December 4, 2023

To: Administrator@safmc.net
Re: SAFMC Meeting, Dec 2023
Habitat and Ecosystem Report
Guidance for Resubmission of Amendment 10
NOAA-NMFS-2021-0126; Coral_Amendment10_Nov21_508
Public Comment #4

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Comment: Biodiversity and Fish Populations of the Oculina Ecosystem

- The OHAPC ecosystem consists of various habitats, not just the high relief mounds. The ecosystem consists of high relief coral rubble mounds, individual live coral colonies, standing dead coral, rock pavement, rock/sand knolls, ledges, sand, mud, rubble. At night when the trawlers often fish, some fish species move off the reefs onto the flats. The simple idea that the fishers should only avoid the high relief bottom shown on multibeam maps is a fallacy. All the habitat within the OHAPC must remain protected.

- These are the only deep-water Oculina coral reefs in existence around the world. Over many thousands of years this coral has grown at the shelf edge off eastern Florida, in the Gulf Stream. This slow growing coral (~1/2"/ yr) is an oasis of diversity. Oculina coral larvae settle and grow on coral rubble or rock. Most of the young coral recruits that I have seen on the OHAPC in the past 10 years (during ROV surveys with NOAA Fisheries) have been growing on coral rubble habitat. These young corals are mostly less than 12" diameter. A single coral colony of 12" diameter can host up to 2,000 animals. The coral habitat supports over 230 species of mollusks, 50 species of decapod crustaceans, and hundreds of species of echinoderms, polychaete worms and other benthic species; these are the food chain for the fish populations (Reed et al. 1983, Reed and Mikkelsen 1987, Reed 2002, Reed et al. 2005).

- The Oculina ecosystem is important habitat for at least 70 species of fish. Some of these species are interconnected with the Indian River Lagoon. Gag and scamp grouper live in the IRL grassbeds and mangroves as juveniles, then as they mature at 15-20 years they move to the offshore banks to spawn. The deep-water Oculina reefs form breeding grounds for commercially important populations of gag (Mycteroperca microlepis) and scamp (M. phenax) grouper; nursery grounds for juvenile snowy grouper (Epinephelus niveatus); and feeding grounds for these and other fish including black sea bass (Centropristes striata), red grouper (E. morio), speckled hind (E. drummondhayi), warsaw grouper (E. nigritus), goliath grouper (E. itajara), almaco jack (Seriola rivoliana), greater amberjack (S. dumerili), red porgy (Pagrus pagrus), red snapper (Lutjanus campechanus), gray snapper (L. griseus), little tunny (Euthynnus alletteratus), giant ocean sunfish (Mola mola), Atlantic manta ray (Manta birostris), tiger shark (Galeocerdo cuvieri), and scalloped hammerhead shark (Sphyrna lewini) (G. Gilmore, pers. comm.; Reed & Gilmore, 1981; Koenig et al., 2005; Reed et al., 2005).

- These shelf-edge mound structures form part of the migration pathway for king mackerel (Scomberomorus cavalla), Spanish mackerel (S. maculatus), and wahoo (Acanthocymbium solandri). The spiny tail stingray Dasyatis centroura use the deep-water Oculina reefs region for courtship and mating (Reed & Gilmore, 1981), and large populations of the commercially important squid Illex oxygonius have been observed spawning on the banks (Reed & Gilmore, 1981). Also, recently a tagged Great White shark (Breton) was pinged within the OHAPC.

- Dense schools of thousands of small antheids Hemanthias vivanus often cover the healthy coral, darting into the recesses of the branches for protection and for feeding on the invertebrates living within. These in turn help support the large populations of larger fish (Reed & Hoskin, 1987; George et al., 1987).

- In 2005, remotely operated vehicle (ROV) transects on Oculina reefs observed black sea bass (Centropristis striata), which had not been seen on the reefs since the 1980s when they were abundant. In the 1980s, observed individuals were large and mature, but those observed in 2005 were small juveniles, suggesting that the species was possibly in initial stages of recovery in this location. Juvenile speckled hinds were also observed on the reefs for the first time since the 1980s. These findings support the HAPC's effectiveness to restore reef fish and their habitat (Harter et al. 2009).

