

# Shoreline

May 2010

news from the Florida Shore & Beach Preservation Association

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## The 2010 LEGISLATIVE SESSION

Lisa Armbruster, Director of Governmental Affairs  
and Debbie Flack, President, FSBPA



With the Gulf oil spill concerning most everyone in our State, our minds have quickly shifted from the just completed 2010 Legislative Session. Nonetheless, a summary is warranted! Despite the current economy, budget constraints, and a most difficult Session, the news is quite good. It was another roller coaster ride this year. However, in the end, Florida's Beach Management Program not only survived, but it is alive and well. We must thank a handful of committed Senate and House members, as well as our mutual advocacy effort with the Florida Association of Counties, League of Cities, Caribbean Conservation Corp., and most importantly our BeachWatch member governments and their lobbyists, for our success this year.

### Beach Project Funding – from the Governor's budget to the final allocation!

We began Session with the news that the Governor's Recommended Budget included zero dollars for beach projects, and the documentary stamp tax revenues for beaches – slightly less than \$5 million – was being reallocated in its entirety to fund DEP's Bureau of Beaches and Coastal Systems.

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FSBPA's priorities going into Session were modest – to secure some level of funding for statewide beach projects, protect the continuation of the Ecosystem Management and Restoration Trust Fund, and protect the statutory documentary stamp tax allocation into that trust fund for beach projects. Going into the 2010 Session, we also recognized from our experiences during the 2009 Legislative Session that, in order to attempt to secure some level of funding for statewide beach projects, leveraging federal matching dollars and previous partial state funding commitment would serve as overriding and key considerations.



The budget conference process started late in Session (keeping everyone guessing as to whether Session would end on time or not!), but a flurry of meetings ensued. Sparing the details of every meeting, things can be summarized as follows. At the beginning of the budget conference process during the first committee level meetings, beach project funding was \$0 in the House budget and \$15 million in the Senate budget. After many more meetings that progressed from the committee to chair level, and with the involvement of a few dedicated members of the House and Senate, the beach allocation slowly crept up and the two figures inched closer together. In the end, beach project funding was settled at \$15,536,535.

So, what does a figure as exact as \$15,536,535 mean? In fact, it is a figure, again, based on the critical strategy to leverage federal matching dollars and recognize previous partial state funding commitment. Proviso language accompanying the funding instructs the following projects to be funded in FY 10-11 (per their funding request amount in DEP's Beach Funding Assistance Program submittal) in priority order – Miami-Dade beach nourishment, St. Lucie Inlet management plan implementation, Duval County beach nourishment, Anna Maria Island beach nourishment, Sand Key beach nourishment, Broward County Segment II, and Long Key beach nourishment.

Considering the current environment, it is quite a success to end up with state funding of \$15.5 for beach projects, including a key inlet management project! Together, these projects have the potential to leverage as much as \$40 million in FY 11 federal dollars, with the top four projects targeted to receive \$26.6 million in the President's Recommended Budget. Keep in mind that the Governor has not yet signed the budget, and the threat of a veto remains a distinct possibility.

## **Post-Construction Monitoring – and more beach project funding proviso language**

The beach project funding proviso also included language regarding post-construction monitoring. Given the current economy, budget constraints, and the strategy of maximizing federal dollars for construction projects that put folks to work, it is apparent that post-construction monitoring cannot or will not politically continue to receive an increasing proportion of overall state funding. In fact, this year's proviso specifically instructs that *"funds shall not be allocated for post-construction monitoring."*

Notably, the proviso language did specify that *“state matching dollar for such monitoring may be considered as a local government cost credit toward future design and construction activities for any of the local government sponsor’s beach projects.”* So, while local governments may not benefit from state dollars for post-construction monitoring in FY 10-11, it will count towards its future local share in the design and/or construction phases.

This cost-credit procedure is not a long-term solution, and again, there is little legislative support for ever-increasing post-construction monitoring and associated costs. To that end, FSBPA supported the additional proviso language regarding post-construction monitoring: *“The Department, in conjunction with the Fish and Wildlife Conservation Commission, shall examine all permit-imposed post-construction monitoring requirements and existing protocols in terms of cost-savings, necessity, redundancies and efficiencies, and report back to the Legislature by February 1, 2011.”* An earnest effort must be made to examine current requirements and convince the legislature that those requirements are cost-effective and essential for protection of the environment.

## **The Ecosystem Management and Restoration Trust Fund**

As mentioned earlier, part of FSBPA’s legislative agenda this year was to protect the Ecosystem Management and Restoration Trust Fund. Thankfully, the budget implementing bill reenacts the trust fund to preserve and repair the state’s beaches.

