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A Report by NRLI Fellows of Class X, Session 7

CLEWISTON

March 17-19, 2011

AGRICULTURE AND THE EVERGLADES



Dr. Joe Schaefer, South District Director for the UF/IFAS Extension Service, welcomed Class X Fellows and Project Team members to the Everglades Research and Education Center in Belle Glade, in Palm Beach County. Dr. Schaefer explained that the South District provides agricultural extension services for 11 counties in South Florida and the Seminole Tribe. The Everglades Agricultural Area in Palm Beach and Hendry Counties is a very large (approximately 700,000 acres) and extremely productive agricultural region. Major crops in the region include sugar cane (~400,000 acres), vegetables, sod, and citrus.

The Everglades: A Living Laboratory of Change



Dr. Ronnie Best speaks with the Fellows about Everglades Restoration

Dr. G. Ronnie Best, Everglades Science Coordinator for the U.S. Geological Survey, provided a detailed overview of Everglades environmental issues from an ecological perspective. Dr. Best emphasized that the Everglades system truly is unique, the problems here are national problems requiring innovative solutions at the national level, and that what is done in the Everglades has important, large-scale implications; the world is watching!

"The ability to identify problems outpaces our ability to identify solutions -- yet, we must continue to search for solutions!"

Ronnie Best

Dr. Best recounted the early development of the Everglades, outlined conflicts created by unintended

consequences of drainage and development, and ecosystem restoration efforts. The key principle for restoring the Everglades is getting the water right: "QQT.D." Water of sufficient QUANTITY, of the right QUALITY, delivered with the right TIMING, and with the correct DISTRIBUTION. Water quality is the toughest challenge, since the historic Everglades marshes were a low-nutrient system. If we cannot put more water into the Everglades because we cannot meet ultra-low nutrient criteria, we will not have a restored Everglades. Dr. Best also provided information about recent Everglades science efforts indicating that the Florida Bay at the southern end of the Everglades historically received far more fresh water flow than current restoration targets.

Dr. Best concluded his talk by outlining the importance of an adaptive management approach to increase certainty of ecological response (equation: Adaptive Management of Restoration = Modeling + Experimentation + Monitoring) and the importance of using key indicator species (like crocodiles and apple snails) to monitor changes. Dr. Best also highlighted other key Everglades ecosystem change indicators (soil loss, mercury methylation, invasive species). In wrapping up, Dr. Best urged Fellows to consider the importance of integrating ecosystem services (e.g carbon sequestration; habitat easements) into our economic framework for decision-makers. And, Dr. Best announced that the next International Conference on the Ecology of Wetlands (INTECOL) will be in Orlando in July of 2012, and Everglades will be prominently featured.

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2010-2011 NRLI CLASS X FELLOWS

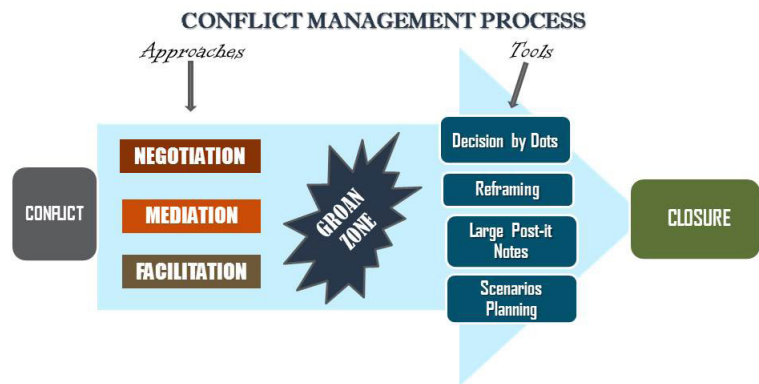
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This report forms part of a series written by current NRLI Fellows. Reports represent and are a product of the experiential learning process that is a highlight of the NRLI program and have not been formally peer reviewed.

Conflict Management Tools

In response to X Fellows' prior requests, Marta Hartman and Bruce Delaney discussed methods and tools for working through the "Groan Zone" to manage and resolve conflicts. Marta emphasized that NRLI focuses on an approach where all parties maintain some control during the process. Examples of conflict management tools and methods include using voting-with-dots, using post-its to define and consolidate issues, re-framing, and developing scenarios. As an application exercise, the Fellows used the voting-with-dots method to come to consensus on the most important problems related to sea-level rise in Miami-Dade County.



