

Florida Keys National Marine Sanctuary



Review and Discussion
December 12, 2019



Florida Fish and Wildlife Conservation Commission

This is a review and discussion of the Florida Keys National Marine Sanctuary's (FKNMS) Restoration Blueprint, the FWC's role in managing the fisheries resources within the FKNMS, proposed regulatory actions, and next steps.

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FKNMS Process Reminder

- FWC responsible for fisheries rules in state waters
- Oct. – Began FKNMS discussions
- Today – Look at 10 specific topics
- Extension granted for FWC comments, due April
- Jan. – FWC staff meet with stakeholder organizations
- Feb. Commission meeting – Look at all relevant aspects of plan, review comments and consider FWC's proposed response



Photo courtesy: NOAA

As a reminder about the FWC role in the Florida Keys National Marine Sanctuary (FKNMS) Restoration Blueprint process, also known as the Draft Environmental Impact Statement (DEIS), FWC is responsible for implementing fisheries rules in state waters. In October, FWC began discussion on the FKNMS Restoration Blueprint. Today, the presentation will cover 10 topics which will be outlined in the next two slides. FWC requested and has been granted an extension for submitting agency comments to the FKNMS until April. FWC staff will continue to meet with stakeholder organizations during the month of January. At the February Commission meeting, FWC staff will provide another presentation about the FKNMS Restoration Blueprint where all relevant aspects of the plan and stakeholder comments will be reviewed.

FWC Guiding Principles for Evaluating FKNMS Plan

1. Addressing ecosystem-level change a high priority
 - Water quality, water flow, coral loss
2. Fisheries management reserved to FWC in state waters
3. Consider closures and access restrictions on a case-by-case basis
4. Need to clearly define rationale for proposed actions
 - What issue is being addressed?
 - What has past experience taught us?
 - What are likely outcomes?
 - Evaluate relative to expected stakeholder impacts
5. Must be fair to all stakeholders



Here, we present the principles that the FWC is using to guide the development of our response to the FKNMS Restoration Blueprint. First, we acknowledge that it is important to address ecosystem-level changes that inherently have an impact on the marine resources of the Florida Keys, from the habitats to the fish and invertebrates. Water quality, water flow, and coral loss, to name a few, are all factors that are influenced by conditions outside of the Florida Keys ecosystem. Addressing these factors are a high priority for the FWC and should be considered as the FKNMS proposals are discussed throughout this presentation. A second guiding principle is that fisheries management is reserved to the FWC in state waters. Third, area closures and access restrictions should be considered on a case-by-case basis after evaluating the science and potential ramifications of such actions. Fourth, as each proposal is discussed, the rationale behind the proposed actions should be clearly defined. This includes a clear description of the issues that are being addressed, what has been learned from past experiences, what the likely outcomes are, and an evaluation of the proposed actions relative to the expected stakeholder impacts. Finally, proposed actions must be fair to all stakeholders.

Ecosystem-Level Changes

Water Quality

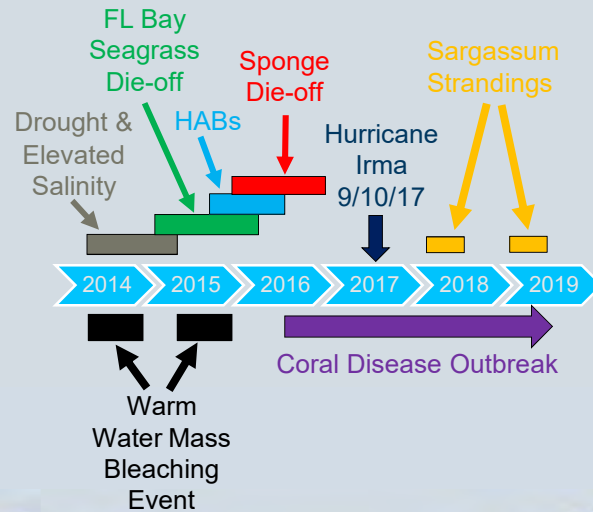
- Connectivity of FKNMS with regional oceanic conditions
- Increased prevalence of harmful algal blooms
- Habitat die-offs

Water Flow

- Everglades discharge

Coral Loss

- Bleaching events
- Stony Coral Tissue Loss Disease



Before the FKNMS proposals are reviewed, it is important to discuss some of the issues that are impacting the Florida Keys at a larger-scale to provide context for subsequent topics. Water quality is a key element that connects all sanctuary resources and is essential in maintaining the richness and diversity of the Florida Keys ecosystem. The environmental conditions of the FKNMS are impacted not only by local factors, but also by perturbations that originate from outside of sanctuary waters. The sanctuary is influenced by the Florida Current, the Gulf of Mexico Loop Current, inshore currents of the Southwest Florida Shelf, discharge from the Everglades through the Shark River Slough, and by tidal exchange with both Florida Bay and Biscayne Bay. Flood control modifications to the drainage of fresh water in the south Florida region resulted in serious environmental effects due to altered water flow into the surrounding estuarine system, specifically Florida Bay. Large, persistent cyanobacteria blooms originating in Florida Bay have been associated with sponge die-offs and the associated community dependent on them. Nutrients originating outside the sanctuary may have increased the size and persistence of various harmful algal blooms. As these phenomena have been correlated with fish kills and seagrass die-offs, their increasing influence could put resources at risk that have not been so previously. In addition, coral reef ecosystems along the Florida Reef Tract have been hit hard by a variety of factors, such as climate-related bleaching events, nutrient loading, and coral disease. The Stony Coral Tissue Loss Disease was first observed off Miami in 2014 and has continued to spread unabated to the north and south. It is currently unknown what causes the disease or how to stop it. At the local scale, improvements to wastewater treatment and increased regulations for cruise ship discharge will have a positive effect on the FKNMS ecosystems and more can certainly be done. However, these larger scale issues are important considerations as the Restoration Blueprint is discussed in subsequent slides.

