Since the last newsletter, lots has happened with the Texas ASBPA Chapter. About 16 from the Chapter went to the ASBPA Summit in New Orleans last October, and the conference, as usual, was really spectacular offering valuable information. We held a mini meeting with the Texas attendees to address two main areas of concern: 1) the PACE (Parishes Against Coastal Erosion), and 2) starting a relationship with the American Wetlands Foundation. The PACE meeting was to forge a Gulf Coast Coalition of the four Gulf States (Texas, Louisiana, Mississippi, and Alabama) to promote Federal funding of shoreline restoration projects.

The highlight of the New Orleans Conference was the field trip to visit the surge protection system the U.S. Army Corp of Engineers is in the process of constructing. It is a $14.5 billion project called the Greater New Orleans Hurricane and Storm Damage Risk Reduction System (HSDRRS) and consists of 350 miles of levees/floodwalls, including interior levees and floodwalls. Hurricane Katrina hit New Orleans in 2005 and within three years, they had legislation to obtain funding. In another two years, construction started, and it is almost complete. In addition, the one surge barrier is two miles long and is the largest in the world. One interesting statistic is that the project is the largest continuous placement of concrete since the construction of the Hoover Dam (over 1,000 truckloads). This surge protection system is truly an engineering marvel and a must see if anyone has the opportunity.

The American Wetlands Foundation had a series of meetings along the Gulf Coast to discuss resiliency opportunities especially from the funds coming from the BP Gulf Oil Spill. Most of the funds are being directed to wetlands and marsh restoration programs. I spoke at the meeting in Galveston and we have invited the group to speak at our May 4th meeting in Port Aransas.

In January, the Texas ASBPA Chapter had their quarterly meeting in South Padre Island and we heard from the Texas General Land Office (GLO). The emphasis of the meeting was to highlight the importance of completing the Erosion Response Plan requested by the GLO for all the Texas coastal communities to
be completed and approved by the end of the year. The Texas Chapter had a series of presentations on the Erosion Response Plan at many of our quarterly meetings. In 2009 the Texas Legislature adopted the Texas Natural Resource Code that requires local governments along the Gulf Coast to develop a plan. The purpose of the erosion response plan is to:

- Reduce public expenditure for erosion and storm damage losses to public and private property, including public beaches
- Ensure the health and stability of existing dune systems and vegetation
- Encourage the natural recovery of dunes and beaches following storm induced erosion
- Provide for the establishment of new dunes through restoration projects
- Allow for the landward migration of beaches and dunes due to erosion

The General Land Office believes that the costs of implementation of Erosion Response Plans will be offset by a reduction in public expenditures for erosion and storm damages to private and public property.

The Texas Chapter was well represented again at the ASBPA Coastal Summit in Washington, DC held at the end of February, and a legislative agenda was developed to be used when we “walked the halls and knocked on our legislators doors” to discuss our issues. We still need a champion in Washington to promote our needs and to obtain funds for shoreline restoration projects like they have in Louisiana, and we are searching still.

On March 30 the Texas Supreme Court finalized their decision on the Severance Case where Carol Severance filed a lawsuit to defend private property rights in opposition to the Texas Open Beaches Act, which states that, “public, individually and collectively, shall have the free and unrestricted right of ingress and egress to and from the state-owned beaches bordering on the seaward shore of the Gulf of Mexico…” If the beach migrated onto private property, the State would ask for removal of a structure. The Texas Supreme Court basically stated if the beach migrates onto a beachfront property from a storm event, the State cannot seize the property. However, if a regular natural occurring eroding beach migrates onto a property, the State can seize the property and request removal of a house, which still supports the regulations under the Open Beaches Act. Currently, this decision applies only for West Galveston Island but it will be a matter of time before it is applicable to all Texas coastal communities. The GLO is concerned because it could have a real impact on the Open Beaches Act. As I mentioned above, the Open Beaches Act still prevails for a natural eroding beach, but when a storm event occurs, all bets are off.

The next Texas ASBPA Chapter meeting will be our annual one on May 4 in Port Aransas, and we do hope many members will attend the luncheon event. We have great presentations, especially hearing from the American Wetlands Foundation on the “Blue Ribbon Resilient Community Forum”. In addition, we will be developing a legislative agenda for the upcoming Texas Legislative Session, and we will look at how we can approach the legislature in a new way on beach funding issues. One other area we plan to discuss is how to engage the Texas Municipal League in coastal issues. As I mentioned, we have a great agenda for the Port Aransas meeting and hope to see you there.

