

# Big Cypress Watersheds Restoration Coordination Team

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Friday, January 22, 2010 – 1:00 p.m. – 4:30 p.m.  
Big Cypress Basin Water Management District Office, Naples

## Meeting Minutes

### 1. Welcome/Call to Order

- ◆ Megan Andresen called the meeting to order at 1:10 p.m. and welcomed everyone to the Big Cypress Basin office.
- ◆ Minutes from the last meeting were reviewed and accepted.

### 2. Introduction of Members

Mike Savarese, FGCU  
Mike Bauer, City of Naples  
Ed Hanlon, UF/IFAS  
Mike Bush, Audubon  
Nick Casalanguida, CDES/Trans  
Mac Hatcher, Collier County  
Molly Meadows, SFWMD  
Daryl Thomas, USFWS  
Alicia Abbott, Collier County  
Ron Wallace, City of Naples  
Shane Collier, FWC-FWRI  
John Aquilino, Conservancy SWFL  
Eduardo Patino, USGS

Lars Soderquist, USGS  
Jennifer Nelson, DEP  
Alicia Campanella, DEP  
Ananta Nath, BCB SFWMD  
Bob Sobczak, NPS  
Paul Mattausch, Collier County  
Bob Middleton, City of Naples  
Jennifer Hecker, Conservancy SWFL  
Rhonda Haag, DEP  
Brandy Otero, CC Stormwater  
Jerry Kurtz, Collier County  
Clarence Tears, BCB SFWMD  
Megan Andresen, FGCU/BCW-RCT

### 3. Big Cypress Basin 10 Year Strategic Plan – Clarence Tears

- ◆ Clarence presented the Big Cypress Basin Water Management District 10 year Strategic Plan Draft, including the project priorities and goals of the BCB.
- ◆ Multiple projects were discussed, along with their potential success indicators. Clarence asked the group to provide feedback on the project priorities and success indicators. Projects include:
  - Lake Trafford – dredge, remove material, native species restoration
  - Camp Key Strand – critical habitat and sheet flow restoration
  - Henderson Creek Diversion – rehydrate Henderson Creek area
  - Belle Meade Rehydration – rehydrate area and reduce flow to Naples Bay
  - Barron River Restoration – restore sheet flow
  - Okaloacoochee Slough Flowway Enhancement – restore native vegetation
  - Miller Canal – increase flow to S. Golden Gate, reduce flow to Naples Bay
  - Multiple Canal Improvements – reduce over-drainage, protect water resource
  - Multiple Structure Modifications – create environmentally effective flow conditions
- ◆ Overall goals for the BCB 10 year plan include improving ground water storage, water quality, and sheet flow, and reducing point source discharges.
- ◆ A timeline for the 10 year strategic plan was discussed:
  - February, 2010: Receive Board Input

- March-April 2010: Draft Strategic Plan
- May 2010: Present Plan with budget presented for 2011
- ◆ The BCW-RCT is invited to share their opinions and ideas on the 10 year strategic plan at the BCB Board Meeting on February 26<sup>th</sup>, 2010. The meeting will be held at North Collier Regional Park from 9 a.m. – 12:00 p.m.
- ◆ \*Please note that the old BCB 5 year plan is located on the BCB website.

#### 4. Identification and Prioritization of Restoration Science Needs – Mike Savarese

- ◆ Mike led the group in listing and prioritizing regional restoration science needs. These restoration science needs can be used to pair graduate students at FGCU with funds and research opportunities. They can also be utilized for discussion of the BCB 10 Year Strategic Plan project priorities.
- ◆ Each RCT member was allotted two restoration science needs questions to add to the master list. Fourteen agencies were represented and twenty restoration science needs were listed.
- ◆ A straw poll was taken to prioritize the list. Each member voted for their top three choices.
- ◆ Restoration science needs list results:

- **Estuarine effects of Picayune Strand restoration?**

Author: Mike Savarese; Votes: 10

- **Effects of sea level rise on the ecology and geomorphology of freshwater to brackish water marshes in southwest Florida and the commensurate effects of restoration?**

Author: Mike Savarese; Votes: 5

- **Effects of agriculture-based ecological services on water quality improvement, carbon sequestration and water storage?**

Author: Ed Hanlon; Votes: 1

- **Are suspended sediments part of the pre-alteration state of southwest Florida estuaries?**

Author: Mike Bauer; Votes: 3

- **Effectiveness of small filter marshes, littoral plantings, and floating islands on pollution load reduction?**