## **Substantive Legislation – Oil and Gas**

Given the growing situation in the Gulf related to the Deepwater Horizon oil spill, little probably needs to be said on this issue. However, it is worth noting that FSBPA actively participated in the House Select Council on Strategic and Economic Planning workshop and hearing process. Numerous workshops were held, and FSBPA elevated the issue important to all of us – protecting our sand resources in any oil and gas proposal or activity. We can only assume that the focus on oil will shift in the 2011 Session from the possibility of drilling in Florida waters to physical and economic recovery.

## **Rigid Coastal Armoring Issues - again and again**



One of the results of the 2007 Legislative Session was a new section in Chapter 161, Beach and Shore Preservation – Rigid Coastal Armoring Structures (“geotubes”). That section of the statute laid out very specific requirements and conditions for their use, acknowledged no changes could be made by the Legislature to such requirements and conditions until a peer-reviewed report on their effectiveness is submitted and considered, and directed the Department not to include any such structures in the State’s Beach Management Plan or agency funding requests.

A number of attempts were made in the late days of Session to amend key bills (Recycling/Environmental Control and Jobs) to essentially gut the 2007 legislation, despite their lack of association to those bills. These amendments were packaged as dune protection and expedited permitting, and these were clearly driven by a high frustration level with agency permitting. In the end, the amendments were not successful, but this issue is not closed.

In addition, in the same section of Chapter 161, Rigid Coastal Armoring Structures, a draft amendment surfaced related to the ongoing and unresolved issues of armoring in Walton County as a result of Hurricane Dennis. The draft amendment language – “may remain in place without the need to obtain a permit from the Department” – would have set a very dangerous precedent and most certainly belonged in a local bill specific to Walton County, not the statute. In the end, a simple legislative provision was made just for FY 10-11 in the Implementing Bill to toll the regulatory clock while allowing for a local bill next session.



## Bill Tracking – bills of interest

FSBPA tracked a number of bills this Session, many of which had nothing to do with beaches, but could have served as vehicles for “unfriendly” amendments during the final days of Session. We won’t list them all, but the following bills may be of interest to some of our readers:

- **CS/HB 83 Specialty License Plates (and SB 170)** creates the “Endless Summer” license plate. The plate will cost \$25 a year and benefit Surfing Evolution & Preservation Corp., a nonprofit connected to Cocoa Beach-based Ron Jon Surf Shop. The funds will be distributed to the nonprofit to pay for activities, programs, and projects aimed at preserving the sport of surfing. It will provide funding for the proposed Surfing’s Evolution & Preservation Experience project; lifeguards and artificial reefs; to support organizations that house the history and artifacts of surfing or promote the sport through exhibits, lectures, and events; and to support programs of other organizations that support beaches and oceans and promote education on beach safety, coastal pollution, and beach ecology.
- **CS/CS/SB 1412 Obsolete or Outdated Agency Plans/Reports/Programs** modifies or deletes numerous specific agency programs, planning, and reporting requirements in the Florida Statutes. It essentially cleans up outdated and obsolete language, including Chapter 161, Beach and Shore Preservation.

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- **CS/CS/HB 1565 Rulemaking (and CS/SB 1844)** requires each agency, before adopting, amending, or repealing certain rules, to prepare a statement of estimated regulatory costs of the proposed rule if the proposed rule has adverse impacts on small businesses or increases regulatory costs. It requires a stay on the implementation of the rule if those regulatory costs have adverse impacts on small business or increase regulatory costs in excess of specified amounts and requires the rule to be ratified by the Legislature before taking effect.
- **CS/SB 1118 Docks (and CS/CS/CS/HB 1239)** amends current statutes regarding the construction and permitting of docks.
- **CS/CS/CS/HB 963 Seaports (and CS/CS/CS/CS/SB 2000)** includes several items related to seaports, including port conceptual permits and other permitting related items, funding, and public-private partnerships.
- **Bills that did not pass: SB 128 Beach Safety** would have expanded the beach safety program administered by the Department of Environmental Protection to apply to all beaches. This bill was not heard in any committees.

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## Gary Oldehoff Presents FSBPA's Perspective on the Supreme Court Case at FSU Law Forum



On Wednesday April 7, 2010, Gary Oldehoff, author of the Association's friend of the court brief in *Stop the Beach Renourishment v. Florida Department of Environmental Protection*, participated in a discussion about the case at the Florida State University College of Law. The event was titled "Beach Restoration: Preserving Public and Private Interests in the Shoreline" was part of the 2010 Environmental Law Forum. Law Professor Donna Christie moderated the discussion. Also participating were Florida Solicitor General Scott Makar, who argued the case for the State, D. Kent Safreit, who argued for Stop the Beach Renourishment, and Tom Ingram, a director of the Florida Open Beaches Foundation.

