



Photo by Steve Alexander

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**A Master Naturalist Journey** by Diane Humes, President 2010

From April 2010 to this writing, many chapter members have patrolled the Galveston beaches for sea turtles. Joining the team this year, I have walked the beach nearly every week. To my astonishment, the beach presents a different aspect each time I view it. One week, lion’s mane/cabbage head jellyfish every few feet, the next, three times as many Portuguese man-of-war. Then come the dead birds - beautiful spring migrants that just couldn’t make it. Following a drenching rain, the beach is eroded from the landward side, water spilling over and under the seawall, forming deep gullies and carrying all that expensive sand out to sea. A big holiday weekend brings mountains of trash; waves at sea deposit deep wracks of Sargassum, with treasures and trash from the ocean. I have found a “message in a bottle,” but not yet a sea turtle, although others have.



My Turtle Patrol experience reminds me of my master naturalist journey. Since taking the training class, I have learned and done many things, but not always what I expected to learn or do. For example, who would have guessed, five years ago, that I would be making PowerPoint presentations and using technology enough to get my very own laptop computer? Or, that I would like water testing and playing in the mud? Yet, many of these new ideas and activities have become very important to me.

The hallmark of the master naturalist journey is to be open to new ideas, find and use your talents, buoyed by food, fun, and friendship with your fellows. You might find an endangered sea turtle, or not, but you will be outside, learning and doing, enjoying the sun and wind, making a contribution. Keep up the good work! See you at the beach, prairie, wetland, or in the classroom.

**Next Chapter Meeting**

August 5<sup>th</sup>

Native Grasses of the  
Coastal Prairie

By

Flo Hannah  
Houston Audubon

At Carbide Park

## August and September Activities

### ADVANCED TRAINING OPPORTUNITIES

#### Chapter Meeting - August 5<sup>th</sup>

Presenter: Flo Hannah, Houston Audubon, will cover Native Grasses of the Coastal Prairie.  
6:30 Social, 7:00 Presentation, 8:00 business meeting  
Carbide Park 1 Hour AT

#### Photo Composition Workshop - August 5<sup>th</sup>

Carbide Park Board Room  
4:30-6pm 2 Hours AT  
Cost: Free  
Bring your camera and your camera manual. Very limited space.  
Presenter: Steve Upperman, Project lead: Louise Bell  
For more information, contact Emmeline Dodd  
[txdodd@aol.com](mailto:txdodd@aol.com)

#### August Sky - August 12<sup>th</sup>

Walter Hall Park  
7-9:30pm 2.5 Hours AT  
Cost: Free  
The AT team is bringing a portable planetarium for a tour of the summer sky. Diane Humes will display the constellations that can be seen on hot summer nights, especially from the beach.  
Presenter: Diane Humes and Allan Treiman  
Project lead: Barbara Rabek  
For more information, contact Barbara at  
[brabek@sbcglobal.net](mailto:brabek@sbcglobal.net)

#### Paddling Workshop - August 28<sup>th</sup>

Clear Lake Park on Mud Lake  
8:30am - 3pm Variable Hours of AT  
Cost: Free, but must bring your own kayak  
Presenter: Vic Madamba Project lead: Vic Madamba  
For more information, contact Vic Madamba [vik-n-rumi@att.net](mailto:vik-n-rumi@att.net)

#### Night Prowl - September 9<sup>th</sup>

Texas City Prairie Preserve  
7:30-9:30pm 2 Hours AT  
Cost: Free  
Hayride and night insect study  
Presenter: Emmeline Dodd and TCPP Staff, Project lead: Mel Measeles  
For more information, contact Mel Measeles  
[measeles@swbell.net](mailto:measeles@swbell.net)

#### Prairie Plants - September 23<sup>rd</sup>

Armand Bayou Nature Center  
Time TBD Hours AT TBD  
Cost: Free  
Plant identification  
Presenter: Dick Benoit, Project lead: Frank Budny

For more information, contact Frank Budny  
[fmbmab@verizon.net](mailto:fmbmab@verizon.net)

#### Ongoing

Galveston Island State Park  
Every Saturday - Beach Explorations  
Every Sunday - Bay Explorations  
10 am. Meet at the Nature Center  
Tours are 1 to 1 ½ hours long.  
Prepare for sun and mosquitoes.  
Bring water and family.

