

# Fisheries and Conservation in the SE Florida Coral Reef Ecosystem Conservation Area (ECA): A New Stakeholder Process

# **Public Meeting #2**

### Virtual meeting via Zoom

### 6-8 pm, August 23rd, 2022

**Summary**

Overview

On Tuesday, August 23rd the second Public Meeting for “Fisheries and Conservation in the SE Florida Coral Reef Ecosystem C Conservation Area (ECA): A New Stakeholder Process” was held virtually via Zoom. This public meeting followed thirteen Fisheries Committee meetings that began in June 2020. Project principal investigator Kai Lorenzen, facilitator Joy Hazell, project coordinator and online producer Susana Hervas hosted the meeting.

Fifty-two stakeholders attended, including two Florida Fish and Wildlife Conservation Commission staff, and three Florida Department of Environmental Protection employees, who compose the Project Team; nine Committee members; and thirty-five members of the public.

|  |  |
| --- | --- |
| Al Asber | Public |
| Ana Zangroniz | Public |
| April Price | Committee |
| bruce marx | Committee |
| Ed Olsen | Committee |
| Caitlin Lustic | Public |
| Captain Dan Kipnis | Committee |
| Captain Wayne Conn | Public |
| David Vance | Public |
| Derek Cox | FWC |
| Elizabeth Filippelli | Public |
| Erick Ault | FWC |
| Erik Neugaard | Public |
| Fletcher Hallett | Public |
| Gary Jennings | Committee |
| George Fco | Public |
| Jimbo | Public |
| John Sprague | Committee |
| Joy Hazell | UF |
| J Reed | Public |
| Kai Lorenzen | UF |
| Katherine Canfield | Public |
| Kathy | Public |
| Kathy Fitz | Public |
| Katie Lizza | FDEP |
| Kellie Ralston | Public |
| Krissy Hewes Wiborg | Public |
| Kurtis Gregg | Public |
| Leneita Fix | Public |
| Martha Guyas | Public |
| Martin Arostegui | Committee |
| Meghan Blancher | Public |
| Melissa Sathe | Public |
| Michael Dixon | Public |
| Mitchell Roffer | Public |
| Mollie Sinnott | FDEP |
| Nyla Pipes | Public |
| Pamela Fletcher | Public |
| Patience Cohn | Committee |
| Rachel Skubel | FDEP |
| Raffaella Zinck | Public |
| Scott Salyers | Public |
| Scott Sheckman | Public |
| Stacy Brown | Public |
| Susana Hervas | UF |
| tacos | Public |
| Tom Twyford | Committee |
| Tyler Chappell | Public |
| xxx-xxx-xxxx (entered via phone) | Public |
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| xxx-xxx-xxxx (entered via phone) | Public |
| xxx-xxx-xxxx (entered via phone) | Public |

The meeting objective was to:

* Obtain feedback on draft recommendations developed by the committee for potential fisheries and environmental management actions to enhance coral reef ecosystem conservation and fishing quality in the Coral ECA.

Welcome and Project Presentation

The facilitator presented the agenda, objectives, group norms, described opportunities for input, and clarified expectations for the meeting. Following this, the project principal investigator presented a project overview and the set of draft recommendations, and it finished with a short session of Q&A (PowerPoint presentation in Appendix A).

Below is the list of 52 draft recommendation and other considerations:

# **WATER**

**HERBICIDES**

* Encourage the state and municipalities to continue their exploration of alternative methods of herbicide use in state managed waterbodies. (meeting 10.1)
* Create an education program led by municipalities for homeowners and homeowner association to reduce herbicide use and adopt herbicide best practices. (meeting 10.1)
* Encourage state to lead by example by reducing herbicide use and adopting best practices. (meeting 10.1)
* Encourage agencies to transition to mechanical harvest of nuisance vegetation and find uses for the harvested materials. (meeting 10.2)
* Contracts for sprayers must include the installation of a GPS system on the guns that tracks and records herbicide use to create an interactive map with herbicide type and acreage. (meeting 12.2)

**FERTILIZERS**

* Educate homeowners to reduce use of fertilizer. (meeting 10.1)
* Ensure that municipalities and state use education campaigns for fertilizer regulation updates. (meeting 12.1)
* Reduce overall use of herbicide. (meeting 12.1)
* Encourage local governments and municipalities to create or enforce rules that will decrease amount of fertilizer being utilized that ends up in canals and waterways. (meeting 12.1/12.2)

**CANALS**

* Consider use of triploid carp for vegetation control in canals. (meeting 10.2/12.2)
* Encourage municipalities to mitigate pollution from canals. (meeting 12.1)

**LAKE OKEECHOBEE**

* Prioritize cleaning up Lake Okeechobee. (meeting 10.1)

