

**The Florida Senate**  
**BILL ANALYSIS AND FISCAL IMPACT STATEMENT**

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

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Prepared By: The Professional Staff of the Committee on Environment and Natural Resources

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BILL: CS/SB 1422

INTRODUCER: Environment and Natural Resources Committee and Senators Garcia and Jones

SUBJECT: Coral Reefs

DATE: February 3, 2026      REVISED: \_\_\_\_\_

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	<u>Barriero</u>	<u>Rogers</u>	<u>EN</u>	<u>Fav/CS</u>
2.	_____	_____	<u>AEG</u>	_____
3.	_____	_____	<u>RC</u>	_____

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**Please see Section IX. for Additional Information:**  
COMMITTEE SUBSTITUTE - Substantial Changes

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**I. Summary:**

CS/SB 1422 provides legislative findings regarding coral reefs, including:

- Coral reefs can help mitigate the risks and damage from floods, climate change, and natural disasters and protect coastal properties from storms, high wave events, sea level rise, and flooding.
- Coral reef restoration for risk reduction is an active restoration strategy to increase the structural integrity and complexity of coral reef ecosystems to attenuate wave energy and reduce coastal flooding.
- The Federal Emergency Management Agency is responsible for responding to natural disasters and providing technical and financial hazard mitigation support.
- Legislative recognition of coral reefs as critical natural infrastructure and a nature-based solution demonstrates political support for nature-based solutions.

The bill designates coral reefs as critical natural infrastructure and as a nature-based solution that helps mitigate climate change-related risks and disaster events. The bill also designates the protection of corals, coral reefs, and coral reef-associated hardbottom in Broward, Martin, Miami-Dade, Monroe, and Palm Beach counties as being in the public interest.

## II. Present Situation:

### Coral Reefs

Coral reefs are valuable natural resources that contribute ecologically, aesthetically, and economically to the state.<sup>1</sup> They harbor significant biodiversity and provide important ecosystem services for people, including food provision, hazard mitigation, and recreation.<sup>2</sup> Coral reefs are home to more than 25 percent of known marine species and support fisheries by providing nursery habitat for many commercial species.<sup>3</sup> Coral reefs are also a major source of recreation and a significant source of income through tourism.<sup>4</sup> Florida's Coral Reef, which stretches approximately 350 linear miles from Dry Tortugas National Park west of the Florida Keys to the St. Lucie Inlet in Martin County, supports more than 71,000 jobs and generates over \$6 billion annually.<sup>5</sup>

In recent years, coral reefs have experienced declines due to growing pressures from development and climate change,<sup>6</sup> including high ocean temperatures that cause more frequent bleaching events, coral disease, poor water quality from land-based sources of pollution, and planned and unplanned human activities that result in direct physical injury.<sup>7</sup> Impacts from vessels, such as ship strikes and groundings, also harm coral reefs by fragmenting or crushing coral colonies, destroying reef frameworks, and creating blowholes.<sup>8</sup> In Florida, 98 percent of coral reefs have been lost.<sup>9</sup>

### Coral Reef Restoration

Coral restoration projects are designed to improve ecological functions of coral reef ecosystems through a variety of restoration methods,<sup>10</sup> including direct transplantation, coral gardening, micro-fragmentation, genetic diversity, larval enhancement, artificial reefs, and substratum stabilization and enhancement.<sup>11</sup>

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<sup>1</sup> Section 403.93345(4), F.S.

<sup>2</sup> Austin E. Stovall et al., *Coral Reef Restoration for Risk Reduction (CR4): A Guide to Project Design and Proposal Development*, University of California Santa Cruz, 5 (2022), available at <https://zenodo.org/records/7268962#.Y5ufaXbMIuU>.

<sup>3</sup> *Id.*

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

<sup>5</sup> Fish and Wildlife Conservation Commission, *Presentation to the Florida Senate Committee on Environment and Natural Resource*, 59 (Dec. 9, 2025), available at <https://www.flsenate.gov/Committees/DownloadMeetingDocument/7981>; DEP, *Florida's Coral Reef*, <https://floridadep.gov/rcp/coral-protection-restoration/content/floridas-coral-reef> (last visited Jan. 28, 2026).

<sup>6</sup> See Filippo Ferrario et al., *The effectiveness of coral reefs for coastal hazard risk reduction and adaptation*, *Nature Communications*, 5 (2014), available at <https://www.nature.com/articles/ncomms4794>.

<sup>7</sup> DEP, *Florida's Coral Reef*.