Mr. Makar and Mr. Safreit provided background on the case and described how beach restoration is implemented when the state undertakes a restoration and renourishment project. Naturally, they set forth the parties' respective positions on the central issue presented to the United States Supreme Court – whether setting an erosion control line and thereafter restoring a beach seaward of that line takes private littoral property. Mr. Safreit argued it did, because private "ocean front" property was thereafter merely "ocean view" property. Mr. Makar disagreed. He argued it did not, because Florida courts had historically ruled the state can create dry land by artificial means and when it does, such land belongs to the state.

Mr. Ingram provided his perspective on the matter. He believed the case was fundamentally about the use of the dry sand beach by the public. Mr. Ingram opined the real issue was that the parties who were challenging the project did not want there to be a dry sand beach available to (and likely used by) the public.

Gary Oldehoff gave the Association's perspective on the case. He asked the attendees to raise their hands if they went to the beach. Almost all raised their hands. He then asked whether they had been to a restored beach. Again, most raised their hands. He observed their responses were not extraordinary, and that was the reason why the Association had been involved in the case. He said beaches are important to the residents and tourists in Florida, whether as their primary recreation or reason for coming to the state, as well as for the state's economy. Mr. Oldehoff explained that, as a friend of the court, the Association had pointed this out in its brief to apprise the court of this important factor. He further explained the Association had also apprised the court that the Florida Supreme Court's decision upholding the Beach And Shore Preservation Act was a well-reasoned application of Florida's

caselaw on property, and the result of the same kind of judicial analysis common to all cases decided by courts, and taught to law students at all of the country's law schools. He finished by observing (as he had in the Association's brief), a finding that setting an erosion control line and thereafter restoring a beach seaward of that line takes private littoral property, and that compensation must be paid to littoral property owners, would seriously jeopardize the future of beach restoration and renourishment because the public would be far less likely to support taxpayer funding of such projects if it perceives the littoral property owners are reaping unreasonable windfalls.



Mark Wilson, Getty Images

The Supreme Court has not decided the case at this time. A decision is expected by the end of June.

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## Oil Spill Alert: Audubon Warns that Preventative Beach Cleaning May Harm Nesting Shorebirds

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**May 1, 2010, Florida Beaches**—A well-intentioned recommendation from Volunteer Florida urging eager people to move beach litter above the high water line to make cleaning up oil that may come ashore easier may prove harmful to beach nesting shorebirds.

Florida's beaches and marshes are the nesting sites for many different species of birds—Plovers, Terns, Gulls, Pelicans, Herons, Egrets, Rails, and more. Beach and marsh nesting birds camouflage their nests, which are usually found above the high water line. In many cases, eggs blend in perfectly with the sand, are hard to see and are easily stepped on and can be inadvertently crushed.

If parent birds are frightened off of their nests even temporarily, eggs and chicks are exposed to extreme weather (sun or rain) as well as predators. Moving beach litter from the shoreline into dunes and areas above the high water line will lead to impacts to nesting birds and could result in damage to the dunes.

Volunteer Florida posted a handout on its website directing people to move litter above the tidal line. This recommendation was apparently made without guidance from wildlife biologists. Audubon has contacted Volunteer Florida and requested that the recommendation be removed or altered.

Audubon has also urged that the Florida Fish and Wildlife Conservation Commission (FWC) to be consulted for direction on appropriate measures to protect wildlife while preparing for potential oil landfall.

For those who want to clean litter from the beaches in anticipation of oil coming ashore, Audubon recommends the following:

- Use approved access points.
- Stay below the tidal line.
- Leave natural debris in place because it provides nesting benefits to shorebirds and other wildlife.
- Only remove man-made litter.
- Do not place litter in the dunes or above the high water line.
- Don't use equipment such as rakes, shovels or tractors.
- Do not bring dogs onto the beach (dogs are a primary sources of beach bird disturbance and mortality.)

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Audubon is asking the news media and volunteer agencies to spread the word that we need to wait for formal direction from agencies coordinating the incident response.

Audubon is encouraging willing volunteers to add their name to our volunteer registry so we can connect folks with appropriate activities when they are made available. To find out more about the registry, visit our blog here: <http://audubonoffloridanews.org/?p=4419>

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Timing is everything! Dr. Maul recently submitted this brief article on the Gulf Loop Current, that is increasingly being discussed in association with the Deepwater Horizon oil spill catastrophe. This is a most beneficial background/resource discussion.