**SEPTIC SEWER**

* Prioritize and incentivize septic to sewer conversion in areas close to water systems (e.g. tax rebate, funding, community efforts) (meeting 10.1)
* Find government financial assistance and/or creative marketing (e.g. lottery) where local municipalities/counties could match the funding for septic to sewer conversion. (meeting 10.2)
* Encourage municipalities with aging sewer systems to upgrade infrastructure. (meeting 10.2)
* Compile a database of septic to sewer conversion incentive programs. (meeting 10.2)
* Encourage full implementation of the Clean Waterways Act. (meeting 12.2)

**RUNOFF**

* Improve run off filtration from roads. (meeting 10.1)

**AGRICULTURAL ACCOUNTABILITY**

* Improve monitoring and enforcement of agricultural industry best management practices. (meeting 10.2)

**WATER TREATMENT**

* Explore proven ways of treating wastewater naturally where feasible (e.g. use of wetlands) (meeting 10.2)
* Recycle wastewater for irrigation. (meeting 12.1)
* Bivalve and seagrass restoration in estuaries for water filtration. (meeting 12.1)

**PHARMACEUTICALS**

* Continue to explore and prioritize innovative additional wastewater treatment options to address pharmaceuticals and other contaminants of emerging concern. (meeting 12.2)
* Develop a system - involving education and enforcement - for municipalities to implement to avoid medications from being disposed through the sewage system (meeting 12.2)

# **FISHERIES & BOATING**

**ARTIFICIAL REEFS**

* Deploy more artificial reefs near the natural reef (not on it), in depth zones and inshore to make habitat for different life stages and sizes of reef fish, spawning bottom fish and baitfish, respectively. (meeting 10.1)
* Shorten permit times for artificial reef deployment. (meeting 10.1)
* Encourage permitting agencies to incorporate innovative mooring block designs that serve a dual purpose as both a stable mooring for vessels and as artificial reef habitat when permitting new managed mooring fields in locations where invertebrate and fish recruitment is likely to occur. (meeting 11.2)
* Encourage the establishment of strategic waterfront staging areas for the storage of artificial reef materials, reef construction and artificial reef loading. (meeting 11.2)
* Encourage the development and experimentation of innovative artificial reef designs using approved materials that improves the likelihood of coral recruitment, both nearshore and offshore. (meeting 11.2)
* Use varying cement structures such as tetrahedrons and darts for vertical relief. (meeting 10.1/12.2)
* Continue to fund and enhance the state artificial reef program. (meeting 11.2)

**LOBSTER TRAPS**

* Shift from longlines to single lines for lobster/crab traps. (meeting 11.1)

**ANCHORING**

* Continue to educate users with the importance of using mooring buoys and not anchoring adjacent to the buoys by using signage at boat ramps and marinas and creating other effective communication channels and technologies (e.g. social media) through agency collaborations. (meeting 10.2)
* Help find ways to provide additional funding to coastal counties that will support the installation and ongoing maintenance of day use mooring buoys. (meeting 11.2)
* Encourage the establishment of mooring fields and the development of additional pump out stations. (meeting 12.2)

**SPAWNING AGGREGATIONS**

* Research - find out what reefspecies are aggregating where on the reef so they can be protected if appropriate. (meeting 13.1)
* Create areas to protect spawning aggregations based on spawning season and location. Identify areas and species to be protected based on stock assessments and best available science. In such areas, only restrict recreational and commercial activities targeting reef fish species but allow pelagic fishing. (meeting 13.1)

**BAG LIMITS**

* Reevaluate bag limit regulation for reef species of concern. (meeting 13.2)

**SHARK DEPREDATION**

* Explore shark depredation and develop strategies to address it. (meeting 13.2)

# **HABITAT**

**LIVING SHORELINES**

* Use flood plain predictions to determine where we use living shorelines. (meeting 11.1)
* Replace seawalls with living seawalls/living shorelines as appropriate and add this to the new sea level rise resilience Florida law. (meeting 11.1)
* Encourage and incentivize property owners to incorporate living wall/reef on all new and repaired seawalls and docks (e.g. grants, break on permit fee, tax break). Also educate on environmental benefits and advantages to the longevity of the structure. (meeting 11.1)

**HABITAT RESTORATION**

* Promote environmental policies that will promote the regrowth of seagrass in the Bay and in the flats. (meeting 11)
* Encourage continued use of creative mitigation strategies to protect and restore seagrass. (meeting 11.1)
* Also encourage use of creative mitigation strategies to protect and restore corals. (meeting 11.1)

**POLE AND TROLL**

* Explore creation of pole and troll areas to reduce damage from boats in sensitive seagrass areas. (meeting 13.2)

# **AGENCY & PROCESSES**

**COMMUNICATION**

* Standardize names and definitions for spatial management. (meeting 10.2)
* Promote communication and collaboration across agencies to reduce bureaucracy and encourage agencies to periodically review together process efficiency. (meeting 11.1)
* Develop a communication network of key groups, such as fishing clubs, commercial and charter groups, tropical fish collectors, CCA, ASA, IGFA, captains for clean water, and recreational and commercial diving groups, (but not limited to these) to standardize and/or synthesize a process of reporting fishing information and trends to be managed by FWC. (meeting 10.2)