<sup>8</sup> National Oceanic and Atmospheric Administration (NOAA), *National Marine Sanctuaries: Vessel Impacts*, <https://sanctuaries.noaa.gov/science/sentinel-site-program/florida-keys/vessel-impacts.html> (last visited Jan. 28, 2026).

<sup>9</sup> Mote Marine Laboratory, *Presentation to the Florida Senate Committee on Environment and Natural Resource*, 6 (Dec. 9, 2025), available at <https://www.flsenate.gov/Committees/DownloadMeetingDocument/7981>.

<sup>10</sup> Stovall, *Coral Reef Restoration for Risk Reduction (CR4): A Guide to Project Design and Proposal Development* at 4.

<sup>11</sup> See Lisa Boström-Einarsson et al., *Coral restoration: A systematic review of current methods, successes, failures and future directions*, *PLOS One* 10-12 (2020), available at <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0226631>; Mote Marine Laboratory, *Presentation to the Florida Senate Committee on Environment and Natural Resource* at 10-31.



Most restoration efforts have focused on preserving reefs by reducing stressors, growing juvenile corals in nurseries and planting them on reefs, or providing fish habitat.<sup>12</sup> A smaller set of projects have used structural restoration of reefs to mitigate damage from ship groundings on reef crests.<sup>13</sup> A small but growing number of projects have focused directly on coral reef restoration for risk reduction (CR4).<sup>14</sup> CR4 projects differ from purely ecological coral restoration projects in that they are designed to achieve two distinct management objectives: environmental conservation and hazard mitigation.<sup>15</sup> As a result, CR4 projects often require more precise placement and planning, detailed hydrodynamic analyses, and, in some cases, larger project scales to meet both objectives.<sup>16</sup>

Coral reef conservation and restoration can be a cost-effective means of risk reduction and adaptation and can deliver wave attenuation benefits similar to or greater than artificial structures designed for coastal defense.<sup>17</sup>

### ***Coral Reefs as Nature-Based Solutions***

Nature-based solutions integrate natural features and processes into the built environment.<sup>18</sup> Coastal nature-based solutions can stabilize shorelines, reduce erosion, and buffer coastal areas from the impacts of storms, sea level rise, and flooding.<sup>19</sup> Examples of nature-based solutions

<sup>12</sup> Stovall, *Coral Reef Restoration for Risk Reduction (CR4): A Guide to Project Design and Proposal Development* at 7-8. DEP and Mote Marine Laboratory, *Presentation to the Florida Senate Committee on Environment and Natural Resource*, 39, 65 (Dec. 9, 2025), available at <https://www.flsenate.gov/Committees/DownloadMeetingDocument/7981> (pictures of coral restoration).

<sup>13</sup> Stovall, *Coral Reef Restoration for Risk Reduction (CR4): A Guide to Project Design and Proposal Development* at 8. See Ferrario, *The effectiveness of coral reefs for coastal hazard risk reduction and adaptation*.

<sup>14</sup> *Id.*

<sup>15</sup> Stovall, *Coral Reef Restoration for Risk Reduction (CR4): A Guide to Project Design and Proposal Development* at 4.

<sup>16</sup> *Id.*

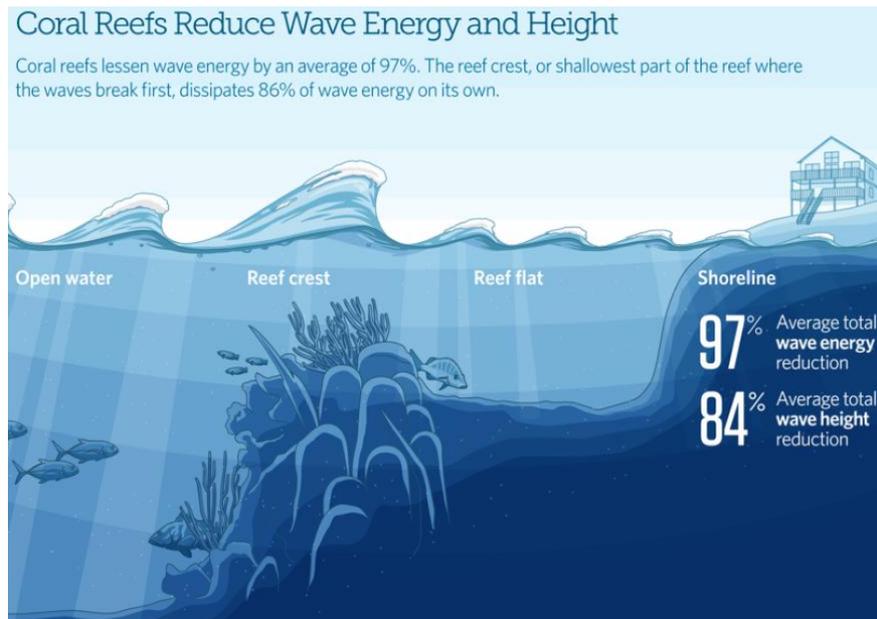
<sup>17</sup> Ferrario, *The effectiveness of coral reefs for coastal hazard risk reduction and adaptation* at 4-5.