#### Heritage Book Study Group

First Monday of every month  
Texas City Prairie Preserve  
10am - Noon 2 hours AT  
Contact: Elsie Smith (409)945-4731  
We are currently reading:  
*Edge of the Sea* by Rachel Carson

### STEWARDSHIP OPPORTUNITIES

#### Prairie and Wetland Restoration

##### Texas City Prairie Preserve

Prairie Restoration Planting Dates:  
Tuesday, September 21, 2010 - 9 AM - Noon  
Tuesday, October 12, 2010 - 9 AM - Noon  
Saturday, October 30, 2010 - 9 AM - Noon

##### Armand Bayou Nature Center Prairie:

Thursday, September 23, 2010 - 9 AM - Noon  
Prairie Plants, Remnants, and Restoration of Galveston Bay Area Workshop  
Saturday, October 16, 2010 - 9 AM - Noon  
Prairie Pandemonium

If you can attend any of the above, please contact Dick Benoit [rbenoit@aol.com](mailto:rbenoit@aol.com)

##### Coastal Prairie Partnership Conference:

Thursday/Friday, November 4 and 5, 2010  
All Day Thursday at Houston Zoo  
All Day Friday Field Trips

##### Ongoing Activities:

Mondays - Reitan Point, second and fourth, Contact: Liz Gimmler [gimmler@consolidated.net](mailto:gimmler@consolidated.net)  
Tuesdays -

- Sheldon Lakes State Park, Contact: Tom Solomon [crandtr@sbcglobal.net](mailto:crandtr@sbcglobal.net)
- Texas City Prairie Preserve, Contact: Marybeth Arnold [mbarnold@aol.com](mailto:mbarnold@aol.com)

Wednesdays - Wetland Restoration Team, Contact: Marissa Sipocz [m-sipocz@tamu.edu](mailto:m-sipocz@tamu.edu)

##### Fridays-

- Prairie Friday, ABNC, 9 - Noon Contact: Dick Benoit [RBenoitTEX@aol.com](mailto:RBenoitTEX@aol.com)

## EDUCATION-OUTREACH VOLUNTEER OPPORTUNITIES

Bay & Island Adventures - Volunteers teach six in-class hands-on modules (water, Galveston Bay, wetlands, coastal prairies, birds, Gulf of Mexico) on a once a month basis in Dickinson and Galveston Schools. Presenters and helpers are needed for eleven 4th and 5th grade classes. Contact: Sara Snell [snellsw@verizon.net](mailto:snellsw@verizon.net).

Jr. Master Naturalist Club - Volunteers guide twenty-five 5th graders of Galveston's Austin Magnet School as they conduct experiments, build models and do other activities that give them a deeper understanding of the six topics taught in the Bay & Island Adventures program. The club meets every Wednesday after school and takes six Friday fieldtrips. If you have an interest in conducting one of the modules, helping

guide the kids through the activity or observing what goes on, contact Sara Snell [snellsw@verizon.net](mailto:snellsw@verizon.net).

Education and Outreach Committee - Lots of work to do and we can use your help developing a speakers bureau; responding to requests for exhibit booths, fieldtrip guides and presenters, planning Camp Wild and Treasures of the Bay; and developing a library of education-outreach materials. Contact Sara Snell [snellsw@verizon.net](mailto:snellsw@verizon.net).

Partner and Associate Programs - Many organizations sponsor guided walks and education programs or need volunteers to man their nature center. Go to [www.gbamasternaturalist.org](http://www.gbamasternaturalist.org) click on "Volunteer Opportunities," then click on "Partners, Sponsors and Associates" for the list, then click on their website for information and contact.

## Prairie Ponderings by Dick Benoit

Aldo Leopold wrote about prairies in the early 1900's from the state of Wisconsin. He wrote in *A Sand County Almanac* in 1949, "The Remnants ...No living man will see again the long-grass prairie, where a sea of prairie flowers lapped at the stirrups of the pioneer. We shall do well to find a forty here and there on which the prairie plants can be kept alive as species. There were a hundred such plants, many of exceptional beauty. Most of them are quite unknown to those who have inherited their domain."