- Dominant federally managed fish observed during the ROV video transects within the Northern OHAPC in the region near the proposed SFAA (2017 NOAA ship *Pisces* cruise; PIs- Stacey Harter, Andy David [NOAA Fisheries], John Reed [HBOI/FAU]) included scamp (common), gag, snowy grouper, red porgy (common), amberjack (abundant), and black sea bass (abundant). Dominant invertebrates included Oculina varicosa coral (10-40 cm colonies), gorgonian corals, black coral (abundant), sponges, starfish, sea urchins, and mollusks. The mounds appeared to have been impacted by years of bottom shrimp trawling as documented within the OHAPC. Rock shrimp also utilize Oculina coral habitat areas (SAFMC 1996). This habitat was confirmed by research trawls which captured large amounts of rock shrimp in and around the OHAPC prior to its designation (Cobb et al. 1973).

- In recent studies, we see red snapper and grouper in the low relief and flat areas of these reefs (Harter et al. 2016- 2019). We know that many species move off the high relief reefs to forage and feed. Trawling nearby could easily by-catch these species. Again- these fish species in this region are just rebuilding now. The deep-water snapper-grouper complex of species are long lived, slow to mature, and can be quickly be impacted that can take decades to recover.

- Data from observer coverage in the rock shrimp fishery from 2011-2016 shows 37% of catch consisting of finfish and 17% consisting of other invertebrates. A total of 32 species were identified on observed rock shrimp trips (Scott-Denton et al. 2020).

- Grouper like to migrate off the coral banks at night to nearby areas to forage on benthic fishes and crustaceans, which is exactly where and when the shrimp trawlers will be active. The trawlers catch dozens and dozens of juvenile fish as bycatch on each tow and throw them overboard dying and your fishermen will never see them in the water as prized catch (pers. comm., Grant Gilmore: "I personally documented the rock shrimp trawl fish by-catch by participating in collecting and preserving the fish caught in shrimp trawls during a multi-annual Florida Department of Natural Resources [now the Florida Fish and Wildlife Conservation Commission] study off Cape Canaveral conducted by Dr. Stewart Kennedy, 1973-1974. The trawl by-catch was substantial.

Fishery impacts were primarily on seabass (Centropristis spp.), grunts, flatfishes, cuskeels and batfishes)."

- Economic importance of saltwater recreational fishing and fishermen in Florida:
  According to a report from the Florida Fish and Wildlife Conservation Commission, saltwater recreational fishing and fishermen have a large impact on the state's economy (Source: American Sportfishing Association and Southwick Associates, based on USFWS 2011 survey data updated to 2020 using FWC-OLP's license trend data plus inflation data). In total, saltwater fishing generates:
    - 1.5 million saltwater recreational licenses sold in fiscal year 2019/20202.
    - 4 million recreational resident and nonresident who had an active license in fiscal year 2019/2020
    - Saltwater recreational fishing generated: $9.2 billion*
    - Supports: 88,501 jobs* (saltwater only)

    (*Source: American Sportfishing Association and Southwick Associates, based on USFWS 2011 survey data updated to 2020 using FWC-OLP's license trend data plus inflation data)

- Today, the Oculina reef ecosystem is the site of spawning for three fish: gag, snowy grouper, and red porgy that are all overfished and valued by recreational fishermen. The reef is also important habitat for adults and juveniles who find protection and abundant prey in and among the corals.

- Many of these species, specifically red porgy, snowy grouper, and gag are listed as overfished or experiencing overfishing by NOAA Fisheries in the last Status of Stocks report; and other populations have declined substantially off Florida in the last few decades due to habitat destruction. If Amendment 10 goes through, these problems will only get worse. OUR FISH NEED MORE HABITAT, NOT LESS (pers. comm., Grant Gilmore).

- The few rock shrimpers who are behind Amendment 10 are not concerned with grouper - snapper- porgy fisheries, whether commercial or recreational fisheries. In the past 3 years, the annual landings for the rock shrimp fishery on the east coast of Florida have averaged $759,000 per year with a median of $455,000. It's a tiny fishery compared to the value your recreational members create.

- If the rock trawlers have been trawling this SFAA zone in the eastern boundary of the OHAPC, as they say they have, they would have decimated any coral babies (recruits). The coral cannot recover if trawling within the OHAPC continues. Without the coral, the fish cannot recover. We currently see regrowth of the Oculina coral in the Northern OHAPC (Harter et al., 2018 a,b; 2019). Now is not the time to open up an already protected area to trawling.

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