

5-Year EFH Review Status Update



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Outline

- Brief EFH History Overview
- 5-year Review Update
- EFH Summit Highlights




EFH History

- Magnuson-Stevens Act Amendment
 - Sustainable Fisheries Act - 1996
- Mandated identification and description of EFH for all managed species
- Delineate EFH in FMP or amendments to FMPs
- Periodic (~ 5 years) review of EFH provisions



EFH Timeline GMFMC



2015
Initiate
second 5-
Year Review

5-Year Review Objectives

- Update and improve habitat association tables
- Review and revise EFH maps by FMP
- Web-based Application

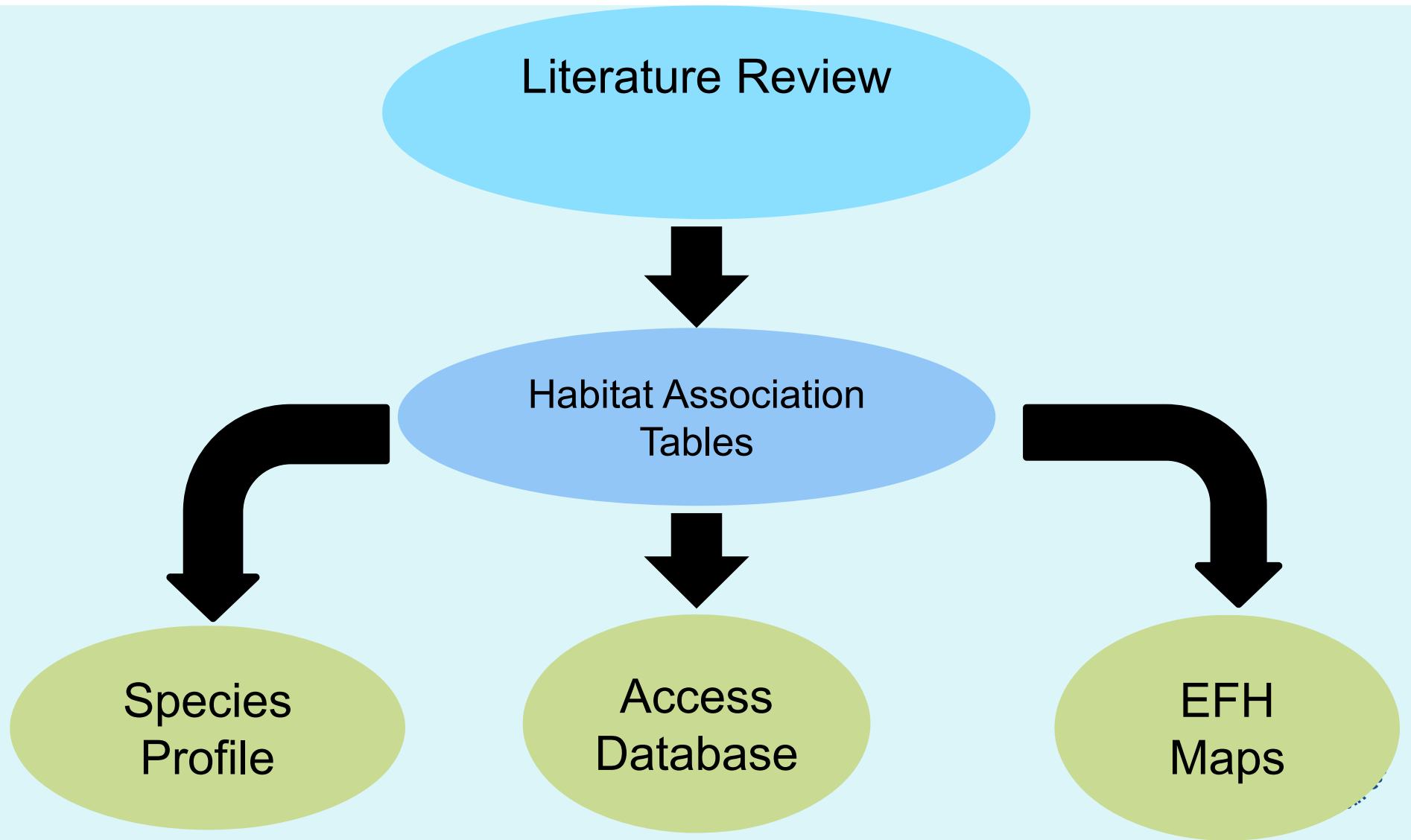


Legal Requirements

- Must be conducted approximately every 5 years
- Review of information should include:
 - Evaluating published scientific literature and unpublished scientific reports
 - Soliciting information from interested parties
 - Searching for previously unavailable or inaccessible data