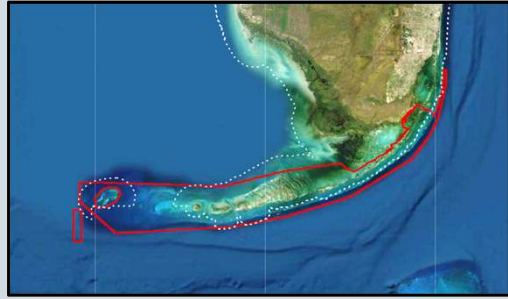
Florida Keys National Marine Sanctuary Outline

Sanctuary-wide topics

1. Sanctuary boundary expansion
2. Baitfish permits
3. Fish feeding regulations

FKNMS-wide place-based management

4. Protect large, contiguous habitat
5. Expand some Sanctuary Preservation Areas (SPAs) and Western Sambo Ecological Reserve into deeper water
6. Limited access to Carysfort, Sombraero, and Sand Keys SPAs



This presentation covers several proposals within the Restoration Blueprint that will modify FKNMS-wide regulations, including the boundary expansion, baitfish permits, and fish feeding regulations. The presentation will focus on Alternative 3 within the Restoration Blueprint, which is NOAA's preferred alternative. For issues that affect state waters, you will see a Florida state flag next to the FWC logo. There are some additional topics that will be discussed that affect multiple locations throughout the Keys, including expansion of some Sanctuary Preservation Areas (SPAs) into deeper water; protection of large contiguous, habitat in the Tortugas, Middle, and Upper Keys; and the proposal to limit use of some popular reefs throughout the Keys.

Florida Keys National Marine Sanctuary Outline

Upper Keys

7. Key Largo Management Area (no anchor zone)

Lower Keys

8. Western Dry Rocks Wildlife Management Area (WMA)
9. Backcountry WMAs

Other Topics

10. Law Enforcement



Top photo: Don DeMaria, Others: NOAA

The presentation will then turn the focus to the Upper Keys where the Key Largo Management Area no anchor zone will be discussed. The presentation will then move to the Lower Keys, where the proposed Western Dry Rocks Management Area and backcountry Wildlife Management Areas will be addressed. Finally, the presentation will touch on the topic of law enforcement within the FKNMS.

Sanctuary Boundary Expansion

Alternative 3

- Expand oceanside external boundary
- Westward shift in the boundary of Tortugas South Reserve

Alternative 4

- Incorporate Pulley Ridge (no anchor) zone

Background

- Prohibit discharge from vessels
- Reduce impact of large vessel groundings
- Prevent anchor damage in Pulley Ridge



The first topic to be discussed is the Sanctuary boundary expansion. Under Alternative 3, FKNMS proposes to expand the sanctuary boundary by approximately 741 square miles. By expanding the boundary, the expanded boundary will align with the “Area to Be Avoided” (ATBA) and “Particularly Sensitive Area” (PSSA), plus ~1 mile westward shift around the Tortugas South Reserve. The ATBA is an existing demarcation where large vessels (over 50 m) are prohibited due to several past large ship groundings in this area. The PSSA is an existing demarcation established by the International Maritime Organization designed to protect marine resources of ecological or cultural significance from damage by ships. By co-locating the boundary with these existing demarcations, the complexity of the various boundaries will be reduced, and the additional protections provided in the FKNMS-wide regulations will be in effect.

Alternative 4 would add Pulley Ridge to the FKNMS and prohibit all anchoring in this area to further protect deepwater coral reef ecosystems. Regulations set by the Gulf of Mexico Fishery Management Council (GMFMC) and implemented by NOAA Fisheries (not FKNMS) prohibit use of bottom gear (i.e., traps, trawls, and bottom longlines) and anchoring by fishing vessels in a large area of Pulley Ridge. In 2018, the GMFMC approved regulations that are pending approval by the U.S. Secretary of Commerce. These pending regulations would prohibit use of bottom gears (except bottom longlines, which have historically been used in this area by commercial grouper fishermen) and anchoring by fishing vessels in the expanded area. If these changes are approved by the U.S. Secretary of Commerce, the area of Pulley Ridge with GMFMC-set regulations would match the area proposed to be added to the FKNMS in Alternative 4. The GMFMC does not have authority to prohibit anchoring by other vessels as proposed in Alternative 4.

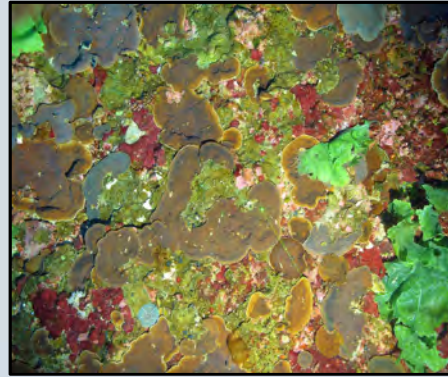
Sanctuary Boundary Expansion

Considerations

- Encompasses spawning aggregations of groupers and snappers
- Anchor damage documented at Pulley Ridge
- Fisher concern about future restrictions and westward expansion of TSER

Initial Staff Thoughts

- General support for boundary expansion
- Add Pulley Ridge



ROV photo of Pulley Ridge courtesy: NOAA

Considerations for the Commission regarding this proposal are that the slight westward expansion in Tortugas Ecological Reserve South (Alternatives 3 and 4) incorporates newly-discovered spawning aggregations of black grouper and cubera snapper located along the western edge of Riley's Hump. There has been a dramatic decline in percent of living coral from 2003-2015 at Pulley Ridge. Alternative 4 aims to prevent additional damage to this productive and sensitive habitat by prohibiting anchoring in this region. FWC has heard comments from fishers who object to the Sanctuary boundary expansion, including the westward shift of Tortugas Ecological Reserve South, due to concerns about future restrictions that may influence their ability to fish within Sanctuary waters. Overall, there is general support from FWC staff for Sanctuary boundary expansion to better protect the resources of the FKNMS and improve management of the Florida Keys ecosystem. The incorporation of Pulley Ridge into the FKNMS under Alternative 4 would benefit one of the deepest coral reef ecosystems in the U.S.