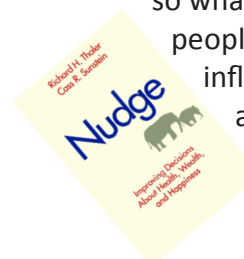
Economic Impact Analysis

Dr. Alan Hodges, UF/IFAS Extension Scientist, gave a video-teleconference presentation on a model developed for economic impact analysis. The IMPLAN (software)-based model includes all Florida counties, and may be used to support policy and funding decisions, NEPA-required analyses, and business decisions. The model predicts economic multipliers to capture the overall economic impact of an activity: as an example, the multiplier value for cattle ranching/farming is 1.88, meaning that ranching and farming generates income beyond those directly involved in farming and ranching. Dr. Hodges also showed model outputs from one analysis indicating that agriculture and natural resources accounts for 8% of Florida's economy, and discussed a recent application of the model to evaluate the effect of implementing USEPA's numeric nutrient criteria. Dr. Hodges also explained that ecosystem services are not included in the model because they are not readily monetized.

To see more of Dr. Hodges presentation visit: [http://www.fred.ifas.ufl.edu/economic-impact-analysis/awhdownloads/NRLI presentation \(Mar 2011\).pdf](http://www.fred.ifas.ufl.edu/economic-impact-analysis/awhdownloads/NRLI%20presentation%20Mar%202011.pdf).

After a fine meal at Roland Martin Marina (and green beer at the Tiki Bar), Holly Ober led the reading discussion on "Nudge", by

Thaler and Sunstein (2009). "Nudge" starts with the premise that people can be deceived by distractions because we have two cognitive systems: automatic and reflective. Our automatic brain is instinctive ("the lizard inside"), whereas the reflective brain is deliberate. The "so what?" points of the article are that people are "nudge-able" (may be influenced in unanticipated ways), and that we need to recognize that and capitalize if we can in dealing with conflict resolution situations.



EXPERIENCING THE EVERGLADES AGRICULTURE AREA



Pictured L to R: Fellows tour the US Sugar Mill lead by Judy Sanchez; Rick Roth explains his farming practices in the EAA; Rays Heritage Vegetable Packing Plant. Photos above by Leslie Corcelli

U.S. SUGAR, CLEWISTON MILL; ROTH FARMS & RAY'S HERITAGE VEGETABLE PACKING HOUSE

Day two of Session 7 began with a short ride from the marina to U. S. Sugar's mill and processing plant in Clewiston. Ms. Judy Sanchez, Director of Corporate Communications, led Class X Fellows on an outstanding tour of U.S. Sugar's facilities. The physical plant is enormous, and is comprised of the mill side where sugar is extracted from cane, and the refinery side, where sugar is processed and bagged for shipping. The Clewiston facility accounts for approximately 10 percent of all of the sugar refined in the U. S. (over 700,000 tons per year!), has its own railroad, and the plant is energy self-sufficient (powered by bagasse, a by-product of the milling process).

After scooping samples from raw sugar piled high in the warehouse into our spare hair nets, the Fellows and NRLI Team members drove out to a farm field to meet Mr. Rick Roth, a fourth-generation family farmer

in the Everglades Agricultural Area (EAA) and grower of sugar and vegetables. Rick explained some of the unique qualities of the muck soil and water management in the EAA and emphasized the importance to farmers of lowering production costs and increasing yields. Rick then led a tour of "Ray's Heritage" (named for Rick's father) vegetable packing facility in Belle Glade. The packing house is a state-of-the-art high-tech facility that utilizes computerized packaging machinery and an ammonia-based cooling system. Most of the radishes sold in the U.S. are packaged at Ray's Heritage! The Fellows also saw lettuce, celery, cabbage, sweet corn, and green beans being packed and readied for shipment. These two tours helped to illustrate the vast amount of economic activity generated by agriculture in south Florida, and provided excellent context for the afternoon round-table discussion.

ROUNDTABLE DISCUSSION ON THE EAA

The NRLI Project Team decided to deviate from the previously held Stakeholder Panel discussions and try a new format for engaging stakeholders with the issues at hand, so we went with a roundtable discussion where three stakeholders were seated next to NRLI Fellows in a circle. The three stakeholder representatives were:

Bill Donovan – Senior Scientist with the South Florida Water Management District

Rick Roth – owner of Ray's Heritage Vegetable Packing House and farmer in the Everglades Agricultural Area (EAA) since 1976

Dr. Paul Gray – represents Audubon of Lake Okeechobee

Mr. Donovan stated that the flooding that has occurred in south Florida from hurricanes contributed to the creation of the five Water Management Districts. The South Florida Water Management District tries to get input from as many people as possible and holds public meetings, to get feedback into the management of their projects, including Everglades' restoration. In 1994 a compromise was reached. (**Roundtable cont'd on page 5.**)

(Roundtable cont'd from page 4.) The District created 50,000 acres of Stormwater Treatment Areas (STA) and it was mandated that a certain level of water would be released into Everglades National Park. It was very important to get consensus on what should be done and to involve agencies, industry and the public. He also mentioned that once the water cycle is disturbed within the system it is very difficult to restore. The District is looking into trying to hold more water in Lake Okeechobee and to moderate the fluctuation of the water level, but the lake is not a reservoir.