We have to consider that in our area we indeed have some areas in excess of these 40 acres. Armand Bayou Nature Center has potentially 600 acres, Sheldon State Park has about 400 acres, U of H Coastal Center has 150 acres, Texas City Prairie Preserve has a potential of 2,000 acres, Galveston Island State Park has a few hundred acres, League City Prairie has 44 pristine acres to name a few. Virginia Point Prairie and The Hitchcock Prairie are as yet undeveloped areas.

Also, the seed base area is extensive. Seeds are found in the above mentioned areas, and also along right of ways and undeveloped properties. We are indeed blessed with remnants and a seed base that only requires we be stewards of these invaluable resources.

**Armand Bayou Nature Center Prairie** has continued with its lighthouse prairie restoration efforts, with a dedicated team that continues to be a model of prairie restoration in the area. **Sheldon Lake State Park Prairie** continues to restore both its prairies and wetlands to historic dimensions. **Texas City Prairie Preserve** has had its best first half of the year in restoration, with the fall plantings growing this summer. Both SLSPP and TCPP have Basketflowers blooming from seed balls scattered in them this spring. **Reitan Point Prairie** is also well established.



Galveston Island State Park's dunes and prairies are well on their way to recovery, with plans for the future in the works. Our work with Houston Audubon on **Horseshoe Marsh Prairie** has also moved significantly forward this first part of the year. **League City Prairie Preserve** is at the top of League City's Park planning agenda. The fate of **U of H Coastal Center Prairie** is still in doubt, but the good news that has excited the prairie enthusiasts is that the Nature Conservancy has purchased the **Nash Prairie** and adjoining prairies in West Columbia.

Make plans this late summer and fall to get out and enjoy one of our local prairies and, if so inclined, participate with one of the teams or sign up for one of the fall events.

Thanks,

Dick

## Wetland Wanderings by Diane Humes

As we say in the Wetland Restoration Team, "just add water." Most life on Earth requires water. Wetlands, including the connecting streams, bayous, and rivers, can be corridors - highways - for plants and animals that like water. Some, like the American alligator, belong. Others don't.



The eight species of carp residing in the U.S., collectively called "Asian carp," are actually from Asia and Eurasia. Bighead, silver, black and grass carp are considered invasive nuisances in the Mississippi River basin, where they have been seen in high abundance from South Dakota to Louisiana.

The fear now is that silver and bighead carp may be entering Lake Michigan from the Chicago River aka the Chicago Sanitary and Ship Canal. Note, the Chicago

River flowed INTO Lake Michigan until about a century ago when its direction was reversed to carry Chicago's wastewater away from the lake and down the Mississippi. Thus, the invading fish now have one lock separating them from the entire Great Lakes ecosystem.

What about corridors closer to home? The South American capybara, *Hydrochoerus hydrochaeris*, has been photographed in Horsepen Bayou, at Armand Bayou Nature Center. How did it get here? - not sure, but capybara have been reported along Dickinson Bayou for a few years.



This guinea pig relative lives in wetlands, eating aquatic plants, grains, and fruit. It breeds at two years of age and produces 1 to 8 young each year. The young are able to see, walk and eat right after birth. Their normal predators are jaguars, caimans, ocelots, harpy eagles, and anacondas - all noticeably absent from Armand Bayou. Perhaps the alligators can take the job.

Yours in the mud,

Diane



## Master Naturalists Essential to Camp Wild 2010 by Mary Jean Hayden

Since our ninth Camp Wild was my last as camp coordinator, I hope you'll allow me a bit of reminiscence.

The first, in June 2002, was conducted by just six of us, three of whom are still doing the camp - Linda Ercole Musso, David Hayden and me. We split the 18 kids from Galveston's Boys & Girls Club into three groups and, working as both instructors and counselors, rotated them through crafts, beach, crabbing, bay and ropes - no kayaking, no birding, no photography, no fishing, no dissections, no insect collecting, but plenty of time for games and group fun. Lunch was funded by the Jesse Tree - PB and J sandwiches or sliced up subs with hot dogs & watermelon on Friday. As for every camp since, Friends of Galveston Island State Park have sponsored the camp and GISP staff have supported the effort and helped out when they could.

Some important milestones include: GBAC-TMN got involved in 2003 and have co-sponsored camp ever since, i.e., FoGISP funds and GBAC-TMN staffs the camp. And, oh my, what amazing skills you MN volunteers provide as both instructors and counselors! We were then able to expand and improve modules.