Author: Mike Bauer; Votes: 8

- **New technologies (laminar flows, algal turf scrubbers, etc.) and their effects on nutrient load reduction?**

Author: Daryl Thomas; Votes: 2

- **Assessment of the impact of Picayune Strand Restoration project on the manatee refugia of the Port of the Islands marina, and measures to protect/enhance the habitat**

Author: Ananta Nath; Votes: 4

- **Can we predict the effects on manatees by Route 29/Barron River Canal restoration? [Requires describing manatee use there.]**

Author: Daryl Thomas; Votes: 1

- **Quantification of flow required for optimum salinity distribution in Rookery Bay National Estuarine Research Reserve (RBNERR).**

Author: Ananta Nath; Votes: 0

- **Delineation of the groundwater/salinity interface.**

Author: Eduardo Patino; Votes: 1

- **Empirically test the “pulsed flow” concept used on agriculture lands.**

Author: Ed Hanlon; Votes: 0

- **How are natural lakes and stormwater managed ponds stratified in southwest Florida, and what are the implications?**

Author: Jennifer Hecker; Votes: 2

- **Ecological impacts of using uplands and short hydroperiod wetlands for storm water disposal?**

Author: Jennifer Hecker; Votes: 2

- **What is the relationship between watershed area and filter marsh size/design features?**

Author: Jerry Kurtz; Votes: 1

- **Can aquatic biology be used to evaluate adverse impacts from nutrients in primary, secondary or tertiary canals?**

Author: Mac Hatcher; Votes: 8

- **Can we develop a “condition index” for rapid assessment of southwest Florida estuaries?**

Author: Jennifer Nelson; Votes: 4

- **The effects of off-road vehicle usage on landscape and subsequent trail recovery?**

Author: Bob Sobczak; Votes: 1

- **What potential do conservation practices have on reducing water resource demands?**

Author: Bob Sobczak; Votes: 2

- **What effects does canal design have on perpetuating invasive exotic species?**

Author: Mike Bush; Votes: 1

- **How are our natural resources (park facilities, conservation lands, etc.) used? (over vs. under-utilized)**

Author: Bob Sobczak; Votes: 1

- ◆ Authors were asked to send Megan a brief description of their restoration science need through email as soon as possible.
- ◆ RCT members were asked to talk to their respective agencies to determine if funding may be available for graduate student research pertaining to any of the restoration science needs listed and to send that information along to Megan.

## 5. Set Next Meeting Date and Adjourn meeting

- ◆ The meeting was adjourned at 4:00 p.m.
- ◆ **Next Meeting: Friday, April 23rd, 2010 – Rookery Bay, Naples (tentative location)**

## 6. Earthquake Haiti Photo Presentation – Ed Hanlon

- ◆ Ed was working in Haiti when the devastating earthquake hit in January. He was able to help people out of his hotel before it collapsed and he and his friend set up a make-shift medical center, with what little supplies they had, to save the lives of many injured Haitians.
- ◆ Ed presented some photos and told his story. Thank you, Ed, for sharing your experience with us. We are happy you made it home safely.

# Big Cypress Watersheds Restoration Coordination Team

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Friday, May 7, 2010 – 1:00 p.m. – 3:30 p.m.  
Rookery Bay Estuarine Research Reserve, Naples

## Meeting Minutes

### 1. Welcome/Call to Order

- ◆ Megan Andresen called the meeting to order at 1:08 p.m. and welcomed everyone to the Rookery Bay Education Center.
- ◆ Minutes from the last meeting were reviewed and accepted.

### 2. Introduction of Members

Ananta Nath, BCB SFWMD  
Mike Bauer, City of Naples  
Ed Hanlon, UF/IFAS  
Mike Bush, Audubon  
John Aquilino, Conservancy SWFL  
Bob Sobczak, NPS

Amanda Booth, USGS  
Marty Berry, USGS  
Dave Ceilley, FGCU  
Susan Denham, RBNERR/FGCU  
Megan Andresen, FGCU/BCW-RCT

### 3. Eyes on the Watershed Research Photo Exchange

- ◆ Ananta Nath shared photos of the Opryland Hotel and Opry Mills under water during the recent flooding event in Nashville.