Baitfish Permits

Alternative 3

- Phase-out of permits over a three-year period

Background

- Aims for consistency in SPA regulations
- Aims to reduce user conflict
- Two types of FKNMS permits issued for SPAs: Cast net/lampara nets and hair hook
- FWC also issues limited-entry lampara net endorsement



The second FKNMS-wide topic is the proposed changes to recreational and commercial baitfish permits. The proposal aims to phase-out (over the course of a 3-year period) issuing permits that allow harvest of baitfish (e.g., ballyhoo, pilchards, etc.) within 18 current Sanctuary Preservation Areas. This proposal does not impact the ability of fishers to fish for bait outside of SPAs. The rationale for this proposal is to have consistency in regulations at all SPAs and to reduce user conflict between the commercial and recreational fishing and diving communities. The FKNMS currently issues two types of baitfish permits: cast net/lampara net and hair hook. Cast net/lampara net permit holders are currently allowed to harvest baitfish in all 18 SPAs. It should be noted that FWC also issues a limited-entry lampara net endorsement in state waters. FKNMS baitfish permits for hair hooks can be used in 3 SPAs (Conch Reef, Davis Reef, and Alligator Reef SPAs). In 2018, there were 91 cast net permits issued, which went 57% unused, and a total of 11 hair hook permits, which went 50% unused.

Baitfish Permits

Considerations

- Overall level of permit use is small
- High amount of permit holder attrition
 - ~ 50% of permit holders report catch
- Fishers have the ability to fish outside of SPAs

Initial Staff Thoughts

- Consultation needed with permit holders and other interested parties



Some factors to consider when evaluating this proposal is that overall the level of permit use is relatively small. Baitfish permit data received from FKNMS indicates that there is a high amount of attrition and that there is a decreasing trend with fewer fishers renewing their permits. FWC staff has heard concerns from both recreational and commercial fishers and from the diving community that localized depletion of baitfish at SPAs has diminished abundance of targeted fishery species as well as overall species diversity. Another factor to consider is that bait fishers will still be allowed to fish outside of SPAs. The economic loss to fishers in previous slide is not insignificant, but it assumes that fishers won't reallocate their fishing efforts to areas outside of the SPAs. To this point, FKNMS believes that the overall losses to fishers will be minimal. FWC staff needs to consult with baitfish permit holders and other stakeholders whom this proposal would impact to further evaluate the effect these regulations would have.

Fish Feeding Regulations

Alternative 3

- New regulation would prohibit feeding of fish, sharks, or other marine species while diving **and/or** from any vessel

Background

- Current state regulations don't extend into federal waters
- FWC regulations only apply while divers are in the water



Photo courtesy: NOAA

The final sanctuary-wide proposed regulation that will be discussed today relates to fish feeding. Alternative 3 would implement a new regulation to clarify prohibitions specific to the practice of fish feeding. The act of fish feeding has been shown to change the behavior of fish, sharks, and other animals and has caused human safety issues. In addition to human safety issues, recreational fish feeding has been shown to increase the frequency of predation of fish being fed and may cause fish to become malnourished, stressed, and even cause death. To address the potential impact that the feeding of fish, sharks, or other marine species poses for human safety, the environment, and changes in behavior of such species, NOAA would update its regulations to prohibit the feeding of fish, sharks, and other marine species from any vessel AND/OR while diving. Currently, there are regulations in state waters that prohibit the act of fish feeding while diving, but no such regulations exist in federal waters of FKNMS. FWC defines fish feeding as “the introduction of any food or other substance into the water by a diver for the purpose of feeding or attracting marine species, except for the purpose of harvesting such marine species as otherwise allowed by rules of the Florida Fish and Wildlife and Conservation Commission.”

Fish Feeding Regulations

Considerations

- Does not impact ability to chum
- Shore-based fish feeding would not be impacted
- NOAA's preferred alternative is slightly more restrictive than FWC regulations

Initial Staff Thoughts

- Supportive of prohibition of fish feeding while diving
- Need more information regarding feeding from vessels



Some considerations related to the fish feeding proposal is that this proposed regulation would not impact fishers ability to chum with live or dead bait. Another important consideration is that shore-based fish feeding, which is popular in the Keys, would not be impacted. It should be noted that Alternative 3 is slightly more restrictive than the current state regulations. The FWC fish feeding prohibition is only applicable with divers in the water, whereas the FKNMS rule language denotes the practice of feeding fish while diving AND/OR from a vessel. In the past, FWC has supported and advocated for federal legislation that would prohibit fish feeding in federal waters and is similar to current FWC rules. FWC staff are supportive of the proposed regulations as it pertains to diving. However, additional data is required to further evaluate the additional restriction proposed by FKNMS as it relates to feeding of marine species from vessels.

