Coastal Voice

THE NEWSLETTER OF THE AMERICAN SHORE & BEACH PRESERVATION ASSOCIATION

— October 2016 —

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Come celebrate ASBPA's 90th birthday

By LEE WEISHAR, Ph.D., ASBPA Secretary and Conference Papers Chair

I have been the chairman of the conference papers committee for the past six years. In that capacity, I have had the pleasure (along with other members of the committee) of putting together sessions for the past ASBPA National Conferences. I can honestly say that I am really excited about the upcoming National Conference in Long Branch, NJ.

We not only are celebrating ASBPA's 90th birthday, we are also have more papers that cover a wide range of topics — from implementing the North Atlantic Coast Comprehensive Plan to a session that examines the biological response of restoring beaches and dunes. There will also be sessions on living shorelines and a special session on dedicated to Orville Magoon.

There will also be dedicated sessions specific to New Jersey which will examine such topics as increasing coastal resiliency along the New Jersey shores to building ecological solutions to New Jersey's coastal community hazards. Along the way, we will also have sessions on Regional Sediment Management, the latest techniques and application of remote sensing, and the latest from BOEM on offshore sand resources.

If you go to the ASBPA website (http://asbpa.org/wpv2/wp-content/uploads/2016/03/0901ConfProgramDraft.pdf), you can look at the latest draft of the conference program. When you do, you will quickly see why I am so excited about this conference.

This year there is really something for everyone, no matter if you are a planner, biologist, ecologist, engineer, coastal scientist, or just an avid fan of the coast. I am positive you will find something of interest and you will have a chance to interact, ask questions, and find out the latest innovations that are occurring along the coast. I hope to see you there.

Oh, by the way, if you see me at the conference (I will be the one with the glazed-over eyes), stop me and tell me what you like or do not like about the conference so that we can continue to improve the next year's conference. See you in New Jersey. ❖

What do you value about your ASBPA membership? Tell us online at https://goo.gl/forms/wy8l6Pegi0P4l9wM2

The full conference program is at http://asbpa.org/wpv2/wp-content/uploads/2016/03/0715_ConfProgram.pdf.

National Coastal Conference summary

Registration opened in May for ASBPA's National Coastal Conference, which begins on Tuesday, Oct. 25, with an optional short course, and ends Friday, Oct. 28, with an optional field trip. Registration cost is $430 for members until Oct. 20.

Go to http://asbpa.org/conferences/, where you will find:

- Fact sheet
- Current program
- Registration
- Student posters and awards
- Sponsorship opportunities ranging from $890 to $10,000.
- Speaker information ❖

ASBPA National Coastal Conference dates to remember:

■ **Oct. 10** — Last day that conference hotel room reservations are guaranteed at $189/night

■ **Oct. 19** — Regular registration deadline (after Oct. 19, you'll pay the at-the-door rate)

■ **Oct. 25-28** — National Coastal Conference

For more information, go to www.asbpa.org

2016 ASBPA National Coastal Conference Sessions

Implementing Living Shoreline Projects (2 sessions) • Dune Processes and Monitoring • **Sea Level Rise Planning & Guidance** • Community Outreach & Education • **Web Applications for Design & Planning** • Improving Resiliency in Coastal Communities • **Dune Restoration & Human Impacts** • Modeling Coastal Processes & Sediment Transport • **Effects of Beach Nourishment on the Beach & Nearshore** • Implementation of the North Atlantic Coast Comprehensive Study and Improving Coastal Resiliency • **ASBPA in Action – Government Affairs** • Modeling Superstorm Sandy (2 sessions) • **Living Shorelines and Biological Response to Coastal Projects** • Enhancing Coastal Resiliency • **Hazard Mitigation, Visualization, & Project Economics** • Coastal Project Design & Planning • **Getting to Resilience in New Jersey: The Lessons and Determination for On-the-Ground Resilient Efforts** • Modeling Inlets & Shoreline Response • **Planning for and Managing Coastal Projects** • Regional Sediment Management Session (2 sessions) • **Beach Restoration: Project Performance** • Building Ecological Solutions to Coastal Community Hazards in Post-Sandy New Jersey • **Storm Surge & Flood Modeling** • Modeling Coastal Processes & Human Response • **Lessons Learned From Sandy** • Beach Restoration: Building Resiliency • **A Tribute to Orville Magoon** • Coastal Monitoring & Mapping • **Innovative Design of Coastal Structures** • Planning for Coastal Resiliency • **Applications of Remote Sensing** (2 sessions) • Investigation of Offshore Sand Resources (3 sessions) • **Ocean Planning: Bringing Together Science, Data, People, and Government to Coordinate Ocean Uses** • Coastal Policy • **Coastal Structures – Case Studies** • Project Planning and Restoration • **Applications of Remote Sensing** • Implementing Municipal Public Access Planning In New Jersey • **Protecting our Beaches and Dunes Using Planning** • Hard & Soft Engineering Practices • **Advances in Coastal Protection** • Storm Impacts and Structure Response • **Remote Sensing Applications and Hazard Analysis** • Enhancing Resiliency in New Jersey: Coordinating Ecological and Community Planning

ASBPA 2016 90th Anniversary

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Preservation Through Cooperation

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1870

Lanyard sponsor:

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1991~2016

The Jersey Shore Partnership *The Sand on the Beach People*

General sponsors:

WGIPOA West Galveston Island Property Owners Association

Norfolk Dredging Company Since 1899

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General sponsors:

