



THE FLORIDA KEYS: On the Front Line of Sea Level Rise

Welcome to Key Largo

Gusty winds blew us in from all points across the state to Key Largo. Although the theme for the year has been climate change and sea level rise, we now found ourselves at “ground zero:” the Florida Keys, where sea level rise is already a concern. Over the next few days we would see how low “ground zero” really is and find out what kind of planning is occurring in the region to deal with the eventuality of a much reduced area of dry land. At the same time we would be learning about agenda design, multi-stakeholder processes, and group dynamics. An added bonus: Brenda Thomas, a PhD student at UF’s School of Forest Resources, would be joining us as part of her [Conserved Forests Ecosystems \(CFEOR\)](#) program.

Using a Process Agenda to Improve Meetings

Joy Hazel lead a session on agenda design, giving a presentation titled “Using a Process Agenda to Improve Meeting Outcomes.” With a NRLI agenda serving as an example of a typical process agenda, she described the elements: Objectives (important to make it clear if the group is or is not in charge of some final decision); Times (the Kaner book has guidelines – make sure times allotted are adequate); Breaks; Topics; Activities; Materials; and Persons Responsible. Meeting participants do not receive a process agenda – it would be confusing, they instead receive a simplified “meeting agenda”. The process agenda contains details specific to the people putting on the meeting. Joy emphasized the importance of the Welcome and Introduction section of a meeting. This part allows everyone to understand who is at the meeting and what it means to them. It allows the facilitator to make it clear how the meeting will be conducted and sets the tone. It is the time for establishing ground rules. She then led us in a small group activity in which we devised a process agenda

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Since We Last Met...



Jon Dain takes time to reflect on where we have been so far in NLRI.
Photo by Candy Kaswinkel

After a hearty lunch at the Holiday Inn, project team member Jon Dain led us in a buzz group so that everyone could share their holiday activities. Many fellows spent quality time with their families and friends, whether hectic or peaceful. Jon reviewed the last session in Fernandina Beach and reminded us that the February session would be held at the Archbold Biological Station in the Lake Wales Ridge area of the state. Jon noted that we had done a mid-term review in Fernandina and briefly reminded us of the concepts, readings and themes we have covered so far in the program.

Since the context speaker was running a bit late, we took some time to wish a happy birthday to Fellow Mike Herrin and then to discuss some of the natural resource issues facing the Keys. These include the low-lying topography of the islands, the limited supply of fresh water, the tenuous nature of power availability, and the septic vs. sewer debate with the resulting issue of added polluting nutrients in the surrounding water bodies.



Chris Bergh of the Nature Conservancy speaks on the opening day in Key Largo.

When Chris Bergh of The Nature Conservancy, our context speaker, arrived, he began his presentation titled, "Impacts of Climate Change and Sea Level Rise: What they mean to the Florida Keys and Southeast Florida." Chris explained that in the Keys, as in many places, climate change compounds many other issues and that The Nature Conservancy (TNC) was taking an active role in climate change research. The key findings from the 2009 Global Change Report form the basis of their climate work.

Chris explained that the Keys are islands with a base of fossilized coral reef, and that coral reefs are still very important to the area's economy (\$3 billion per year impact) and resiliency to storms (reefs decrease wave height and strength). Climate change impacts on those reefs are important therefore to understand. Corals are sensitive to changes in water temperature. Extreme water temperatures cause coral bleaching which makes the coral more vulnerable to disease. Coral bleaching occurs when the coral polyp becomes stressed and ejects the photosynthetic algae that live within it producing food

Impacts of Climate Change and Sea Level Rise

that is used by the coral.

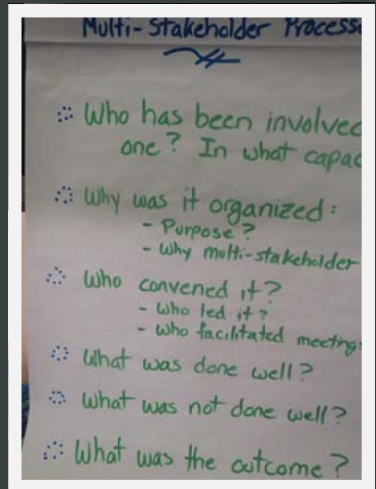
Chris outlined other potential climate change effects that would have negative consequences on the Keys. He highlighted economic impacts of climate change from a report by The Nature Conservancy, and demonstrated TNC's sea level rise visualization tool which is found at coastalresilience.org. He gave a brief summary of the Southeast Florida Regional Climate Compact, a cooperative effort among four southeast Florida counties to work together on addressing climate change impacts. The counties involved are Palm Beach, Broward, Miami-Dade, and Monroe. When asked, Chris mentioned that private industry was not very involved with the Climate Compact.

