

**HOUSE OF REPRESENTATIVES STAFF ANALYSIS**

**BILL #:** HB 921  
**SPONSOR(S):** Mayfield  
**TIED BILLS:**

Coastal Erosion

**IDEN./SIM. BILLS:** SB 796

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REFERENCE	ACTION	ANALYST	STAFF DIRECTOR
1) Environmental Regulation Committee	7 Y, 0 N	Kliner	Kliner
2) Agriculture & Environment Appropriations Committee			
3) State Resources Council			
4)			
5)			

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**SUMMARY ANALYSIS**

The bill adds “dune restoration” and “the use of dune stabilization or restoration structures” to definitions within Chapter 161, F.S. (Beach and Shore Preservation). The bill authorizes the Department of Environmental Protection (DEP) to issue permits for dune stabilization or restoration structures to address critical erosion. The DEP may delegate its permitting, supervisory and regulatory authority to authorize a political subdivision or municipality to permit, supervise and regulate a dune stabilization or restoration structure.

The bill provides criteria to the DEP or another permitting agency (political subdivision, municipality) relating to the installation or permitting of structures following a storm event which causes critical erosion. The bill requires a permitting agency to notify the DEP if it installs such a structure within its jurisdiction. The DEP may require engineering certificates to ensure the adequacy of the structure’s design or construction. The bill does not define at what stage the DEP may require such certificates.

The bill provides that if the DEP includes any biological or environmental monitoring conditions in the permit requirements, denies a permit application, or accepts any engineering evidence provided by a coastal engineer, the DEP is required to use “clearly defined scientific principles.”

The bill provides broad rulemaking authority to the DEP.

According to the DEP the fiscal impact is indeterminate but is expected to be significant due to the anticipated increase in the number of permit applications for certain armoring structures, with a corresponding increase in the need for tracking, compliance inspections, and enforcement. Department staff workload will increase. Furthermore, if the increased use of dune stabilization and restoration structures on eroding shorelines results in accelerated erosion seaward of these structures and on adjacent properties, there may be an increased cost of beach restoration projects.

## FULL ANALYSIS

### I. SUBSTANTIVE ANALYSIS

#### A. HOUSE PRINCIPLES ANALYSIS:

Limited government. The bill provides broad rule making authority to the DEP. In addition, the bill provides authorization for a political subdivision other than the DEP to permit the construction of dune stabilization structures under certain conditions.

#### B. EFFECT OF PROPOSED CHANGES:

##### **Beach Erosion and Dune Stabilization Background**

According to an estimate from the DEP, approximately 50 percent of the state's beaches are experiencing erosion. Approximately 299 of the state's 825 miles of sandy beaches are experiencing "critical erosion;" a level of erosion which threatens substantial development, recreational, cultural, or environmental interests. A portion of this erosion is due to natural forces and imprudent coastal development, as well as the construction and maintenance of navigation inlets.

In 1986, the Legislature adopted a comprehensive beach management planning program. The DEP, Bureau of Beaches and Coastal Systems (BBCS), is responsible for managing Florida's beaches in accordance with the Beach and Shore Preservation Act in Chapter 161, Florida Statutes. The BBCS evaluates beach erosion problems throughout the state and implements beach management planning recommendations through the Florida Beach Erosion Control Program, which is a program established to coordinate local, state, and federal governmental entities to achieve the protection, preservation, and restoration of the coastal sandy beach resources of the state.<sup>1</sup>

According to the DEP, the Legislature has appropriated more than \$190 million for beach erosion control activities since 1997. In the 1998 Regular Session, the Legislature enacted Chapter 98-311, Laws of Florida, which provided a dedicated funding source for implementation of the state's beach management plan. Under current law, \$30 million in documentary stamp tax revenue is transferred annually to the Ecosystem Management and Restoration Trust Fund to be used to fund repairs and preservation of the state's beaches.<sup>2</sup>

The Coastal Construction Control Line Program (CCCL) focal point is protection for Florida's beaches and dunes while assuring reasonable use of private property. The Legislature initiated the CCCL Program to protect the coastal system from improperly sited and designed structures which can destabilize or destroy the beach and dune system. Once destabilized, the valuable natural resources are lost, as are its important values for recreation, upland property protection, and environmental habitat. Adoption of a coastal construction control line establishes an area of jurisdiction in which special siting and design criteria are applied for construction and related activities. These standards may be more stringent than those already applied in the rest of the coastal building zone because of the greater forces expected to occur in the more seaward zone of the beach during a storm event.

