

**Southeast Florida Coral Reef Initiative (SEFCRI)
 Technical Advisory Committee (TAC)
 Report of Proceedings
 January 26–27, 2015**

**National Coral Reef Institute
 Nova Southeastern University Oceanographic Center
 8000 North Ocean Drive
 Dania Beach, Florida**

MEETING ATTENDANCE

Technical Advisory Committee (TAC)

Name	Affiliation	Day 1	Day 2
Arthur Mariano	University of Miami - Rosenstiel School of Marine and Atmospheric Science	X	
Brian Walker	Nova Southeastern University - Oceanographic Center	X	X
Dale Griffin	United States Geological Survey	X	X
Dana Wusinich-Mendez	National Oceanic and Atmospheric Administration	X	X
Dave Gilliam	Nova Southeastern University - Oceanographic Center	X	X
Dick Dodge	Nova Southeastern University - Oceanographic Center	X	X
Diego Lirman	University of Miami - Rosenstiel School of Marine and Atmospheric Science	X	
Esther Peters	George Mason University	X	X
Jack Stamates	National Oceanic and Atmospheric Administration - Atlantic Oceanographic & Meteorological Laboratory	X	X
James Byrne	The Nature Conservancy		
John Fauth	University of Central Florida	X	X
Jose Lopez	Nova Southeastern University - Oceanographic Center	X	
Judy Lang	Atlantic and Gulf Rapid Reef Assessment	X	X
Kate Lunz	Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute	X	X
Ken Banks	Broward County - Environmental Protection and Growth Management Department (EPGMD)		
Kurtis Gregg	National Oceanic and Atmospheric Administration – National Marine Fisheries Service (NOAA-NMFS)	X	X
Lew Gramer	National Oceanic and Atmospheric Administration - Atlantic Oceanographic & Meteorological Laboratory		

Manoj Shivilani	University of Miami - Rosenstiel School of Marine and Atmospheric Science	X	X
Margaret Miller	National Oceanic and Atmospheric Administration - Southeast Fisheries Science Center	X	X
Nancy Craig	Broward County - Environmental Protection and Growth Management Department (EPGMD)	X	X
Phil Dustan	College of Charleston	X	X
Piero Gardinali	Florida International University	X	X
Valarie Paul	Smithsonian Marine Station at Fort Pierce	X	X

Department of Environmental Protection (DEP) Coral Reef Conservation Program (CRCP) Staff

Name	Affiliation	Day 1	Day 2
Jamie Monty	FDEP CRCP	X	X
Joanna Walczak	FDEP CRCP	X	X
Jennifer Jordan Báez	FDEP CRCP	X	X
Karen Bohnsack	FDEP CRCP	X	X
Ana Zangroniz	FDEP CRCP	X	X
Lauren Waters	FDEP CRCP	X	X
Meghan Balling	FDEP CRCP	X	X

Additional Presenters and Observers

Name	Affiliation	Day 1	Day 2
Joshua Voss	Florida Atlantic University - Harbor Branch Oceanographic Institute	X	X
Rob Menzies	Academies of Marine Sciences	X	X
Doug Seba	Academies of Marine Science	X	X
Rob Baron	Tetra Tech	X	X
Kevin Muench	<i>Our Florida Reefs</i> Community Working Group		X
Dan Clark	Cry of the Water	X	X
Stephanie Clark	Cry of the Water	X	X
Ben Binder	Florida International University	X	

Meeting Guidelines

Jennifer Jordan Báez (Jenny) introduced herself as the FDEP Land Based Sources of Pollution (LBSP) coordinator, welcomed all in attendance to the 3rd Southeast Florida Coral Reef Initiative (SEFCRI) Technical Advisory Committee (TAC) meeting, reviewed meeting participation guidelines for TAC members and observers, which included her role as the facilitator, guidelines for discussion, consensus rules, comment card procedures, and the use of meeting evaluation forms. She also introduced Josh Voss as the SEFCRI TAC co-lead and then reviewed the day's agenda.

There are two main goals for the meeting. The first is for small groups to review and provide feedback on 11 recommended management actions (RMAs) provided by the *Our Florida Reefs* community working groups. The second will be for each small group to select two RMAs to present to the entire TAC for feedback.

All SEFCRI TAC, FDEP staff, and public observers introduced themselves.

Small group discussions – Lauren Waters, FDEP CRCP

Lauren goes over the day's goals. The first activity of the day will be to discuss a portion of the RMAs assigned to each small group and offer feedback on each of them. At the end of the discussion sessions, one management action should be selected to be presented to the entire TAC.

- Guidelines for small groups
 - Review the information provided by the Community Working Groups (CWG) in the Tier 1 and Tier 2 worksheets, and review the feedback provided by the SEFCRI Team and TAC members already inputted.
 - Are there additional gaps? Can you provide more information?
 - Go online and navigate the online mapping tool to help generate thoughts about spatial information that may be needed for the recommendations at www.ourfloridareefs.org/tool
 - Go online and navigate our online bibliography which contains scientific papers, white papers, permits etc. that may be relevant to reference at www.endnote.com
 - Make sure you make it to the end of the online form and select SAVE!
 - You do not have to come to consensus. It is important to incorporate all the feedback.

Questions and comments (Small group discussions 1)

1. (Jack Stamates) *Can we recommend merging some of the RMAs?*
 - (Lauren Waters) *Yes, and if some of the recommendations are similar you can also suggest to pick one over the other if you think one is clearer.*
 - (Dana Wusinich-Mendez) *The working groups have already gone through two rounds of merging RMAs, so they thought that some of these were distinct already.*
2. (Margaret Miller) *Was that within each group (North CWG and South CWG) or all recommendations?*
 - (Dana Wusinich-Mendez) *Each group reviewed their own recommendations. There may be some overlap between groups.*
3. (Phil Dustan) *Is there a theoretical basis for the management of this region? Are there some overarching principles that we should be following or that we can agree on?*

-(Lauren Waters) The working groups did receive information about the SEFCRI region, what is being done, as well as how the rest of the world is managing their resources, we gave them examples on what has worked or hasn't worked in other areas.

-(Dana Wusinich-Mendez) They also saw some of the documents that SEFCRI has produced over the past 10 years, for example the Local Action Strategies documents, some coral reef priority actions put forth by coral reef managers throughout the reef tract, as well as the NOAA goals and objectives.

-(Jamie Monty) The process followed a similar one to what SEFCRI has been following. They chose focus areas and provided recommendations that are issue based.

4. (Judy Lang) *Will we present the ones we are the most impressed by or the ones we have the most problems with?*

-(Joshua Voss and Lauren Waters) The ones that are the most important for discussion, whether it is because it's good or because we don't understand them.

5. (Jack Stamates) *They will probably all be grouped into themes, there seems to be a lot of redundancy in the RMAs.*

6. (Dale Griffin) *The purpose is to select a doable action, correct?*

-(Jenny Báez) Whatever you guys feel is more important or needs more attention, pick a recommendation that you feel would benefit from a discussion with the rest of the group.

-(Kevin Munch – CWG member) What we would really like is for you to provide guidance on what is actually achievable. Is it reasonable? Could it be implemented? Those are the answers we would like.

Report out #1

Group 1. Kurtis Gregg, Arthur Mariano, Valerie Paul, John Fauth

- Theme 1: Marine invasive species (focused on Lionfish)
 - N-136 Invasive species control strategy
 - S-74 and N-58 Lionfish control
 - S-5 Regulation of invasive species
 - Suggest to better delegate human control impacts. i.e. Lionfish rodeos, etc. “Adopt a roadway strategy”. Dive clubs could adopt a part of the reef.
- Theme 2: Lobster regulations (focused on mini season)
 - N-48 Alternate seasons
 - N-49 Eliminate mini season
 - N-55 Reduce bag limit for mini season
 - S-97 Reduce bag limits in general
 - We don't recommend to eliminate mini season; it was designed to reduce the conflict between recreational and commercial fishers/
 - Not worried about the impact on lobster population but about the bad behavior of the fishers during those days which are detrimental to humans and the reefs/
 - We recommend an on-line training course that allows you to get the permit/

Questions Group 1

1. (Brian Walker) *You could probably add S-67: Provide incentive to divers to eradicate invasive species.*

2. (Dave Gilliam) *The problem with involving large groups of people in removing animals is that we are lucky that Lionfish are easily identifiable, however other invasive might not be as easily identifiable. The strategies that we put together for Lionfish might not be applicable to other invasive species.*
 - (Margaret Miller) *We have to be careful with how these recommendations are phrased because if they are only focused on Lionfish then they could be implemented.*
 - (Valerie Paul) *Only the first recommendation was broad, the others were focused on Lionfish, so it's a good point to keep in mind.*
3. (Manoj Shivilani) *I hear this a lot from commercial fishers, they argue that recreational divers are trashing the reefs. We have a relatively stable population, recreational divers harvest 20%. Can we quantify the effects of this bad behavior? How much of it is anecdotal?*
 - (Valerie Paul) *Much of this is anecdotal but it is based on observations.*
 - (Kurtis Gregg) *I rented a house in Marathon the week before regular lobster season and in one of the shoals that was in snorkel depth, all the coral heads had been flipped over during mini season. Spent half a day of the vacation righting coral heads.*
 - (Manoj Shivilani) *In order to change the regulation and make people more accountable we need to be able to show the damage. How can we collect better data on the extent of the damage?*
 - (Kurtis Gregg) *The four management actions proposed changing mini season to reduce the damage being done, but they don't address some of the human impacts. That's why we don't support changing bag limits, or eliminating mini season, nor alternating years. The problem is people going out on the derby fishery, and it is not everyone. That's why we came up with the training course.*
 - (Dan Clark – CWG member) *I've spoken to several dive operators and one of the things that have been suggested is to make the date later because right now many of those lobsters have eggs still. This would not address the bad behavior that you are mentioning but it would help the lobsters. It would also help the dive operators by giving them a boost towards the end of their peak season.*
4. (Dana Wusinich-Mendez) *It seems like you came to consensus on not supporting some of the actions. Why?*
 - (Kurtis Gregg) *As far as eliminating mini-season, it was designed to spread out the first day effort, to prevent conflict between commercial and recreational fishers. Alternating years doesn't mitigate damage to corals, they will just be flipped every other year.*
 - (Jack Stamates) *From what I have observed it's a frenzy, so if we cannot eliminate it maybe make it longer or stagger days so that it is not done all at once.*
 - (John Fauth) *Something I suggested in the group is to look at how the recreational alligator harvest is done. They use a lottery system, you get a set number of tags in an area, and then you can stagger the effort. So you would have a five day mini-season where a quarter of the people could go out each day, and then on the last day everyone could go out to compensate for bad weather.*
 - (Dale Griffin) *They do that with hunting.*

