

## Beach Renourishment Set to Begin

At their August Board Meeting, the Captiva Erosion Prevention District Board of Commissioners voted unanimously to award Great Lakes Dredge and Dock Company a \$19.5 million contract to replenish the Captiva shoreline and an area along north Sanibel. Great Lakes Dredge and Dock Company, headquartered in Oak Brook, Illinois, submitted the lowest of three bids received. The 123 year old company was the contractor for 2005/2006 Captiva beach renourishment project and is the largest provider of dredging services in the United States. The project manager for the contractor is Steve Lawrence. Coastal Planning & Engineering of Boca Raton is providing the design and engineering services. The project sponsor is the Board of Commissioners of the Captiva Erosion Prevention District (CEPD), with funding from the State of Florida Department of Environmental Protection, Lee County Board of County Commissioners, and Captiva Island property owners.

Mobilization for the project is estimated to begin off shore late September, followed by shoreline mobilization and sand placement starting in October. Construction will



The Padre Island, one of two hopper dredgers to be used on the project

begin at Red Fish Pass and move north to south along the island. Work is expected to be completed the end of January. Since the beginning of the summer, the Sanibel Captiva Conservation Foundation (SCCF) has monitored for sea turtles and shore birds. Sea turtle nests that are laid in an active construction area are moved by SCCF to another part of the beach where they will not be

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## Be Aware of Storm Surge

As we approach the middle of hurricane season, Floridians may notice weather forecasters this year have put storm surge on their radar for their warnings. This comes in the wake of last year's storms when people thought an official status as a hurricane and the storm's wind were the largest threat to people and property. Rick Knabb, Director of the National Hurricane Center, wants forecasters to change how they talk about storm surge so the public and media understand that storm surge is the greatest of hurricane hazards regardless of the hurricane's rating and continues well after the storm.



Storm surge after Katrina on AL's Dauphin Island  
(Photo: Tyrone Turner, National Geographic)

Storm surge is the abnormal rise of sea water produced by the storm's wind pushing water toward the shore. It can happen very quickly and is blamed for large death tolls. While the surge can come from the ocean, it can also come from other bodies of water such as bays and sounds and reach inland. It should not be confused with storm tide, which is a rise in water level that can cause extreme flooding.

So that the public can understand the danger and heed dire warnings from forecasters to get out of the way, the hurricane center plans to test the use of high resolution color coded maps to show people where to expect storm surge. Forecasters are also learning how to better communicate the danger of storm surge to the public through working with social scientists. Beginning in 2015, separate storm surge warnings similar to current storm warnings will be introduced.

As always, coastal residents should listen to local

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## An Eye on Wildlife

While the Captiva Beach Nourishment Project will provide enhanced nesting and foraging habitat for sea turtles and shorebirds, protection of the island's wildlife is a condition of the planning, design, and construction of the project. Measures are taken to ensure adverse effects to wildlife are avoided and minimized to the greatest



A piping plover

extent possible. As early as three months prior to construction, a monitoring plan for sea turtles and shorebirds, including piping plover, was implemented.

In preparation for the construction, early in the spring the CEPD installed avoidance signs around optimal piping plover habitat in the project area. Additionally, the District's website at [www.mycepd.com](http://www.mycepd.com) was updated to include information on how the public also can help to minimize disturbance to piping plovers. The goal is to educate the public on piping plover optimal habit and the importance of wrack.

As required by permit, long before construction activities were scheduled to begin, piping plover and shore bird surveyors began to assess potential effects of the project. Shore bird surveys conducted by SCCF's Coordinator of Shorebird Monitoring, Joel Coquette, will continue for three years after construction. The survey data is submitted to the Florida Fish and Wildlife Conservation Commission.

