

## HOUSE OF REPRESENTATIVES STAFF ANALYSIS

**BILL #:** CS/HB 1143 Coral Reefs  
**SPONSOR(S):** Natural Resources & Public Lands Subcommittee, Jacobs, and others  
**TIED BILLS:** IDEN./SIM. **BILLS:** SB 1624

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR or BUDGET/POLICY CHIEF
1) Natural Resources & Public Lands Subcommittee	14 Y, 0 N, As CS	Gregory	Shugar
2) Agriculture & Natural Resources Appropriations Subcommittee			
3) Government Accountability Committee			

### SUMMARY ANALYSIS

Coral reefs in southeast Florida support a rich and diverse assemblage of stony corals, octocorals, macroalgae, sponges, and fishes. These ecological communities run parallel along the coast from the northern border of Biscayne National Park in Miami-Dade County north to the St. Lucie Inlet in Martin County. Coral reefs are valuable natural resources. They protect coastlines by reducing wave energy from storms and hurricanes. They serve as a source of food and shelter and provide critical habitat for over 6,000 species, including commercially important fisheries. Further, people use coral reefs as a resource for recreation, education, scientific research, and public inspiration. Millions of tourists and local residents enjoy scuba diving, snorkeling, and fishing on the coral reefs.

Unfortunately, coral reefs are vulnerable to harmful environmental changes, particularly those resulting from human activities. Presently, 10 percent of all coral reefs globally are degraded beyond recovery and 30 percent are in critical condition and may die within 10 to 20 years, particularly those near human populations.

The bill establishes the Southeast Florida Coral Reef Ecosystem Conservation Area. The conservation area includes the sovereign submerged lands and state waters offshore of Broward, Martin, Miami-Dade, and Palm Beach Counties from the St. Lucie Inlet in the north to the northern boundary of the Biscayne National Park in the south.

## FULL ANALYSIS

### I. SUBSTANTIVE ANALYSIS

#### A. EFFECT OF PROPOSED CHANGES:

##### PRESENT SITUATION

###### Coral Reefs

Coral reefs in southeast Florida support a rich and diverse assemblage of stony corals, octocorals, macroalgae, sponges, and fishes. These ecological communities run parallel along the coast from the northern border of Biscayne National Park in Miami-Dade County north to the St. Lucie Inlet in Martin County. Coral reefs are valuable natural resources. They protect coastlines by reducing wave energy from storms and hurricanes. They serve as a source of food and shelter and provide critical habitat for over 6,000 species, including commercially important fisheries. Many medicines, as well as other health and beauty products, are derived from marine plants, algae, and animals found on coral reefs.<sup>1</sup>

People use coral reefs as a resource for recreation, education, scientific research, and public inspiration. Millions of tourists and local residents enjoy scuba diving, snorkeling, and fishing on Florida's coral reefs. These activities provide a source of income for the state and its coastal communities. The natural coral reefs in Martin, Palm Beach, Broward, and Miami-Dade counties generate an estimated \$3.4 billion in sales and income and support 36,000 jobs in the region each year.<sup>2</sup>

Unfortunately, coral reefs are vulnerable to harmful environmental changes, particularly those resulting from human activities. Presently, 10 percent of all coral reefs globally are degraded beyond recovery and 30 percent are in critical condition and may die within 10 to 20 years, particularly those near human populations.<sup>3</sup>

The United States Coral Reef Task Force identified eight specific and widely accepted threats to coral reefs as being particularly important and tractable:

- Pollution, including eutrophication and sedimentation from intensive land use, chemical loading, oil and chemical spills, marine debris, and invasive alien species;
- Overfishing and over-exploitation of coral reef species for recreational and commercial purposes; and the collateral damage and degradation to habitats and ecosystems from fishing activities;
- Destructive fishing practices, such as cyanide and dynamite fishing that can destroy large sections of reef;
- Dredging and shoreline modification in connection with coastal navigation or development;
- Vessel groundings and anchoring that directly destroy corals and reef framework;
- Disease outbreaks that are increasing in frequency and are affecting a greater diversity of coral reef species; and
- Global climate change and associated impacts including increased coral bleaching, mortality, storm frequency, and sea level rise.<sup>4</sup>

Corals are highly sensitive to even small temperature changes and can react through bleaching, reduced growth rates, reduced reproduction, increased vulnerability to diseases, and die-offs. Corals

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<sup>1</sup> DEP, *Coral Reef Conservation Program*, <http://www.dep.state.fl.us/coastal/programs/coral/> (last visited March 15, 2017); DEP, *Coral Reef Conservation Program 2011-2016 Strategic Plan*, (July 2011), p. 3, available at:

[http://www.dep.state.fl.us/coastal/programs/coral/pub/CRCP\\_Strategic\\_Plan\\_2011-2016.pdf](http://www.dep.state.fl.us/coastal/programs/coral/pub/CRCP_Strategic_Plan_2011-2016.pdf) (last visited March 15, 2017).