Update and improve habitat association tables

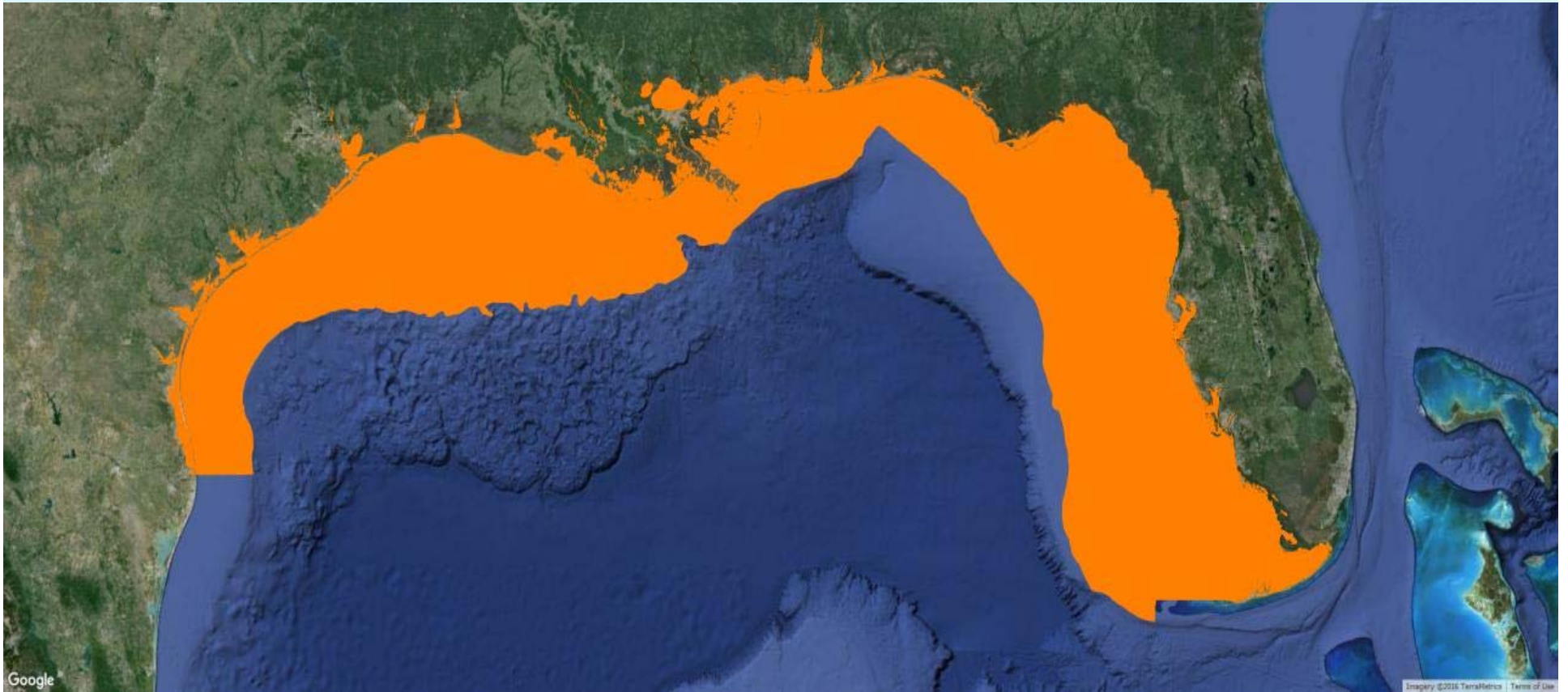


Habitat Association Tables

- Developed in EFH EIS 2004
 - Not updated during 2010 review
 - So, literature review encompassed 2004-current
- Include information on habitat utilization
- Will be available in text and web resource