<sup>18</sup> Federal Emergency Management Agency (FEMA), *Building Community Resilience with Nature-based Solutions*, 4 (2020), available at [https://www.fema.gov/sites/default/files/2020-07/fema\\_bric\\_nature-based-solutions-guide\\_2020.pdf](https://www.fema.gov/sites/default/files/2020-07/fema_bric_nature-based-solutions-guide_2020.pdf).

<sup>19</sup> FEMA, *Building Community Resilience with Nature-based Solutions* at 5. See generally Environmental Protection Agency (EPA), *Green Infrastructure and Extreme Weather*, <https://www.epa.gov/green-infrastructure/climate-resiliency-and-green->

include floodplain and wetland restoration, land conservation, living shorelines, mangroves, and coral reefs.<sup>20</sup>

Coral reefs offer coastal protection services by reducing flooding and erosion through wave breaking and friction.<sup>21</sup> On average, coral reefs reduce wave height by 84 percent and dissipate 97 percent of wave energy that would otherwise reach shorelines.<sup>22</sup>



The value of the coastal protection services provided by reefs can be retained or enhanced through active coral restoration or CR4 projects.<sup>23</sup> Potential reef restoration across Florida has been valued at approximately \$232 million in annual flood risk reduction benefits.<sup>24</sup>

In 2020, the Federal Emergency Management Agency (FEMA) acknowledged the mitigation value of nature-based solutions by updating its approach to how certain project benefits are evaluated.<sup>25</sup> This update allows for the easier inclusion of nature-based solutions into risk-based mitigation projects and creates the potential to pursue large-scale CR4 projects through hazard

[infrastructure](#) (last visited Jan. 28, 2026); EPA, *Green Infrastructure Opportunities that Arise During Municipal Operations*, 1 (2015), available at [https://www.epa.gov/sites/default/files/2015-09/documents/green\\_infrastructure\\_roadshow.pdf](https://www.epa.gov/sites/default/files/2015-09/documents/green_infrastructure_roadshow.pdf).

<sup>20</sup> See FEMA, *Building Community Resilience with Nature-based Solutions* at 6-8; EPA, *Types of Green Infrastructure*, <https://www.epa.gov/green-infrastructure/types-green-infrastructure> (last visited Jan. 28, 2026); Stovall, *Coral Reef Restoration for Risk Reduction (CR4): A Guide to Project Design and Proposal Development* at 6.

<sup>21</sup> Stovall, *Coral Reef Restoration for Risk Reduction (CR4): A Guide to Project Design and Proposal Development* at 7.

<sup>22</sup> Ferrario, *The effectiveness of coral reefs for coastal hazard risk reduction and adaptation* at 2, 4.

<sup>23</sup> Stovall, *Coral Reef Restoration for Risk Reduction (CR4): A Guide to Project Design and Proposal Development* at 7.

<sup>24</sup> *Id.*; Curt Storlazzi et al., *Rigorously valuing the coastal hazard risks reduction provided by potential coral reef restoration in Florida and Puerto Rico*, U.S. Geological Survey, 15-24 (2021), available at <https://repository.library.noaa.gov/view/noaa/32346>.

<sup>25</sup> See FEMA, *Ecosystem Service Benefits in Benefit-Cost Analysis for FEMA's Mitigation Programs* (2020), available at [Ecosystem Service Benefits in Benefit-Cost Analysis for FEMA's Mitigation Programs Policy](#).

mitigation funding programs, including FEMA's Hazard Mitigation Assistance and Public Assistance programs.<sup>26</sup>

### ***Florida Coral Reef Protection Act***

In 2009, the Legislature passed the Florida Coral Reef Protection Act to increase protection of coral reef resources off the coasts of Monroe, Miami-Dade, Broward, Palm Beach and Martin counties.<sup>27</sup> The act designated the Department of Environmental Protection (DEP) as the state's lead trustee for coral reef resources and authorized it to assess and recover damages resulting from vessel impacts to coral reefs.<sup>28</sup> Recoverable damages include compensation for the cost of replacing, restoring, or acquiring the equivalent of the injured coral reef; the value of lost use and services pending restoration or replacement; the costs of damage assessments, response actions to prevent further injury, and long-term monitoring; and the costs of enforcement actions, including court costs, attorney's fees, and expert witness fees.<sup>29</sup> DEP may use habitat equivalency analysis to calculate such compensation.<sup>30</sup>