5. (Manoj Shivilani) *Another thing we could do would be to increase price per tag to get funding for science and enforcement. It could become self-sustaining if you can use the money from the tags.*
6. (Dave Gilliam) *Something to take into consideration is that reducing the bag limit also reduces the amount of time any given person spends in the water. A second issue is the impacts caused by how the pots are deployed, picked up, and redeployed. There is also lots of ghost gear left out. We have to consider impact of commercial fishermen.*
 - (Arthur Mariano) *There was another RMA that recommended tracking commercial gear.*
 - (Kurtis Gregg) *It recommended having the name, address, and registration on the gear itself, but those are already features of the trap program.*
 - (Dave Gilliam) *That is true and you can clean off the tag and take a picture of the number, but if the line has been broken then they can't retrieve it.*

Group 2. Joe Lopez, (Lew Gramer and Ken Banks absent – Josh Voss assisted)

- Theme 1: Ban Plastic Bags (N-120, N-121, and S-44)
 - Precedents exist in North Carolina and California.
 - Is it plausible?
 - What is SEFCRI's role in facilitating this?
 - Should we start locally at municipality level? There may be some hurdles we don't know about.
- Theme 2: Beach Renourishment and dredging (S-124 and N-98)
 - RMAs propose creating a SEFCRI wide beach management agreement, so that the criteria for management activities for beach restoration and renourishment be more uniform across the four counties.
 - Can we get better coordination between counties?

Questions Group 2

1. (Kate Lunz) *Do you know if this has this been suggested before in Florida?*
 - (Joshua Voss) *One of the questions raised in the working groups was, are there any other municipalities in Florida that already have plastic bag bans? And if so, how did they do it? The models from North Carolina and California, started at the municipal level. In North Carolina it is only in the Outer Banks, in California it started in 90 municipalities before it went state-wide.*
 - (John Fauth) *The State legislator sometimes reserves certain issues for itself. In 2008, they did this for plastic bags. Other examples are the: gun ordinance and fertilizer ordinance. Therefore in Florida, municipalities are banned from banning. So it must be at the State level. DEP would have to make a recommendation that the legislature would then have to adopt. There have been two attempts at changing this, but have been unsuccessful.*
 - (Manoj Shivilani) *There was an effort in 2008 that failed, but there have been measures in Miami Beach and St. Augustine to ban Styrofoam. So there are ways to work around this. Private and public partnerships might be an important model to address this at a local level versus at the State level.*
 - (Joe Lopez) *I like the idea to create partnerships, get some private businesses to buy in like Walmart or Publix.*

2. (Margaret Miller) *Is there an economic impact from doing this? What could some of the cons of this be? Would it be very costly to ban them?*
 - (Esther Peters) *There is a cost to the companies that produces them. The industry that produces them doesn't want to stop this.*
 - (Josh Voss) *If they make a reusable bag then they charge a lot more for it.*
 - (Esther Peters) *We all get free bags at meetings, we have to get in the habit of using them.*
 - (Dale Griffin) *When we think about recycling, we think about bottles and glass, no one talks about recycling plastic bags.*
 - (Margaret Miller) *So do we need a public education component to make this work?*
 - (Dave Gilliam) *We need to reduce the need for them.*
 - (Brian Walker) *In France they don't have bags at the store you must bring your own.*
 - (Piero Gardinali) *If you can't ban them how about having to pay for them and then use the money for other environmental activities.*
 - (Joanna Walczak) *The Environmental Protection Agency (EPA) has a lot of information on this from their aquatic litter campaign. Companies have said that it is cost prohibitive to go to no plastic. So they would be more open to charging for them.*
 - (Phil Dustan) *"The Majestic Plastic Bag" is a great mockumentary that you should watch. Trader Joe's has a contest that if you bring your own bags then you can win \$25 of groceries. In other parts of the world, plastic bags are a huge problem. They line the streets, and as they break down they enter the food chain and eventually they come back to us.*
3. (Judy Lang) *Do grocery stores in Florida have plastic bag recycling containers?*
 - (Margaret Miller) *They do. Publix has them, as well as Styrofoam recycling bins.*
 - (Dale Griffin) *I have never seen a public education effort to recycle plastic bags. They should publicize it more.*
 - (Judy Lang) *Plastic bags and plastic are recycled separately. US has recycling plants for bags.*
 - (Esther Peters) *An educational effort is important, when I go to the store and only buy a couple of things they put them in bags, and when I say I don't need a bag they are surprised.*
4. (Dan Clark – CWG Member) *I was involved in Beach Management Agreement (BMA) process in Palm Beach. Some good things have come out of it, consolidating the process, but at the same time some other things are being overlooked, like beach runoff.*
 - (Joshua Voss) *I think the feedback to the working groups should be that a single set of criteria for the whole region must be applicable throughout the area, however, getting enough detail or specificity would make this a huge challenge.*
5. (Dale Griffin) *Why would you want to support any beach renourishment efforts? By even talking about this we are indicating support for these efforts.*
 - (Joshua Voss) *The RMA assumes that beach renourishment is currently happening so what can we do about it?*
 - (Dale Griffin) *Any money spent on this in the mid-term is a waste, and is only temporary. With sea level rise, ultimately this will be futile. You will need to build a sea wall eventually.*

- (Margaret Miller) That point should be a part of our feedback. We should stress that any beach renourishment is a short term solution.*
- (Dan Clark – CWG Member) Under the BMA you don't have to do impact minimization after the initial effort, because you have a blanket permit for the area.*
- 6. *(Brian Walker) We have recommendation S-9 which is to protect nearshore habitat, which could also fit your recommendations.*

Group 3. Jack Stamates, Dale Griffin, Nancy Craig, Piero Gardinali

- Theme 1: Educate the public (N-1)
- Theme 2: Upgrade/Improve waste water treatment (N-79, S-26, S-25 and N-80)
 - One of the big issues with changing this is public view. How do you show the public that there is a need for this? There is the case in Tallahassee, they were able to demonstrate, scientifically, that the waste water treatment was not being as effective at eliminating nitrate. They convinced 200,000 people to fund a \$2 million project.
- Theme 3: Seasonal use of fertilizer (S-34 and N-89)
 - There are a couple of counties in the State that have banned fertilizer. Pinellas County does it seasonally in Tallahassee. They are trying to limit surface runoff. St. Lucie has ordinances in place. Animal feces are also a problem.
- Theme 4: Inlet Monitoring (N-71)
 - These studies can be in a smaller scope and low cost, but you can look at the big picture by monitoring the water coming out of them. You can combine surface and subsurface runoff.

Questions Group 3

1. *(Phil Dustan) What about reuse? In California they are starting to do that.*
 - (Dale Griffin) Outfalls should be totally shut down. They don't mind putting pipes to put water out. But none to pull water in. How about pumping it into the northern Everglades and get it cleaned that way. Run lines west instead of east, but there is no infrastructure for that. Reuse seems to have a threshold, that you can only use a certain percentage of it. I like the idea. It's used in Tallahassee to grow hay. Do you upgrade the plants to output very clean water but keep the flow or divert some of the waste for reuse?*
2. *(Jenny Báez) Did the management options present opportunities for feedback like that? Sounds like there are good alternatives, but did any of the management actions suggest anything like that?*
 - (Joshua Voss) N-79 seems to permit that.*
3. *(Dana Wusinich-Mendez) Education and outreach being the most important focus, we need to be careful about it, because it is talked about as a solution, but even educated people will not necessarily make the right choice. Success stories seem to be the ones with education and policy changes.*
 - (Dale Griffin) The initiative in Tallahassee, was big and costly. The politicians needed public support.*
 - (Margaret Miller) Education must be a part of any management action. Not just these. It should be an explicit component of this.*
 - (Dale Griffin) That's how we had it laid out. We had two topics: run-off, specifically fertilizers, and proper treatment of wastewater. We need to get public buy-in to get this done.*

4. (Arthur Mariano) *I did a study of the pipes, the results showed that the outfall is definitely too close. If they were a little longer the water wouldn't come back to the beaches.*
5. (Joshua Voss) *The question is do we want any water out there at all?*
6. (Piero Gardinali) *I want to follow up on the use of words like ban, enforce, etc. We need to change some of the wording to "upgrade," something less drastic so that it is achievable. Educate people so that they understand why they would be paying 10 times more for water treatment, or how much fertilizer they can use.*
 - (Dana Wusinich-Mendez) *Education is not going to fix all the problems but it is very important.*
 - (Dale Griffin) *Cost is one of the main hurdles for these projects. But when this project was carried out I don't remember my taxes going up. When the cost is spread throughout the community it is not as expensive*
7. (Dan Clark – CWG Member) *There may be money from Amendment 1 to use for some of these projects, they are discussing these possibilities in the Keys. Not just use it for land acquisition.*
8. (Manoj Shivlani) *You still have to consider the economics of all this. How hidden are the costs of this? How are the costs going to be off-set by benefits? E.g. There will be less beach closures, etc. Cost/benefit analysis would help set a better foundation to support these actions, in addition to education and outreach.*
 - (Dale Griffin): *I agree, and that is why we cited some examples, to show that if you make the right argument it can be done.*
9. (Joe Lopez) *We are about to publish sequencing data from the outfalls and reefs. Shows the inlets have a different microbial community to reef habitats. We might use this to show the need for more research and long-term monitoring. There is a call for proposals from the Fish and Wildlife Federation out right now to monitor land based water sources and their effects on reef habitats.*
10. (Dale Griffin) *There's talk about reducing the depths of the wells in the Keys. Some of the RMAs talk about ground-water disposal. Putting it in the ground is not a solution for South Florida due to the qualities of the ground. This ends up affecting our drinking water.*

Group 4. Margaret Miller, Dave Gilliam, Diego Lirman, Judy Lang

- Theme 1: Mitigation
 - S-12 Develop alternative mitigation strategies (connected to restoration theme)
 - N-132 Improve compliance via monitoring. Hold responsible parties accountable for the damages caused. There is no feedback to define success of some of the mitigation actions.
 - N-99 Mitigation bank and fee (could be considered an alternative strategy)
 - S-108 Revise the Uniform Mitigation and Assessment Method (UMAM). The suggestion is to develop a UMAM for reefs, since it is currently aimed at wetlands. Another big challenge will be to define the actual loss of resources and services. Recovery trajectories and timelines will also need to be defined.
 - N-117 No net coral loss from construction projects. This would be a great target for south Florida. We should look for ways to move towards that. We would need to look at the feasibility of this action. It clarifies that it doesn't mean that no corals are impacted or damaged, but any that are should be replaced.

