

**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: SB 50

INTRODUCER: Senator Garcia

SUBJECT: Nature-based Methods for Improving Coastal Resilience

DATE: February 10, 2025

REVISED: \_\_\_\_\_

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Barriero	Rogers	EN	<b>Favorable</b>
2.			AEG	
3.			RC	

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**I. Summary:**

SB 50 directs the Florida Flood Hub to:

- Develop guidelines and standards for optimal combinations of green and gray infrastructure to address sea level rise and the impact of storm surges; and
- Model the effects of green infrastructure on the state’s coastal resilience.

The bill also directs the Department of Environmental Protection (DEP) to adopt rules governing nature-based methods for improving coastal resilience. Among other things, the rules must:

- Encourage participation in mangrove replanting, hydrological restoration programs, and the restoration of oyster reefs, salt marshes, and coral reefs.
- Identify and monitor threats to mangroves and identify ways that new developments can avoid or mitigate their impacts on mangrove stands.
- Assist efforts to improve coastal resilience using green infrastructure, beach renourishment, dune restoration, living seawalls, shoreline and vegetation planting, stormwater planters, permeable pavements, and ecologically sound building materials.
- Identify vulnerable properties along the coastline and encourage partnerships with local governmental entities to create local protection and restoration zone programs.
- Assist in the development of workforce training, including flood and sea level rise research, prediction, and adaptation and mitigation strategies.
- Encourage green infrastructure projects through the Resilient Florida Grant Program.
- Create permitting incentives for certain green infrastructure projects.

The bill requires a statewide feasibility study and report to determine the value of nature-based methods for coastal flood risk reduction within coastal communities to reduce insurance premiums and improve local governments’ community ratings in the National Flood Insurance Program Community Rating System.

## II. Present Situation:

### Coastal Resilience, Green Infrastructure, and Nature-Based Solutions

Resilience is the ability of a community to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions.<sup>1</sup> Resilience planning includes preparing for hazard events, risk mitigation, and post-event recovery and should be proactive, continuous, and integrated into other community goals and plans.<sup>2</sup>

Green infrastructure and nature-based solutions are increasingly being integrated into resilience planning. Green infrastructure uses vegetation, soils, and natural processes to manage and treat stormwater runoff water, often in urban environments.<sup>3</sup> The scale of green infrastructure ranges from urban installations, such as rain gardens and green roofs, to large tracts of undeveloped natural lands.<sup>4</sup> The interconnected network of green infrastructure can enhance the resiliency of infrastructure and communities by increasing water supplies, reducing flooding, providing climate adaptability, and improving water quality.<sup>5</sup>

Similarly, nature-based solutions integrate natural features and processes into the built environment to promote adaptation and resilience and protect communities from natural hazards.<sup>6</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>7</sup> Examples of green infrastructure and nature-based solutions include:

- Conserving existing natural systems like dunes, wetlands, floodplains, and forests;
- Tree canopy preservation and land conservation;
- Floodplain and marsh restoration;
- Bioretention (e.g., planter boxes, bioswales, rain gardens, green roofs);
- Green streets and permeable pavement; and
- Living shorelines.<sup>8</sup>

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<sup>1</sup> Federal Emergency Management Agency (FEMA), *National Risk Index: Community Resilience*, <https://hazards.fema.gov/nri/community-resilience> (last visited Feb. 7, 2025).

<sup>2</sup> National Institute of Standards and Technology, U.S. Dep't of Commerce, *Community Resilience Planning Guide for Buildings and Infrastructure Systems*, 1 (2016), available at <https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.1190v1.pdf>.

<sup>3</sup> U.S. Environmental Protection Agency (EPA), *Improving Community Resiliency with Green Infrastructure*, 1 (2014), available at [https://www.epa.gov/sites/default/files/2014-06/documents/gi\\_resiliency.pdf](https://www.epa.gov/sites/default/files/2014-06/documents/gi_resiliency.pdf).

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

<sup>5</sup> *Id.*

<sup>6</sup> FEMA, *FEMA Resources for Climate Resilience*, 5 (2021), available at [https://www.fema.gov/sites/default/files/documents/fema\\_resources-climate-resilience.pdf](https://www.fema.gov/sites/default/files/documents/fema_resources-climate-resilience.pdf); FEMA, *Nature-Based Solutions: Before, During, and After Disasters*, <https://www.fema.gov/emergency-managers/risk-management/future-conditions/nature-based-solutions> (last visited Feb. 7, 2025).

