

Big Cypress Watersheds Restoration Coordination Team

Friday, February 20, 2009 – 9:30 – 12:30
Conservancy of Southwest Florida, Naples

Meeting Minutes

1. Welcome/Call to Order

- ◆ The meeting was called to order at 9:40 AM
- ◆ Thanks to Ian Bartoszek for hosting the group and providing bagels!
- ◆ We reviewed the minutes from the last meeting and they were accepted.

2. Introduction of members Ian Bartoszek Conservancy of SWFL

Ian Bartoszek, Conservancy
Amanda Booth, USGS
Shane Collier FWRI
Eliza Davis, Conservancy
Sarah Davis, FGCU
Mac Hatcher, Collier County
Katie Laakkonen, City of Naples

Sue Leitholf, Rookery Bay
Molly Meadows, SFWMD
Ananta Nath, SFWMD
Melinda Schuman, Conservancy
Bob Sobczak, Big CypressNP
Jessica Stubbs, Conservancy

3. South Florida's Watershed Journal Update – Bob Sobczak

- ◆ The watershed journal received 1000 visits last week. Bob highlighted the different aspects and the state of the watershed – a few points of which are summarized below.
- ◆ Water going to sides not in the Everglades. If we took away the rain events during Fay we would have a normal season.
- ◆ It's been a "dry" dry season. According to a recent [article](#) by Sun-Sentinel's Ken Kaye, although we've been getting cold fronts at a regularly clip (our normal source of winter rains) the prevailing La Nina has been zapping the moisture out of them. And that La Nina isn't expected to budge out of the picture any time soon. That's conjuring comparison's being drawn to the record dry winters of 1985 and 1989, and the wild fires that went along with them. But my mind is drawn back to Fay. That single event floated Florida's boat out of drought almost the entire state over (with the exception of Tampa). You know it's a Big Rain Day when you're still living off it 6 months after it's passed. But now that water's almost gone. And the landscape is drying.
- ◆ How has the Lake held up in the 6 months since Fay has passed? Water stage wise, it's lost two of the four foot rise that Fay bestowed to it overnight. Volumetrically, that translates into a loss of 1 million acre feet from it's 4 million acre foot mid-September peak. How much is 4 million acre feet you ask? That's approximately the same volume of oil pumped from the earth each year. Or if you've ever seen Lake Mead recently (it's 100 feet below peak stage of the late 1990s), it's about a quarter of the volume of water behind the Colorado's Hoover Dam. Of course Lake Mead is much deeper -- Hoover Dam stands 726 feet tall! Compare that to the entire state of Florida. It's highest point is 345 ft above sea level, the lowest high point of any other state. Lake Okeechobee must rank as the

shallowest of the the world's larger lakes: it's only 20 ft deep at its deepest point ...And that's on a high water day!

- ◆ Water depths in southern 3A are currently around 2.5 feet deep. That's as deep as you'll find water anywhere in the Everglades. That's even "wet season" deep in Big Cypress right next door, for which you'd need a divining rod to find water now: It's mostly dry as far as the eye can see in the land of cypress.

4. Research at the Conservancy – Ian Bartoszek

- ◆ Ian gave an overview of research at the conservancy - The work of the Environmental Science team includes ecological research, and monitoring programs, restoration initiatives, collaboration with universities and state and federal agencies and community outreach. Water Quality monitoring, Western Everglades restoration and Sea Turtle Monitoring and Protection are just some of the focus areas of the science team (conservancy.org).
- ◆ Ian discussed the following projects with the group:
 - Gopher Tortoise mark and recapture study
 - Filter marsh project – cleaning water before discharged into Gordon River, pond in preserve to treat stormwater runoff.
 - Mangrove projects in Hamilton harbor and Clam Bay
 - Estero Bay Mapping – Dr. Jeff Schmid
 - Sea Turtle Monitoring and Protection – Loggerhead monitoring for 27 years- 4,995 nests – 251,633 hatchlings.
 - Western Everglades Restoration and Biological Monitoring – Picayune Strand
 - 2008 Nocturnal Anuran Surveys
 - Everglades Mink Distribution – remote camera captured rare photo Panthers photographed in area as well.