- Many of these RMAs were too general and broad to be able to give specific feedback. But it was nice to see that there seems to be agreement between the North and South groups that there should be a consensus on what we are doing with regards to mitigation.
- Theme 2: Restoration
- Theme 3: Turbidity standard
- Theme 4: Emergency Preparedness

Questions Group 4

1. (Kate Lunz) *What was the UMAM revision?*

-(Dave Gilliam) DEP is currently trying to develop a UMAM for reefs. Our suggestion is that it needs to move outside of Department of Environmental Protection (DEP), there are too many resources that could be brought into the process.

-(Joanna Walczak) The draft does exist already but I'm not sure it will be sent out for further comment.

-(Lauren Waters) There are other people outside of DEP who are involved in the process. Stakeholders, consultants and sponsors have helped develop it.

2. (Phil Dustan) *There is a certain amount of hubris in all this. We are assuming we can mitigate for anything. There must be a theoretical framework. Some sort of carrying capacity concept or something? The money from grounding in the Keys could have been better used rather than just used to put boulders on the reef.*

-(Margaret Miller) That may be true, but the projects continue so we need to establish a better strategy to prepare for them. Perhaps there is a lot of policy in the books but little is being implemented to protect the corals out there.

-(Dave Gilliam) That is why we think that money should go into some sort of bank or somewhere so that it can be brought back to the reef.

-(Phil Dustan) A theoretical framework would mean that mitigation doesn't just mean to put in a piece, but look at the ecosystem as a whole to see what functions are affected.

-(Dave Gilliam) This is something that needs to be clarified with the politicians. That you can't dredge through the reef to enlarge the port and then mitigate with boulders and state that you have recovered 100% of the services when we don't even understand all of the services.

-(Dana Wusinich-Mendez) Our ultimate goal of what we are working toward is a management plan for the SEFCRI region. That should provide the framework.

-(Margaret Miller) I think that we can use the mitigation as a tool, because there is money and regulations that make things happen. The suggestion of a bank and fees system is an alternative that needs to be clarified and defined.

-(Joshua Voss) There is a lot of precedent for this kind of approach in a lot of wetland projects

-(Margaret Miller) That is important and I think we need a lot more input from people who have experience with that.

-(John Fauth) There are a lot of good things that could derive from that, for example, if you have a pool of money set aside, it could be used for payment of ecological services. Then you're providing funding for increased services. It creates positive feedback.

- (Margaret Miller) A lot of these projects depend on private lands. This is a challenge for the coastal environment. But I think there is a lot of potential benefit from these systems.*
- (Phil Dustan) The Safe Harbor program is a good example of that.*
- (Kurtis Gregg) UMAM itself has two parts: it is qualitative in the beginning. Define the services which are being evaluated, it is a critical piece that contractors, applicants, and consultants blast through so they can get to the second part which is quantitative. But it is in the first part that the services which are going to be affected are listed. I would like to warn about the use of a bank and fee program. It can sometimes become a “here is a check” cost of doing business and then diminishes the avoidance and minimization tasks that the rules and regulations require. They defer the penalty for failure to this other entity. I would caution to tread carefully with this kind of strategy. Florida Keys Restoration Trust fund program does do that for seagrass impacts.*
3. *(Esther Peters) Has anybody heard of “A community on ecosystem services?” Some colleagues referred me to this and thought it sounded interesting.*

Group 5. Richard Dodge, Esther Peters, Dana Wusinich-Mendez, Kate Lunz

- Theme 1: Place based management (N-144, N-147, N-100, N-146, and S-20)
 - Recommend for the CWGs to decide on a single approach (local or regional, level)
 - Some suggested to make entire SEFCRI region a protected area, others suggested usage areas and zoning.
 - Recommend that it is science based, and include all the different uses/stakeholders in the region.
 - Need to do cost/benefit analysis for their suggestions.
 - Participatory process.
 - *Our Florida Reefs* is probably not going to produce something specific enough. But they could come up with an approach and criteria which the management agencies could then formulate a management plan. So far we have tried to not let them get too specific about certain areas. The working groups can determine an approach and some criteria that must be included.
 - This is some criteria that we suggest they consider. What to protect or how to measure it?
 - Coral: density, diversity, coverage
 - Fish: spawning aggregations, diversity and abundance
 - Sink/sources – reproduction
 - Benthos/habitat – coverage/diversity, rugosity
 - Endangered Species Act: Critical Habitats
 - Social: Uses, intensity of use. Opportunity for conflict (competing uses)
 - The criteria were determined from the marine planning tool

Questions Group 5

1. *(Dale Griffin) DEP has some guidelines for classifying management areas.*
 -*(Dana Wusinich-Mendez) Those are potential designations, however there are other designations from other Agencies that could be considered.*
2. *(Joshua Voss) Do you want the Working Groups to consider the Gulf and SE Fisheries Management Council processes? Consider Habitat Areas of Particular Concern (HAPC)?*

- (Judy Lang) If you make it as a HAPC for coral, it allows the Council to restrict fisheries as well as mineral management.*
- (Dave Gilliam) I agree that there needs to be an agreement on the approach. Before we get into the details of what to call it and how to qualify it. One of the agencies has stated they will not look into a Marine Protected Area (MPA) until all other science is exhausted.*
3. (Margaret Miller) *Can we define what types of protection are being discussed under the MPA approach? Fishing, anchoring, etc.*
- (Dana Wusinich-Mendez) That is what we are trying to discuss. What type of criteria are we considering so that they can be included into the marine planner or other tools, so we can identify what the most appropriate approach would be?*
- (Richard Dodge) The issue we are running into is if the term Marine Protected Area is too highly charged? Rather than a marine protected area, should we be asking for a marine management area?*
- (Margaret Miller) I think we should figure these questions out before deciding what to do.*
- (Esther Peters) We discussed this in group, because some RMAs mentioned some of these terms, no-take, restricted uses, etc. but they were not clearly defined.*
4. (Manoj Shivilani) *Our group also has lots of RMAs with spatial components. It seems you are suggesting that your criterion is going to decide what the area is going to look like? Could then be that the Area of Concern is a lot bigger or smaller?*
- (Dana Wusinich-Mendez) Our thought is that the groups should decide if they are doing one area or multiple areas, and what size, etc. That needs to be decided before specifics are decided.*
5. (Kurtis Gregg) *Our group has an RMA S-84, no take zones for sharks, which could fit in your group. The challenge is that the spatial scale is so small, and sharks move on a much greater scale. Even the whole SEFCRI region as a whole is a tiny fraction of their whole range.*
- (Manoj Shivilani) The area is going to make for your criteria. We are constrained by the area (SEFCRI region) right?*
6. (Phil Dustan) *A precautionary principle should be included under science-based approaches. Secondly, we need to appreciate local knowledge. Sometimes we don't have the science, but there is lots of local knowledge that could be leveraged. We also need to consider the temporal scale of the data, just because a project started on a certain date, doesn't mean that it is representative of longer-term changes.*
- (Dana Wusinich-Mendez) I understand. For example, there's very little fisheries independent data for the region, we are only starting to get it now.*
- (Brian Walker) You should add S-38 to your list. Establish replicated marine reserves.*
7. (Richard Dodge) *Whatever is decided we probably have one shot. So we should shoot high but keep it realistic. If it's too aspirational it might not have a chance of being implemented.*
8. (Brian Walker) *I have another one that reads that there should be funding sources to sustain the MPAs.*
- (Diego Lirman) We have a couple to add: no-take for parrotfish or regulations for parrot fish.*

- (Dana Wusinich-Mendez) *I don't think that fits because it is not place-based.*
9. (Phil Dustan) *Everything we have talked about as a protected area, assumes that if it is protected then everything is ok. However, we haven't talked about restoration, reconstruction or triage, etc.*
10. (Esther Peters) *I would suggest we focus on management actions instead of marine protected areas, because there will be other management actions, not just MPAs.*

Group 6. Brian Walker, Manoj Shivlani, Phil Dustan, (James Byrne – absent)

- Theme 1: Nomination for some sort of protection status (N-148, S-54, S-65, N-148, S-65)
 - Nominate SEFCRI as a National Marine Sanctuary or a UNSECO World Heritage Site.
 - Has the sanctuary nomination worked in the Keys? Use that as a learning opportunity.
 - That may give up local control, because it is a federal designation.
 - Think that should be brought up to Community Working Groups.
- Theme 2: Mooring buoys (N-140, N-133, N-142, N-143, N-145, S-2)
 - Create no anchor zones to help protect reef.
 - Is placing mooring balls a good thing? It reduces anchoring damage, but increases/focus use?
 - Have an overarching authority that oversees all mooring balls rather than municipalities.
 - Some RMAs suggest rotational use. Have more anchors than buoys and rotate through. The time of recovery is probably too long.
 - It's already illegal to anchor on the reef, so no-anchor zones may not be the way to go.

Questions Group 6

1. (Joana Walczak) *The idea came up because as it is now, the authorities need to have a visual queue that they are anchored on the reef so a surface queue would be helpful to be able to enforce the law. That being said there is a habitat map out that you can reference on a smart phone. There are still some spatial accuracy issues, but it's a tool that exists now.*
- (Margaret Miller) *Users also need a queue to look at so that they can comply.*
- (Kurtis Gregg) *You still get a ticket if you don't see the speed sign.*
- (Brian Walker) *The problem is that law enforcement can't see the bottom either.*
2. (Arthur Mariano) *The rotational idea is too complicated and uses up too many resources. It makes it difficult for people to find them or know when they're supposed to be there. I would suggest closing the shoreline for anchoring not just the reef. You don't need to anchor to catch fish.*
- (Joshua Voss) *In most of this area the lines need to be replaced often so it wouldn't increase the effort to rotate the mooring balls.*
3. (Arthur Mariano) *Would you put out new maps every six months to show the buoy locations?*
- (Joshua Voss) *It depends on the scale of how far you are moving them.*
- (Jack Stamates) *People have their favorite spots, so maybe some people will push back because they want to keep going back to their favorite spots.*
- (Brian Walker) *I agree. I'm not sure what mechanism or criteria would be used to move the buoys around. The recovery time would also be an issue to take into account.*
- (Dave Gilliam) *The cost of the program is large, not just one time installation cost. Maintenance and education are additional costs that need to be considered. There is also an in water cost. By looking at benthic data we could figure out what the area*

was being used for. If it is a fishing site we found lots of fishing gear and beer bottles. Diving areas were cleaner. So there are additional costs that should be considered in expanding or modifying the mooring ball program.