**DATABASE**

* Compile all projects from different agencies relating to water quality under one same database. (meeting 11.1)
* Create a primary clearing house that synthesizes existing fisheries data collection efforts from various research agencies, government entities, NGO’s, etc. that will help identify trends and will give resource managers more complete information to make future policy. (meeting 11.2)
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**ENFORCEMENT**

* Increase opportunities for boats to dispose of their waste and increase enforcement for ones who don't. (meeting 12.1)

## **Other committee considerations (Not a recommendation)**

## *Points of view on marine reserves vary widely within the committee so no draft recommendation has been created yet. Below are some considerations on spatial management and marine reserves that have been discussed by committee members.*

**SPATIAL MANAGEMENT (MARINE RESERVES)**

* Consider spatial fishing restrictions (e.g. marine reserves) only when there is scientific evidence supporting a need to protect an area, habitat, species, or spawning aggregation. Require public engagement in zoning and rule-making. Where possible use temporary measures (e.g. spawning closures) rather than permanent (year-round) restrictions. Mandate periodic reviews (e.g. every 5 years) of spatial management measures and a sunset provision to take effect unless measures are extended. Consider effects of fishing effort displacement from restricted areas and opportunities for enhancing fishing opportunities in open areas (e.g. new artificial reefs). (meeting 13.2)

Q&A

There was a Q&A section to clarify the presentation before beginning the group activity.

1. Anchoring and mooring fields. Are we talking mooring fields on reefs for diving or inland waters? Just want to make sure we are looking at inland waters as much as offshore reefs.
2. Yes, focusing on both.
3. Is outreach focused on an area or statewide? What is the reach?
4. Herbicide and fertilizer are specific for the area but some of committee members and DEP are working to the state level. Same happens with work done on septic.
5. My understanding was that this project sprung from earlier local action strategy (LAS) group called FDOU (Fishing, Diving and Other Uses) 52 SEFCRI (Southeast Florida Reef Initiative). Going through the presentation, I see it covered no fewer than a dozen of other LAS sections. We have done mooring balls and all kinds of stuff and I’m wondering exactly within CRCP is this still a FDOU 52 group? Or is this a different entity that is going back and investigating all manner of strategies to make recommendations?
6. Original OFR (Our Florida Reefs) process has concluded so this is not a continuation of that process but picks up on the fishing community engagement that did not work quite so well in that program. So, it is producing something that is separate but with a bit of overlap on recommendations that have to do with water quality and moorings which reemphasizes the importance of those areas.
7. It was initially the FDOU project but once it evolved from there, we didn’t want to limit that group, so we opened it up for the fisheries stakeholder committee. However, we plan to review these recommendations against the previous and existing LAS and all of their recommendations that came from OFR to find overlaps and any projects that have already started or have support. We haven’t gotten to that point yet but didn’t want to limit this group on their scope. The overlap will hopefully show where we have very strong support or if there are any gaps we are missing, and this will come back to SEFCRI.
8. I want to respond for any concerns he may have or anybody else on this zoom call on where we’ve been, where we are and where we are going. When this started going through the fishing community, I was concerned that I was seeing proposed public action going down on what could have been fishing closures anywhere from north of Biscayne Bay all the way up the coast. After that was stopped, I got invited to participate in this group. Not necessarily to be the spokes person of the fishing community because there’s a lot more other than me but to sit here and listen, if I have to be the watch dog, be the watch dog, and probably one of the most important things Kai said was – nothing is happening today. The beauty of what has taken place in the last year and a half up to now, is the opportunity for everybody to get involved, to know what’s going on, everyone having the opportunity to have their say, and from my personal stand point, I felt like I didn’t have that opportunity last time we went through this and I screamed holy hell about N-143 and closures. I can tell you this groups is not what it is about, and as I sit here as a member of the committee, I can endorse – I have not attended the last meeting and have not seen how everything has been worded – but this group that has been meeting has been well intentioned people. And the University of Florida group has done a great job at this thing, and the best part of this process is the word process. Everybody has a say. And maybe those who don’t have a say perhaps will have a say in the future. From the fishing point of view, things are going very well and I am learning along the way too. Important to say that Kai’s comments should be well understood that nobody is going to raise a right hand and say no this no that. There is a long process ahead and it is being marshalled through some good, smart and well-intentioned people.
9. Comment from participant asking: I want to clarify, I think this is all amazing and the collective of humans involved in this in the last year and a half is fantastic. But this went from N-146 OFR winding down. A bunch of things were passed through to SEFCRI when I started. SEFCRI did a good year and a half of work where we pulled in the neighborhood of a dozen or so LAS of which FDOU (Fishing, diving and other uses – one of major categories of stuff) FDOU 52 was where the meat of this was. There was the pandemic and stony coral tissue disease. On the other side of that interruption, we have this group, and I wanted to connect the dots to where we are today. It doesn’t seem to be a LAS group anymore.