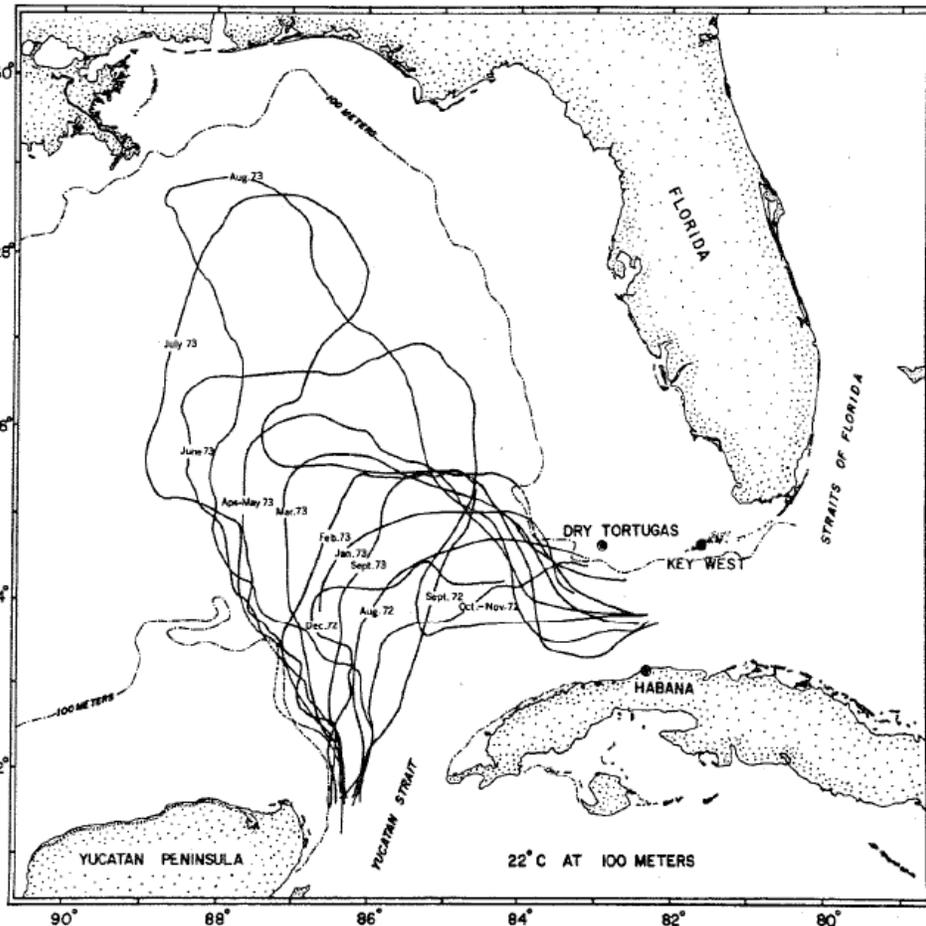
## THE GULF LOOP CURRENT

George A. Maul, Ph.D.

Department of Marine and Environmental Systems, College of Engineering  
 Florida Institute of Technology  
 Melbourne, FL

The major current in the Gulf of Mexico is the Gulf Loop Current. It is a part of the Gulf Stream System and forms initially in the Yucatan Channel between Mexico and Cuba. There it is called the Yucatan Current. As it flows into the

Gulf of Mexico, it eventually turns to the right, and “loops” south to enter the Straits of Florida off Key West. Once in the Straits of Florida it is called the Florida Current and passes the east Florida coast. Once past Cape Canaveral it is called the Gulf Stream, but it is all the same current.



In the Gulf of Mexico, the Gulf Loop Current flows in a large clockwise gyre that starts growing farther and farther northward. Sometimes it grows as far north as the Mississippi Delta where it can entrain river water. Once fully extended into the Gulf of Mexico the Gulf Loop Current forms a large current ring that separates from the main flow. These rings drift to the western Gulf of Mexico where they eventually dissipate.

Once a ring separates, the Yucatan Current tends to flow sharply to the right and it enters the Straits of Florida more directly. The current begins to penetrate northward again, and the process is repeated. This penetration / ring-separation process averages about every 11 months, but is known to be as short as 6 months and as long as 17 months. Current speeds in the Loop Current are 3-5 knots (nautical miles per hour), so if an entrainment event occurs near the Mississippi Delta, the entrained flotsam or jetsam can reach east Florida in about a week.

During the course of the study summarized in the above figure, the Gulf Loop Current reached the Mississippi Delta, and entrained river water that was seen off Dry Tortugas, west of Key West. As early as 1952 low salinity water was measured along the western edge of the Gulf Stream as far north as Cape Hatteras. There is every reason to believe that if the Gulf Loop Current reaches the vicinity of the April 2010 spill, that the oil will be entrained and carried south and east and north past all of Florida's coasts. Satellite tracked buoys confirm that the oil can reach shore just as regularly as *sargassum* (seaweed) washes up on the beach.