SOUTH COAST ENGINEERS
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BRAZORIA COUNTY SHORELINE RESTORATION TASK FORCE
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Dewberry
HUMISTON & MOORE ENGINEERS
COASTAL ENGINEERING DESIGN AND PERMITTING
NORTH CAROLINA BEACH, INLET & WATERWAY ASSOCIATION NCBIWA.ORG
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Thanks to our National Coastal Conference partners for their support:

Eastern Monmouth Area Chamber of Commerce
COASTAL RESILIENCE CENTER
THE JERSEY SHORE PARTNERSHIP The Sand on the Beach People
LIGHTHOUSE INTERNATIONAL FILM FESTIVAL
International Erosion Control Association
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EXECUTIVE REPORT

WRDA passes House, Senate

By DEREK BROCKBANK, ASBPA Executive Director

In September, both U.S. Senate and the House of Representatives passed a Water Resource Development Act (WRDA) with overwhelming bipartisan support. Passage of these bills are critical steps in getting Congress to return to regular order on authorizing water infrastructure (including coastal and beach) projects and directing the U.S. Army Corps of Engineers (USACE) on coastal resilience efforts during each Congress.

BROCKBANK

The House bill (H.R. 5303) and the Senate bill (S.2848) do have significant differences and very different price tags (the Senate bill is a $10.6 billion bill, more than double the House bill), so reconciling the two in conference before the end of the year will be challenging. However both bills are fairly similar on their coastal provisions. Both authorize seven hurricane and storm damage risk reduction projects on the coasts of South Carolina, Florida, North Carolina, New Jersey, Louisiana and California, as well as other coastal and inland flood risk reduction and environmental restoration projects, and feasibility studies. They both

■ Continued on next page

WRDA

■ Continued from page 5

also include many provisions to help protect, restore, and increase the resilience of U.S. coastlines.

ASBPA worked closely with Coastal States Organization (CSO) to advocate for the following policies and authorized studies that were included in both WRDAs:

■ **Beneficial Use of Dredged Material (Senate: Section 2017; House: Section 110).** These sections enable the beneficial use of dredged sediment by the U.S. Army Corps of Engineers (USACE) without being constrained by the Federal Standard. The placement of dredged sand and other sediment on beaches, dunes, and coastal wetlands can serve multiple benefits, including flood and storm risk reduction, ecological restoration, and adaptation to sea level rise. As sediment sources become increasingly scarce, managing sediment as a resource is essential for the USACE to achieve its multiple missions. In different ways, these sections allow the USACE to beneficially use sediment dredged from navigation channels at some level of federal expense. ASBPA will be working with the conference committee to help reconcile the House and Senate provisions.

■ **Consideration of Natural and Nature Based Feature for Coastal Risk Reduction (Senate: Section 4017; House: Section 142) –** These sections directs the Corps to consider, as appropriate, all measures for coastal risk reduction, including natural, nature-based (e.g. beaches and dunes), nonstructural, and structural measures, when developing projects for coastal risk reduction.

■ **Planning Assistance to States (Senate: Section 1028; House: Section 128).** This language allows states to jointly apply for planning and technical assistance from the USACE for coordinated inter-state efforts with regional and national importance.

■ **South Atlantic Coastal Study (Senate: Section 4015; House: Section 149).** Directs the USACE to conduct a study of the coastal areas located within the geographic boundaries of the South Atlantic Division of USACE to identify the risks and vulnerabilities of those areas to increased hurricane and storm damage as a result of sea level rise. This study will also include a focus on sediment resources and coastal erosion issues.

Additionally, the larger Senate bill included policies advocated by ASBPA:

■ **Regional Intergovernmental Collaboration on Coastal Resilience (Senate: Section 4014).** This section authorizes "regional assessments of coastal and back bay protection and of Federal and State policies and programs related to coastal water resources." Flood risk and coastal hazards do not follow state or USACE District lines and neither should their solutions. Furthermore, many branches of government have overlapping jurisdiction in promoting resilience to coastal hazards. This section will promote interstate, intergovernmental collaboration so that the states can have an increased role in developing solutions that are tailored to their region and federal agencies are coordinating with states and each other.

■ **Coastal Resiliency (Senate: Section 4013)**. This language directs the USACE to prioritize feasibility studies for coastal projects, including "shoreline restoration, tidal marsh restoration, [and] dunal habitats to protect coastal infrastructure," from rising sea levels. ❖

ASBPA call for elections

On Oct. 26, 12 seats on the ASBPA Board of Directors will be up for election by the Board of Directors. In addition, three seats are currently vacant. The seven officers' positions will also be up for election and a slate will be presented by the Nominating Committee. If you are interested in being selected for any of these positions, please forward your interest by email to managing@asbpa.org. Please request and complete a board questionnaire.

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Advocating for healthy coastlines

Nominations from outside the Nominating Committee are welcomed provided they are submitted to the Committee no less 15 days in advance of the board meeting with recommending signatures of no less than 10 active members and the prior consent of the person nominated. ❖

ASBPA releases coastal dune research awards

In partnership with ASBPA, the U.S. Army Corps of Engineers, Engineering Research and Development Center (ERDC), and the U.S. Geological Survey, Coastal Marine Geology Program has awarded $265,672 in federal funding to directly support academic research to investigate dune management challenges on developed coasts.