### 4. Rookery Bay Seagrass Research Talk and Tour – Susan Denham

- ◆ Susan is a graduate research fellow at Rookery Bay, focusing on seagrass work in the Ten Thousand Islands. She presented her research to the group, as well as some preliminary results.
- ◆ Field components include two sites, Round Key and Cape Romano. Within each site, she looks at water quality parameters which may influence the health of seagrasses in the area, such as TSS, CDOM, and light attenuation. Seagrass abundance, growth rates, and present species are noted during the work and seagrass is taken to the lab to measure photosynthetic health using PAM fluorometry.
  - Mike Bauer noted that a similar study has been performed in Naples Bay for a few years and that he would be interested in comparing data.
- ◆ Susan also has been working on a laboratory set-up at Rookery Bay which will be used to grow seagrass in order to obtain growth rates under specific light conditions.
- ◆ The group took a tour of Susan's seagrass-growing tank while she explained all aspects of the in-depth set-up.

### 5. Water Update – Bob Sobczak

- ◆ Bob announced the celebration of the new water year on May 1<sup>st</sup> and that April showed the highest water levels since 1970 in the Big Cypress Swamp. Prairie wetlands have been wet for 12 months straight, whereas in normal years they are only wet for 6 months. We had a very wet winter in 2010.

- ◆ Bob presented his newest data usage/graphing idea, the “Swamporeatron”, which includes decades of hydrologic data across Southwest Florida. He takes numerical data and puts it into an easy database which is available to a wider audience for quick data assessment. Historical hydroperiod calendars, as well as habitat-specified hydroperiod calendars, flow, and rain data are provided on the site. ([www.fgcu.edu/bcw/swamp/water.htm](http://www.fgcu.edu/bcw/swamp/water.htm))
- ◆ Dave Ceilley noted that many of his restoration projects include hydrologic restoration, so these types of databases are very important for baseline values used when manipulating fixed hydroperiod basins.
- ◆ Ed Hanlon added that some of his work has shown that a change in the hydroperiod over time is changing vegetation in some areas of the Everglades. Ed would like to present his scenario of what’s affecting nutrients in the park at the next meeting.
- ◆ Frustration with the Southwest Florida Feasibility Study was also noted due to the fact that water modeling has been simplified in the study. The ‘duration in depth of water’ has been morphed into ‘flows to the coast’ because it is too complicated to model, although it is very important, as noted by multiple group members. It was also noted that the original “Feasibility Study” has been stopped and it will now be morphed into a “Watershed Management Plan” due to financial constraints.

## 6. Other Watershed News

- ◆ June 23<sup>rd</sup>, Big Cypress Basin 10 year strategic plan workshop. Info: TBA (will send email)
- ◆ Oil Spill Preparation:
  - Ananta stated that SFWMD has been told to prepare for freshwater releases if needed, although there isn’t much water stored to release.
  - Mike Bauer said that the City of Naples is concerned about availability of resources if the oil does come to SWFL. Also, he suggested that agencies need to coordinate for a better relief effort.
  - Multiple agencies noted that they are doing pre-event sampling in order to get baseline values prior to any oil coming to our area.
  - Ed noted that there are many websites with good information about the oil spill, including infrared aeriels and oil spill movement modeling.

## 7. Set Next Meeting Date and Adjourn meeting

- ◆ The meeting was adjourned at 3:30 p.m.
- ◆ **Next Meeting: Friday, August 6, 2010, 1:00pm – UF/IFAS Southwest Florida Research and Education Center, Immokalee**

# Big Cypress Watersheds Restoration Coordination Team

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Friday, August 6, 2010 – 1:00 p.m. – 3:45 p.m.  
Southwest Florida Research and Education Center (SWFREC)

## Meeting Minutes

### 1. Welcome/Call to Order

- ◆ Megan Andresen called the meeting to order at 1:15 p.m. and welcomed everyone to the Southwest Florida Research and Education Center (SWFREC).
- ◆ Minutes from the last meeting were reviewed and accepted.

### 2. Introduction of Members

Ananta Nath, BCB SFWMD  
Ed Hanlon, UF/IFAS  
Bob Sobczak, NPS  
Victoria Vasquez, RBNERR  
Mac Hatcher, Collier County  
Marty Main, UF  
Eboki Mespmin, SDS

Ouael Eleuchi, SDS  
John Capece, SDS  
Milion Christophe, SDS  
Daryl Thomas, USFWS  
Sophie Burfeind, SDS  
Bob Rouse, UF/IFAS  
Megan Andresen, FGCU/BCW-RCT

### 3. Welcome to SWFREC – Ed Hanlon

- ◆ Ed Hanlon welcomed everyone to the 320 acre, SWFREC. He explained that one third of the work performed at the center is focused on environmental issues such as water quality and water control, while the rest of the work involves agricultural studies such as irrigation controls and biomass production.
- ◆ Faculty members working at the center are representatives of one of the University of Florida extension agencies and there are also graduate students living and working on-site.