<sup>7</sup> FEMA, *Nature-Based Solutions: Before, During, and After Disasters*, <https://www.fema.gov/emergency-managers/risk-management/future-conditions/nature-based-solutions>. See generally EPA, *Climate Resiliency and Green Infrastructure*, <https://www.epa.gov/green-infrastructure/climate-resiliency-and-green-infrastructure> (last visited Feb. 7, 2025); 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>8</sup> National Climate Task Force, *Federal Flood Standard Support Tool: Nature-Based Solutions*, <https://floodstandard.climate.gov/pages/nature-based-solutions> (last visited Feb. 7, 2025); EPA, *Types of Green Infrastructure*, <https://www.epa.gov/green-infrastructure/types-green-infrastructure> (last visited Feb. 7, 2025).



*Stormwater Planter, Permeable Pavement, Living Shoreline, and Bioretention<sup>9</sup>*

### ***Living Shorelines and Seawalls***

A living shoreline is a nature-based solution that consists of strategically placing natural materials such as plants and stones along a coastal edge.<sup>10</sup> Living shorelines promote and rely on the growth of natural vegetation over time to help reduce erosion, increase resiliency, and filter runoff.<sup>11</sup> This natural infrastructure helps maintain the shoreline ecosystem while being an innovative coastal management technique.<sup>12</sup> Research indicates that living shorelines are more resilient than bulkheads in protecting against the effects of hurricanes.<sup>13</sup>

A living seawall is designed to encourage underwater habitats and usually consists of naturalistic concrete, rock, and/or shell structures designed to attract fish, oysters, and other living things, absorb wave energy without causing erosion, and improve aesthetics.<sup>14</sup>

<sup>9</sup> EPA, *Types of Green Infrastructure*, <https://www.epa.gov/green-infrastructure/types-green-infrastructure> (last visited Feb. 7, 2025).

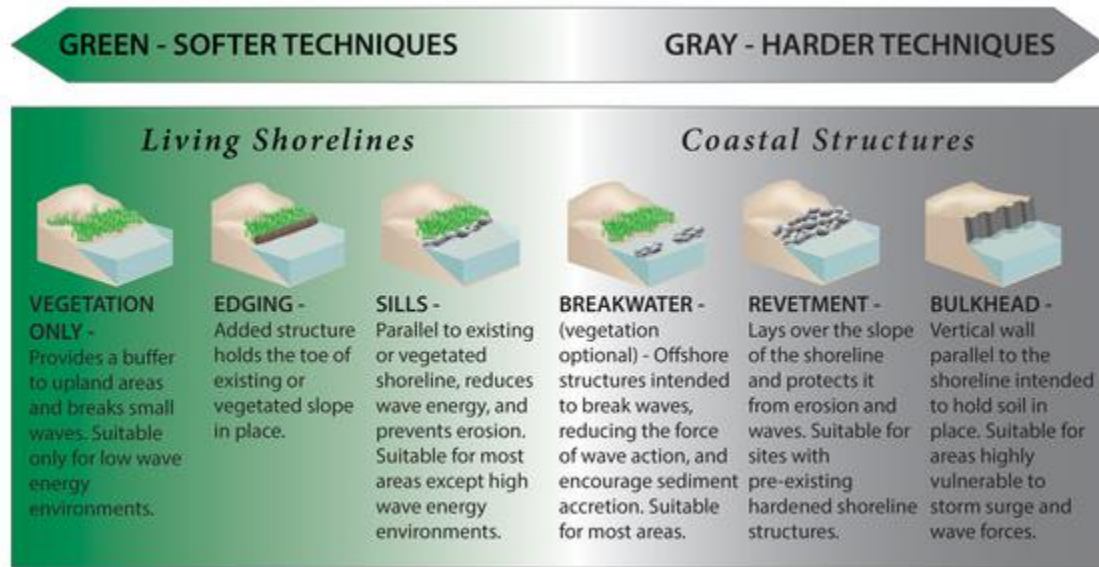
<sup>10</sup> *Id.*

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

<sup>13</sup> National Oceanic and Atmospheric Administration (NOAA), *What is a living shoreline?*, <https://oceanservice.noaa.gov/facts/living-shoreline.html> (last visited Feb. 7, 2025). See also NOAA, *Understanding Living Shorelines*, <https://www.fisheries.noaa.gov/insight/understanding-living-shorelines#what-is-a-living-shoreline> (last visited Feb. 7, 2025).

