

Southeast Florida Coral Reef Initiative (SEFCRI) Team

Report of Proceedings

September 25-27, 2013

National Coral Reef Institute

Nova Southeastern University Oceanographic Center

8000 North Ocean Drive

Dania Beach, Florida

MEETING ATTENDANCE

TAC Committee

Name	Affiliation	Day 1	Day 2	Day 3
Arthur Mariano	Rosenstiel School of Marine and Atmospheric Science - UM		X	X
Brian Walker	Nova Southeastern University - Oceanographic Center	X	X	X
Dale Griffin	United States Geological Survey		X	X
Dana Wusinich-Mendez	National Oceanic and Atmospheric Administration	X		
Dave Gilliam	Nova Southeastern University - Oceanographic Center	X	X	X
Dick Dodge	Nova Southeastern University - Oceanographic Center	X	X	X
Diego Lirman	Rosenstiel School of Marine and Atmospheric Science - UM		X	X
Esther Peters	George Mason University	X	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	X	X	X
John Fauth	University of Central Florida	X	X	X
Jose Lopez	Nova Southeastern University - Oceanographic Center		X	X
Judy Lang	Atlantic and Gulf Rapid Reef Assessment		X	X
Kate Lunz	Florida Fish and Wildlife Conservation Commission	X	X	X
Ken Banks	Broward County - Environmental Protection and Growth Management Department (EPGMD)	X	X	X
Kurtis Gregg	National Oceanic and Atmospheric Administration - Fisheries	X	X	X
Lew Gramer	National Oceanic and Atmospheric Administration - Atlantic Oceanographic & Meteorological Laboratory	X	X	X
Manoj Shivilani	Rosenstiel School of Marine and Atmospheric Science - UM		X	X
Margaret Miller	National Marine Fisheries Service - Southeast Fisheries Science Center		X	X
Nancy Craig	Broward County - Environmental Protection and Growth Management Department (EPGMD)	X	X	X

Phil Dustan	College of Charleston			
Piero Gardinali	Florida International University		X	
Valarie Paul	Smithsonian Marine Station at Fort Pierce		X	X

SEFCRI Team Members/Alternates

Name	Affiliation	Day 1	Day 2	Day 3
Frank Schmidt	Lighthouse Point Saltwater Sportsmen Association	X	X	
Brett Fitzgerald	Snook Foundation			
Dave Merz	Intermedia Outdoors		X	
Tim Whitteberry	Environmental Protection Agency	X	X	
Jeff Torode	South Florida Dive Association	X		
Shana Phelan	Pura Vida Divers	X	X	
Manuel Menendez	South Florida Freedivers			
Amy Lesh	Jupiter Dive Center	X	X	
Nikole Ordway	Force-E Scuba Center	X	X	
Dave Gilliam	Nova Southeastern University, Oceanographic Center	X	X	X
Joshua Voss	Florida Atlantic University's (FAU) Harbor Branch Oceanographic Institute	X	X	X
Dick Dodge	Nova Southeastern University, Oceanographic Center	X	X	X
Lisa Krimsky	Sea Grant Miami-Dade County			
Don Behringer	University of Florida		X	
Ken Lindeman	Florida Institute of Technology			
Wendy Wood-Derrer	Nova Southeastern University, Oceanographic Center	X	X	
James Byrne	The Nature Conservancy (TNC)		X	X
Benjamin D'Avanzo	Surfrider Foundation		X	
Dan Clark	Cry of the Water	X	X	X
Kristen Hoss	Tanawha Presents, Youth Environmental Alliance	X	X	

Nick Morrell	Miami Dade Reef Guard Association	X	X	
Ed Tichenor	Palm Beach County Reef Rescue	X	X	
Eric Engler	ReefAid Foundation, Inc.			
Stephanie Clark	Cry of the Water	X	X	
Cheryl Miller	Coastal-Eco Group	X	X	
Michelle Diffenderfer	Lewis, Longman & Walker	X	X	
Mike Jenkins	Applied Technology and Management, Inc.	X	X	
Justin Freedman	E Sciences, Inc.	X		
Craig Kruempel	Tetra Tech			
William Cline	Cline Group			
Stacy Prekel	Coastal Planning and Engineering	X	X	
Becky Hope	Port of Miami	X		
Carol Fretwell	Events from the Heart/Seriff Group			
Kate Peach	Florida Atlantic University			
Robbin Stephenson	Mermaid4Life			
Natalie Ledoux	Mater Academy	X	X	
Scott Sheckman	Isheck Consulting	X	X	
Ken Banks	Broward County EPGMD	X	X	X
Baret Barry	Martin County	X	X	
Steve Blair	Miami Dade County - Dept. Of Environmental Resource Management	X	X	
Paul Davis	Department of Environmental Resources Management - Palm Beach County		X	
Pat Quinn	Broward County - Environmental Protection and Growth Management Department (EPGMD)	X	X	
Sara Thanner	Miami Dade County	X	X	
Janet Phipps	Department of Environmental Resources Management - Palm	X	X	

	Beach County			
Kathy Fitzpatrick	Martin County			
Erin McDevitt	Florida Fish and Wildlife Conservation Commission	X	X	
Jennifer Báez	Florida Department of Environmental Protection - Southeast District Office	X	X	
Lisa Gregg	Florida Fish and Wildlife Conservation Commission	X	X	
Vladimir Kosmynin	Florida Department of Environmental Protection			
Pamela Sweeney	Florida Department of Environmental Protection - Biscayne Bay Aquatic Preserve	X		
David Bingham	Florida Fish and Wildlife Conservation Commission	X	X	
Kate Lunz	Fish and Wildlife Research Institute	X	X	X
Kevin Carter	South Florida Water Management District	X	X	
Jocelyn Karaszia	National Oceanographic and Atmospheric Administration			
Jim Bohnsack	National Oceanographic and Atmospheric Administration - National Marine Fisheries Service	X	X	
Kay Davy	National Oceanographic and Atmospheric Administration - Fisheries		X	
Terri Jordan-Sellers	United States Army Corps of Engineers			
Linda Knoeck	United States Army Corps of Engineers	X	X	
Lauri Maclaughlin	National Oceanographic and Atmospheric Administration			
Jennifer Saviano	United States Coast Guard	X	X	
Roland Ferry	Environmental Protection Agency			
Susan Leser	Florida Department of Environmental Protection - Biscayne Bay Aquatic Preserve		X	
Jeff Beal	Florida Fish and Wildlife Commission	X	X	
Eric Ault	Florida Fish and Wildlife Commission	X		
Carman Vare	Palm Beach County - Environmental Resource Management	X	X	
Courtney Kiel	Broward County - Environmental Protection and Growth		X	X

	Management Department (EPGMD)			
Rebecca Ross	Miami-Dade County	X	X	

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

Name	Affiliation	Day 1	Day 2	Day 3
Karen Bohnsack	FDEP CRCP	X	X	X
Christopher Boykin	FDEP CRCP	X	X	
William Fisher	FDEP CRCP	X	X	
Julio Jimenez	FDEP CRCP	X	X	X
Jamie Monty	FDEP CRCP	X	X	X
Patricia Rose	FDEP CRCP	X	X	X
Jena Sansgaard	FDEP CRCP	X	X	
Melissa Sathe	FDEP CRCP	X	X	
Kristina Trotta	FDEP CRCP	X	X	X
Joanna Walczak	FDEP CRCP	X	X	
Lauren Waters	FDEP CRCP	X	X	X

Additional Presenters and Observers

Name	Affiliation	Day 1	Day 2	Day 3
Thomas Carsey	National Oceanographic and Atmospheric Administration	X	X	
Lara Kramer	Fish Florida	X		
Rene Baumstark	Florida Fish and Wildlife Commission - Fish and Wildlife Research Institute	X	X	
Brandon Blue	Port Miami	X		
Doug Seba	Academies of Marine Science	X	X	X
Maribeth Gidley	National Oceanographic and Atmospheric Administration - Atlantic Oceanographic and Meteorological Laboratory	X		
Drew Martin	Sierra Club	X	X	X
Kirk Kilfoyle	Nova Southeastern University - Oceanographic Center	X	X	

Alex Sommers	University of New Haven		X	
Amanda Costaregni	Nova Southeastern University - Oceanographic Center		X	
Bouncer Smith	Independent		X	
Chris Sinigalliano	National Oceanographic and Atmospheric Administration - Atlantic Oceanographic and Meteorological Laboratory		X	

MEETING SUMMARY - DAY ONE (SEFCRI Team Only): WEDNESDAY, SEPTEMBER 25TH 2013

Welcome and Meeting Overview - Jamie Monty, FDEP CRCP

Jamie Monty, Florida Department of Environmental Protection's Coral Reef Conservation Program (FDEP CRCP) Manager, welcomed all in attendance to the 1st joint Southeast Florida Coral Reef Initiative (SEFCRI) Team and Technical Advisory Committee (TAC) meeting. She reviewed meeting participation guidelines for TAC and SEFCRI team members and observers, which included the facilitator role, guidelines for discussion, consensus rules, comment card procedures, and the use of meeting evaluation forms. Jamie then reviewed the day's agenda, which included changes to the SEFCRI Charter and other recent changes that are part of the transition to a stakeholder driven process. One of the objectives of the meeting is to evaluate previous Local Action Strategy (LAS) projects and develop new ones, as well as allow the SEFCRI team members to meet and talk to the new TAC members. The focus of this meeting is to develop new LAS projects as many of the originally identified projects have been completed or are ongoing.

SEFCRI Update - Jamie Monty, FDEP CRCP

Jamie asks the Vice Chair of each of the groups to introduce the members of each of their group members. FDEP CRCP staff members, other groups and TAC members also introduce themselves.

NEW SEFCRI Technical Advisory Committee (TAC) Update - Dr. Richard Dodge, NSU OC

The Technical Advisory Committee was originally created as a result of Land Based Sources of Pollution Project 4, because LBSP was an area where SEFCRI was lacking expertise.

