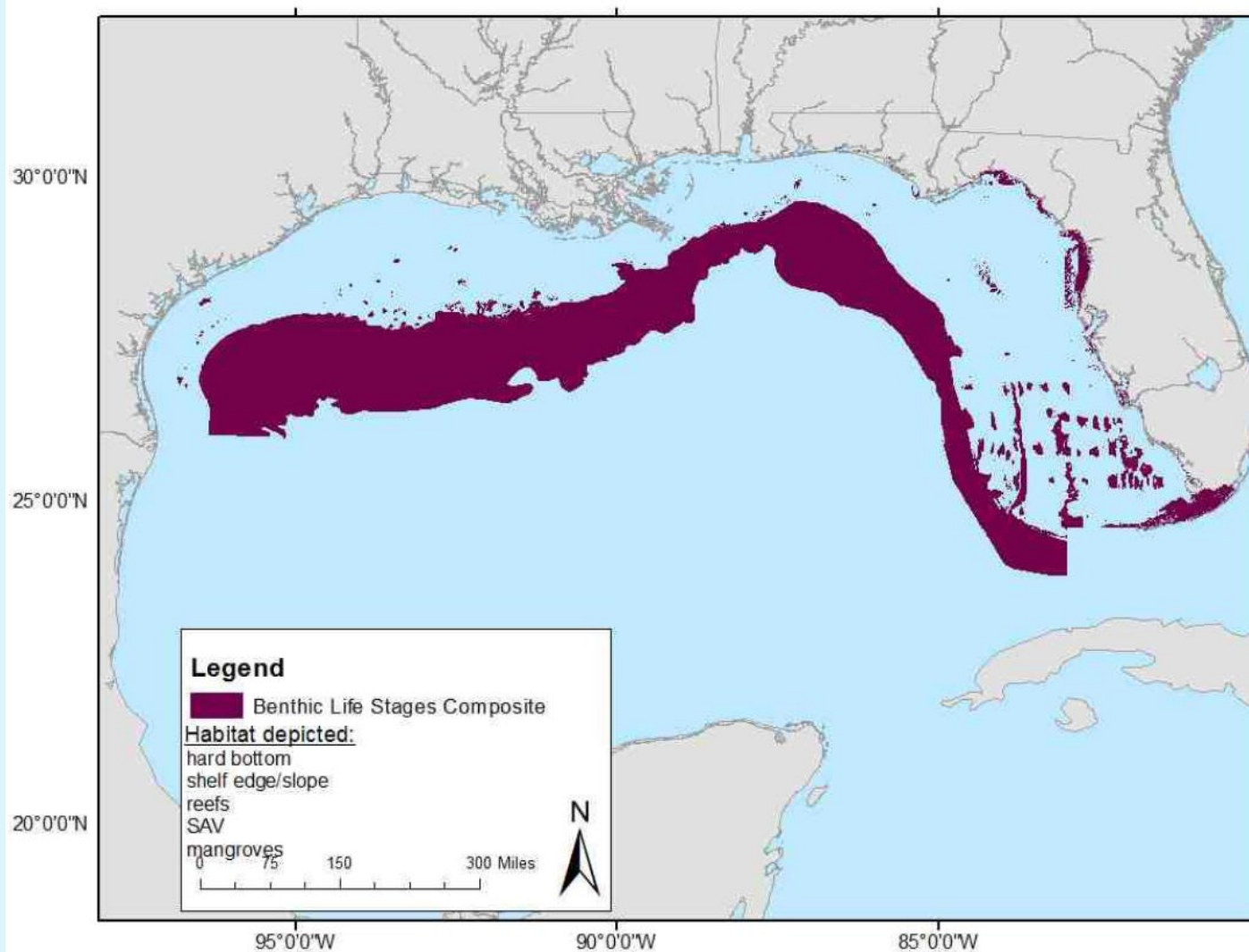
Current Methods for Describing EFH



Current Methods for Describing EFH

Life stage	Eco-region	Habitat Zone	Habitat Type	Season	Temp (°C)	Depth (m)	Prey	Predators	Mortality	Growth
eggs _{4,5,7,9,13,19,24}	ER-1, ER-2	offshore	WCA	Dec-Apr		50-120				hatch in 45h at 21°C
larvae _{13, 19, 21, 24, 31}	ER-1, ER-2	offshore	WCA	early spring		50-120				pelagic larval duration = 29-52 d
postlarvae _{10, 13, 21, 31}	ER-1, ER-2	offshore	WCA			50-120				pelagic larval duration = 29-52 d
early juveniles _{1, 2, 3, 6, 7, 13, 21, 23, 24, 28, 32}	ER-1, ER-2	estuarine, nearshore	SAV, mangroves	late spring-early fall	22-32	0-12	crustaceans (amphipods, copepods, grass shrimp)		minimal while in SAV	rapid during association with SAV
late juveniles _{2, 3, 7, 11, 13, 15, 21, 23, 24, 26, 28, 32}	ER-1, ER-2	estuarine, nearshore, offshore	SAV, hard bottom, reefs, mangroves	recruit to reefs offshore in fall	22-32	1-50	decapod crustaceans and fish	cannibalistic, larger fishes	recreational fishery, shrimp fishery bycatch	
adults _{2, 6, 9, 13, 15, 16, 18, 20, 22, 23, 24, 29, 34, 35}	ER-1, ER-2, ER-3, ER-4, ER-5	nearshore, offshore	hard bottom, reefs	year-round	14-24	13-100	fish, crustaceans, cephalopods	sharks	sudden low temps, fishing mortality; $M = 0.1342$	$L_{inf} = 1277.95$ mm FL, $k = 0.1342$, $t_0 = -0.6687$, max. age = 31 yrs
spawning adults _{2, 4, 8, 9, 13, 14, 18, 19, 25, 27, 30}	ER-1, ER-2, ER-3, ER-4, ER-5	offshore	shelf edge/slope, hard bottom	Dec-May peak: Feb-Mar	21-30	50-120			spawning aggregations vulnerable to fishery	

Current Methods for Describing EFH



Gulf EFH Management History

- **EFH Amendment 3 finalized in 2005²**
 - **Used qualitative methodology**
 - **Spatial data were informed from the NOAA Habitat mapper (1986)**
- **Five-year reviews completed by Council in 2010 and 2016**
- **2016 Five-year review**
 - **NOAA Office of Habitat recommended creating a new EFH amendment for finfish and shrimp species with updated data sources**



Gulf EFH Management History: Development of new EFH Amendment



- **New amendment objectives**
 - **Consider changes to methodology for describing EFH**
 - **Kernel Density Estimation**
 - **Boosted Regression Tree Modeling**
- **BUT FIRST! Update habitat spatial features to inform EFH description approaches**

Purpose and need for contract work

- The purpose was to identify, catalog, and assess available contemporary habitat datasets and provide metadata for those sources
- The need is to use these datasets to update EFH descriptions for all finfish and shrimp species managed by the Gulf Council
- Advertised for EFH contractors in early 2023
- One-year contract awarded to Dr. Bridgette Froeschke from the University of Tampa



Request for SSC input and next steps

- **What data sources may be missing? Out of date?**
- **Final contract report will be presented to Gulf Council in November**
- **Any potential new methodology for describing EFH will be reviewed by SSC when developing the new amendment**