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US Army Corps  
of Engineers

## USACE Jacksonville District

### Federal Project Status Updates – May 2010

#### Feasibility Studies:

- **St. Johns County** – Jacksonville District recently received Federal Stimulus funding for this project. Scopes of work are prepared to contract out NEPA, environmental resource surveys, and additional geotechnical investigations using the stimulus funds. Agency Technical Review (ATR) of chapters 1-5 of the feasibility report has been completed and these chapters will now go to South Atlantic Division (SAD) for review. Economic modeling work with Beach-fx has been completed for the without project conditions. These conditions, along with preliminary alternatives for hurricane and storm damage reduction, are anticipated to be presented to SAD and Headquarters during a Feasibility Scoping Meeting (FSM) in summer 2010.
- **Flagler County** – Economic modeling work with Beach-fx is currently being done to identify the without project future conditions. Report preparation to document existing and future without project conditions in the study area is ongoing. Agency Technical Review (ATR) of chapters 1-5 of the feasibility report will begin in late June 2009. The without project conditions, along with preliminary alternatives for hurricane and storm damage reduction, are anticipated to be presented to the South Atlantic Division (SAD) and Headquarters during a Feasibility Scoping Meeting (FSM) in November 2010. Geotechnical investigations are currently in progress.
- **St. Lucie County** – A study team site visit occurred on Nov 3, 2009. Jacksonville District is continuing data collection in preparation for the Beach-fx model work during the early feasibility stage. The non-Federal Sponsor is conducting environmental surveys and initiating an environmental impact assessment.

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**OTHER MAJOR PLANNING REPORTS:**

- The **Brevard County Mid-Reach General Reevaluation Report (GRR)** team has completed the draft report and received approval from Headquarters for release to the public and concurrent independent external peer review. A public workshop for the Mid-Reach was held on February 10, 2010. The public review period will end on March 10, 2010. The independent external peer review has been completed. Following revisions the final report will be submitted to SAD and Headquarters prior to submission to the Assistant Secretary of the Army for final approval.
- **Jupiter/Carlin Shore Protection Project** - Palm Beach County has started a 934 report/NEPA document for Jupiter/Carlin Segment to extend Federal participation for the next renourishment. The Sponsor will be running the Beach-fx model. Federal participation has expired and congressional funds have not been appropriated on this project, to date. Therefore, Corps involvement has ceased until congressional funding can be attained.
- The **Draft Ft. Pierce Shore Protection Project GRR** seeks an additional 50 years of Federal participation in the project as well as the inclusion of groins to the project area. The sponsor is currently running Beach-fx, and the GRR is undergoing further evaluation to establish the tentative plan.
- **Broward County Shore Protection Project - Segment I** (north county line to Hillsboro Inlet) – Integrated GRR and NEPA document – Preparation of the GRR and NEPA document for initial construction of this segment has been initiated by the Jacksonville District. SAJ has initiated Beach-fx data collection and shoreline biological surveys.  
**Segment II** – GRR Addendum and NEPA document – Sponsor has initiated their GRR Addendum for the upcoming renourishment. **Segment III** – A Draft Detailed Design Report (DDR) has been completed to address the subsidence/erosion of the beach fill at the northern end of Segment III under the authority for the Shore Protection Project.

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- In **Dade County**, work was funded for a **Section 227 Project** at 63<sup>rd</sup> Street in Miami and was reinitiated in August 2008. A design and build contract is being evaluated in cooperation with the Department of Environmental Resources Management (DERM) and Reef Innovation, Inc. Genesis modeling is underway to determine the minimum structural footprint and the exact project location. NEPA documentation and WQC are underway, with the Joint Coastal Permit to be submitted upon completion.
- The **Martin County Draft Limited Reevaluation Report (LRR) and Supplemental Environmental Impact Statement (SEIS)** has received Agency Technical Review (ATR) certification. This report evaluates impacts to the Benefit/Cost ratio of the approved Shore Protection Project due to the use of a new borrow area. Turtle-friendly beach construction templates are also being evaluated for use on this project. The document is now being sent to South Atlantic Division (SAD) for review and approval for public release.

## REGIONAL SEDIMENT MANAGEMENT:

- The revised **Dade County Letter Report** is being reviewed at the Headquarters level. The report was revised with findings of the **Southeast Atlantic Regional Sediment Management Plan for Florida**.

## CONSTRUCTION:

- In **Brevard County** the South Reach Shore Protection Project nourishment, completed on April 17<sup>th</sup> 2010, placed a final volume of 636,411 cubic yards in Indialantic and Melbourne Beach. The Canaveral Harbor Sand Bypass (pictured) was completed on April 13<sup>th</sup> 2010.