- LBSP 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
- LBSP TAC Accomplishments:
 - Bi-annual meetings since 2004
 - Independent from SEFCRI Team Meetings
 - 21 TAC members
 - Expertise: oceanography, ecology, groundwater, water quality, algae, microbiology, and chemistry
- Supporting Efforts:

- White Paper/Quick Guide
 - Biomarker Study
 - Mass Pollution Budget
 - LAS review and commentary
 - Development of new LAS projects
- New SEFCRI TAC:
- Covers all four focus areas, including Land Based Sources of Pollution, Maritime Industry and Coastal Construction Impacts, (a lack of) Awareness and Appreciation, and Fishing, Diving and Other Uses, as well as the Our Florida Reefs (OFR) Community Planning Process
 - Application process:
 - Selection by SEFCRI Chair and Vice Chairs
 - 25 Members
 - Overlap between previous LBSP and SEFCRI TAC
 - Bi-annual meetings beginning September 2013:
 - Overlap with SEFCRI Team Meeting
 - Greater communication between SEFCRI Team & TAC

○ New TAC Members:

Ken Banks	Piero <u>Gardinalli</u>	Jose Lopez	Jack <u>Stamates</u>
Joe Boyer	Dave Gilliam	Kate <u>Lunz</u>	Brian Walker
James Byrne	Lew <u>Gramer</u>	Arthur Mariano	Dana <u>Wusinich-Mendez</u>
Nancy Craig	Kurtis Gregg	Margaret Miller	
Dick Dodge	Dale Griffin	Valerie Paul	
Phil Dustan	Judy Lang	Esther Peters	
John <u>Fauth</u>	Diego Lirman	<u>Manoj Shivlani</u>	

- One more seat to be populated
- TAC Tasks:
- Provide technical and scientific expertise to support SEFCRI capacity to address impacts to coral reefs and achieve SEFCRI's mission
 - Advise SEFCRI Team on new LAS projects

- Assess data from SEFCRI LAS projects and outside collaborations
- Characterize the condition of the coral reef ecosystem
- Identify data gaps and ways to address them, including available funding
- Provide recommendations to the SEFCRI Team on scientific needs
- Communicate with the SEFCRI Team on new methods and technologies, and other relevant information
- Interpret and translate outcomes of SEFCRI LAS projects and other relevant technical studies so that they can be applied to management decision-making
- Support the Our Florida Reefs (OFR) community planning process

TAC Co-lead - Lauren Waters, FDEP CRCP

- Per the SEFCRI Charter “Advisory Groups shall be led by the Advisory Group Co-Leads and shall function under the purview of the SEFCRI Team. Each Advisory Group must be co-led by one member of the SEFCRI Team and one FDEP CRCP staff member.”
- FDEP CRCP lead will be our new LBSP coordinator
- TAC Co-Lead Tasks:
 - Help plan, lead, and attend 2-day TAC meetings twice a year
 - Help facilitate and keep momentum of TAC discussions (usually via e-mail)
 - This would fulfill your team member responsibility of being on a project team!

Discussion about TAC co-lead

1. (Lauren Waters) At this time is there any SEFCRI team member that would like to be the TAC co-lead? If no one wants to fill this role, you could vote to allow a TAC member to be the co-lead instead of a SEFCRI team member.
 -(Dave Gilliam) *Can we have some time to think about this?*
2. (Lauren Waters) Sure we can allow you all to think about this and we can revisit it after the meeting if necessary.

SEFCRI Vice Chair Update - Becky Hope, Port Miami/SEFCRI Vice Chair - Other Stakeholders

- The objective of this talk is to go over the role of Vice Chairs.
- The SEFCRI Charter updates aim to balance the membership between Agency and non-agency members as well as have a broad representation of reef users.
- Nine stakeholder groups were created, each headed by one Vice-chair:

- Fishing
 - Diving
 - Academia
 - Other Stakeholders
 - Non-Governmental Organizations
 - Private Business
 - Local Agencies
 - State Agencies
 - Federal Agencies
- Purpose of the Vice-Chairs:
 - Represent their stakeholder group when making decisions for SEFCRI
 - Vice-Chairs representing agencies also representing the SEFCRI Team in their agencies
 - Duties: work to promote cross-linkages, program integration, and support for LAS project implementation
 - Assist in leading efforts to identify candidates for SEFCRI Team vacancies
 - 2 year terms (a maximum of 2 consecutive terms)
 - Tasks Completed To Date:
 - New SEFCRI Team member review and selection
 - Drafted application
 - Reviewed candidates
 - Selected new SEFCRI Team members
 - Held 1 seat open to target a commercial/charter fisher
 - 1 seat recently opened for private business
 - Candidates who were not selected were advised to apply to the TAC and/or OFR
 - TAC member selection:
 - Identified expertise needed for a SEFCRI TAC
 - Reviewed and clarified the role of the TAC and tasks of TAC members
 - Developed the process for selecting the new SEFCRI TAC
 - Reviewed candidates
 - Selected TAC members
 - Our Florida Reefs (OFR):
 - Reviewing Community Working Group (CWG) applications

- Voting on CWG members
- Identified gaps in stakeholder groups, doing targeted applications to fill these
- SEFCRI Team Meeting Planning:
 - Planned meeting agenda
 - Planned the Local Action Strategy (LAS) project session at this fall meeting
 - Advised on how to move forward with the entire LAS process
- Next Steps:
 - Plan LAS project identification process, Winter 2013 and Spring 2014
 - Develop criteria setting process
 - Refine Goals and Objectives for SEFCRI LAS projects
 - Develop Spring LAS project selection meeting
 - Help identify and select team members to fill current vacancies
 - Be the voice for our Stakeholder group!!

SEFCRI Project Updates

LBSP 28 & 29 (Phase II) – Pilot study for determining the response of a southeast Florida coral reef community to pollutants exiting offshore wastewater outfall pipes & inlets - John Fauth, UCF

- Background:
 - Ocean outfalls are a large potential source of land-based pollutants
 - Six outfalls off SE FL coast
 - Discharge millions of gallons of secondary-treated wastewater every day
 - Close to outer reefs
- Adverse Effects of Outfalls:
 - Human enteroviruses used as signal of human fecal contamination (Futch et al. 2011 Marine Pollution Bulletin)
 - Norovirus detected in 20% of samples off Hillsboro inlet and Hollywood outfall
 - Reduced regeneration rates of a coral near the Hollywood outfall (Dustan et al. 2008)
- Justification:
 - Zone of influence of ocean outfalls is unknown
 - Mixing models predict effluent diluted to background levels within a short distance

- However, effects of chronic exposure and biomagnification not considered
- Objectives:
 - Determine if a toxicity signal can be detected in the benthos near Hollywood outfall
 - If so, determine which reef component (water, sediment, mucus, tissue) is the best stress indicator
 - Outcome will dictate whether further investigation is warranted
- Reef Components:
 - Surface water and wastewater effluent samples
 - Sediment extract
 - Coral mucus
 - Sponge tissue
 - Algae extract
 - Bivalve tissue
- Assays:
 - Ames-type tests for toxicity, genotoxicity and mutagenicity (USGS laboratory in St. Petersburg)
 - Will include positive and negative controls
 - Two sediment samples will be evaluated using a microtoxic assay (Duerr Laboratory for Marine Conservation in Fort Pierce)

Questions for LBSP Outfall Project

1. (SEFCRI member) Do the outfalls use different methods for wastewater treatment?

-(John Fauth) *That information can be obtained from the plant operators. There are differences in the sources of water (some have more input from industrial sources than others), as well as timing of the releases.*

-(Jack Stamates) *There is a large difference in the physical size of the outfalls. Some are quite small compared to the others.*

2. (SEFCRI member) Have you observed any correlation between excessive amounts of water and algae blooms in and around the outfall pipes?

-(Ken Banks) *I have been to the Hollywood outfall twice recently and there is a large bloom of filamentous green algae at the site.*

-(John Fauth) As part of our biomarker studies we put out PVC tubes for sediment studies, but we have also recorded the algal cover on the tubes and we see that there is an increase in algal cover at sites closer to the outfalls.

3. (Nick Morrell) Is it true that when there are problems at the plants they tip out raw sewage?

-(Various people) Yes, it's true.

-(Steve Blair) Depending on the inflow they treat a certain volume. If the volume is too high, due to rainfall infiltration, they let out partially treated sewage. The percentage depends on the volume of water received. I don't believe it is raw sewage, it's at least partially treated.

4. (Nick Morrell) Do they tell people when they are tipping out semi-treated water?

-(Jeff Torode) It's usually done at night.

-(John Fauth) But it is also going to the surface and this is where our question came up. Fresh water will float and dilutes out quickly. There are also many filter feeders that are feeding out of this water. Studies say that most viruses are killed, but with the volumes we are dealing with it could still cause a problem.

5. (Nancy Craig) This doesn't include all the medications that people take.

-(Ken Banks) Piero Gardinalli has analyzed two samples, I have heard that there are antibiotics in the water.

-(John Fauth) In our study we have found signs of stress on corals from xenobiotics. Could be from pesticides, herbicides, etc.

FDOU Projects 29, 30 & 32: Southeast Florida Marine Debris Reporting and Removal Program - Karen Bohnsack, FDEP CRCP

○ What is marine debris?

- Marine debris is any man-made object that is disposed of or abandoned into the marine environment, either directly or indirectly, intentionally or unintentionally.

○ Marine Debris Impacts

- Marine debris is aesthetically displeasing, but can also have serious effects on the marine environment, marine organisms, the economy, human health, and safety. It is now considered to be one of the most widespread pollution problems facing the world's oceans and waterways.
- Marine Debris can cause damage to sponges and corals, and entangle fish and other reef organisms, which can result in the injury or death of these animals.

- FDOU Projects 29, 30 & 32
 - FDOU 29: Establish well organized beach cleanup data collection point for all counties
 - FDOU 30: Develop volunteer reef cleanup day with multi-county data collection
 - FDOU 32: Develop strategies to reduce the trash being generated
- Marine Debris Program Objectives
 - Minimize indirect impacts on the reef ecosystem and associated organisms from commercial and recreational use
 - Increase understanding among reef user groups of the causes and consequences of marine debris
- Tasks
 - Organize annual reef cleanups
 - Support other reef cleanup events in southeast Florida
 - Coordinate the removal of large or high-priority debris
- 3rd Annual SEFL Reef Cleanup
 - Broward County: June 29, 2013
 - Miami Dade County: July 20, 2013
 - Martin County: July 27, 2013
 - Palm Beach County: August 3, 2013
 - 146 Divers participated across Miami-Dade, Broward, and Palm Beach counties, and collectively spent 211 hours underwater cleaning up approximately 140 linear miles of southeast Florida's reefs.
 - They succeeded in removing an estimated 1955 pieces of debris, which weighed over 1000 pounds, and totaled approximately 850 gallons.
- % Contribution by Group
 - 47% Trash
 - 33% Fishing
 - 13% Boating
 - 6% Household
 - 1% Diving
- Large Debris Removal

- This past spring, we had the opportunity to help fund the removal of a derelict fishing net in about 100 feet of water at the Tenneco Towers dive site. The net was estimated to weigh nearly 1000 lbs, was approximately 30 feet high and 200 feet long, and had already claimed the life of at least one turtle

Questions for Marine Debris Project Updates

1. (Dana Wusinich-Mendez) The chart with the contribution of types, is that by number of items or weight?

- (Karen Bohnsack) *It's by number of items, this might not be the most accurate way to assess impact, but it is easily comparable.*

2. (Dan Clark) There's a big piece of orange mesh in the staghorn patch with lyngbya. Who should I report it too? Seems to come from the construction on Sunrise. It has lots of Lynbya on it.

- (Karen Bohnsack) *You should put it into our SEAFAN database, this will allow us to go out and try to coordinate a removal.*

3. (Nicole Ordway) There are other collaborative efforts to do reef cleanups like "Keep Palm Beach Beautiful." Do you guys coordinate this data collection?

