

CLEWISTON

February 11-13, 2010

AGRICULTURE AND THE EVERGLADES: A LOOK AT THE SUGAR CANE INDUSTRY

NRLI Session 7 was held in the town of Clewiston in southern Florida. Clewiston is known for its agriculture, especially sugar cane, and world-class fishing in Lake Okeechobee. Fellows stayed at the Roland Martin Marina and Resort just off the lake. This was the perfect venue for the session topic – *Agriculture and the Everglades*.

Inside This Issue:

Page 2.	Introduction
Page 3	Context Speaker– Dr. Ronnie Best
Page 4	SWOT Analysis
Page 5	Sugar Cane Growers Coop—Field Trip
Page 6	Stakeholder Panel
	Green World/Blue World
	Learning Objectives Update
	Debrief and Feedback

NRLI Project Team

Jonathan Dain
Bruce Delaney
Marta Hartmann
Bob Jones
Burl F. Long
Laila A. Racevskis
Tom Taylor

2009-2010 NRLI Class IX Fellows

Ginger Adair
Staci Braswell
Adrienne Dessy
Scott Dudley
Joy Hazell
Jeffrey Hill
Christopher Johns
Gregory Lang
William Miller
Paul Monaghan
Shenley Neely
Robert Northrop
Thomas Ostertag
Emily Ott
Joshua Wilks

Report Contributors

Shenley Neely
Robert Northrop

Report Layout

Candace Kaswinkel

Class IX Photographer

Mailing Address

NRLI
P.O. Box 110240
Gainesville, FL 32611-0230
342-846-1511
<http://nrli.ifas.ufl.edu>

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.

Introduction

NRLI Team Member Laila Racevskis warmly welcomed everyone and provided introductions. Hendry County Extension Director Gene McAvoy then provided a thorough overview of the county and set the stage for learning about agriculture and the environment in the Everglades. Hendry County is rural, with over twice as many cattle as the 36,000 human residents. Clewiston is the largest town (7,000 people); the county seat is LaBelle. Agriculture is the main economic activity, with about \$1 billion dollars of sugar cane, cattle, citrus, vegetables, and specialty crops. Hendry County has some of the last open land in southern Florida and has a favorable climate for many crops. It has a growing and diverse agriculture industry, especially with relocations due to losses of agricultural lands in southeast Florida counties. State and Federal land acquisitions of about 250,000 acres have protected lands and provided for restoration activities in the northern Everglades but have

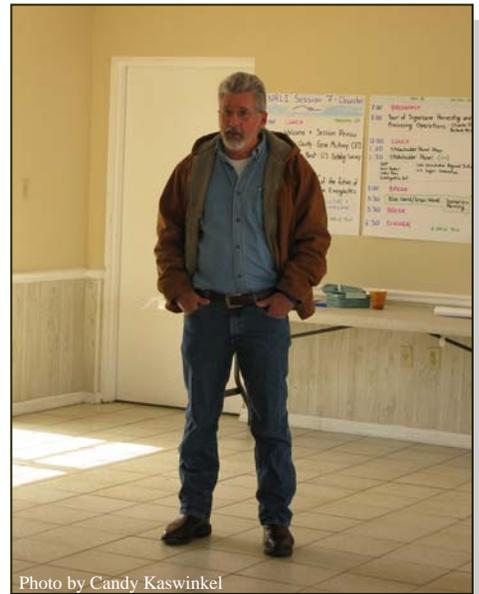


Photo by Candy Kaswinkel

Gene McAvoy welcomes NRLI Fellows to Hendry County and gives them an overview of the county's demographics.

resulted in considerable economic losses, including loss of tax revenue. Tax revenues support the second largest employer in Hendry County, county government, especially the school board. Losses of agricultural lands and limits on nutrient loads in effluents place pressures on Hendry County agriculture.

Context Speaker - Dr. Ronnie Best, USGS



Photo by Candy Kaswinkel

Dr. Ronnie Best Coordinator with the U.S. Geological Survey talks about the Everglades Restoration Efforts.

The landscape and drainage of southern Florida are dramatically altered by humans. A complex system of canals, water control structures, and pumps was seen by many Fellows as they traveled to Clewiston. Several Fellows were surprised that the lake, although close by, was not visible from our venue due to the Herbert Hoover Dike, a portion of the extensive engineering system controlling water levels and flow throughout the Kissimmee-Lake Okechobee-Greater Everglades Basin. **Context Speaker continued on page 2.**



SWOT Analysis Strengths, Weaknesses, Opportunities and Threats

NRLI Team Member Laila Racevskis led an introduction to SWOT analysis and an exercise in applying SWOT to the topic of Everglades Restoration. SWOT stands for Strengths, Weaknesses, Opportunities, and Threats. Although there is overlap, strengths/weaknesses are usually internal to the organization and opportunities/threats are external. SWOT is a tool for addressing complex situations and strategic planning. It allows for a relatively rapid assessment and can be used to build on previous efforts. When applied to natural resource controversies, it helps identify areas of common interest among stakeholders, illuminates reasons for differences, and shows opportunities for partnerships and resource sharing.

