

**Southeast Florida Coral Reef Initiative (SEFCRI)**

**Technical Advisory Committee (TAC)**

**Report of Proceedings**

**May 15–16, 2014**

**National Coral Reef Institute**

**Nova Southeastern University Oceanographic Center**

**8000 North Ocean Drive**

**Dania Beach, Florida**

**MEETING ATTENDANCE**

**Technical Advisory Committee (TAC)**

<b>Name</b>	<b>Affiliation</b>	<b>Day 1</b>	<b>Day 2</b>
Arthur Mariano	University of Miami - Rosenstiel School of Marine and Atmospheric Science		
Brian Walker	Nova Southeastern University - Oceanographic Center (NSUOC)	X	X
Dale Griffin	United States Geological Survey		
Dana Wusinich-Mendez	National Oceanic and Atmospheric Administration	X	X
Dave Gilliam	Nova Southeastern University - Oceanographic Center (NSUOC)	X	X
Dick Dodge	Nova Southeastern University - Oceanographic Center (NSUOC)	X	X
Diego Lirman	University of Miami - Rosenstiel School of Marine and Atmospheric Science		
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	X	X
Joe Boyer	Plymouth State University		
John Fauth	University of Central Florida	X	X
Jose Lopez	NSU - Oceanographic Center (NSUOC)	X	X

Judy Lang	Atlantic and Gulf Rapid Reef Assessment	X	X
Kate Lunz	Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute	Call in	
Ken Banks	Broward County - Environmental Protection and Growth Management Department (EPGMD)	X	X
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	X	
Manoj Shivlani	University of Miami - Rosenstiel School of Marine and Atmospheric Science	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		
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**

<b>Name</b>	<b>Affiliation</b>	<b>Day 1</b>	<b>Day 2</b>
Christopher Boykin	FDEP CRCP		X
Jamie Monty	FDEP CRCP	X	X
Jena Sansgaard	FDEP CRCP		
Joanna Walczak	FDEP CRCP	X	X
Jennifer Jordan Báez	FDEP CRCP	X	X
Karen Bohnsack	FDEP CRCP	X	
Kristina Trotta	FDEP CRCP		X
Lauren Waters	FDEP CRCP	X	X
Meghan Balling	FDEP CRCP	X	

**Additional Presenters and Observers**

<b>Name</b>	<b>Affiliation</b>	<b>Day 1</b>	<b>Day 2</b>
Baret Barry	Martin County		X
Chris Sinigalliano	National Oceanic and Atmospheric Administration - Atlantic Oceanographic & Meteorological Laboratory	X	X

Doug Seba	Academies of Marine Science	X	X
Kevin Muench	Our Florida Reefs		X
Thomas Carsey	National Oceanic and Atmospheric Administration - Atlantic Oceanographic & Meteorological Laboratory	X	X

### ***Meeting Guidelines***

Jennifer Jordan Báez introduced herself as the new FDEP Land-based Sources of Pollution (LBSP) coordinator, welcomed all in attendance to the 2<sup>nd</sup> Southeast Florida Coral Reef Initiative (SEFCRI) Technical Advisory Committee (TAC) meeting, reviewed meeting participation guidelines for TAC members and observers, which included the facilitator role, guidelines for discussion, consensus rules, comment card procedures, and the use of meeting evaluation forms. Jenny then reviewed the day's agenda.

### ***SEFCRI updates – Lauren Waters, FDEP CRCP and David Gilliam, NSUOC***

Lauren went over changes to the CRCP staff, highlighting new members Benjamin Wahle [Our Florida Reefs (OFR) program assistant], Meghan Balling [Fishing, Diving, and Other Uses (FDOU) coordinator], Jennifer Jordan Báez (LBSP coordinator), Karen Bohnsack (Reef Resilience coordinator), Lauren Waters (CRCP Assistant Manager), Caitlin Pomerance (NOAA Coastal Management Fellow).

#### ○ LAS Project selection

During the previous meetings the team had been working on how to create and select new LAS projects. This process will be put on hold to allow for the OFR process to continue and so that their outputs can be used in the LAS creation process.

Small projects and ongoing projects are still underway, however, we decided to not add any more for the time being.

#### ○ Vice Chair updates

- Vice chairs voted on sidelining the LAS selection process for now
- Vetted and selected Community Working Group members and have participated in meetings
- Filled SEFCRI team vacancies: Bouncer Smith (Fishing) and Richard Jordan (Private Business)
- Decided to change the format of public comment to a 30 min period divided into the number of people who want to provide public comment with a maximum of 5 minutes.

#### ○ TAC updates

- Joshua Voss is officially the co-lead
- New small group meetings on the second day:

Since the TAC's focus is now broader, we thought that we could form small group discussions where only the people with the necessary expertise could discuss priority topics on an as-needed

basis. They would be open to all, but taking into consideration other members' time commitments we figured they might be excused from some of these discussions.

○ TAC Goals and Objectives

- Collect, review and assess data, and identify data gaps.
- Compile existing data on the status of the natural environment in [southeast Florida] and develop cause-effect relationships.
- Make recommendations as to what additional information is necessary/ required, and prioritize data gaps.

Questions and comments (SEFCRI Updates)

1. *(Valerie Paul)* The idea is that there would be a regular TAC meeting the first day and through lunch the second, then the small groups would meet in the afternoon?

*-(Lauren Waters) Yes, that's right.*

2. *(Joshua Voss)* Alternatively it could be had first day in the morning so that their issues would be discussed at the meeting.

3. *(Dick Dodge)* What is the issue that is going to be discussed?

*-(Jenny Báez) The first one will be about water quality. During the whole team meeting we will be discussing some of these issues and then in the small group we could hopefully, develop a water quality monitoring project for the SEFCRI region. In the future you (TAC) can suggest subjects or projects for small group meetings.*

*-(Jamie Monty) Topics will probably change from meeting to meeting.*

4. *(Valerie Paul)* Why not have the small group meetings as part of the TAC meetings?