Group Activity

The activity with the participants consisted of having them separated into four break out rooms where each group discussed the list of draft recommendations. All rooms were facilitated by project members and notes were also taken by project team members. The objective was to collect feedback for draft recommendations, so each group was shown the list of recommendations and they were prompted to make comments. The activity lasted one hour, and each note taker reported out after the activity. Below are the summaries of what was shared in each group:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Group 1 | Group 2 | Group 3 | Group 4 |
| **WATER** | | | | |
| **Herbicides** |  |  | * Issues with spraying. Habitat is being destroyed by the spraying. What’s the difference between FWC making recommendation and others? What can be done here at other levels than going to the government? What’s the potential here for this to get done? Concerned about achieving these recommendations. He wants to see something happen. Need more support than 43 people to move this forward. Expressed wanting quicker action. * Excellent list. Taken a lot of time and thought. Supports everything |  |
| **Fertilizers** |  | * Include pesticides * Encourage regenerative gardening/landscaping and permaculture – to lower fertilizer and pesticide use * Consider homeowners, golf courses and businesses’ effect on fertilizer, herbicides and pesticide implications in the waterways. * Education on fertilizer, herbicide and pesticide could be combined * Try to educate lawn service folks, commercial companies. * “Florida friendly landscaping” (Broward county) is already a state wide program * Encourage commercial sales to include signage on sale of fertilizers. If it is illegal on a season, it should be notified to the consumer. |  |  |
| **Canals** |  |  |  |  |
| **Lake Okeechobee** |  |  |  |  |
| **Septic Sewer** |  | * Worth pursuing – MD and KB districts – lot of folks on septic. * Find federal funds for environmental purposes to qualify. Cleaning septic tanks would be a huge investment. Put more pressure for government funding. * There is a wastewater inventory – on the Department of Health website. It’s a clickable map where you can get an idea of sewage pollution. Dr. Lapointe has done work throughout the state including SE FL. | * Switching to sewage results in dumping water onto the reefs. Cost of moving outfall offshore further costs a lot of money. Water samples coming out of the outfalls have pathogens. Surprised people are fishing there. Need to address this in terms of public health. People are fishing in areas near discharge points. Concerns for people taking these fish home and consuming them. Wants to see support for pushing the outfalls out further. A lot of fish caught at the outfalls. Send discharge and outfalls out into 600 to 800 feet of water versus right onto the reefs. Seamount in 500 feet of water—result from dredging -anglers fishing there. Push the pipeline out and what would happen if they did this. Can the reef restore itself by moving the outfalls |  |
| **Runoff** |  |  |  |  |
| **Agricultural accountability** |  |  |  |  |
| **Water treatment** | * Deadline to close all of the sewage outfall pipes that pump our treated affluent including pharmaceuticals – hold that deadline and essentially closing (could be open in emergency situations) sewage outfall pipes, 9 or 11 if the coral ECA range – option was to treat affluent to a much higher standard or to shut the pipes all together. Hold the deadline to 2025. No one can agree what should be done with affluent. Drive towards what that real solution looks like. |  |  |  |
| **Pharmaceuticals** |  |  |  |  |
| **FISHERIES & BOATING** | | | | |
| **Artificial Reefs** | * Palm Beach County had the most pre-permitted area available for artificial reef permit, cutting through a lot of the red tape to deployment of artificial reef – finding good locations is key – sinks into sand, need a great piece of hardbottom – working with counties to pre-permit so we just need to think about getting materials and getting it off shore is the only considerations – immediate opportunities to place good materials * Question – we are using cement – there is another way of thinking about reef materials, using a recipe product to encourage growth of coral on structures rather than inhibit coral growth * Also think about all the other stuff that grows on substrates including cement * Tarpon Bonefish Trust supports AR for destinations for fishing activities, supplementing coral loss and adding habitat | * Ensuring they are placed in zones where they are most helpful, e.g. use artificial reef types for the type of fish/zone that will benefit from it in that specific area. * Benefit of artificial reef to alleviate stress from natural reefs * Opportunities to streamline artificial reefs and be careful with materials, so they are not detrimental to environment. * Make public aware of why we are doing it. Not necessarily considered a celebration. Make it clear why these things are here. Something we need to do inshore habitat and hopefully for the resurgence of natural reef. | * involved in placing artificial reefs- instructed to make sure to install artificial reefs where there are no fish. Respect for dive boats and expect dive boats to respect him as well while on the wrecks. Doesn’t think there needs to be anymore artificial reefs. Maybe in the shallow water areas. * Thinks we need to get artificial reefs in the water in a quicker way. Thinks of artificial reefs in a different way. Several organizations like hers that are developing engineered reefs. Florida’s Coral reef is at 2% of its original coverage. Natural reefs need extra help thus artificial reefs are important for this to add substrate for coral restoration and recruitment. Intentionally engineered reef designs for coral recruitment. Permitting to get them in the water is very difficult and very slow. Being able to outplant coral on them is an even slower process. Understand we cant just let anyone with an idea put things in the water (i.e. tires). Fishermen want the living reef back and don’t want to just replace the natural reef with artificial reefs. Studies showing baby corals are more resilient. Multi-faceted issue so coral restoration along with other issues need to be addressed for success * Likes the idea to reduce the time to get reefs in. would like to see some reefs dedicated to hook and line, reef restoration | On “deploy more artificial reefs...”   * Would fine tune this a bit, we don’t typically deploy artificial reefs too close to natural. There’s the ability for fish to migrate along them, but we try to keep some distance in case there’s an issue, to avoid impacting the natural reef. We need more definition on “near.” * Would serve to take some fishing pressure off the reef, that was the intended meaning. * In Palm Beach County, we’ve had great luck with inshore reefs and species that move offshore in their lives. The more fish we can generate can go a long way with the reefs, it doesn’t hurt the natural reefs.   On “Encourage permitting agencies…”   * Working on mooring fields using helices, with smaller anchor points. Designed for up to 60ft vessels. Working on this due to repetitive chain damage to seagrass. One in Palm Beach County with a 50x50ft area void of seagrass due to damage. Lock designs are another issue. Lots of water depths are barely sufficient for the vessels, and you want low profile locks in areas with less growing seagrass to prevent damage. We could put in mooring fields to help limit damage to seagrass. * I’ve run as artificial reef program for several years now, used as a way to reduce pressure to natural reefs. Working to conserve reefs by reducing the fishing pressure. There seems to be a theme that we can use artificial reefs to solve our problems. Seems like a tendency to avoid looking at the harder truth, like this is an easier option. * Agree with K. Don’t think we can “artificial reef our way out of this.” * Need to deal directly with damages to natural reefs. Heard a lot of people giving up on natural reefs, building new ones instead, but that doesn’t really understand the complexity of a natural reef. Throwing more concrete in the water won’t replace the function and systems that took centuries to evolve. * These make good management recommendations for FWC’s artificial reef program, but this group was intended to focus on the natural coral reef ecosystem. These recommendations deflect from the bigger issues that DEP CRCP needs input on. How does the fishing community want the coral reef ecosystem managed? It’s not clear from this list what’s important as it relates to Florida’s natural reefs. * For the artificial reef recommendations, the idea is to take pressure off the reefs, not replace them. It also provides additional habitat. Could help determine where funding is used. The recommendation may have a bad public perception, but that wasn’t the intention from the group, more about fishing pressure relief so the natural reefs can recover. * Following on A’s comment and to address K’s, we were tasked with what’s hurting the reef and what’s hurting fishing. We felt these recommendations were related to fishing on the reef as a whole. We spent hours and hours talking about fish and different species, spawning seasons, etc. |
| **Lobster Traps** |  |  |  |  |
| **Anchoring** |  |  |  | On “Help find ways…”   * The permitting process for new mooring fields is also quite difficult for the counties, so if you want more this would need to be easier. * Adding to comment, offshore mooring buoys would need funding in place for maintenance and management - in favor of this. * Repetitive damage done to seagrass by anchors, the damage can be considerable. We’ve done a poor job building new water access. There’s not much commercial property left for marinas. So mooring fields offer a better alternative to marinas, it could protect seagrass since there wouldn’t be direct anchoring. We’d require a pump-out boat to go along with every mooring field to avoid discharges into the water. Mainly it would stop seagrass damage. Some mooring fields may not work – not enough boats, resources nearby, etc. The ones that do work for vessels, you get a massive number of boats. Those areas need to develop managed mooring fields to protect the seagrass resources and reduce discharges. There’s a fair amount of pushback from waterfront homeowners and we’re seeing more legislation to give homeowners the ability to restrict anchoring in front unless it’s from their community. * Appreciate mooring fields, but I think we’re spending too much time on mooring fields – it may not be the biggest focus of this discussion. |
| **Spawning Aggregations** |  |  |  | * Glad to see these two bullets made it through the process. I did preliminary work assisting a researcher at FIU on spawning aggregations in the Coral ECA, it was the literature review for his dissertation. During the Our Florida Reefs process this was supported by almost all user groups, so it’s good to see it in this process too. Really strong foundation for it to move forward, especially with the science focus. * Would heavily support protecting these areas. Kurtis, how far away are we from finding areas to protect? * I would direct you to Erick Ault for information on this. |
| **Bag Limits** |  |  |  | * Curious about bag, size, daily, and slot limits. These are traditional fisheries management tools, why are only bag limits being looked at? * It was a matter of generalization, maybe we need to be more specific here. * Would be good to clarify the committee’s intent. Just bag limits or broader review of fisheries management? * General recommendation. Slot limits, everything above was discussed. * Intent was for everything in the box. * One of the challenges we had before was that the minimum legal size, the fish being observed in monitoring were just under the legal size. We need to make sure they’re spawning before we’re taking them with the minimum legal size. * Just one of the things we discussed, we were specific with species, with FWC on the committee too. There are certain rules that FWC can’t properly enforce due to lack of enforcement and funding. So in some of these discussions, we asked FWC and Law Enforcement if recommendations would even be feasible, and that was taken into account when making these recommendations. |