The exercise allowed the NRLI Fellows to take on the role of members of different interest groups—agriculture, environmental advocacy, local economic/community sustainability, and developer. Everyone interacted with others of the same interest group and members of different interest groups to perform SWOT analyses for water quality, new markets/economics, alternative energy development, and fisheries. Topics were written on color-coded cards and posted on the wall in their prospective areas of SWOT. This was an example of using a tool within a tool—the use of cards provided some anonymity for ideas and allowed moving the information around until consensus was reached, plus it integrated well with the broader tool of SWOT. There was interesting discussion during the exercise as NRLI Fellows did a commendable job of acting out their assigned roles. Class IX did not solve the complex controversies surrounding Everglades Restoration and its interaction with agriculture by using SWOT, but the Fellows learned a valuable tool to help with their own natural resource conflict issues.

Context Speaker *cont from page 2.* These observations provided a visual context for the topics presented by the afternoon speaker, Dr. Ronnie Best, South Florida Ecosystem Restoration Coordinator with the U.S. Geological Survey.

Dr. Best detailed the water flow of the vast system, showing that the water begins its journey in headwaters of the Kissimmee River near Orlando, flows downstream to Lake Okeechobee, and makes its way through canals, structures, and storage reservoirs before entering the Everglades National Park on its way to Florida Bay. Most of the historic flow went this route, minus the human-engineered flow diversions. Much of the current flow, however, is drained off to the west coast of Florida through the Caloosahatchee River or the east coast through the St. Lucie Canal and other canals. The resultant draining of the northern Everglades allowed for large areas of agriculture, including the Everglades Agricultural Area (EAA).

In recent years, concerns over negative effects of current water management, agricultural activities, and human development on water supply, water quality, and critical habitat for fish and wildlife throughout southern Florida have led to a program called the Comprehensive Everglades Restoration Program (CERP). This effort is by far the largest environmental restoration project ever attempted and has an estimated cost of \$7-8 billion. As envisioned, CERP will provide environmental protection, economic benefits, water supply for drinking water and agriculture, and flood protection.

CERP elements include attempted restoration of historic flow regimes in many segments of the basin, including the northern Everglades. This region encompasses portions of the EAA and other lands near Clewiston. Water historically spilled out of Lake Okeechobee and spread across a wide front of marsh on its way south. Current flow is restricted due to the Hoover Dike, canals, and roadways. Some agricultural lands will be converted into wetland during the restoration process, with impacts on the economy of the region.

Dr. Best described some of the many CERP projects that have been completed or are underway. He also discussed the interaction of various agencies in implementing the plan. The CERP will influence the extent and practices of agriculture within the Greater Everglades Ecosystem now and into the future.

Sugar Cane Growers Coop



Photos by Candy Kaswinkel

Above left: Barbara Meidema answers question regarding the processing planting techniques in the cane fields. Center: In the processing plant, Barbara shows the Fellows raw sugar ready for shipment to the refinery. Above right: Fellows and NRI guests and alumni stand in front of the massive mountains of raw sugar in the Co-op's warehouse.

Saturday morning broke cool and windy as everyone prepared for the field trip, a visit to the sugarcane fields and processing facilities, led by Charles Shinn, Assistant Director, Government and Community Affairs, Florida Farm Bureau and a NRI graduate. The kick off point for the field trip was the Sugar Cane Growers Cooperative of Florida plant.

After arriving at the plant, the class was greeted by Barbara Meidema, Vice President of Public Affairs for the Sugar Cane Growers Cooperative of Florida and climbed aboard the

vans for a short trip to the cane fields. Arriving at the fields, the class was introduced to the harvesting side of sugarcane production. A forty acre field was mechanically ignited to remove excess vegetation in preparation for harvesting. The smoke generated from the fire was a topic of discussion as it related to the Miami session and climate change. The harvesting machines, resembling something from the Mad Max movie series, cut the cane stalks into "billets" and deposit these into wagons for transport to the plant. **Field Trip** continued on page 6.