### 4. Restoring the Everglades: Some Current Impediments to Restoring Flow to the Southern Everglades – Ed Hanlon

- ◆ Ed provided a riveting presentation pertaining to water quality restoration within the Everglades. Ed's findings are currently in review for publication. \*Please see a full summary of his work below.

### 5. Rhizomal Perennial Peanut Talk and Tour – Dr. Bob Rouse

- ◆ Bob Rouse discussed the economic and environmental benefits of using rhizomal perennial peanuts in urban landscaping, as compared to commonly used lawn grasses in Florida. Utilizing this type of peanut instead of lawn grass will save money on water usage and energy and will reduce environmental impacts. Benefits include:
  - High drought resistance – unlike St. Augustine grass
  - No pathogens

- No nematodes
- Low maintenance needs - only mow about 3 times a year
- Minimal to no fertilizer needed
- No nitrogen or phosphorus needed
- No insect pest control needed
- High degree of beautification – lush greenery and bright yellow flowers
- Edible flowers – taste like raw peanuts
- Lowers erosion potential
- Very hearty
- Can harvest as feed for animals – very high protein content
- Multiple varieties and types depending on needs
- ◆ The rhizomal perennial peanut has been planted on the UF campus, Marco Island as a groundcover project, and at the SWFREC. The initial cost is more than St. Augustine grass, but in the long run, the cost evens out with savings on water and energy.
- ◆ Bob took the group on a tour of the grounds to see where it has been planted and to taste the flowers. He also showed the group examples of different varieties of the plant which he had been growing in a greenhouse on-site.

## 6. Hydrology and Water Quality Monitoring Partnership – Bob Sobczak

- ◆ Bob Sobczak announced that a draft of the twenty-year anniversary hydrology and water quality report, pertaining to the monitoring partnership between the Big Cypress Preserve and the South Florida Water Management District, has been created.
  - Water quality monitoring has included 20 hydro stations throughout the preserve, with both natural and managed components.
  - In 1995, monitoring was expanded and a common datum was created.
  - The ability to collect real-time data from the stations has been in place since 2005.
- ◆ The hydrology and water quality report is very important to show progress through time. The report can be used to justify the importance of the water quality monitoring stations so that each station can continue to be funded.
- ◆ Data collected through hydrology and water quality monitoring is updated weekly by Bob and is available on the internet within the “Swamporeatron”.
  - The Swamporeatron provides users with easy-to-access water data including rainfall, swampstage, hydroperiod (in terms of depth or habitat type), and sheetflow. Frequent updates allow users to track the hydrologic ecosystem as it unfolds, week to week.
  - Also, the Swamporeatron allows for quick and easy annual comparisons for all data types. It is even possible to see how the hydrologic regime has changed over multiple decades in certain places.

## 7. Other Watershed News

- ◆ Daryl Thomas announced that the Southwest Florida Feasibility Study is being changed to a Watershed Management Plan. The approx. 1,000 page report will be reduced to about 100 pages and will be given to Congress only for information purposes, whereas the Feasibility Study would have been given to Congress as a means to request project funding. The Feasibility Study outlined the need for many restoration projects throughout Southwest Florida.
  - Daryl noted, however, that the Army Corps wants to evaluate the feasibility of funding one of the high-need projects listed in the Feasibility Study. The project would include restoration of oxbows in the Caloosahatchee River.
  - John Capece told the group that he had been previously involved with Caloosahatchee oxbow restoration efforts, including baseline work, experiments, and

one restoration in Lee County. He noted that the Caloosahatchee River has been changed to a wetland system over time so if oxbow restoration is not well-planned and done properly, it might not have a positive impact on the system.