In addition to this compensation, the act authorizes DEP to assess civil penalties based on the size of the coral reef area damaged, with increased penalties for aggravating circumstances, impacts within state parks or aquatic preserves, and repeat violations.<sup>31</sup> All damages recovered must be deposited into the Water Quality Assurance Trust Fund to be used for reef protection and restoration purposes.<sup>32</sup>

### **Environmental Resource Permitting (ERP)**

Florida's ERP program regulates activities involving the alteration of surface water flows, including activities that generate stormwater runoff from upland construction, as well as dredging and filling in wetlands and other surface waters.<sup>33</sup> Specifically, the program governs the construction, alteration, operation, maintenance, repair, abandonment, and removal of stormwater management systems, dams, impoundments, reservoirs, appurtenant works, and other works such as docks, piers, structures, dredging, and filling located in, on, or over wetlands or other surface waters.<sup>34</sup> ERP permits are issued by DEP and the state's five water management districts.

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<sup>26</sup> Stovall, *Coral Reef Restoration for Risk Reduction (CR4): A Guide to Project Design and Proposal Development* at 11-13.

<sup>27</sup> DEP, *Florida's Coral Reef Protection Act*, 2 (2020), available at [https://floridadep.gov/sites/default/files/CRPA%20Fact%20Sheet\\_July%202020%20Update\\_0.pdf](https://floridadep.gov/sites/default/files/CRPA%20Fact%20Sheet_July%202020%20Update_0.pdf); ch. 2009-86, s. 57, Laws of Fla.; section 403.93345, F.S.

<sup>28</sup> Section 403.93345(4), F.S.

<sup>29</sup> Section 403.93345(6), F.S.

<sup>30</sup> Section 403.93345(7), F.S.

<sup>31</sup> Section 403.93345(8), F.S. The total penalty may not exceed \$375,000 per occurrence. Section 403.93345(8)(g), F.S.

<sup>32</sup> Section 403.93345(11), F.S.

<sup>33</sup> DEP, *Environmental Resource Permitting Coordination, Assistance, Portals*, <https://floridadep.gov/water/submerged-lands-environmental-resources-coordination/content/environmental-resource-permitting> (last visited Jan. 28, 2026). See ch. 373, F.S.; Fla. Admin. Code R. 62-330.

<sup>34</sup> Fla. Admin. Code R. 62-330.010(2).

ERP applications are reviewed to ensure the permit will only authorize activities that are not harmful to the water resources.<sup>35</sup> Applicants must provide reasonable assurance that state water quality standards will not be violated and that the activity is not contrary to the public interest.<sup>36</sup> However, if the proposed activity significantly degrades or is within an Outstanding Florida Water,<sup>37</sup> the applicant must provide reasonable assurance that the proposed activity will be clearly in the public interest.<sup>38</sup> In determining whether an activity is not contrary to the public interest or is clearly in the public interest, the permitting agency must consider the following criteria:

- Whether the activity will adversely affect the public health, safety, or welfare or the property of others;
- Whether the activity will adversely affect the conservation of fish and wildlife, including endangered or threatened species, or their habitats;
- Whether the activity will adversely affect navigation or the flow of water or cause harmful erosion or shoaling;
- Whether the activity will adversely affect the fishing or recreational values or marine productivity in the vicinity of the activity;
- Whether the activity will be of a temporary or permanent nature;
- Whether the activity will adversely affect or will enhance significant historical and archaeological resources; and
- The current condition and relative value of functions being performed by areas affected by the proposed activity.<sup>39</sup>

If an ERP applicant cannot meet applicable criteria, the permitting agency must consider measures to mitigate adverse effects of the regulated activity.<sup>40</sup> Mitigation options may include, but are not limited to, onsite or offsite mitigation, regional offsite mitigation, and the purchase of mitigation credits from mitigation banks.<sup>41</sup> It is the applicant's responsibility to choose the form of mitigation.<sup>42</sup>

Mitigation must consider the environmental impact on habitats. For example, mitigation bank credits are based on the degree of improvement in ecological value<sup>43</sup> expected to result from the establishment and operation of the mitigation bank, which is determined by evaluating changes

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<sup>35</sup> Southwest Florida Water Management District, *Environmental Resource Permit*, <https://www.swfwmd.state.fl.us/business/epermitting/environmental-resource-permit> (last visited Dec. 29, 2025). See section 373.413(1), F.S.

<sup>36</sup> Section 373.414(1), F.S.