Conservation measures are also necessary to protect sea turtles. Contractor lighting associated with the project is minimized to reduce the possibility of disrupting nesting and



Loggerhead turtle returning to the Gulf after depositing her eggs

hatchling sea turtles. The sand borrow area for the project consists of beach quality sand suitable for sea turtle nesting, successful incubation, and hatchling emergence. The sand placement is within a design that creates a sea turtle friendly beach profile including dune configuration and shape. After construction the sand compaction will be monitored for three years and tilling conducted if needed to provide a sandy beach conducive to sea turtle nesting and hatching. Turtle surveys by permitted sea turtle surveyor and SCCF Sea Turtle Conservation Coordinator

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## Plastic Trash Poisons Our Oceans

Have you ever been annoyed to see the trash beachgoers leave behind? It's only the tip of the iceberg. Tons of trash wind up in the Gulf and beyond. This trash is poisoning our oceans and the primary source is plastic.

10% of the 260 million tons of plastic produced annually ends up in the oceans and become part of "ocean garbage patches" (National Geographic News). 90% of the trash found in these patches is plastic and 80% of it comes from land sources. The Great Pacific Garbage Patch, the largest of these, is estimated at twice the size of Texas.

The problem with plastic is that it does not biodegrade. It photodegrades, fragmenting into smaller pieces called nurdles without breaking into simpler compounds. These



Seal entangled in fishing line

tiny plastic particles are mistaken for food by filter feeding fish and birds, injuring or killing them. Larger animals eat the

smaller contaminated prey and are poisoned themselves. Nurdles also absorb toxic chemicals and even widely diffused chemicals become concentrated in them.

Becoming entangled in this debris is also a serious problem. At least 267 different species have suffered from entanglement or ingestion of marine debris, including 86% of all sea turtles, 44% of all seabird species, 43% of all marine mammals, and numerous fish and crustacean species (*Impacts of Marine Debris*; Laist D.W (1997). Another harmful aspect is the impact on organisms living on the sea floor. Plastic debris break

down and settle on the sea floor impacting the organisms there. Also floating plastic debris can act as a raft for alien species to grow and



Mid-ocean trash pile

migrate. Finally, this garbage threatens tourism and recreation and the critical dollars they generate. It also produces navigation hazards and costs millions to remove.

Are there solutions? Scientists studying the issue say sweeping the ocean of all its trash is impossible and would harm plankton and other marine life. Some say the goal should be to influence the private sector and shift the burden from government, a goal some in the private sector would probably oppose. Indeed, a California bill to

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impacted by construction. The project will increase the amount of sand on Captiva's beach by 725,000 cubic yards as well as 75,000 cubic yards on north Sanibel. Beachgoers can expect sand that is compatible with the existing beach material. The Captiva project design will also encompass dune restoration and vegetation.

Two hopper dredges, the Padre Island and the Dodge Island, will obtain sand for the beach restoration from permitted Borrow Area VI-E located 8.3 nautical miles west of Captiva Island. The hopper dredge's trailing suction will vacuum the sand from the floor of the Gulf of Mexico and transport it to a pump out location approximately 12,000 feet off shore and pump the sand directly to the beach via submerged pipeline. As a section of the beach is being restored, a shore pipe will be present along the construction area but moved as the project progresses. Once pumped to the beach, bulldozers will be used to shape the sand to the required template. The bulldozers are equipped with safety backup alarms. Weather permitting, construction will proceed on a 24 hour basis, seven days a week.

The project will run from contractor staging areas located at the Allison Hagerup and Turner Beach parking areas. The staging areas provide equipment storage and beach access for the contractor. These parking areas will be closed to the public.

Great Lakes will utilize two dredges that will move construction areas along the beach quite rapidly. Nevertheless, as beach sections are restored, there will be some noise and construction that will be inconvenient.

Residents and visitors can receive updates on the progress of the renourishment by going to the CEPD website, [www.mycepd.com](http://www.mycepd.com). The project contact is Kathy Rooker.

Look for **Project Updates** on CEPD's website, [www.mycepd.com](http://www.mycepd.com), starting Sept. 9.

