



The Alliance

Quarterly Newsletter of the Choctawhatchee Basin Alliance

Volume 5.3

July - September 2001

The Choctawhatchee Basin Alliance would like to thank all volunteers who have participated in shoreline restoration projects, the uplands restoration project near East Rocky Creek and water quality monitoring in recent months! A special thanks goes to Scott Jackson (University of Florida Sea Grant agent for Okaloosa and Walton counties), Sandy Pizzolato (Eglin AFB, Jackson Guard) and Jennifer Mathers (Eglin AFB, Jackson Guard) for making these CBA projects successful.

The CBA and the Institute of Senior Professionals invite you to attend the **FutureBay** conference this September - please see below for registration details.

Have a great summer and enjoy the beautiful resources of the Choctawhatchee River and Bay!

MISSION STATEMENT

"The Choctawhatchee Basin Alliance is an organization committed to sustaining and providing optimum utilization of Choctawhatchee Bay. The Choctawhatchee Basin Alliance, under the auspices of the Okaloosa-Walton Community College, provides opportunities for citizens, educators, and technical experts to promote the health of the Choctawhatchee Basin".



The CBA Office is located at the Mattie M. Kelly Cultural and Environmental Institute of Okaloosa Walton Community College, 4141 Indian Trail Road, Destin. The CBA is a program of Okaloosa Walton Community College.

UPCOMING EVENTS

July 14, 2001: CBA Bay Rally Water Quality Monitoring Volunteer Appreciation Party, 11 am at the Mattie Kelly Estate, 4141 Indian Trail Road. All Bay Rally Volunteers are invited.

July 28, 2001: LAKEWATCH/Project Coast Volunteer Appreciation Party, 11 am at Freeport City Hall. Sponsored by LAKEWATCH/Project Coast.

August 1, 2001: CBA Board of Directors meeting at Mattie M. Kelly Estate, 4 pm, 4141 Indian Trail Road, Destin.

September 5, 2001: CBA Board of Directors meeting at Mattie M. Kelly Estate, 4 pm, 4141 Indian Trail Road, Destin.

September 28, 2001: FutureBay Conference

October 17, 2001 (tentative): CBA Quarterly Program

FutureBay: The Choctawhatchee at the Crossroads

September 28, 2001

Eglin Air Force Base, Fort Walton Beach, Florida.



Hosted by the CBA and the Institute of Senior Professionals -

The FutureBay conference will examine the state of Choctawhatchee Bay; examine water quality issues in Florida estuaries; and provide a forum for identifying and discussing ways in which growing populations can live with our estuaries.

FutureBay registration packets can be downloaded from the CBA website at

www.basinalliance.org

For registration packets by mail, contact Deanna Simpson of the OWCC Science Department at: (850) 729-5376, Staci Danko or Erica Mitchell of the Choctawhatchee Basin Alliance at: (850) 650-9330

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ALLIANCE**

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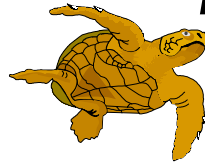
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Board Member of the Month: Sharon Maxwell

Sharon is a member of the CBA Board of Directors. Sharon is the Founder and Coordinator of the South Walton Turtle Watch, which was formally organized in 1995. She holds Florida Sea Turtle Permit #120 from Florida DEP. She has served on the CBA board for over 2 years. After being on the Conservation and Recreation Committee of the South Walton Conservation Trust, she helped organize the Beach to Bay Connection Association in 1996 and is still on the Board of Directors. She has served two years on the Eglin Air Force Base Restoration Advisory Board. She is currently on the Eco-Heritage Committee for Walton County. She has monitored water monthly for the Okaloosa County Aqualab program since the start up in 1996. She spent three years on the Natural Resources Committee for the League of Women Voters. She is now the chairperson for the Northwest Florida Sierra Club and a member of Choctawhatchee Audubon Society. Sharon is dedicated to preserving our natural/native environment to pass on to the next generation.



Sharon Maxwell and the South Walton Turtle Watch Organization



Volunteer Spotlight: Don Roswell and Eric Beshore

Don Roswell is a water quality volunteer for the Destin Team. Don has faithfully donated his time to monitor the quality of our bay. Don also had a great picture in the North West Florida Daily News performing water quality work in the Destin area. Keep up the great work, Don!!!

