

HOUSE OF REPRESENTATIVES STAFF ANALYSIS

BILL #: HB 53 Coral Reefs
SPONSOR(S): Jacobs & others
TIED BILLS: IDEN./SIM. **BILLS:** SB 232

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR or BUDGET/POLICY CHIEF
1) Natural Resources & Public Lands Subcommittee	12 Y, 0 N	Gregory	Shugar
2) Agriculture & Natural Resources Appropriations Subcommittee	11 Y, 0 N	White	Pigott
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 important commercial 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.

Coral reefs are vulnerable to harmful environmental changes, particularly those resulting from human activities. Globally, 10 percent of all coral reefs 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 (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.

The bill does not appear to have a fiscal impact on state or local governments.

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.¹

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.

Unfortunately, coral reefs are vulnerable to harmful environmental changes, particularly those resulting from human activities. Globally, 10 percent of all coral reefs are degraded beyond recovery and 30 percent are in critical condition and may die within 10 to 20 years, particularly those near human populations.²

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 nonnative 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.³

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 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

¹ Department of Environmental Protection (DEP), *Coral Reef Conservation Program*, <http://www.dep.state.fl.us/coastal/programs/coral/> (last visited March 15, 2017); *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 (last visited September 5, 2017).

² 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 September 5, 2017).

³ *Id.*

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, causing bleaching. Although the coral is still alive, just colorless, they will eventually die from starvation if the zooxanthellae do not return.⁴

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.⁵

Coral Reef Conservation Program

The Coral Reef Conservation Program (CRCP) within the Florida Coastal Office 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.⁶ The CRCP implements and coordinates the following:

- *The Southeast Florida Action Network* – This reporting and response system improves 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.⁷
- *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 using a local action strategy for collaborative action among government and non-governmental partners.⁸
- *The Southeast Florida's Marine Debris Reporting and Removal Program* – Through a partnership with DEP, the Florida 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.⁹
- *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.¹⁰ Section 403.93345, F.S., otherwise known as the Florida Coral Reef Protection Act, requires responsible parties to notify DEP when they run their vessel aground, strike, or otherwise damage coral reefs. The responsible party must remove the vessel and work with DEP to assess the damage and restore the reef.¹¹ DEP may require the responsible party to pay the cost of assessment and restoration, as well as pay a fine.¹²
- *The Florida Reef Resilience Program (FRRP)* – The FRRP addresses climate change and coral reefs. Reef managers, scientists, conservation organizations, and reef users across South

⁴ Fish and Wildlife Conservation Commission (FWC), *Long Term Temperature Monitoring*, <http://myfwc.com/research/habitat/coral/cremp/cremp-temp-monitoring/> (last visited September 5, 2017).

⁵ *Id.*

⁶ DEP, *Coral Reef Conservation Program*, <http://www.dep.state.fl.us/coastal/programs/coral/> (last visited September 5, 2017).

⁷ DEP, *Southeast Florida Action Network (SEAFAN)*, <http://www.dep.state.fl.us/coastal/programs/coral/seafan.htm> (last visited September 5, 2017).

⁸ SEFCRI, *What is SEFCRI?*, <http://southeastfloridareefs.net/about-us/what-is-sefcri/> (last visited September 5, 2017).

⁹ DEP, *Southeast Florida's Marine Debris Reporting and Removal Program*, <http://www.dep.state.fl.us/coastal/programs/coral/debris1.htm> (last visited September 5, 2017).

¹⁰ DEP, *Reef Injury Prevention and Response Program*, <http://www.dep.state.fl.us/coastal/programs/coral/ripr.htm> (last visited September 5, 2017).

¹¹ Section 403.93345(5), F.S.

¹² Sections 403.93345(6), (7), and (8), F.S.