- (Karen Bohnsack) *This year I have modified the data sheets so we can include our data in other underwater clean up efforts, specifically PADI Project Aware*

4. (Jeff Torode) Do you try to find the responsible parties for some of these events for example the net at Tenneco towers? Was it removed?

- (Dave Bingham) *We did remove the net, we put out a press release to get tips but we were unable to track the responsible party down.*

5. (Carman Vare) There's a group in Palm Beach, Lagoon Keepers, that does cleanups mainly in the lagoon. Are you interested in their information?

- (Karen Bohnsack) *Yes, of course. And if anybody knows about other groups doing cleanups we definitely want to hear about them.*

Awareness & Appreciation Update - Christopher Boykin, FDEP CRCP

37 Original AA Projects

○ 7 Recurring Core Projects

- AA Project #5: Maintain & Update the SEFCRI Website
 - The website has been updated with OFR information
 - ADA accessible

- Variable fonts
- Translated into Spanish
- AA Project #10: Media/Marketing Campaign using Public Service Announcements (PSA's)
 - Have done: TV, Radio, Print (Fishing Regulations) & Social Media, Bus Wraps, Movie Theaters, Hotels via Lodgenet
 - Planning: 12 third-party validation PSAs (15 & 30-seconds)
- AA Project #11: Develop SEFCRI News Articles
 - FDEP CRCP Update
 - SEFCRI Update
 - RIPR Update
 - SEAFAN or Marine Debris Update
- AA Project #20: Development of Speaking Package & Promo Items/Resources for Events
 - Topics: Coral reefs 101, FDEP CRCP, SEFCRI & Our Florida Reefs
 - Staff & Speaker's Bureau members have delivered 22 talks this year and we have 5 more scheduled.
- AA Project #23: Outreach at Community Events
 - Participate in roughly 25 Event Days Per Year
 - Friends of Nature Music Festival
 - Miami Boat Show
 - Palm Beach Boat Show
 - Dania Marine Flea Market
 - Marine Aquarium Conference of North America
 - Miami Shores Green Day
 - FIU Sustainability Fair
 - Broward Everyday Green Expo
 - Miami River Day
- AA Project #35: Traveling Coral Reef Resource Trunks
 - 4 elementary (K-5) trunks Circulating in Region (monthly)
 - Expanding to middle schools & high schools
 - Next Generation Sunshine Standards / Common Core Standards
 - Create curriculum specific to our local reefs (intern, team, contractor?)
- AA Project #37: Coral Reef Teacher Training

- Held 9 Teacher Trainings to date (340+ teachers)
- Next 2 Spring 2014' for 6-8 grade teachers
- Curriculum sharing by teachers
- Fish & Coral Identification
- Field trip to the reef
- Network of more than 700 teachers

Power Analysis for Miami-Dade, Broward, Palm Beach, and Martin County Reef Biota - Lauren Waters, FDEP CRCP and John Fauth, UCF

- Past project recommendations:
 - MICCI 27, 47, 48: “Evaluation of Past Coastal Construction Project Monitoring in Southeast Florida and Recommendations to Improve Future Monitoring”
 - Incorporate a priori power analyses into monitoring plans to ensure that adequate sample sizes are collected to detect change
- A priori power analysis of reef data from Miami-Dade, Broward, Palm Beach, and Martin counties
- Project Goals:
 - Organize and examine existing data sets, and conduct a priori power analysis
 - Determine the sampling effort needed to design and conduct statistically sufficient sampling procedures
 - Gorgonian, sponge, and stony coral distributions throughout Miami-Dade, Broward, Palm Beach, and Martin counties
- What is Power Analysis?
 - Method to determine the minimum number of samples required to detect a statistically significant effect – for example, of a reef impact
 - Depends on three factors:
 - statistical significance criterion used (generally $\alpha = 0.05$)
 - magnitude of the difference between impacted and unimpacted populations
 - amount of variation in the data
 - Knowing these factors, it is possible to determine the sample size needed to detect an effect
- Progress to Date:
 - Bathtub Beach Restoration

- Bal Harbour Mitigation Monitoring Project
- Broward County Annual Monitoring
- City of Hollywood Interim Beach Renourishment Project
- Coral Biomarker Local Action Study
- Miami-Dade Federal Erosion Control Project
- Florida Reef Resilience Program
- Hollywood Interim Beach Nourishment
- Midtown & Phipps Beach Nourishment
- North & South Boca Raton Beach Nourishment Projects
- Palm Beach County Monitoring
- South Boca Raton Beach Nourishment Project
- SE FL Coral Reef Evaluation and Monitoring Project
- St. Lucie Inlet Federal Navigation Project

Questions for Power Analysis Project

1. (Linda Knoeck) Are you using data from monitoring reports?

-(John Fauth) *I use whatever is available, but if the raw data is available, that's preferable. Some important data that we are missing is academic, like Masters' Theses, etc., these would be especially useful for Martin County and Palm Beach.*

2. (Brian Walker) Some of the metrics you are using are probably not normally distributed. Would this cause a problem when running your analysis?

-(John Fauth) *We can use Bayesian methods or transform the data.*

3. (Frank Schmidt) How many of those projects had mitigation plans before they were started? As opposed to finding a damaged area and trying to assess the damage.

-(John Fauth) *I don't know that off hand, but I can look at it.*

Local Action Strategies Goals and Objectives Prioritization - Lauren Waters, FDEP CRCP

- US Coral Reef Task Force:
 - In 1998 the US Coral Reef Task Force was established; comprised of representatives from US states, territories, commonwealths, and freely associated states that have coral reefs.
 - Each of the 7 US jurisdictions on the US Coral Reef Task Force were directed to create LAS projects to address threats to coral reefs.

- In May 2003 FDEP, and FWC coordinated a team of marine resource professionals to develop Florida's LAS.
- SEFCRI Threat Areas:
 - Fishing, Diving, Other Uses (FDOU)
 - Land Based Sources of Pollution (LBSP)
 - (Lack of) Awareness and Appreciation (AA)
 - Maritime Industry and Coastal Construction Impacts (MICCI)
- 2003 LAS Development:
 - Help us understand our reefs, knowing that in the future, projects could focus on helping reduce those threats
- Charter Revision:
 - To avoid having projects which are too broad in scope and difficult to finish, the charter was modified to include the following clause:
 - All new LAS SOWs submitted for consideration by the SEFCRI Team must include tangible outcomes and performance measures, and directly support one or more of the following:
 - a) FDEP CRCP's Strategic Action Plan (Appendix IV).
 - b) Florida's Coral Reef Management Priorities (Appendix V).
 - c) Florida's Climate Change Action Plan (Appendix VI)
 - d) Address existing or emerging local threats to coral reef conservation
 - e) Address the top three global threats to coral reef conservation (fishing impacts, land-based sources of pollution, climate change) identified through the National Oceanic and Atmospheric Administration (NOAA) Coral Reef Conservation Program Goals & Objectives (Appendix VII)
 - f) Promote federal/state or federal/local partnerships in support of the U.S. Coral Reef Task Force National Action Plan (Appendix VIII)
 - g) Meet the goals and objectives of the NOAA National Marine Fisheries Service Acropora Recovery Plan (Appendix IX). (NOT FINALIZED)
- Task 1: Prioritize
 - 100+ goals and objectives
 - Focus the list to help better define our immediate (next 5 years) needs
 - This will help guide project development as well as our prioritizing of project suggestions in the spring. Suggestions were written down in ballots and turned in to FDEP CRCP staff.

Questions for LAS Goal and Priority Setting

1. (Linda Knoeck) There are over 100 different objectives. Do the new LAS projects have to meet them?

-(Lauren Waters) The goal for this is to prioritize and focus this list, down from 100 to something more manageable. These will be the goals we will focus on for the next 2-5 years.

2. (Frank Schmidt) How are the Vice Chairs organized with regards to the four threat areas?

-(Lauren Waters) The groups are no longer focused on a single threat area. This change came with the changes to the Charter so that we can allow better communication among all members.

Coastal Oceans Task Force Update - Ken Banks, Broward County

- Kristin Jacobs, County Commissioner was appointed to the National Ocean Council's, Governance and Coordinating Committee. The Committee decided to request short-term projects that would lead to improvements in the ocean environment.
- Broward County submitted a proposal that would allow local elected officials to be educated on conservation planning issues, so that when issues are brought to them they can make better informed decisions.
- The result was the Coastal Ocean Task Force which includes members from Martin County to Miami-Dade County. One Commissioner per County. From each county 3 city Officials representing north, central and southern regions of that county were also invited to the Task Force.
- Monthly meetings began in January 2013 with a break during the summer. The process was planned for a year and a half. The goal of the project is to improve communication with elected officials, especially because they are the ones who can actually get management options implemented.
- During our talks it became clear that none of the Task Force members prioritized coastal or ocean issues. So the first task was to develop an Ocean 101 course to educate them on the issues of the coastal ocean.
- Ultimately the goal is for the Task Force to develop a list of recommendations, which hopefully matches up with the SEFCRI process.
- Meetings are held the second Thursday of every month at different locations throughout the four counties. Next meeting will be held at NSU OC in October, the subject will be LBSP.

Questions for Coastal Ocean Task Force Update

1. (Carman Vare) Are State Representatives part of the Task Force? If not is there a reason?

-(Ken Banks) No they are not, it's mainly local representatives. Other than FWC we don't have State elected officials.

2. (Kurtis Gregg) The Task Force was setup from the need to have the support of local officials on issues and so that they could also inform the State entities when issues were brought up.