The final question to Chris, who is a Keys native, was "Why stay, knowing what you know about what will happen here?" His response: "I love it here – it's my home". He felt that the rate of sea level rise would increase soon and that many people would in fact leave.



Multi-Stakeholder Process

Following breakfast at the hotel, Jon Dain led a brief buzz group activity to get everyone energized for the day. We then began a discussion of the multi stakeholder process, also called an MSP. Multi stakeholder processes are “courses of action where two or more interest groups provide their views, make a decision or coordinate an activity together” (Wollenberg et al, 2005). This process is particularly important when dealing with complicated issues where stakeholders have multiple, often conflicting perspectives. While an MSP is not foolproof, it



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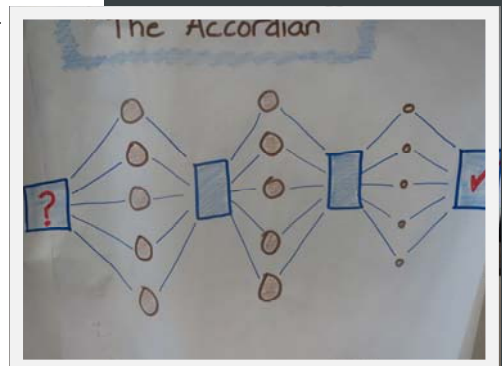
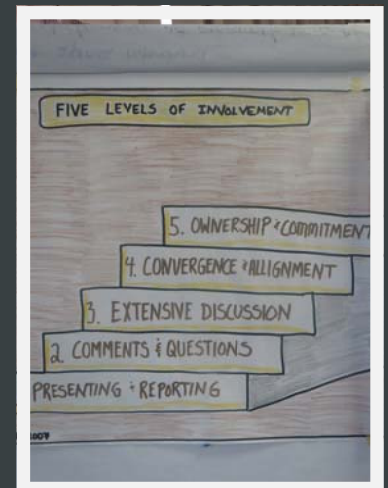
Bruce provided us with an example of an MSP that he facilitated as part of the Alachua County Waterways Master Plan process. Over the course of 39 meetings and four different surveys, he and a group of facilitators generated a list of recommendations that was provided to Alachua County.



Jon helped elucidate key factors that contribute to an MSP’s success:

- In this example the facilitator (Bruce) was seen as an “insider” because he had personal experience with the issues. This is not always the case, but the facilitator must develop some level of credibility/trust with the people she/he is working with.
- The process follows an “accordion” approach where the facilitator goes to various groups to solicit ideas, consolidates the ideas, then returns to the groups for more ideas, and consolidates again.
- The team leading the process is seen as impartial.

Some of the pitfalls that an MSP can experience include poor procedures, lack of transparency, funding obstacles and group-think (a lack of dissenting opinion - if everyone agrees in the room, there is probably someone missing from the discussion).





Florida: Red, black, and white. The red species tends to prefer areas along open water, whereas the white species prefer closer to the uplands. These mangroves are vital to the island's survival both economically

are not raised, there are other examples of buildings that have been raised on stilts or, as in the case with Marriot Beach Resort, have a ground floor that is used for parking and would be better able to accommodate a storm surge.

In the afternoon, we were treated to a boat tour by staff from MarineLab, a program that offers marine science field trips to elementary, middle and high school students. Splitting into three boats, we passed from the ocean to the bay side of Key Largo through the Marvin D. Adams Waterway, known locally as "the cut." The cut was developed privately by Marvin Adams as a way to shorten the travel time between the ocean and bay sides of the island. It is carved out of coral rock and there are areas where passersby can get excellent cross-section views of incised rock. The cut is edged by residential homes and large green iguanas who bask along the walls.



(provide valuable fish nurseries) and environmentally (protecting the shoreline from heavy wave damage).