Protection of Large, Contiguous Habitat

Tortugas

- Tortugas Spawning Corridor Sanctuary Preservation Area

Middle Keys

- Long Key Tennessee Reef Sanctuary Preservation Area

Upper Keys

- Carysfort Reef Sanctuary Preservation Area



Photo by: Beata Lerman

The next few slides will cover the topic of large, contiguous habitats. The FKNMS has proposed 3 separate areas for added protection, including the Dry Tortugas Spawning Corridor SPA in the Lower Keys, Long Key Tennessee Reef SPA in the Middle Keys, and Carysfort Reef SPA in the Upper Keys. Each proposal will be discussed in detail over the next several slides.

Protection of Large, Contiguous Habitat – Tortugas Corridor

Alternative 3

- Create Sanctuary Preservation Area between Dry Tortugas National Park and Tortugas Ecological Reserve South
 - Regulations include no fishing, no anchoring, and idle speed zone

Background

- Migration corridor between DTNP and Riley's Hump for spawning mutton snapper

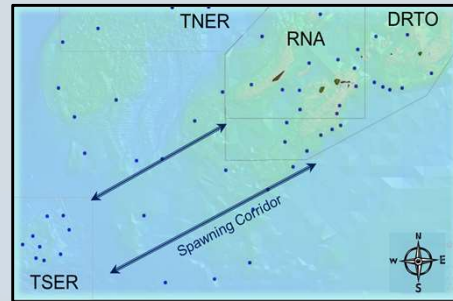


Photo courtesy: Chris Parsons

Alternative 3 (as well as alternative 2) would create the Tortugas Corridor Sanctuary Preservation Area (39.10 sq. miles) with existing SPA regulations, which prohibit touching or anchoring on coral and fishing. In addition, new SPA regulations would prohibit anchoring entirely and idle speed would be required within the proposed Tortugas Corridor SPA. NOAA's Alternative 3 aims to provide direct beneficial impacts through protection of fish species that transit through the Tortugas Corridor and to reduce damage to benthic habitats caused by anchors. Research from FWRI staff has illustrated that the Tortugas corridor serves as a migratory corridor between Dry Tortugas National Park and Tortugas Ecological Reserve South (Riley's Hump) for spawning mutton snapper. Additional research by FWRI has shown that Riley's Hump is a multi-species aggregation sites for other species such as black grouper, scamp, ocean triggerfish, and cubera snapper. Spawning in the Dry Tortugas region is likely supplying recruits to reef fish populations throughout southern Florida, including the Dry Tortugas and Florida Keys reef tract, coastal bays along the West Florida Shelf, and along the east coast of Florida north of Miami.

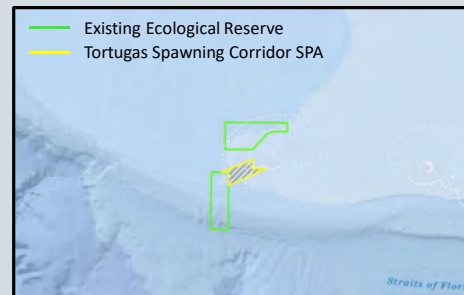
Protection of Large, Contiguous Habitat – Tortugas Corridor

Considerations

- Aggregations at Riley's Hump recovered under existing management (closure)
- May be an important area for fishing

Initial Staff Thoughts

- Unknown whether additional closure would cause increase in populations of mutton snapper
- Staff leaning towards status quo



Spawning aggregations of mutton snapper at Riley's Hump in Tortugas Ecological Reserve South have been shown to recover under existing management of the region. Given the recovery of mutton snapper following closures in the Tortugas region, it is evident that protecting spawning aggregations can have beneficial impacts to populations of fishes throughout the area. The Tortugas Corridor protects a known fish spawning corridor between Tortugas Ecological Reserve South and Dry Tortugas National Park that connects important spawning, nursery, juvenile, and adult fish habitat needed to sustain large populations of commercially and ecologically important fish and invertebrate species. Therefore, protecting areas that fish transit during spawning migrations could serve as an additional safeguard for mutton snapper populations. However, it is unknown whether this additional closure would increase populations of mutton snapper and the proposal needs to be further evaluated to determine the impact that such closures would have not only on mutton snapper populations, but also the amount of fishers that would be impacted by the proposed Tortugas Spawning Corridor SPA.

Protection of Large, Contiguous Habitat – Middle/Upper Keys

Long Key Tennessee Reef

- Creation of SPA from Long Key State Park to Tennessee Reef with idle speed and no anchoring restrictions

Carysfort Reef

- Expansion of Carysfort Reef SPA from shoreline to deepwater habitat of Carysfort Reef (Alternative 4)

Background

- Long Key Tennessee Reef
 - Important nursery area for juvenile fishes and high connectivity with Florida Bay
- Carysfort Reef
 - Encompasses multiple habitat types that would protect fishes throughout their life cycle



Two areas identified by the Sanctuary Advisory Council for protection of large, contiguous habitat includes Long Key Tennessee Reef in the Middle Keys and Carysfort Reef in the Upper Keys. In the Middle Keys, a small Conservation Area (CA) currently exists in federal waters near Tennessee Reef, which has a transit only regulation. Alternative 3 proposes to expand the CA seaward from 0.2 sq. miles to 0.7 sq. miles. Additionally, Alternative 3 would create a Sanctuary Preservation Area (SPA) from Long Key State Park in state waters to Tennessee Reef (9.6 sq. miles) with regulations including idle speed and no anchoring. Relative to Carysfort, Alternative 4 would modify the existing Carysfort Reef SPA (2 sq. miles) and extend the zone to the shoreline and slightly offshore (13 sq. miles). Carysfort Reef SPA would be a no anchor and idle speed zone under Alternative 4. Both proposals would protect large, contiguous, interconnected seagrass, shallow hardbottom, aggregate patch reef, and deep spur-and-groove reef habitats. This would provide some protection to encompass entire life cycles of fish and invertebrates as they grow and move from nearshore waters to offshore habitats. Protection of these areas and application of existing and proposed new SPA regulations would have a beneficial impact on the habitats and associated wildlife in this area by avoiding adverse impacts associated with human use of this area, including anchoring.