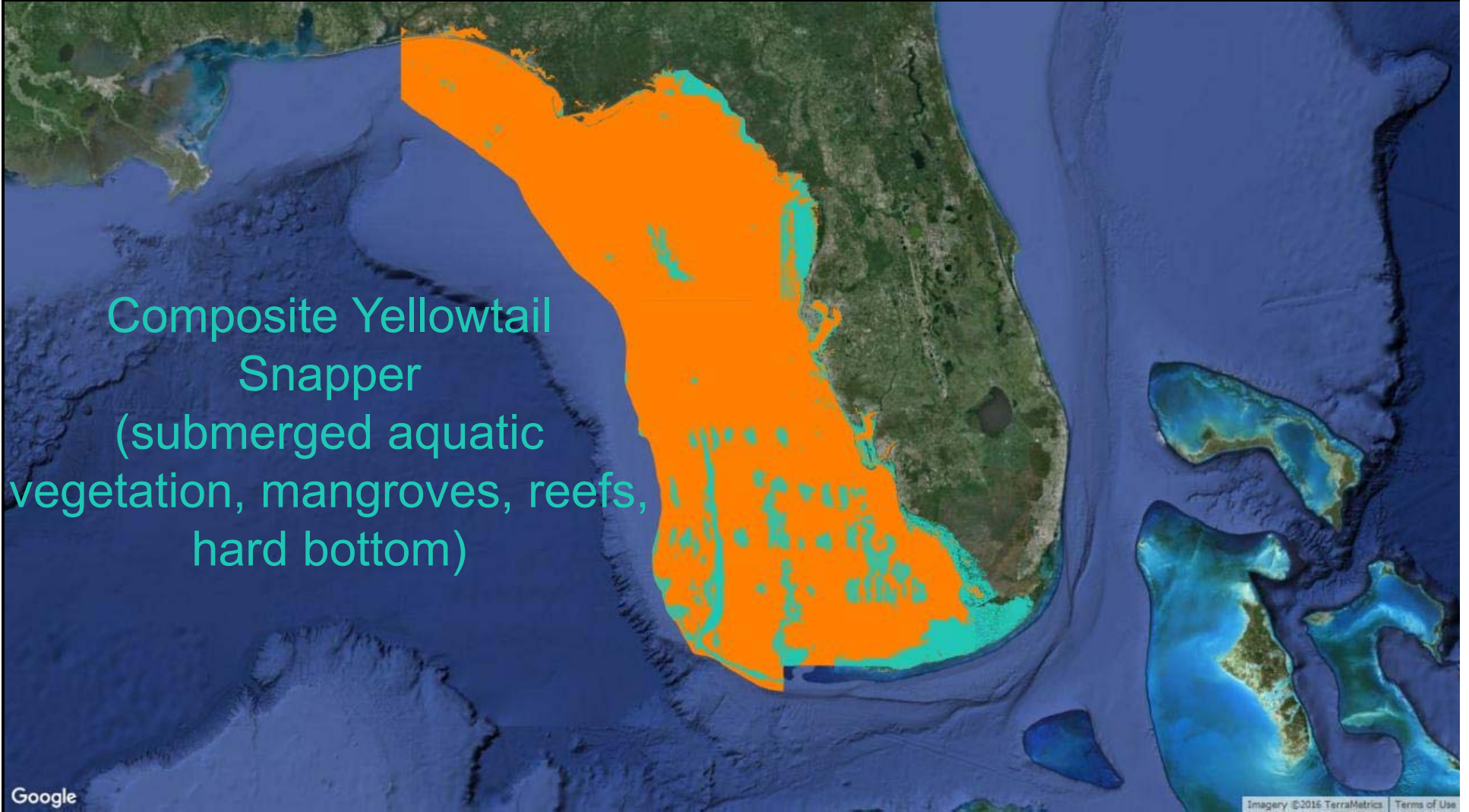


Reef Fish EFH



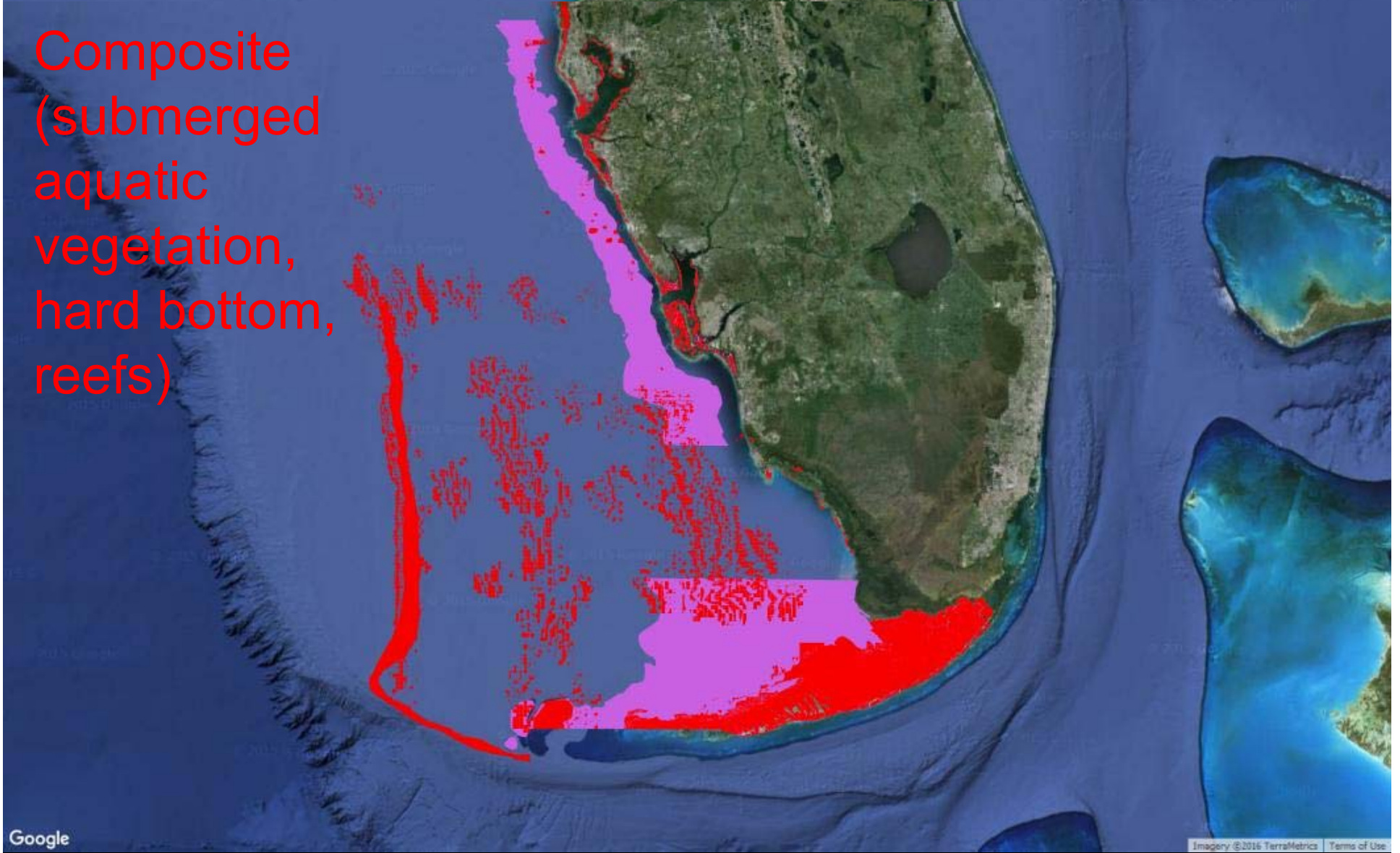
Composite of all species and life stages in Reef Fish FMP. Textually described as “all estuaries; the US/Mexico border to the boundary between the areas covered by the GMFMC and the (SAFMC) from estuarine waters out to depths of 100 fathoms”





Composite Yellowtail
Snapper
(submerged aquatic
vegetation, mangroves, reefs,
hard bottom)

Composite
(submerged
aquatic
vegetation,
hard bottom,
reefs)



Species Profiles

- Synopsis of literature review
- Textual description of essential fish habitat
 - By species and life stage
 - Eggs, larvae, post-larvae, early juveniles, late juveniles, adults, spawning adults
- Brief fishery history
- Stand alone documents



Project Timeline

- August 2016: Draft EFH 5-year Review to Council
- October 2016: Subsequent Draft with feedback incorporated
- December 2016: Submit to NOAA for review/approval



EFH Summit 2016 (Meeting Details)

- 17-19 May 2016
- 20th anniversary of EFH requirements in MSA
- Participants:
 - Science Center Staff
 - NOAA/NMFS Regional Offices and Headquarters
 - Regional Council Staff/Members
 - NGOs



EFH Summit 2016 (Discussion Topics)

- Designation and review of EFH
- Communication between NOAA and Councils (regarding consultations)
- Advances in habitat research

EFH Designation Process

- Varies drastically by region:
 - Catch rates
 - Observed range
 - Fishery Independent Surveys
 - Modeling
- Data Access
 - Levels
 - Similarity to HMS



Communication between NOAA and Councils (regarding consultations)

- Invasives
- Varies by region:
 - Formal/informal
 - Minimal/maximal
- Do we want increased communication ~ consultations?
 - To what extent?
 - More formal process?



