FKNMS Eco-Connectivity Team Meeting - 8/11/2026

Participants:

Jerry Lorenz, Chair
Cara Capp, Vice Chair
Karen Bohnsack
Phanor Montoya-Maya
Stephanie Verhulst
Steve Friedman
Suzy Roebling
McKee Gray
Will Benson
Chris Bergh
Gina Ralph
Erinn Muller
Erik Stabenau
Elizabeth Smith
Marisa Carrozzo
Ian Enochs - Guest Presenter

Presentation by Dr. Enochs, NOAA on Project FRESCA (Florida Regional Ecosystem Stressors Collaborative Assessment):

- Florida Keys is an incredible ecosystem and home to families/communities. Emphasis on the human story as well as the ecosystem story. There are stressors on both ecosystem and human communities in the Keys that impact ecosystem services.
- Project FRESCA is a collaborative effort with agencies and universities to assess these stressors and their impacts in the Keys. Dr. Enochs is a co-lead of the team. The project consists of 4 interconnected modules that seek to understand: a) the distribution of stressors in the Keys and Florida Bay, b) organism response to stressors, c) ecosystem scale responses, and d) trophic linkages and organism distributions.
- As an example of how this project is applied, Dr. Enochs walked through how the data collected and different FRESCA modules can answer a critical question: *how can we be confident that coral restoration will work?*
- FRESCA uses high resolution biogeochemical models to show “flowsheds,” the hydrological connectivity across habitats. These models were parameterized with real data and validated with hindcasting, and are being used to look into the future and determine how the distribution of stressors is changing, and what impact that will have

on reef habitats and organisms under future scenarios, and potential opportunities to mitigate stressors.
- All ecosystem services related to coral reefs are related to structure. This relates to coastal community protection, habitat for marine species - it's all about structure.
- Reef habitat is calculated through fairly simple math - new reef habitat created minus reef habitat lost to disease and erosion. *Right now we are at a net negative.*
- Project FRESCA aims to look at loss factors such as calcification and erosion rates, as well as impacts from management intervention tools like coral outplanting and seagrass planting, to look at ways to maximize reef persistence and growth.
- "*Things are dire but all is not lost."* - Dr. Enochs

Q&A/Discussion:

- Seagrass Restoration: Discussion focused on the importance of seagrass for buffering and carbonate chemistry, with interest in identifying priority areas for restoration to mitigate ocean acidification. From the flowshed, it's clear that there is an upstream connection between the reefs and Florida Bay, where there is a lot of seagrass. Movement of this water is important and impacts the reefs, and different water management and connectivity scenarios may impact this.
- Drought & Everglades Restoration: Participants discussed the ongoing two-year drought and the potential impact of future "first flush" events in terms of a nutrient and carbon flux from the coast out when freshwater starts flowing. Observations suggest that current restoration efforts, like efforts to move more water in Taylor Slough and the C-111 spreader canal, may be mitigating salinity spikes compared to previous drought periods, including the one experienced in 2015. There are other complicating factors, including localized rainfall events and the possibility of greater flushing/lower residence times in Florida bay due to SLR.
- Flow Shed Concept & Monitoring: The flow shed concept was well-received. Members noted the importance of monitoring under-sampled areas like the Lower Keys backcountry and suggested expanding hydrodynamic models to these regions.
- Collaboration & Outreach: There was an interest in organizing policy-maker tours of the Virginia Key lab facilities to support future funding.
- Carbonate Budget & Methodology: Technical discussion addressed the partial automation of photogrammetry using 2.5D models and the methodology for estimating macro/microborer impacts on coral reef habitat.
- Dr. Enochs welcomed follow-up questions and visits to see the lab facility: ian.enochs@noaa.gov.

Discussion item raised by Jerry Lorenz:

- At the Adaptive Management Working Group meeting last week, the shallow injection wells were a major discussion and a resolution by that working group is in the works.
- More info from Wil Benson: there is a privately owned utility on Stock Island (Key West Resort Utilities) operating shallow water injection wells. Several years ago a letter of

concern and question was written, but since then the Sanctuary has not been involved on this issue.
- Science will be the key to understanding the issue and potentially seeing change.
- Potential for Adaptive Management Working Group + Eco-Connectivity Team to jointly raise this issue to Sanctuary leadership and propose a resolution calling for a scientific study of the shallow water injection wells, conducted by a trusted third party, so that everyone has clear info about the impact on Sanctuary resources. This should also include a call for some sort of mitigation action, as appropriate, based on the results of the study.
- Jerry notes the shallow wells are currently permitted, but will need re-evaluation and re-permitting soon, which makes this issue timely.
- Will Benson, Chris Bergh, and Jerry Lorenz worked jointly on resolution language, shared with the team via screen share, to be circulated via email after the meeting.
- This item will be raised at the September SAC meeting on September 15.

Public comment - none

Team discussion and other items:

- Will Benson raises concerns with the City of Key West abandoning water quality monitoring as an ongoing issue impacting the Sanctuary and surrounding waters as far north as Fort Lauderdale. There was a water quality monitoring agreement with College of the Florida Keys that the City Commission ended.
- Cara Capp updated the group on the Southern Everglades Restoration Project, which is moving through the planning stage quickly. NPCA, Everglades Foundation, and Audubon Florida are closely tracking this project, as have agency advisors on the team.
    - The resolution proposed by the Connectivity Team on this project was passed by the SAC and forwarded to SFWMD and USACE who are leading the project. This was acknowledged by the SFWMD Director, indicating that these efforts have an impact.

Announcement - next meeting is November 17 at 10am via Google Meet. Please reach out with topic requests for future meetings.