*Photos Courtesy of  
Olsen Associates, Inc.  
and  
Canaveral Port Authority*

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## **FDEP Bureau of Beaches & Coastal Systems**

### **Use of Beach Erosion Control Structures**

### **In Florida's Beach Management Program**

*Robert Brantly, P.E.*

*Coastal Engineering Program Administrator*

*Bureau of Beaches and Coastal Systems*

*Division of Water Resource Management*

*Florida Department of Environmental Protection*

The State of Florida has a beach erosion control funding assistance program for beach restoration and nourishment projects, including inlet management projects, that cost-effectively provides beach-quality material for critically eroded beaches. Other states have programs similar to Florida that prefer beach restoration and nourishment to address erosion problems rather than use of erosion control structures, such as groins and breakwaters. Some states actually prohibit the use of "rigid coastal structures". The erosion control program in Florida is charged by the Legislature to develop strategies to extend the life of beach nourishment and reduce the frequency of nourishment; cost-sharing for "hard structures" is prohibited unless designed for erosion control or to enhance beach nourishment project longevity or inlet bypassing performance. This provision of statute allows the use of erosion control structures as an element of a statewide beach management program.

Historically, the use of beach erosion control structures, primarily groins, has often caused adverse impacts to the coastal system, because the deficit of sand supplied to the critically eroded beach was not addressed as the primary cause of erosion. This historical experience was the basis for requiring the project area where structures were authorized under current statute and rules to be "pre-filled" with sand as a condition of the permit. Later, monitoring indicated that pre-filling was inadequate to address adverse impacts to down drift beaches; a program of periodic beach nourishment of the project area was needed to offset down drift impacts. At present, using more sophisticated engineering and design methods, including computer numerical modeling of coastal littoral processes, beach erosion control structures are being proposed that do not include periodic beach nourishment. The acceptable use of rigid structures in such circumstances is now being considered in the regulatory review process on a case by case basis.

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The year 1986 is used as a starting point in this review of the historic use of structures in Florida. These structures include groins and breakwaters of a variety of types that are located in different coastal settings with different performance objectives. The year 1986 corresponds to the beginning of accelerated growth in beach and inlet management activities in Florida. Activities after this date have been conducted in accordance with the regulatory criteria and funding provisions as currently exist in Florida Statutes.

This discussion does not include the reconstruction of structures originally built in the 1970's or before, such as the Bal Harbor or Virginia Key groin fields, or other groin fields built by private interests, such as Madeira Beach. Consideration of these earlier projects is beneficial to understanding the appropriate use of structures in Florida's beach management program. The performance of projects such as the Madeira Beach groin field supported the later permitted use of structures at the downdrift boundary of a littoral cell. However, more often, the early use or overuse of erosion control structures indicates their inappropriate application to coastal erosion problems.

Also, not included are a number of structures built in the Florida Keys, where the unique coastal setting (pocket beaches and semi-isolate littoral cells) is not applicable to understanding the statewide programmatic use of coastal erosion control structures.

### **Erosion Control Structures since 1986**

**Number of Structure Projects: 31**

**Number of Structures-only Projects: 10**

**Number of Beach Restoration Projects: 53**

**Number of Beach Projects with Structures: 21**

Of the thirty-one (31) projects involving the construction of beach erosion control structures permitted since 1986, all have been built except for two: at Gasparilla Island and Ft. Myers Beach. When compared to fifty three (53) beach restoration projects, clearly beach restoration has been the preferred alternative to preserving Florida's beaches. However, it is also evident that structures have been used in conjunction with beach restoration. Thirteen (13) beach projects involved construction of structures after physical monitoring indicated unacceptable erosion due to end losses or at hotspots.

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Ten (10) structural projects not within a beach restoration project have been constructed. Six (6) of these receive periodic fill placements from navigation channel maintenance dredging and the others are located at the downdrift boundary of a littoral cell.

## Coastal Setting of Structure Projects

### Open Coast

Linear Shoreline: 5

Inlet Influence: 19

Headland: 4

Inlet Shoreline: 3



*Gordon Pass, Keewaydin Island (2009); Coastal Setting: Structures Adjacent to Inlet*

A review with regard to coastal setting also indicates the circumstances where use of erosion control structures has been deemed necessary to preserve and maintain beaches. The majority of projects are along the open coast beaches of the Atlantic Ocean or Gulf of Mexico.

Linear shorelines refer to segments of open coast beach that are relatively straight and elevation contours are generally uniform and parallel. Five (5) projects have been constructed at a linear shoreline coastal setting. All of these are within the limits of a beach nourishment project.