Our Florida Reefs: Your Voice, Our Future (OFR) - Julio Jimenez, FDEP CRCP

- OFR: a community planning process for southeast Florida's coral reefs
- An effort to get the voice of the constituents so we can gather it and communicate it to elected officials
- Originated from LAS project requesting working groups and public meetings
- First discussions were held in 2012 when the Process Planning Team (PPT) created a framework
- Four step strategy to develop the process:
 - Step 1: Community Meetings
 - Already completed
 - 450 participants over 6 meetings
 - Most people stated that they gained knowledge and value from meetings
 - Produced a list of priorities (290 comments from meetings). What is the biggest threat to coral reefs?:
 1. Water quality
 2. Lack of information
 3. Habitat loss/degradation
 4. Inadequate regulations and enforcement
 5. Anchor damage
 - Step 2: Community Working Groups (CWG)
 - 10 stakeholder groups have representatives in the working groups (25 members total)
 - Composed of: Federal Government, State Government, County Government, Academic institutions, Conservation NGO's, Diving Interests, Fishing Interests, Private Business Interests, Water Sports, Citizens at Large
 - Create guiding principles
 - Identify and prioritize management options
 - Recommendations for implementing management options
 - Ongoing application process
 - Reviewed by SEFCRI Vice Chairs

- Approx. 60 applicants. Targeting specific candidates for certain seats
- Step 3: Communicating Recommendations
- Step 4: Reef Management Strategies
- The Process Planning Team (PPT) has been the group in charge of guiding the whole organization and development of the process
- Three new project teams with more specific scopes have been developed:
 - Meeting Development and Facilitation Project Team: - lead: Julio Jimenez
 - Spatial Tools Project Team - lead: Lauren waters
 - Communications Project Team - lead: Christopher Boykins
- Working groups will be advised by PPT, SEFCRI and TAC
 - Result: Management Recommendations
- Introduce Breakout Groups: Suggest ways in which SEFCRI Team can be kept in the loop with OFR

OFR Breakout Groups Report Out

- Group 1 - Jenny Báez
 - Online forums for information exchange on the web
 - SEFCRI Team members could be expert advisors on certain topics
 - Presenting findings of SEFCRI projects to CWGs
 - SEFCRI Team members from each region could advise regional working groups rather than the whole Team.
- Group 2 - Lisa Gregg
 - Joint SEFCRI and OFR meeting
 - Quarterly newsletter online for information updates
 - OFR meeting notes or audio recordings should be made available online to SEFCRI Team
- Group 3 - Esther Peters
 - Designate a liaison for each CWG to report back to SEFCRI by email
 - Help facilitators with meeting minutes, so short summaries can be created, vetted, and circulated

- Keep everybody informed
- Group 4 - Natalie Ledoux
 - Important to have a constant flow of information back and forth between groups (OFR, TAC, SEFCRI)
 - Send out emails announcing working group meetings so team members can plan to attend
 - A Technical Advisor should also be available
 - Quarterly webinars to summarize information and facilitate flow of information
 - Comment feedback loop
- Group 5 - Wendy Wood-Derrer
 - Post information on web
 - Post Working Group meeting, agendas, and minutes online
 - Provide Working groups with list of SEFCRI Team and TAC members, including a list of their expertise, so that they know who to turn to for help
 - Need a process to approve OFR outcomes as SEFCRI products

Questions for OFR Updates

1. (Steve Blair) Could you review the process as to how OFR makes recommendations and how that is taken into account/implemented by SEFCRI.

-(Julio Jimenez) Originally the process we suggested was OFR creates recommendations which are then submitted to PPT and/or SEFCRI, then they provide feedback. The idea now is that SEFCRI should be involved throughout the whole recommendation creation process, so that in the end the recommendations are sensible and easier to implement.

Public Comment - Day 1

I. Dan Clark

“Video from Monday dives.”

II. Drew Martin

“Concerned about lack of enforcement of pollution controls. Support marine reserves and no-take zones. Next time have a table for public to do mock exercises, if not that many public add extra time for comment, maybe five minutes. Would like to see a stop to port expansion and reef obstruction.”

III. Frank Schmidt

“We need more involvement with mitigation projects. Need to know the process. Need to assist plans and understand the results.”

Adjourn

MEETING SUMMARY - DAY TWO (SEFCRI TEAM AND TAC): THURSDAY, SEPTEMBER 26TH 2013

Welcome and Meeting Guidelines – Jamie Monty, FDEP CRCP

Jamie Monty, Florida Department of Environmental Protection’s Coral Reef Conservation Program (FDEP CRCP) manager, welcomed all in attendance to the 1st joint South East Florida Coral Reef Initiative (SEFCRI) Team and Technical Advisory Committee (TAC) meeting. She then reviewed meeting participation guidelines for TAC and SEFCRI team members and observers, which included the facilitator role, guidelines for discussion, consensus rules, comment card procedures, and the use of meeting evaluation forms. Jamie then reviewed the day’s agenda, which included changes to the SEFCRI Charter and other recent changes that are part of the transition to a stakeholder driven process. One of the objectives of the meeting is to evaluate previous Local Action Strategy (LAS) projects and develop new ones, as well as allow the SEFCRI team members to meet and talk to the new TAC members. The focus of this meeting is to develop new LAS projects as many of the originally identified projects have been completed or are ongoing.

TAC and SEFCRI Team Introductions – Jamie Monty, FDEP CRCP

Jamie asks the Vice Chair of each of the groups to introduce the members of each of their group members. FDEP CRCP staff members, other groups and TAC members also introduce themselves.

SEFCRI Local Action Strategies (LAS) Overview - Lauren Waters, FDEP CRCP

Lauren Waters reviews the formation of the US Coral Reef Task Force and how that resulted in the formation of SEFCRI and the 2003 LAS process.

- o Lessons learned
 - Fewer projects
 - 2 to 5 year plans (1 or 2 grant cycles)
 - Better project descriptions
 - Manageable expectations
 - Long and short titles (no more numbers)
 - Multiple meetings to develop LAS projects

- o At the 2011 SEFCRI Team meeting, established guidelines for consensus for the next LAS creation process:
 - Reviewed past project recommendations (evaluate which ones have been completed and/or are redundant)
 - SEFCRI and TAC participated in this review
 - Developed criteria to evaluate proposed LAS
 - Yesterday the team was tasked with ranking the top goals out of the 100+ reviewed
 - Obtained 10 goals per category
- o Today
 - Review past LAS projects
 - Propose new LAS projects
- o Winter
 - Refine and develop LAS projects
- o Spring Meeting
 - Select 20-25 LAS projects for the next 5 years
 - These projects are in addition to the ongoing projects that we have e.g. Awareness and Appreciation, SEAFAN, etc.
- o Project guidelines
 - Able to be completed in ~2 years (break down larger projects into phases)
 - 25,000 - 100,000 USD
 - Address the prioritized list of goals and objectives

Questions for LAS Overview

1. (Joe Boyer) *What is the TAC's duty? How does it differ from that of the SEFCRI Team?*

-(Lauren Waters) The TAC advises on projects, each project is carried out by project team. Project teams have a lead and a co-lead and it may have TAC members.

-(Dave Gilliam) For the tasks described TAC and Team will be working together now.

2. (Erin McDevitt) *Can you describe the role of the TAC in a more general manner?*

-(Lauren Waters) The TAC is an advisory body to the SEFCRI team. In the past the TAC was focused on LBSP because that was where the priority or lack of knowledge was identified. Now the goal of the TAC is to advise on all threat areas rather than just one.

-(Erin McDevitt) We also want the TAC to be able to advise the OFR process, provide the technical expertise that is needed to come up with recommendations.

LAS Discussion 1: Review/Prioritize Past LAS Recommendations - Lauren Waters, FDEP CRCP

Lauren Waters instructed the groups to review past project recommendations and prioritize ones that need to be continued or started. Each group should select 3 recommendations from each threat area for this new LAS process.

o Things to consider:

- Is it already described as a project?
- Is it a management action? Should it be presented to OFR?

o Table 1 - Joshua Voss

- AA: 2, 3, 4
- LBSP: 1 and 2 combined, 19 and 23, 27.
- FDOU: 1, 6, 5 - quantify non-interactive stress.
- MICCI: 6, 9 and 13 combined

o Table 2 - Erin McDevitt

- AA: 3. Added detail. Identify resources that can translate to numerous languages and culturally sensitive materials.
 - Reach children. Make them care. Explain why it's important to them. Emphasize why reefs are important.
- 2. Multi-county dive operator association.
- FDOU: 5 and 6
- MICCI: 1 and 22. Inlet maintenance and beach renourishment.
- LBSP: 1 and 2 combined, 11, 13

o Table 3 - Esther Peters

- AA: 2, 3, 4
- FDOU: 1 (if you include spearfishers and recreational anglers), 5, 6.
- LBSP: 3, 5-15 combined, 11
- MICCI: 10 combined with 19, 21, 24

o Table 4 - Dana Wusinich-Mendez

- FDOU: 1. Work with recreational fishers. 5. Monitor stressors over time. 3. Evaluating non-extractive stressors and land side-effects.

- AA: 1 Educational program for hotels and tourism. 3. Focus on minority groups and engaging dive community.
 - LBSP: 1. More research. 15. Assisting storm water retrofits. 17. Look at existing permitting programs to prioritize projects in hotspot areas. 13.
 - MICCI: 3. Improve permitting; combine with 18 - Use the MICCI database for cumulative impacts. 1. Tiered contractor certification process. 24. Minimum performance criteria.
- o Table 5 - Natalie Ledoux
- AA: 1, 2, 3, 4. Tourists, diving community, racial minorities, and coastal marine construction engagement (fits with OFR).
 - LBSP: 1 and 2 combined. Pharmaceuticals, organics, and pollution. 13, 15, 16 Sewage/stormwater management. 22. Education of homeowners about biocides, herbicides, etc.
 - MICCI: 10. Measure level of mitigation success 22. Measure beach erosion 27. Construction companies should not be the ones doing monitoring.
 - FDOU: 1. Recreational anglers. 5 and 6 combined.
- o Table 6 - Steve Blair
- AA: 3. Underrepresented ethnic minorities need to be included in education processes.
 - FDOU: 1 and 7 fit into AA. 6 - Anchoring pressure matches point 3.
 - LBSP: 1 and 2 modified to be more consistent and specific. 10 and 8 were more AA. 18. Incentive system matches well with priority L15. 9.
 - MICCI: 2 and 3. Redefining permits for marine coastal construction. 4 is better as AA. 12 is better in LBSP.
- o Table 7 - Lisa Gregg
- AA: 2. Incentive based system. Not just engaging dive community but duplicating “Blue Star” program. 3. Incorporating minorities, focused on children, use other languages.
 - FDOU: 5 and 6. Multiple stressors and anchoring pressure, identifying safer areas for anchoring.
 - MICCI: 1. Shared contractor certification/qualification process and include 3rd parties for monitoring programs. Set a criteria list. 22. Inlet maintenance, beach erosion. Alternatives to beach nourishment.
 - LBSP: Combine 1 and 2. Additional interdisciplinary research looking at multiple stressors. Additional research into pollutants. 11. Review and update codes so that they are consistent with low impact development practices. Identify codes that need to be updated. 13. Document beach discharges.
- o Table 8 - Nick Morrell
- AA: Underrepresented groups and non-traditional marine industries. Must be in multiple languages. Continuing education is an overarching idea. Should be structured by demographic or institution, e.g., hoteliers, dive shops, schools. etc., targeted for each group.

- FDOU: Zoning marine protected areas or management areas. 1 is education. 3 and 5 combined. 4 and 8 combined. Documenting the effects of non-extractive stressors.
 - LBSP: 1 and 3. More research into pollutants, watershed planning assessments. 13. Beach storm water discharge, etc.
 - MICCI – N/A
- o Table 9 - Brian Walker
- AA: 3 and 4
 - LBSP: 1, 7, 13
 - FDOU 1, 5, 6
 - MICCI: 2, 18, 22, 25
- o Table 10 - Valerie Paul
- MICCI: 5, 19, 21, 22. Interagency cooperation. Monitoring permitting and modeling.
 - FDOU: 1, 6
 - AA: 1, 3, 4. (No existing recommendations aligned well with goals).
 - LBSP: 3, 18, 24. Watershed planning. Incentive system for septic system. Regulatory enforcement and education.