## Be Aware of Storm Surge

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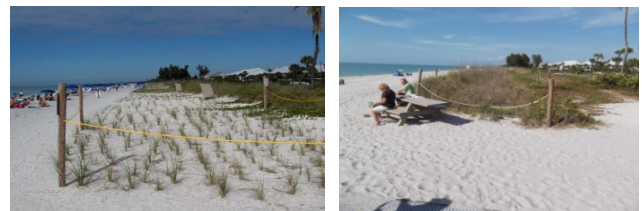
emergency management officials when the order is given to evacuate. Take precautions and have an evacuation plan and emergency supplies well before the threat of a storm.

## Dune Restoration

Part of the Captiva Beach Nourishment Project is dune restoration. Dunes are important because they absorb the effects of storms, storm surges, and wind, thus protecting homes and infrastructure. They are the first line of defense – nature's surge protector. They also provide habitat for plants and animals.

During the Captiva project, dunes that have been eroded will be restored and re-vegetated using native plants. The structure of a sand dune depends greatly on the vegetation that anchors and stabilizes it. Vegetation also suppresses blowing sand and builds up the dune by capturing wind-borne sand.

Two examples of successful restoration and re-vegetation are at Hagerup Beach and Harry Kaiser's house on Captiva. At Alison Hagerup Beach Park, the dune both north and south of the beach entrance was rehabilitated in 2006. The photograph (below left) shows the north area just after sea oats were planted. Six years later, the dune is about 2 feet higher, adding more protection to the



property behind it. Plants have covered the entire area with other native plants spontaneously sprouting with the aid of wildlife dropping seeds. The second photograph (above right) shows the transformation.

Harry Kaiser knows the value of dunes. The protection Harry had for his property on Captiva before the first nourishment project consisted of large boulders. Hurricanes pushed water up to Harry's back door; the boulders provided little protection. Then came the 1996 nourishment, which added sand to create a wider beach and dune. Subsequent projects have helped maintain them.

Now Harry's dune is high, wide, and green. Their health is no accident. "I have spent a lot of time and effort promoting the growth of vegetation on my dunes," Kaiser said. "It has been worth the effort. You can see it. Two and one-half years ago, I planted additional sea oats. They have thrived, but more importantly, you can see where additional sand has accreted around their base. This has created multiple dunes and also built up the dune in front

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### An Eye on Wildlife

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Amanda Bryant began May 1 and will continue during construction until the last nest hatches. Once construction ends, the daily nesting surveys will be conducted for two additional nesting seasons. These surveys begin at sunrise and are completed by 9 a.m. Nests are staked with four yellow stakes, yellow flagging, and a warning sign. Any nest found within the sand placement area is relocated to minimize nest burial, crushing of eggs, or nest excavation.

Investing in healthy beaches is not only important in terms of a recreation, storm protection, and economics. Healthy beaches are also an ecological investment.

### Dune Restoration

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of my neighbors' properties. Other native dunes plants have spontaneously grown. What's more, even after all the summer storms like Debby we have had in the past two years, the water never has gotten close to my house – the dune did its job."

Although a relatively small part of the overall project, dune restoration and re-vegetation provide a huge return on investment relative to the ecological benefits it provides and the storm protection benefits are incalculable.

### Plastic Trash Poisons Our Oceans

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this effect died this year in the State Assembly without getting to a vote.

Experts agree it comes down to managing waste on land where most of the trash originates. But there is no agreement on how to do this. Recommendations include finding environmentally safe alternatives to plastic, expanding recycling programs to accommodate more types of plastic, educating the public about the need and value of recycling, and developing technologies that convert plastic to fuel or clothing. One thing almost everyone agrees on: the garbage patches will continue to grow and marine wildlife will continue to suffer unless something is done.

#### SAVE THE DATE

9/23/13	Regular Board Meeting	3:00 pm
9/23/13	Final Budget Hearing	5:01 pm
10/9/13	Regular Board Meeting	1:00 pm
11/13/13	Regular Board Meeting	1:00 pm
12/11/13	Regular Board Meeting	1:00 pm

Meetings are held at Tween Waters Inn, 15951 Captiva Dr., Captiva, FL 33924. The public is welcome.

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Captiva Erosion Prevention District  
P.O. Box 365  
Captiva, FL 33924