Jerry Mohn
President
SEA LEVEL CHANGE ON THE GULF OF MEXICO


The book, *Sea Level Change on the Gulf of Mexico*, is a compilation of existing information on the nature of sea level changes that have taken place since the origin of the Gulf of Mexico about 150 million years ago. It includes the current situation and has some thoughts on the future. The eustatic or global changes in sea level can occur through some combination of a change in the volume of the ocean basins through tectonic activity and the volume of water in these basins. There can also be regional changes of 100s-1,000s of kilometers or local changes that may occur over only tens of kilometers.

The initial stage of the Gulf included extensive evaporite basins, reefs and carbonate accumulations. As time moved into the Tertiary Period (about 60 million years ago) there was a change to a coast dominated by deltaic systems except for the large carbonate platforms of Florida and the Yucatan. Eventually in the Miocene (about 20 million years ago) the Florida platform became attached and received runoff from the southern Appalachians. The latter part of the Tertiary Period was dominated by fluvial deltaic systems around the US Gulf Coast.

The most dramatic changes in sea level for which we have good data began in the Quaternary Period, about 2.5 million years ago. These changes were produced largely through glacial cycles and the differences in sea level exceeded 100 meters. Relative to the present, these changes range from 10s of meters above present sea level to more than 100 meters below it. During these lowstands of sea level the coastal plain extended to about the edge of the present continental shelf. Fluvial systems extended across this large coastal plain with well-developed channels, flood plains and deltas. As the most recent extensive glaciers began to melt about 20,000 years ago, sea level began to rise and flood these systems. Some of the fluvial-deltaic sediments were reworked during this transgression and old shoreline deposits were accumulated during short periods of static or very slowly rising sea level.

About 7,000 years ago sea level rise slowed enough so that our present coastal environments began to develop including estuaries, deltas and barrier islands. Virtually everything we see along the present coast was formed in this short time period. The Mississippi Delta for example is less than 7,000 years old. Since that time sea level has risen very slowly and changes to coastal geomorphology have been relatively slow. Now we have abundant data that sea level rise is increasing from about 1.5 millimeters/year to near 3 millimeters/year on a global basis. Locally, this rate may exceed 10 millimeters/year such as in the Mississippi Delta area and in parts of Harris County, Texas. These local and regional high rates of sea level rise are the result of the combination of three factors: 1) the global rate, 2) compaction of sediments without the addition of new sediments, and 3) fluid withdrawal of both petroleum and water. Much of the State of Texas is experiencing near or slightly above the global rate but some areas show up to twice that rate. These include areas where thick sediment sequences underlie the present surface,primarily where old fluvial deltas are present.

The future is somewhat cloudy. Most predictions are to the end of this century and they range over a meter on a global basis. Somewhere near a 50 centimeter increase is likely. In some places this will not be a serious problem, but in others it will, including parts of the Texas coast. Wetlands are especially vulnerable. Can we mitigate these conditions? Is there enough money to do so?
Nature’s Antifreeze

Life in the extreme environment of a polar ocean certainly is a survival challenge, but some Antarctic fish manage with ice water in their veins – literally.

In Antarctica’s coastal waters, a group of perch-like fish called icefish dominates. The water column in these frigid seas is filled with tiny ice crystals, and fish are constantly exposed to ice through their gills and skin. They even ingest ice crystals when they eat and drink.

All of this ice exposure would be enough to chill the fish down to the point of freezing to death – if not for a remarkable adaptation that stops the ice from doing damage.

Icefish don’t freeze thanks to glycoproteins in their blood that act as antifreeze. These specialized molecules bind to ice crystals that form in the fish’s body and stop the crystals from growing. Antifreeze glycoproteins work by covering the surface of ice crystals and blocking new water molecules from attaching to the crystal, thus preventing the ice from expanding. Produced in the pancreas, the glycoproteins circulate in the fish’s blood, gut, and other bodily fluids, including the fluid surrounding the brain.

Scientists believe icefish developed these antifreeze proteins between 5 million and 14 million years ago, at a time when Antarctic waters cooled dramatically and fish that did not adapt died out. And what a successful adaptation it was! Icefish now account for 55 percent of the fish species found off Antarctica’s coast, enjoying a comfy living in an inhospitable environment.