Eric Beshore is a water quality volunteer for the Niceville Team. Eric works for SAIC (Science Applications International Corporation) and has a passion for Choctawhatchee Bay. His daughter, Heather, volunteers with her Dad and is conducting a multi-year research project on the salinity in Boggy Bayou. Great job, guys!

Bay Rally

CBA Deep Water Quality Monitoring Program

Sampling Locations

Bay Rally is organized to collect data in Choctawhatchee Bay for the purposes of analyzing human and natural impacts on water quality, marine species habitat and recreation. On-site data collected by volunteers examines changes in temperature, salinity, pH, dissolved oxygen and water clarity on the surface and on the bottom on a monthly basis. The Florida Project Coast/LAKEWATCH program at the University of Florida is analyzing samples collected by volunteers for nutrient concentrations (total nitrogen and phosphorus), algae content (chlorophyll) and other parameters.

Funding provided by

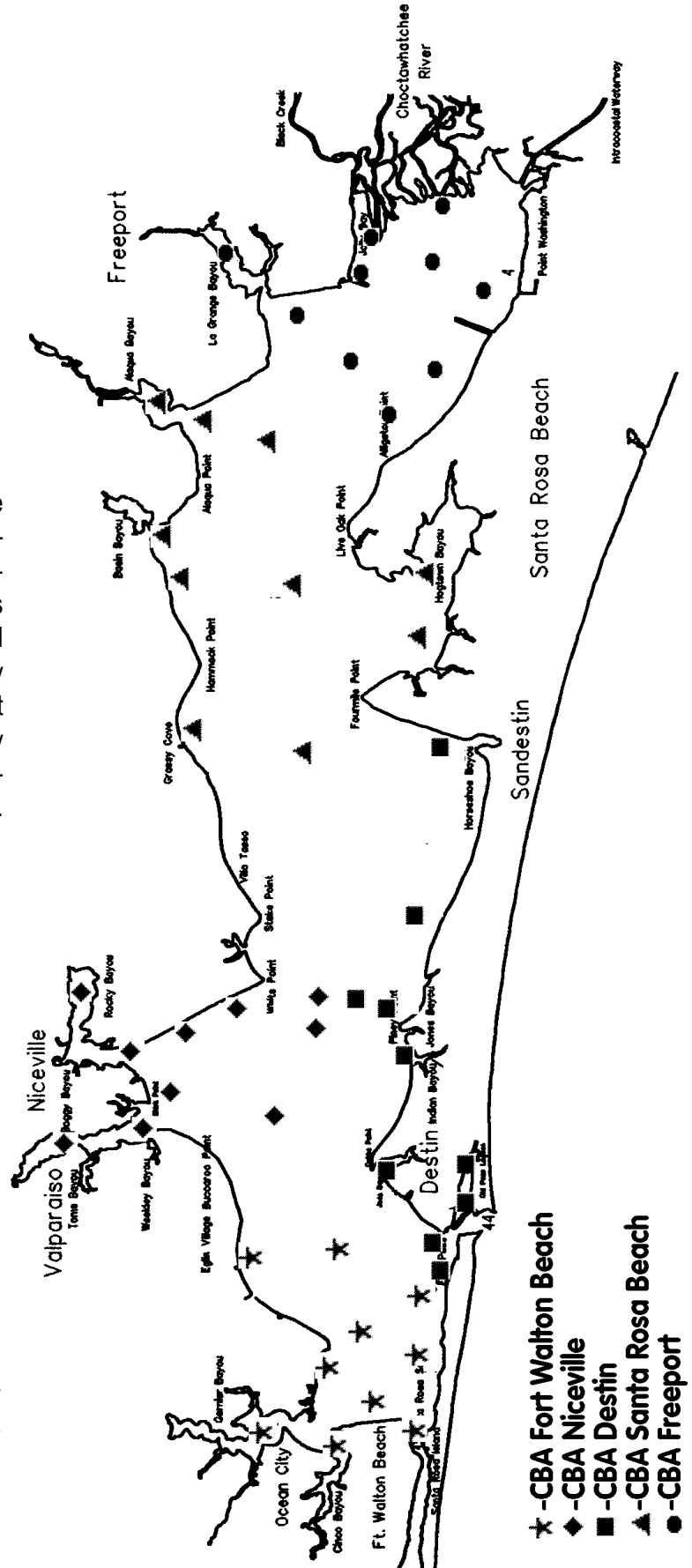
FIFTEENTH ANNUAL



FUNDRAISING AUCTION

Recent News

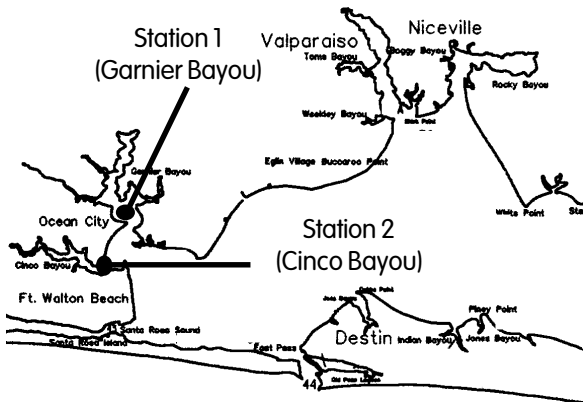
The Santa Rosa Beach Team was organized in June and has begun collecting samples at five locations on a monthly basis. We thank Team Leader Terry Schansman for heading up the effort in Santa Rosa Beach! Santa Rosa Beach Bay Rally Volunteers include Karen Schansman, Jim and Pauline Waters, and Willis and Barbara Young.