<sup>14</sup> Mote Marine Laboratory and Aquarium, *Mote scientists to study Sarasota's new 'living seawall,'* <https://mote.org/news/mote-scientists-to-study-sarasotas-new-living-seawall/> (last visited Feb. 7, 2025). See also Port of San Francisco, *Living Seawall Pilot*, <https://www.sfport.com/wrp/living-seawall> (last visited Feb. 7, 2025).



## Mangroves

Florida's estimated 600,000 acres of mangrove forests contribute to the overall health of the state's southern coastal zone and beyond.<sup>15</sup> Mangroves stabilize coastlines, slow the movement of tides, store carbon, and help protect against erosion and damage from storm surges.<sup>16</sup> According to one study by the Nature Conservancy, mangroves prevented \$1.5 billion in direct flood damages and protected over half a million people in Florida during Hurricane Irma in 2017, reducing damages by nearly 25 percent in counties with mangroves.<sup>17</sup> In Collier County, some regions immediately behind the county's mangroves receive annual risk reduction benefits of over \$1 million.<sup>18</sup> Another study found that without the mangroves on Florida's coast, the storm surge of Hurricane Wilma would have extended up to 70 percent further inland.<sup>19</sup>

<sup>15</sup> DEP, *Florida's Mangroves*, <https://floridadep.gov/rcp/rcp/content/floridas-mangroves> (last visited Feb. 7, 2025).

Mangroves are gaining ground along their northern Florida habitat limits, and as winter cold snaps decrease, mangroves are expected to expand further north into new territory. Kristen Minogue & Heather Dewar, Smithsonian Environmental Research Center, *With Fewer Hard Frosts, Tropical Mangroves Push North*, 1 (2013), available at <https://sercblog.si.edu/with-fewer-hard-frosts-tropical-mangroves-push-north/>.

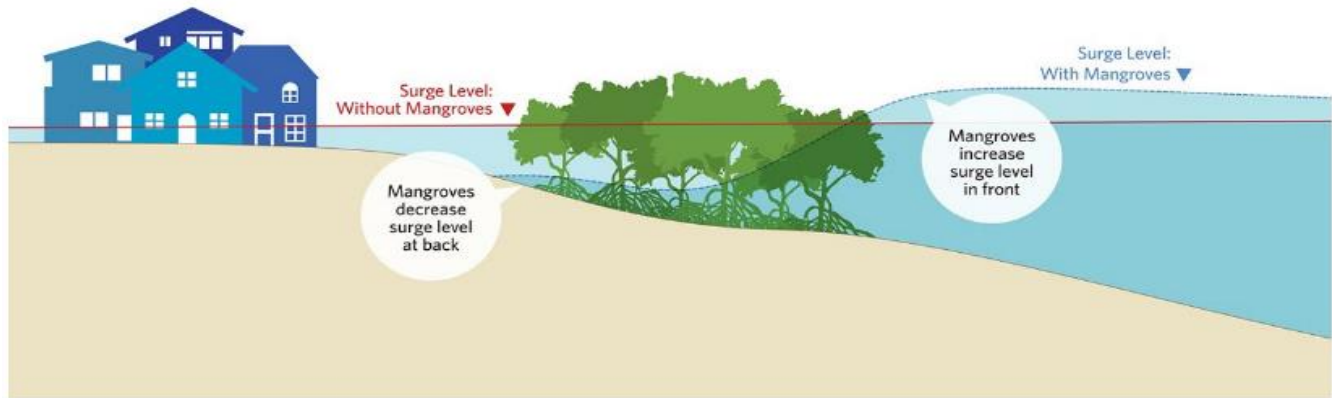
<sup>16</sup> NASA, *Mangroves Are Losing Their Resilience*, <https://landsat.gsfc.nasa.gov/article/mangroves-are-losing-their-resilience/> (last visited Feb. 7, 2025). See also, DEP, *Florida's Mangroves*, <https://floridadep.gov/rcp/rcp/content/floridas-mangroves>; NASA, *NASA Study Maps the Roots of Global Mangrove Loss*, available at <https://www.nasa.gov/feature/goddard/2020/nasa-study-maps-the-roots-of-global-mangrove-loss>. Mangroves reduce wave heights by 31 percent on average. Siddharth Narayan et al., *The Effectiveness, Costs and Coastal Protection Benefits of Natural and Nature-Based Defenses*, Plos One, 4 (2016), available at <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0154735>.