<sup>37</sup> An Outstanding Florida Water is a water designated worthy of special protection because of its natural attributes. DEP, *Outstanding Florida Waters*, <https://floridadep.gov/dear/water-quality-standards/content/outstanding-florida-waters> (last visited Nov. 20, 2025); see Fla. Admin. Code R. 62-302.700(2) and (9).

<sup>38</sup> Section 373.414(1), F.S.

<sup>39</sup> Section 373.414(1)(a), F.S.

<sup>40</sup> Section 373.414(1)(b), F.S.

<sup>41</sup> *Id.*

<sup>42</sup> *Id.*

<sup>43</sup> "Ecological value" means the value of functions performed by uplands, wetlands, and other surface waters to the abundance, diversity, and habitats of fish, wildlife, and listed species. These functions include, but are not limited to, providing cover and refuge; breeding, nesting, denning, and nursery areas; corridors for wildlife movement; food chain support; and natural water storage, natural flow attenuation, and water quality improvement, which enhances fish, wildlife, and listed species utilization. Section 373.403(18), F.S.

in habitat-related ecological functions of uplands, wetlands, and other surface waters.<sup>44</sup> Mitigation bank permittees must assess those changes by comparing current and anticipated fish and wildlife habitat conditions and by describing the expected ecological benefits to the regional watershed.<sup>45</sup> In addition, proposed mitigation for certain transportation projects must include an environmental impact inventory that evaluates habitat impacts and the anticipated mitigation needed to offset impacts.<sup>46</sup>

### III. Effect of Proposed Changes:

**Section 1** amends s. 403.93345, F.S., regarding coral reef protection. The bill provides the following legislative findings:

- Coral reefs can help mitigate the risks and related loss and damage from floods, climate change, and natural disasters.
- The Legislature recognizes that studies have shown that healthy coral reefs can protect coastal properties from climate change-related risks and disaster events, including storms, high wave events, sea level rise, and flooding.
- The Federal Emergency Management Agency (FEMA) is responsible for responding to natural disasters and providing technical and financial hazard mitigation support, primarily distributed as grant funding through FEMA's hazard mitigation assistance programs.
- Coral reef restoration for risk reduction, known as CR4, is an active restoration strategy with the aim of increasing the structural integrity and complexity of coral reef ecosystems to attenuate wave energy and reduce coastal flooding.
- Legislative recognition of coral reefs as critical natural infrastructure and a nature-based solution demonstrates political support for nature-based solutions.

The bill provides that the Legislature designates coral reefs as critical natural infrastructure and as a nature-based solution that helps mitigate climate change-related risks and disaster events, including storms, high wave events, sea level rise, and flooding. As such, the Legislature further designates the protection of corals, coral reefs, and coral reef-associated hardbottom in Broward, Martin, Miami-Dade, Monroe, and Palm Beach Counties as being in the public interest.

**Section 2** provides an effective date of July 1, 2026.

### IV. Constitutional Issues:

#### A. Municipality/County Mandates Restrictions:

None.

#### B. Public Records/Open Meetings Issues:

None.

<sup>44</sup> See sections 373.414(18) and 373.4136(4), F.S.

<sup>45</sup> See Fla. Admin. Code R. 62-342.450(5)(b).

<sup>46</sup> Section 373.4137(2)(a), F.S.

C. Trust Funds Restrictions:

None.

D. State Tax or Fee Increases:

None.

E. Other Constitutional Issues:

None.

**V. Fiscal Impact Statement:**

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

None.

C. Government Sector Impact:

None.

**VI. Technical Deficiencies:**

None.

**VII. Related Issues:**

None.

**VIII. Statutes Affected:**

This bill substantially amends section 403.93345 of the Florida Statutes.

**IX. Additional Information:**

A. Committee Substitute – Statement of Changes:

(Summarizing differences between the Committee Substitute and the prior version of the bill.)

**CS by Environment and Natural Resources on Feb. 3, 2026:**

Changed the title of the bill to coral reefs and made the following changes:

- Removed the requirement that the uniform mitigation assessment method must incorporate habitat equivalency analysis;
- Removed the requirement that dredging and turbidity monitoring for dredge and fill permits must be performed by separate entities;

- Removed the provision making permittees responsible for the full cost of damages caused by dredging and filling; and
- Added a provision designating the protection of corals, coral reefs, and coral reef-associated hardbottom in Broward, Martin, Miami-Dade, Monroe, and Palm Beach counties as being in the public interest.

**B. Amendments:**

None.

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This Senate Bill Analysis does not reflect the intent or official position of the bill's introducer or the Florida Senate.

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