Advances in habitat research

- Four presentations that covered:
 - Ecosystem modeling (Howard Townsend; NMFS/OHC)
 - To make habitat science/management more scalable and quantitative
 - Atlantis model
 - Seascape Ecology (John Manderson; NMFS/NEFSC)
 - Seascapes are not landscapes (living in a liquid is different than living in gas)
 - Prioritizing Habitat Protection (Richard Appeldoorn; U. of Puerto Rico/ Chair CFMC SSC)
 - If all habitats and locations are critical, how do we prioritize protection?
 - Importance of connectivity and ecological function
 - Surveying Untrawlable Habitats (Mary Yoklavich; NFMS/SWFSC)
 - Survey habitats that cannot be fished

<http://www.fisheriesforum.org/our-work/special-projects/efh-summit>



Questions?



Habitat Association Table Example (Almaco Jack, *Seriola rivoliana*)

Lifestage	Eco-region (ER)	Habitat Zone	Habitat Type	Season	Temp (°C)	Depth	Prey	Predators	Mortality	Growth
eggs _{12, 14, 17}	ER-1,ER-2,ER-5		WAC	spring- fall						
larvae	ER-1,ER-2,ER-5									
post-larvae	ER-1,ER-2,ER-5									
early juveniles _{5, 17, 22, 23, 28}	ER-1,ER-2,ER-3,ER-4,ER-5	nearshore, offshore	drifting algae, WAC	Aug-Jan Jul-Oct	23.3-31.7	6.7-16.8	*fish, shrimp, copepods*			
late juveniles _{5, 17, 22, 23, 28}	ER-1,ER-2,ER-3,ER-4,ER-5	nearshore, offshore	WAC, drifting algae	Aug-Jan Jul-Oct	23.3-31.7	6.7-16.8	*fish, shrimp, copepods*			
adults _{4, 5, 20, 22, 24, 25, 26}	ER-1,ER-2,ER-3,ER-4,ER-5	offshore	shelf edge, hard bottom, banks, *reefs*	Summer (N. GoM), year-round (S.GoM)		21-*179* m	fish			
spawning adults _{14, 17, 22}	ER-1,ER-2,ER-5			spring-fall						

*Notes: N. GoM likely not an important spawning area₂₂
 asterisks indicate data collected from outside the GoM
 While not considered EFH, almaco jack have been collected from artificial reefs



Distribution

Almaco jack occur throughout the Gulf of Mexico (Gulf). Adults are benthopelagic and form small groups. Juveniles are frequently associated with floating objects including Sargassum, and eggs are water column associated. Minimal habitat information is available for this species.

New literature review

Several studies were found during new literature review that expanded on the habitat information for this species. A diet study by Casazza (2008) off the coast of North Carolina revealed that juvenile almaco jack feed on fish, shrimp, and copepods. Coleman et al. (2010) found that adults in eco-region 2 utilize shelf edge and hard bottom habitat at depths of 80-120 m. In eco-region 5, adults utilize bank habitat at depths of 69-83 m (Hicks et al. 2014). Reed et al. (2006) conducted a study off the east coast of Florida that showed adults using reef habitat at depths of 70-179 m. Lastly, Reeves (2015) studied juvenile almaco jack in eco-region 4 and found that they occurred inshore at depths of 6.7-16.8 m and temperatures of 23.3-31.7 °C on artificial reefs (oil rigs specifically).

Habitat information by lifestage (see HATs in appendix X for references)

Eggs:

Eggs occur from the Florida Keys to Pensacola Bay in the eastern GoM, and Freeport, TX to the Mexico border in the western GoM. Primarily prevalent from spring through fall in the water column.

Larvae:

Eggs occur from the Florida Keys to Pensacola Bay in the eastern GoM, and Freeport, TX to the Mexico border in the western GoM.

Juveniles:

Juveniles occupy the entirety of the GoM, from August-January and July-October. They utilize drifting algae and artificial reefs (not currently considered essential fish habitat (EFH)) as habitat and can be found nearshore and offshore. They have been observed in depths of 6.7-16.8 m and consume fish, shrimp, and copepods.

Adults/Spawning Adults:

Adults occupy the entire GoM and are found in the northern portion during summer months and year-round in the southern portion. They are found offshore in depths of 21-179 m, and are associated with artificial reefs (not currently considered EFH), shelf edge, hard bottom, bank, and reef habitats. Primary prey is fish. Spawning occurs from spring-fall, in eco-regions 1, 2, and 3, though the northern GoM is probably not an important spawning area.

Fishery History

Almaco jack stocks have never been assessed, but will be as a part of SEDAR 49 data-limited species assessment. Anticipated completion is late-2016. Currently there are no fishing regulations in place for almaco jack, but they are a part of the reef fish fishery management plan.

Reference Appendix X for Habitat Association Tables

Species Profile Example (Almaco Jack; *Seriola rivoliana*)