<sup>17</sup> Siddharth Narayan et al., *The Nature Conservancy, Valuing the Flood Risk Reduction Benefits of Florida's Mangroves*, 2, available at [https://www.nature.org/content/dam/tnc/nature/en/documents/Mangrove\\_Report\\_digital\\_FINAL.pdf](https://www.nature.org/content/dam/tnc/nature/en/documents/Mangrove_Report_digital_FINAL.pdf).

<sup>18</sup> *Id.* at 10. Worldwide, mangroves reduce risk to more than 15 million people and prevent more than \$65 billion in property damages each year. Tiffany Duong, World Economic Forum, *Why planting mangroves can help save the planet* (2021), available at <https://www.weforum.org/agenda/2021/08/planting-mangroves-helps-the-planet/>.

<sup>19</sup> Keqi Zhang et al., *The role of mangroves in attenuating storm surges*, *Estuarine, Coastal and Shelf Science*, vols. 102-103, 11, 23 (2012), available at <https://www.sciencedirect.com/science/article/abs/pii/S0272771412000674>.





**MANGROVE BENEFITS** Surge is reduced behind mangroves, helping ease flooding to land and properties. © The Nature Conservancy

The amount of protection afforded by mangroves depends on the width of the forest. A narrow fringe of mangroves offers limited protection, while a wide fringe can considerably reduce wave and flood damage to landward areas by enabling overflowing water to be absorbed into the expanse of forest.<sup>20</sup> Notably, the Legislature has found that many areas of mangroves in Florida occur as narrow riparian fringes that do not provide all the functions of mangrove forests or provide such functions to a lesser degree.<sup>21</sup>

Mangroves also play an important ecological role as a habitat for various species of marine and estuarine vertebrates, invertebrates, and other wildlife,<sup>22</sup> including endangered and threatened species such as the manatee, hawksbill sea turtle, American crocodile, Key deer, and Florida panther.<sup>23</sup> Mangrove branches act as bird rookeries and nesting areas for coastal wading birds, and their intricate root systems provide critical nursery habitats for fish, crustaceans, shellfish, and other marine life.<sup>24</sup> The roots also make ideal underwater perches for barnacles, oysters, crabs, and other marine organisms.<sup>25</sup> These organisms provide food for juvenile fish, birds, reptiles, and other wildlife.<sup>26</sup> Florida's important recreational and commercial fisheries would drastically decline without healthy mangrove forests.<sup>27</sup>

Human activities such as coastal development are responsible for destroying more mangrove forests worldwide than any other type of coastal habitat.<sup>28</sup> Climate change, which results in higher sea levels and more intense droughts and storms, could increase the rate of mangrove loss.<sup>29</sup>

<sup>20</sup> *Id.*

<sup>21</sup> Section 403.9322(3), F.S.

<sup>22</sup> Section 403.9322(2), F.S.

<sup>23</sup> Florida Museum, University of Florida, *South Florida Aquatic Environments: Mangrove Life*, <https://www.floridamuseum.ufl.edu/southflorida/habitats/mangroves/mangrove-life/> (last visited Feb. 7, 2025).

<sup>24</sup> *Id.*; DEP, *Florida's Mangroves*; Tiffany Duong, World Economic Forum, *Why planting mangroves can help save the planet* (2021), available at <https://www.weforum.org/agenda/2021/08/planting-mangroves-helps-the-planet/>.

<sup>25</sup> Hannah Waters, Smithsonian Institution, *Mangrove Restoration: Letting Mother Nature Do the Work* (2016), available at <https://ocean.si.edu/ocean-life/plants-algae/mangrove-restoration-letting-mother-nature-do-work>.

<sup>26</sup> *Id.*

<sup>27</sup> DEP, *Florida's Mangroves*, <https://floridadep.gov/rcp/rcp/content/floridas-mangroves>.

<sup>28</sup> FWC, *Mangrove Forests*, <https://myfwc.com/research/habitat/coastal-wetlands/mangroves/> (last visited Feb. 7, 2025).