LAS Discussion 2: Develop New LAS Recommendations - Lauren Waters, FDEP CRCP

Lauren Waters instructs the groups to develop new LAS project ideas. Each group should try to suggest at least one new project per threat area. Fill in general project information on the half sheet of paper.

- o Things to consider:
- If you suggest a recommendation, realize that it is not proprietary; a project idea is not guaranteed to go to its originator as a contract.
 - Reference the prioritized goals and objectives list.
 - Can refer to TAC ideas brainstormed during the May TAC meeting.
- o Table 1 - James Byrne
- SEFCRI region is thought to be a sink for source in the Keys. Should set up an experiment to test that hypothesis since we don't know if that's true.
 - Two projects to try and close outfalls. One from human health perspective: antibiotic resistance. Second from a food security aspect looking at effects on game fish and their effect on humans. L15
 - Effectively educate the business community on values of the reefs with up to date info and specifically targeted. AA3 and AA4.
- o Table 2 - Erin McDevitt
- Identify and map fish spawning areas. Need more data. Same for corals.
 - Where are the recruits going?

- o (Dave Bingham) Fishing license type program that uses the Marine Regulation Awareness program. If you take a class on resources then you get a discount on the fishing license. Do a study or survey to see if that would be feasible.
- o (Jeff Beal) Assessment of lionfish impact in other habitats, not just nearshore. Develop additional methods for removal. Associated education program and stock assessment.
- o (Lew Gramer) Identifying information gaps in coastal circulation patterns. This is important for reproductive studies and LBSP. Computer models. Identify data gaps and then how best to fill them. Identify appropriate spatial and time scales. Outcome: geospatial database. Fish spawning database would be controlled access so you don't have fishermen exploiting the information.
- o (Chris Sinigalliano) Coral genomic and bacterial observatory to try to understand effects of LBSP and climate change, etc.
 - (Lew Gramer) This could leverage existing monitoring projects.
- o Table 3 - Kristen Hoss
 - AA: Have proven contracted educators that go to schools rather than putting things into curriculum. Target specific, already developed curriculums. Have actual people who know what they're doing. Progressive from 4-6 grade so that it builds upon previous years. Must be a continuous effort every year. Should be done in the whole region and Martin County. Shouldn't be too expensive. Covers Goals and Objectives 2, 3, 9 from Charter.
 - LBSP: Water quality and how LBSP travels. Get current information specific to our region and closer to land. Place water quality monitoring stations, maybe along the piers. This can be linked directly to NOAA.
 - Marine genomic observatory using polyp samples, mucus samples, etc. so that we can observe changes through time to attempt to identify diseases. This data can be used to identify connections with LBSP. C33, 113, 114, 143.
 - Expand SEFCRI presence in Martin County. Include more constituents from Martin County. There are many projects up there. There are corals reefs there too.
 - Implement something like Swat-A-Litterbug program you can include tag number so they can be reported and cited. On water and in watersheds.
- o Table 4 - Richard Dodge
 - LBSP: Experimental analysis of pollution thresholds. Well-designed pollution dosing experiments. Synergistic effects of nutrients, sedimentation, pollution, etc. this could then be used for management actions. L14 and L24.
 - Coral reef mitigation standards. Add to work that is already being done. Develop standards for initial, compensatory mitigation for planned and non-planned impacts.
 - MPA: Experimental approach for 3-5 years. Use an opportunistic site to get the experiment going.
- o Table 5 - Natalie Ledoux

- To address climate change and examine four threats we need thorough review of data that's already been collected and revised.
- Deliverables: match where lack of data was seen. e.g. coral diseases.
- Look to more general sources of funding. Need people who will fundraise.
- Biogeochemical physical observation based project. This would be continuous through time.
- Continue with move to education and appreciation of coral reefs.
- People need to understand what the impacts of climate change might be.

o Table 6 - Shana Phelan

- MPA: Making sure the MPA's are correctly identified for their function. For example if they're spawning, nursery sites, etc. Spatial and temporal characteristics. Ensure the idea and purpose is clearly communicated.
- Spearfishing - we don't have great data on it. Is it mostly free diving or scuba? Other countries don't allow spearfishing on scuba.
- Water quality is a big thing to address with dumping of water. With large swings between dry and wet seasons. Identify point sources of pollution.

o Table 7 - Don Behringer

- Important to include ethnic minorities.
- Support for MPA. We need to take the information we already have and synthesize to identify data gaps and prioritize areas.
- Nearshore hardbottom variation is some of the info already being gathered. Do we need more information throughout the region? Is it reasonable to do it in 2-5 years?
- Impact of lobster traps. We noticed lots of lobster traps out on the reefs. How does it compare to anchoring damage. This might be higher impact than anchoring.
- Protection of goliath grouper spawning areas tied in with the impact on local economy.
- Fishing info updated.

-(Julio Jimenez) The recommendations and recognizing what information is needed to make an MPA is something we want OFR to look at also. That is the point of the program - to include the community in this kind of process.

o Table 8 - Diego Lirman

Things that are missing:

- Too coral-centric. Identify other areas that might have functions related to reefs. All critical habitats e.g., hardbottom areas, seagrasses. Identify resilient habitats and monitoring projects. Expand monitoring and protection of non-coral habitats.
- Lack of education. Low voter IQ. Smartphone app that lets you map location so that you can see what habitat you're impacting. Need to expand to people who still use charts. It would be nice to include in GPS not just phone apps. C1 and C2?
- Develop a diving medallion program that includes a strong educational component, not just fundraising. A2.

- Quantifying impacts of spear fishermen. We should include all aspects and methods to quantify impacts of each one.
 - The MPA location should maybe be altered. Include other areas, north of Biscayne up to Government Cut. Suggest a formal process for selecting sites. F23
 - Including other stressors, freshwater nutrients should be quantified especially in light of recent freshwater discharges in North. F12
 - Response team. Narrowly focused. Need to expand out of just coral. Look at other stressors. FRRP is mainly focused on thermal anomalies. Should look at other impacts e.g., large discharges. M10.
 - Coral diseases. Targeted management program to identify patterns. L6 and M24
- o Table 9 - Brian Walker
- AA. We have benthic habitat maps and LIDAR data. People have asked how to get the maps. We should make a map atlas that includes not just maps but also other additional information. If they want maps they'll also receive more info.
 - This area is known for large dense patches of *Acropora cervicornis*, we still don't have a good handle on where they are and dynamics. We've monitored two for a decade but there are others. We suggest a more regional approach to studying them, e.g., a synoptic *Acropora* survey throughout the region to detect where it is present now so we can look at patterns in time. This area seems to have more *Acropora* than the Keys.
 - Regional fish assessment happening now to establish baseline. 3 year effort. This is randomized by habitat (relief) and biota. We don't have a plan down the road for it. This is a good project we need to continue to develop so that it can be used as a management tool.
 - Characterizing the reef system has been limited so far because we don't have a good way to compare between regions. The stations we have are fixed and are designed to see coral growth through time. It would be interesting to add quantitative data to mapping efforts we have now to get a better idea for the region. This is the idea behind fish counts; benthic data would be relevant.
- o Tale 10 - Jim Bohnsack
- TAC recommendations. We like MPAs. F7, F9 and F23 fit nicely with priorities.
 - Advertising professional, A2, was also appropriate.
 - Medium priority: MICCI documentation success.
 - Need success standards for mitigation.
 - Low priority: spearfishing documentation and nearshore management.
 - Leveraging private dollars is important.
 - Community support organizations.
 - Hire a grant writer.
 - Adopt a reef program to raise funds for lesser known reefs (maybe retrieve wayward tire reef)
 - Update socio-economic studies for the region.
 - Overarching approach to engage everyone in a positive manner.

Lauren Waters instructed the group to review and prioritize ideas and LAS recommendations from the first two breakout sessions (past project recommendations and new projects that have not been initiated). Each group was instructed to provide 4 projects, and elaborate on project details using the handout provided.

o Table 1 - Wendy Wood

- (James Byrne) Living shorelines. L22
- (Joshua Voss) Source/sink population dynamics for SEFCRI region.
- (Wendy Wood-Derrer) Update 2000 economic valuation of SEFCRI reefs.
- (Dale Griffin) Outfall effects on human and reef health.

o Table 2 - Erin McDevitt

- (Dave Bingham) Incentive based fishing license program.
- (Dale Griffin) Outfall program from table 1.
- (Chris Sinigalliano) Pilot genomic observatories for microbial source tracking and sentinel core communities of the SEFCRI region.
- (Lew Gramer) Identifying data gaps in coastal ocean circulation.

o Table 3 - Kristen Hoss

- (Cheryl Miller) Evaluation of state water quality standard of 29 NTUs adjacent to coral reef habitats.
- (Kay Davy) Implement diverse plans to address LBSP derived from storm water runoff.
- (Jack Stamates) Pier water quality monitoring stations.
- (Kirsten Hoss) SEFCRI awareness to action initiative focused on underrepresented school populations.

o Table 4 - -Kate Lunz

- (Kate Lunz) Coral reef mitigation and standards.
- (Richard Dodge) Experimental analysis and determination of pollutant thresholds on reef organisms.
- (Minoj Shilvani) Educational program for hotels and tourist sectors.
- (Dana Wusinich-Mendez) Informing recreational anglers.

o Table 5 -

- (John Fauth) Review/synthesis of data gaps.
- (Arthur Mariano) Comprehensive South Florida coastal ocean observing system.
- (Judy Lang) “Seeing is believing” an online visualization of the data layers from John Fauth’s project.
- (Nicole Ledoux) “Take the plunge” Awarding excellence in science fair projects with eco-friendly snorkeling trip. Sponsored by private business.

- o Table 6 - Kevin Carter
 - (Margaret Miller) Mitigation success criteria: synthesis and application.
 - (Rebecca Ross) MPA outreach program.
 - (Frank Schmidt) Five phase MPA.
 - (Kevin Carter) Identification of appropriate coral reef indicators/thresholds.
- o Table 7 - Joe Lopez
 - (Edward Tichener) Research on multiple reef stressors.
 - (Don Behringer) Synthesize knowledge on reef status.
 - (Don Behringer) Determine relative impacts of lobster traps and boat anchors on reef damage.
 - (Joe Lopez) Profiles of inlet waters and their effects on nearshore reefs.
- o Table 8 - Stephanie Clark
 - (Nick Morrel) Mandatory fee to dive the reefs. An education and medallion program.
 - (Stephanie Clark) Pilot MPA in a high priority area.
 - (Diego Lirman and Baret Barry) Expand activities to non-reef habitats and non-reef organisms in SEFCRI region.
 - (Dale Griffin) Research on pollutants, pharmaceuticals and outfalls affecting human and coral health - Same as table 1.
- o Table 9 - Michelle Diffenderfer
 - (Michelle Diffenderfer and Jenny Baez) Annual workshop for elected officials.
 - (Brian Walker) Acropora mapping and monitoring.
 - (Brian Walker) Florida Coral Reef Atlas for the SEFCRI region.
 - (Ken Banks) Develop a coral reef turbidity standard - similar to Cheryl Miller.
- o Table 10 - Jim Bohnsack
 - (Valerie Paul and Jim Bohnsack) Develop jurisdictional MPA strategies.
 - (Nancy Craig) Update 2000 socio-economic study - same as Wendy Wood.
 - (Scott Sheckman) Non-profit citizen support organization to help support SEFCRI LAS projects.
 - (Jim Bohnsack) Mitigation and assessment - similar to Margaret Miller.