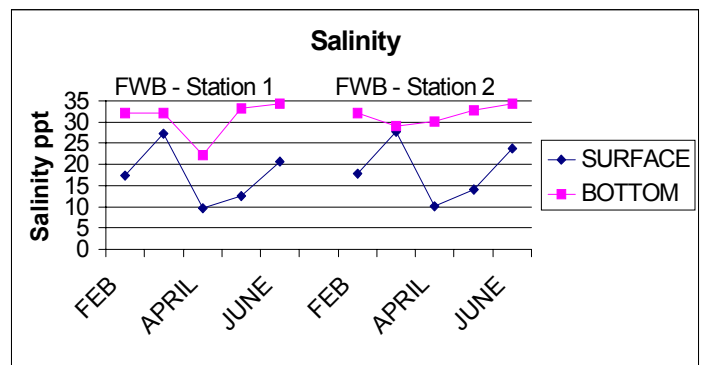
- ★ -CBA Fort Walton Beach
- ◆ -CBA Niceville
- -CBA Destin
- ▲ -CBA Santa Rosa Beach
- -CBA Freeport

Bay Rally

CBA Deep Water Quality Monitoring Program Report on Garnier and Cinco Bayou

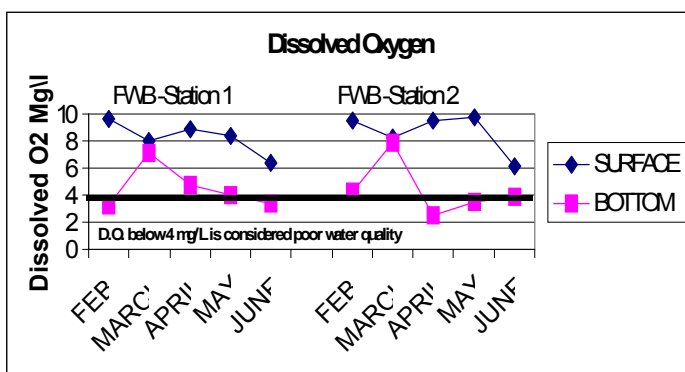


This issue reports water quality data collected over the past six months at two Bay Rally-Fort Walton Beach stations (see figure to left). The CBA-Fort Walton Beach team has collected surface and bottom water quality samples at Station 1 in Garnier Bayou and Station 2 in Cinco Bayou.



The graph to the right depicts the surface salinity and the bottom salinity between the two stations over time. Dr. Skip Livingston in 1986 noted that Choctawhatchee Bay shows a steep salinity gradient from top to bottom. This salinity gradient, also called a salt-water wedge, is created by freshwater input into the bay. Freshwater, which is less dense than saltwater, will form a top layer in the absence of vertical circulation between the surface and the bottom. The amount of rainfall and weather conditions impact the steepness of the salinity gradient. Salinity comparisons between the surface and bottom at Stations 1 and 2 show the gradient in salinity. The April sampling trip showed more freshwater conditions at both sites. Some areas of the watershed received a great deal of rainfall before this sampling trip. All stations across Choctawhatchee Bay in April showed a marked decrease in salinity.