Carysfort Reef SPA historically supported large assemblages of ESA-listed staghorn coral, is currently a target for coral restoration, and an important research site to evaluate how changes in environmental conditions impact coral reef ecosystems. The area has some of the best developed spur-and-groove reef system in the Upper Keys, which formerly supported extensive thickets of ESA-listed elkhorn/staghorn corals and diverse deep-water reef habitats. Carysfort Reef is currently the largest restoration site for ESA-listed elkhorn/staghorn coral in the Florida Keys. Expanding the Carysfort Reef SPA would add protection to multiple habitat types, including mangrove, seagrass, and hardbottom habitats, which would protect fishes and invertebrates throughout their life cycles. Furthermore, the expanded area would encompass a historic black grouper spawning aggregation site.

Protection of Large, Contiguous Habitat – Middle/Upper Keys

Considerations

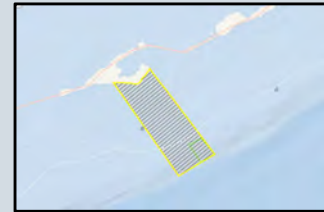
- Major changes to public access
- Hawk Channel idle speed zone included despite being a major thoroughfare
- Inshore fishing important

Initial Staff Thoughts

- Research supports large area protection
- No anchor, idle speed only in portions of areas
- Catch and release fishing along shoreline
- Consider modifications to accomplish goals
 - Locations
 - Changes to minimize access restrictions



Long Key Tennessee Reef



Carysfort Reef



The protection of large, contiguous habitat at Long Key Tennessee Reef and Carysfort Reef has many factors to consider relative to each location. Both would include major changes to public access, which would prohibit fishing and anchoring within each proposed SPA. Furthermore, there would be an idle speed zone, consistent with FKNMS SPA regulations, in each of these large habitats. The idle speed zone, specifically through Hawk Channel, has generated some opposition as the area is a major maritime transit zone and is relatively deep. As such, FWC staff recommends idle speed and no anchor zones should be considered only in portions of the large, contiguous habitats. Relative to Long Key Tennessee Reef, the inshore areas are seasonal fishing grounds for tarpon as they migrate through channels adjacent to the proposed SPA. Relative to Carysfort Reef, both the inshore and offshore areas are seasonal fishing grounds for some stakeholders. As a result, there is some opposition from fishers who use these areas. At Long Key Tennessee Reef, catch and release fishing along the shoreline should be considered. Planned stakeholder meetings will allow for FWC staff to evaluate the impact of fishing restrictions at Carysfort Reef. FWC staff have been supportive of large area protection. These large protected areas contain several habitats that interact ecologically, and allow for more holistic conservation. The interactions between different habitats in large areas occur without many of the problems associated with smaller protected areas, where connectivity between habitats is often affected by human activities. However, given the impact on restricting stakeholder use in these areas, other locations and changes should be considered to ameliorate access to these popular areas.

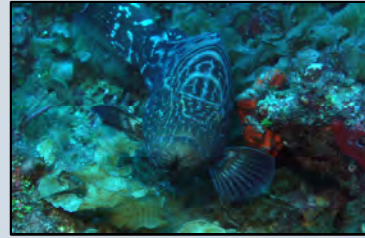
Expansion of SPAs and WSER into deeper water

Alternative 3

- Expand Carysfort Reef SPA, Alligator Reef SPA, Tennessee Reef Special Use Area, and Western Sambo Ecological Reserve (WSER) into deeper water

Background

- Aims to protect underrepresented deepwater, benthic habitat
- Historic black grouper spawning aggregation site at Carysfort Reef
- Lobster and fish spawning habitat



The next set of topics involves the expansion of protected habitat into deeper water at four locations: Carysfort Reef SPA, Alligator Reef SPA, Tennessee Reef Special Use Area, and Western Sambo Ecological Reserve. The goal for this type of proposal is to protect benthic habitat that is not well protected under current FKNMS marine zoning. Each area is different from one another, but the benthic habitat in these areas is important for the numerous species that rely on it. Much of the background information regarding the increased measure of protection for fish and invertebrates comes from FWC research. For example, acoustically tagged female lobsters routinely made spawning migrations from the patch reefs and the spur-and-groove forereef within Western Sambo Ecological Reserve out to the deep and outlier reefs. Once they spawned, typically within a few days of arriving at the outlier reefs, they returned to the reefs that they left. Many females, especially larger ones, conducted multiple spawning migrations. Furthermore, FWRI research determined that some home ranges of groupers and snappers incorporate the shallow reef and the adjacent deep reef. As a result, the proposed expansion would protect these fishes throughout their life cycle. Additional research has also shown that black grouper form spawning aggregations off of Carysfort Reef in areas that are not currently protected and mutton/cubera snapper aggregate in reefs adjacent to Carysfort Reef. These sites are important to fisheries populations and the larger reef community within the Keys and SE Florida.