- John also noted that individuals and agencies need to advocate for meaningful shoreline easements, with great attention to littoral zone protection.
- ◆ Mac Hatcher announced that the Collier County Watershed Management Plan updated BCB model and reports are available on the internet. The final version is projected to be completed by December.
- ◆ Ananta Nath told the group that the Lake Trafford dredging will hopefully be done by spring of next year. Also, Picayune is under construction and there is a bid out on the pump station for Faka Union.
- ◆ John Capece noted that he finds useful information pertaining to projects and environmental happenings on Caloosahatchee.org and eco-voice.org.
- ◆ Daryl Thomas stated that the Conservancy was approached by Edison Farms to buy out their land. This is a key area of restoration for Estero Bay, and so they are seeking funding from Lee County Conservation 20/20.

## 8. Set Next Meeting Date and Adjourn meeting

- ◆ Ed Hanlon noted a conflict with BCW-RCT meetings and CHNEP meetings on Fridays. We will try to avoid that conflict in the future.
- ◆ The meeting was adjourned at 3:45 p.m.
- ◆ **Next Meeting: Friday, November 12, 2010, 1:00pm – Pepper Ranch (Tentative)**

## EVERGLADES WATER QUALITY TRENDS WITH TIME, 1977-2005

The Florida Everglades is a highly visible symbol of human efforts to preserve and restore the health of our natural system, including both the “River of Grass” and its downstream estuaries. The Everglades National Park (ENP) receives water from a large watershed through a series of water control structures and canals. Most of this water conveyance and control was originally designed for drainage purposes, some dating back to the beginning of the 20<sup>th</sup> century. However, current focus on ecosystem management has also added the need to provide the ENP with water of high quality.

Researchers at the University of Florida Research and Education Centers located at Immokalee and Homestead, Florida, teamed with scientists at the South Florida Water Management District to study water quality records. We hoped to provide insight regarding past and present changes in water quality produced from the complex system of Stormwater Treatment Areas (STAs) and Water Conservation Areas (WCAs) used to control flooding, improve water quality, and finally to supply water to the ENP.

Using water quality monitoring data from 1977 through 2005, we elected to study seven inflows to the ENP for Phosphorus (P) and Nitrogen (N). Five inflows, S12 A through D and S333, were located along the northern boundary of the ENP and received water from a canal running east-west (Fig. 1). In turn, this canal received water from the large conservation area, WCA-3, just to the north of the ENP. All of these structures are located along the Tamiami Trail (Route 41), which links east and west peninsular Florida. Two additional inflows, S18C and S332, were selected on the eastern side of the ENP. These inflows are located 30 miles southeast from the other inflows and receive water from unlined canals.

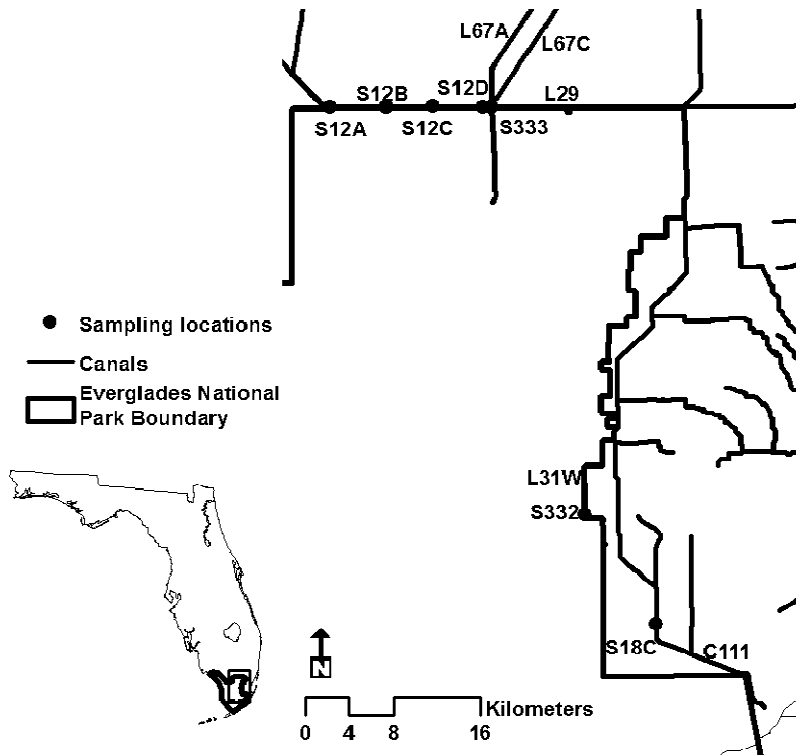


Figure 1. Location of inflow water quality monitoring stations to the Everglades National Park (ENP). Sampling locations: "S"; Canals: "C"; and Levees: "L."