-(Brian Walker) One of the RMAs suggested a regional mooring buoy program but that could be considered under an MPA also.

4. (Joshua Voss) *Did they suggest different uses for the mooring buoys, i.e. Diving vs fishing?*

-(Phil Dustan) They can be used as a management tool. If you prohibit anchoring, and there are no mooring balls there, then you remove some of the pressure on that area. There ought to be areas where you can't anchor or have mooring balls, and restrict access that way.

-(Manoj Shivilani) We haven't discussed using the Keys Sanctuary Mooring Buoy Action plan as a model. They do have one, and we could expand it for the region. Another question we wanted to discuss was who would pay for this? One of the management actions suggested user fees, so divers should pay for it.

-(Brian Walker) We also had a recommendation that asks to develop a sustainable finance plan, we need help with that one.

-(Phil Dustan) One more thing. On declaring the area a world heritage site. Typically these are places that are really rich and diverse and deserving of protection. I'm not sure if that is applicable here.

-(Margaret Miller) I would suggest that we look at a carefully planned layout of buoys before a rotational scheme. The benefit is to focus use on certain "sacrificial" areas and that way preserve other areas. Rotating might just spread the damage around. There doesn't seem to be data to have recovery areas, the time scale is too long

-(Dan Clark – CWG Member) Miami-Dade ReefGuard is a way to raise funding. They get money for their mooring buoy program in Miami.

-(Dana Wusinich-Mendez) Reef guard could be a good model.

Report out #2

Group 1. Kurtis Gregg, Arthur Mariano, Valerie Paul, John Fauth

- Theme 1: Sustainability of reef fish population (S-83)
 - S-98: Simplify Fish and Wildlife Commission regulations to make compliance easier
 - Not recommended, simplification should be based on science not simplicity
 - S-78: Increase size limits
 - S-85: Allocate reef fish quotas
 - Might complicate regulations
 - N-65: Standardize commercial and recreational limits differences
 - Optimize for different fisheries
- Theme 2: Fishing gear regulations
 - N-64: Registration of commercial fishing gear
 - Already done
 - N-63 Maintain net ban
 - Agree, already in effect
 - N-53 eliminate commercial netting
 - Addressed in 1995 amendment, net ban

- N-59. Ban spear fishing under SCUBA
 - These tend to target the largest, most fecund individuals. Support that recommendation.

Questions Group 1

1. (Judy Lang) *Did you consider an upper size limit beyond which you are not allowed to catch?*
 - (Kurtis Gregg) *Slot limits have been used. Larger individuals show barotrauma from being brought up. Release mortality would probably be high.*
 - (Phil Dustan) *We are one of the few countries who allow spear fishing on scuba*
2. (Dan Clark – CWG Member) *Would there be an advantage to protecting the spawning/aggregation areas.*
 - (Kurtis Gregg) *Preventing spearfishing on SCUBA may address that.*

Group 2. Joe Lopez, (Lew Gramer and Ken Banks absent - Josh Voss assisted)

- Theme 1: Educate on importance of rack lines (N-124, N-125, S-116).
 - Not a lot of documentation in the literature. Seems like a good subject to research
 - RMA to rake the rack line
 - Little research on rack lines. Does raking enhance or prevent erosion?
 - Is it a government or private activity?

Questions Group 2

1. (Dave Gilliam) *What was the connection with the coral reefs? Was there any tie-in to the management of the reefs?*
 - (Dale Griffin) *I think beach erosion*
 - (Dan Clark – CWG Member) *It might have to do with beach management practices. It helps against erosion.*
2. (Margaret Miller) *The MA is to leave the rack line?*
 - (Joshua Voss) *Three of the RMAs recommend to do: less removal, reduce negative effects of raking, and advocated for raking sand up the beach to prevent erosion.*
 - (Dick Dodge) *There is no proof any of this works.*
 - (Dan Clark – CWG Member) *They just flatten the beach so it looks nice, but they are affecting the rack lines services.*
 - (Joshua Voss) *That is why we wanted to discuss this. Not sure there is a lot of research on this, so we would like to discuss it. FWC seems to have contrasting information for and against removing it.*
 - (Brian Walker) *The rack lines are usually covered in trash, not sure how that would go over with the managers if it means leaving trash on the beach.*
 - (Dan Clark – CWG Member) *On days that you know it will be windy, just leave the rack out there to aid in erosion prevention.*
3. (Valerie Paul) *Burying sounds like a bad idea.*
 - (Joshua Voss) *One paper did say burying it did show negative impacts on turtle nesting.*
 - (Dan Clark – CWG Member) *They bury it below the high tide line, then it get washed away when the tide comes in again.*
4. (Joshua Voss) *Palm Beach and Martin County don't have any regulations on rack removal. Are there any regulations that prevent private entities from raking in front of the hotels for example?*

Group 3. Jack Stamates, Dale Griffin, Nancy Craig, Piero Gardinali

- Theme 1: Land based sources of pollution and water quality
 - N-71: Monitoring program for inlets
 - N-82 Increase storm water storage-treatment
 - N-81, N-87, N-110: Storm water management
 - N-85: Identify point sources of pollution
 - N-86: Regulate point sources of pollution
 - N-97: NPS mitigation initiatives

Questions Group 3

1. (John Fauth) *So far the retention ponds have been successful at removing phosphorous but not nitrogen. They need better engineering. They all look the same; they use the same formula throughout. The solution is to turn them into marshes. But this takes too much land and money. So somewhere we need to make sure that they fulfill their function, currently they are not.*
 - (Dale Griffin) *In Chicago they've dug up huge reservoirs in the ground to hold water and then treat later. There are other strategies that can be used for treatment.*
 - (Dan Clark – CWG Member) *They are doing away with them now. The retention ponds built for mitigation years ago were just given away for further development.*
 - (Piero Gardinali) *The total recommendations include a bunch of other aspects.*
2. (Esther Peters) *The ponds by the highways and stuff don't necessarily remove contaminants. Is that true?*
 - (Dale Griffin) *It is a race against time, to see how much can be bioremediated in a short period of time. The longer the retention the better.*
3. (Dan Clark – CWG Member) *That's what we are suggesting the 29,000 acres in Sugar Land be used for.*
4. (Jack Stamates) *Regarding N-71 we will be releasing a couple of reports on the techniques we used to measure things in the inlets recently.*

Group 4. Margaret Miller, Dave Gilliam, Judy Lang and Diego Lirman

- Theme 1: Restoration
 - S-8: Restore/enhance coral reefs and hard bottom
 - S-8: Enhance coral reef populations
 - S-13: Restore damaged reefs (increase coral cover)
 - S-15: Restore ESA corals
 - S-7 and S-24: Monitoring of artificial reefs. Science based restoration
 - N-70 and S-23: Create and restore estuarine habitats
 - S-11: Remove boring sponges
 - Comments:
 - Great concepts and intentions
 - Lack detail, clear targets and goals
 - Need cost analysis, they might prove too costly
 - Good basis to establish framework for conservation, restoration and mitigation.
 - Tools:
 - Coral nurseries
 - Rotating recovery zones
 - Use larvae to enhance degraded reef zones
 - Transplant resilient corals

- Build better artificial reefs
- Restore, create and enhance nursery habitats for fish and other invertebrates in estuarine systems

Questions Group 4

1. (Margaret Miller) *More science based artificial reefs. We would provide feedback saying that these are only a small piece of the puzzle of a much larger restoration strategy.*
2. (Phil Dustan) *Have you discussed reef self-restoration? Like by putting urchins out.*
 - (Margaret Miller) *It's not included in the RMAs but it could be a tool that is further developed.*
 - (Judy Lang) *Two RMAs encouraged the protection of parrot fish.*
 - (Dana Wusinich-Mendez) *In some cases we might need to provide some of this detail, because the CWG members might not have the expertise or capability to come up with such specific recommendations.*
 - (Valerie Paul) *I'm not sure about the feasibility of restoration using larvae.*
 - (Diego Lirman) *There was another RMA stating to protect the spawning populations.*
 - (Dale Griffin) *Look at synergistic experiments for example if you put coral in also add urchins.*
 - (Margaret Miller and Diego Lirman) *You should probably add comments on looking at other non-coral species: urchins, soft corals, Xestospongia muta (sponges).*
3. (Joe Lopez) *Would it be the TAC's job to come up with some hypotheses to test?*
 - (Jenny Báez) *CWG were instructed not to develop research, but management actions. Therefore, don't give feedback in that sense, but making sure these are all management actions. This is only the first round, we will continue to work on these RMAs so that they can get more specific eventually.*
4. (Margaret Miller) *Is urchin restoration something we can do? I feel it is still in research stages.*
 - (John Fauth) *There is a graduate student looking at urchins as an invasive species. Because we want them to be invasive in a restoration site.*
 - (Margaret Miller) *We don't even know how to raise them at scale yet.*
 - (John Fauth) *One of the main things was that you need to be able to prevent the larvae from leaving.*
 - (Phil Dustan) *We know you can move them from shallow to deep, we know that urchins help increase coral growth in reef areas. We can take them through four generations in the lab right now. Commercial aquaculturists think that that may be a problem of the set up, but it can be worked on. We should be able to move forward with this, but I agree there is stuff that is not ready yet, but that may be due to lack of funding/interest from some.*
5. (Doug Seba – National Academy of Sciences) *Florida has a tourist tax, this supports zoos and theme parks. Monroe County has further taxes, recently it has been decided that some of this money be used to restore reefs. Could the State tax be used in a similar manner?*
6. (Esther Peters) *What do you mean by better artificial reefs? Initially they were used to bring in fish.*