<sup>29</sup> Miriam C. Jones et al., *Rapid inundation of southern Florida coastline despite low relative sea-level rise rates during the late-Holocene*, *Nature Communications*, 1, 10 (2019), available at <https://www.nature.com/articles/s41467-019-11138-4>;

## Florida Flood Hub for Applied Research and Innovation

The Florida Flood Hub for Applied Research and Innovation was established within the University of South Florida College of Marine Science to coordinate efforts between the academic and research institutions of the state.<sup>30</sup> The Florida Flood Hub is tasked with, among other things, organizing existing data needs for a comprehensive statewide flood vulnerability and sea level rise analysis and performing gap analyses to determine data needs; developing statewide open source hydrologic models for physically based flood frequency estimation and real-time forecasting of floods; establishing community-based programs to improve flood monitoring and prediction along major waterways; and providing tidal and storm surge flooding data to counties and municipalities for vulnerability assessments.<sup>31</sup>

## Areas of Critical State Concern

The Areas of Critical State Concern Program was created by the Florida Environmental Land and Water Management Act of 1972.<sup>32</sup> The program is intended to protect resources and public facilities of major statewide significance within designated geographic areas from uncontrolled development that would cause substantial deterioration of such resources.<sup>33</sup>

Designated areas of critical state concern include:

- Big Cypress Area (portions of Collier, Miami-Dade, and Monroe Counties);<sup>34</sup>
- Green Swamp Area (portions of Polk and Lake Counties);<sup>35</sup>
- City of Key West and the Florida Keys (Monroe County);<sup>36</sup> and
- Apalachicola Bay Area (Franklin County).<sup>37</sup>

## National Flood Insurance Program Community Rating System

The National Flood Insurance Program (NFIP) was created by the passage of the National Flood Insurance Act of 1968.<sup>38</sup> The NFIP is administered by the Federal Emergency Management Agency (FEMA) and enables homeowners, business owners, and renters in flood-prone areas to

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Xiucheng Yang et al., *Tracking mangrove condition changes using dense Landsat time series*, *Remote Sensing of Environment*, vol. 15, 1 (2024), available at

<https://www.sciencedirect.com/science/article/pii/S0034425724004875?via%3Dihub>.

<sup>30</sup> Section 380.0933(1), F.S.

<sup>31</sup> Section 380.0933(2) and (3), F.S.

<sup>32</sup> Florida Department of Commerce, *Area of Critical State Concern Program*, <https://www.floridajobs.org/community-planning-and-development/programs/community-planning-table-of-contents/areas-of-critical-state-concern> (last visited Feb. 7, 2025). See Ch. 72-317, s. 5, Laws of Fla.; section 380.05, F.S.

<sup>33</sup> Florida Department of Commerce, *Area of Critical State Concern Program*.

<sup>34</sup> Section 380.055, F.S.

<sup>35</sup> Section 380.0551, F.S.

<sup>36</sup> Section 380.0552, F.S.

<sup>37</sup> Section 380.0555, F.S.

<sup>38</sup> The National Flood Insurance Act, Pub. L. 90-448, 82 Stat. 572 (codified as amended at 42 U.S.C. 4001 et seq.). See also FEMA, *Flood Insurance Rules and Regulations*, <https://www.fema.gov/flood-insurance/rules-legislation> (last visited Feb. 7, 2025).

purchase flood insurance protection from the federal government.<sup>39</sup> Participation in the NFIP is voluntary.<sup>40</sup> To join, a community must:

- Complete an application;
- Adopt a resolution of intent to participate and cooperate with FEMA; and
- Adopt and submit a floodplain management ordinance that meets or exceeds the minimum NFIP criteria.<sup>41</sup>

The Community Rating System (CRS) within the NFIP is a voluntary incentive program that rewards communities for implementing floodplain management practices that exceed the minimum requirements of the NFIP.<sup>42</sup> Property owners within communities that participate in the CRS program receive discounts on flood insurance premiums.<sup>43</sup> Premium discounts range from 5 to 45 percent based on a community's CRS credit points.<sup>44</sup> Communities earn credit points by implementing FEMA-approved activities or programs, such as:

- Flood damage reduction programs that reduce the flood risk to existing development;
- Public outreach programs advising people about flood hazards, flood insurance, and ways to reduce flood damage;
- Mapping and regulations limiting floodplain development or providing increased protection to new and existing development; or
- Warning and response programs that provide early flood warnings to the public and incorporate substantial damage assessments into flood response operations.<sup>45</sup>

### **Resilient Florida Grant Program**

The Resilient Florida Grant Program provides grants to counties and municipalities to fund community resilience planning, including vulnerability assessments that identify or address risks of flooding and sea level rise, comprehensive plan amendments, and feasibility studies and the cost of permitting for nature-based solutions that reduce the impact of flooding and sea level rise.<sup>46</sup> Water management districts are also eligible to receive grants under the Resilient Florida Grant Program to assist local government adaptation planning.<sup>47</sup> Such funding must support the Florida Flood Hub and DEP's efforts related to data creation, collection, modeling, and statewide standards implementation.<sup>48</sup>

<sup>39</sup> See FEMA, *Flood Insurance*, <https://www.fema.gov/flood-insurance> (last visited Feb. 7, 2025).