After verifying the data and adjusting for statistical normality, the data were analyzed using Principal Component Analysis (PCA) and Factor Analysis (PFA) without flow adjustments. These procedures allowed us to identify related sampling locations. We found that the northern sampling sites were statistically related and were different from the eastern sampling sites. This finding could be used to reduce monitoring costs, for example. We also showed that water quality entering the northern part of the ENP was different from that entering the eastern inflows. These findings can be used in designing management strategies for targeted water quality improvement and in creating water quality monitoring programs to maximize the amount of variability captured in as few stations as possible.

Further analysis of the data by Locally Estimated Scatter Plot Smoothing (LOESS) produced three distinct time periods of changing trend in total P (TP) (Fig. 2).

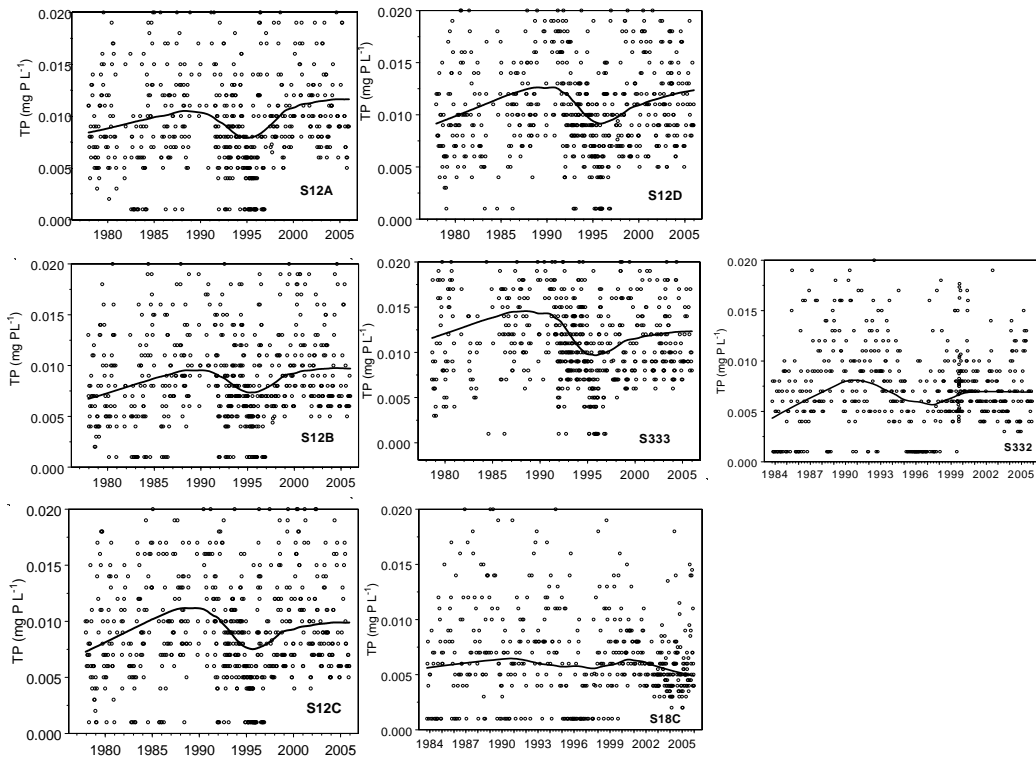


Figure 2. Time series plot of TP at S12A, S12B, S12C, S12D, S333, S18C, and S332 with LOESS smoothing.

Interventions, such as best management practices (BMPs) in the agricultural area to the north and the urban area to the east, have had an impact on TP concentrations. BMPs were implemented throughout the region in the early 1990s, as was the construction and management of STAs. TP concentrations are also likely a function of the complex hydrology of the region, which is partially substantiated by the negative relationship we found between TP and water flow. Hydroperiod in the WCA-3 may also be a contributing factor. Higher water tables in the western part of WCA-3 address the need to avoid seepage toward the east that might adversely affect the highly populated region in the low-lying land inland from the Miami ridge. In turn, higher water tables in WCA-3 affect the vegetation in the tree islands, which are known to contain considerable P, compared to the adjacent sloughs.

Nitrogen generally decreased at inflow sites, indicating that STA and WCA management was contributing to N concentration reduction. However, total N and ammonium-N water quality standards were exceeded at selected sites during the study period.