| **Shark Depredation** |  | * More clarification and science behind strategies. Do we know for a fact that we have more sharks? That they are a problem? Anecdotal - all the time in social media but how fast could we get science? What is the baseline? Captains running boats for 20-30 years tell you there are more sharks. Can we run on that evidence alone? What science are we using and what does that look like? Who is enforcing these strategies? Captains? Commercial? Recreational? |  | * Good bullet to have. |
| **HABITAT** | | | | |
| **Living shorelines** |  |  |  | * They’re good, but when we get into commercial areas with a lot of activity, living shorelines don’t fit in too well. They’re already restricted in building slips. Its appropriate everywhere else, but there are concerns with docks and seawalls, and the kind put in with rocks, lots of determination for those. * Living shorelines actually provide better protection than vertical. The combination helps protect the structure as well. Nature-based solutions are something USACE is looking into, like the Miami Dade County storm risk mitigation study. They’re looking at large-scale potential for protection from waves and sea-level rise. * There’s a time and a place, and there are definitely places for a typical living shoreline – will not work in a canal or a marina, but there are a lot of innovative techniques, like printed materials (mangrove roots, etc), to provide habitat. We’ll be seeing a lot more of it. You can’t ignore the need to mitigate even if you need a seawall. Need to figure out how we can do both. Don’t think of living shorelines as one specific thing, coral biologists and coastal engineers can work together. * Agreed. |
| **Habitat restoration** |  |  |  | * Supportive of these 3 bullet points. Would like to see more specifics from the fishing community, not just the general sense of the issue. * I like the 3rd bullet with creative strategies, I don’t like boulder mitigation, so it would be nice to see specifics and more creative ideas. |
| **Pole and Troll** |  |  | * Mechanism to find funding for habitat restoration? Will there be an easier way to find funding? Noted that it has been difficult to find funding for these projects. A lot of planting of seagrass and the manatees eating the seagrass and then replanting again. | * ADA issues, issues with flats boats and people being able to do this, it may limit access to some people. Poling is more for the younger generation. |
| **AGENCY & PROCESSES** | | | | |
| **Communication** |  |  |  |  |
| **Database** |  |  |  |  |
| **Enforcement** |  |  |  |  |
| **OTHER COMMITTEE CONSIDERATIONS (not a recommendation)** | | | | |
| **Spatial Management** | * Has to be some evidence that closing an area or season for spawning is going to make an impact on that population, i.e Western Dry Rocks. For example, place has to be special and seeding/providing recruits for other areas. Make a commitment to evaluate the closure to look for results of the closure * Want to ensure all actions have evaluations and are wise investments across the board * Pressure applied to make sure resources are dedicated to ensuring follow that closure or action is achieving its intended purpose * Spawning area closures are kind of the low hanging fruit of all these closure/MPAs etc. They are easily identifiable and scientifically justifiable. Develop some fundamental black and white opportunity cost equation to determine whether or not to close spawning areas. Rely on precedent to identify a spawning area and potential closure. * Unique area due to proximity to resource, population, land-based issues, may need to pull back from a fisheries closure and look at it from a fishing/diving and other uses closure. If we find a spawning aggregation worthy of not being disturbed by any use, we consider a closure (temporal). * This isn’t deep water closures – unique situation, can make our own rules because it was in the state of Florida. * The FKNMS proposed for where coral is actively being restored, having some strict usage places there (coral nurseries) to avoid sedimentation and diving contact. * Also look at inshore habitat – connectivity between inshore nursery habitat and offshore reefs is important so the potential for idle zones to protect seagrass nurseries. * Talking about area closures needs to be within the context of how it will be effective in relation to water quality and coral disease – consider external factors you cannot control. * Water quality was the number one thing that the group has been discussing for the last two years. | * Who defines the science? It’s a broad statement. Elaborate on science, timing, species, spawning. There are some things that fishermen understand we need to protect the fish. * Requires more definition. * There are studies that support Martys view point and studies that oppose that as well. We need more definition, more clarity more science. What are the real causes here. Is fishing the cause? Artificial reefs area a great option, restoring habitat. We need more definition, science we can stand on. Need to have effective long term view. Studies about MPAs not necessarily working. We have to know more. What can we do collectively to rebuild habitat for what is out there now. Be better prepared for climate change. * Get more clarification, understanding area, habitat, species. * Opportunity to protect fish when they are spawning. * Statement is inadequate. Supplied committee