

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.)

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

BILL: CS/SB 1686

INTRODUCER: Environment and Natural Resources Committee and Senator Wright

SUBJECT: Designation of Brevard Barrier Island Area as an Area of Critical State Concern

DATE: March 27, 2023

REVISED: _____

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Carroll	Rogers	EN	Fav/CS
2.			CA	
3.			RC	

Please see Section IX. for Additional Information:

COMMITTEE SUBSTITUTE - Technical Changes

I. Summary:

CS/SB 1686 establishes the Brevard Barrier Island Area as an area of critical state concern. The bill provides Legislative findings regarding the necessity of designating the Brevard Barrier Island Area as an area of critical state concern. These findings include environmental, economic, and safety considerations. The bill provides that the Legislature intends to:

- Establish a land use management system that protects the natural environment of the southern Brevard Barrier Island Area;
- Establish a land use management system that promotes orderly and balanced growth in accordance with the capacity of existing public facilities and services;
- Protect and improve the Indian River Lagoon ecosystem, including improving water quality of the Brevard Barrier Island Area by funding water quality improvement projects; and
- Ensure that the population of the Brevard Barrier Island can be safely evacuated.

The bill provides guiding principles for development within the Brevard Barrier Island Area. It also allows for the removal of the Brevard Barrier Island Area's designation as an area of critical state concern if the legislative intent has been fulfilled and the work program tasks specified in rules of the Administration Commission have been completed. The bill provides criteria that must be met before the state land planning agency may recommend removing the area of critical state concern designation.

Beginning November 30, 2030, the state land planning agency must submit an annual written report to the Administration Commission on the progress of the Brevard Barrier Island Area.

II. Present Situation:

Areas of Critical State Concern

The Areas of Critical State Concern Program was created in the Florida Environmental Land and Water Management Act of 1972.¹ 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.²

The Department of Economic Opportunity (DEO)³ may recommend specific areas of critical state concern to the Administration Commission, which includes the Governor and Cabinet.⁴ Within 45 days, the Commission must either reject or adopt the recommendation, with or without modification, and by rule designate the area of critical state concern.⁵ If the rule is adopted, it is then submitted to the President of the Senate and the Speaker of the House of Representatives no later than 30 days prior to the next regular session of the Legislature.⁶

An area of critical state concern may be designated for:

- An area containing, or having a significant impact upon, environmental or natural resources of regional or statewide importance, the uncontrolled private or public development of which would cause substantial deterioration of such resources;
- An area containing, or having a significant impact upon, historical or archaeological resources, sites, or statutorily defined historical or archaeological districts, the private or public development of which would cause substantial deterioration or complete loss of such resources, sites, or districts; or
- An area having a significant impact upon, or being significantly impacted by, an existing or proposed major public facility or other area of major public investment.⁷

Once an area of critical state concern is designated, DEO reviews all local development projects within area and may appeal to the Florida Land and Water Adjudicatory Commission⁸ any local development orders that are inconsistent with state guidelines and local comprehensive plans and regulations. DEO must also review and approve amendments to comprehensive plans and land development regulations proposed and adopted by local governments within the designated areas.⁹

¹ Chapter 72-317, Laws of Fla.; Department of Economic Opportunity (DEO), *Areas 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 Mar. 21, 2023).

² DEO, *Areas of Critical State Concern Program*.

³ DEO is the state land planning agency. Section 380.031(18), F.S.

⁴ Section 380.031(1), F.S.; s. 380.05(1)(a), F.S.

⁵ Section 380.05(1)(b), F.S.

⁶ Section 380.05(1)(c), F.S.

⁷ Section 380.05(2), F.S.

⁸ The Florida Land and Water Adjudicatory Commission consists of the Administration Commission, which includes the Governor and members of the Cabinet. Florida Land and Water Adjudicatory Commission, *Statement of Agency Organization and Operation*, 1 (2023), available at <https://www.myflorida.com/myflorida/cabinet/flwac/flwac.pdf>; s. 380.031(1), F.S.

⁹ DEO, *Areas of Critical State Concern Program*.

Areas of critical state concern currently designated in the state include the Big Cypress,¹⁰ Green Swamp,¹¹ Florida Keys,¹² and Apalachicola Bay¹³ areas of critical state concern.