5. Watersheditorial – Amanda Booth, USGS *Preservational Analysis of Oyster Shells on Estuarine Reefs: A Technique to Interpret the History of Coastal Environmental Change*

ABSTRACT by Amanda Booth

Barrier islands and crassostreid oyster reefs are important components of estuarine systems along the Gulf of Mexico and the Atlantic coast. The development of crassostreid reefs is critical to coastal progradation and therefore estuarine development. Oyster boundstones are often used as indicators of sea level in the stratigraphic record. However, because oysters thrive across broad estuarine gradients in both salinity and energy, it is often difficult to refine a reef's paleoenvironmental position. The purpose of this research is to compare the physical and biologic taphonomic and architectural characteristics on modern *Crassostrea virginica* reefs, relative to an environmental gradient with respect to salinity and energy, with the hope of better interpreting the history of estuarine development during changes in sea-level rise rates. A better understanding of coastal environmental history should result, thereby improving future management and restoration efforts.

Three high energy and three low energy reefs in the Ten Thousand Islands of Southwest Florida were selected for study. Three transects were established on each reef. At three-meter intervals along each transect twenty-five oysters were collected from a one-square meter quadrant. For each shell collected, height, width, valve thickness, and percent of shell surface experiencing encrustation, bioerosion, and margin loss were measured. The architecture of oyster clumps was described by measuring clump height and circumference. Sediment samples were also collected from each reef and subjected to grain size analysis.

No pattern was discernable from clump architecture, and the size of clumps varied throughout the six reefs. The high energy reefs' valves were longer, wider, and thicker on average. This may be due to a difference in population structure, growth rates, or taphonomic bias favoring larger and thicker shells. There is also a significantly higher percent bioerosion and margin loss on the high energy reefs compared to the low energy reefs, possibly indicating a longer period of exposure in the taphonomically active zone. Percent encrustation and sediment grain size distribution are not shown to be distinguishing factors along an environmental gradient. Valve morphology, percent bioerosion, and percent margin loss could aid in determining paleoenvironmental conditions of historical oyster reefs (Booth 2008).

This led to a lively discussing on ancient worm reefs, sea level rise, and other coastal issues.

6. BCW Metadata – Shane Collier FWRI

- ◆ Shane Collier from Fish and Wildlife Research Institute gave an overview of the progress of the metadata project and the ease of the submission process. He emphasized the importance of entering data and the benefits as well as the legalities. His office is her to serve the BCW community and is willing and able to assist in any way that they can to make it as convenient as possible.
- ◆ Ananta mentioned at what a great job they have done with the site and how much easier it is to submit projects. He also offered the possibility of interns to help with input of metadata.
- ◆ Molly asked what she can get out of the site? Shane reviewed the different query functions and how to research different projects in the area. Only as good as data that people take time to enter. We are here to help you and can help you get the data in to support the team.
- ◆ Bob indicated that he would enter a few projects which describes back data analysis tasks that he performs on a weekly basis.

7. Eyes on the Watershed – Research Photo Exchange

- ◆ Photos of Deep Lake and other points in the Big Cypress National Preserve – Bob Sobczak

8. Other Watershed News

- ◆ Sarah Davis mentioned discussion with Mike Savarese and interest of FGCU to coordinate with team to generate list of possible projects for graduate students. Sarah will coordinate this list and assist with finding funding.