*-(Lauren Waters) We are trying to excuse some members who might not have the time or the expertise to contribute to some of these discussions. We also didn't want to change the one and a half day format that you are all used to by extending to two days.*

*-(Jenny Báez) The meetings will be held at the end of the second day and anyone is welcome to stay.*

*-(Dick Dodge) I think there is enough time during the meeting to include these discussions. If they are important issues why not include everyone?*

*-(Dave Gilliam) I like Josh's suggestion to have it in the morning of the first day and making it optional, but make it part of the agenda.*

*-(Dana Wusinich-Mendez) I agree with the idea of making it optional.*

*-(Judy Lang) Maybe do it in the afternoon of the first day, so that the group could report on their discussions on the second day.*

*-(Lew Gramer) Having them in the morning may discourage attendance from people driving from further or flying in. But it might make it logistically easier.*

### ***Our Florida Reefs Community Planning Process Update – Meghan Balling, FDEP CRCP***

Meghan Balling introduced herself as the new “Fishing, Diving, Other Uses” coordinator. She also did an overview of the previous SEFCRI LAS process, and how OFR came to being.

- Our Florida Reefs: a 4 step process
  - The primary goal of this process is to bring together the southeast Florida community to develop recommendations that can become part of a comprehensive management strategy that balances use and protection of coral reefs.
  - Step 1: Community meetings were completed in June 2013
  - Step 2: Community Working Groups (CWG) are ongoing. Started in March 2014 and will run through August 2015. The main tasks of these CWG is to make recommendations for possible management actions
  - Step 3: Share recommendations will take place in the fall of 2015
  - Step 4: Produce a reef management strategy will be completed by spring 2016.
- Why are we doing this?
  - 2006 a survey determined that there was a negative view of the state of the reefs.
  - Although the reefs of Florida are one connected ecosystem, they have not been managed that way.
  - Southeast Florida’s population and popularity keeps growing, so planning is essential to ensure future enjoyment of our reefs by all people.
  - Step 4 of OFR strategy will seek to manage this area.
- Why now?
  - Data collected is the best available science in SE FL with 91% of projects complete, we’re at the right time to start using this information to take management action.
- SEFCRI Team members
  - 64 members
  - 9 subgroups
  - Each subgroup has a vice chair, team members

- The Technical Advisory Committee (TAC), Process Planning Team (PPT), and Project Teams are supporting groups to the SEFCRI team.
  - The SEFCRI vice chairs were tasked with populating the Community Working Groups.
- Working Group Composition
    - Mirrors SEFCRI's 9 subgroups
  - OFR project team structure
    - 4 supporting teams: Tool Team, Facilitation Team, Communications and the Process Planning Team.
  - OFR Process Planning Team – Karen Bohnsack
    - Planned 4-step OFR process
    - Reviewed process case studies
    - Provide recommendation criteria
    - Review recommendations
    - Answer questions in meetings
  - OFR Facilitation Project Team – Meghan Balling
    - Plan meeting content
    - Provide presentations
    - Develop handouts
    - Overseeing all of this, we have a Certified Public Facilitator, Carol Lippincott.
  - OFR Communications Project Team – Christopher Boykin
    - Plan OFR Education & Outreach
    - TV & radio public service announcements
    - Magazine advertisements
    - Community events
    - Press releases & media coordination
    - Brochures, one-pagers, website, etc.
  - OFR Decision Support Tool – Lauren Waters
    - Organize map data
    - Develop Tool survey questions

- Contractors: Nova Southeastern University's Oceanographic Center and Point 97
- Community meetings outcomes (completed June 2013)
  - 12 meetings in 4 counties of SEFCRI region
  - 440 attendees
  - Outgoing surveys indicate attendees found information beneficial and educational
  - Water quality turned out to be one of the highest ranked threats identified
- OFR Community Working Group kickoff event held in January 2014
- Community Working Group structure
  - 2 groups: North (Martin and Palm Beach counties), South (Broward and Miami Dade counties)
  - 25 members per group
- Community Working Group Tasks
  - Identify a list of recommended management actions to improve southeast Florida coral reef health
  - Prioritize the list
  - Give recommendations for implementing the prioritized management options

Meghan reviewed the community working group work plan and meeting schedule

***Breakout Session #1 OFR – Meghan Balling, FDEP, CRCP***

Meghan Balling asked the TAC members to review and fill out the Expertise Worksheets, these were similar to information which had been previously provided but required more detail and simpler language. These will be provided to the CWG so that they can better know whom to approach on certain subjects.

The next meetings will be on June 14 and July 14. Meghan asked for suggestions on who could fill a few spots that still remain to be filled.

*-(Kurtis Gregg) I suggest Jeff Beal for habitat.*

*-(Valerie Paul) Melanie Mcfield for fish habitat, she's with healthy reefs program*

1. *(Margaret Miller)* What is the scope of these talks? I am thinking about trophic systems/cascades. Would that fall under ecosystems?



*-(Dana Wusinich-Mendez) OFR meetings are full day. 9 am-5pm. SEFCRI presentations are 30 minutes with 15 minutes for questions and stakeholder talks are 15 minutes with 7 minutes for questions.*

2. (Minoj Shivilani) *Who should we contact about how complicated the presentations should be?*

*-(Meghan Balling) We have been working on storyboards and tools that we provide to presenters.*

3. (Margaret Miller) *Restoration is an important topic that I think should be included under management.*

○ Decision support tool

- Contractors: Point97 out of Oregon and Nova Southeastern University locally

○ What is the decision support tool?

- An online map based tool for visualizing data, obtaining reef use information, and supporting decision making within Community Working Groups
- We will be collecting info on how people use the reef, for what purpose, and when they use it, through a Reef use survey led by Amanda Costaregni at NSU.
- Will be ready for testing in August.

○ Coastal Ocean Task Force

- Local agency representatives from four SEFCRI region counties
- Goal is for them to provide the government backup that OFR needs

○ Community Working Group updates

- **March Meetings**

- Approve Work Plan and Timeline
- South: Formed a Process Legitimization Committee
- North: Concerned with process

- **April Meetings**

- Approve a Charter and Decision Rules
- Education:
  - “Water”- K. Gregg - Land-Based Sources of Pollution
  - “Water”- K. Carter - Watersheds & Inland Pollution
  - “Coral”- James Byrne “Coral Biology 101”

- South: Concerned with speed and results
- North: want a Legislative Mandate
- **May Meetings**
- Begin CWG presentations at meetings
- Education:
  - “Coral”- Dave Gilliam- SECREMP data, southeast FL Coral Reefs
  - “Habitat”- Brian Walker- GIS mapping
  - “Fish”- Jim Bohnsack- Fisheries-dependent data
- TAC role
  - Attend meetings
    - Give introductions on your area of expertise
    - Discuss thoughts/issues
    - Bring pertinent materials to distribute
  - Offer Feedback
    - Be a resource for CWG members
    - Address questions and concerns in meetings or via email in between
  - Review and determine the feasibility of recommended management actions