As we returned to the boat dock, we were shown a small area of shoreline where they have attempted to introduce mangrove trees with very limited success. We were told the small seedlings were as much as 12 years old, showing us just how important it is to protect existing mangrove areas.

We were shown the mangrove edges of the Everglades National Park. Three species of mangroves grow in

We also visited a residential canal, travelled under the single bridge along Overseas Highway that connects Key Largo to the mainland, and were able to see Gilbert's, a local waterfront restaurant that is now known to regularly flood with high tides. While some residential areas are built very close to the shore and



Photos : Mangroves in the Florida Bay; Marvin Adams Waterway (the cut); Waterfront Community and Gilberts Waterfront Restaurant. Photos by Candy Kaswinkel



Key Largo Stakeholder Panel pictured above, L-R: Alisha Betancourt, Monroe County Extension; Robert Glazer, FWC; Nancy Gassman, Broward County Environmental Protection; Doug Gregory, NOAA; Michael Roberts, Monroe County Growth Management; and TJ Patterson, Florida Keys Electrical Coop.
Photo by Candy Kaswinkel

Following a short preparation session, we held our stakeholder panel. NRLI participants were organized in a circle of chairs with the panel incorporated into one side of the circle. Moderator Jen Williams provided an overview of the panel and started the discussion with some introductory questions. The stakeholder panel included six individuals who represented a diverse grouping of agencies and counties in the region.

TJ Patterson, Member Service Representative, Florida Keys Electric Cooperative Assoc.

Robert Glazer, Associate Research Scientist, FWC

Nancy J. Gassman, Ph.D., Natural Resources Administrator, Natural Resources Planning and Management Division, Broward County Environmental Protection and Growth Management Department

Michael Roberts, CEP; PWS, Sr. Administrator, Environmental Resources, Monroe County Growth Management

Doug Gregory, NOAA/Florida Sea Grant Agent, UF/IFAS/Monroe County Extension Director

Alisha Betancourt, the FYCS/Community Development Extension Agent for Monroe County

Each of the stakeholders was able to talk about how the Southeast Florida Regional Climate Change Compact has established a common vision among Broward, Miami-Dade, Palm Beach, and Monroe counties. Combined, these counties are home to 30% of the state's population. While each of these counties is culturally and economically unique, as a region they are extremely vulnerable to climate change and sea level rise impacts. The compact ensures they will work together on their common issues. In October 2012, a Regional Climate Action Plan was finalized that includes 110 action items that were identified by stakeholders. There are 113 municipalities in the four county region and these are being engaged through a "mayor's pledge".

As with previous communities we have visited, the stakeholders acknowledged that it is difficult to have a public conversation about climate change. For example, a well-advertised public meeting was only attended by six people. Most successful discussions focus on impacts that are visible or have been experienced such as coral bleaching, higher tides, and hurricanes. In other cases, fluctuations in the elected officials may provide alternating support or obstructions for climate change and sea level rise issues.

The stakeholders identified some of the drivers of climate change adaptation efforts:

Fiscal responsibility

Emergency and Risk Management

Dive shop owners who are seeing the impacts of coral bleaching firsthand

Environmentally minded tourists

Many stakeholders felt that their communities were always adapting to their conditions – be it a reactionary or proactive process. For example, the police force in Key West lost the warranty on their cars because they had been driving through salt water in high tide conditions. In another case, the City of Miami Beach had invested \$200 million in storm water improvements. (**Stakeholder Panel. Continued on page 7**)



Difficult



Dynamics

On Saturday, Jon kicked off a discussion of group dynamics with a quick survey about what we generally prefer to do when in a group: sit quietly and listen; participate easily in the discussion; take on a leadership role; take over and structure the discussion; feel ill at ease; or listen for a while, then participate. To illustrate that all those roles and more have a purpose, several fellows volunteered to for a role playing exercise called “Lost at Sea.”

In “Lost at Sea” the volunteers were seated in a circle and each given a card with a role and its description. We were not to show it to anyone else. We then acted out a scenario in which we have been forced to abandon ship in a very remote part of the ocean and climb into a life raft. There is a list of items we could possibly bring, but we must agree on only five of them. The “characters” included: the know-it-all; the curmudgeon; one who is always playing and having side conversations; one who sets standards; one who clarifies; one who asks questions; etc. As the discussion about which items to bring went on, the volunteers changed roles several times, so that each person acted out three different roles.