Each university was awarded $40,000-50,000 for the following projects, which all partnered with local coastal managers to define their research questions:

• **University of Pennsylvania**: Wind Tunnel Analyses of Vegetation Species Differences in Sand Capture Efficiency & Dune Morphology for Natural & Nature Based Dune Management — Principle Investigator (PI) Brenda Casper

• **University of North Carolina at Chapel Hill**: Modeling Dune Growth on Managed Coasts — PI Laura Moore

• **Texas A&M University**: Perceptions, governance, and stakeholder relationships along the Texas Coast — PI David Cairns

• **Oregon State University**: Simulating Dune Evolution on Managed Coastlines: Exploring Policy Options with the Coastal Recovery and Storms Tool — PI Peter Ruggiero

• **North Carolina State University**: Development of Dune Design Criteria for Overtopping Considering Constructed Beach Berm — co-PIs Elizabeth Sciaudone and Margery Overton

Lillian Street in, Kitty Hawk, NC, October 2015. (Photo credit: National Weather Service, used with permission.)

• **University of Alabama**: Estimating Coastal Dune Vulnerability to Storm Sequences — PI Douglas Sherman

"These awards are part of a larger effort to invigorate coastal research and interagency collaboration," said Nicole Elko, Ph.D., ASBPA's Vice President of Science and Technology. "Here, we have linked the management and academic communities to address difficult science and engineering questions related to coastal sand dunes."

The awards are the outcome of a workshop hosted by ASBPA Oct. 26-28, 2015, in Kitty Hawk, NC — a community with significant dune management challenges (see photo). Nearly 100 members of the coastal management and research communities met to bridge the apparent gap between the coastal dune research of scientists and engineers and the needs of coastal management practitioners.

The workshop aimed to identify the challenges involved in building and managing dunes on developed coasts, assess the extent to which scientific knowledge can be applied to the management community, and identify approaches to provide means to bridge the gap between needs and potential solutions.

The performance period is up to two years with an expectation that the awardees will present preliminary findings at ASBPA's coastal conference during a dedicated session in October 2017. ❖

What do you value about your ASBPA membership? Tell us online at https://goo.gl/forms/wy8l6Pegi0P4l9wM2

In pursuit of my dream career in coastal geology

By JULIE ANNE CISNEROS, Ph.D. student, Dept. of Geosciences, Florida Atlantic University

I fell in love with the ocean as a child, and that wonder and love of the sea still resides within me today. I have always been very interested in marine sustainability and conservation. I started my education as a marine biology major and life took me a different direction. After almost 20 years, I decided to go back to school and continue my pursuit of working in the coastal environment.

In summer 2013, I quit my job and relocated my family from Colorado to Florida to obtain a bachelor's degree in environmental sustainability from Florida International University (FIU). During my time at FIU my passion for the marine environment was renewed. In September 2014, I was appointed to the Marine Advisory Board by the Deerfield Beach City Council. This provided an opportunity to be more involved with my new community while helping to maintain and improve the marine environment where my children and I live.

Along the way, I learned that I loved research, and decided to obtain a Ph.D. in Geoscience with a coastal geology focus. This direction would allow me to combine my love of the beach, the marine environment, and sustainability. In August 2015, I graduated from FIU with honors and was offered a Graduate Teaching Assistantship and Presidential Fellowship at Florida Atlantic University (FAU). I had 10 days after graduating from FIU before I began my Ph.D. at FAU!

Students & new professionals

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I am now conducting research under the mentorship of Dr. Tiffany Roberts Briggs. From the day I joined her research group, I've been immersed in field work and research. I am currently studying the relationship between sediment characteristics and beach morphology on sea turtle nesting patterns, which will be integrated into my larger dissertation topic of coastal sustainability (under various environmental stressors, including storms and erosion mitigation efforts). Coastal geology has been exactly the right fit for my goals, passions, and research. My office work (at least one day a week, if not more) involves watching the sun rise over the beach as I conduct field work.

CISNEROS

The Student/New Professional Committee submits a monthly column that either highlights research or experience of ASPBA's students and new professionals. If you are a student or new professional and would like to contribute to the monthly student/new professional column, please contact Tiffany Roberts Briggs: briggst@fau.edu. If you are a seasoned professional and would like to connect with any of the monthly writers, please also contact Tiffany Roberts Briggs.

Part of my research developed out of a partnership with Palm Beach County's Environmental Resource Management Department, who were evaluating the sediment characteristics from a variety of borrow sources, used in dune restoration and beach nourishment projects. In 2015, temperature and humidity monitors (HOBO data loggers) were placed along shore-perpendicular transects at a high-, mid- and low-elevation of the beach at depths of 45 cm and 70 cm at six locations in Palm Beach County. These data were then compared to sea turtle nesting patterns at each site. The primary objective of this research was to identify potential sedimentologic factors influencing nesting and hatchling success.

We are continuing this work (in 2016) as a multi-year project to evaluate sea turtle nesting patterns and sediment borrow sources, with the added integration of beach morphology variability. Palm Beach County has some of the highest density sea turtle nesting locations in the United States, with over 25,000 nests laid in 2014. Green, leatherback, and loggerhead sea turtles nest on over 30 miles of dynamic, critically eroded beaches in Palm Beach County. It is important to ensure that the erosion mitigation projects using multiple borrow sources do not adversely correlate to decreased viability of sea turtle nesting sites.

I will be presenting the results of the 2015 study at the 2016 National Coastal Conference this October. I look forward to presenting, and volunteering, at the ASBPA conference. ❖

Central East Coast Chapter coastal permitting workshop set for Jan. 10-11

By KEN WILLSON, Central East Coast Chapter of ASBPA

The Central East Coast Chapter of ASBPA is organizing a regional coastal permitting workshop that will be held in Wilmington, NC, Jan. 10-11, 2017. The CEC chapter of ASBPA covers the east coast states of Delaware through Georgia. The intent of this workshop is to bring together representative from federal and state permitting agencies, federal and state resource agencies, coastal engineering and environmental permitting practitioners, and beach nourishment and navigation project sponsors to discuss what is working well and what can be improved with the permitting of coastal projects in the region.