#### Questions and comments (OFR Updates)

1. (Dana Wusinich-Mendez) *Would it be possible to give the meeting agendas to the TAC members so they can decide if they want to attend?*
2. (Brian Walker) *Will the recommendations be targeted at specific agencies? Who will provide management coordination? This is the main problem we have faced so far, management is not coordinated.*

*-(Jamie Monty) It depends on the nature of the recommendations. The SEFCRI mission strategy could be made into a management plan, if that were the case, then DEP would coordinate that. However, if the recommendations were of a different nature then they might have to be presented to other agencies.*

*-(Joanna Walczak) The DEP coral program will still exist and provide some of the coordination. However, we the program does not have legislative authority so we must depend on other agencies to implement the recommendations.*

*-(Dana Wusinich-Mendez) I agree with Brian that it would be an important talk to have during the management education sessions. Who the recommendations are aimed at and how those recommendations could be implemented, so the community*

*working groups have an idea what will happen after they finish their recommendations.*

***Vote on small group format – Joshua Voss, FIU***

Per the discussion held in the morning, the format of future small group meetings was voted on. A decision was made to hold them on Thursday (1<sup>st</sup> day of the meeting) from 3–5pm and the results will be reported on Friday morning (2<sup>nd</sup> day of the meeting). Public comment on Thursday will be held before the small group meeting.

***Breakout #2a: Our Florida Reefs***

**Group 1. Minoj Shivlani, Kurtis Gregg, Brian Walker, Margaret Miller, John Fauth**

- Change “restore the health” to “improve the condition of coral reef ecosystems”
- Is the reduce threats needed? If kept, should be as a separate item.
- No problem with bullet 2.
- Change “scientifically feasible” to “scientifically credible and technically feasible.”
- Definition: scientifically credible, a management action that has a reasonable probability of achieving the intended result based on current scientific knowledge.
- Define “improve” i.e. describe the direction of change.

**Group 2. Piero Gradinalli, Richard Dodge, James Byrne, Nancy Craig**

- Change wording to add “maintain/restore the health of the ecosystem, or reduce threats to ecosystem.”
- Change “scientifically feasible” to “scientifically sound” which would be based on known good science. This may be hard to evaluate early on in the project without knowing what methodology is recommended.
- The 3rd bullet might not be necessary at this stage yet.

**Group 3. Dave Gilliam, Dana Wusinic-Mendez, Joe Lopez, Jack Stamates, Judy Lang**

- Define: “restore” - activity that protects or enhances coral reef ecosystems
- What is health? How do you evaluate “reduces threats”?
- Removed “scientifically” - left as technically feasible

**Group 4. Lew Gramer, Valerie Paul, Ken Banks, Esther Peters**

- Change: restore to “an activity that helps improve” the condition
- Add: reduce “or mitigate” threats to coral reefs.
- Omit third bullet

### ***Breakout #2b: Our Florida Reefs***

#### **Group 1. Piero Gardinalli, Richard Dodge, James Byrne, Nancy Craig**

- Separate into columns that are required and not required, or that will be filled out by TAC/SEFCRI later
- CWG columns: Management action. Current status. Evidence of need. Perceived or intended benefit. Objectives to be achieved (based on SEFCRI or NOAA objectives). 2 more columns: Advocates and Opponents
- TAC columns = Challenges to implementation. Measurable outcome. Perceived cost. Identify funding sources. Priority rank

#### **Group 2. Minoj Shivlani, Kurtis Gregg, Brian Walker, Margaret Miller, John Fauth**

- Similar to previous group. Split technical information from working group columns.
- Write in examples below column headers for guidance (e.g. Implementation Responsibility – Name the Agency)
- Change expected benefits to intended results.
- Add column for “success criteria”.
- Where: Location/habitat - regional or local recommendation
- Not sure how to include cost. Difficult question. Possibly tie in with a cost vs. value column.
- Challenges to implementation was interpreted differently by each of our members. It might be good to split into feasibility, political, etc.
- Similar discussion on the status column regarding management status, resource status, implementation status.

#### **Group 3. Dave Gilliam, Dana Wusinic-Mendez, Joe Lopez, Jack Stamates, Judy Lang**

- Note if they are required or optional

- Needs a glossary for some definitions to clarify headings.
- Expected benefits. Required. Clarification on benefits to ecosystem, human populations, etc.
- Renamed “Evidence of need, benefits, feasibility” to “Justification”. Required
- Implementation responsibility. Optional
- Current status. Optional
- Removed “10 year” left as “Estimated cost”. Optional
- Potential funding sources. Optional.
- Permitting requirements. Optional
- Potential challenges to implementation. Required
- Potential “partners” instead of “advocates.” To avoid the creation of opponents.
- Strategic goals objectives to be achieved.
- Changed “Have data/need data” to “Relevant supporting data” and “Information gaps”. Both optional columns.
- Added milestones. Think about measures of success along the action’s implementation. (Success criteria)
- A spreadsheet does not seem the best way to present data
- Suggest a one-pager maybe similar to original LAS template.
- Challenges to implementation – should clarify that there are natural and anthropogenic challenges and some things are hard to do naturally

#### **Group 4. Lew Gramer, Valerie Paul, Ken Banks, Esther Peters**

- Anticipated cons column
- Took out 10 year cost.
- Weigh each action in some sort of way, to rank each action. (High, medium, or low)
- Added “potential” funding sources.
- Reorganized.

### ***Breakout #2c: Our Florida Reefs***

#### **Group 1. Piero Gradinalli, Richard Dodge, James Byrne, Nancy Craig**

- No recording

#### **Group 2. Minoj Shivlani, Kurtis Gregg, Brian Walker, Margaret Miller, John Fauth**

- Achievement of goals criteria should have higher weight than feasibility
- There may be non-monetary costs also.
- Benefit/cost comparison. Many benefits are not monetary. Non-use benefits.
- Scale should use positive numbers.
- Scale should not use number zero.

#### **Group 3. Dave Gilliam, Dana Wusinic-Mendez, Joe Lopez, Jack Stamates, Judy Lang**

- Suggest five new criteria: feasibility (financial, socio-political, technical), level of protection offered by management action, level of improvement to reef condition, level of threat reduction, bang for buck.
- Creating a menu and allowing the working groups to choose and apply their own criteria.
- If protected area is a selected management action, then we should prepare criteria to judge that.
- It is better to provide an odd number of choices than an even number.