Beaches that are within the area of inlet influence, which are also located within a linear segment of open coast, are affected by the sediment deficit produced by the navigation improvements and sometimes by the wave refraction effects of ebb shoals. Of the nineteen (19) structure projects located within the area of inlet influence, eight (8) were constructed to reduce erosion from end losses of a beach nourishment project, and ten (10) were constructed to offset severe erosion impacts caused by the inlet.

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## Beach Restoration Projects with Structures

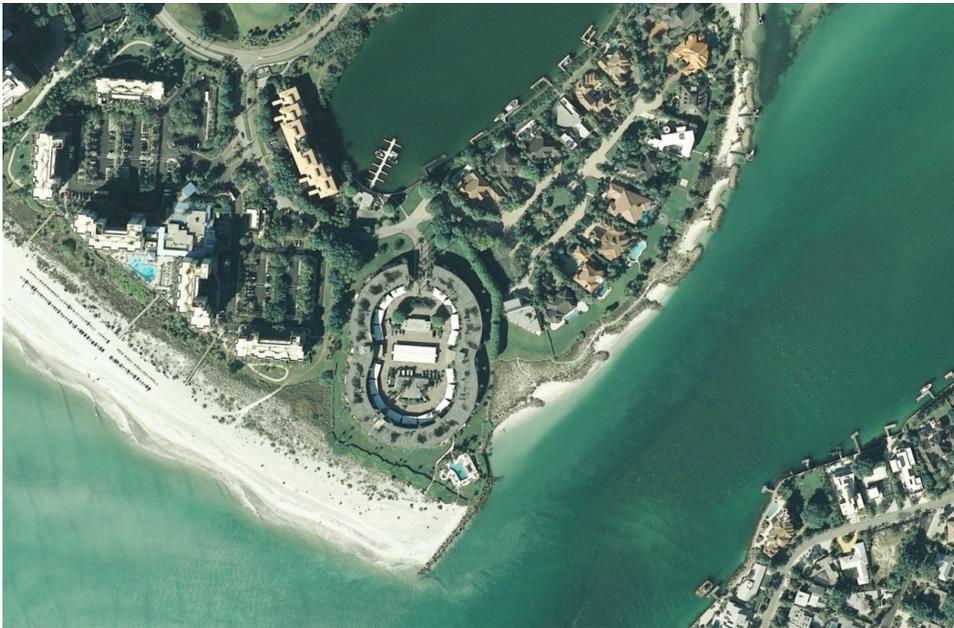
### Problem or Need

End Losses 10

Hotspots or Seaward Encroachment 7

Inlet Impacts 4

Many of the first uses of structures were for the control of erosion from end losses of beach nourishment projects. Beginning in the late 1990's, structures were used to control erosion losses at hotspots based upon the post-construction physical monitoring of the beach nourishment project. More recently, structures have been used to help maintain a minimum beach width where seaward encroachment of upland development creates a plan form anomaly in the beach fill and monitoring indicates the design profile cannot be maintained through the nourishment cycle.



*New Pass, Longboat Key (2008); Beach Restoration Project: Structure to Reduce End Losses*

The number of structure projects within an area of inlet influence compared to the number of structure projects based upon a need to address inlet impacts does not appear to be inconsistent. However, this is explained by the need to address the immediate problem of beach erosion and longevity of beach fill through the use of structures. The stated structural design objective addresses the proximate cause of beach erosion rather than the ultimate problem of sediment deficits caused by the inlet navigation improvements. Many structural features have been implemented at Florida's altered inlets to facilitated sand bypassing and offset erosion of the adjacent beaches. These efforts are another subject and not included here.

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## **Program and Regulatory Policy Pursuant to Statute**

The Legislature has declared that beach restoration and nourishment projects as approved by Florida Statute 161.161, are in the public interest. No such declaration is made for use of beach erosion control structures. Florida Statutes do provide for State funding of structures designed for erosion control or to enhance the longevity of beach nourishment projects or bypassing performance (ss161.101). This provision of law allows the funding of structure projects where conventional beach nourishment alone is not practical or viable.

Beach management activities, such as the construction of erosion control structures, are authorized by the Department under a Joint Coastal Permit, which includes Coastal Construction under Florida Statute 161.041 and Environmental Resource – State Water Quality Certification under Florida Statute 373. Generally, ss161.041 regulates the protection of the coastal littoral system with the aim to avoid or minimize beach erosion. Florida Statute 373 is primarily concerned with water quality, including the protection of water dependent species, although Chapter 161 also provides specific protection to marine turtles and manatees.