9. Set next meeting date and adjourn meeting

- ◆ The meeting was adjourned at 12:00
- ◆ **Next Meeting Friday May 1, 2009 – Florida Panther Refuge**

Big Cypress Watersheds Restoration Coordination Team

Friday, May 1, 2009 – 9:30 – 12:30
Florida Panther National Wildlife Refuge Headquarters, Naples

Meeting Minutes

1. Welcome/Call to Order

- ◆ The meeting was called to order at 9:40 AM
- ◆ Thanks to Larry Richardson for hosting the group and thanks to everyone for bringing delightful entrées and desserts!
- ◆ We reviewed the minutes from the last meeting and they were accepted.
- ◆ Bob acknowledged that our quarterly meetings have been successful and provide networking opportunities and insight into our watershed while also visiting different agencies around the area.

2. Introduction of members

Joe Bozzo, FWC HRC
Mike Bush, Audubon
Juliana Da Frota, SWMD
Eliza Davis, Conservancy
Sarah Davis, FGCU
Ed Hanlon, UF IFAS
Mac Hatcher, Collier County
Katie Laakkonen, City of Naples
Shawn Liston, Audubon

Ananta Nath, SFWMD
Larry Richardson US FWS
Adrienne Ruga, FWC FWRI
Takako Sato, US FWS
Kathleen Smith, FWC HSC
Bob Sobczak, Big Cypress NP
Jessica Stubbs, Conservancy
Daryl Thomas, US FWS
Rhonda Watkins, Collier County

3. Research at the Panther Refuge – Overview by Larry Richardson

- ◆ Florida Panther National Wildlife Refuge (NWR) consists of 26,400 acres and is located within the heart of the Big Cypress Basin in southwest Florida. It is located 20 miles east of Naples, Florida at the northwest corner of the intersection of Alligator Alley (I-75) and State Road 29. The refuge is due west of the Big Cypress National Preserve and due north of Fakahatchee Strand State Preserve and Picayune Strand State Forest.
- ◆ Larry presented a colorful power point presentation discussing the many aspects of research at the Panther refuge. Management priorities include Florida Panther Recovery, prey management – prescribed fire to manage prey, habitat management – water work, built 2 ponds, prescribed fire, cabbage palm cutting, exotic control, water control, public use – trails free.
- ◆ Current monitoring includes:
 - Fire (including response of vegetation, prey, panthers, and cabbage palms to fire).
 - Hydrology
 - Regional wading bird use
 - Vegetation response to palm removal – 600-900 cabbage palms per acre, cabbage palm water use – Dr. Brian Bovard
 - Passerine response to palm removal

- Orchid biology and research (UF and Illinois College)
- Use of scents to attract and collect DNA on free ranging FL panthers (FGCU masters thesis project)
- Pond construction and vegetation
- ◆ Optimum management regime, manage accordingly with respect to ecosystem and priority objectives
- ◆ Lessons from the garden – Orchids don't survive without fungus Who is your fungus?

4. Eyes on the Watershed – Research Photo Exchange

- ◆ Katie Laakonen, City of Naples – photos of seining and trawling in Naples Bay – partnered with Rookery Bay. Caught blue crab and catfish in Gordon River. Keywadin – file fish, seahorse, juvenile bone fish, sea hare. Will monitor transects in 5 different sites every other month.
- ◆ Mike Bush, Audubon – Corkscrew wetlands, Woodstork project, sample habitats. Good year for colony at Corkscrew, 1200 nests (2 chicks) ½ fledged out. Better years for spoon bills; Cypress dome - 1 meter throw trap, collect fish, high concentration of gambusia. Purpose of project = focus in on dry season pools, crowded with fish, get densities, estimates of fish. 2000 fish per m², link fish with birds, birds travel miles, cue on what is it for Woodstorks? What is making them choose an area?; University of Georgia – tick project – Pileated Woodpecker, Possum pouch
- ◆ Bob Sobczak, Big Cypress – Photos of Kissimmee Billy's Strand (Pinelands, dome, pond apple) 11 mile road, 11 miles north, dwarf cypress forest and prairies. Turner River Road, dry 9 miles flows 4 months out of the year., biggest channel, main thorough fare to get inland. Lubber grasshopper.