Expansion of SPAs and WSER into deeper water

Considerations

- Presence of ESA-listed coral species
- Presence of coral species highly susceptible to Stony Coral Tissue Loss Disease (SCTLD)
- Fairly low incidence of SCTLD

Initial Staff Thoughts

- Conceptually supported

Carysfort Reef



Alligator Reef



Tennessee Reef
Special Use Area



Western Sambo
Ecological Reserve



Of the four locations where additional protections are proposed in deepwater habitats, only WSER is in state waters. Overall, there is broad support amongst the scientific community for this proposal. At each location, research conducted by FWC documented the presence of Endangered Species Act (ESA)-listed coral species. Furthermore, there were coral species at each location that are considered the most highly susceptible to Stony Coral Tissue Loss Disease, which has decimated stony coral populations along the Florida Reef Tract since 2014. A fairly low incidence of disease was observed at each of these four areas. However, a considerable amount of marine debris was found at each location, especially trap rope and monofilament. Corals and other species can reproduce and provide eggs to repopulate other areas that have been previously degraded. The added protection of each area would not only impact the benthic habitats, but also the species that rely on them. To this point, some fishermen support this expansion because of the “spillover effect” that has been documented in at Western Sambo Ecological Reserve, in which larger lobsters are observed outside the existing boundary. Several of these locations are known spawning aggregation sites for black grouper and spiny lobster. Under Alternative 3, these species would be allowed to reproduce with no fishing pressure. However, FWC staff recognizes the importance of some of these areas for fishing, specifically for sailfish. Discussions are required with stakeholders and scientists to further evaluate the benefits of protection relative to impacts of access. Each location would need to be evaluated on a case-by-case basis and staff will report back at the February Commission meeting with our findings after meeting with stakeholders and scientists.

Limited Access to Carysfort, Sombrero, and Sand Key SPAs

Alternative 3

- Proposes to limit number of divers at three SPAs
- Accomplish diver management by making locations accessible through Blue Star operators only

Background

- High-use reefs
 - Degraded by continued diver access
- Blue Star operators trained in ecologically-friendly practices

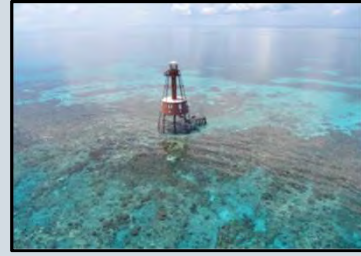


Photo courtesy: NOAA

The FKNMS has selected three Sanctuary Preservation Areas, Carysfort Reef, Sombrero Reef, and Sand Key, to develop procedures to manage the number of divers that can dive within those SPAs at any one time. Alternative 3 proposes to accomplish diver management at these locations by making them accessible by Blue Star Dive Operators only. Blue Star Dive Operators have completed extra training with the FKNMS and commit to a high level of conservation management in their daily operations. Studies indicate that customers diving with a Blue Star operator are 2.5 times less likely to contact the reef compared to divers with non-Blue Star operators. As many as 77 vessels per day, nearly all of them dive vessels, were observed within these 3 SPAs during aerial surveys conducted in the Sanctuary by FWRI. An increasing body of knowledge recognizes that non-consumptive divers and snorkelers interact with and impact the reef more than previously believed. Increasingly common statements made by stakeholders in the FKNMS highlight that these areas are being overwhelmed with people, which led the FKNMS to propose this approach to diver management. This action is also designed to enhance the visitor experience at these reefs by reducing overcrowding at peak use periods. These reefs are also slated as high priority locations for coral restoration.

Limited Access to Carysfort, Sombrero, and Sand Key SPAs

Considerations

- Intent to limit overuse of popular reefs
- General stakeholder acknowledgement that the reefs are overcrowded
- Confusion over whether public is excluded from area

Initial Staff Thoughts

- Work with stakeholders and FKNMS to conduct research and develop an effective plan to manage diver access

Carysfort SPA Limited Access



Sombrero SPA Limited Access



Sand Key SPA Limited Access



While the intent of this proposal is to limit overuse of Carysfort Reef, Sombrero Reef, and Sand Key Reef, there has been confusion about whether the general public will have access to these reefs. Since this feedback has occurred, the FKNMS has clarified their intent to manage diver access and not eliminate private recreational users. This management action is the first attempt to manage diver access and to consider the role that divers may play in the changes observed in the Keys ecosystem. FWC staff recognizes that there is a growing body of evidence that continued overuse of reefs contributes to their decline and this is an issue that needs to be addressed. Given that the intent of this management action is to find ways to manage diver access on these high-use areas, and that the Sanctuary has worked to clarify their intent relative to public access based on public response, this could be an opportunity for the FWC to conduct additional research and work with stakeholders and FKNMS to develop an effective management plan.

Key Largo Management Area

Alternative 3

- Restrict anchoring within the Key Largo Management Area (132 sq. miles)

Background

- Aims to protect benthic habitat and species that inhabit these areas
- 60% of sites in Upper Keys had anchor damage during lobster sport season
- Dive operators removing debris noted anchors as one of most common items recovered from Upper Keys

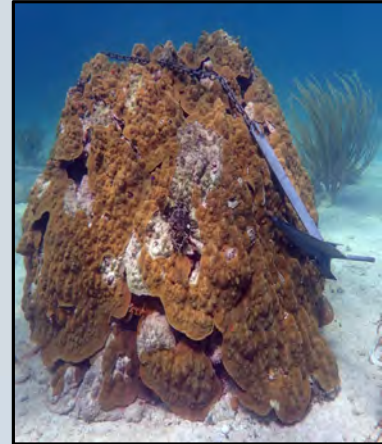


Photo courtesy: NOAA

Moving on to the Upper Keys, Alternative 3 proposes to prohibit anchoring in the Key Largo Management Area (132 sq. miles). The proposed anchoring restriction in Key Largo Management Area aims to provide long-term benefits to corals and hardbottom habitats as well as species that inhabit, forage in or transit through this large area. Research has shown that there is a high frequency of fragmented corals in Upper Keys high-use reefs and that 60% of sites in the Upper Keys had anchor damage during lobster sport season. Dive operators removing debris noted anchors as the most common item recovered from the Upper Keys. Additional research at sites in the Lower Florida Keys has observed that 20% of staghorn corals had damage caused by anchors.