Acquiring grant funding - twice from the Kempner Foundation and, in 2004, through a TPWD Community Outdoor Outreach Grant, which paid not only for the usual expenses of bus transportation and food, but also for expensive equipment that is still used for every camp as well as for other FoGISP programs, i.e., laptop, projector, binoculars, cameras (lost in Ike), microscope, and nets.



Recruiting first Maureen Myers, then Tawy and Cliff Muehe and Lynn Smith to handle the food acquisition, preparation and serving - ahh, what a relief and what a significant improvement in the menu!

Dawn Bellow of TPWD's Houston Outdoors program providing kayaks! This module instantly became the most popular, even though winds the first year only allowed the kids in the water for 10 minutes while tethered to Dawn or her daughter. Once Vic Madamba and MN crew joined in as expert instructors, Dawn was freed up though she still, thankfully, supplies the boats.



Last year and this, our MN Education Team took over coordination, so I've hardly had a thing to do other than recruiting volunteers and ordering supplies. Bill Ashby got announcements out to every Galveston 4th & 5th grade; Bev Williams handled registrations; Tawy & Cliff Muehe with Lynn Smith's indispensable help took care of the food (which always gets highest ratings from campers), and Tawy, omigosh, what a wonder, handled on-site administration, making schedules, developing certificates, tracking spending, developing budgets, etc. She and her assistants see that everything runs like a well-oiled machine.

And next year, we'll have another Camp Wild, but I'll just bop-in as a counselor. It's in great hands! Thanks to all this year's wonderful volunteers - too many of you to mention!



## Lilacs and Lagerstroemia by Diane Humes

"In the door-yard fronting an old farmhouse, near the white-wash'd palings,  
Stands the lilac bush, tall-growing, with heart-shaped leaves of rich green,  
With many a pointed blossom, rising, delicate, with the perfume strong I love,  
With every leaf a miracle.....and from this bush in the door-yard,  
With delicate-color'd blossoms, and heart-shaped leaves of rich green,  
A sprig, with its flower, I break."

"When Lilacs Last in the Door-yard Bloom'd"  
from *Leaves of Grass* by Walt Whitman

Many plants have a nearly world-wide distribution, thanks to introductions by man, as I was reminded during a recent trip to Europe. I saw lilacs blooming - the same

plants that are fragrant emblems of home and spring and well-known to us northern transplants to the Texas Gulf Coast. Lilac trees traveled from Turkey to Europe around 1550, brought by Ogier Ghiselin de Busbecq. Envoy from the Holy Roman Emperor Ferdinand I of Austria to the court of Suleiman the Magnificent, he introduced garden lilacs and tulips to European gardeners. Only a few cultivated varieties were known until the 19th century, when lilac breeding became very popular in France and Holland. Today, more than 2000 named lilac cultivars exist.

By 1650, French and Dutch settlers were bringing lilac seeds to America; English settlers began planting lilacs around 1750. George Washington grew lilacs at Mount Vernon and Thomas Jefferson planted them in his garden at Monticello. Lilacs are hardy and long-lived

plants and often mark the locations of abandoned homesteads - planted around homes long ago for their beauty and sweet scent.



Although worldwide the lilac genus comprises more than 20 species, *Syringa vulgaris*, named by Linnaeus, is the common garden-variety. *Syringa* is from the Greek *syrinx*, meaning "pipe". Lilac wood is quite pithy and easily hollowed out; the Turks often used it to make pipes. The common name comes from the Arabic *laylak*, meaning "blue". Lilacs belong to the Olive Family and are most closely related to *ligustrum*. Gardeners in this country have prized lilacs for 350 years.

Gardeners on the Texas Gulf Coast, however, cannot grow the sweet-scented lilacs of temperate climes. Instead, they substitute the summer-flowering Common Crape myrtle, *Lagerstroemia indica*, a member of the Loosestrife Family. Also named by Linnaeus, Crape myrtles, although ubiquitous, are no more native to the North American continent than lilacs. They come from China and Korea, a genus consisting of about 50 species found throughout the warmer areas of India, Asia and Oceania, named for Magnus von Lagerström, a Swedish merchant and supplier of plants to Linnaeus. Crape myrtles were first introduced to America in 1790 by French botanist André Michaux in Charleston, SC.