5. Southwest Florida Feasibility Study Update – Daryl Thomas

- ◆ Daryl gave an update of the feasibility study. Tentative Selected Plan (TSP), reached milestone, approved TSP. Three components – Yucca Pens, SR 29 canal, Split smaller projects Faka Union Canal, water quality treatment facility. Bringing 3 projects to design phase – DOI-FWS supports project. Feasibility study could go further, only protects 3 Army Corps of Engineers has no funding, letter from DOI to approve study , could go further. Reevaluate cost of project, only looked at functional groups, could have done a better job picked additional projects, draft report writing now. Master plan – 13 functional groups, largest best alternative funding mechanism.

6. Other Watershed News

- ◆ Sarah Davis mentioned discussion with Mike Savarese and interest of FGCU to coordinate with team to generate list of possible projects for graduate students.
- ◆ Lake Trafford dredging delayed because dry will restart in June or July.
- ◆ Southern CREW restoration Project (mini SGGE/Picayune), purchased parcels, land out for 951, district moving forward to take out roads and promote sheet flow. 951 extension will include berms to stop water.
- ◆ Conservancy starting estuary report card.

7. South Florida's Watershed Journal Update – Bob Sobczak

- ◆ Bob shared the importance of the watershed journal www.sfwj.blogspot.com and how it bridges the gaps between meetings bringing data to the front of this water wonderland in which we live. He showed a clip from the fire, smoke blowing to Naples.
- ◆ Florida has four meteorological horsemen. They stampede into town from every corner of the sky. The thunderous approach of their hooves and sun-eclipsing clouds they kick up are

cautiously greeted by Floridians with an equal dose alarm and routine: It's time to take cover ... a drenching of apocalyptic proportions may be on the way. Who are the horsemen? Three of our four horsemen ride into town in the summer and fall. They are the enhanced sea breeze (Florida's bread and butter storms), the giant Cape Verde hurricanes that spawn off the coast of Africa, and the often smaller in strength but gorged with moisture tropical disturbances that arc up from the gulf and Caribbean. The fourth – the continental front – rides to town, or more correctly stated, usually rides into town, for unpredictable downpours here and there during our 7 month winter and spring dry season

- ◆ We had a very dry dry season, worst than 1932. Turner River, dry, HP Williams below sea level the past month. Swamp forests, marshes dry through March and April, landscape drying down as well as canals. However the Tamiami canal, full – tidal inflow (flow in opposite direction). Tropical storm Fay flooded longer than average, dry down was abrupt, swamp forest 8 months instead of 9-10 months. Resurrection fern meteorological wonder – indicates moisture, dries down during dry season. Shark River slough officially going dry, Lake Okeechobee after Fay 15 feet above seal level, now at 11 feet.

8. Set next meeting date and adjourn meeting

- ◆ The meeting was adjourned at 12:00
- ◆ **Next Meeting Friday September 18, 2009 – Florida Panther Refuge, Immokalee – McBrides Pond Pavillion**

Big Cypress Watersheds Restoration Coordination Team

Friday, September 18, 2009 – 9:30 a.m. – 1:30 p.m.
Florida Panther National Wildlife Refuge Roger Roth Work Center