#### **Group 4. Lew Gramer, Valerie Paul, Ken Banks, Esther Peters**

- Instead of probability of success it should be probability of implementation
- The activity should be implemented first before we could determine if it was going to be successful.
- Instead of ecosystem should be “healthier” it should be in “better condition.”

The benefits expected should exceed the costs of implementation and or any deleterious effect.

### ***Breakout #3: Our Florida Reefs – Jenny Báez, FDEP CRCP***

The goal of this breakout session was to discuss the role the TAC will have with regards to the OFR process. Jenny encouraged TAC members to attend working group meetings to share their knowledge and expertise and then asked the TAC to consider the following two questions: How

many recommendations should TAC members review? Should the TAC review all recommendations or only a selection?

1. (Margaret Miller) *What are the expected outputs of OFR that we would have to review?*

*-(Jamie Monty) You would be looking at the documents we discussed today (templates). There will be two review periods also. The first one might be more looking at the narrative, because it's the first stab, then*

*-(Joshua Voss) It would be good to have some sort of narrative to be able to evaluate rankings more clearly.*

2. (Dave Gilliam) *Are we going to evaluate these as individuals or as TAC? Why don't we just make that the focus of the next TAC meetings?*

*-(Esther Peters) We should have three reviewers per recommendation.*

*-(Margaret Miller) Maybe dole out some of them to individuals ahead of time, so that they can review and then present to the group.*

*-(Valerie Paul) There didn't seem to be any narrative of methods or anything like that so it's not like a scientific proposal.*

*-(Kurtis Gregg) The facilitator thinks that we could expect upward of 150 recommendations from a process like this. Can we do that in a day and a half?*

*-(Joshua Voss) Could we ask the CRCP staff to group them by category and write a three line description of each of them so we could start vetting them?*

*-(Piero Gardinalli) If the recommendations are already prioritized the TAC could do review only the top x amount.*

*-(Karen Bohnsack) The community working groups will not assign priorities until after they receive your reviews.*

3. (Piero Gardinalli) *Is there a limit to how many recommendations the working groups can come up with?*

*-(Jenny Báez) There is no limit, they might have one or many*

*-(Brian Walker) The second review will have include a spatial component, from the decision support tool.*

4. (Piero Gardinalli) *The idea is for somebody to lead as a presenter?*

*-(Dana Wusinich-Mendez) It would give better results if we could review the recommendations as a group.*

*-(James Byrne) How about you have some of the working group members come present the recommendations to us rather than us reviewing them in the background? It would be good to get some of the experiences of the working group.*

*-(Jenny Báez) We will make sure to emphasize to them that the TAC meeting is open to the public and they could come and participate or observe.*

5. (Brian Walker) *We didn't discuss the criteria that the working groups would need to come up with to put into the tool. Say a management action is to protect a part of the reef. What criteria would you use to protect that reef? Pick areas high in diversity? High in use? We need to define what criteria are needed for a space-based recommendation.*

*-(Jamie Monty) We will try to provide a template, we don't have it ready yet, but we can do that over email.*

6. (Jenny Báez) How can you, a SEFCRI TAC member, share your expertise with our CWG? The easiest way is to attend a monthly meeting, but we know not everybody is able to attend, especially for those of you coming in from out of town, so what other ways do you feel you can contribute?

*-(Esther Peters) I could attend by Skype.*

*-(Jenny Baéz) Not all the facilities are capable of it, but it's something to look into.*

7. (James Byrne) Are there discussion forums on the OFR website?

*-(Jamie Monty) The webpage does not have that capability. It would take a lot of work to moderate something like that and we do not have the resources to do that right now.*

*-(James Byrne) Maybe a password protected forum that only the community working groups and TAC members have access to would be useful.*

8. (Judy Lang) How about an email list?

*-(Jenny Báez) That would be harder to track*

*-(Esther Peters) Emails could be sent as notifications of activity on the webpage.*

9. (Piero Gardinalli) Are meetings broadcasted?

*-(Jenny Báez) I'm not sure if we are allowed to, and our facilities might not be set up for it.*

*-(Kurtis Gregg) In-person participation is the best way to do it. Even remote attendance is not the same.*

### **Public Comment**



No public comment was presented

## ***Adjourn***

## ***Day 2 Spring 2014 TAC Meeting***

### ***Introduction***

Jennifer Jordan-Báez introduced herself as the new FDEP LBSP coordinator, welcomed all in attendance to the 2<sup>nd</sup> Southeast Florida Coral Reef Initiative (SEFCRI) Technical Advisory Committee (TAC) meeting, reviewed meeting participation guidelines for TAC members and observers, which included the facilitator role, guidelines for discussion, consensus rules, comment card procedures, and the use of meeting evaluation forms. Jenny then reviewed the day's agenda.

### ***SEFCRI Threat Area Updates: Awareness and Communication – Christopher Boykin, FDEP CRCP***

- Our Florida Reefs Communications Updates
  - The print campaign is underway in several angler magazines.
  - \$20,000 for one and a half years
  - The OFR website is live with a blog for the community working groups and a news section.
  - Will receive 3-4 updates a month.
  - Produced one-pagers for community working groups
  - Produced new 30 second public service announcements featuring third party validators to represent stakeholders.
    - Two spots are also in Spanish
    - A third is an invitation for a video contest will launch in July/August
  - The PSA's are working as traffic to the webpage has increased since they aired.
  - Ordered a new cloth exhibit tabling events.
  - One more 30 second spot with Phillipe Costeau is in the works.