The expectation of this workshop is that a focused dialogue between these groups will inform and enable those in attendance who are looking to improve the permitting process in the future and balance the need to protect natural resources and avoid excessive delays in implementing coastal projects in the public interest.

We have already confirmed representatives of regulatory branches of the USACE Districts within the region, representatives from U.S. Fish and Wildlife Service, NOAA National Marine Fisheries, the Bureau of Ocean Energy Management (BOEM), state permitting agencies, USACE Environmental Resource Section (Civil Works), and coastal consultants from North Carolina and South Carolina.

The first day of presentations will focus on federal and state permitting procedures and policy. The second day will include examples of application of federal and state permitting procedures presented by consultants and project sponsors. The workshop will culminate with a discussion between all in attendance in an effort to identify specific action items to improve the permitting process for coastal projects throughout the region.

Registration for the event is $25 per person. You can register at: https://www.eventbrite.com/e/cec-chapter-of-asbpa-permitting-workshop-tickets-27641562658

The workshop's venue is the Hilton Wilmington Riverside. Rooms are available for reservation with the special group rate of $109/night until Dec. 10 at http://www.hilton.com/en/hi/groups/personalized/I/ILMNCHF-ASB-20170110/index.jhtml

For additional details, please contact Ken Willson at (910) 443-4471 or Kenneth.Willson@cbi.com. ❖

What do you value about your ASBPA membership? Tell us online at https://goo.gl/forms/wy8l6Pegi0P4l9wM2

WALTHER

POPE

Summit 2017 chairs, theme set

Mark your calendars for Feb. 28-March 2 for the ASBPA's 2017 Coastal Summit, "A New Commitment to Our Coast."

"One may not normally think of beaches during the middle of winter, but this February is the perfect time to gather the coastal community in DC for a summit. We will have a new administration to talk about. How will the new White House play in the sand?" asked Joan Pope, one of the three conference co-chairs.

HANSON

"This is also a chance to meet and greet and chat with other coastal professionals. The ASBPA has been developing communication inroads with various agencies and other non-governmental organizations that could be of direct benefit to you. Come to the DC Summit for good information, good friends, and some great conversations."

A returning Summit co-chair

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Summit

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from 2016, Pope retired from U.S. Army Engineer Headquarters in 2012 after a career with the Corps involving a variety of practicing coastal geology and engineering, research, and management positions.

At the time of her retirement she oversaw the Corps water resource research and development program. During her career she directed several major projects including the development of the Coastal Engineering Manual, the National Shore Erosion Demonstration Program, and Regional Sediment Management. Since retiring she has been employed as a consultant with the Corps.

As a first-time Summit co-chair, Michael Walther said: "ASBPA's Coastal Summit is an important path for us to come together to share ideas and formulate plans to sustain our coastal environments and communities. Our future as a strong nation depends upon our collaborative participation."

He was president, founder, and principal engineer of Coastal Tech based in Vero Beach, FL. Walther has more than 30 years of practical experience in the national arena of beach and inlet management from planning to design, permitting and construction. He is now vice president of Coastal Tech-GEC Inc. As an avid surfer, beach user and volunteer activist, Walther has personal familiarity with coastal resources throughout the nation.

The third Coastal Summit co-chair is returning veteran Bill Hanson, a vice president with Great Lakes Dredge & Dock Company. He holds a BS in Ocean Engineering from Texas A&M University, and currently serves on the TAMU Board of Industry Advisors and the TEES Board. He served on the USACE Coastal Engineering Research Board and is Vice Chair of the NOAA Hydrographic Services Review Panel. As an ACOPNE Diplomate of Navigation Engineering he also serves on the COPRI Board of Governors; Federal Advisory Panels – DOC International Trade Advisory Committee; DOC Supply Chain Management.

He summed up the importance of the Coastal Summit this way: "The ASBPA Summit has become cutting edge as a means to learn of the future of coastal advocacy in the U.S., it has really turned into a must-attend event." ❖