Ed Hanlon, the lead author of this work, stated that our study results suggest that water quality data analyses could provide additional insight into the success of a restoration management plan and on how monitoring may be modified for more efficient use of resources. Additional research with physical properties monitored at these same inflows to the ENP is ongoing as a cooperative effort between the University of Florida and the South Florida Water Management District.

**Author:** Ed Hanlon, University of Florida, Soil and Water Science Dept., Southwest Florida Research and Education Center

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This article was produced from Q09-0488 (Water Quality Trends at Inflows to Everglades National Park, 1977–2005) to be published in the September-October 2010 issue of *Journal of Environmental Quality*, 39(5).

# Big Cypress Watersheds Restoration Coordination Team

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Friday, November 12, 2010 – 11:00 a.m. – 3:45 p.m.  
Lake Trafford/Immokalee Career and Service Center

## Meeting Minutes

### 1. Airboat/Vehicle Tour of Lake Trafford Restoration Project

- ◆ The BCB office was kind enough to set up an airboat tour of Lake Trafford, through the Lake Trafford Marina, for our quarterly meeting. During the tour, the group was able to see how the restoration efforts have positively affected the lake vegetation distribution and diversity, as well as wildlife populations.
- ◆ The team was also honored to have the construction project manager, Scott Cunningham, join us on the airboat tour, as well as lead us on a tour of the project containment area. Muck from the dredging project was distributed into multiple cells within the containment area, allowing for vegetative growth over time. This vegetation is now being used as a type of filter marsh, where turbid water from Lake Trafford is pumped into the containment area and cleaner, less turbid water is released back into the lake.

### 2. Welcome/Call to Order

- ◆ Megan Andresen called the meeting to order at 2:45 p.m. and welcomed everyone to the Immokalee Career and Service Center.
- ◆ Minutes from the last meeting were reviewed and accepted.

### 3. Introduction of Members

Ananta Nath, BCB SFWMD  
Ed Hanlon, UF/IFAS  
Bob Sobczak, NPS  
Amanda Booth, USGS  
Amber Crooks, Conservancy of SWFL

Kristoph Kinzli, FGCU  
David Ceilley, FGCU  
Mac Hatcher, Collier County  
Megan Andresen, BCW-RCT/FGCU

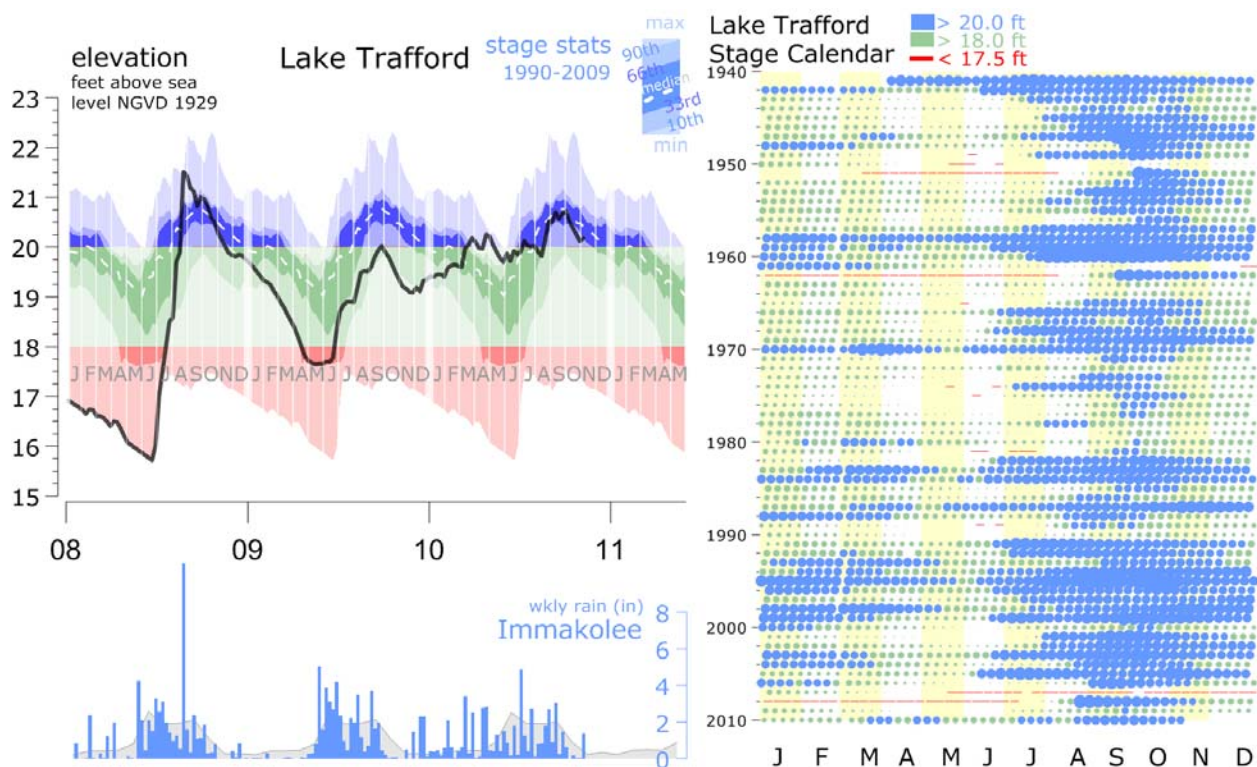
### 4. Lake Trafford Ecological Research – David Ceilley