Letter From the Editors

Howdy, coastal community. Welcome back to the Spring 2012 edition of The Strand Line, the Texas Shore and Beach Preservation Association newsletter. As always, we want to thank our contributing authors for the service they provide to the community. We greatly appreciate the work and effort everyone puts into publishing the newsletter.

There is a specific issue we want to bring to the forefront of everyone’s minds as we move further into 2012. We would like all members to consider volunteering for one of the many committees that make the Texas Chapter of the ASBPA a valuable resource for everyone. There are many roles to play and much work required to make this a great organization. To find out what committees are available, read through the Meeting Agenda, look through the website, read past editions of The Strand Line, and/or speak with any committee member or board member. Find an area that interests you (membership, legislature, technical, communications, etc.), and then contact someone on the committee. We certainly appreciate all the help we can muster.

As always, we want to encourage everyone to submit articles to the newsletter relating to your personal interests, professional projects, or general commentary regarding the coastal community. If you have ideas for an article, write them down and submit them. It is a group effort to provide content necessary to make the newsletter interesting and relevant. We look forward to reading your article submission.

Regards-

Cris Weber, Newsletter Committee Co-Chair
cweber@ljaengineering.com
Jayne McClure, Newsletter Committee Co-Chair
jdmclure@gba-inc.com

BE HEARD, BE PUBLISHED!
The TxASBPA Newsletter staff challenge our readers to submit articles for publication.

GUIDELINES:
- 500 to 1000 word articles (pictures welcomed)
- Word format (Garamond @ 10 font)
- Ensure permission to publish is granted.
Small Community Restores West Galveston Habitat

By Betsy Redfield, Project Coordinator

Originally a fishing community, Bay Harbor is a quiet and relatively small neighborhood located on the bay side of the west end of Galveston Island 3 miles east of San Luis Pass. With the need to provide boater access, the Bay Harbor Habitat Restoration Project began as a typical maintenance dredging project to improve access to the bay. Guidance from the U.S. Fish & Wildlife Service (USFW) and the National Oceanic and Atmospheric Administration (NOAA) changed the dredging to a habitat restoration and beneficial use project eligible for agency matching funds. The community took on this environmental project to restore bayside habitat and increase opportunities for the community’s popular recreational activities of birding, fishing, and boating.

The project began in August 2006 by filing an application for matching funds to the Coastal Erosion Planning and Response Act (CEPRA Cycle 5). From there the project took shape with the hiring of Gahagan & Bryant Associates (GBA) who provided the needed project engineering recommendations and cost estimates. The north side of the eroding island became a 1-acre pad rising 4 feet and extending to 4 acres of intertidal sheltered emergent marsh and bird nesting habitat. GBA also provided surveys, all necessary permit application to the U.S. Army Corps of Engineers and Texas General Land Office, and construction plans and specifications. The contractor, JND Thomas Company dredged 3,800 feet of the existing channel and installed 600 linear feet of Geotube® to protect the island pad from eroding and shoaling back into the channel. Approximately 15,000 cubic yards of material were recovered and used to fill the Geotubes® and raise elevations to protect up to 8 additional acres behind the structure for future habitat creation. Figure 1 shows an aerial view of the restored island.

It is the participation and contributions of the community (and many others) that made this habitat restoration project unique. The Bay Harbor Home Owner’s Association facilitated project awareness and solicited community involvement through the community’s newsletter, a printed brochure, e-mail, and a project progress board at the marina. To accomplish this costly project, the community had fundraising events such as block captain parties; t-shirts, cups, and caps sales; a Fishing Rodeo; and solicited donations. Jeri Kinnear, President of the Coastal Beach & Bay Foundation, served as the community’s financial administrator handling all grants and donations. Figure 2 shows the project progress board and ceramic tile plaques honoring those that donated to the project.

Applications for matching funds were submitted to a list of agencies provided by NOAA. Bay Harbor’s project was awarded grants from USFW, NOAA, Galveston Bay Foundation, the National Fish & Wildlife Foundation, the National Association of Counties, and Restore America’s Estuaries. The Bay Harbor Habitat Restoration project also received wonderful support from Texas Parks & Wildlife, Galveston County, West Galveston Island Property Owners’ Association, and the Texas General Land Office.