Summit 2017 awards nominations open

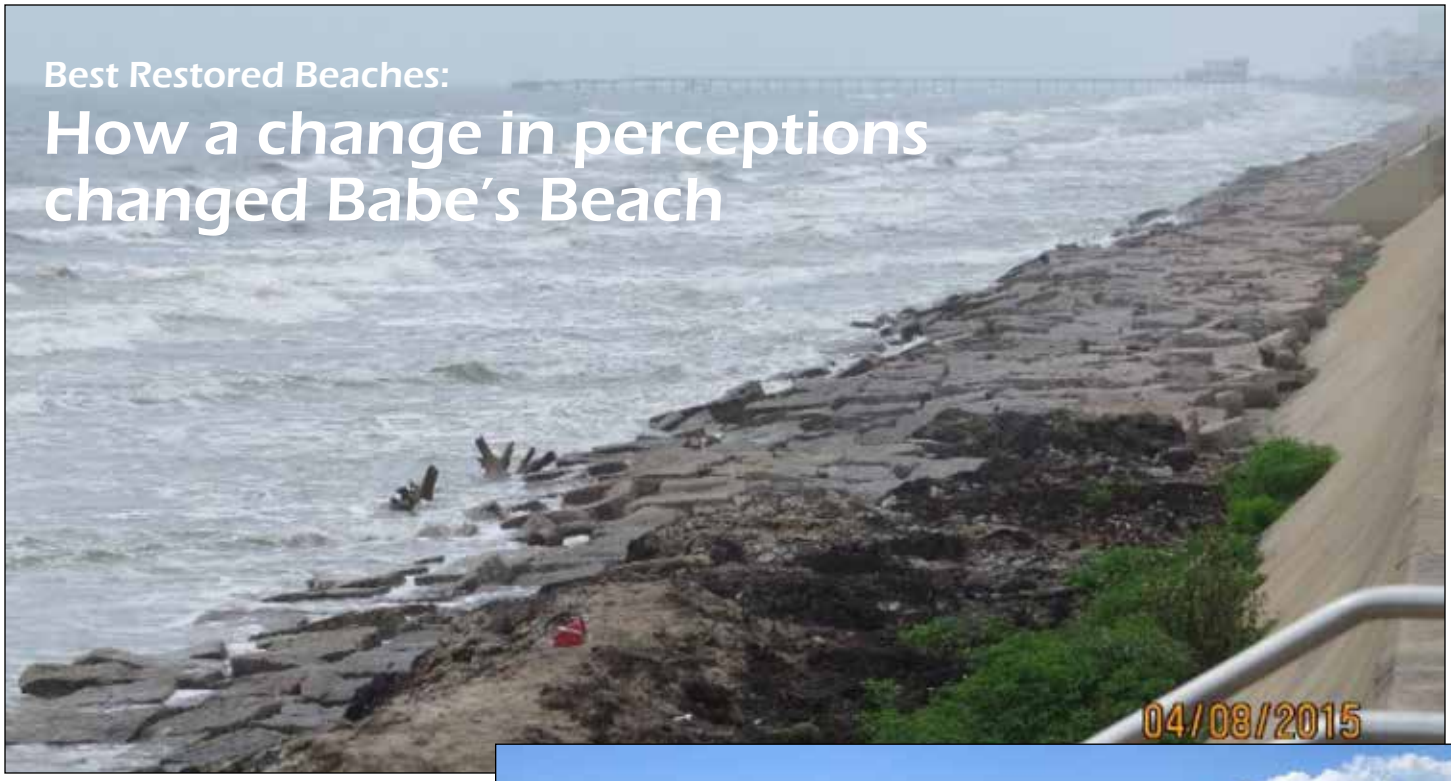
Nominations are now open for the ASBPA Congressional awards, Congressional Staffer award and Corps award, to be presented on March 1st at the ASBPA awards reception held during the Coastal Summit in Washington, DC, on Feb. 28-March 2.

- Congressional awards include "Coastal Advocate" — ASBPA's highest award, a lifetime achievement award — and "Friend of the Coast," for shorter term or more project-specific contributions. Any ASBPA member may nominate one or more Members of Congress for the awards.
- The Corps award honors a member of the Corps of Engineers who contributed to the cause of beach management and preservation. For the most part these are people from the districts who make projects happen.
- The Congressional Staffer award will be given to a single staff member for his or her efforts both to promote beach preservation and to facilitate project requests in the past legislative session.
- The Agency award will be given to a single staff member for his or her efforts to promote beach preservation.
- And the Friend of the Coast Media award will be given to a media outlet for exceptional coverage of coastal news.

Nominations are due at the ASBPA offices no later than Jan. 3, 2017, and may be e-mailed to awards@asbpa.org. The nominator will need to be in attendance to be present the award. For questions and further information, e-mail us at managing@asbpa.org. ❖

Best Restored Beaches:

How a change in perceptions changed Babe's Beach



By KELLY deSCHAUN and MELODY SMITH, Galveston Park Board of Trustees

Galveston is a sand-starved barrier island located on the upper Texas coast approximately 50 miles south of Houston, and approximately 50 miles west of the Texas/Louisiana border. The 1900 storm is one of the defining events in the city's history whose impacts resulted in the construction of the existing 10-mile Galveston Seawall between 1901 and 1963; and raising the elevation of the entire city between 1903 and 1928. The final section of seawall construction began in the late 1959 taking the seawall to its present western extent, and was built on top of the existing natural dune system whose height does not typically exceed 7-8 feet.

The area west of 61st Street along the Galveston seawall has been named in honor of a legendary figure in coastal Texas history. Former State Senator A.R. "Babe" Schwartz was an early leader in Texas to help protect the public's right to access the beach, and was a co-sponsor, advocate, and supporter of the Texas Open Beach Act passed into law in 1959.

Many beach nourishment projects have been undertaken to the east of the 61st Street rock groin (the western most of the 15 rock groins) fronting the seawall. The groin field is intended to retain a sand beach seaward of the original sections of the seawall. But there has never been any similar beach nourishment activity to the west of 61st Street until this project in the fall of 2015.

This section of the Galveston seawall was constructed on dry land beginning in 1959 and ultimately completed in 1962. Due to advances in construction methods/

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Babes

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materials a sand beach fronting the seawall was not required to protect the support pilings as it was when the earlier sections east of 61st Sreet was constructed. As a result of Hurricane Carla (1961), the shoreline simply eroded back to the base of the seawall and the native sand beach and existing dune was lost for 54 years until this project was undertaken in the fall of 2015.