Brevard Barrier Island Area

Barrier islands form as waves repeatedly deposit sediment parallel to the shoreline. As wind and waves shift according to weather patterns and local geographic features, these islands constantly move, erode, and grow.¹⁴ They are generally separated from the mainland by tidal creeks, bays, and lagoons. Beaches and sand dune systems form on the side of the island facing the ocean; the side facing the shore often contains marshes, tidal flats, and maritime forests. These areas are important habitat for seabirds, fish and shellfish, and nesting sea turtles.¹⁵

These islands are critical to protecting coastal communities and ecosystems from extreme weather.¹⁶ Beach dunes and grasses on barrier islands absorb wave energy before the wave hits the mainland. This generally means smaller storm surge and less flooding on the coast. Today, barrier islands are disappearing at a high rate.¹⁷

The Brevard Barrier Island Area's beaches are important nesting grounds for threatened and endangered sea turtles and are home to the largest nesting aggregation of loggerhead sea turtles in the world.¹⁸ The barrier island is bordered by the Indian River Lagoon (IRL), and its ecosystem helps protect the water quality and ecological productivity of the IRL.¹⁹

The Indian River Lagoon

The IRL is a 156-mile-long estuary spanning approximately 40 percent of Florida's east coast.²⁰ There are six coastal counties in the IRL watershed: Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach.²¹ The IRL extends from Ponce de Leon Inlet near New Smyrna Beach

¹⁰ Section 380.055, F.S.

¹¹ Section 380.0551, F.S.

¹² Section 380.0552, F.S.

¹³ Section 380.0555, F.S.

¹⁴ National Oceanic and Atmospheric Administration (NOAA), *What is a barrier island?*,

[https://oceanservice.noaa.gov/facts/barrier-](https://oceanservice.noaa.gov/facts/barrier-islands.html#:~:text=These%20islands%20are%20critical%20to,less%20flooding%20on%20the%20coast)

[islands.html#:~:text=These%20islands%20are%20critical%20to,less%20flooding%20on%20the%20coast](https://oceanservice.noaa.gov/facts/barrier-islands.html#:~:text=These%20islands%20are%20critical%20to,less%20flooding%20on%20the%20coast) (last visited Mar. 21, 2023).

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ Sea Turtle Conservancy, *Barrier Island Education Center*, <https://conserveturtles.org/barrier-island-education-center/> (last visited Mar. 21, 2023).

¹⁹ Indian River Lagoon Species Inventory, *Barrier Islands*, <https://irlspecies.org/misc/BarrierisInd.php> (last visited Mar. 21, 2023).

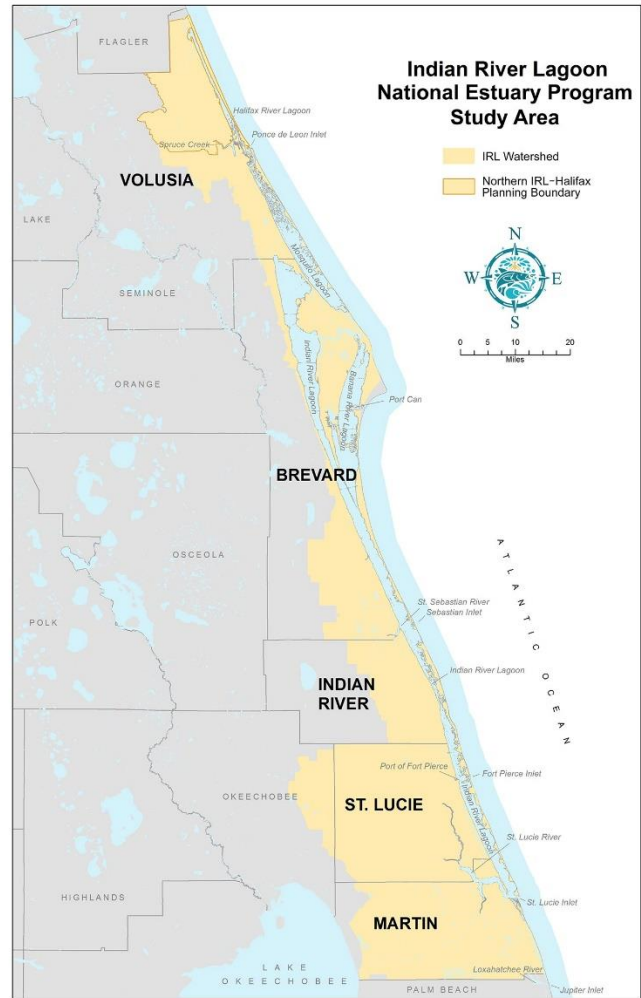
²⁰ DEP, Basin Management Action Plan, *Indian River Lagoon Basin Central Indian River Lagoon*, 14 (2021), available at https://publicfiles.dep.state.fl.us/DEAR/BMAP/IndianRiverLagoon/BMAP_Documents/2021_IRL_BMAP_Final/CIRL/Final_CIRL_BMAP_02102021.pdf; IRLNEP, *Importance*, <https://onelagoon.org/importance/> (last visited Feb. 15, 2023).