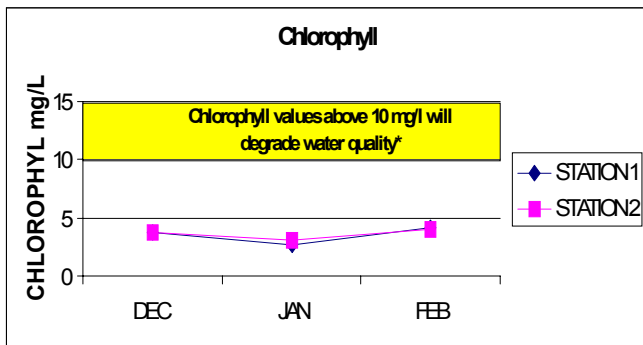
Dissolved oxygen concentrations at the surface and the bottom, as depicted on the left, are an indicator for production and water quality. Just about every marine organism depends on oxygen for survival. Cyanobacteria and phytoplankton (which acts as plants or algae) produce oxygen in the daytime through photosynthesis. Oxygen producing organisms are concentrated in the portion of the water column where there is sunlight penetration. In conditions of low water clarity there is a decreased amount of sunlight penetrating into the water column, and consequently decreased oxygen production. Bacterial decomposition of detritus on the bottom sediments will utilize available oxygen, also contributing to decreased oxygen levels.



Both stations display higher dissolved oxygen concentration on the surface than on the bottom, as expected. The levels of dissolved oxygen may fluctuate seasonally and also with weather conditions. Dr. Skip Livingston in 1986 noted Garnier and Cinco Bayous were periodically low in dissolved oxygen (<4.5 mg/L). Bay Rally data collected over the past six months also shows periodically low dissolved oxygen levels near the bottom at these two stations.

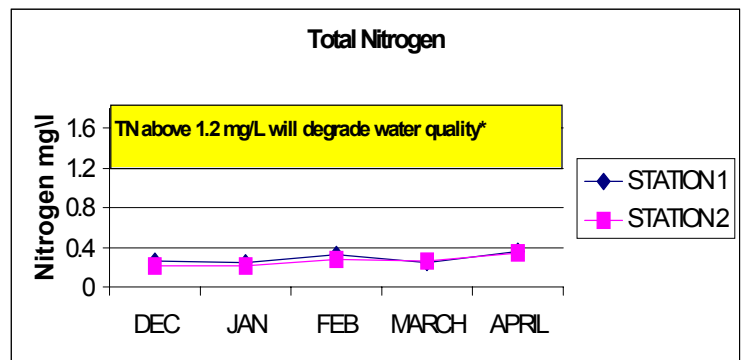
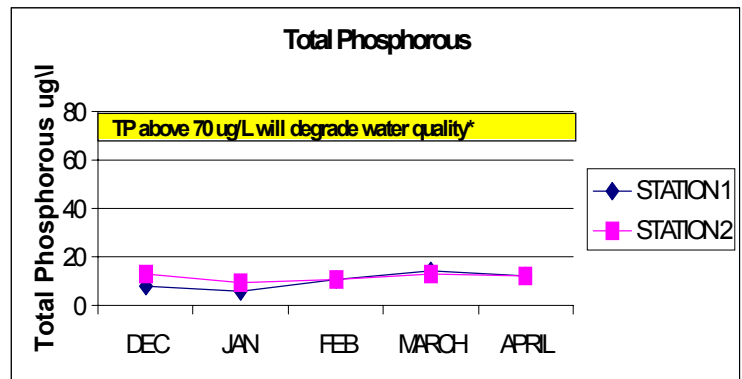
Bay Rally

CBA Deep Water Quality Monitoring Program Report on Garnier and Cinco Bayou



Chlorophyll concentration, which indicates algae quantity, was consistent between the two stations over the winter months (see left). Chlorophyll is lowest in the winter months. As our Bay Rally volunteers collect chlorophyll samples in the summer months, the chlorophyll concentration will increase as a result of warmer conditions and increased daylight hours. The nutrients nitrogen and phosphorus play a vital role in estuarine algae production, just like lawn fertilizer effects the rate of grass growth. The addition of too many nutrients will produce a state of “eutrophication” leading to decreased water clarity and decreased oxygen levels at the bottom of the water column.