Questions for LAS Project Development: Next Steps

1. (Erin McDevitt) *Who can be lead and who can be on team?*

-(Lauren Waters and Jamie Monty) One DEP CRCP and one SEFCRI team, TAC or alternate. Other project advisors could be called in if the expertise is needed.

2. (Valerie Paul) *How far are the projects going to be developed? Especially since some will be voted off? Have you considered developing in broad terms and putting out an RFA?*

-(Lauren Waters) We are going according to the Charter. We want to have better developed projects with someone in charge so that we don't have vague one-liners.

-(Jamie Monty) For the spring meeting we only want a 2 pager. Broad idea so that they are not as vague as before but not a fully fleshed out project for spring.

3. (Joshua Voss) *Could these be considered pre-proposals?*

-(Lauren Waters) We could call it different names, but the idea is we want to have a brief description of the project so that we can vote on it in the spring.

4. (Dana Wusinich-Mendez) *If we are talking about RFP's and pre-proposals, are we talking about a funding program? Or a program to achieve certain goals? Or evaluating projects for being feasible? We don't want to turn it into funding competition.*

-(Joshua Voss) To avoid it feeling competitive, why not create small teams for each one?

-(Lauren Waters) This will be the point of contact's task from now to the spring; try to get together a group of people who could carry out the project.

5. (Lew Gramer) *To aid team building, can the stuff we turn in today have half page descriptions so that we can all have access to them and have more information to discuss?*

-(Lauren Waters) Yes, I'm planning on still developing these ideas and giving you something more to work off of.

6. (Sara Thanner) *Remember what the goals of this group really are. It can't be a pet project. These projects must aim to reduce threats and need a holistic view. They must also further the OFR process.*

-(Lauren Waters) We will have criteria to evaluate projects in the spring. We must have projects that reduce threats.

7. (Sara Thanner) *There should be more AA projects.*

8. (Dana Wusinich-Mendez) *Some of those criteria should be developed and agreed upon before we put too much work into it?*

-(Lauren Waters) Yes that's the plan for what's going to happen between now and the spring meeting.

9. (Frank Schimdt) *I would suggest you spend time writing the projects up, then look for ownership amongst the whole group. Then you might produce a better end result.*

-(Jamie Monty) That has come up before and that seems a good way to move forward. We just needed a name to these ideas so that we can make sure the ideas are expressed accurately. Then we will build a team to carry it out.

-(Dave Gilliam) I'd like to add that the project team is not the team who is funded to do the work. The project team will be in charge of building the project and aiding DEP in managing the project to ensure that it is carried out correctly.

-(Jamie Monty) That is correct, there is actually a conflict of interest if you are on the project team and funded to do the work, you must recuse yourself if the project is selected.

-(Joshua Voss) That should happen before then.

-(Lauren Waters) We will look into it as the process continues.

10. (Stephanie Clark) *These projects aim to reduce threats but they don't have to be OFR recommendations, correct? If OFR recommendations mesh with some of our projects we can later vote on priorities for SEFCRI team?*

-(Jamie Monty) That is correct.

11. (Stephanie Clark) *When is funding happening?*

-(Jamie Monty) We have planned the meetings and timed the recommendations so that we have them ready in time for the grant where we get most of our funding from. We can also apply to other funding sources if need be.

12. (Jeff Beal) *What role do the community working groups play?*

-(Jamie Monty) This is the SEFCRI LAS process, it is separate from OFR. We may overlap with OFR but that's a separate process. OFR was born out of SEFCRI but it is now its own process. There will be negotiations between groups.

13. (Dan Clark) *Will we use OFR recommendations to weigh what we do here? The whole idea of OFR is to get the stakeholders more involved right?*

-(Jamie Monty) That's something we can do if that's what the team feels is a good way to go about it. I think the timelines will not be lined up as you describe.

-(Dana Wusinich-Mendez) Maybe we can have flexibility to include OFR outcomes into our own process.

-(Jamie Monty) Because of the timelines I'm not sure we will get recommendations from OFR but we might be able to use the data gaps they come up with. Not sure their recommendation will come in time for our funding cycle.

Public Comment - Day 2

I. Dave Gilliam - NSU OC

“Thanks.”

II. Dan Clark - Cry of the Water

“Monday dives in staghorn and elkhorn Lauderdale-by-the-Sea (dead reef).”

III. Drew Martin - Sierra Club

“Would like to see a stronger mandate State-wide against plastic pollution. A State-wide ban on one-use plastic bags which are significantly contributing to ocean pollution and reef damage. Greater enforcement of land based sources of pollution.”

IV. Stephanie Clark - Cry of the Water

Elkhorn colony at the south end of Lauderdale-by-the-Sea is just about dead. An area about 3 x 3 left. Will be going out to elkhorn colony by the pier to see if it’s still alive.

V. Jeff Beal - FWC

“We will be going out this week to sample octocorals from Miami to West Palm Beach for disease.”

VI. Benjamin D’Avanzo - Surfrider

“Would like to see Martin County included in more AA and/or local action strategies. Must address geographic hurdles.

Great work happening in the Northern Reef Tract. Quite unique and diverse with potential applicable SEFCRI region wide. But martin county is not aware, both citizens and elected officials. I hope the Our Florida Reefs will jumpstart this.”

Adjourn

MEETING SUMMARY - DAY THREE (SEFCRI TAC ONLY): FRIDAY, SEPTEMBER 27TH 2013

Meeting Guidelines

Welcomed all in attendance to the 1st 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. Then reviewed the day’s agenda, which included changes to the SEFCRI Charter and other recent changes that are included in the upcoming Our Florida Reefs process.

SEFCRI update - Jamie Monty, FDEP CRCP

Jamie asked the Vice-Chair of each of the nine focus groups to introduce the members of each of their group members. FDEP CRCP staff members, other groups, and TAC members also introduced themselves.

SEFCRI Overview - Jamie Monty, FDEP CRCP

- o SEFCRI History
 - o 1998 Executive Order 13089 creates U.S. Coral Reef Task Force
 - o 2002 United States Coral Reef Task Force requires Local Action Strategies
 - o 2003 Southeast Florida Coral Reef Initiative created (which is Florida's Local Action Strategy)
 - o 2004 FDEP CRCP created to manage SEFCRI
- o Tasks
 - Manage the northern Florida Reef Tract
 - Represent FL on US Coral Reef Task Force & All Islands Coral Reef Committee
 - Direct implementation of FL's Local Action Strategy
 - Coordinate region's reef resource injury response, assessment, and restoration efforts
- o What is SEFCRI?
 - 64-member team of partners from nine overarching stakeholder groups
 - Mission: To develop and support the implementation of an effective strategy to preserve and protect southeast Florida's coral reefs and associated reef resources, emphasizing balance between resource use and protection, in cooperation with all interested parties
 - Objective: To formulate, coordinate, and provide recommendations to the FDEP CRCP regarding the development and implementation of the SEFCRI LAS program, targeting coral reefs and associated resources in the SEFCRI region
- o SEFCRI region
 - Contains coral reef ecosystems that:
 - Are extensive - 105 miles long
 - Are close to shore
 - Co-exist with an intensely developed coastline
 - Lacks a coordinated public education and management plan
- o SEFCRI Local Action Strategy (LAS)
 - 4 key threat areas
 - Appreciation and Awareness (AA)

- Fishing, Diving, and Other Uses (FDOU)
- Land-based Sources of Pollution (LBSP)
- Maritime Industry and Coastal Construction Impacts (MICCI)

-122 of the 140 Local Action Strategy projects have been completed since 2004

o SEFCRI Project structure

- Project Teams can be composed of :
 - Lead (FDEP) and Co-Lead (a SEFCRI Team member)
 - Members of the SEFCRI Team
 - Official alternates
 - Project Advisors
 - SEFCRI Advisory Group members (Technical Advisory Committee and Process Planning Team)

o SEFCRI Team Meetings

- One in-person meeting per year
- Potential to continue overlap meeting of Team and TAC
- Project Teams meet/hold calls as often as necessary to complete tasks related to the project
- Most Project Teams meet/call about quarterly
- Process Planning Team meets/calls monthly
- Chair & Vice-Chairs meet/hold calls as often as necessary to complete tasks

o SEFCRI Team Member Tasks

- Develop, review, and implement proposed SEFCRI LAS projects for the southeast Florida region

3. Provide recommendations regarding the development and implementation of the SEFCRI LAS program

Perform outreach and inreach regarding SEFCRI LAS

Identify continuing and emerging threats, inform FDEP CRCP of issues & concerns

Serve as a forum for consultation and deliberation regarding the SEFCRI LAS

Identify, investigate, and secure possible funding for LAS projects

Questions and comments (SEFCRI Overview):

- (Joe Boyer) *TAC members are non-voting members of SEFCRI?*

-(Jamie Monty) That is correct, but you can vote on TAC specific issues and then make recommendations to the SEFCRI Team.

- (Margaret Miller) *What does PPT mean?*

-(Jamie Monty) Process planning team. They have assisted in the development of the community planning process (Our Florida Reefs). Not all of them are members of the SEFCRI team.

-(Kurtis Gregg) Our task was to figure out how to create this community planning process. We looked at what has worked elsewhere and tried to figure out what would work for the stakeholders in the region.

- (Valerie Paul) *How does SEFCRI interact with Our Florida Reefs?*

-(Jamie Monty) The SEFCRI Team and TAC have received updates on OFR. However it has been the PPT that has been the most involved. After meetings we've had some individuals get more involved in the process. Up to now it's in a supporting role. From this meeting we might have some people get more involved and provide more information from SEFCRI; possibly let them see our projects and LAS, so that they can leverage them in OFR.

-(Dana Wusinich-Mendez) There are SEFCRI Team members on the Our Florida Reefs Community Working Groups (OFR CWG).

- (Valerie Paul) *So will OFR be advisory to SEFCRI?*

-(Dana Wusinich-Mendez) Ideally the result of OFR will be recommendations that SEFCRI can then decide to take action on. Hopefully SEFCRI will also be able to communicate the outcomes to the appropriate agencies.

-(Joanna Walczak) As a reminder, OFR resulted from one of SEFCRI's LAS projects.

- (Margaret Miller) *What is the difference between SEFCRI projects and OFR projects?*

-(Dave Gilliam) OFR is not designed to take on projects. There were things discussed here that could be taken into consideration by the OFR CWG.

-(Kurtis Gregg) OFR is threat reduction through management. They will be looking at what the threat is, evaluating what the management steps are, and recommending that back to the SEFCRI Team, who will in turn decide if they move it forward with the agencies.