After some delays due to Hurricane Ike, GBA officially declared the project completed as of December 21, 2010. On February 26, 2011, the Galveston Bay Foundation and NRG Energy coordinated native vegetation planting with Bay Harbor residents and over 25 Boy Scouts. A second planting was held on March 8th with the Galveston Bay Foundation, NRG Energy, USFW, and

Figure 1: Aerial of the restored island (Source: Galveston Bay Foundation with aerial support by Light-Hawk, 3/6/11)

Figure 2: Bay Harbor Restoration progress board and donation plaques (Source: GBA, 6/11/11)
Coastal News Today—Top Resource for Coastal Engineering and Environmental News in the United States

By: Jeff Birmingham, P.E. and Walker Dawson, P.E.

Coastal News Today is the leading industry resource for Coastal Engineering and Environmental News for the United States. Coastal News Today compiles the Nation’s top articles relevant to the coastal engineering industry on a daily basis. The news articles that are aggregated are categorized by location and topic. The topics are Beaches, Development, Environmental, Oil Spill, Port & Harbor, Regulatory Policy, Science & Technology, Waterways, and Weather. Every day the news articles are emailed to each subscriber for quick reading, and if more information is desired, they may be viewed at the Coastal News Today website (www.coastalnewstoday.com).

Coastal News Today was founded in September 2011 by two coastal engineers, Jeff Birmingham P.E. and Walker Dawson P.E. The need for this service was realized after spending several hours a day looking for relevant industry news and updates on current and upcoming projects. It was this daily search that lead to the development of the new aggregation website that compiles news important to our daily business.

Coastal News Today currently delivers news on a daily basis to about 600 subscribers and has been growing rapidly since our inception in September 2011. Subscribers include: coastal & environmental consultants; collegiate professors; federal, state, and local regulatory staff; special interest groups, and interested citizens.

If you would like more information about Coastal News Today or would like to subscribe to our free daily email visit the website at CoastalNewsToday.com. You can also reach us at news@coastalnewstoday.com.

West Galveston Habitat (Cont’d)

Figure 3: College students on "Alternate Spring Break" programs volunteered to plant smooth cordgrass donated by NRG Energy (Source: Bay Harbor HOA, 3/8/11)

over 60 students from Michigan, Illinois, Indiana, and Missouri who participated in the planting under an “Alternate Spring Break Program” (see Figure 3). The vegetation has suffered from storms and high tides but should show signs of recovery come spring. Portions of the island were constructed at higher elevations than the emergent marsh to encourage bird nesting and the migratory return of local and transient wildlife. USFW's periodic monitoring shows encouraging increases in the number of migratory birds.

Some of the commercial fishery species expected to benefit from this project include brown and pink shrimp (Farfantepenaeus aztecus and F. durororum), white shrimp (Litopenaeus setiferus), black drum (Pogonias cromis), southern flounder (Paralichthys lethostigma), sheepshead (Arctosargus probatocephalus), eastern oysters (Crassostrea virginica), blue crab (Callinectes sapidus), red drum (Sciaenops ocellatus) and spotted seatrout (Cynoscion nebulosus). Additionally, mullet (Mugil sp.) and Atlantic croaker (Micropogonias undulatus) are valuable finfish species used as bait by recreational fishermen. The long-term goal is to see an increase return of bait fish to attract these sport fish.

Despite hopeful monitoring results, the newly restored habitat remains fragile and must be protected from human traffic to allow for marsh growth, bird nesting, and fish populations to return. The community takes pride in safe guarding the treasured island and looks forward to bird watching, recreational fishing, and more water sport activity in West Galveston Bay for years to come. The use of dredged material from the channel for habitat restoration has truly provided benefits for the environment and the public alike.
Legislative Update on the Severance Ruling and The RESTORE Act

By Marie Robb, CEO, Coastal Solutions

Severance Texas Supreme Court Ruling

The Texas Supreme Court issued a second ruling on March 30, 2012 in regards to the Severance Case. In its second ruling on the dispute, the Texas Supreme Court said that public easements on private beachfront property do not "roll" landward when a storm erodes the vegetation line landward. I have included Justice Willett’s concurring brief below. The entire ruling with links can be found at: www.supreme.courts.state.tx.us/historical/033012.asp.

JUSTICE WILLETT's, concurring.

“I join the Court’s opinion and write separately to underscore a point easily overlooked by casual readers: Today’s decision centers on West Galveston Island, not the entire Gulf Coast.