Nitrogen and phosphorous may be limiting factors for productivity in freshwater and estuarine systems. In many coastal areas with urbanization, additions of nutrients may cause an overproduction of algae. Rainfall and stormwater runoff highly contribute to the amount of nutrients delivered to a watershed. Long-term nutrient concentrations are required for water quality analysis due to seasonal and weather fluctuations. Garnier and Cinco Bayou showed similar concentrations of nutrients between December 2000 and April 2001. Dr. Skip Livingston’s data over 1985-1986 and Okaloosa County Aqualab data between 1997 and 2000 show concentrations of nutrients within the same range between the two bayous. Okaloosa County Aqualab data indicates that nitrogen levels have steadily increased at one station in Garnier Bayou between 1997 and 2000. All data collected in the two bayous indicates that the level of nutrients is below state standard criteria for excessive nutrient levels.



*The criteria noted on the graphs is derived from the State of Florida’s Trophic State Index which delineates good water quality for the support of Class III waters (recreation, propagation and maintenance of a healthy, well-balanced population of fish and wildlife).

Conclusions

Water quality data in Garnier and Cinco Bayous shows periodic low dissolved oxygen in the lower portions of the water column. Decreased levels of oxygen may compromise estuarine habitat for marine organisms. Bay Rally data, Okaloosa County Aqualab data and Dr. Skip Livingston’s study in 1986 indicate that levels of nutrients at the two station locations are within state standards for maintaining a well-balanced population of fish and wildlife. Aqualab data in Garnier Bayou has shown a steady trend of increasing nitrogen levels between 1997 and 2000. Increasing levels of nutrients may contribute to an imbalance of algae production, therefore it is important to continue monitoring water quality in Garnier and Cinco Bayous.

FDEP Restoration Projects Completed

The FDEP shoreline restoration projects on Okaloosa Island and Camp Timpoochee in Niceville are completed. The CBA, with the help of volunteers, started on these projects in April. After two months of hard work, both sites are done and the marsh/coastal dune vegetation is really growing.

The grant was funded by the Florida Department of Environmental Protection. The project at Okaloosa Island was an addition to a previous grant funded by the US and Wildlife Service at that location. The goal was to install native coastal vegetation and native coastal dune vegetation. The purpose of installing these plants was to help increase the shoreline stabilization and habitat. Between these two sites, volunteers planted approximately 14,500 plants during the FDEP Restoration project. There were a total of 5 different native species that were planted:

Species Common Name	Scientific Name
Black Tipped Needle Rush	<i>Juncus roemerianus</i>
Sawgrass	<i>Cladium jamaicense</i>
Saltmeadow Cordgrass	<i>Spartina patens</i>
Sea Oats	<i>Uniola paniculata</i>
Coastal Panic Grass	<i>Panicum amarum</i>

The CBA installed four sediment curtains covering a 500-foot section of the shoreline at the Okaloosa Island site. These structures are temporary and are used to help minimize the wave energy onto the shoreline. The curtains are doing a good job in preventing the erosion of the shoreline and are allowing the marsh species to flourish.

The upland species (sea oats and coastal panic grass) are also doing very well at both sites. The Panic Grass are growing at an impressive rate and look great. The sea oats that were purchased were not well rooted when they arrived. However, with the excellent work done by the volunteers who installed a substance called Stockosorb, which is used for hydration, the sea oats are now doing very well and are growing.



Okaloosa Island after installaion of plants and sediment curtains

There were many volunteers that helped to complete this project. Some of the groups that donated their time and effort in the restoration project were the Okaloosa –Walton Community College Collegiate High School, 4-H groups from surrounding counties, a class from E-Ma-Chamee, the Emerald Coast Parrothead Club, OWCC Biology class, and CBA Members. A special thanks also goes out the following: Scott Jackson (University of Florida extension agent) Jennifer Matthers, and Sandy Pizzollato from the Jackson Guard. Again, the CBA thanks every individual that helped plant with us and we look forward seeing you in upcoming events.