<sup>2</sup> *Id.*

<sup>3</sup> U.S. Coral Reef Task Force, *The National Action Plan to Conserve Coral*, p. 3, available at:

<http://www.coralreef.gov/about/CRTFAxnPlan9.pdf> (last visited March 15, 2017).

<sup>4</sup> *Id.*

have a mutually beneficial, or symbiotic, relationship with a type of algae known as zooxanthellae. Zooxanthellae live inside the coral and provide them with energy derived from photosynthesis. The coral provides the algae with shelter. Corals can tolerate only a relatively narrow temperature range and prefer water between 73-84 degrees. Water temperatures over 86 degrees or under 64 degrees are stressful and are eventually fatal for coral. When the water gets too warm and the coral becomes stressed, they can expel their zooxanthellae that causes bleaching. Although the coral is still alive, just colorless, they will eventually die from starvation if the zooxanthellae do not return.<sup>5</sup>

Recently, massive, region-wide bleaching events have become more common on the Florida Reef Tract. Since 1987, six extensive coral bleaching events have affected the entire Florida Reef Tract. Substantial mass coral mortality occurred during the global bleaching events of 1997/1998 and 2014/2015. Corals at the northern end of their range, such as those found on the Florida Reef Tract, are also vulnerable to cold winter temperatures. A severe cold snap in 2010 resulted in high mortality of certain coral species on shallow-water patch reefs throughout the Florida Reef Tract.<sup>6</sup>

### Coral Reef Conservation Program

The Coral Reef Conservation Program (CRCP) within the Florida Coastal Office (CFO) of the Department of Environmental Protection (DEP) oversees several programs and initiatives to coordinate research and monitoring, develop management strategies, and promote partnerships to protect the coral reefs, hard bottom communities, and associated reef resources of southeast Florida.<sup>7</sup> The CRCP implements and coordinates the following:

- *The Southeast Florida Action Network* – This reporting and response system is designed to improve the protection and management of southeast Florida's coral reefs by enhancing marine debris clean-up efforts, increasing response to vessel groundings and anchor damage, and providing early detection of potentially harmful biological disturbances;<sup>8</sup>
- *The Southeast Florida Coral Reef Initiative (SEFCRI)* – This program identifies and implements priority action needed to reduce key threats to coral reef resources in southeast Florida through a local action strategy for collaborative action among government and non-governmental partners;<sup>9</sup>
- *The Southeast Florida's Marine Debris Reporting and Removal Program* – Through a partnership with the DEP, the Fish and Wildlife Conservation Commission (FWC) and the Palm Beach County Reef Rescue, this program encourages local divers and dive shops to report marine debris. The partnership organizes reef clean-up events to remove the debris;<sup>10</sup>
- *The Reef Injury Prevention and Response Program* – This program leads response to, and management of, coral reef and hard bottom injuries resulting from vessel impacts such as grounding, anchoring, and cable drag events.<sup>11</sup> Section 403.93345, F.S., otherwise known as the Florida Coral Reef Protection Act, requires responsible parties to notify the DEP when they run their vessel aground, strike, or otherwise damage coral reefs. The responsible party must remove the vessel and work with the DEP to assess the damage and restore the reef.<sup>12</sup> The DEP may require the responsible party to pay the cost of assessment and restoration, as well as pay a fine;<sup>13</sup>

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<sup>5</sup> FWC, *Long Term Temperature Monitoring*, <http://myfwc.com/research/habitat/coral/cremp/cremp-temp-monitoring/> (last visited March 15, 2017).

<sup>6</sup> *Id.*

<sup>7</sup> DEP, *Coral Reef Conservation Program*, <http://www.dep.state.fl.us/coastal/programs/coral/> (last visited March 15, 2017).

<sup>8</sup> DEP, *Southeast Florida Action Network*, <http://www.dep.state.fl.us/coastal/programs/coral/seafan.htm> (last visited March 15, 2017).

<sup>9</sup> SEFCRI, *What is SEFCRI?*, <http://southeastfloridareefs.net/about-us/what-is-sefcri/> (last visited March 15, 2017).

<sup>10</sup> DEP, *Southeast Florida's Marine Debris Reporting and Removal Program*, <http://www.dep.state.fl.us/coastal/programs/coral/debris1.htm> (last visited March 15, 2017).

<sup>11</sup> DEP, *Reef Injury Prevention and Response Program*, <http://www.dep.state.fl.us/coastal/programs/coral/ripr.htm> (last visited March 15, 2017).

<sup>12</sup> s. 403.93345(5), F.S.

<sup>13</sup> ss. 403.93345(6), (7), and (8), F.S.