with scientific documents. Saying fish stocks are collapsing and business as usual will ead to further collapse. The science says we need t odo something drastic to limit pressure we are applying on coral reef as anglers today. * May seem vague because committee couldn’t come to a strong consensus either way. * More time or people giving input to that issue would derive to a more agreeable solution? * Spawning ground and juvenile habitat are not continuous (not same area) and goes across state lines. Not addressed here. Cannot protect just one lifecycle stage. (marine reserves/habitat) | * Don’t have the monitoring or the enforcement of regulations. If we are thinking about increasing anf changing the laws it is fruitless if we don’t have the enforcement. Make the enforcement rec stronger. * Seagrass funds – there will be an increase in funds for seagrass restoration in Indian river lagoon to scale up restoration. Big deal around the state and internationally and nationally * Thinks there should be a recommendation to address turbidity issues | * Disappointed there was no specific recommendation for spatial management. It is used around the world, so it’s disappointing not to see any here. * Problem with periodic reviews every 5 years. Unless there are mandatory timelines for review and if funding goes away, then so does the restriction. We’ve seen this not happen and regulations drag, so if you’re going to do it, do it right. Reviews could trigger funding and funding may go away. * Spatial management addresses some of the enforcement issues. It’s easier to identify behavior if you’re looking in an area, as opposed to who is catching what size fish. * Spatial management also addresses many of the ecological issues with fisheries management too. A lot of effort can be used determining species and sizes, but spatial management could affect all sizes of fish. * Could also bring in other recommendations, like water quality issues would be difficult to tackle without spatial management, to keep critters alive. * Everything on the reef is difficult to tackle. * Water quality is a really good idea. * If you can keep a system healthy and alive by protecting it in some way, it could include other issues like water quality. * Getting water quality fixed is going to take a long time and a lot of money. * Concern with the reef tract and dealing with areas in the state that affect it, how does the agency draw up the rules (either federal or state government), but some may not quite fit in with other areas of Florida depending on how they’re drafted. So they may have unintended consequences in other areas of the state. Unsure how to incorporate this, but the agency may be able to do rule making that would tag areas only with water that feed the reef areas. * Multiple committee members were concerned about this. * Inlet contributing areas, Kurtis… * The 9 inlets that empty out to the inlet contributing areas (ICA) have been delineated, but pollution limits haven’t been developed so far, best management practices have been generalized to address pollutant loads. In Kai’s initial presentation overview about herbicides and other water components, it was focused on canals, we need to look at water as the connection between those areas and activities. Scientists at various universities have done monitoring but they aren’t finding those herbicides and compounds out in the water. So while it’s important to protect connecting habitats and life stages, the herbicide impacts can be greater on particular species, but that challenge doesn’t have a direct effect on coral reefs. Nitrogen and phosphorous loading have a bigger impact. The ICA study, funded by NOAA CRCP, found this and there are proposals to support septic to sewer conversions, etc. Nitrogen was still present out of these. There are 6 ocean outfalls and 5 are still active. Deep well injection is being proposed for Miami north district to replace one of the outfalls. Some of the direct nutrient loading is being addressed under the outfall regulations from the state. There are a lot of moving parts on this. Building off the ICA study, there have been updates done for the watershed management plans (St. Lucie), NOAA funded the Boynton ICA study as well. Now Government Cut ICA is in the early stages of a watershed management plan being developed. It’s upstream of the rest of the Coral ECA and the 2 Miami Dade outfalls have the greatest loading of pollutants of all the ocean outfalls. One is in the process of being replaced by deep well injections. Might help the reefs but unsure how it will impact the rest of the water. * Have there been studies about Mississippi water coming out and around the coast of Florida? * Saw some studies, but what was in the water was undetectable by the time it reached the Dry Tortugas. It gets diluted out by the time it gets to the Keys. * Is there any relation to Red Tide? * Unsure, I haven’t worked on it. |
| **Other comments** | | | | |
|  | * Sedimentation - Confirming that sedimentation coming from projects like port of Miami and port everglades and beach renourishment adversely affect corals and may help carry coral disease – when there are projects/activities that will increase sedimentation doing what we can to avoid impacts and where it is appropriate mitigate for them. (Australian papers) – see SEFCRI work and local action strategies (LAS) to change things like turbidity thresholds from renourishments, dredging, port expansions etc. LAS goes to recommended management actions (RMAs). * Missing ocean acidification – does it affect the coral reefs? – Yes, eats limestone and coral exoskeleton – maybe from an outreach and education standpoint (Miami Waterkeeper as an example) – showing the numbers in a meaningful way people could understand * How does the interaction between state and federal waters work in this project – most shallow water reefs fall in shallow water/state waters. | Plastic pollution and how to limit it |  |  |