After 200 years of cultivation, breeders now offer Crape myrtles in a huge number of varieties that may be found anywhere in US gardens south of USDA zone 6, and also in southern France, Spain, and throughout Italy. They are prized for their colorful and long-lasting flowers with colors running the gamut from purple through red to white, although not in yellow or orange.

Both lilacs and Crape myrtles have spread around the globe, far beyond their native habitats, thanks to the deliberate efforts of man. Neither plant has become invasive, despite several centuries of foreign habitation; they are well-behaved and stay inside the fence. Many other species of plant, animal, and microbe have been transported around the world, either deliberately or inadvertently, ever since there have been people. The horrible, unwanted pest species that defy eradication threaten ecosystems and pose great challenges to restoration, as we know. Predicting which species will become invasive and managing them is one of the great challenges of our time.



Ecosystems are, and always will be, dynamic systems, with species changing according to variables present at any given time. However, world-wide human-induced change has proceeded at an unprecedented rate and is projected to continue. Land use change, primarily to agriculture, has affected all biogeographical areas; the majority of the world's biomes have been greatly modified. Reservoir storage behind large dams is now estimated to be three to six times the amount held in rivers. Roughly 20% of the world's coral reefs have been destroyed and another 20% degraded. Of major animal and plant taxa, 12 - 52% are threatened with extinction. The most rapid ecosystem changes are occurring in developing countries; developed countries have experienced comparable changes, historically.

According to the Millennium Ecosystem Assessment (2005), Earth's biodiversity is changing and being lost at rates exceeding those of the historical record by several orders of magnitude because of many factors, but, chiefly, land use change, climate change, invasive species, overexploitation, and pollution. Although it is difficult to quantify the biodiversity of a "pristine" ecosystem, it is possible to determine the ecosystem service it provides. Loss of biodiversity means loss of ecosystem services - those amenities provided by the environment that we get for free and tend to take for granted, including, but not limited to, detoxification, carbon sequestration, climate, pollination, water purification, and invasion resistance.



Certainly it seems far better and cheaper of time, energy, and money to save an undisturbed ecosystem than to restore it, but much land already disturbed. Ecologists have coined a new phrase "novel ecosystem" to denote land that is neither urban nor devoted to agriculture, but heavily influenced by humans, most likely containing a unique combination of species - native and non-native - that would not exist without habitat disturbance, alien species introduction, or other ecosystem changes. Erle Ellis at the University of Maryland has calculated that at least 35% of the world's land surface could be classified as "novel ecosystem". Novel ecosystems, most likely considered weedy or trashy, may be stable or transient, are likely to increase across the Earth. These can be difficult to restore to natural condition - if we know what "natural" is - but some have been shown to perform the same ecosystem services as wild lands and provide habitat for native species.

So, the pragmatic ecologists think that these "junk" patches are worthy of further consideration and study; they are certainly abundant and not going anywhere anytime soon. Probably here to stay, just like the lilacs and Crape myrtles.

### Common Lilac

Kingdom  
Plantae - Plants  
Division  
Magnoliophyta - Flowering Plants  
Class  
Magnoliopsida - Dicotyledons  
Order  
Scrophulariales  
Family  
Oleaceae - Olive family  
Genus  
*Syringa* L. - lilac  
Species  
*Syringa vulgaris* L.

Shrubs or small trees, deciduous, leaves simple, opposite, heart-shaped, tubular corolla, lilac to mauve, occasionally white, dense, terminal panicle, fruit a brown capsule, splits to release two winged seeds

### Common Crape Myrtle

Kingdom  
Plantae - Plants  
Division  
Magnoliophyta - Flowering Plants  
Class  
Magnoliopsida - Dicotyledons  
Order  
Myrtales  
Family  
Lythraceae - Loosestrife family  
Genus  
*Lagerstroemia* L.  
Species  
*Lagerstroemia indica* L.

Small tree, deciduous, leaves simple, opposite, flower a panicle, white, pink, red flowers, fruit a 6-parted brown capsule

#### Sources:

Global Ecology and Biogeography, (Global Ecol. Biogeogr.) (2006) 15, 1-7. Novel ecosystems: theoretical and management aspects of the new ecological world order. Richard J. Hobbs, et al.

Published online 22 July 2009 | Nature 460, 450-453 (2009) | doi:10.1038/460450aEcology: Ragamuffin Earth. Emma Marris.