- (Margaret Miller) I think this RMA refers to do better than tires.*
- (Esther Peters) At some point a long time ago, someone said that it would be more important to protect the reefs we have than to continue deploying artificial reefs.*
- (Judy Lang) We are aware and do not suggest that artificial reefs should be an end in and of themselves.*

7. (Phil Dustan) *Could you sink a ship to move people off the reef?*

- (Margaret Miller) Not sure there's evidence for that being an effective method.*

Group 5. Richard Dodge, Esther Peters, Dana Wusinich-Mendez, Kate Lunz

- Theme 1: Monitoring
 - S-3: Research coral disease
 - N-114 and N-88: Reinstate funding for DEP to monitor reefs. Permits only before, during after project.
 - S-107 and N-119: Region-wide biological monitoring-beach construction projects. Army Corps of Engineers better inform permitting decisions.
 - Comments:
 - Disease research should not only focus on infectious agents but on biotic and abiotic factors, complex subject.
 - RMAs must understand research priorities and needs must be included to address information gaps to inform adaptive management of coral reef ecosystems.
 - Why monitor corals?
 - Who will do the monitoring? DEP?
 - Revise RMA to inform decision making/permitting
 - Capacity building
 - Should beach renourishment activities and construction be monitored also?
 - If US Army Corps of Engineers (USACE) is in charge of a project should they also be able to monitor?
 - Tools:
 - Coral nurseries
 - Rotating recovery zones
 - Use larvae to enhance degraded reef zones
 - Transplant resilient corals
 - Build better artificial reefs
 - Restore, create and enhance nursery habitats for fish and other invertebrates in estuarine systems

Questions Group 5

1. (Arthur Mariano) *I don't think the USACE is part of the solution. Seems they are mostly part of the problem.*

- (Dana Wusinich-Mendez) There are two parts to the Army Corps of Engineers, civil works (carries out projects) and regulatory (permitting). When it comes down to beach and coastal construction there is not enough staff capacity to gather all information before permits are issued or to enforce post permit overview. So not necessary to expand civil works capacity but manpower is needed on regulatory side.*

- (Dan Clark – CWG Member) It has two levels, but it is also a political problem more than just resources.*

2. (Phil Dustan) *Monitoring is like the weather, we should always do it, and we need to have the information to see what's happening. However, they have cut the funding.*

- (Esther Peters) It's not just State funding, but also Federal.*
- (Phil Dustan) We need certain fundamental information. NOAA doesn't do anything with biological data right now.*
- (Esther Peters) I was at a meeting at NOAA a couple of years ago. It seems that within NOAA there is a lack of communication between the physical oceanographers and the ones doing monitoring biological data.*
- (Dana Wusinich-Mendez) Indeed, there are two groups working on this within NOAA and they don't often communicate well.*

Group 6. Brian Walker, Manoj Shivlani, (James Byrne, absent)

- Theme 1: Economics and financing
 - N-123: Develop a sustainable finance program
 - S-78: Raise cost of violations
 - S-75 User fees (air tank tax, salt water license or general usage fees)
 - N-27: Co-management agreement between government and NGO's. Lower cost, increase compliance
- Theme 2: Maximize reef resilience (S-68)
 - Reduce stress at local, regional and global scales
 - Dive with a purpose NGO organizes cleanup dives, have a big following now
 - Must get it out of people's heads that we can't do anything about it. How do you do it? One at a time; repetition is the key. Advertise the product.

Questions Group 6

1. *(Brian Walker) Develop a sustainable financial plan. That is the overarching idea. Not sure if that is even possible. Who would do it? Who is it for?*
 - (Dana Wusinich-Mendez) Where they have been done successfully has been in a MPAs where they get economists to develop the financial strategy. The License plate program at Mote is a sustainable financial strategy.*
 - (Dale Griffin) It's a good idea, if you want to fish in the state you need a license, maybe if you want to dive, you have to pay for license.*
 - (Phil Dustan) How do you charge someone for diving?*
 - (Dana Wusinich-Mendez) Reef Guard program sell medallions and the proceeds go to reef resilience and protection, as well as mooring buoy maintenance.*
 - (Phil Dustan) Taxes on air fills, or something like that may have more traction than charging people to dive.*
2. *(Piero Gardinali) What do tourists do when they go fishing on the head boats?*
 - (Phil Dustan) In North Carolina the locals are the ones who are having the highest impact, they want to use their resources. The tourists are paying the expensive restaurants and taxes on hotels etc.*
 - (Dan Clark – CWG Member) The Diving Equipment & Marketing Association (DEMA), dive operators, etc. Will be against any of this. Perhaps it could be done for some areas like it is done in the Keys to dive some of the wrecks etc.*
 - (Dale Griffin) Things have been done which worked for example banning nets.*
 - (Joshua Voss) Two alternatives tokens vs. Tank tax. The tokens are a one-time fee so they might be more receptive to it.*
 - (Phil Dustan) In many places there is an entry fee for tourists but not for locals. Although locals don't dive there.*
3. *(Dale Griffin) The fishing license for locals is more expensive than those of tourists?*

-(Dan Clark – CWG Member) *No out of state licenses are more expensive than local ones.*

4. (Phil Dustan) *What do we want the money for? Is it going to go to building a bigger bureaucracy?*

Public Comment

Directions for public comment:

- Please fill in a Comment Card and give it to the floating facilitators or registration staff if you wish to speak.
- Public comment is limited to 3 minutes for each person speaking unless there are less than 5 comments; Then up to a maximum of 5 minutes will be allotted.
- Only comments submitted in writing on a comment card will be included in the meeting minutes.
- If you have materials you wish to give to the SEFCRI TAC, please provide copies and leave them at the Registration Table.

Dan Clark – Cry of the Water

The mixing zone used to be 150 meters, now under the BMA in West Palm Beach it is 1,000 meters. Lake Okeechobee is over 15 feet deep right now, they have to dump or the dyke could break.

Amendment 1 – could be money for beaches. If they can use this for beaches it could be used for some improvement. NOAA Sanctuary is what we need for management.

Stephanie Clark – Cry of the Water

No to mitigation banks – don't want to spend valuable time to fight mitigation out of the areas of impact –again. Work on beach project permit to get the most out of avoidance and minimization. I have been involved in the Palm Beach Beach Management Agreement (BMA) and do not want it in Broward. Lead by cities that wanted sand, dredges and consultants for the projects.

Adjourn

DAY 2 SPRING 2015 TAC MEETING

Introduction

Jennifer Jordan Báez introduced herself as the FDEP LBSP coordinator, welcomed all in attendance to the 3rd Southeast Florida Coral Reef Initiative (SEFCRI) Technical Advisory Committee (TAC) meeting, reviewed meeting participation guidelines for TAC members and observers, which included the facilitators' role, guidelines for discussion, consensus rules, comment card procedures, and the use of meeting evaluation forms. Jenny then reviewed the day's agenda.

Discussion and feedback on previous day's activities

1. (Jack Stamates) *Is there time for more recommendations? Under the new legislation for the outfalls there is a mandate for 60% reuse of water. That is a significant amount but the utilities do not have any good ideas on what to do with that amount of water. It is a significant part of the outfall legislation. We should be aware of this issue.*
 - (Jamie Monty) *The recommendation period is over, but taking into account your and the Coastal Ocean Task Force recommendations, they can also work on improving and modifying some of them. They cannot make new ones but they may modify the ones they have so far. We could include new details on the outfall legislation. Good feedback.*
2. (Valerie Paul) *What are the next steps for Our Florida Reefs?*
 - (Jamie Monty) *We are breaking for now, will restart in March. The first 2 months will be to incorporate the feedback from you and Coastal Ocean Task Force into their recommendations. Then they will work on spatial planning recommendations. In the summer they will go on break again, meanwhile you will review their work from spring. In the fall, both groups North and South will work together to come up with a single document for the whole SEFCRI region. They will prioritize RMAs. February 2016 will be the end of step 3. Sharing the RMAs. They will go out to public meetings to get feedback from general public. In March and April the working groups will develop the draft management plan. So that by June 2016, hopefully, they will have the finalized plan. Including OFR and SEFCRI's recommendations.*
3. (Judy Lang) *What happens if a management action requires legislative action? What happens if a SEFCRI team member does not recommend it?*
 - (Jamie Monty) *The CWG can then decide to modify it so legislation is not needed or move forward and try to continue pushing it through. There will be other work on the back end by DEP staff so that agencies have some idea on what to expect.*
4. (Valerie Paul) *Does this plan have a time frame? 5-10 year plan?*
 - (Jamie Monty) *It's not a set time line, but we have suggested probably 5 years.*
 - (Valerie Paul) *We must keep in mind that political landscape can change through time, so we should plan for that.*
 - (Jamie Monty) *We will keep that in mind but we also need to prioritize. Maybe by urgency or importance.*
5. (Jamie Monty) *Were there criteria for achievable or implementable depending on the time needed?*
 - (Judy Lang) *There was in tier 2.*

6. (Meghan Balling) *The timeframe discussed was to plan for changes in the next 20 year span but implemented in the next 10 years.*
7. (Phil Dustan) *We have an idea of what reefs should look like and then reality of what it is. The general public might not know what is wrong with the reefs. What hasn't happened in the Keys is people realizing that the state of the reefs is due to their actions. We have a huge challenge, because we need the public to realize what they are doing.*
 -(Jamie Monty) *They did get talks on shifting baselines.*
8. (Phil Dustan) *Have you ever thought of having a demonstration restoration? Use all our knowledge and techniques to showcase what can be done. And invite people to participate in it.*
 -(Dana Wusinich-Mendez) *But if you're not removing the stressors restoration probably will not work.*
 -(Phil Dustan) *We don't know what will happen when we remove all the stressors right? And removing all the stressors is just not possible. How about just trying to make an area where we can have a demonstration project where we can display and experiment with our best practices.*
9. (Margaret Miller) *Do we have access to provide feedback on projects that were not assigned to our group?*
 -(Jenny Báez) *I can circulate that to everyone. We are working on a timeline so that that you can do that. The survey will be open for a set period of time.*
10. (Dana Wusinich-Mendez) *Is there an opportunity to generate new actions? Phil's question is not a response to any of the suggested actions, but is there a way to include these as we generate new ideas. It might get lost in the comments if it's a new gap that is identified by TAC right now. What mechanism could we use for this?*
 -(Jamie Monty) *There is no process built in for that right now.*
 -(Kurtis Gregg) *Phil's proposal would be research monitoring which the working groups were told not to discuss.*
 -(Jamie Monty) *There are also other Management Actions that you guys didn't see so you can also look at those and keep them in the process if you want. If there are still gaps, then we can write down the feedback and present it to the working groups.*
 -(Phil Dustan) *I helped form Coral Reef task force. 95% of what we know about reefs comes from curious people and you have a good group in here. We need to have a way to express that.*
 -(Jamie Monty) *We are prioritizing management actions over research right now because SEFCRI is 10 years old right now. We have data and research that is sitting on a shelf, but we need actions to start taking place right now. That is our focus to move things forward on actions. We may not be focusing on research right now but it does not mean we will not be doing research. We just want to implement some of the results from previous research before moving on.*
 -(Jenny Báez) *Maybe we can provide the working group might want to look at the meeting minutes. If you agree we can present them to them.*
 -(Judy Lang) *I think that Phil's and Jack's suggestions can fit into some of our feedback. We wrote in a summary sentence on one of our management actions.*
 -(Dale Griffin) *The public still recognizes that research is still needed.*
 -(Dana Wusinich-Mendez) *That is not the focus of Our Florida Reefs.*