Meeting Minutes

1. Welcome/Call to Order

- ◆ The meeting was called to order at 9:50 AM
- ◆ Larry Richardson and Ben Nottingham welcomed everyone to the Panther Refuge.
- ◆ Ben Nottingham announced that Layne Hamilton will be moving to the Merritt Island Wildlife Refuge and discussed the “Wildlife First” management strategy of the Panther Refuge.
- ◆ Ben and Larry informed the group about the construction of their new Environmental Education Center at McBride’s Pond and what to expect to see on the field excursion. They also described many of the research projects being performed in the Panther Refuge and the Ten Thousand Islands Refuge.
- ◆ Bob Sobczak told the group that he tuned into the USGS webinar series on Manatee winter refugia in the Ten Thousand Islands, which was informative and a great way to get the agencies talking together about resource issues.
- ◆ Minutes from the last meeting were reviewed and accepted.
- ◆ Ed Hanlon announced that he has received funding to develop a new farming systems model which would include ecosystem services.
- ◆ Bob presented Sarah Davis with a gift in honor of her hard work over the past few years with the BCW-RCT, generously donated by the Conservancy of Southwest Florida.
Thanks Sarah for all the dedication and creativity you brought to our watershed team!

2. Introduction of Members

Mike Bauer, City of Naples
Laura Gibson, Collier County
Mike Savarese, FGCU
Mike Bush, Audubon
Juliana Da Frota, SWMD
Sarah Davis, FGCU
Ed Hanlon, UF IFAS
Mac Hatcher, Collier County
Katie Laakkonen, City of Naples
Ben Nottingham, US FWS

Molly Meadows, SFWMD
Shane Collier, FWC/FWRI
John Aquilino, Conservancy SWF
Annji Greenwood, US FWS
Ananta Nath, SFWMD
Larry Richardson US FWS
Bob Sobczak, Big Cypress NP
Daryl Thomas, US FWS
Megan Andresen, FGCU/BCW-RCT

3. Swamp Tour of McBride’s Pond with Larry Richardson

- ◆ The group caravanned to McBride’s pond to see the new Environmental Education Field Station and take canoes out for a swamp tour.
- ◆ Larry gave an amazing tour of the swamp, including discussion of:
 - Orchid restoration efforts
 - Orchid habitat preferences
 - Strategic Habitat Initiative

- Barron River Canal Plug
- Multiple research projects
- Exotics removal
- ◆ Larry also showed the group:
 - Multiple orchid species (Cigar, Night Smelling, Leafless, etc.)
 - Multiple fern species
 - Very old/large cypress trees
 - Apple snail eggs
 - Exotic snail eggs
 - AND MUCH MORE!

Everyone took lots of photos – Be sure to bring them to the next meeting if you can, or pass them around by email to individuals who appear in your photos!

4. Coastal Strategies Website Introduction – Megan Andresen

- ◆ Megan briefly presented the Florida Coastal Strategies Website: www.floridacoastalstrategies.org, noting that the website was launched by the Coastal Training Programs within Florida's National Estuarine Research Reserves as a tool to better inform decision makers on environmental management issues.
- ◆ Website topics include:
 - Water Quality and Quantity
 - Land Use Density and Intensity
 - Shoreline Management
 - Coastal Erosion with
- ◆ Subtopics under each topic:
 - Model Ordinances
 - Best Management Practices
 - Case Studies and Demonstration Projects
 - and Current Research.
- ◆ Megan has been asked by Rookery Bay to help with the website and to integrate the BCW-RCT group.
 - The group was asked to check out the website and think about some best management practices they would like to know more about or ones that they would find beneficial to add to the website as a resource for policy makers, prior to the November 20 meeting.
 - Mike Savarese suggested it would be important for our group members to routinely (quarterly) submit ideas and information to the website. We can make this website into a training portal for keeping us all up to date on information we should be familiar with, and use as a spring board for discussion at our quarterly meetings.
 - Megan's plan is to update material on the website in step with our quarterly meetings, which is a logical and sustainable schedule for incorporating it into our team.

5. Coastal Watershed Institute, FGCU and the BCW-RCT – Mike Savarese

- ◆ Mike introduced the Coastal Watershed Institute (CWI) at FGCU which brings together scientists to research coastal environments and coastal watershed problems.
- ◆ CWI is looking for new ways to reach out into the scientific community, and so Mike is proposing the use of CWI as a broker of graduate students who could do their thesis research on highly needed projects which may have little funding. Agencies could define highly needed projects and possibly sponsor graduate student work for those projects.
- ◆ The group agreed to explore this idea further at the next meeting.