Millennium Ecosystem Assessment, 2005, Ecosystems and Human Well-being: Biodiversity Synthesis. World Resources Institute, Washington, DC.



## Arribada on the Upper Texas Coast by Ellen Hufft

May 19, 2010 was the day many of us had anxiously awaited. At 7:10 am on this day, while doing his morning ATV patrol on Bolivar Peninsula, Dr. Andre' Landry spotted the first 2010 Kemp's ridley nester on the upper Texas coast. He quickly notified NOAA and researchers from Texas A&M University at Galveston. And so began a day-long process in which a number of our own Master Naturalists, including myself, had the distinct pleasure to participate. It was a day we will never forget.

After a spirited drive down Seawall Boulevard and a ferry ride that seemed to last forever, we arrived at the nesting site to find Dr. Landry kneeling in the sand next to a breathtaking beauty, a female Kemp's ridley. She was covered in sand and a wet towel to protect her from the sun. She was quickly transferred to a container for transport back to the NOAA facility in Galveston where the team would do blood work, biopsies, and satellite tagging before releasing her back into the Gulf of Mexico.



On site at the beach, the team went to work documenting the nester, her crawl marks and the nesting site. Sand samples were taken from the top of the nest site and then gentle hand probing began to find the hollow containing the eggs. Then we began the process of excavating the eggs for transport to the Padre Island National Seashore facility for incubation and subsequent release.

The first glimpse of the ping pong ball-like eggs gave no hint of the 79 eggs that would be eventually excavated. The eggs were picked up one by one and gently placed in a Styrofoam ice chest packed with sand from the nest. Because the sex of the hatchling turtles is determined by the temperature of the nest, a thermometer probe was placed in the nest to monitor the temperature. The 79 eggs retrieved were covered with more sand from the nest and secured in a transport frame. Additional sand samples were taken from the nest and then the onsite process was complete.

At this time, word was received of a second nesting turtle on Hershey Beach on Galveston Island's west end. Another team was dispatched to work that site. Then there was another call for a third nesting turtle on Surfside and then another nest on Bolivar Peninsula. It seemed we were having our very own arribada, a Spanish term meaning "arrival" used to describe a mass nesting of sea turtles, common to the Kemp's ridley.

After all three nesting turtles arrived at the NOAA facility, the Texas A&M University at Galveston researchers were very excited to realize the turtle found on Hershey Beach was a product of the discontinued Head Start Program in Galveston where she was hatched and released in 1989. "Missy", as she is called, has nested in this area twice before and has been tagged several times. The Head Start Program etched a specific area on the carapace of each hatchling to identify the year of release from the program. If any turtles returned to the area to nest they could then be identified as a head start turtle and the year of release could be identified by the placement of the etching on the carapace.

After the blood work and biopsies were done, satellite tracking devices were placed on the turtles. They were now ready for release into the gulf. They were loaded and a caravan of trucks and cars made their way down to Stewart Beach where all three turtles were placed on the sand and to the cheers of researchers, students and members of our Master Naturalist group, the turtles crawled out into the Gulf of Mexico carrying our hopes they will one day nest again in the Galveston area. In the meantime, satellite tracking devices will provide the researchers with important information on where the

turtles travel for foraging until they're ready to return one day to nest again.

As of June 26, 2010, 15 nests have been found on the Upper Texas Coast. To date, approximately 20 of our Master Naturalists have participated in these patrols and as such we have become an integral part in the preservation and restoration of the endangered Kemp's ridley sea turtle.

*Editor's note:* Patrols for 2010 will conclude July 15. If you have been unable to participate to date but would like to become involved, please watch for future notices regarding the February 2011 sea turtle workshop for Master Naturalists and next years sea turtle patrols which begin April 1, 2011.



## Phytoplankton Monitoring Network Training by Sally Paulissen

The Phytoplankton Monitoring Network (PMN) is an outreach program for monitoring marine phytoplankton and harmful algal blooms (HABs). The PMN increases public awareness of HABs and supplies data to scientists.

Jeff Paternoster, Program Coordinator for the Phytoplankton Monitoring Network (PMN) turned Texas City Prairie Preserve into a phytoplankton lab. Jeff shipped eight microscopes and traveled from his NOAA office in Charleston, SC to train us. With his energetic lessons, Jeff taught about phytoplankton's crucial role in the food web, in oxygen production, in bioaccumulation of toxins, and as an environmental indicator. We learned about harmful algal blooms, or HABs - which can produce toxins, deplete oxygen the water, or clog fish

gills. HABs can force beach closures, interrupt commercial fishing, and disrupt the economy. Consumers eating affected fish or shell fish may experience severe health problems; consumers include people as well as marine mammals and seabirds.

