

Board of County Commissioners

Agenda Request

Date of Meeting: April 19, 2010

Date Submitted: April 12, 2010

To: Honorable Chairman and Members of the Board

From: Lynn Artz, County Commissioner, District 5

Subject: Request Board Approval of Erosion Control Plan for Shell Point Beach

Statement of Issue:

This agenda item requests Board approval to direct staff to investigate low-cost erosion control strategies for Shell Point Beach Park.

Background/Description:

The Florida Department of Protection (DEP) has designated the entire shoreline along Shell Point (~1 mile) as “critically eroding.” Between 1972 and 1994, the shoreline eroded at an average of -0.9 ft per year. Between 1994 and 2007, the shoreline eroded at an average of -1.5 ft per year. At the request of Wakulla County, the Bureau of Beaches & Coastal Systems, Division of Resource Management at DEP conducted a feasibility study and developed a beach management plan for the Shell Point shoreline.

In the spring of 2009, many Shell Point residents were concerned about the extent of the erosion at Shell Point Beach as it threatened mature cedar tree and park facilities—and hurricane season was approaching. At the June 2, 2009 meeting of the County Commission, Commissioner Artz proposed to follow the study recommendations and seek erosion control funding from DEP for beach berm enhancement. After discussion, this item was withdrawn.

Meanwhile, to immediately address the erosion threatening the cedar tree and park infrastructure, the County brought in a small amount of matched sand (~250 sq yds) to replenish the beach and preserve the tree (temporarily). Unfortunately, the sand that was added in the Spring of 2009 has since washed away due to wave action.

County personnel have continued to seek expert advice and have considered numerous options. In the Spring of 2010, the County used the fence around the cedar tree to create a “planter box” and again brought in a small amount of matched sand to fill the planter box and replenish the beach directly in front of it. Fabric cloth and oyster shells were placed on top of the sand in the planter box

In addition, a change in beach management was initiated by a local marina in 2009, leaving accumulating wrack (washed-up sea grasses and other natural debris) to build the beach.

In the months since the decision to leave the wrack in place, new vegetated berms with smooth cordgrass (*Spartina alterniflora*) have begun to form seaward of the cedar tree. The new area of intertidal vegetation is an expansion of an existing stand of cordgrass to the east. Cordgrasses and berms are a natural wave break and, when established, support beach stabilization, erosion control, and provide nursery habitat for important commercial and recreational marine species.

Keep Wakulla Beautiful partnered with Wakulla Recreation and Parks, and Cooperative Extension to complete community restoration of upland areas at Shell Point. This occurred in conjunction with the Coastal Cleanup in September of 2009 and another event in October of 2009. Involved in planting activities were local residents, landscape professionals, Iris Garden Club members including Commissioner Artz, and 4-H Marine Science Club members, leaders, and their families. Wakulla County Cooperative Extension (UF-IFAS / FL Sea Grant) provided educational instruction related to plants and the habitat they create. Currently 4-H youth are growing, with support of a local nursery, additional plants for upland stabilization at Shell Point this summer while also learning about coastal ecosystems in club meetings and field investigations.

On March 29, 2010, Wakulla County submitted a shoreline restoration grant application to the National Association of Counties (NACo) and National Oceanic and Atmospheric Administration (NOAA). In support of this application, the County obtained a permit to collect 1000-1300 smooth cordgrass (*Spartina alterniflora*) plants from Alligator Harbor. These donor plants would be used to establish a nursery propagating additional shoreline restoration plants. Volunteers would plant nursery-grown plants along the shoreline at Shell Point and Mashers Sands. However, the County will not know if this grant has been funded until June of 2010.

Analysis:

Offered now for Board consideration and are two relatively inexpensive proposals that may help to slow erosion and protect Park infrastructure in the short run at Shell Point Beach. In addition, a Community and Board workshop is suggested at future date to discuss these short-term options as well as long-term prospects and plans for Shell Point Beach.

Action #1: Shoreline Vegetation

In the interim, as the NOAA Grant has been submitted and awaits approval, Cooperative Extension Service has secured a permit to collect smooth cordgrass plants. They are willing to lead efforts to establish a nursery on county land (such as the Community Center site soon to be purchased). The nursery will require two 20' X 20' spaces on level ground with full-day sun exposure. The Community Center site would be ideal as 4-H volunteers, Junior Master Gardeners, and other youth will help to tend the nursery. In the future a nursery placed on the Community Center site could be moved as needed to accommodate Community Center land use plans.

A portion of the plants raised at the nursery could be ready for planting in August. Volunteers would do the planting along the Shell Point shoreline. The only expense would be the \$830 DEP permit fee to plant the plants, possibly less if designated by DEP as habitat restoration. An investigation by staff could clarify the DEP fees required.

To accelerate the planting of shoreline vegetation, the availability of genetically appropriate plants for purchase could be explored. If Shell Point residents and others are willing to donate about \$1,000 for plant acquisition, approximately 450 large smooth cordgrass plants could be purchased and planted at Shell Point in June of 2010. Other public sources such as FDEP and USDA Natural Resources Conservation Service (NRCS) plant materials lab may have additional plants available at little or no cost.

Action #2: Revetment Evaluation and Design

Alternatively or in addition to Action #1, large boulders placed along the shoreline in front of the park infrastructure and cedar tree could help to stabilize the shoreline, especially during storms. The permit itself would cost \$830. Several local sources for boulders exist and pricing for procurement and transportation could be investigated by staff. Some of the construction materials could be donated including boulders and sand.

DEP submerged lands permitting has suggested a project in Franklin County as a model that could be possibly emulated at Shell Point. The design would address erosion by integrating boulder revetment and a complementary cordgrass planting. With a combined project, it is possible to pay one permit for one project that includes the revetment construction and plants instillation.

Evaluation of the Franklin County model site and a conceptual design of the revetment structure (Breakwater, Upland Retaining wall, or other lower cost alternatives) for Shell Point could be provided by a contracted coastal consultant. This scope of work goes beyond staff abilities and knowledge. The consultant would investigate permitting requirements, evaluate design alternatives, examine engineering requirements, list the magnitude of project costs, and locate sources of potential funding. This would be presented to the BOCC as a report. Cost of a qualified coastal consultant is estimated to be less than \$2,000. Additional work could possibly include Mashes Sands for \$2,500 or less, thus providing direction for all of the critically eroding areas in Wakulla County as designated by DEP.

Coastal analysis would benefit future grant proposals allowing them to be more competitive with inclusion of information from this type of evaluation. Additional funds for coastal consulting and engineering may be available in the near future if grant funds from NACo and NOAA are awarded in June.

Options:

1. Approve the Erosion Control Plan for Shell Point Beach (Actions #1 and #2).
2. Approve investigating only Action #1
3. Approve investigating only Action #2.
4. Do not approve investigating either Actions #1 or #2.
5. Board direction.

Recommendation:

Option #1

Attachment(s):

1. June 2, 2009 Agenda Item re: Erosion Control Funding
2. March 29, 2010 NACo / NOAA Grant Proposal