### ***SEFCRI Threat Area Updates: Maritime Industry and Coastal Construction Impacts – Lauren Waters, DEP CRCP***

- Project: Review methods, process, and agency response to citizen reports of potential non-compliance and natural resource impacts

- The goal of this project was to find out how citizens report non-compliance and/or natural resource impacts and what the agencies do when they receive a report.
  - Local, State, and Federal agencies were contacted about their response strategies.
- Agency Response
    - Step 1: Where can I find contact information? (yellow pages, websites, search engines, etc.)
    - Step 2: Record the process: How many times do I get transferred before I reach the “right” person and what do they do when they receive a report?
    - Step 3: Interview citizens who have previously filed reports.
      - 1,593 complaints in Broward county between 2009 and 2011
      - 6,200 complaints in Miami-Dade 2010-2011
      - 2% possibly reef related
      - Difficult to track down the people who filed complaints due to restrictions on data gathering.
    - Step 4: Interview citizens who have not previously filed complaints before, to see if they know how to report and incident.
      - 75% said they would not know who to contact
      - 40% would contact FWC, 10% EPA, 10% 911
      - 75% Google, 15% United States Coast Guard (could state more than 1)
      - Preferred method of reporting – 95% phone
  - Results
    - Citizens:
      - How they tended to find information varied by county
      - Easier to report/navigate when speaking with a person
      - Citizens had generally positive reviews when they felt they had follow up, but the level of follow up necessary varied
    - Agencies
      - Believe citizen lack of satisfaction is from citizens not understanding who has regulatory authority
      - While citizen photos and samples are helpful, some agencies cannot pursue an action based on citizen information alone
      - Several agencies believed information was not passed on from FWC
  - Recommendations

- Agencies responsible for permitting projects with potential environmental impacts, should have staff members that are trained and able to investigate environmental impacts that could occur associated with that permit.
- Post contact information at places where incidents are likely to happen such as lifeguard towers or beach accesses, marinas, etc.
- Every non-anonymous complaint should have a clear follow-up response and resolution response, preferably in writing, to the citizen that reported the environmental issue.

### Questions for MICCI Updates

1. (Minoj Shivilani) *Have you thought about creating a phone app? That would help so that people would have access to that information.*  
 -(Lauren Waters) *SEAFAN has a web interface for reports and we have other apps available.*
2. (Piero Gardinalli) *Miami 311 service has an app. How is it that some agencies cannot act on citizen reports? What do they need to respond?*  
 -(Lauren Waters) *It all depends on each individual agency's procedures and if they are the agency that has jurisdiction over the issue being reported.*
3. (Ken Banks) *We have run into that issue, because often they need further information like samples for turbidity, water quality violations so that they can actually start an investigation, but by the time they actually get there the conditions may have changed.*
4. (Lauren Waters) *Sometimes it's dependent on staff availability. Another observation is that agencies should go through their response lists, and emphasize that not all responses have to end up with a visit to the field, actions are taken such as starting a file on the complaint.*

### ***SEFCRI Threat Area Updates: Land Based Sources of Pollution – Jenny Báez, FDEP CRCP***

- LBSP Projects 20/23
  - Develop specific management action projects
  - Initiate the implementation of management actions to reduce pollution from the highest priority sources
  - Implement priority engineering/ management action
- Grassy Flats Estuarine Restoration Project
  - Project goal: Cap approximately 30,000 cubic yards of muck sediments over 13 acres of Lagoon bottom with clean sand.
  - Enhance/restore 22.4 acres of submerged and intertidal estuarine habitat.

- Final report due June 2014
- LBSP Projects 28/29 Phase II: Response of a southeast Florida coral reef community to pollutants exiting offshore wastewater outfall pipes and inlets
  - This project has been ongoing in its planning phase for at least a year, so I wanted to evaluate the group's thoughts on the project and if it should continue.

### Questions Project 28/29

1. (Valerie Paul) *Is a project write up on the web or available somehow?*

-*(Jenny Báez) Not publicly. We have secured funding but we want to know if we can still count on the TAC members for support.*

-*(Jack Stamates) For context the general objective is to find out if there is an impact area around the outfalls, then we had to work back to see if we could even test that.*

2. (Valerie Paul) *We have a post-doc to who is studying at stable isotopes in sponges throughout the Caribbean he might be able to help with methods for collection in sponges and run stable isotope tests on our samples.*

3. (Piero Gardinalli) *The outfall is the most concentrated point-source of pollution, if we can't detect anything there then we won't be able to detect it anywhere else*

-*(Valerie Paul) Then we might have to look at inlets as a source.*

-*(Richard Dodge) Sounds like some of the pollution travels on the surface into the inlets with the tides and then back out therefore, data from inlets could be confounded by that.*

-*(Esther Peters) We haven't looked at toxicity, I still think it is an important aspect that we need to look at.*

-*(Ken Banks) This could be a big food factor, many fish feed around there.*

-*(Judy Lang) Our Florida Reefs is working on management and it must be based on good science, therefore we must continue to do that science to inform management actions.*

-*(Jenny Báez) We don't want to stop projects, we agree. LBSP's remain a large question mark that we need to continue to address. We have obtained some funding, but we need your support too, time, resources, etc. our funding is only for lab and assays.*

-*(Piero Gradinalli) If samples are collected I will run them in the lab for pharmaceuticals.*

*-(Valerie Paul) We can run stable isotopes on sponges.*

4. (Dana Wusinich-Mendez) *We have also run into issues transferring the money from DEP to USGS.*

*-(Esther Peters) Does it have to be USGS who runs the assays or could we contract someone else to do it?*

*-(Jenny Báez) We are looking into options on how to do this.*

- Jenny asks for a vote to continue the project and volunteers to participate in the project.

- Project team: Ken, Valerie, Jack, Esther, Kurtis, John, and Joe
- Field team: Ken, Kurtis, and Margaret
- Need an algae expert to identify the sample species
- Need a contact at the treatment plant

*-(Jack Stamates) We have a contact at the treatment plant who could allow us to sample there.*

5. (Piero Gardinalli) *Do you expect to see a difference between the treatment plant and the outfall?*

*-(Jack Stamates) Chlorine takes time to act, it takes about an hour for the water to get from the plant to the outfall, so there may be differences between what we see at the plant and the outfall.*

6. (Dave Gilliam) *What is the size of the area that you are looking to sample?*

*-(Jenny Báez) 100 m from the outfall*

*-(Ken Banks) That should be a large enough area so that we can find the target species for our samples.*

7. (Jack Stamates) *We have a current meter at the Hollywood outfall if we need that data.*

8. (Valerie Paul) *Can the samples be frozen? If so then we could collect soon and then the samples could be processed at a later date.*

*-(Joshua Voss) I think some of the methodologies are untested so we are not sure the samples can be frozen.*

*-(Kurtis Gregg) I think Dale had mentioned the samples needed to be processed within 24 hrs.*

**White Paper Update – Judy Lang, AGRR**

Judy went over the history and development of the SEFCRI white paper. Stating that the original purpose was to create a document describing the state and threats to the SEFCRI region reefs, and propose solutions. Then the LBSP Quick-Guide was created as a tool to give to policy makers, as it was unlikely that they would read the full white paper. Other events that made the group modify the white paper and LBSP Quick-Guide was the closing of the Delray outfall, making it seem that all outfalls would be closed and now the Our Florida Reefs process.