Wrap up

In closing, the public, and committee and team members were thanked and reminded that there would be a public comment form available on the website for 7 days (from August 23 to August 31). The public was reminded of the project website (<https://www.flseagrant.org/fisheries-conservation-coral-eca/>) and on the next steps on finalizing the recommendations.

Public comment forms received via website

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| --- |
| PUBLIC COMMENT 1:  I am thankful for this committee's hard work. I strongly urge those on the committee in favor of a spatial management approach to speak up and speak out and seek a way to create some protected areas in the KJ Coral ECA. Water Quality is an important issue but will take much more effort and time to tackle beyond this endeavor. Recent data suggests the estuaries are much more affected by poor water quality; let's work those involved with estuary conservation to tackle that one. Artificial reefs are not the answer and should not be a part of this discussion!!! This group needs to focus on protecting our natural reefs!!! Protected areas have been proven successful all around the world and can be successful here too. (Melissa Sathe) |
| PUBLIC COMMENT 2:  Collect data on plastic pollution (microplastics + fishing nets included) and how it is affecting different habitats of coral/fish life  Educate the public on the effects of plastic pollution on marine biodiversity and provide guidance on how to reduce the plastic usage in everyday life.  Show how companies can participate by reproducing Operation Clean Sweep (as done by the Marine Debris Initiative in Australia) Marine reserves should be free of fishing activity but also recreational diving/snorkeling (causes coral breakage) Marine reserves should not be established on a "when a species is in danger" basis and should be permanent.  On seagrass restoration: check the solent seagrass project by Hampshire and Isle of Wight  (Raffaella Claire Zinck) |
| PUBLIC COMMENT 3:  While we agree that herbicide (and pesticide) use should be minimized, these constituents are not present in measurable quantities in the coral habitat.  Agree that fertilizer use should also be minimized, however the impact of fertilizer home-use is miniscule when compared to the impact from agriculture. There were several comments on this subject. I do not see anything other than a very general statement about reducing the amount of fertilizer used by ag, and the resulting impacts to water quality from that fertilizer use. Biosolids - an end product from sewage processing - is largely uncontrolled and is thought to have an outsized impact on nutrient enrichment in waterways. Inland waterways typically focus on phosphorus levels, while in the marine environment, nitrogen is the important constituent. Enforcement for this falls to the state, not local government. There seems to be a huge amount of interest in building new artificial reefs, but does not seem to be an appreciation that these new reefs will not function like natural reefs for decades if ever, and sustained, healthy coral development is unproven. It is surprising that there is not an equal or greater amount of interest in protecting direct impacts to natural reefs from over fishing. The single bullet on bag limit (assuming this is generic for fishery management techniques also including things like slot size and more) is appreciated. Single species management ignores the necessary interaction between species and between species and their habitat. On land FWC has established CWA to allow for: management strategies are needed to maintain habitat quality and ensure wildlife has the space and resources it needs to nest, rest, and feed successfully. This strategy should be employed for coral reef conservation  Please give due consideration to spatial management to protect our natural systems. The impacts can be far reaching in positive effects for both the coral and the fishery they support. (Kathy FitzPatrick) |

**Appendix A**

**Presentation**

**Graphical user interface

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**Graphical user interface

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**Graphical user interface

Description automatically generated with low confidence**

**Graphical user interface, application

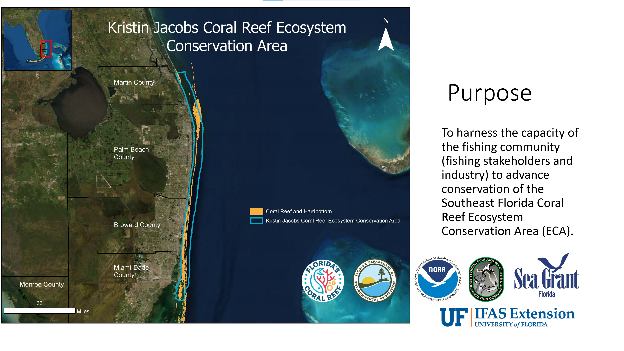
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**Chart, sunburst chart

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**Graphical user interface, text, application

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**Diagram

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**Graphical user interface

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**Graphical user interface, application

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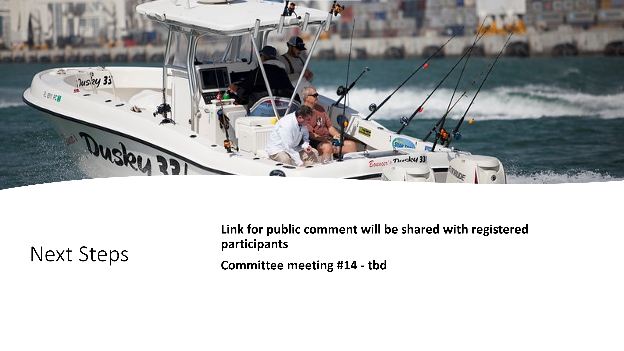
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**Graphical user interface, application

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