Breakout #1 – Feedback on RMAs continued

Group 1. Kurtis Gregg, Arthur Mariano, Valerie Paul, John Fauth

- Theme 1: Incentives and initiatives to restore and preserve wetlands north of Lake Okeechobee (N-69)
 - The habitat extends all the way up to Orlando
 - Water is diverted east to the reefs or flows down to the Everglades
 - Mostly supports ranching in sheet flow areas, they are wet pastures. When there is flooding they need to move the cattle off of the lands or they can drown
 - Encourage the expansion of this MA
 - Florida Ranchlands Environmental Service Project (FRESP) was proposed by World Wildlife Fund (WWF), they paid ranchers to hold water in their lands to allow for nutrients to leach out. It was successful; they get a check for environmental services.
 - Ranchers had a lot of buy in. They could still raise their cattle. Project has been taken over by SFWMD but there is lots of opportunity for expansion. If we bring other stakeholder groups together they might be surprised at how much overlap there is. So the project is already running, the infrastructure is there. Easy to look into.
- Theme 2: Support restoration of Everglades historical flow (S-28)
 - We all know this is an important factor in controlling nutrient loads in water

Questions Group 1

1. (Kurtis Gregg) *From experience in SFWMD and regulatory offices, there is not a lot intuitive overlap in interests between groups. This is an important opportunity reach out to these groups and show what impacts some of the inshore activities can have on the reefs. As Phil said, we need to brand and get the word out to public. Everglades has a lot of momentum, if we could use that for the resources that are connected to this it may be an avenue that we could use.*
2. (Phil Dustan) *When you say restore the historical flow. Is it possible?*
 - (John Fauth) *Part of it can be done.*
 - (Kurtis Gregg) *Quantity, quality timing, and distribution. Right amount of water at the right time. Right now they are managed backwards. Draw down during the wet season and hold water during the dry season.*
3. (Esther Peters) *So this project is already done?*
 - (John Fauth) *It was a pilot program, but we need to help expand it. Ranchers really like this program. They see the conservation value and they get a steady income. The pilot program was led by WWF and the US Department of Agriculture.*
 - (Judy Lang) *They like it but not enough to do it on their own.*
 - (John Fauth) *Yes they like the incentive.*
 - (Esther Peters) *So it is like a subsidy?*
 - (Kurtis Gregg) *It is at our expense, but we don't have to buy land to do this,*
 - (John Fauth) *Lots of the digging and ditching was done in the 1950's and now we're trying to undo it.*
4. (Judy Lang) *So what is the action? Expanding this program?*
 - (Kurtis Gregg) *That is what we suggested, but if there are other ideas we would like to hear them.*
 - (John Fauth) *It would maybe help to show them what impacts they are having on the coastal environment.*
 - (Judy Lang) *Maybe that would help get funding*

- (Kurtis Gregg) Funding comes from legislative appropriation.*
- (John Fauth) The project helps bring allies together. We should regard them as potential teammates.*
- 5. *(Joshua Voss) I'm not sure if it's an RMA, but I can think of some people who can facilitate the meeting for these groups.*
 - (John Fauth) We could use this as an example of a project that is working and they don't even know what the additional value of the project is.*

Group 2. No members present. Discussed as a group

- Theme 1: Install permanent erosion stabilizers (undercurrent stabilizers) to eliminate silting caused by constant beach renourishment (N-102)
 1. *(Margaret Miller) Is there such a thing as permanent erosion stabilizers?*
 - (John Fauth) Earlier measures didn't work (geo-tubes to stabilize dunes).*
 - (Dave Gilliam and Margaret Miller) They won't prevent erosion it will just move it somewhere else.*
 - (Esther Peters) Waves ruin rock deployments and seawalls.*
 - (Margaret Miller) If it's not a hard structure it will move around (eg. Barrier islands).*
 - (Jack Stamates) There are certain things that can slow the loss of sand.*
 - (Kurtis Gregg) They tried in West Palm but that failed as well.*
 - (Dana Wusinich-Mendez) I need to add qualifiers that at local levels they do prevent erosion on a beach but is generally detrimental downstream. Quality check says an RMA must reduce the threat to reef. This seems to be focused on beach renourishment.*
 - (Judy Lang) It does affect reefs if sedimentation is taken into account.*
 - (John Fauth) Geotubes have been used but I don't think that they have worked.*
 - (Esther Peters) They have tried stuff in Charleston, to trap sediment but they don't seem to be working there either. If you didn't have the need to have the beach in the same place, you will always have a beach but the buildings require us to have the beach there.*
 - (John Fauth) George Washington put up the Cape Hatteras lighthouse knowing full well it would need to be moved or end up in the ocean later.*
 - (Phil Dustan) No shoreline stabilization option works permanently*
 - (Piero Gardinali) shouldn't we advocate for healthier reefs then. That's what a healthy reef does, protect the shoreline.*
- Theme 2: Create/enhance "LEED"-like certification program for coastal construction companies and projects, as well as individuals working in the industry, to encourage smart development and best practices for coastal construction (S-101)
 - (Dana Wusinich-Mendez) When some of the voluntary certification programs work (Blue star dive, Green golf course, etc.) is when the consumer is willing to pay a higher price for being environmentally friendly. I'm not sure it applies in our scenario because the construction projects are permitted before the end consumer can make a choice.*
 - (Phil Dustan) I could see it in wells, creating criteria for how deep they go, or where the water goes.*
 - (Kurtis Gregg) I see it as a company which can be certified to do certain projects*
 - (Margaret Miller) They will always lose the bid if they are more expensive.*

- (Esther Peters) Just like with the building program it is voluntary right? But there is more demand for it. Is this going to be required or voluntary?*
- (Jenny Báez) We should pose these questions to the Community Working Groups.*
- (Margaret Miller) It's easier to imagine something like this for houses or other projects, so we should maybe narrow it and get some focus.*
- (Arthur Mariano) FEMA has a coastal construction project.*
- 1. *(Judy Lang) Who is going to administer it?*
 - (Jack Stamates) I suggest simplifying it to "give incentive to companies that are promoting environmentally friendly practices".*
 - (John Fauth) That is similar to what the FRESP does, incentivizing ranchers to go above and beyond to protect the environment.*
 - (Esther Peters) Enforcement and compliance seem to be a problem.*
 - (Dana Wusinich-Mendez) We should probably put stuff in for data gaps. Like consumer demand for an environmentally friendly program.*
 - (Piero Gardinali) Hotels have similar standards. If they are environmentally friendly. Maybe our program should be reef friendly contractor, etc.*
 - (Judy Lang) In these other programs you have to pay to be assessed. So it ends up being the big hotels that can pay for the certifications and not smaller independent businesses.*
- Theme 3: Enable movement of natural sand transport, interrupted by construction of inlets, via dedicated, moveable, seagoing dredge vessels similar to Hillsboro Inlet District, to help eliminate wasteful and harmful dredge and fill projects (N-110)
 1. *(Dave Gilliam) So it's a bypass?*
 - (Kurtis Gregg) With a ship for a dredge instead of a bypass*
 - (Jack Stamates) It's essentially a sand transport but the boat moves. It's a hybrid*
 2. *(Kurtis Gregg) Why is it better?*
 - (Jack Stamates) It has more maneuverability and range. At Hillsboro you have to go around and island.*
 - (Dave Gilliam) The sand bypass for Port Everglades is also moving forward here. It will be a passive system where they trap sand on one side then transport it to the south of Port Everglades periodically.*
 3. *(Jenny Báez) Does the intended result meet the RMA objective?*
 4. *(Dave Gilliam) I don't think there is an inlet where there isn't anything like that in place?*
 - (Several members) Boca, Jupiter, Miami.*
 - (Dave Gilliam) It is a reasonable RMA but it's worded weirdly. Maybe simplify it to installing "sand bypass" systems at remaining inlets.*
 5. *(Dana Wusinich-Mendez) Is the primary driver ecosystem conservation or keeping beaches?*
 - (Jack Stamates and Kurtis Gregg) I think the idea is we could use the "natural" sand transport to renourish beaches rather than borrowing sand from offshore.*
 - (Arthur Mariano) Using a seagoing vessel is too restrictive. We might have other technologies that work.*
- Theme 4: Reduce/eliminate beach renourishment projects to prevent excessive siltation and turbidity (S-115)
 - (Jack Stamates) We are tourist driven economy and the beaches are a big part of that. We need to find alternatives but no beaches means no tourism.*