Jenny then asked the group if they would like to keep working on the LBSP White Paper or drop it. The group considered that the LBSP Quick-Guide is a valuable asset and should be reprinted if there are no copies left so that the Community Working Groups can use them.

Valerie Paul suggested the possibility of working on the white paper so it could be published in a journal under the theme of reefs in urbanized areas, maybe compare to areas such as Hong Kong and Taiwan.

It was decided that the White Paper should be dropped through a majority vote.

***NOAA/AOML/OCED/FACE Current water quality research in the SEFCRI Region – Jack Stamates, NOAA AOML***

- Objectives:
  - Measure concentrations and dispersion of nutrients and microbial pollutants in the coastal ocean.
  - Observe detectable changes in the ecosystem related to anthropogenic activities
  - Help establish thresholds where changes might be expected to occur
  - Chris Kelble could be a great resource for us because he is heavily involved in management.
- Water Quality Monitoring Project
  - Sampling every two months
  - Quarterly Coral Surveys
  - Sites: Oakland Ridge, Baracuda, Miami North Outfall, Haulover, Fowey Rock, Miami Central Outfall, Port of Miami, Pillage Reef and Hollywood Outfall, and a Control site in Fort Lauderdale.
  - CTD drops and water samples at 3 depths
- Coral survey sites
  - The reef sites are similar across the study area
  - We have been able to look at water quality and the benthic community at the same time
- Point sources of pollution

- Outfalls
  - Inlets
  - Deployed Acoustic Doppler Current Profilers (ADCP's) deployed at Boynton Inlet and Port Everglades have been collecting data for over a year
  - Boca and Hillsboro have been sampled four times. Flows, nutrients, and microbes
  - Bi-weekly sampling on the coast at Boca Inlet and Hillsboro Inlet
  - Estimated monthly nutrient load
  - Miami outfalls have the largest relative contribution of nutrients
  - Using microbial source tracking markers: microbial bacteroides, total enterococci, and sucralose. They show very rapid dilution, within about 2km of the outfall.
  - The percentage of southern flow is much greater closer to shore.
- Placing instruments on piers
    - First one will be Anglin's pier
  - Attempting to simulate the Hillsboro inlet with numerical models

## **PUBLIC COMMENT DAY 2**

No public comment was offered.

### ***Water Quality Breakout Discussion – Jenny Báez, FDEP CRCP***

Jenny asked the group to discuss what they would like to see in a water quality monitoring project.

The perception is that water quality issues, due to land sources, are affecting the health of the reefs.

*-(Joanna Walczak) Stakeholder perception is that water quality is the main driver of coral reef degradation. We need to figure out if that is true.*

*-(John Fauth) A quarterly monitoring project doesn't necessarily capture episodic events that may be critical. Maybe we should use more event based monitoring.*

*-(Valerie Paul) The answer is instruments that can monitor constantly.*

*-(Jenny Báez) There is instrumentation, but DEP has not approved them yet. Is sampling water chemistry the most appropriate? Should it be nutrients? What other environmental factors should be considered? Should we look at sampling tissues?*

*-(Valerie Paul) Those of us who have been on the TAC for a long time have discussed this a lot. Getting coral correlative data will not necessarily answer these questions.*

*-(Margaret Miller) There are a lot of non anthropogenic sources of nutrients. If we want to find something to manage, it might be better to use human tracers, like sucralose.*

*-(Joanna Walczack) Yes, my focus is on stakeholder perception. The issue has been raised that water quality is affecting reef health. What can we do to study that?*

*-(Jenny Báez) Kevin Helmle is doing a nitrogen dosing study. Other regions have shown a relationship between nutrients and health impacts on corals.*

*-(Dana Wusinich-Mendez) Use data from inlet studies to run in the lab*

1. (Esther Peters) *Why isn't NOAA looking at pharmaceuticals?*

*-(Jack Stamates) I'm not sure we have the capability but we are doing sucralose.*

*-(Piero Gardinalli) It's a funding issue if you want to run pharmaceuticals it can be about \$1000 per sample. Sucralose can be used as a tracer, then that can give us guidance on what else to study later.*

2. (Esther Peters) *What can be manage?*

*-(Dana Wusinich-Mendez) What is the anthropogenic contribution to the total nutrient budget? Can we figure out the relative contributions? Then we can look at where we can get more bang for our buck. We have started looking at inlets, and Lew is working on upwelling, groundwater seems to be one of the remaining questions.*

*-(Judy Lang) Although groundwater seems to leak into canals and then come out the inlets.*

*-(John Fauth) Through our biomarker study we found that xenobiotics (pharmaceuticals, pesticides) hypoxia and reperfusion events are having an impact. Sediment shifting also seems to be an important factor. Nutrients by themselves don't seem to be influencing the corals themselves.*

*-(Joshua Voss) We had similar findings during our experiments.*

*-(Judy Lang) Maybe we were looking in the wrong place. Other organisms may be getting impacted algae for example.*

3. (Dana Wusinich-Mendez) *What are the pollutants that are affecting corals then? We should figure out what they are so that we know what to monitor.*

*-(John Fauth) That is why I like the regeneration study, but we have not had the funding to do contaminants in the tissue and in the sediment at the same time.*



4. (Jenny Báez) What contaminant loads exist in the coral tissue?

-(John Fauth) *We need further data to determine that.*

-(Margaret Miller) *We have to be careful with the word impact because we cannot say that those are causing a change with monitoring.*

-(Kristina Trotta) *What is a better word?*

5. (Kurtis Gregg) *How about looking at environmental indicators rather than water. We have seen that nutrient concentration drop very fast, so they must be taken up by the system. How could we track that? Sampling corals is a good idea.*

-(Esther Peters) *We still need biomarkers to detect exposure, what are they being exposed to and how that impacts their metabolism? Paired with histopathology to see what condition the tissue is in.*

6. (Dana Wusinich-Mendez) Why should we study it?