Remember the Alfred Hitchcock's classic film, "The Birds"? The movie may have been inspired by a 1961 toxic bloom of the diatom called *Pseudo-nitzschia*. Domoic acid, a neurotoxin, was produced by that bloom. Sea birds fed on affected fish. Hundreds of birds died and some crashed into houses.

There are only a few phytoplankton that PMN volunteers watch for, so we learned easy ways to identify them by shape ("the doughnut", "the evil princess", "the

carpenter's ruler") and practiced saying their names (*"Pro-to-pe-ri-DI-ni-um"*). For pronunciation help, we can turn to the PMN website. Also, there is a free app for the iPhone called "Phyto" which offers phytoplankton photos and pronunciation. Jeff pointed out that a celebrity was in our midst, for the creator of that application was none other than our own Shawn Gano!

A jaunt to Dickinson Bayou boat ramp let everyone take a turn towing a plankton net, rinsing plankton from the net, and collecting a sample. We measured salinity with a refractometer. Back in the classroom, each person made a gridded slide and looked through a microscope to begin the phytoplankton hunt. Jeff zoomed from scope to scope confirming identifications. Current PMN volunteers attended the classes for refresher training and to help Jeff. Friday, Ann Goulet assisted with plankton identification. During Saturday's class, Rebekah Gano and Shawn Gano answered ID questions. I was on hand both days.

During Friday's class, we had a surprise visit by Meridith Byrd, TPWD's Harmful Algal Bloom (HAB) Response Coordinator. Texas Parks & Wildlife is a partner with the PMN. Texas has more than 600 miles of coastline, so TPWD appreciates this network of monitors. The PMN volunteers' data from regularly sampled sites can help provide early warnings of harmful algal blooms.

Now these trained, prospective PMN Volunteers can register monitoring locations with Jeff Paternoster. Some will sample and monitor individually; some will monitor a site as a project with their students. We all have a better appreciation for the importance of phytoplankton in our waters. As Jeff said, "If you can read, thank a teacher. If you can breathe, thank a phytoplankton!"

## Your Communications Team at Work



From l to r: Carolyn Miles, web master and *The Midden* chief format designer; Steve Alexander, Communications Team leader and contributor; Diane Humes, contributor and chief muse; and Nathan Veatch, editor and photo formatter.

## Guppies from Julie

### Treasures of the Bay 2010

Seventeen teachers, an army of Master Naturalists and Food, Fun and Friendship - Great ingredients for a terrific 2010 Treasures of the Bay Educators Workshop!



This four day mini-Master Naturalist workshop was held from June 15-18! The 17 teachers came from 6 different school districts and teach from the elementary to college level! It was a great week for the teachers! They had a wonderful time meeting and learning from you! Each day the teachers explored new habitats and learned activities that they can use in their classrooms!

You all shared your motto with enthusiasm! The teachers were "wowed" by the potluck luncheon on Tuesday, daily morning goodies and coffee, and the Friday shrimp boil! Yum! (Many thanks go to Jamie Ashby for coordinating the food for the workshop!)

Here are a few comments from the teachers:  
*"Wow! I have a new passion for so many things! I can't wait for the new school year!"*  
*"Best workshop I have ever attended in 23 years of teaching!"*  
*"Thank you all for all the work you put into this workshop! It was amazing!"*

These educators are interested in more advanced trainings and becoming certified Master Naturalists! Plans are underway for GBAC sponsored teacher workshops in the fall of 2010!

Many thanks to everyone who contributed to the Treasures of the Bay Educators workshop! Special thanks go to Bill Ashby for his leadership in coordinating the workshop!

Have a great August!

Julie



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### *The Midden*

This newsletter is published by **Galveston Bay Area Chapter - Texas Master Naturalists.**

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### *The Midden Deadline* For the October Issue

**September 5<sup>th</sup>**

If you have Advanced Training or Volunteer Opportunities, please submit information to Diane Humes [treimanhumes@earthlink.net](mailto:treimanhumes@earthlink.net)