- (Esther Peters) *At one of the MICCI workshops we had speakers who presented alternatives for how to keep sand on the beaches.*
- (Margaret Miller) *Not sure if it's referenced in the proposal but in a decade or two all of this will be underwater so it is a self-limiting activity on a decade scale.*
- (Esther Peters) *Areas of the road will flood more frequently.*
- 1. (Dana Wusinich-Mendez) *How about a management action that proposes when you start losing properties to flooding you can't use insurance money to rebuild?*
 - (John Fauth) *They did that in North Carolina but it was ruled unconstitutional.*
 - (Esther Peters) *In NC after hurricane Hugo they said if your condo is 2/3 ok you can rebuild.*
 - (Jack Stamates) *This is too vague*
- 2. (Jenny Báez) *Are there any alternatives?*
 - (Judy Lang) *The sand bypass we talked about before.*
- Theme 5: Eliminate offshore sediment dredging for beach nourishment to reduce muddy runoff turbidity and sediment stress on corals, eliminate damage from dredging "accidents," and degradation of sea turtle nesting beaches (S-122)
 - (Dave Gilliam) *Two different concepts. Eliminating offshore borrow areas is different from degrading turtle nesting areas. In Broward they have moved away from the borrow areas because there are no more resources off shore.*
 - (Jack Stamates) *I believe in Miami-Dade they still have borrow areas*
 - 1. (Esther Peters) *When did that change or why?*
 - (Dave Gilliam) *Not exactly sure, but it seems that it became too expensive to go get sand offshore and bring it in.*
 - 2. (Esther Peters) *Was that a county decision?*
 - (Dave Gilliam) *Not sure. Army Corps of Engineers and County probably came to the decision together.*
 - 3. (Judy Lang) *Are sea turtle nesting grounds being degraded by these projects?*
 - (Nancy Craig) *They are not allowed to renourish during sea turtle nesting season.*
 - (Jack Stamates) *You have to be careful with the type of sand if not you may alter the gender ratios.*

Group 3. Jack Stamates, Dale Griffin, Nancy Craig, Piero Gardinali

- Theme 1: Stop land based sources of pollution (N-72)
 - Nonspecific and covered elsewhere.
- Theme 2: Conduct reef cleanups and address marine debris (N-138)
 - Programs already exist and should continue

Questions Group 3

1. (Jenny Báez) *What type of feedback did you provide?*
 - (Piero Gardinali) *We do not have enough information to assess the RMA. We referred them to other RMAs that had more focus or specific examples. e.g., related to point sources, watershed, etc.*
2. (Joshua Voss) *Do you think that the MAs that were more specific were comprehensive or were there gaps that could be addressed under this MA?*
 - (Piero Gardinali) *We lumped things into themes, e.g. closing the outfall.*
3. (Joshua Voss) *Do you think there are any big gaps? Other than reuse?*
 - (Piero Gardinali) *Reuse is big. Point sources are mentioned a lot, but there is a system to regulate those already.*

4. (Phil Dustan) *What about roads as a source?*
-(Piero Gardinali) *Some of the ones we discussed yesterday concerning storm-water runoff addressed roads as a part of that. So we included wording on those to include storm runoff. The inlet may be one of the biggest contributors so we should look at that.*

Team 4. Margaret Miller, Dave Gilliam, Diego Lirman, Judy Lang

- Theme 1: Water turbidity standard (S104)
 - DEP triennial review
 - Suggest making it an absolute ceiling versus above background (improve definition of “background”)
 - Alternate parameters may be more protective:
 - Suspended sediment (mg/L)
 - Deposition (mg/m²/day)
 - % surface irradiance
 - Feasibility of measurement
 - This issue has been brought up many times. We have some experience in the water, but little regulatory and enforcement issues. DEP is engaged in discussing this in the triennial review process.
 - The current standard and that way that it is implemented is not protective of corals from our data.
 - It’s referred to as the 29 NTU standard, but it is 29 NTU’s above background.
 - The definition of the background may be part of the problem. There may be some procedural changes, rather than wholesale changes needed.
 - Pre project background levels, or regional levels that could be standardized may help
 - Light effects may not be the most directly impactful effects; there may be more effects from deposition, or suspended particles etc. There are issues with measuring many of these things though. There is much room for improvement here.

Questions Group 4

- (Phil Dustan) *Turbidity (optical) vs. transmittance (more precise measurement but more difficult to do).*

-(Jack Stamates) *Correlation between weight (mg/L) vs. optical turbidity standards has occurred in Miami. I’m not aware of any transmissometers that area available for underwater usage.*

-(Phil Dustan) *On corals there are two issues, light and deposition. Sediment blocks light and falls on corals.*

-(Dan Clark – CWG Member) *We have been working with Ed and Marty. The contractors are not working in the densest part of the plumes. We have been using drones to take images of the plumes and quantify their full extent.*

-(John Fauth) *Turbidity measurements should be georeferenced and done in a transect away from a source. That would give you multiple measurements which could give us the shape of the plume. Then we would have a spatial area and distribution. Because NTU’s are easy to measure it measures where the plume is. There are good reasons to use them. A portable NTU apparatus has to be calibrated every 2 and it meets Agency standards.*

-(Margaret Miller) *Incorporating an absolute ceiling might be another factor to incorporate into the standard.*

-(Jack Stamates) Ocean color is not directly relatable – what you see is not necessarily a reflection of what’s going on.

-(Phil Dustan) How is background determined?

-(Jack Stamates) Background is defined in radius from the source. In dredging activities it is a set distance downstream.

1. *(Margaret Miller) Jack was your project commissioned?*

-(Jack Stamates) Yes the Army Corps of Engineers commissioned it. Another factor that is not considered is ocean color. Turbidity doesn’t consider it. Under dredging they are supposed to go upstream and measure there. Our project was to measure turbidity over a year. They did this because of a dredging in Key West where they had fixed standards which they were over whenever it was windy.

2. *(Esther Peters) Were there stations in Biscayne Bay?*

-(Jack Stamates) One just north by the Rickenbacker causeway, remediation area off of 79th Street Causeway (in Miami).

3. *(Esther Peters) Were there any corals there?*

-(Jack Stamates) There weren’t.

4. *(Dale Griffin) NASA is looking into turbidity from remote sensing. Unmanned Aerial Vehicles are excellent remote sensing platforms.*

-(Margaret Miller) Is there a way to calibrate that to the measurement we get in the water? If there are they would be very helpful.

-(Dale Griffin) Yes.

-(Judy Lang) This was the MA that had the most documentation. It stood out from all the other ones. So we really appreciate the input. I’ve used some of the information from the report.

Group 5. Dick Dodge, Esther Peters, Dana Wusinich-Mendez, Kate Lunz

- Theme 1: Identifying fisheries management approaches in the SEFCRI region (N-60)
 - Suggest re-phrasing the title: Alternatives to MPAs for fisheries management in the SEFCRI region.
 - Florida Fish and Wildlife Commission (FWC) and Coastal Ocean Task Force (COTF) have said that until all other less restrictive MAs have failed MPA’s cannot be considered.
 - After 3 years of baseline data on fish we have found there are no reproductive sized fish. So how do we come up with a non-MPA based option?
- Theme 2: Lost fishing gear, anchors, crab/lobster pots, net removal program (N-47)
 - Need change in State law to allow reporting and retrieval without penalty by State, Reef Injury Prevention and Response Program (RIPR) staff.
- Theme 3: Green Club? (N-94)
 - Voluntary program but golf clubs meet best environmental practices in water use, pesticides etc. See Virginia DEQ and Audubon Society programs.

Questions Team 5

1. *(Jamie Monty) We have been in talks with FWC, they are opposed specifically to a marine reserve unless all other options have been tried and proven to fail. We requested clarification but haven’t had it yet.*

-(John Fauth) We know MPA’s work so why are they opposing it?

-(Jamie Monty) They understand MPA’s as marine reserves which means no-take zone however, MPA is any protected area which has different management options.

Additionally, FWC is not impeding the CWG to recommend marine reserves or MPA's because FWC is not the only agency who can enforce it.

2. (Dana Wusinich-Mendez) *We identified an important data gap. Most of fisheries management approaches are based on regional stock assessments for the entire southeastern U.S. Identified sub-stock assessments on high priority species in SEFCRI.*
 - (John Fauth) *Maybe we should just run it and keep going. They are just running interference; why would you try things that are not certain are going to work instead of something that we know works in other places?*
 - (Dana Wusinich-Mendez) *Kate talked to us about strategies they have developed in Biscayne National Park. In some areas they will have a lottery for fishing permits to some areas. They will run it for 5 years. I agree we don't have time to keep trying things.*
 - (Kurtis Gregg) *It comes from a tradition that people have historically had access to the resource. They pay their license fees and boats so that they can have access. FWC sees them as costumers.*
 - (John Fauth) *There might be conflict of interest looking at it like that.*
3. (Manoj Shivalni) *You don't want to look at MPAs in a vacuum. MPAs need additional fisheries management measures. Increase sizes, slot limits, or seasonal closures. In other areas we have found that without the traditional measures MPAs by themselves don't usually work.*
 - (Dana Wusinich-Mendez) *We called it alternatives to fisheries management that do not including MPAs.*
 - (John Fauth) *MPAs have worked repeatedly in other areas.*
 - (Dale Griffin) *You can have flexible MPAs with zoning.*
 - (John Fauth) *Sometimes in places they have cut off everything because they are in dire straights, we might be able to manage it differently here.*

Group 6. Brian Walker, Manoj Shivalni, Phil Dustan (James Byrne absent)

- Theme 1: Collaboration between fishing and diving industries to respect reef ecosystem (N-51)
 - Intractability: one group is consumptive the other one isn't
 - Good to show areas of mutual concern: e.g. Healthy reefs abundance is good to show benefits to both groups
 - Some fishers tend to be conservationists
 - Some divers respect and protect coral reefs
 - Economic benefits/awareness of both
 - Problems
 - How to dispel myths from each side?
 - How best to reduce conflicts between groups?
 - Resource allocation

Questions Group 6

1. (Dale Griffin) *There are areas where there is no diving (eg. Around Port Everglades) so you can designate areas for no fishing, and you can do research and other activities. Other areas can be mixed uses ie. you can have fishing and diving.*
 - (Manoj Shivalni) *Zoning may exacerbate the problem. If you remove people because of their impacts that might be problematic.*