-(Esther Peters) *To understand what the organism is doing.*

-(Joshua Voss) *Which of these materials are causing the response?*

-(Dana Wusinich-Mendez) *What contaminants are having the greatest effect on coral regeneration? Impact can mean many things, e.g. coral regeneration, what else?*

-(Jenny Báez) *Inhibited regeneration, spawning, etc. What are they absorbing through the tissue?*

-(John Fauth) *I have tissue archived. We could still look at some of that.*

-(Esther Peters) *We know corals don't metabolize xenobiotics, they stay in the tissue.*

-(Jenny Báez) *What would that indicate?*

-(Margaret Miller) *These are important questions but they're not related to water quality monitoring.*

-(Jenny Báez) *We have traditionally looked at sampling the actual water, but we might be able to find other indicators.*

-(Margaret Miller) *So are we looking for indicators?*

-(James Byrne) *Does it really matter what the exact chemical is? If we know that it is chemicals? Should we just focus on reducing chemical influx? The management action is going to be broader. Something we might want to address is that there are episodic events that cause large chemical influxes and how to mitigate them.*

*-(Ken Banks) The idea is to identify sources. We can't stop water discharges, so that's why we are looking at constituents.*

*-(Joshua Voss) That kind of approach presupposes that all chemicals increase concentration at the same time, different chemicals may increase at different times so we do have to look at constituents.*

*-(Esther Peters) Ultimately we have to sell this to the managers so we must have that data. Josh Stoker (a masters student at NSU) is doing research on sex hormone influence on corals.*

*-(Joe Lopez) What is the water in a healthy reef like? Do we have that control? That would tell you what to look at and what to monitor.*

*-(Kurtis Gregg) It's been shown that corals can take lots of different conditions so getting data from far away might not be indicative of what's going on locally. One of the issues is that we cannot get control samples here because it seems the inlets and the outfalls impact most of the region.*

*-(John Fauth) For our experiments we used samples from the Bahamas and they helped a lot.*

*-(Esther Peters) I have data from St. Croix and Puerto Rico which show large differences from 1981.*

*-(Piero Gardinalli) If we can establish a link from the LBSP's to impacts on the coastal ocean then we can actually implement a management action.*

7. (Margaret Miller) *Is there a correlation between sucralose and pharmaceuticals?*

*-(Piero Gardinalli) Each pharmaceutical will have a different fate. We need to identify the manageable part of the bad water. This is probably the inland sources. We can manage very few inputs.*

### **Water Quality Small Group Discussion – Jenny Báez, FDEP CRCP**

The discussion on how to proceed with a water quality monitoring project continued.

*-(Joanna Walczak) We have one very highly publicized inlet that has water quality issues inland, and possibly coral health issues. So we could use that in our favor since it already has been publicized.*

*-(Jenny Báez) So do we focus on a small area?*

*-(Nancy Craig) We know that Port Everglades outputs water, then we thought about sampling north and south of the Port and a control site half way between Port Everglades and Hillsboro Inlet. We know that stuff is getting to the bottom but we don't know if it's affecting the corals. We have been doing monthly surface and*

*bottom sampling, YSI measurements, nutrients, iron, turbidity, and chlorophyll. We have been doing it for eight years. We see things making their way out sure but we cannot tie nutrients in to lesions. PP, PA silica, ammonia, iron, we can track which way the plume is going, but we haven't been able to relate it to coral health?*

*-(Esther Peters) Have you tracked sucralose?*

*-(Nancy Craig and Piero Gardinalli) Piero did. We didn't see any offshore though, only inland.*

*-(Jenny Báez) DEP says there are issues with minimum detectable levels.*

*-(Nancy Craig) Some researchers have detected it, but we don't have the capacity yet.*

*-(Kurtis Gregg) One of the issues brought up is that organic nitrogen needs to be considered. Organics are more important than has been previously acknowledged. SFWMD is doing total nitrogen and have been looking at this.*

*-(Jenny Báez) Are we still looking into water sample collection?*

*-(Jack Stamates) For most things that's the only way, as opposed to in-situ instrumentation?*

*-(Piero Gardinalli) Water is the conduit. Alternatively, we could use a sentinel organism but not all the compounds make it into the organisms.*

*-(Nancy Craig) The seasonal variability is very large, during the dry season most variables remain under detection levels.*

*-(Piero Gardinalli) We have been doing the water for a while right? So can we go a step further? Where is the water going and what is it affecting?*

*-(Joshua Voss) I think we are still trying to determine if it's affecting the corals. The real question should be what actions must be taken to change the perception that water quality is affecting reef health?*

*-(Jenny Báez) We want to describe what is getting out and where it is going.*

*-(Joshua Voss) What's there, where it's coming from, experiments to see effects.*

1. *(Esther Peters) Is FDEP is going to do this? Could you add to ongoing projects? For example could people go out with Nancy and collect coral samples when they do their monitoring?*

*-(Nancy Craig) Yes some of our sites, are the same as the bioindicator sites. Part of the idea was to be able to compare some of the data.*

*-(Esther Peters) So you are doing water quality, but nobody is doing indicators maybe that's what we should push for.*

*-(Nancy Craig) You need to look at multiple responses because corals might stress from one thing, but lymbya blooms might be caused by something else. There may be multiple stressors causing multiple effects.*

*-(Nancy Craig) Depends which project you are working with because for example one of the projects requires eight years of data, with a sample every quarter. There is just not sufficient funding to take on these projects.*

2. *(Jenny Báez) Jack, you are ground-truthing the chlorophyll for the satellite data?*
3. *(Piero Gardinalli) Do we have an inventory of existing water quality monitoring projects? Can we produce a map with who is doing active monitoring? Who is doing what, where when? Do we have a consensus set of parameters?*

*(Joshua Voss) There are many people tracking in different places. We are sampling inshore at Palm Beach. We have stations at the inlet and in the St. Lucie River to see pulses. We have sampled quarterly for the past four years.*

4. *(Nancy Craig) Have you instruments gone through EPA/DEP certification?*

*-(Joshua Voss) I'm not sure, but we are using similar equipment to the ones used at St. Johns and other places.*

*-(Jenny Báez) Although there's a lot of existing data it has not gone through EPA/DEP certification.*

5. *(Jack Stamates) How are you getting total phosphate and total nitrogen?*

*-(Joshua Voss) Our instruments are all in the estuary, not offshore. They are labor intensive, but they could be deployed offshore.*

*-(Joshua Voss) In that area YSI's could fill in the gap offshore.*

*-(Jenny Báez) Will that answer our question?*

*-(Brian Walker) A lot of different groups have done several efforts for different areas. Has there been a review of the documentation to see what they can answer with their data? That could guide the methodology for our project. If a project covers a good data component, but should be complimented with other projects, that could be our opportunity.*

*-(Jenny Báez) Good point. Let's think about Nancy's project. What can you say, what are you missing?*

