

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**