The Fifth Circuit asks broadly whether Texas law mandates an unproven rolling easement on all private Gulf-front beaches. While holding generally that such an easement is not embedded in Texas common law (unlike the State’s right to submerged land), the Court focuses its analysis on Severance’s property, emphasizing the unique historical lineage of title to West Galveston Island. The Court recognizes, if obliquely, that Texas’s 367-mile shoreline is governed by different land patents and conveyances that may impose varying limitations, including encumbrances for public use. In short, the absence of a common-law theory of an easement that leaps onto private land upon which the public has never set foot in no way forecloses the State from proving an easement the old-fashioned way, using traditional means. Upshot: Easements may well burden private Gulf Coast properties, including on West Galveston Island—but they must be proved, not merely presumed.”

The RESTORE Act- Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act of 2011

The House of Representatives approved a bare-bones surface transportation extension. This bill was a modified version of the Senate’s RESTORE Act, which provides for setting aside for the five Gulf states, 80 percent of the estimated $20 billion in Clean Water Act fines to be levied against BP. Under the House bill, these funds would be distributed by the states for restoration and recovery of the areas in these states affected by the Deepwater Horizon oil spill.

The House already had approved the RESTORE Act earlier this year as part of another bill that did not move in the Senate, which prompted House leadership to include it as part of their surface transportation authorization bill.

The Senate has also included and passed the RESTORE Act as a provision of their version of the authorization of the surface transportation bill as well, which sets aside 80 percent of the fines in a trust fund and allocates the funding. If the RESTORE Act does not become law, the BP fines will revert to the U.S. treasury.

The RESTORE Act is considered non-controversial. It is unclear whether the House and the Senate will be able to come to a compromise on the larger issue of the surface transportation authorization due to other issues. It is clear that Congress wants to pass the RESTORE Act; they must just find a suitable vehicle for advancing the bill. The legislation as it written does not specify where or how the funding will be spent.

Notable News

February, 2012

LEAP Engineering, LLC, a corporate sponsor of the Texas Chapter of the ASBPA, was acquired by LJA Engineering, Inc, a land development, engineering and surveying company.

March, 2012

The Texas Supreme Court issued another ruling on the Severance Case, impacting the future of the Texas Open Beaches Act.

Texas General Land Office

The GLO has posted an interactive, GIS based Coastal Sediment Geodatabase called TxSed. More information at: the left menu bar on the TGLO Coastal Issues website:

www.glo.texas.gov/what-we-do/caring-for-the-coast/index.html
Texas Chapter of the ASBPA – Annual Meeting Agenda

Date: May 4, 2012  Time: 11:30 AM  Location: Trout Street Bar & Grill

Host and Lunch Sponsor:
- City of Port Aransas, www.portaransas.org

Agenda
Meeting begins 11:30 AM
- Jerry Mohn - Call meeting to order.
- Introduce Board of Directors, Sponsors, and Officials

Welcome: Mayor Keith McMullin
Annual Meeting – Jerry Mohn
- Nominations and vote for Board of Directors

Presentations:
- Helen Young, GLO Deputy Commissioner, Coastal Resources
  - Severance and impact to Texas Coast
  - Introduce American Wetlands Foundation Program
- Val Marmillion – Managing Director, American Wetlands Foundation “Blue Ribbon Resilient Community Forum”
- Technical Committee – Chair Marisa Weber
  - Halfmoon Reef Restoration by Paul Jensen and David Buzan - Atkins Engineering and Mark Dumesnil and Tammy Brooks - the Nature Conservancy Permitting
  - Livable Shorelines - Jackie Robinson, TPWD
- Funding Opportunities for the Texas Coast – Topsail, NC experiences - Peter Ravella, PAR Consulting
- TML – Engaging the Texas Municipal League on coastal Issues – Joni Clark, City Manager, South Padre

Legislative Committee: Marie Robb
- Developing the Texas Legislative Agenda for 2013 Session

Membership Committee: – John Lee

Education/Communication: Chair Jayne McClure and Cris Weber
- Newsletter
- Website: www.texasasbpa.org

ASBPA - Cameron Perry - San Diego Conference
Next Texas Chapter Meeting: August ?
Adjournment

Upcoming Events, 2011

- Texas Chapter of the ASBPA. Friday, May 4, 2012. Port Aransas, TX.
- American Geophysical Union, Fall Meeting. December 6-10. San Francisco, CA.
Corporate Sponsors

Corporate Sponsorship costs $500 and provides for recognition on Chapter website and all publications & events.

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