Choctawhatchee Living with the Bay Program a Huge Success

On June 16, 2001 the CBA held an educational program at OWCC entitled Living With the Bay: Choctawhatchee Yards and Neighbors. The Echo Center in Pensacola and Wild Birds Unlimited in Destin financially sponsored this event. The program was an informational seminar about employing the best environmental practices for one's yard. Some of the topics that were discussed were the benefits of installing vegetative buffers along the shoreline, how to prevent pointless personal pollution and how to maintain low maintenance native landscaping.

Many displays were at hand to inform the public about native plants and water conservation. The nurseries that attended were the Gourd Garden, Garden Gate, Clear Springs Nursery, and Morningstar Nursery. In addition the Walton County Health Department, Okaloosa County Water and Sewer, University of Florida IFAS (Institute of Food and Agricultural Sciences), and the CBA all had great displays. Heather Beshore, a senior at Niceville High School, also attended with her science fair project. Her project concentrated on the salinity in Boggy Bayou.

Scott Jackson, University of Florida Sea Grant Extension Agent for Okaloosa and Walton counties; and Larry Williams, University of Florida Horticulture Agent for Okaloosa county, were both guest speakers. Seats were filled when these presentations were given. Scott discussed the history and the importance of the bay to our area. In addition, Scott discussed the effects of the growing population in our area and how it impacts the health of the bay. Larry discussed how to practice water conservation and irrigation in regards to lawn maintenance. He informed the public about the benefits and disadvantages of propagating different grass species in our area and the advantages of installing native plants.

Many local business and displays donated some of their products to be given away as door prizes. The door prizes ranged from native plants to water conservation kits. The grand prize was an elegant butterfly garden donated by Morningstar Nursery.

The CBA would like to thank all of the volunteers and displays how helped make this program an extremely successful event. We sure appreciate your time and energy.

The Choctawhatchee Basin Alliance

“Striving to Protect and Enhance the Resources of the Choctawhatchee River Basin”

I am so excited, I want to join now!

Name _____

Address _____

Telephone (Home) _____

Telephone (Work) _____

e-mail address _____

Additional Donations _____

CBA T-Shirt (\$15 by mail) _____

Total Enclosed _____

- Individual or Family **\$25 annual**
- Senior Citizen **\$15 annual**
- Full-time Student **\$5 annual**
- Lifetime **\$250**
- Bronze Alligator Sponsor **\$250 annual**
- Silver Osprey Sponsor **\$500 annual**
- Golden Dolphin Sponsor **\$1,000 annual**
- Platinum Sturgeon Sponsor **\$2,500 annual**

I am so excited about Volunteer Opportunities! I am willing to assist with . . .

- Marsh Grass Restoration
- Water Quality Monitoring
- Speaker’s Bureau
- CBA Information Booth
- Children’s Educational Activities
- General Education
- Newsletters/Brochures
- Grant Writing
- Fundraising
- CBA Office
- Whatever



The Alliance

A big THANKS goes to Sandy Pizzolato of Eglin AFB who recently lead a tour of the East Rocky Creek sediment stabilization site on Eglin AFB. Members of the Panhandle Native Plant Club and the CBA attended the educational tour. Sandy has been overseeing the CBA-funded streamside restoration project. Sandy coordinated a group of boy scouts to install native plants and grasses for stabilization of the erosion area. The next phase of the project is to provide an educational program on the benefits of stream side restoration with native vegetation.



Sandy Pizzolato leads a native plant tour on Eglin AFB



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Dennis Peters - 250 Gallon Aquarium
Charter Boats Seascope, Twilight, Sunrise and Fish Story
SAC - Computer Hardware and Monitor
Kelly Plantation Garden Club - donation for native plant signs



Black Tipped Needlerush
(*Juncus roemerianus*)

New and Renewed Members:

Kathryn Bastain
Carolyn Chesser
Garrett Reality Services Bronze Alligator Sponsor
Donald Hefner
Mitizi Higley
Sam Stevenson
Dr. Forrest Townsend Jr
Joan/Dale Whitney



Saltmarsh hay
(*Spartina patens*)