In 1995, the DEP implemented section 161.055, Florida Statutes, initiating concurrent processing of applications for coastal construction permits, environmental resource permits, wetland resource

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<sup>1</sup> Eligible activities include beach restoration and nourishment activities, project design and engineering studies, environmental studies and monitoring, inlet management planning, inlet sand transfer, dune restoration and protection activities, and other beach erosion prevention related activities.

<sup>2</sup> On December 21, 2004, after a devastating hurricane season, Governor Jeb Bush signed SB 14A into law, appropriating supplemental emergency funding for the restoration of the state's storm-damaged beaches. Florida's appropriation provided \$68 million for rebuilding dunes and repairing miles of shoreline battered by the forces of four hurricanes.

(dredge and fill) permits, and sovereign submerged lands authorizations. These permits and authorizations, which were previously issued separately and by different state agencies, have now been consolidated into a "joint coastal permit" or JCP. The consolidation of these processes and the assignment of responsibility to a single bureau (BBCS) has eliminated the potential for conflict between permitting agencies and helped ensure that authorizations are issued in a timely manner. A copy of the permit application is forwarded to the United States Army Corps of Engineers for the separate processing of the federal dredge and fill permit, if necessary.

Activities which require a JCP include beach restoration and other erosion control projects such as the construction of groins and breakwaters; maintenance of inlets and inlet-related structures; and dredging of navigation channels with beach disposal of dredged material.

### **Present Situation**

The DEP permits the installation of "dune stabilization or restoration structures" and "beach stabilization or regeneration structures" only in limited circumstances and as temporary systems in order to evaluate (1) the structure's effectiveness, (2) the structure's affect on adjacent properties, and (3) the structure's environmental impact on the beach and dune system. "Sand filled geotextile containers," the underlying subject of the legislation, are essentially 4 to 5 foot high sand-filled geo-textile tubes typically tiered in a stair-step fashion at the toe of the dune which effectively deflect the eroding forces of waves to prevent their scouring away the base of the dune. The tubes have been credited with not causing damage to the shoreline that conventional solid seawalls have; however, the tubes have been used in a variety of contexts in Florida and other states and are generally considered "armoring" by coastal engineers and natural resource agencies.

Under Florida law, armoring includes certain rigid structures such as geotextile bags or tubes, seawalls, revetments, bulkheads, retaining walls, or similar structures, but does not include jetties, groins, or other construction whose purpose is to add sand to the beach and dune system, alter the natural coastal currents, or stabilize the mouths of inlets. According to the DEP, armoring interferes with natural beach and dune system processes and, over the long term, may promote rather than alleviate erosion. The DEP permits armoring only as a last resort to protect upland development determined to be vulnerable or in immediate danger of collapse (Section 161.085, Florida Statutes).

### **Effect of Proposed Changes**

The bill adds "dune stabilization" and "the use of dune stabilization or restoration structures" to definitions of beach and shore preservation, erosion control, beach preservation and hurricane protection, beach erosion control, and erosion control within Chapter 161 – Beach and Shore Preservation. The bill authorizes the DEP to issue permits for dune stabilization or restoration structures to address critical erosion. The DEP may delegate its permitting, supervisory, and regulatory authority to authorize a political subdivision or municipality to permit, supervise, and regulate a dune stabilization or restoration structure.

The DEP or another permitting agency (political subdivision, municipality) shall install or permit the installation of such a structure following a storm event which causes critical erosion provided: (1) the section of dune is designated critically eroded, vulnerable to critical erosion, or located between two critically eroded segments, (2) the structure is covered with three feet of compatible sand and native dune stabilizers, (3) is sited as far landward as is practicable to minimize evacuation of the beach and frontal dune, (4) promotes scenery compatible with tourism and recreation, (5) provides a sloping angle no steeper than three feet horizontal to one foot vertical, (6) does not impede access by the public or marine life, (6) provides toe scour protection to prevent undermining of the structure, (7) is designed to facilitate easy removal if it ceases to function due to damage or if it cases an adverse impact, and (8) is designed to minimize adverse impact to marine turtles and hatchlings. A permitting agency is required to notify the DEP if it installs such a structure within its jurisdiction. The DEP may require engineering

certificates to ensure the adequacy of the structure's design or construction. The bill does not define at what stage the DEP may require such certificates.

If the DEP includes any biological or environmental monitoring conditions in the permit requirements, or denies a permit application, or accepts any engineering evidence provided by a coastal engineer, the DEP is required to use "clearly defined scientific principles."

