



April 30, 2023

To Whom it Concerns,

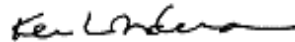
Thank you for the opportunity to comment on the SAFMC document: Policies for the Protection and Restoration of Essential Fish Habitats from Beach Renourishment and Associated Large-Scale Coastal Engineering, received Apr 25. Comments are summarized below.

- The document is well-assembled and strong on many fronts, including the focal points on cumulative, unseen, and indirect effects, as well as policy options such as sand bypassing.
- Several core references are suggested that could add to the Threats, BMP, and Research Needs sections of the document. These docs have been separately sent, including Bishop and Peterson, 2005; Wanless and Maier, 2007; Lindeman and Snyder, 1997, McCarthy et al., 2020. Most of these involve nearshore hardbottom reefs and coral reefs of the southern region, Cape Canaveral to Miami-Dade County. Some suggestions on their use follow.
- The Peterson and Bishop (2005) paper is quite valuable in stratifying impact assessment challenges and could be referred to in the BMP and Research sections.
- In terms of Threats and BMPs, see the first sections of Chap 8 of McCarthy et al. and Tables 8.3, 8.4, and 8.5 with response characterizations to fill impacts for invertebrates, fishes (including ontogeny-specific attributes), and marine turtles. Chap 9 has many sections dedicated to Research Opportunities for algae, inverts., fishes and turtles.
- Page 2, Section 4): Fyi, the McCarthy et al book Chapters 9 and earlier comprehensively inventory over 1100 species of fauna and flora associated with nearshore hardbottom reefs of E FL, 0-4 m; and builds community scale summaries in Chap 7 with integrated management recommendations in Chapter 8 and 9.
- Page 4, Threats, Section 2): There is also direct mortality of newly settled and early juvenile fishes due to burial of nearshore hardbottom reef habitat (L and S, 99; CSA International, 2009; Chap 8, McCarthy et al).
- Page 4, Threats, Section 2): There is also, *direct burial of spawning sites of >30 species of cryptobenthic fishes* of importance in local food webs (McCarthy et al. Chapter 5 on Fishes).
- Page 6, top: CSA International (2009) was of use and is in the Literature Cited section, but there are no actual citations to it in the document text. It could be cited where there are currently no citations at the top of page 6, at the end of the one sentence paragraph stating: "In addition, the interactions..." Something like: (CSA International, 2009; McCarthy et al. Chap 8 and Chap 9, 2020). Your call.
- Page 6, Section 1): Perhaps, instead of "retreat" say "strategic retreat".
- Page 6, Section 2): What is meant by comprehensive environmental document? Is this an EFH consultation? Perhaps a little more detail here.

- Page 6, Section 2b): The phrase “hardbottom-dependent” is challenging as there are many ways to define and bound obligate/dependent habitat needs. The large table at the end of the Fishes Chapter 5 in McCarthy et al. may be instructive on this. We suggest perhaps saying “common” instead of HB-dependent here.
- Page 8, top item 5): Discussed with data and scenarios for newly-settled recruits in Lindeman and Snyder, 1999. We agree that this is an important point to make early in project design.
- Page 9, Research Needs, if there is time, many biological and management research opportunities are identified here for nearshore reef algae, inverts, fishes and turtles.
- Literature Cited: In addition to other papers mentioned, you may want to also add for SE Florida, Baron et al. 2004 on nearshore reef fishes in the Ft. Lauderdale area, Goldberg (1990s) on sediment stress and SE FI corals.
- Fyi, Chap 4 on Invertebrates of nearshore hardbottom reefs has an unprecedented overview of the biology of the tube worm *Phragmatapoma lapidosa* (= *caudata*), by Dan McCarthy, UNF, this species is explicitly associated with E Florida HAPC in the 1998 SAFMC Comprehensive Habitat Amendment.

Thanks again for the comment opportunity. Feel free to follow-up on any of above.

Sincerely,



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