2. (Dana Wusinich-Mendez) *Special Use Areas (SPAs) in the Keys were created to separate fishing and diving. Have they been successful?*
 - (Manoj Shivilani) *There is a lot of conflict engendered because of the zoning. 55% of citizens in Monroe County voted against the Sanctuary. This was due to the fact that the conflicts were not considered. Tortugas may be a better example of success.*
3. (Dana Wusinich-Mendez) *Has the social success of the SPAs been documented 10 years on? The ecological effects have been documented*
 - (Manoj Shivilani) *As time has gone by, zoning is less of an issue. This management actions deals with respect between stakeholders. One way to do it is to dispel myths. Also show impacts. Show data that exemplifies impacts. Allocate resources so each side knows what they're getting.*
 - (Joshua Voss) *We could implement different seasons for different kinds of fish, see if there are changes in diving pressure.*
 - (Manoj Shivilani) *We have that for some fish already right like red snapper. But would that help foster respect?*
4. (Dale Griffin) *Don't close the whole area to either group. Justify closure to one or the other because they are study areas.*
 - (Dana Wusinich-Mendez) *Find common ground; projects or initiatives that those stakeholders can work on together. Give them responsibility for conservation in SEFCRI region. Focus on conservation initiatives that don't necessarily impact them at first.*
5. (Margaret Miller) *How do you envision improving relationships between people will improve conditions on the reef? What is the connection? We should maybe focus more on the actions that affect the reefs directly?*
 - (Brian Walker) *No negativity between groups, help balance responsibility and stewardship.*
 - (Margaret Miller) *Galvanize public will to protect the reef?*
 - (Dave Gilliam) *We commented on several of our MAs there is a lack of connection to reef condition.*
 - (Dale Griffin) *There is a conflict between divers and fishers; you can't educate the conflict out.*
 - (Margaret Miller) *It is a human relations problem, but not a reef impact.*
6. (Dan Clark – CWG Member) *We need the support of both fishers and divers. The fishermen think divers want the reef for themselves. No take areas etc. We need to resolve this conflict because we need all the support we can get. We still don't have a management plan. There are a few things we can all agree on, for example water quality and what is happening to the reefs. We need to bring them together. Zoning will probably happen down the road, but we need to have the reefs to do fishing and diving. The construction projects are another issue. We have told them we don't want no-take zones or zonation, but we know that that is where it's heading. The SEFCRI team members have a good relationship we need to work on it.*
7. (John Fauth) *How can we refine this management action so that these stakeholders play together?*
 - (Jenny Báez) *If you can't figure it out maybe SEFCRI team can provide feedback?*
 - (Joshua Voss) *Maybe front-load some of the non conflicting MA's first so that you get them working together first.*

- (John Fauth) We need to provide ways for them to continue to work together.*
- (Manoj Shivilani) They look at it as a zero sum game. We need to show areas of mutual concern. So that they are working on this together.*
- (John Fauth) We need to work on their operating principles and philosophies. You're right it's not a zero sum game. There may be new opportunities for them if they work together.*

Overview of Decision Support Tool – Brian Walker, Nova Southeastern University

- I've been contracted to provide online support of the WG.
- We created marine planner online for OFR. It has about 40 layers as is.
- We know we will add more layers in time.
- We designed and implemented a survey which hopefully you all know about and should fill out if you haven't.
- The response hasn't been as good as we would like. About 500 registered but only 175 completed. Please support and advertise.
- The survey data will go into the next component which is the Decision Support Tool.
- Setup a grid system offshore at 200 m intervals.
- We will associate data to the grid, then we can use the criteria as filtering mechanism to see what areas remain "available".
- Since we have been doing this as we go along, we are adapting to whatever recommendations we get.
- We ended up with 200 data layer requests. Some were expected and we already have and some are impossible to generate.
- There are a few we have said we decided we won't address. Others we have questions on.
- We are reaching out to people who may have more data. Which are the best data sets? We are also looking people who can help. Would like to leverage your contacts to obtain some of these data sets.
- DEP and NOAA are included, and Rene Baumstark. They have gone helped to collect some of the data.
- Some of our issues are commercial fisheries stock data, we are in conversation with NOAA, the information is proprietary or too broad a scale. They are collected at the county level, which is not usable for this process.
- If you know of any other sources which are public that would be very helpful.
- Manoj's study is good but I don't know how representative it will be, nor do I know how well the survey fill this gap.

Questions: Overview of Decision Support tool

1. *(Dana Wusinich-Mendez) Aren't there recreational fishing catch surveys?*
 - (Jenny Báez) There are for recreational fisheries, but we are lacking some of the commercial fisheries.*
 - (Margaret Miller) Talk to people in the logbook program. I'm not sure of the spatial resolution but there must be data.*
 - (Brian Walker) Jim Bohnsack seems to think that higher resolution data is proprietary. We have data by county.*
2. *(Margaret Miller) Are there Accountability Measures (AMs) data from fisheries?*
 - (Dave Gilliam) Don't think so for anything shallow.*

- (Kurtis Gregg) Reef fisheries are the only group that doesn't require the data.*
- (Brian Walker) The data only goes to the 120 ft contour*
3. *(Manoj Shivlani) Are you going to be including the trip ticket? Fish and Wildlife Institute collects specific data from trip tickets. They have large data sets by species on longer temporal scales. You could get some data which might not be high resolution but you could use the temporal scale.*
- (Brian Walker) Unfortunately we don't have the time or the capacity to analyze the data, we want datasets which are ready to use. NOAA BIOGEO does have some of this already done, and we will look more into. We have FRRP for bleaching prevalence for example, also.*
4. *(Dave Gilliam) Do you know if FWC has information on how the commercial lobster fishermen are permitted? Like where they can lay their lines?*
- (Jamie Monty) They have a set number of traps, but I don't think the permits have any spatial limitations.*
- (Brian Walker) It could be a monumental task to model these things across the seascape. We haven't been able to do that with any precision. Another data set is what John collected for his power analysis. It incorporates a lot of coral studies that had been done previously.*
- For coral we have John Fauth's study and FRRP.
 - For fish density and richness we will use RVC data.
 - We are looking for fish spawning sites, hope to get that data soon.
 - Shark aggregation sites, does anyone know about them?
 - For Lionfish we can use REEF.
- (Kurtis Gregg) Kirk has some of that information.*
5. *(Jamie Monty) Doesn't USGS keep track of lionfish sightings too?*
- (Judy Lang) They did put out a yearly summary.*
- (Kurtis Gregg) Jeff Beal did the Lionfish summit for FWC so he could be tapped for that info.*
6. *(Brian Walker) We need marine debris locations.*
- (Margaret Miller) I think NCRMP collects that. Or Stephen Miller has some of that data. At least from previous years.*
- (Brian Walker) I know that they were focused on very specific habitats.*
- (Kurtis Gregg) It's on the RVC data sheets.*
- (Jamie Monty) Karen might have data from the SEAFAN.*
7. *(Brian Walker) We are also looking into turtle nesting densities and disorientation numbers.*
- (Dan Clark – CWG Member) Sea Turtle Oversight Protection (STOP) has that data.*
8. *(Brian Walker) There was a request for water current information. What resolution would that data be for the nearshore?*
- (Lauren Waters) That particular data set was for siting of mooring balls. Do we have velocity type data for different counties?*
- (Brian Walker) They have them on the wrecks in the Keys. Art do you know of any datasets like that?*
- (Arthur Mariano) We have data but they are past the 10m depth, so outside of the reef areas. Nick has data, Jack might have some stuff that could be used. I think there*

is not good data for less than 50m depth. An average current map would not be useful.

-(Jack Stamates) You might be able to get maximum current.

9. (Brian Walker) *We need use data, so we have the survey and Manoj's data. Then we have some data layers on the LBSP side like septic tank locations, outfalls, etc. Some of the data is online. We had a request for coastal construction projects. There is a database for locations of permits, but it only has location, but not the magnitude or impact. We have beach renourishment event data right now, but we don't have information on where the impacts from that may have been. We don't know what data would be useful as a filtering tool. Does anyone know of any data like that? The permit data is not useful.*

-(Margaret Miller) If you go into them and read them is there any more information?

-(Lauren Waters) We did try to do this as a project for MICCI, we were able to collect some data from that.

-(Margaret Miller) Is the coverage universal? What does it look like on the map? Maybe that data could still be useful.

-(Brian Walker) The problem is you don't know what happened at that site. It could be boulder deployment or beach renourishment.

10. (Dave Gilliam) *You could put data on where the benthic habitat has been permanently altered. Like ship groundings, outfalls, artificial reefs, any permanent modifications.*

-(Brian Walker) Would that be modifications only from construction or include groundings etc.?

11. (Dave Gilliam) *What about prioritizing an area that has not been impacted we may be able to find it through there.*

-(Kurtis Gregg) Some MA's speak about prioritizing areas for protection.

-(Stephanie Clark – CWG Member) What Dave said is important because it will show that Fort Lauderdale was never done. I was hoping we still have the data from LBSP project 11.

-(Lauren Waters) That is already in there.

12. (Brian Walker) *We have a reef injuries layer that has all the groundings that have been reported, that has been associated with the grid. So you can filter those sites out. We could include these other places as injury places, we have outfalls, sand borrow areas, cable areas, port channels.*

13. (John Fauth) *I know Decision Support Tools from a different context, which doesn't have a spatial component, but is more of a what-if tool. If you take certain MAs what would happen to x, y, z variables. How does this one work?*

-(Brian Walker) The idea is that you will select data to filter out to be able to develop a spatial plan.

-(John Fauth) So you couldn't tell it to give me the polygons that have x or y characteristics?

-(Brian Walker) Some other smaller areas could be too small, and may just be visual, but others might be useful.

14. (Dan Clark – CWG Member) *I believe that Manoj had a list of violations. Tickets and fines, etc.? For compliance.*

-(Manoj Shivlani and Lauren Waters) No. Not that I remember.

15. (Brian Walker) *Anyone know where you can get groundwater test well data?*

-(Kurtis Gregg) SFWMD has the groundwater mapped.

-(Nancy Craig) *Broward County*.

-(Piero Gardinali) *Miami Dade, DBHYDRO*.

-(Dale Griffin) *I can look at what USGS has. Each county should have some of this data.*

Public Comment

Directions for public comment:

- Please fill in a Comment Card and give it to the floating facilitators or registration staff if you wish to speak.
- Public comment is limited to 3 minutes for each person speaking unless there are less than 5 comments; Then up to a maximum of 5 minutes will be allotted.
- Only comments submitted in writing on a comment card will be included in the meeting minutes.
- If you have materials you wish to give to the SEFCRI TAC, please provide copies and leave them at the Registration Table.

Dan Clark – Cry of the Water

Showed an image taken from a drone of the beach renourishment activities in Palm Beach and showed images from “Biscayne Waterkeeper Surveys” around Port Miami dredging activities and damage to corals.

Adjourn – Jenny Báez

Jenny reviews meeting achievements and states that the next meeting will be held over the summer. She will send out a survey to arrange dates.

Survey will remain open to provide additional feedback on recommended management actions.

Invites TAC members to attend SEFCRI team meeting to be held Thursday, January 29 and Friday, January 30.