6. Water Quality Network – Bob Sobczak

- ◆ Bob presented a map of the hydrologic monitoring site locations and duration of sampling in Big Cypress National Preserve.
- ◆ He noted the location of a collaborative site with the SFWMD and that the hydrologic monitoring has created a large, useful dataset.

7. Other Watershed News

- ◆ Ananta Nath announced that the Picayune Strand Pump Station groundbreaking will be in December, with construction beginning in January, and discussed Lake Trafford Dredging.
- ◆ Bob saw a bear in the top of a cypress tree and proposed the idea of conducting a future meeting down Loop Road and into the Everglades, with Lunch at the S-12B structure.
- ◆ Bob also enlightened the group about the hydrologic history of the Turner River with a powerpoint presentation which is currently in the works. Among the more riveting questions he raised during the presentation was “why exactly is it called a river and not a creek” and “what’s the best way to graph rainfall data?”

8. Set Next Meeting Date and Adjourn meeting

- ◆ The meeting was adjourned at 1:45 p.m.
- ◆ **Next Meeting Friday November 20, 2009 – Gordon River Water Quality Park**

Big Cypress Watersheds Restoration Coordination Team

Thursday, December 10, 2009 – 9:30 a.m. – 1:30 p.m.
Freedom Park (aka Gordon River Water Quality Park), Naples

Meeting Minutes

1. Welcome/Call to Order

- ◆ The meeting was called to order at 9:40 a.m.
- ◆ Megan Andresen welcomed everyone to the Freedom Park.
- ◆ Minutes from the last meeting were reviewed and accepted.

2. Introduction of Members

Mike Savarese, FGCU
Wesley R. Elsberry, FWC-FWRI
Ed Hanlon, UF/IFAS
Sue Leitholf, RBNERR
Mike Parsons, FGCU
Mac Hatcher, Collier County
Molly Meadows, SFWMD
Adrienne Ruga, FWC-FWRI
Shane Collier, FWC-FWRI

John Aquilino, Conservancy SWFL
Eliza Davis, Conservancy SWFL
Annji Greenwood, US FWS
Amanda Booth, USGS
Greg Tolley, FGCU
Ananta Nath, SFWMD
Bob Sobczak, NPS
Megan Andresen, FGCU/BCW-RCT

3. Eyes on the Watershed – Research Photo Exchange

- ◆ Multiple research photos were shared with the group:
 - Bob Sobczak showed a photo from the Big Cypress National Preserve, noting the importance of trees, and the changing of “seasons” in SW Florida.
 - Amanda Booth shared photos and discussed some USGS projects being conducted within the Caloosahatchee Estuary and the Ten Thousand Islands.
 - Megan, Greg Tolley, and Mike Parsons talked about a collaborative FGCU project in the Caloosahatchee Estuary, while sharing photos of their night-time field work.
 - Eliza Davis presented photos from Conservancy projects including Gopher Tortoise monitoring, filter marsh instillation and monitoring, and the Picayune Strand restoration biological monitoring.
- ◆ Mike Savarese suggested archiving and annotating Eyes on the Watershed photos. It was determined that this could be done on the BCW-RCT website.

4. Freedom Park Introduction – Mac Hatcher

- ◆ Mac Hatcher gave an introduction to the freedom park, noting the new facility was created for water treatment which was needed following the expansion of Goodlette-Frank Road. He thanked those involved in funding the project, including the Water Management District, Big Cypress Basin, and the Florida Trust.
- ◆ The 13 acre park has landscaping similar to that of the Florida Yards and Neighborhoods program, including native plants which require no fertilization or extra watering.