Pursuant to ss 161.041, the department may authorize a structure upon consideration of facts and circumstances, including: (a) adequate engineering data concerning inlet and shoreline stability and storm tides related to shoreline topography; (b) design features of the proposed structures or activities; and (c) potential impacts of the location of such structures or activities.

Adequate engineering data consists of assessments of physical monitoring data, along with engineering and design analyses using theory and empirically-based formulas, often the aided by computer based numerical modeling of coastal processes. The work must conform with generally accepted standards and practices of coastal engineering.

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## FINAL Chapter in the SHORELINE Sea Level Rise Discussion

*The opinions and conclusions set forth in this series of thought-provoking articles between Walton/Dean and Parkinson/Donoghue are solely those of the authors and do not represent the position of the Florida Shore & Beach Preservation Association (D. Flack, President)*

### Response to Parkinson-Donoghue

by **Todd L. Walton Jr. and Robert G. Dean**

The authors of "Thoughts Outside the Bubble on Sea Level Rise" would like to thank the authors of "Bursting the Bubble of Doom and Adapting to Sea Level Rise" in their agreement that Floridians don't need to move to the mountains and that a common sense approach to managing sea level rise in both planning and economics is a sound approach. As both of us have for many years been actively involved in just that with technical work supporting the Coastal Construction Control Line (which provides controls and limitations on coastal development), we were somewhat dismayed at a suggestion that we were "perhaps making light" of the sea level rise concerns. Our simple message was that we advocated "bursting the bubble of {suggested} doom and adapting to sea level rise", i.e. surprisingly the title of the response article to our article.

With regard to evaluation of the scenarios though, we feel somewhat differently than Parkinson and Donoghue in that we believe hard data (in the present case "actual sea level rise data" ) should be the top priority in evaluating uncertainty rather than global climate models that have numerous assumptions. In this regard, it should be noted that Church and White (2006) (citation previously noted by Parkinson and Donoghue) and Walton(2007) (citation previously provided by Walton and Dean) found an acceleration component in sea level data but yet far less future sea level rise than what Parkinson and Donoghue appear to suggest is a certainty. The article cited by the respondees (i.e. Church and White (2006)) suggests that if sea level continues at an acceleration consistent with the data, the "1990 to 2100 rise would range from 0.28 to 0.34 meters, consistent with projections in the IPCC TAR".

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We agree there is great uncertainty in future sea level rise but don't agree that "complex computer-based Global Climate Models are more reliable than estimates based on ... long term tide gauge data" as the authors have expressed. Both approaches to analysis have their place but hard data should rank higher in view of the fact we Floridians should be most interested in "relative sea level rise" as opposed to "global sea level rise". This does not suggest that we should not attempt to consider the possibility of more extreme sea level rises any more than we should discount other uncertainty in the future (i.e. earthquakes, tsunamis, asteroids, etc.)

We do agree with the respondees that all strategies must be considered and we have discussed some engineering approaches that nations have taken to deal with sea level rise. An example in our own country is provided after the Galveston hurricane of 1900 when, rather than abandon their city, the residents of Galveston raised the island and development/buildings on the island and constructed the now famous Galveston Seawall. Although this may not be a satisfactory solution or economically feasible for many locations, it should not be ruled out without evaluation. For many Pacific Islands, this strategy may be required for their survival as a nation.

The most appropriate response to sea level rise is indeed one that many coastal locations will need to address at some time in the future. One of the most complicating matters is that of time scale. Unfortunately the time scale of sea level acceleration is poorly known and, collectively, we have not been able to develop a convincing demonstration of our predictive abilities. Just as delaying too long to respond to sea level rise will incur an inordinate societal cost, responding proactively prematurely will also!

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# CALENDAR OF EVENTS



## FSBPA Conferences

**September 22-24, 2010**

**FSBPA Annual Meeting**

Hyatt Regency Clearwater Beach Resort  
Clearwater Beach, FL

**February 9-11, 2011**

**National Conference on Beach Preservation Technology**

Hyatt Regency Jacksonville Riverfront  
Jacksonville, FL

## **OTHER DATES OF INTEREST**

**October 13-15, 2010**

ASBPA National Coastal Conference  
Charleston Marriott  
Charleston, SC

**February 7-9, 2011**

12th annual CIRP Workshop  
Hyatt Regency Jacksonville Riverfront  
Jacksonville, FL

**May 2 - 6, 2011**

Coastal Sediments '11  
Miami, Florida | Miami Regency Hyatt

Join us  
September 22-24, 2010

54<sup>th</sup> Annual Meeting  
Florida Shore and Beach  
Preservation Association

Call for Papers  
Deadline June 11, 2010

Award Nominations  
Deadline July 16, 2010

Conference Registration

Hotel Information

Exhibit Information

*SHORELINE will not be published in June, 2010*

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