*-(Nancy Craig) I can tell you what comes out of the inlet and where it goes, but I can't tell you cause and effect. When you have plankton blooms or lyngbya blooms they are easy to spot but the system is complex. You are not going to fix water quality offshore, it needs to be done inshore. We have inland water quality project but all bets are off when it rains and SFWMD opens the gates. We don't know what happens in the turning basin, we know what comes in and what comes out.*

*-(Joe Lopez) We are about to publish some research on changes in microbial communities, this may provide insight into the water flows.*

*-(Jenny Báez) Can we infer some linkages between water quality and the microbial communities?*

*-(Joe Lopez) Not yet, we are just starting to do that. We are trying to link some of the main taxa with some of the water quality parameters. We do it in the water columns and some sponge species.*

*-(Joshua Voss) We have similar samples at St. Lucie.*

*-(Jenny Báez) Is it coral focused?*

*-(Joe Lopez) No, just water column and sponges.*

6. (Brian Walker) *Does each county do water quality monitoring?*

*-(Jenny Báez) Yes, they monitor the Intracoastal waterways. We know what presumably comes out of the inlets.*

7. (Brian Walker) *Are those data coordinated at all?*

*-(Jenny Báez) Everybody has to provide that data to DEP.*

*-(Nancy Craig) Offshore data is not added. Only if you're certified and follow protocols, is it added to their database.*

8. (Brian Walker) *If you have all that for inshore, then we are looking at something to compliment that for offshore?*

9. (Jenny Báez) *They focus on nutrients. Is that what is appropriate for offshore? Is there a more appropriate focus for our group?*

*-(Tom Carsey) We need to remember that during the dry season that water doesn't really move much.*

*-(Jack Stamates) Detection limits are an issue offshore. Inland concentrations are an order of magnitude higher in the Indian River lagoon for example.*

*-(Kurtis Gregg) But stuff is still getting out there and being incorporated into the system somehow and potentially have some sort of effect.*

*-(Brian Walker) If we could put all that data together for inland and compliment with offshore, could that point us to the management areas?*

*-(Nancy Craig) FDEP is doing some of it and there are numeric criteria*

*-(Joanna Walczack) The missing connection is that there is another resource offshore they are not considering.*

*-(Piero Gardinalli) We have all those inputs from inland and Jack's project has what comes out, the problem is we don't have a target for what the levels should be going out to protect the corals.*

*-(Joshua Voss) Most [experimental] projects are short term and concentrations are relatively high in order to cause a response quickly.*

*-(Jack Stamates) Kevin Helmle's project is longer term.*

*-(Chris Sinigalliano) Half lab work, half monitoring. We need experiments to determine the thresholds, and then see if they are receiving those exposure levels in the field.*

*-(Tom Carsey) Anecdotally reefs were doing better 40, 50 years ago.*

*-(Kurtis Gregg) We have had members of the TAC who were diving back then and anecdotally, they say water clarity was better, fish abundance was higher, etc.*

*-(Dick Dodge) We do have growth rates. We could answer that by coring some more corals.*

*-(Jenny Báez) We could try and figure out what the ideal conditions are for corals to be growing in.*

*-(Joshua Voss) Does the historical perspective matter? Should the question be how do we manage water quality to improve coral health conditions?*

10. *(Piero Gardinalli) Does someone know what the light intensity necessary for good coral growth is? I can determine that easily and link it with turbidity. There's are turbidity level that corals cannot take right?*

*-(Nancy Craig) There are few days when we can't see the bottom in 30 ft of water during our sampling.*

*-(Ken Banks) But you don't go out on the days when weather is bad.*

*-(Joanna Walczack) The problem is stakeholder perception. Maybe there's an increase in chronic turbidity issue.*

*-(Ken Banks) That's right, the turbidity can get entrained in the coast and divers complain. It's a perception issue, but do we know if that is bad? Fort Lauderdale's*

*drinking water is yellow, but it meets health standards. Fishermen point the finger at water quality because they don't want the blame.*

*-(Kurtis Gregg) Key fishermen groups definitely do that. It doesn't mean they're wrong.*

*-(Piero Gardinalli) If we go on TV with turbidity measurements and tell them that corals can take x levels of turbidity and educate to change the perception.*

*-(Chris Sinigalliano) We have the same public perception in public health surveys with drinking water quality. It takes one bad incident to erase all good incidents.*

11. (Jenny Báez) *So we still need to identify what the causes are? Is it water quality?*

*-(Jack Stamates) Everybody wants to see nitrogen, phosphorous and turbidity levels. Those are the standard parameters.*

*-(Nancy Craig) State and EPA are using them to set the water quality standards.*

12. (Joshua Voss) *If we are trying to get those parameters do we know enough about the relationship between nitrate and total nitrogen to just monitor nitrate?*

*-(Nancy Craig) Not sure, because it changes depending on salinity, and others.*

*-(Jenny Báez) I'm not sure in-situ collection is going to be feasible. I don't know if the instruments exist.*

*-(Jamie Monty) We can't contract something that DEP doesn't approve of.*

*-(Piero Gardinalli) Just because DEP doesn't accept it doesn't mean it's not useful. Maybe we need to prove that the information is useful.*

13. (Esther Peters) *There's a water quality lab in Tallahassee. Why don't they come up with a project?*

*-(Jamie Monty) They don't know the coastal environment.*

*-(Jack Stamates) The manufacturers are interested in developing these instruments, to the standards the State requires, maybe talking to them could help us get the instruments we need.*

*-(Nancy Craig) YSI worked with the agencies to get their instruments up to standard so that they could get their instruments approved. So talking to manufacturers is a good idea.*

*-(Jenny Báez) In summary: We are still looking at a traditional sampling regime*

- *We need to link inshore data to offshore data.*

- *We will focus on a subsection of the SEFCRI region.*
- *We should look into the possibility of leveraging existing monitoring in Dade and Broward possibly adding the collection of samples e.g. sampling mucus, tissue.*

*-(Tom Carsey) We should add physical oceanography modeling. We don't know much of the south-going nearshore current. If people can work towards developing a model, and some people can sea-truth it then you don't have to monitor the whole area. Getting a better picture of the physical oceanography of the area would be beneficial.*

***Closing remarks and meeting adjourn – Jenny Báez, FDEP CRCP***

Jenny Báez held a vote to decide if the water quality monitoring project should continue. The vote was in favor of continuing.

Then Jenny thanked all in attendance and adjourned the meeting.