The bill provides broad rulemaking authority to the DEP.

#### C. SECTION DIRECTORY:

Section 1. Amends s. 161.021, F.S., relating to definitions.

Section 2. Creates s. 161.084, F.S., to require the DEP to examine, study, and issue permits for dune stabilization or restoration structures as "alternative methods for dealing with coastal erosion;" establishes default criteria for issuance of such permits; and requires the DEP to adopt rules.

Section 3. Provides that the bill will take effect upon becoming law.

## II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

#### A. FISCAL IMPACT ON STATE GOVERNMENT:

##### 1. Revenues:

**Nonrecurring effects:** According to the bill, the DEP is required to adopt rules to implement the legislation. According to the DEP, rulemaking typically requires \$20,000 to \$50,000 in staff time, depending on complexity and the need for rule workshops. Public challenges and the corresponding need for legal assistance, which would be expected given the controversy associated with coastal armoring, could increase this cost significantly.

**Recurring effects:** According to the DEP, there will be a significant increase in the number of permit applications for these armoring structures and a corresponding increase in the need for tracking, compliance inspections, and enforcement. Department staff workload will increase. The bill does not provide any staff resources to account for this workload increase.

##### 2. Expenditures:

According to the DEP, costs are indeterminate at present. If, however, the increased use of dune stabilization and restoration structures on eroding shorelines results in accelerated erosion seaward of these structures and on adjacent properties, there may be an increased cost of beach restoration projects.

#### B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

##### 1. Revenues:

None.

##### 2. Expenditures:

If the increased use of dune stabilization and restoration structures on eroding shorelines results in accelerated erosion seaward of these structures and on adjacent properties, there may be an increased cost of beach restoration projects, a share of which is the responsibility of local governments.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

Private sector manufacturers of dune stabilization or restoration structures may directly benefit from the requirement that the department permit such structures.

D. FISCAL COMMENTS:

None.

**III. COMMENTS**

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

Not applicable because this bill does not appear to: require cities or counties to spend funds or take actions requiring the expenditure of funds; reduce the authority that cities or counties have to raise revenues in the aggregate; or reduce the percentage of a state tax shared with cities or counties.

2. Other:

None.

B. RULE-MAKING AUTHORITY:

The bill provides very broad rule making authority to the DEP.

C. DRAFTING ISSUES OR OTHER COMMENTS:

The following are DEP Comments – According to the DEP the proposed legislation will create a situation where permitting of inappropriate “dune stabilization or restoration structures” is inevitable, which will lead to further beach erosion and an increase in the cost of restoration and recovery efforts for the state and local governments and their citizens. These structures generally:

- Prevent material landward of the structure from participating in natural beach and dune processes, including natural erosion and accretion.
- Cause beach erosion seaward of the structure, once exposed, to be accelerated through wave reflection.
- Have an adverse impact on adjacent properties due to the physical principle of conservation of mass. Sediment will be eroded from the least resistant area, which will be the adjacent properties rather than the hardened structure core (the sand contained inside the geosynthetic “shell”).

The DEP already has the authority to permit the installation of such structures in appropriate, limited circumstances in order to evaluate their effectiveness, their impact on adjacent properties, and their environmental consequences for the beach and dune system. A significant project to address and fully evaluate such structures is being implemented in Brevard and Indian River counties in the aftermath of the 2004 hurricane season.

The DEP is in the process of permitting several dune stabilization structures (systems) in Brevard and Indian River counties in the aftermath of the 2004 hurricane season as a means of evaluating whether their benefits outweigh their negative consequences. In January 2005, Brevard County and the department entered into an agreement to allow installation of dune stabilization structures, with the county agreeing to conduct compliance activities and enforce permit conditions governing their continuing use. Due to the location of the system and its potential impacts on marine turtle nesting, the Florida Fish & Wildlife Conservation Commission and the U.S. Fish & Wildlife Service were consulted, resulting in requirements for monitoring and maintenance protocols to avoid adverse impacts to nesting

marine turtles. The permit also establishes failure criteria setting up the conditions under which removal of the system would be required.

According to the DEP, the increased use of inappropriate dune stabilization and restoration structures on eroding shorelines could, over time, accelerate erosion seaward of these structures, as well as on adjacent properties, and will increase the cost of beach restoration to the state.

#### **IV. AMENDMENTS/COMMITTEE SUBSTITUTE & COMBINED BILL CHANGES**