Key Largo Management Area

Considerations

- Popular fishing area
- Stakeholder concerns that anchoring could be displaced to John Pennekamp Coral Reef State Park

Initial Staff Thoughts

- Too large an area to prohibit anchoring
 - Restricts access to bottom fishers and divers
- Work with stakeholders on ways to address anchor damage concerns



When considering the proposed anchoring restriction throughout the Key Largo Management, it is important to understand how that will impact stakeholder access and the potential ramifications for the anchoring restriction. This area is popular for fishing and a prohibition of anchoring would likely impact fishers targeting bottom fish. However, drift fishing and trolling motors are practices routinely used by fishers and might serve as a viable alternative. The proposed area in question resides in federal waters, but stakeholders have raised concerns that anchoring may be shifted to adjacent areas of state waters including John Pennekamp Coral Reef State Park. FWC staff believe that the 132 square miles of the Key Largo Management Area is too large to prohibit anchoring as it will severely restrict access to bottom fishers and divers. FWC staff will work with stakeholders on ways to address anchor damage concerns.

Backcountry Wildlife Management Areas – Lower Keys

Alternative 3

- New Wildlife Management Areas (WMAs)
- Modify zones/regulations at some existing WMAs
- Regulations range from no-entry, no-motor, idle speed, and no-anchor zones

Background

- Aims to protect a variety of habitats



Another set of proposals focuses on protections to backcountry Wildlife Management Areas (WMA) in the Lower Keys. Alternative 3 would create new WMAs and modify the marine zones/regulations at some existing WMAs. Regulations for WMAs would vary by zone to protect seagrass, hardbottom, and other critical shallow water habitats and associated wildlife, including fish, birds, and sea turtles. The access restrictions proposed to be implemented in each WMA, pertaining to the specific resource protection goals at each location, would include potential regulations of idle speed/no-wake, no-motor, no-anchor, and no-entry zones. Most WMAs in the backcountry, if surrounding an island, follow the contour of the island and include the waters 100 yards offshore. Wading bird populations in south Florida have significantly declined and boat traffic near rookeries can flush adult birds from nests, leaving their chicks vulnerable to predation or exposure. In a white paper, FWC avian scientists concluded “that although some species may become habituated to certain disturbances over time and not all disturbances negatively affect population growth, the potential serious effects of disturbance and the large variability in response among species and individuals warrants a conservative approach to setting buffers and setback distances.” Additionally, some of the proposed areas also protect sea turtle nesting beaches from human impact. The lower Keys Backcountry WMAs are mostly located within one of the National Wildlife Refuges and are designed to assist the Fish and Wildlife Service with their management responsibilities. Many of these WMAs are similar to the goals and management in FWC Critical Wildlife Areas. Overall, a variety of habitats would be protected.

Backcountry Wildlife Management Areas – Lower Keys

Considerations

- Each WMA needs to be considered on a case-by-case basis
- Understand impacts of increased benefits relative to access restrictions

Initial Staff Thoughts

- Work with stakeholders to evaluate impacts at each WMA
- FWC could consider Critical Wildlife Areas (CWAs)



Photo courtesy: Nick Zachar/NOAA

Given the number of proposed new or modified WMAs in the backcountry of the Lower Keys, each one needs to be considered on a case-by-case basis. The management actions proposed for these modified or new WMAs are designed to meet the resource protection goals set by the Sanctuary Advisory Council and the FKNMS Protection Act, and to meet the policies and purposes of the national wildlife refuges. Several of the proposed WMAs support populations of federally protected endangered and threatened and state threatened species. For example, the Miami-blue butterfly, listed federally as an endangered species, occurs at the proposed Marquesas Keys, Boca Grande Key, and Snipe Keys WMAs. One island in the Saddlebunch Keys supports the largest breeding colony of the state-threatened reddish egret. As public comment arrives to the FKNMS and to FWC, staff will evaluate specific details and benefits of the proposed plans relative to stakeholder use. In some areas, the degree to which activities will be impacted at various WMA locations can be evaluated using the aerial survey research performed by FWRI in 2018. Furthermore, FWC staff have determined the importance of specific locations within the Restoration Blueprint to reddish egret populations and this type of information will be utilized along with outcomes of discussions with stakeholders to better understand the impacts at each WMA. Another potential strategy to consider is for FWC to designate these areas as Critical Wildlife Areas (CWAs).

Western Dry Rocks Wildlife Management Area

Alternative 3

- Prohibits fishing and anchoring within Western Dry Rocks (2.24 sq. miles)
 - Exemption for “trolling”

Background

- Multi-species spawning aggregations known to occur at Western Dry Rocks
- Aggregations protected elsewhere have recovered
- Well-developed continuous reef with high coral cover and diversity



Species	J	F	M	A	M	J	J	A	S	O	N	D
Black grouper												
Scamp												
Nassau grouper												
Gag grouper												
Red hind												
Yellowtail snapper												
Mutton snapper												
Gray snapper												
Schoolmaster												
Atlantic spadefish												
Permit												

Another area in the Lower Keys that we would like to discuss today is the proposed Western Dry Rocks Wildlife Management Area, which would create a protected area around Western Dry Rocks (2.24 sq. miles). Western Dry Rocks is an important fishing area and this proposal would prohibit fishing and anchoring within the WMA to meet one goal by the FKNMS to protect benthic habitat and fish spawning aggregations. However, there would be an exemption for “trolling” within the WMA. NOAA’s preferred alternative is intended to balance emphasis on resource protection and stakeholder use. The proposed regulation would protect an area of well-developed, continuous reef, with both inshore and deep reef areas having high coral cover and diversity. Protection would provide direct beneficial impacts to habitats and wildlife, particularly multiple fish species, which use this area for spawning. Western Dry Rocks is an important multi-species aggregation site for mutton snapper, grey snapper, mahogany snapper, permit, goatfish, spadefish and black grouper. Many of these species spawn at different times of the year. For example, many snappers spawn in the summer whereas black grouper peak spawning occurs in the winter and early spring, as depicted in the figure.