The beach area west of 61st Street has long been determined to be too eroded to make any restoration/beach nourishment project financially feasible. Previous estimates from various engineering firms and state agencies indicated an approximate cost of $75 million to $100 million to result in just a 1-foot emergent beach. This information effectively took restoration projects off the table as an option for western seawall beaches.

Then in late 2013 that perception started to change. The Galveston Park Board and the U.S. Army Corps of Engineers (USACE) through its Engineer Research and Development Center (ERDC) in Vicksburg, MS., along with the Galveston District partnered on the development of a sand management plan for Galveston Island. The final report completed in early 2015, entitled "Galveston Island, Texas, Sand Management Strategies," provided a road map for science-based public policy decision-making and utilized Regional Sediment Management (RSM) practices.

The report concluded that beneficial use of dredged material (BUDM) needed to be an integral part of the local management plan for Galveston's beaches especially when considering the frequency of dredging and the lack of otherwise available sediment. The report also indicated that sediment volumes necessary to achieve emergent beaches might not be as astronomical as previously thought, and included recommendations for the strategic placement of material in locations to take advantage of the existing littoral processes.

The white line indicates the seawall edge.

Contracting and budgeting obstacles-

Timeframes become very compressed when government entities seek to develop agreements and budgets to partner on potential projects. It is not uncommon for entities to miss a potential dredging cycle due to the simple complexity of partnering with the USACE, where agreements are often required to be routed to Headquarters in Washington, DC. The Park Board had previously expressed interest to partner with the Galveston District to implement a BUDM restoration project along the sea-

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BABE'S BEACH:

Sponsors:
- Galveston Park Board of Trustees
- City of Galveston Industrial Development Corp.
- Texas General Land Office
- U.S. Army Corp of Engineers

Designers/Engineers:
- Tricia Campbell, Project Manager, USACE, Galveston District
- Brandon Smolinsky, Project Engineer, USACE Galveston District
- Chris Frabotta, Chief Navigation Branch, USACE Galveston District

Dredging Contractor:
- Steve Auernhamer, Great Lakes Dredge and Dock Co.

Location: West side of 61st Street rock groin to 75th Street fronting the Galveston seawall
Length: Approximately 4,980 LF
Cubic yardage: 629,188 cu/yds. — 126.3 yds^3 LF — $10.60 per yd^3
Project schedule:
- Publication: Jan. 6, 2015
- Award: May 21, 2015
- Construction: Sept. 3 through mid-November 2015

1974
Google earth

2006
Google earth

1982
Google earth

2008
Google earth

1989
Google earth

2010
Google earth

1995
Google earth

2015
Google earth

Babes

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wall. But the project was dependent on the beach placement component being included in the USACE contract documents and the necessary local funding being committed to fully pay for that beach placement cost.

The Park Board received a call from the Galveston District in late September 2014 inquiring whether they wanted to participate in the next maintenance dredging cycle in 2015; and also requesting a final decision on participation and commitment of local funding within the next week to 10 days. The Park Board's 2014-2015 budget (to begin on Oct. 1) was only recently approved days before and did not include any funding for the potential project. Original estimates from the USACE included a beach placement cost of approximately $5 million.

Park Board representatives met with City of Galveston officials, Texas General Land Office (GLO) staff, and had extensive discussions with Galveston District staff and especially Project Manager Tricia Campbell. Campbell was very receptive and worked diligently to help the Park Board through this process. As a result of meetings with the GLO, the Park Board was authorized to participate with the USACE by using an existing agreement between the GLO and USACE for BUDM projects; then the Park Board contracted directly with the GLO through a Project Cooperation Agreement (PCA).

Securing the necessary funding for the incremental cost proved to be a great deal more difficult, and involved seeking outside resources, committing future revenues toward the project and a re-shuffling of GLO restoration project funding. As the project moved through the process it became evident the original beach placement estimate was approximately one-half of the revised estimate. With new incremental estimates approaching $9.8 million the Park Board (by necessity) sought outside funding in the form of a 10-year loan. Ultimately the funding was secured, and the beach placement option was included in the USACE bidding documents.

Due to reductions in the actual available sediment volumes, the incremental cost was reduced from the original approximate $9.8 million to a slightly smaller large number — $8,039,192.80. There may yet be further cost fluctuations as the total cost for the project has not yet been finalized by the Galveston District.

Placement & timing issues

Aside from the contracting and budgeting obstacles there was the issue of placement location. Galveston is a city that hosts more than 6 million visitors a year, who primarily come for the beaches.

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Going back to the earliest discussions for this project, some of the original thoughts were to undertake this project along the older sections of the seawall, since those areas needed the protection afforded by the wider sand beaches. However, the maintenance dredging schedule for the USACE would have possibly had this project ongoing during the peak summer season, resulting in sections of the beach being off limits due to ongoing beach placement construction.

Following meetings with interested stakeholders, and based upon the Park Board's intent to base project decisions on the Sand Management Plan, the decision was made early in the process to shift the project location to the area west of 61st Street. That decision was not without risk, especially considering the public perception of that area being called the "Black Hole," since there hadn't been a beach in that area since the days before Hurricane Carla in 1961. The Sand Management Plan provided the support and information necessary to enable this type of project location change, and have it be successful as well.

The overall project was managed by Campbell at the Galveston District, with ongoing coordination with the GLO, City of Galveston, and the Galveston Park Board of Trustees. The public solicitation was published by the USACE on Jan. 6, 2015, with responses being opened on March 12, 2015. The project was awarded to Great Lakes Dredge and Dock Company on May 21, 2015, and included an approximate 60-day construction window. The beach placement activities began on Sept. 3, 2015, and concluded in mid-November.