Finally, Jon put an end to the shenanigans (no agreement was reached) and the audience was asked to try to identify what the various roles were

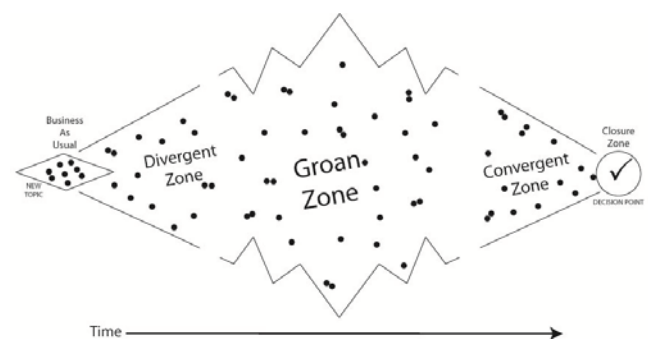
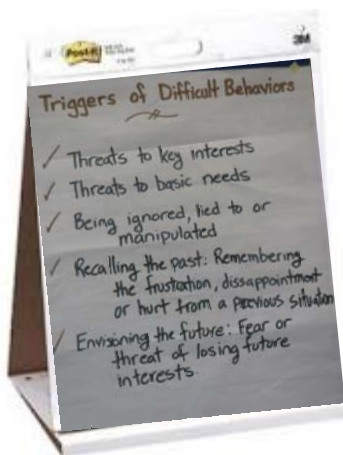
and how they were and were not useful to the process.

A good time was had by all.

We then discussed the concept of group functions . Successful groups require attention to task functions and maintenance functions. Tasks help move the group forward. Maintenance functions make sure that relationships are good and that members are engaged and participating. In groups that fail, one type of function is not being fulfilled. The role of the facilitator is to make sure that all functions are being fulfilled and address any gaps that become apparent. As a member of a group, we can help fill those gaps as well – called “facilitating from the chair” – and adopt a role that helps the group move along.

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Why do blockers block? They may be afraid of change, be retaliating for a past wrong, be in disagreement with the direction, or just want to be heard. The decisions being made by the group may represent a threat to a blocker: to their key interests or their basic needs. A blocker may have been ignored, lied to or manipulated in the past. **Group Dynamics. Continued on page 7**



Stakeholder Panel. *Continued from page 5.* And recently .5 mile of A1A fell into the ocean during Hurricane Sandy which never directly impacted the area. In each case, the stakeholders felt that communities have to prepare for the future in a reasonable manner that accounts for financial limitations as well as realistic estimations for future sea level rise.

Following the panel, NRLI participants debriefed the discussion experience. They agreed that this panel was unique in that it had individuals who were well-versed and actively engaged in climate change and sea level rise issues. Even so, they encountered the same challenges when having conversations with decision makers and the public about climate change.

Group Dynamics. *Continued from page 6.* They may be recalling a hurt from the past, or they may be exhausted, angry or in pain. Blocking can be triggered by perceptions as well as reality. Blockers can sometimes be addressed by offering solutions, giving them a task or providing a “parking lot” for some issues. It is helpful to acknowledge their concerns and address them if possible.

Why do jokers joke? They may be bored, want attention, be uncomfortable or just want to lighten the atmosphere. Jokers who distract the group are best addressed with a private conversation during a break, or by gently noting that they are violating a meeting standard of no side conversations. Small group work and pre-arranged seating can also help deflate a joker.

As group decision making proceeds, there is often a “groan zone” during which ideas, inputs and discussion seem too scattered and unfocused for the group to be able to reach a conclusion. It is important to recognize that such frustrations are a normal part of group decision-making. Strategies to make it through the groan zone without giving up include: taking a break; acknowledging the zone; ensuring that maintenance and task functions are all being addressed. Other strategies are mentioned in the Kaner book. Bottom line: the groan zone is a necessary phase and if it does not occur, something else is going on to subvert the process.

Session Wrap-Up/Debrief and Feedback Panel

What is...?

Ellie led the session debrief with a rousing game of Jeopardy. The Feedback Panel consisted of Katrina, Bette and Jacob who also used a Jeopardy-type game to gather feedback.



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This report forms part of a series written by current NRLI Fellows. Reports represent and are a product of the experiential learning process that is a highlight of the NRLI program and have not been formally peer reviewed.