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.¹³

- *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, DEP coordinates with regional partners to schedule initial site assessments, implement event response protocols, and analyze samples, where possible and appropriate.¹⁴
- *The Southeast Florida Fisheries-Independent Monitoring Program* – This program builds partnerships and obtains funding to implement fisheries-independent monitoring.¹⁵ 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.¹⁶

FWC also plays a role in protecting Florida's coral reefs. Through the Coral Reef Evaluation and Monitoring Project (CREMP), FWC has 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.¹⁷

Coral Reef Disease Water Quality Monitoring

During the 2017 legislative session, DEP received \$1,000,000 in nonrecurring funds for the Coral Reef Disease Water Quality Monitoring Program.¹⁸ The intended use of the funds include high resolution monthly water quality sampling throughout the northern Florida Reef Tract; the purchase, installation, and maintenance of Land/Ocean Biogeochemical Observatories, offshore salinity and temperature sensors, acoustic fish stations; laboratory analyses; data storage and processing; reporting and scientific expertise; coral tissue sampling; regular report writing; and the creation of a public outreach and education program.¹⁹ The recommendations from the Our Florida Reefs program and the Southeast Florida Intergovernmental Coastal Ocean Task Force are the basis for these activities.²⁰

EFFECT OF THE PROPOSED CHANGES

¹³ DEP, *Climate Change and Coral Reefs*, http://www.dep.state.fl.us/coastal/programs/coral/climate_change.htm (last visited September 5, 2017).

¹⁴ DEP, *Southeast Marine Event Response Program*, http://www.dep.state.fl.us/coastal/programs/coral/event_response.htm (last visited September 5, 2017).

¹⁵ DEP, *Southeast Florida Fisheries-Independent Monitoring Program*, <http://www.dep.state.fl.us/coastal/programs/coral/fisheries-independent.htm> (last visited September 5, 2017).

¹⁶ Sarasota County Wateratlas, *Fisheries Independent Monitoring*, http://www.sarasota.wateratlas.usf.edu/shared/learnmore.asp?toollection=lm_fishindep (last visited September 5, 2017).

¹⁷ FWC, *Coral Reef Evaluation and Monitoring Project (CREMP)*, <http://myfwc.com/research/habitat/coral/cremp/> (last visited September 5, 2017).

¹⁸ Chapter 2017-70, specific appropriation 1708, Laws of Fla.

¹⁹ Second Revised Meeting Packet Part 4 & 5, p. 128, Agriculture and Natural Resources Appropriations Subcommittee, March 21, 2017, available at:

<http://www.myfloridahouse.gov/Sections/Documents/loadoc.aspx?PublicationType=Committees&CommitteeId=2893&Session=2017&DocumentType=Meeting%20Packets&FileName=anr%203-21-17%202nd%20REVISED.pdf>.

²⁰ Id.; Our Florida Reefs, *Recommended Management Actions*, <http://ourfloridareefs.org/rmacomment/> (last visited September 5, 2017); Broward County, *Southeast Florida Intergovernmental Coastal Ocean Task Force Final Recommendation Report*, http://cragenda.broward.org/docs/2016/CCCM/20161206_525/23351_Exhibit%201%20-%20COTF%20Report.pdf p. 31 (last visited September 5, 2017).

The bill establishes the Southeast Florida Coral Reef Ecosystem Conservation Area (conservation area). The conservation area includes the sovereign submerged lands and state waters²¹ 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.²²

B. SECTION DIRECTORY:

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

Section 2. Provides an effective date of July 1, 2018.

II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:

None.

2. Expenditures:

By making the designated coral reef ecosystem a conservation area, the bill may enhance the ability for the Southeast Florida Coral Reef Ecosystem Conservation Area to receive grant funding. There is no fiscal impact on state government.

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 affect county or municipal government.

2. Other:

None.

²¹ “Water” or “waters in the state” are defined in s. 373.019(22), F.S.

²² Florida’s seaward boundary extends three nautical miles in the Atlantic; Fla. Const. art. II, s. 1.

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

None.