To minimize impacts to potential beach visitors the project was bid and awarded as a hopper dredge project. The two different hopper dredges were utilized in different phases of the project with the beach placement option being completed by a dredge with an approximate 3,500 yds^3 capacity. In total the placement activities required approximately 180 trips from the Houston-Galveston ship channel dredge area to the pump-out station adjacent to the project area west of 61st Street, an approximate round trip sailing distance of 20 miles.

The USACE determined through its sampling process the source of sediment for the beach placement option would be four sections of the Inner Bar Channel of the Houston-Galveston ship channel. These sections are located within the mouth of the ship channel approximately midway between Galveston Island and the western tip of the Bolivar Peninsula and contained the highest percentage of beach quality sand. The hopper dredge would collect the material and then sail out and around the South Jetty to a pump out barge anchored offshore of the project area. The material would be hydraulically pumped onshore from the hopper dredge pump-out barge via pipeline and the material would be manipulated onshore to create the required beach profile. As each location was built-out the pipeline was relocated slightly farther to the west until each of the four sections of the channel were dredged to the authorized depth.

The finished project resulted in a beach approximately 4,980 feet long fronting the Galveston seawall from 61st Street to 75th Street that is approximately 300 feet in width. This represents a restoration of approximately 34 acres of coastal beach habitat that hasn't existed since before Hurricane Carla in 1961.

Project benefits

Galveston Island is a tourism driven economy, primarily a beach tourism economy with over 6 million visitors a year to Galveston's beaches. The majority of Galveston's beaches are eroding with erosion rates approaching -5 to -10 feet per year. This project area has been completely submerged since

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American Beach News Service

Is sand becoming an endangered resource?

For most of us who live or work along the coast, sand is simply sand – a natural commodity easily taken for granted, the beach buffer between the waves and the upland.

But, for many coastal dwellers around the world, sand is hardly taken for granted – because it is frequented taken from beaches and river beds, gone from the coastal system for good once it is trapped in the hard infrastructure of buildings and roads, high-tech devices and low-tech substances. Some experts have even dubbed sand the 21st century's most valuable natural resource – behind only water and air in the amount used every year.

This industrialization of sand can be difficult to comprehend, until you examine some other facts to put it into perspective:

- Sand extraction has been deemed a $70 billion industry worldwide.
- In 2011-2013, China used more cement (whose main ingredient is sand) than was used by the U.S. in the entire 20th century.
- The sand used worldwide in 2012 alone is enough to build a wall 89 feet square (10 feet wide by 8.9 feet tall) around the Equator.
- Most of the sand used by international industry has to be obtained from coastal or riverine beds, as wind-shaped desert sand is unsuitable for many purposes.
- Coverage of a global black market in sand has increased of late, including articles and films documenting the dangers and destruction surrounding sand mining.

Viewing sand as a valuable commodity may be a new perspective for most Americans, but it can be a useful one in the years ahead, as conditions and demands evolve.

For example, seeing sand as a finite resource underscores the need to capture and/or recycle any beach-compatible sand to be brought back to the beach – not lost to sea as the less-cost alternative. This requirement to keep beach-quality in the nearshore system is growing in this country (think of Regional Sediment Management), and should be encouraged at all regulatory levels as a way to keep coasts healthy over the long term in a more cost-efficient manner.

Similarly, better management and use of offshore sand sources is clear when that sediment is viewed as an increasingly rare and extremely valuable resource.

Coastal scientists already know that the more compatible sand is to the sediments it's replacing on the beach, the better its chances of standing up to winds and waves over time. Soon, it may be necessary to work harder to match that replacement sand, simply to ensure it is used in the best possible situation for long-term sustainability – and that could also mean more emphasis on retaining compatible sand in the nearshore system best suited to it, using engineered methods and more ways to capture it as it moves along the coast.

Just as you would work to keep coastal or river sand in its natural habitat, so too might it become more important to use inland sand resources more wisely. Construction-grade sand from inland sources might be better kept in industrial uses (unless there are no other options), both to take pressure off coastal sources (so they can continue to protect the coast) and to avoid the additional cost and environmental impact that extended truck hauls of inland sand to the coast can bring.

As some U.S. coastal communities start to run out of sand sources with which to renourish their shorelines, more creative alternatives may need to be explored – particularly those which until now had been deemed economically unviable. Whether that means bringing sand in from more distance sources or looking at options to convert sand that has been turned into other materials (such as glass) back into a beach-quality sediment, scarcity may inspire (and require) creativity.

Finally, seeing sand as a limited natural resource may make us all more aware of its value (and potential cost), which should spark more concern over how it's being used today and how we will rely on it tomorrow.

In the meantime, learn to appreciate your beach (if you don't already). Rather than taking its value to your community for granted, we must remember to preserve and protect this limited and important natural resource.

It's better to keep sand on the beach where the biggest thing it's used to build is a sand castle – not hauling it away to become another skyscraper. ❖

American Beach News Service

Environmental oversight crucial to beach restoration

Millions of us went to the beach this summer, and it is unlikely even a handful of us considered whether we were on a restored beach (there's a good chance you were) and what goes into making it possible (a lot). The aspect we want to focus on today is the environmental review such projects typically go through in order to be constructed.

Beach restoration is one of the most environmentally friendly methods of protecting a beach, and one of the reasons for that is the care in which local, state and federal agencies take to ensure restoration projects are as environmentally sound as possible. Every beach project requires extensive environmental review, permits from state and federal agencies and post-construction monitoring. More than 40 years of successful beach projects has created an extensive environmental knowledge base scientists and regulators can draw upon.