Law Enforcement

Issue to be addressed

- Not enough FWC LE officers monitoring and enforcing the regulations of the current FKNMS zones

Background

- Currently 56 LE positions assigned to Monroe County to enforce regulations in the FKNMS
- Historically, FWC had as many as 17 dedicated FKNMS positions funded by NOAA



Although not specifically addressed in the Restoration Blueprint, law enforcement issues are a source of concern during this FKNMS process, which needs to be addressed in concert with the proposed Sanctuary expansion and any additional regulations. Presently, there are not enough FWC law enforcement officers to monitor and enforce the regulations of the current FKNMS zones. Currently there are 56 law enforcement positions assigned to Monroe County to patrol the 3,800 square miles within the FKNMS, including 1 Captain, 7 Lieutenants, 1 pilot, 4 investigators, and 43 Officers. Historically, FWC had as many as 17 dedicated FKNMS positions funded by NOAA. However, some of the positions were cut due to budget cuts from NOAA and others were absorbed.

Law Enforcement

Considerations

- Major public concern
- At this time, no additional funds or resources to increase FWC officers in the area

Initial Staff Thoughts

- Addition or modification of zones will make regulations more challenging to enforce
- Additional LE patrol officers and equipment needed



Consistently at FKNMS stakeholder meetings, the issue of a lack of law enforcement has been a major concern. At this time, there is no mention of additional funds or resources to be allocated to Law Enforcement to increase their presence throughout the FKNMS. With the FKNMS proposed to be expanded by more than 700 square miles and many new areas and zones being added or modified, there would be a significant lack of staffing to provide sufficient patrols. Furthermore, depending on the alternative marine zone boundaries, they have the potential to increase from 57 to 96 zones and this would place a strain on effective enforcement patrols without an increase in law enforcement officers or additional equipment. FWC staff believe that additional funds and resources dedicated to law enforcement is needed to adequately protect the resources of the FKNMS.

South Atlantic Fishery Management Council Update

- Considering rulemaking for federal waters
- Recommended cooperative fisheries management agreement be updated now
- Indicated preference for FWC taking the lead
- Will discuss in March 2020 after hearing outcome of FWC February meeting



The South Atlantic Fishery Management Council met in Wilmington, NC on Dec. 2–5, where the FKNMS Restoration Blueprint was discussed. At the meeting, the Council discussed their role as fisheries managers in relation to the FKNMS and determined they intend to assert their authority to implement fishing regulations in Atlantic federal waters of the FKNMS. They recommended the cooperative fisheries management agreement be updated as soon as possible. Further, they indicated a preference for FWC taking the lead in proposing and recommending fishing regulations for the FKNMS, and expressed willingness to consider complementary regulations in federal waters, which they believe is in line with the original cooperative fisheries management agreement. The Council will continue their discussion on the FKNMS and develop comments on the Restoration Blueprint at their March 2020 meeting after learning the outcome of the February 2020 FWC Commission meeting.

Wrap Up

FWC Role in Regulatory Process

- Today – Gather Commission input on FKNMS topics
- Continue to gather stakeholder comments
- February Commission meeting – Final Commission review of FKNMS items
- April 2020 – FWC submit comments to FKNMS

Does FWC want to consider fisheries rulemaking on some of these items?

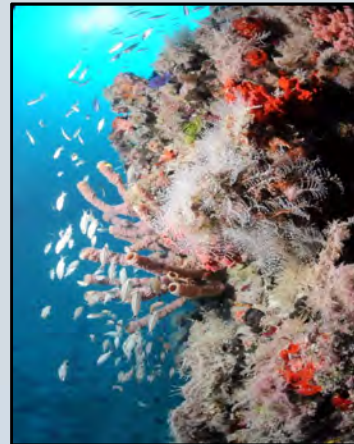


Photo courtesy: NOAA

That finishes our walkthrough of several important issues that the Commission will have to consider prior to drafting our agency comment. At this Commission meeting, FWC staff are looking for Commission direction on components of the FKNMS DEIS. Once the public comment period for FKNMS has ended on January 31 and FWC staff have held planned meetings with stakeholders, FWC will review the science and the range of public comments received. FWC has received an extension for the agency comments until the end of April. FWC will be meeting with organizations in the coming weeks and reviewing the input to the Sanctuary. FWC staff will continue to coordinate with our federal fishery management councils, whom have also requested an extension in the public comment period due to the breadth of the topics contained within the DEIS. At the February 2020 Commission meeting, FWC staff will again present on the FKNMS to provide more information pertaining to the science and stakeholder comments received such that the Commission can prepare agency comments to submit to the FKNMS. Does FWC want to consider fisheries rulemaking on some of the items or areas of the plan?

FKNMS Proposed Actions

1. Sanctuary boundary expansion
2. Baitfish permits
3. Fish feeding regulations
4. Protect large, contiguous habitat
5. Expand some Sanctuary Preservation Areas (SPAs) and Western Sambo Ecological Reserve into deeper water
6. Limited access to Carysfort, Sombrero, and Sand Keys SPAs
7. Key Largo Management Area (no anchor zone)
8. Western Dry Rocks Wildlife Management Area (WMA)
9. Backcountry WMAs
10. Law Enforcement



Commission direction is welcome on these topics.