- ◆ Dave presented work that has been performed at Lake Trafford over the past few years pertaining to ecological restoration of the lake.
- ◆ Phase I, completed about four years ago by Dr. Win Everham and a graduate student of Florida Gulf Coast University, included a literature review and creation of a Lake Management Model.
- ◆ Phase II included the inception of a Lake Monitoring Plan, utilizing the following indices:
  - Lake Condition Index (LCI) – using benthic macro-invertebrates
  - Lake Vegetation Index (LCI)
  - Trophic State Index (TSI) – based on nutrients and algae
  - Shoreline “Forage” Fish Surveys

- ◆ During the drought of 2007, Lake Trafford had little to no benthic vegetation and an LCI of “very poor”. The fish populations were very low, with the dominating species being that of *Gambusia*.
- ◆ Recommendations for Phase III included:
  - re-planting native vegetation to restore native communities.
  - monitoring and maintaining *Hydrilla*.
  - monitoring small fish populations.
  - consider joining the Lake Watch program (program has since been cut).
- ◆ 2008 results showed that when the 2007 drought hit, the lake fish community responded very well, especially Crappie, Grass Shrimp, Tilapia, and Killifish. Tape grass was coming back on its own and restoration seemed to be working.
- ◆ Phase III monitoring has been focused on phytoplankton communities, with almost one year of data collected. Also, the latest LCI has shown a condition of “poor”, but the lake seems to be improving and now that dredging is complete, the LCI should have better results in the future.
- ◆ Next year, Dave would like to see a Lake Management Plan put into action which would include performance measures of success, restoration targets, and an outline of how to monitor the progress of the lake restoration. A Lake Management Team, consisting of all parties involve in Lake Trafford restoration, could facilitate the aforementioned Lake Management Plan.

## 5. Lake Trafford Water Stage Hydrographs – Bob Sobczak

- ◆ Bob discussed two hydrographs for Lake Trafford that he worked up using USGS data, noting the drop in lake stage during the severe drought of 2007 into the winter of 2008 and the relatively average present-day lake stage. (See Hydrographs Below).



## 6. Other Watershed News

- ◆ Bob announced that the twenty-year anniversary report for the monitoring partnership between the Big Cypress National Preserve and the South Florida Water Management District Service is now available online at [www.fgcu.edu/bcw/twentyyearreport.pdf](http://www.fgcu.edu/bcw/twentyyearreport.pdf).
- ◆ Bob also stated that the Big Cypress National Preserve has completed the ten-year general management plan of its addition lands.
- ◆ Amanda Booth announced that the U.S. Geological Survey office in Fort Myers is currently looking for two students to perform groundwater and surface water monitoring, as well as office work.
- ◆ Amber Crooks announced that the State of the Estuaries report is out for peer review from the Conservancy.
- ◆ Ananta Nath noted that the second Picayune pump station is on track, with construction scheduled to start in January/February of 2011.
- ◆ Ananta also stated that there will be a Lake Trafford barbeque sometime in February to celebrate the completion of the restoration dredging project.

## 7. Set Next Meeting Date and Adjourn meeting

- ◆ The meeting was adjourned at 3:45 p.m.
- ◆ **Next Meeting: Friday, February 4th, 2010, 1:00pm – Florida Gulf Coast University**
- ◆ Agenda item for next meeting: Collier County Watershed Update – Mac Hatcher