- *The Florida Reef Resilience Program (FRRP)* – The FRRP addresses climate change and coral reefs. Reef managers, scientists, conservation organizations and reef users across South Florida have developed a *Climate Change Action Plan for the Florida Reef System (2010-2015)* (Action Plan). The goals of the Action Plan are to increase coral reef resilience to climate change impacts through active management of local reef impacts; enhance communication and awareness of climate change impacts on coral reefs and reef users; and conduct targeted research to increase understanding of climate change impacts and develop new intervention measures;<sup>14</sup>
- *The Southeast Marine Event Response Program* – This program responds to potentially harmful biological disturbances along the northern third of the Florida Reef Tract from the northern border of Biscayne National Park in Miami-Dade County to the St. Lucie Inlet in Martin County. Upon notification of an event such as harmful algal blooms, fish kills, coral bleaching, or diseases, the DEP coordinates with regional partners to schedule initial site assessments, implement event response protocols, and analyze samples, where possible and appropriate;<sup>15</sup> and
- *The Southeast Florida Fisheries-Independent Monitoring Program* – This program builds partnerships and obtains funding to implement fisheries-independent monitoring.<sup>16</sup> Fisheries-independent monitoring is a system-wide approach that evaluates marine communities and the populations of fish and invertebrate species that comprise them. Fisheries-independent monitoring also investigates habitat conditions for purposes of learning more about system-wide trends.<sup>17</sup>

The FWC also plays a role in protecting Florida’s coral reefs. Through the Coral Reef Evaluation and Monitoring Project (CREMP), the FWC monitored the condition of coral reef and hard bottom habitats annually throughout the Florida Keys since 1996, southeast Florida since 2003, and the Dry Tortugas since 2004. The CREMP was able to document the temporal changes that occurred in recent years.<sup>18</sup>

## EFFECT OF THE PROPOSED CHANGES

The bill establishes the Southeast Florida Coral Reef Ecosystem Conservation Area (conservation area). The conservation area includes the sovereign submerged lands and state waters<sup>19</sup> offshore of Broward, Martin, Miami-Dade, and Palm Beach Counties from St. Lucie Inlet in the north to the northern boundary of the Biscayne National Park in the south.<sup>20</sup>

### B. SECTION DIRECTORY:

**Section 1.** Creates the Southeast Florida Coral Reef Ecosystem Conservation Area.

**Section 2.** Provides an effective date of July 1, 2017.

<sup>14</sup> DEP, *Climate Change and Coral Reefs*, [http://www.dep.state.fl.us/coastal/programs/coral/climate\\_change.htm](http://www.dep.state.fl.us/coastal/programs/coral/climate_change.htm) (last visited March 15, 2017).

<sup>15</sup> DEP, *Southeast Marine Event Response Program*, [http://www.dep.state.fl.us/coastal/programs/coral/event\\_response.htm](http://www.dep.state.fl.us/coastal/programs/coral/event_response.htm) (last visited March 15, 2017).

<sup>16</sup> DEP, *Southeast Florida Fisheries-Independent Monitoring Program*, <http://www.dep.state.fl.us/coastal/programs/coral/fisheries-independent.htm> (last visited March 15, 2017).

<sup>17</sup> Sarasota County Wateratlas, *Fisheries Independent Monitoring*, [http://www.sarasota.wateratlas.usf.edu/shared/learnmore.asp?toolsection=lm\\_fishindep](http://www.sarasota.wateratlas.usf.edu/shared/learnmore.asp?toolsection=lm_fishindep) (last visited March 15, 2017).

<sup>18</sup> FWC, *Coral Reef Evaluation and Monitoring Project (CREMP)*, <http://myfwc.com/research/habitat/coral/cremp/> (last visited March 15, 2017).

<sup>19</sup> “Water” or “waters in the state” are any and all water on or beneath the surface of the ground or in the atmosphere, including natural or artificial watercourses, lakes, ponds, or diffused surface water and water percolating, standing, or flowing beneath the surface of the ground, as well as all coastal waters within the jurisdiction of the state; s. 373.019(22), F.S.

<sup>20</sup> Florida’s seaward boundary extends three nautical miles in the Atlantic; Fla. Const. art. II, s. 1.

## II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

### A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:

None.

2. Expenditures:

None.

### B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues:

None.

2. Expenditures:

None.

### C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

None.

### D. FISCAL COMMENTS:

None.

## III. COMMENTS

### A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

Not applicable. This bill does not appear to require counties or municipalities to spend funds or take action requiring the expenditures of funds; reduce the authority that counties or municipalities have to raise revenues in the aggregate; or reduce the percentage of state tax shared with counties or municipalities.

2. Other:

None.

### B. RULE-MAKING AUTHORITY:

The bill does not provide rulemaking authority or require executive branch rulemaking.

### C. DRAFTING ISSUES OR OTHER COMMENTS:

None.

## IV. AMENDMENTS/ COMMITTEE SUBSTITUTE CHANGES

On March 20, 2017, the Natural Resources and Public Lands Subcommittee adopted an amendment and reported the bill favorably as a committee substitute. The amendment removed the requirement for the CRCP and FWC to develop a comprehensive management plan for the Southeast Florida Coral Reef Ecosystem Protection Area. The bill creates the conservation area. This analysis is drawn to the committee substitute reported favorably by the Natural Resources and Public Lands Subcommittee.