Regulatory agencies look at restoration projects through a specific lens based on their area of expertise; for example, it is no surprise that National Marine Fisheries Service looks at a project for potential impact on fisheries. Each agency has a comprehensive and systematic framework to review projects, and it is up to the applicant to prove they can conduct a project in an environmentally friendly manner.

Often before the first grain of sand is pumped onto a beach, years of study and millions of dollars in research and environmental documentation have taken place to ensure the project is environmentally compatible.

Sand is one thing the regulatory agencies look at carefully. Most of us just think sand is sand, but sand can have different grain sizes and colors. This isn't a "one size fits all" kind of deal. Instead, the goal of any project engineer is to place sand on the beach that comes as close as possible to mimicking the sand that is already there. Wildlife is used to that kind of sand, so they respond better to the "new" beach if similar sand is used.

Sand also tends to last longer on beaches where it is compatible in terms of grain size — too fine washes away more quickly, too coarse impacts the beach ecology for the worse. From a human perspective, we also have a certain kind of sand we're used to (in terms of color), but color is also important to nesting sea turtles in that color plays an important role in the temperature of nests, which influences the sex of the hatchlings.

The permitting agencies analyze both the existing beach and the location where the sand will be removed (known as the borrow site). They want to be sure the borrow site will not endure long-term damage as a result of dredging, and that steps are taken to help a more rapid recovery to its former state and habitat.

Agencies also look at the benefits of getting sand put on the beach. Often a highly eroded beach no longer provides adequate nesting, feeding or resting habitat for animals. Putting back sand that's compatible and protective of the beach habitat keeps the beach a healthy place for critters to nest and rest.

The potential impacts of a restoration project on listed threatened or endangered species are also studied carefully. The applicant must show they are not going to harm that species, or that they will take steps to avoid the potential harm. A good example of this: If a project will be constructed during sea turtle nesting season, the contractor will have observers on site to see if (and where) sea turtles are nesting or sea turtle are hatching. If so, steps will be taken to protect the female turtle or the hatchlings, as the case may be.

Finally, once a project is complete, environmental monitoring is required to make sure there are no long-term impacts and to increase the knowledge base of how restored beaches respond. Such monitoring can continue for years, to track the recovery of the beach, the borrow site, and any habitat or species possibly impacted. This is also where rules can be refined or revised for future projects, once the obvious or inadvertent effects (positive as well as negative) are documented and researched.

This level of environmental oversight has made restoration projects a far more benign beach activity while it has advanced coastal science and ecological knowledge. It's just one of the many ways beach restoration is a complex (and often complementary) coastal activity – and why you can find yourself on a restored beach without even knowing it. ❖

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Hurricane Carla in 1961 and this restoration project has provided (at a minimum) 34 additional acres of coastal beach and dune habitat for native species, enhanced recreational opportunities for residents and visitors, and served to help grow the Galveston economy. This economic development is possible because the beach area west of 61st Street is the last "undeveloped" area along Galveston's shoreline.

Another benefit, though less visible, is the confidence this project has helped to foster in the Sand Management Plan. Whereas previously, the area west of 61st Street was almost a forgotten area, with "common knowledge" saying restoration would not be possible due to the anticipated high cost. That was proven not to be true, and this project helps to set the stage for future restoration efforts along the length of the seawall to 103rd Street. Within the project area beach visitation, hotel occupancy, and parking along Seawall Blvd. have dramatically increased.

This project is nationally significant because it was the very first beach and dune habitat restoration project implemented on Galveston's gulf shoreline utilizing BUDM. The project also provided the justification that a project does not have to contain multiple millions of cubic yards to be successful, and that with the right planning documents and local will almost anything can be accomplished. ❖

CONFERENCES

■ **Oct. 25-28, 2016:** ASBPA's National Coastal Conference, Ocean Place Resort, Long Branch, NJ. Details at www.asbpa.org.

■ **Nov. 14-15**: NCBIWA 2016 Annual Conference, Blockade Runner Beach Resort, Wrightsville Beach, NC. Details at http://www.ncbiwa.org/events.

■ **Jan. 10-11, 2017:** ASBPA's Central East Coast Chapter Regional Environmental Permitting Workshop, Wilmington, NC. Details at mbosw002@odu.edu.

■ **Feb. 8-10, 2017**: National Conference on Beach Preservation Technology, Hutchinson Island Marriott, Stuart, FL. Details at www.fasbpa.com.

■ **Feb. 28-March 2, 2017**: ASBPA Coastal Summit, Washington, DC. Details to come at www.asbpa.org.

Oct. 24-27, 2017: ASBPA National Coastal Conference, Fort Lauderdale-Broward County Convention Center and Hilton Fort Lauderdale Marina Hotel. Details to come at www.asbpa.org. ❖

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Keep an eye out for new ASBPA hapter pages coming soon to our website. We are excited about this new addition!

As always, all the latest Beach News is linked to our home page. Please follow us on Twitter and "like" us on Facebook to stay up to date with everything that is going on with ASBPA. — ***Beth Sciaudone, Ph.D., ASBPA webmaster*** ❖

In celebration of ASBPA's 90th anniversary, we are looking back at 1926:

Nobel Prizes:

- Peace – Ariside Brand and Gustave Stresemann
- Physics – Jean Baptiste Perrin
- Chemistry – Theordor Svedborg
- Medicine – Johanne Fibiger
- Literature – Grazia Deledda ❖