<sup>40</sup> FEMA, *Participation in the NFIP*, <https://www.fema.gov/glossary/participation-nfip#:~:text=Participation%20in%20the%20National%20Flood%20Insurance%20Program%20%28NFIP%29,of%20intent%20to%20participate%20and%20cooperate%20with%20FEMA%3B> (last visited Feb. 7, 2025).

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

<sup>42</sup> FEMA, *Community Rating System*, <https://www.fema.gov/floodplain-management/community-rating-system#:~:text=The%20Community%20Rating%20System%20%28CRS%29%20is%20a%20voluntary,Insurance%20Program%20%28NFIP%29.%20Over%201%2C500%20communities%20participate%20nationwide> (last visited Feb. 7, 2025).

<sup>43</sup> *Id.*

<sup>44</sup> *Id.*

<sup>45</sup> FEMA, *Community Rating System: A Local Official's Guide to Saving Lives, Preventing Property Damage, and Reducing the Cost of Flood Insurance*, 3-6 (2023), available at [https://www.fema.gov/sites/default/files/documents/fema\\_crs-brochure\\_032023.pdf](https://www.fema.gov/sites/default/files/documents/fema_crs-brochure_032023.pdf).

<sup>46</sup> Section 380.093(3)(b)1., F.S.

<sup>47</sup> Section 380.093(3)(b)2., F.S.

<sup>48</sup> Section 380.093(3)(b)2., F.S.

## Workforce Development Capitalization Incentive Grant Program

The Workforce Development Capitalization Incentive Grant Program was created to provide grants to school districts and Florida College System institutions to fund costs associated with the creation or expansion of career and technical education programs that lead to industry certifications included on the CAPE Industry Certification Funding List.<sup>49</sup> The programs may serve secondary students or postsecondary students if the postsecondary career and technical education program also serves secondary students.<sup>50</sup>

Grant funds may be used for instructional and laboratory equipment, supplies, personnel, student services, or other expenses associated with the creation or expansion of a career and technical education program that serves secondary students.<sup>51</sup> In ranking applications, the State Board of Education must consider the statewide geographic dispersion of grant funds and give priority to applications from education agencies that are making maximum use of their workforce development funding by offering high-performing, high-demand programs.<sup>52</sup>

## Environmental Resource Permitting (ERP)

Part IV of chapter 373, F.S., and chapter 62-330 of the Florida Administrative Code regulate the statewide ERP program, which is the primary tool used by the DEP and the water management districts (WMDs) for preserving natural resources and fish and wildlife, minimizing degradation of water resources caused by stormwater discharges, and providing for the management of water and related land resources. 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>53</sup>

Projects that are in, on, or over surface waters and wetlands are subject to additional permitting requirements. For example, if a proposed activity significantly degrades or is within an Outstanding Florida Water,<sup>54</sup> the ERP applicant must provide reasonable assurance that the proposed activity will be clearly in the public interest.<sup>55</sup> In determining whether an activity is clearly in the public interest, the WMD or DEP must consider and balance 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;

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<sup>49</sup> Section 1011.801, F.S.

<sup>50</sup> *Id.*

<sup>51</sup> Section 1011.801(1), F.S.

<sup>52</sup> Section 1011.801(2), F.S.

<sup>53</sup> Fla. Admin. Code R. 62-330.010(2).

<sup>54</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 Feb. 7, 2025); see Fla. Admin. Code R. 62-302.700(2) and (9).

<sup>55</sup> Section 373.414(1), F.S.