Stakeholder Panel



Photo by Candy Kaswinkel

Stakeholder Panel discusses the agricultural challenges in the upper Everglades during the Clewiston session. L-R: Linda McCarthy, Lykes Brothers; Philip Bacon, Lake Okeechobee Regional Initiative; John Capese, Intelligentsia International; Judy Sanchez, U.S. Sugar Corp; Charles Shinn, Florida Farm

Green-World/Blue-World Scenario Visioning

After the panel discussion, Bruce Delaney introduced the concept of scenario visioning utilizing the Green World/Blue World exercise. This exercise fits within the conflict resolution arena due to its non-threatening nature. Rather than working forward, the parties agree on the vision for the future and work backwards to identify those actions that will result in the desired outcome and those that are an impediment to the desired outcome. By initially agreeing on the desired vision, and common ground, all actions and proposals can be evaluated against the end result which has been identified up front.



Photos by Candy Kaswinkel

Groups use a variety of different avenues to portray their outcomes during the Green World/Blue World Exercise. Above Left: Adrienne Dessy uses a flip chart to list several outcomes. Center: Will Miller and Emily Ott uses visual display and humor to portray their ideas. Above Right: Paul Monaghan and his group portrayed their ideas through the use of a stakeholder panel mock up.

After the field trip and lunch, The class was treated to a visit and welcoming by Mali Chamness, Mayor of Clewiston, Steve McKowen, Clewiston City Manager and Kevin McCarthy, Hardee County Commissioner. The mayor and commissioner were cognizant of the importance of agriculture to the region and the need to balance their needs with other interests.

The stakeholder's panel was seated with Paul Monaghan facilitating the panel discussion. The topic for this session was "What is the future of Agriculture in the Everglades?" The panel participants were; Chad Kennedy, Florida Department of Environmental Protection, Charles Shinn, Florida Farm Bureau, Linda McCarthy, Lykes Bros., John Capece, Intelligentsia International, Philip Bacon, Lake Okeechobee Regional Initiative and Judy Sanchez, U.S. Sugar Corporation. The main context of the discussion was the changes in the agricultural industry and the challenges the pose to the region and the communities. Discussions included the opportunity to utilize private ranchlands as low tech stormwater treatment areas, the fact that sugar growers are already paying a tax into fund to address various issues, and the contention between the upstream interests and downstream interests. The US Sugar land sale was also discussed; including the need for training and economic diversification, should the sale go through, to attract new opportunities for the region.

Chad Kennedy discussed the need to seize the common ground. The parties need to collaborate under the Water Resource Advisory Commission. An example of current collaboration is the self imposed tax by the sugar producers to develop better technologies related to best management practices (BMPs). The overall feeling was that agriculture will remain a vibrant part of the local community and economy, although not necessarily in its current form. There needs to be collaboration and communication throughout the region and partners to ensure that all interests are heard and considered.

Practicum Progress: Implementation

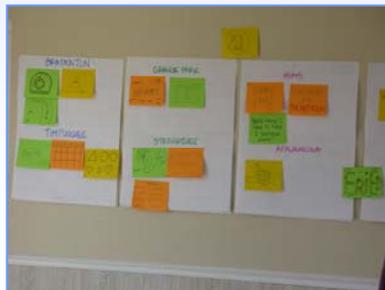
The Saturday morning session was utilized to discuss the Fellow's progress on implementation of their Practicum projects. Each Fellow met individually or in teams with their Practicum Mentors to discuss their projects, any barriers or challenges they were facing and strategies to overcome these challenges.



Above: Fellows have a chance to talk about their expectations and goals for the class with their Project Team Mentors during the final day in Clewiston. Photos by Candy Kaswinkel



Left: The debriefing session followed the Practicum updates and was led by Scott Dudley.



Left : The Feedback Panel led by Josh Wilks, Emily Ott and Adrienne Dessy gives a visual review and evaluation of all seven sessions with the use of post-it notes.

Debriefing and Feedback



Left: Laila Racevskis gives the Fellows their final instructions for graduation during the final moments in Clewiston.

Field Trip *cont from page 4.* During the harvest, it was discussed that sugarcane is possibly the most environmentally friendly agricultural operation appropriate for the everglades agricultural area. Sugarcane requires less fertilizer, herbicides and pesticides than the other alternatives, such as row crops. Given the concern over water quality leaving this area and entering the Everglades, this was a very enlightening discussion.

The mechanization of the sugar cane operations has reduced the cost of operation for the growers but has also reduced the necessary workforce and economic engine for the region. Reduced labor results in reduced payrolls and has negatively impacted the area's economy. After viewing the harvest, the class returned to the processing facility for an in depth tour. The plant was amazing! Built over 40 years ago, it is one of the smaller plants and processes over 25,000 tons of cane daily, producing 5,000 tons of sugar daily.

The plant itself is an enormous, multi level facility consisting of crushers, refiners and storage of the sugar. It was here that the class learned that the plant is self sufficient concerning power, generating steam during the processing and utilizes this steam to generate all necessary power.