-(Dana Wusinich-Mendez) OFR aims to produce management recommendations.

-(Jamie Monty) The goal of OFR is to come up with these recommendations by including the community.

-(Julio Jimenez) OFR is about getting the community involved. It is a short-term project with community involvement.

- (Nancy Craig) *How will outcomes of OFR be reflected in LAS?*
 - (Margaret Miller) The OFR outcomes will then be included in LAS?
 - (Nancy Craig) The timing of the meetings doesn't seem to match up with the goals.
 - (Kurtis Gregg) OFR will use SEFCRI project outcomes so far. LAS from OFR and others will come in the future.
 - (James Byrne) LAS should be outputs of OFR. After OFR comes up with recommendations we should use them for LAS. This would validate the work from the working groups.
 - (Jamie Monty) OFR's recommendations will be acted on.
 - (Dana Wusinich-Mendez) I agree with James. We should figure out a way so that outputs of OFR with SERCRI projects become next generation LAS. We have one year before proposals.
 - (Jamie Monty) We do want to expedite some projects, especially ones that will fill data gaps.
 - (Dana Wusinich-Mendez) Could we wait on OFR for new LAS?
 - (Jamie Monty) We want to avoid another 10-year process.
 - (Lauren Waters) We are trying to be adaptive, if OFR doesn't have recommendations we must have other projects.
 - (Nancy Craig) The main concern is that we must make sure that OFR outcomes are used, if not then it's a waste of time. The timelines must be clarified and how it's going to work.
 - (Jamie Monty) This has been discussed and we will include OFR recommendations in SEFCRI discussion and possible LAS.
 - (Valerie Paul) Wouldn't postponing LAS 6 months fix it?
 - (Dan Clark) *We need more community involvement. We need stakeholder buy-in, involve them early and often.*

Technical Advisory Committee (TAC) Overview and Update - Karen Bohnsack, NOAA Fellow

- o TAC Origin
 - o LBSP Project 4:
 - “Establish a Technical Advisory Committee to ... advise the SEFCRI Team and the Land-Based Sources of Pollution and Water Quality (LBSP) focus team”
- o 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

o Accomplishments

- White Paper/Quick Guide
- Biomarker Study
- Mass Pollution Budget
- LAS review and commentary
- Development of new LAS projects

o New SEFCRI TAC

- Will focus on SEFCRI-wide issues in all four focus areas.

o Application process

- Selection by SEFCRI Chair and Vice Chairs
- 25 Members
- Overlap between previous LBSP and SEFCRI TAC

o Bi-annual meetings

- Starting September 2013
- Overlap with SEFCRI Team Meeting
- Greater communication between SEFCRI Team & TAC

o SEFCRI TAC members

- | | | |
|---------------|---------------------|--------------------|
| • Ken Banks | • Piero Gardinali | • Jose Lopez |
| • Joe Boyer | • Dave Gilliam | • Kate <u>Lunz</u> |
| • James Byrne | • Lew <u>Gramer</u> | • Arthur Mariano |
| • Nancy Craig | • Kurtis Gregg | • Margaret Miller |
| • Dick Dodge | • Dale Griffin | • Valarie Paul |
| • Phil Dustan | • Judy Lang | • Esther Peters |

- John Fauth
- Diego Lirman
- Manoj Shivlani
- Jack Stamates
- Brian Walker
- Dana Wusinich-Mendez

o Roles of SEFCRI and TAC

- SEFCRI Team Members – Act as representatives of their agency or stakeholder group
- TAC Members – Serve as technical experts in their field of study/area of expertise. They represent the best available science, not their affiliation

o TAC Tasks

- Provide technical and scientific expertise to support SEFCRI capacity to address impacts to coral reefs and achieve SEFCRI’s mission
- Advise SEFCRI Team on new LAS projects
- Assess data from SEFCRI LAS projects and outside collaborations.
- Characterize the condition of the coral reef ecosystem
- Identify data gaps and ways to address them, including available funding
- Provide recommendations to the SEFCRI Team on scientific needs
- Communicate with the SEFCRI Team on new methods and technologies, and other relevant information
- Interpret and translate outcomes of SEFCRI LAS projects and other relevant technical studies so that they can be applied to management decision-making
- Support the Our Florida Reefs community planning process

o TAC participation rules

- Attend a majority of TAC meetings (via phone or in-person)
- Actively contribute to TAC activities
- Respond to a majority of SEFCRI TAC correspondences

- Participate in specified Our Florida Reefs Community Working Group Meetings

TAC Co-Lead - Lauren Waters, FDEP CRCP

Due to the formation of a new TAC, the Charter requires that the TAC is co-lead by FDEP, which has usually been assigned to the LBSP coordinator, and a member of the SEFCRI Team

o TAC co-lead tasks

- Help plan, lead, and attend 2-day TAC meetings twice a year
- Help facilitate and keep momentum of TAC discussions (usually via e-mail)

- This would fulfill your team member responsibility of being on a SEFCRI project team!

Lauren asked the TAC members if any of the present members would volunteer for this position. Dr. Joshua Voss was the only volunteer and therefore assumes the role of TAC co-lead.

Our Florida Reefs: Your Voice Our Future - Update - Julio Jimenez, FDEP CRCP

The Our Florida Reefs (OFR) process was presented for the first time in Fall 2012. It was suggested as a multistep process. We have simplified it to four steps:

- 1. Community meetings
 - 2. Community working groups
 - 3. Share recommendations
 - 4. Reef management strategy
- o Process Planning Team (PPT):
 - Who, what, where, and when of building the process
 - Looked at case studies to learn from ex. California, Australia, Caribbean, and Keys
 - We are trying to keep it as broad as possible with the amount of people and stakeholder groups that exist we need to cover a wide range
 - o 1. Community Meetings:
 - Outreach so that people could learn about the process and how they can get involved
 - Handout of communication resources
 - Public comment outcomes and ranks
 - Palm Beach and Broward counties had the most participation with over 60% of attendants; Martin had the least
 - 75% of people left meetings having learned something about our reefs
 - Water quality was ranked as the highest priority issue, followed by lack of information and knowledge about the ecosystem
 - o 2. Working group tasks:
 - Create a series of guiding principles for an overall, unified vision.
 - Identify a prioritized list of management options.
 - Give recommendations for implementing the prioritized management options.
 - o Working group applications and structure
 - 25 members per group from as many stakeholder groups as possible (2/3 non agency seats).
 - Over 60 applicants this first round.

- SEFCRI Vice Chairs reviewed and selected members, some seats still open.
- o SEFCRI Project Teams:
 - Meeting Development and Facilitation Team - Julio Jimenez
 - Spatial Tools Project Team - Lauren Waters
 - Communications Team: Christopher Boykin
- o Where do the working groups fit in?
 - SEFCRI, TAC, and PPT will act as advising bodies to the working groups
 - Feedback between working groups and advisory groups will result in recommendations
 - Recommendations can then be acted on by SEFCRI Team
- o What is SEFCRI's role?
 - Julio asked how the TAC would like to be involved. He suggested they can get involved individually but the team will receive regular updates

Questions (Our Florida Reefs Process)

1. (Lew Gramer) *Who do we talk to to get involved in OFR as TAC members?*
 - (Julio Jimenez) The TAC already has a pretty defined role, as advisors to these community working groups.
 - (Dana Wusinich-Mendez) Your question was: "Can I be on a working group?" There was an application process.
2. (James Byrne) *What are the working groups? When are they going to start?* There are two working groups, one northern group and a southern group. Should be a meeting in the fall.
 - (Julio Jimenez) That's correct, there are two based on the number of applications. Working groups start to get together at the beginning of next year.
3. (Joshua Voss) *How many working group members are also SEFCRI members?*
 - (Julio Jimenez) We had around 10 SEFCRI Team members from non-agency positions. Several agency positions will probably also be SEFCRI members.
 - (Jamie Monty) Community working groups require more time, so we are contacting agencies to get the right representatives for something that requires a larger commitment.
4. (Joshua Voss) *Are there gaps in the working groups that TAC members could potentially fill?*
 - (Julio Jimenez) Potentially, so far we are missing representatives from outside our usual areas.

-(James Byrne and Julio Jimenez) We want to include more people from the fishing and spear fishing communities as well as private business in the southern region.

-(Jamie Monty) The Vice Chairs have suggested candidates, but if TAC members also have suggestions we will gladly accept them.

5. (Minoj Shilvani) *Will TAC members be recruited or do we need to volunteer to get involved?*

-(Julio Jimenez) They will be asked to participate. We don't have the list of topics yet so it's hard to say who we might need. We do envision it to be on an as-needed basis. I think we will need the TAC's expertise especially for education purposes and during the recommendation formulation process.

-(Dave Gilliam) People on the TAC shouldn't take up a seat on the working group meetings, but should be encouraged to participate at the working group meetings.

-(Dana Wusinich-Mendez) Our hope is that the TAC will be involved in three ways: First the working groups will have to determine their schedule and agenda, then we can forward that to the TAC and would like to have participation at the meetings, as conduits between the working groups and the rest of the TAC. Then we might also need support between meetings if the groups need feedback or expertise. Finally the TAC will review recommendations to help in making them feasible.

-(Judy Lang) We can also teleconference or find ways to participate in some meetings even remotely.

6. (Arthur Mariano) *Is there a mailing list for the group?*

-(Julio Jimenez) There is a mailing list for TAC, we might set one up for working groups.

7. (Lew Gramer) *How do we get involved? Will the whole TAC be emailed about all working group meetings?*

-(Julio Jimenez) Yes.

-(Josh Voss) We must have at least one TAC member at each of the meetings so we will need to coordinate this.

Current SEFCRI projects and Project Teams - Jamie Monty, FDEP CRCP

In the interest of time the list of current projects and team members will be emailed to TAC members. SEFCRI Team members are required to participate in one project team, TAC members do not have this requirement but are encouraged to get involved if they are interested.

A priori power analysis of reef data from Miami-Dade, Broward, Palm Beach, and Martin counties
- John Fauth, University of Central Florida (UCF)

o Justification

- This project was derived from the needs of MICCI projects
 - What are the best practices for identifying and sampling reef injury effects?
 - The answer to this question is necessary to determine appropriate mitigation and compensation
- o What is power analysis?
- Method to determine the minimum number of samples required to detect a statistically significant effect – for example, of a reef impact
 - Depends on 3 factors:
 - Statistical significance criterion; generally, $\alpha = 0.05$
 - Magnitude of the difference between impacted and unimpacted populations
 - Amount of variation in the data.
 - Solve for sample size needed to detect the effect.
- o Project Goals:
- Organize and examine existing data sets, and conduct *a priori* power analysis
 - Determine sampling effort needed to design and conduct statistically sufficient sampling procedures
 - Gorgonian, sponge, and stony coral distributions throughout Miami-Dade, Broward, Palm Beach, and Martin counties
- o Progress so far:
- 299 data sets from Martin County to Miami-Dade County
 - Data from academia, local, and state agencies
 - Lacking some data from thesis and small local projects

Questions (Power Analysis Project)

14. (Arthur Mariano) *How are you avoiding autocorrelation? There are corrections you can make?*

-(John Fauth) Yes, each project has its own quirks; FRRP is so massive I have to compensate for it too.