- 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>56</sup>

### III. Effect of Proposed Changes:

The bill contains four whereas clauses that acknowledge the following:

- The coastline is a critical state resource that benefits the public interest by providing economic benefits, such as flood control, fishing, recreation, and navigation, and natural habitat and biodiversity functions, such as improved water quality and habitat for endangered and threatened species and other flora and fauna;
- Rising sea levels and an increasing frequency of adverse weather events pose a significant risk to people and property along the coastline and threaten the public benefits and functions offered by the coastline;
- As identified in the Miami-Dade Back Bay Coastal Storm Risk Management Feasibility Study, natural infrastructure, including mangrove stands, living seawalls, and other nature-based designs, can play an essential role in improving coastal resilience and mitigating harm to this state's coastlines; and
- The Legislature intends to promote state and local efforts to restore mangrove forests along the coastline and further study the impact of other nature-based methods on this state's coastal resilience and economic development.

**Section 1** amends s. 380.0933, F.S., regarding the Florida Flood Hub for Applied Research and Innovation. The bill directs the Flood Hub to:

- Develop design guidelines and standards for optimal combinations of green and gray infrastructure to address sea level rise and the impact of storm surges; and
- Model the effects, including flood risk reduction and socio-economic benefits, of conceptual designs of green infrastructure and hybrid green-gray infrastructure, and integration of green natural systems into gray infrastructure systems, on the state's coastal resilience.

**Section 2** creates s. 380.0938, F.S., regarding nature-based methods for improving coastal resilience. The bill directs the Department of Environmental Protection (DEP) to adopt rules governing nature-based methods for improving coastal resilience. The rules must:

- Address significant erosion in areas of critical state concern.
- Identify ways that new developments can avoid or mitigate their impacts on mangrove stands.
- Encourage local governmental entities to develop or participate in mangrove replanting and hydrological restoration programs and the restoration of oyster reefs, salt marshes, and coral reefs.
- Identify and monitor threats to mangroves.

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<sup>56</sup> Section 373.414(1)(a), F.S.

- Protect barrier and spoil islands.
- Assist efforts to improve coastal resilience through the use of green infrastructure, beach renourishment, dune restoration, living seawalls, shoreline and vegetation planting, stormwater planters, permeable pavements, and ecologically sound building materials.
- Promote public awareness of the value of green infrastructure and statewide education campaigns conducted by local governmental entities.
- Identify vulnerable public and private properties along the coastline and encourage partnerships with local governmental entities to create local protection and restoration zone programs for implementing the rules developed by DEP.
- Protect and maintain access to and navigation of the marked channel and the right-of-way of the Florida Intracoastal Waterway.
- Create permitting incentives and approvals of, and encourage the use of, new strategies and technologies, such as three-dimensional printing, for living shorelines and nature-based features for coastal protection.
- Assist in the development of workforce training in this state which includes flood and sea level rise research, prediction, and adaptation and mitigation strategies. DEP must provide incentives to local communities that apply for funding through the Workforce Development Capitalization Incentive Grant Program to implement such workforce training.
- Encourage partnerships with local governmental entities to create projects using green infrastructure for coastal protection through the Resilient Florida Grant Program.
- Develop guidelines for determining when a green infrastructure project is “clearly in the public interest” under s. 373.414(1)(a), F.S.<sup>57</sup>
- Streamline the Environmental Resource Permitting process for green infrastructure projects.
- Streamline permitting after designated storm events or disasters to replace failed coastal infrastructure with green or hybrid green-gray infrastructure that follows established green and green-gray design guidelines.

The bill also directs DEP, in consultation with the Division of Insurance Agent and Agency Services, to conduct a statewide feasibility study to determine the value of nature-based methods for coastal flood risk reduction within coastal communities to reduce insurance premiums and improve local governments’ community ratings in the National Flood Insurance Program Community Rating System. The bill requires DEP to submit a report on the findings of the study to the Governor and Legislature by July 1, 2026.

**Section 3** provides an effective date of July 1, 2025.

#### **IV. Constitutional Issues:**

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

None.

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<sup>57</sup> Section 373.414(1), F.S., provides that, if a proposed activity requiring an environmental resource permit significantly degrades or is within an Outstanding Florida Water, the applicant must provide reasonable assurance that the proposed activity will be “clearly in the public interest.” Section 373.414(1)(a), F.S., delineates criteria that must be considered when determining whether an activity is “clearly in the public interest.”

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

None.

**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:**

The bill may have an indeterminate negative fiscal impact on the Department of Environmental Protection related to the costs associated with the rulemaking and feasibility study requirements of the bill.

**VI. Technical Deficiencies:**

None.

**VII. Related Issues:**

None.

**VIII. Statutes Affected:**

This bill substantially amends section 380.0933 of the Florida Statutes.

This bill creates section 380.0938 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.)

None.

- 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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