Mr. Roth mentioned that water quality is a problem as water flows into the Everglades from the STA's. He mentioned that the District and agriculture have the same goals and that is water distribution. He felt that creating more Stormwater Treatment Areas would cost more money and would take land out of production. He stated that the Water Conservation Areas (WCA's) have been working and the standards are being maintained. Agriculture is stepping up to the plate and reducing the phosphorus levels entering the STA's but insists that the standards are too high. Mr. Roth mentioned that water coming out of the Everglades Agriculture Area has less phosphorus than the water coming out of STA's. Farmers are changing their ways and understand that practices are financially prudent can also be positive for the environment. The standard for phosphorus is at 100 parts per billion and environmentalists want it to be 40 parts per billion which he feels is unreasonable because rain water is around 35.

Farmers would like to mine the muck coming from the bottom of Lake Okeechobee, but Dr. Gray mentioned that this muck is not good because it contains a high level of phosphorus and seeds of invasive non-native plants.

Dr. Gray feels that the water level for Lake Okeechobee should be fixed to hold 15 feet of water. He feels that it is important to reduce the present phosphorus standard to below 100 parts per billion for water entering the lake. Audubon wants to work with farmers at reducing this level. They are also concerned about the levels of nitrogen entering the lake and cyanobacteria or blue-green algae development that causes algae blooms.



Top: Michelle Atkinson and Rick Roth speak after the Roundtable Discussion. Center: Paul Gray discusses the EAA while Micah Thorning and Joshua Craft look on. Bottom: Bill Donovan gives input regarding the EAA from the SFWMD perspective.

Blue World - Green World



Tom Abbot, Michelle Atkinson, Kat Diersen and Holly Ober work on the scenario planning Blue World-Green World exercise during the Clewiston session.

Bruce Delaney introduced this conflict management tool as a technique that non-threatening in nature. Rather than working forward, parties agree on a vision for the future and work backwards. This process helps to identify actions that will result in desired outcomes and those that are an impediment to this desired outcomes.

Two groups used the Green World scenario and one group used the Blue World scenario and all three groups used flip charts to present their outcomes. The Blue World team presented their story with a song while both Green Work teams use poems to present their story.

Time Limited Facilitation

The NRLI Fellows were used to evaluate the training sessions through this conflict management scenario. Each Fellow was given five large sticky notes to identify the most important issues that could improve the NRLI training. When finished, they were asked to stick the notes scattered on the wall and were told to then group them into common categories. After they were grouped, an agreed upon title was given to them, then the fellows were asked to stand by the group that they felt was most important to them. This exercise is a good way to arrive at decision points or to establish priorities.



NRLI Fellows work on the “Two-Minute” Drill. This exercise is a quick way to evaluate a problem or conflict when time is a limiting factor.

Debrief

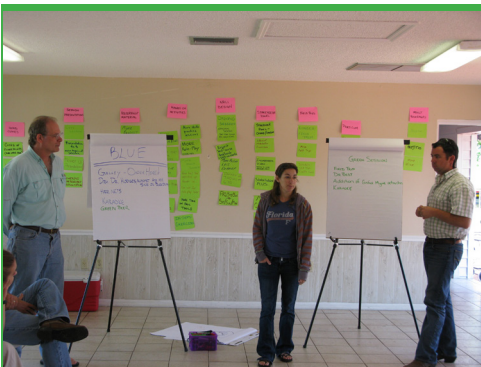
Micah Thorning presented the debriefing by having the fellows participate in a very competitive game of Pictionary. Fellows were divided into two teams and everyone got a chance to let their artistic side shine as clues to the tools, events, and concepts of the session took on a recognizable images. Both teams did very well with only one illustration not identified.



Luke Langford participates in the “Pictionary” debrief at the Clewiston session.

Feedback Panel

Craig Diamond, Lisa Krinsky and Luke Langford presented feedback by categorizing comments into Blue World and Green World and then had everyone provide comments under both categories. The Green World had more comments than the Blue World indicating that this session had more positive feedback.



Craig Diamond, Lisa Krinsky and Luke Langford give feedback regarding the session during the closing moments of the Clewiston session.