15. (Joe Boyer) *How old are the data sets?*

-(John Fauth) They start around 2005. I'm trying to not go too far back. There is a good coverage for taxa from that period.

16. (Dan Clark) *Do you have data on mother lode? Herman Mendez wrote a thesis on it. Do you have the south Florida Reef Research Team data? They collected belt transects and sediment data.*

-(John Fauth) *I would like to have a look at that data.*

-(Esther Peters) I think this is what Dan was referring to, mother lode of sand for beach renourishment: http://articles.sun-sentinel.com/2013-10-20/news/fl-sand-beach-restoration-20131020_1_dry-sand-beaches-treasure-coast

17. (Joe Lopez) *NSU is trying to start its digital commons effort; this would make theses available online.*

18. (Lew Gramer) *What additional data are you interested in?*

-(John Fauth) This is mainly repeated sampling at the same sites, so other years or other taxa.

19. (Dave Gilliam) *You're looking for data sets of abundance of taxa?*

-(John Fauth) Yes, corals, gorgonians, sponges. Abundance, richness, percent cover.

20. (Joe Boyer) *Continental Shelf Associates did a power analysis for the Keys. It was ignored because it would have been too expensive. The variability is huge along the reef tract.*

-(John Fauth) With recommendations? The number of samples depends on the sampling design. If you have many sites you can have only three replicates.

-(Brian Walker) Coral are rare organisms, it's hard to describe their distribution in such a large area.

21. (Brian Walker) *What's BBR?*

-(John Fauth) Bath Tub Beach Reef restoration.

22. (Kurtis Gregg) *Why did you choose to use the first year's data collection? Usually the first year is shake down. The second year might be better.*

-(John Fauth) I could go back and look at that, some of these projects are the result of mitigation or beach renourishment, etc., and then they might be done over again after storms etc.

LAS/LBSP 28 & 29 (Phase II) – Pilot study for determining the response of a SE FL coral reef community to pollutants exiting offshore wastewater outfall pipes & inlets - John Fauth, UCF

o Project background:

- Ocean outfalls are a potentially large source of land-based pollutants
- 6 outfalls off SE FL coast
- Discharge millions of gallons of secondary-treated wastewater every day
- Close to outer reefs

o Adverse effects of effluents:

- Human enteroviruses used as signal of human fecal contamination (Futch et al. 2011 Marine Pollution Bulletin)
 - Norovirus detected in 20% of samples off Hillsborough Inlet and 20% off Hollywood outfall
 - Reduced regeneration rates of a coral near the Hollywood outfall (Dustan et al. 2008)
- o Project need:
- Zone of influence of ocean outfalls is unknown
 - Mixing models predict effluent diluted to background levels within a short distance
 - However, effects of chronic exposure and biomagnification not considered
- o Objectives:
- Determine if a toxicity signal can be detected in the benthos near Hollywood Outfall
 - If so, determine which reef component (water, sediment, mucus, tissue) is the best stress indicator
 - Outcome will dictate whether further investigation is warranted
 - Reminder: Include within current group of projects
- o Reef components
- Surface water and wastewater effluent samples
 - Sediment extract
 - Coral mucus
 - Sponge tissue
 - Algae extract
 - Bivalve tissue
- o Waste water effluent and surface water samples
- Surface water boil emanating from the outfall pipe
 - Primary effluent line at the City of Hollywood Southern Waste Water Treatment Plant
 - Surface water from just within entrance of Port Everglades
 - Surface water at the control site
- o Sediment extract
- Two, 50-mL sediment grab samples
 - Third reef tract in closest vicinity to Hollywood Outfall
- o Coral mucus

- A total of three coral mucus samples will be collected using 60-cc syringes including one from each of the following species:
 - *Montastrea cavernosa*
 - *Porites astreoides*
 - *Siderastrea siderea*
- Obtained along 3rd reef tract close to Hollywood Outfall
- o Sponge tissue
 - Total of three sponge tissue samples collected from base of specimens
 - Include one from each of the following species:
 - *Xestospongia muta*
 - *Amphimedon compressa*
 - *Callyspongia* sp.
 - 3rd reef tract close to Hollywood Outfall
- o Algae extract
 - Maximum of three different algae species
 - Exact species will be determined in field based on availability
 - *Dictyota* sp.
 - *Codium* sp.
 - Sampled along 3rd reef tract close to Hollywood Outfall
 - Voucher algae
- o Bivalve tissue
 - Maximum of three bivalves
 - Targeted species include those of families Arcidae (*Arca zebra*, *Acar domingensis*, *Cucullaearca candida*, *Anadara notabilis*, *Arca imbricata*), Pteriidae (*Pteria colymbus*, *Pinctada inbricata*), and Chamidae (*Chama congregata*, *Chama florida*)
 - Species determined during field collection
 - Collected directly from Hollywood Outfall or along 3rd reef tract close to the outfall
- o Assays
 - Ames-type tests for toxicity, genotoxicity, and mutagenicity (USGS laboratory in St. Petersburg)
 - Will include positive and negative controls
 - Two sediment samples will be evaluated using a microtox assay (Duerr Laboratory for Marine Conservation in Fort Pierce)

- o Negative control samples
 - Collected for each analytical sample type
 - One each of water, coral mucus, sponge tissue, algae, and bivalve tissue, and two sediment samples.
 - All collected from C3 site
 - Third reef approximately midway between Port Everglades and Hillsboro Inlet
- o Summary
 - Pilot project used to test methods
 - Goal is to identify which sample type is best indicator of wastewater stress
 - Provides guidance for future study, or will indicate that other LBSP are more problematic

Questions (LBSP Pilot project)

1. (Dan Clark) *Are the control sites on the 1st or 2nd reef?*

-(John Fauth) They are on the 2nd and 3rd reefs.

2. (Ken Banks and Dale Griffin) *Regarding effluent samples - We want to grab one of the water samples at the outfall.*

-(Jack Stamates) There may be a difference near the outfall because of the amount of particulates allowed in the effluent. It used to be that the effluent water was more turbid than it is now.

-(John Fauth) We would probably get that from the sediment extracts.

-(Dale Griffin) I don't think anybody has looked at [what happens to the particulate matter] close enough because the theory is that it's fresh water, which would float away.

-(John Fauth) [As far as I know] this would be the first study [that looks at bioaccumulation next to the outfalls]. I haven't seen any data.

3. (Arthur Mariano) *I have done some studies close to here. We did do an analysis of what happens to the particulates once they hit the surface. The outfall is too close to the coast, water recirculates to the beach. A solution would be to extend the pipes. We collected data on this for 3 months.*

4. (Margaret Miller and Valerie Paul) *[Regarding algae extracts] What do you mean by extract?*

-(Joshua Voss) Are they DNA extracts or chemical extracts?

-(Dale Griffin) It's a chemical extract. We mash it down the tissue and analyze it. We are using Ames type tests.

5. (Valerie Paul) *You will always see toxins in algae. What's the objective? Dictyota species are very similar so it would be hard to distinguish them in the field.*

-(Dale Griffin) We should be able to see that in the control sites then. We are trying to show the effect of pollutants from wastewater on the health of organisms.

6. (Margaret Miller) *Are you measuring concentration? Algae have toxins naturally.*

-(Dale Griffin) No just presence/absence. What are they toxic to?

-(Valerie Paul) They're toxic to lots of things. They can be antimicrobial or toxic to human cells in culture.

7. (Margaret Miller) *Don't you get this with sponges too?*

-(Dale Griffin) I'm not sure we would see that in these tests. That's why we're testing different organisms, to see which ones would make a better indicator. I'm still open for input if algae won't work we don't have to test them.

8. (Valerie Paul) *Are you going to voucher all your algae? Especially Dictyota because they all grow together. I would drop algae because they don't bioaccumulate environmental pollutants.*

9. (Josh Voss) *Have the assays been tested after exposure to outfall water?*

-(Dale Griffin) No.

-(Valerie Paul) If you have different species then it would be a problem.

10. (John Fauth) *Should we voucher or drop them?*

-(Valerie Paul) What's the rationale? They don't bioaccumulate environmental toxins.

-(Dale Griffin) Has it been proven that they don't bioaccumulate?

-(Joshua Voss) Your signal might be too small and could be lost within their own repertoire of toxins.

-(Valerie Paul) I don't see them bioaccumulating

11. (Esther Peters) *Will residence time have an impact?*

-(Joshua Voss) They might be transient.

-(Judy Lang) Xestospongia mutawould be a good candidate, because they have been around longer. How about non-toxin producing algae?

-(Valeria Paul) That's the reason they survive because they deter herbivores through toxins.

12. (Dale Griffin) *You wouldn't think fungi would bioaccumulate either, but it was found that they accumulate radioactive isotopes.*

-(Valerie Paul) They need to be identified correctly if you want to use them.

13. (Joe Lopez) *How about testing for metals with enzyme assays or something else. This method is very indirect. e.g., sponges already host a bunch of microbes.*

-(Dale Griffin) We are not looking at cells. We are looking at herbicides, pesticides, and other types of toxins.

14. (Esther Peters) *Is the extract aqueous? Is it filtered?*

-(Dale Griffin) One will be done in an XAD column and then we use colorimetric methods.

15. (Dan Clark) *There are metal pollutants from some of the industrial waste coming out of the outfalls that come from metal plating facilities.*

-(Judy Lang) We need experts to voucher the algae and sponge samples, which might be hard.

16. (Joshua Voss) *Could you do it with photographs?*

-(Margaret Miller and Esther Peters) You need voucher samples also.

17. (Joshua Voss) *Would the time component be compounding error?*

-(Ken Banks) We can do both samples in a day.

-(Several voices) You would need to identify the samples on the boat. You can't identify them in the water.

18. (Brian Walker) *Should we target organisms that will be found in the inlets too? We should be thinking about this for future, whenever the project moves on, we need to have species that will be at both places.*

19. (Esther Peters) *There's also concern between control sites compared to outfall sites.*

-(Dale Griffin) The depth range is large so it's hard to determine control sites on the reef because the outfall is deep.

20. (Brian Walker) *Ideally all this is to support the closing of the outfalls?*

-(Dale Griffin) Exactly. I'm worried that it won't happen.

21. (Joshua Voss) *Wouldn't an experiment demonstrate it?*

-(Dale Griffin) It could be done, but we need a smoking gun.

22. (John Fauth) *We have a three-way reciprocal crossing that has not shown effects in the lab.*

23. (Richard Dodge) *Art has a good video of how the outfall eddies up onto the reef.*

Public Comment - Day 3

I. Dan Clark

We need time built into meetings to deal with events happening on the reef in real time not just projects.

Provide more information before meetings.

Adjourn