- ◆ Molly Meadows added that water is treated by first pumping it into a deep well lake and then shifting it between ponds or 'cells' which have different types of vegetation with filtration capabilities. Water is emptied from the final cell into a wetland preserve located within the park.
- ◆ A boardwalk allows visitors to experience wetland areas, and a paved path can be followed through an urban-type area where the water treatment cells are located.
- ◆ Ananta Nath explained to the group that the park system may be used in the future to treat canal water by pumping it from, and back into, the Gordon River.

5. Combining Resources: CWI and the RCT – Mike Savarese

- ◆ Mike S. handed out a 'whitepaper' to the group, outlining a proposed idea to combine resources between the Coastal Watershed Institute (CWI) of FGCU and the BCW-RCT.
- ◆ As introduced by Greg Tolley, the CWI addresses scientific issues of regional concern, working with agencies and citizens in the Southwest Florida area. The group consists of around 20 members, including FGCU faculty and affiliates.
- ◆ Graduate student funding has not increased with increased enrollment in FGCU. The result has been fewer funding opportunities for graduate students involved with environmental research.
- ◆ The proposed collaboration includes having the BCW-RCT outline regional restoration science needs and their priorities and then fulfilling one of these needs by funding an FGCU graduate student through the help of multiple agencies.
- ◆ Grant writing was discussed as a positive aspect to the collaboration. Such combined efforts could lead to a grant writing process which would include CWI members and local agencies.
- ◆ Bob Sobczak noted that the NPS collaborates with universities through a CESU and that students can intern through NPS as a SCA.
- ◆ Shane Collier acknowledged that it may be possible to find a small amount of money to put towards a CWI graduate student.
- ◆ The group decided to identify a list of restoration science needs, choose two of these needs and try to fund graduate student work towards such needs. It was noted that restoration science needs should be chosen by February in order to budget for funding by mid-March, 2010.
- ◆ It was determined that the next quarterly meeting should be moved up to January 22nd in order to facilitate budget deadlines.
- ◆ For the next meeting, bring ideas of regional restoration science projects which have been completed or need to be completed. The Big Cypress Science Plan and Restoration Science List previously written for the BCW-RCT will be located and provided.

6. Florida Coastal Strategies Website – Megan Andresen

- ◆ Megan briefly asked for suggestions about marketing strategies for the Florida Coastal Strategies Website which was introduced to the group at the previous quarterly meeting.
- ◆ Shane recommended using the website itself as a marketing tool by creating useful links to and from other environmental websites. Wesley Elsberry proposed adding an RSS feed to the site to help increase traffic.

7. End of the Year Water Report – Bob Sobczak

- ◆ Bob presented an informative end of the year water review. One consistent theme throughout the presentation was that baselines are constantly shifting and sometimes this causes difficulty in the management of natural areas.

8. Other Watershed News

- ◆ Ed Hanlon discussed his biofuels and ecosystem services project, stating reasons for linking agriculture to natural systems with agricultural ecosystem services.
- ◆ Ananta extended an invitation to the Picayune groundbreaking ceremony on January 7, 2010. He also noted that bidding for the Faka Union project should be complete soon, and depending on the budget, the project could be finished in two or more years.
- ◆ The BCB board meeting will be held on December 11, 2009. Molly will be giving the status of projects included in the Naples Bay Management Plan, adopted in 2007. This information will also be listed on the BCB website.
- ◆ Shane informed the group that Florida will have two data centers in Tallahassee to store metadata, which will make the metadata closer to real-time. Currently, metadata is in a repository housed by NOAA.
- ◆ Shane and Adrienne Ruga also noted that the metadata entry tool linked to the BCW-RCT website is now faster and more user-friendly.

9. Set Next Meeting Date and Adjourn meeting

- ◆ The meeting was adjourned at 1:30 p.m.
- ◆ **Next Meeting: Friday January 22nd, 2010 – BCB Water Management Office, Naples**

10. Freedom Park Tour with Mac Hatcher

- ◆ Mac provided a wonderful tour of the Freedom Park, giving insight into planning, building, and monitoring the water quality parameter of the park.