²¹ DEP, Basin Management Action Plan, *Indian River Lagoon Basin Central Indian River Lagoon*, 14 (2021).

in Volusia County to the southern border of Jupiter Inlet in Martin County.²² There are three interconnected lagoons in the IRL basin: Mosquito Lagoon, Banana River Lagoon, and Indian River Lagoon.²³ Seventy-one percent of its area and nearly half its length is within Brevard County.²⁴

The IRL is considered the most biologically diverse estuary in North America.²⁵ It is home to more than 2,000 species of plants, 600 species of fish, 300 species of birds, and 53 threatened or endangered species.²⁶ In 2014, the estimated annual economic value received from the IRL was approximately \$7.6 billion, around \$1.57 billion of which was attributable to recreation and visitor-related activity.²⁷ Industry groups directly influenced by the IRL supported nearly 72,000 jobs.²⁸

The IRL ecosystem has been harmed by human activities in the region. Stormwater runoff from urban and agricultural areas, wastewater treatment facility discharges, canal discharges, septic systems, animal waste, and fertilizer applications have led to harmful levels of nutrients and sediments



²² *Id.*

²³ DEP, TMDL Report, *Nutrient and Dissolved Oxygen TMDLs for the Indian River Lagoon and Banana River Lagoon*, 1 (Mar. 2009), available at <https://floridadep.gov/sites/default/files/indian-banana-nutrient-do-tmdl.pdf>.

²⁴ Tetra Tech, Inc. & Closewaters, LLC, *Save Our Indian River Lagoon Project Plan 2019 Update*, xi (Feb. 2023)[hereinafter *Save Our Lagoon*], available at <https://www.brevardfl.gov/SaveOurLagoon/ProjectPlan>. The map on this page shows the IRL watershed. IRLNEP, *IRLWatershedMap_With PlBound*, https://onelagoon.org/irlwatershedmap_withplbound/# (last visited Feb. 17, 2023).

²⁵ DEP, Basin Management Action Plan, *Indian River Lagoon Basin Central Indian River Lagoon*, 45 (2021), available at <https://floridadep.gov/sites/default/files/central-irl-bmap.pdf>; An estuary is a partially enclosed, coastal waterbody where freshwater from rivers and streams mixes with saltwater from the ocean. Estuaries are among the most productive ecosystems on earth, home to unique plant and animal communities that have adapted to brackish water: freshwater mixed with saltwater. U.S. EPA, *What Is An Estuary?*, <https://www.epa.gov/nep/basic-information-about-estuaries> (last visited Feb. 15, 2023); NOAA, *What Is An Estuary?*, <https://oceanservice.noaa.gov/facts/estuary.html> (last visited Feb. 15, 2023).

²⁶ Indian River Lagoon Species Inventory, *Biodiversity*, https://www.irlspecies.org/misc/Total_Biodiv.php#:~:text=Home%20to%20over%204%2C200%20species%20of%20plants%2C%20birds%2C,species%20of%20fish%20and%20370%20species%20of%20birds (last visited Feb. 15, 2023).

²⁷ East Central Florida Regional Planning Council and Treasure Coast Regional Planning Council, *Indian River Lagoon Economic Valuation Update*, vi, ix (Aug. 26, 2016), available at https://files.tcrpc.org/portfolio%20of%20work/Economic%20Development/IRL%20Valuation/FinalReportIRL08_26_2016.pdf.

²⁸ *Id.* at ix.

entering the lagoon.²⁹ The St. Lucie Estuary also discharges water that often contains toxic cyanobacteria (also known as blue-green algae) from Lake Okeechobee into the IRL.³⁰ These pollutants create cloudy conditions, feed algal blooms, and lead to muck accumulation, all of which negatively impact the seagrass that provides habitat for much of the IRL's marine life.³¹ During the 2011 "Superbloom," intense algal blooms of phytoplankton occurred throughout most of the IRL, lasting for seven months and resulting in massive losses of seagrass that has yet to fully recover.³² There have also been recurring brown tides;³³ unusual mortalities of dolphins, manatees, and shorebirds; and large fish kills due to low dissolved oxygen from decomposing algae.³⁴

Archie Carr National Wildlife Refuge and Sea Turtles

In North America, sea turtles primarily nest from North Carolina through Florida, with over 90 percent of nesting occurring in Florida.³⁵ Within that range is the Archie Carr National Wildlife Refuge (Carr Refuge), a 20.5-mile section of shoreline between Melbourne Beach and Wabasso, along Florida's east central coast. Since its establishment by Congress in 1989, the Carr Refuge, named after the Sea Turtle Conservancy's founding scientific director, has been a major success. The stretch of beach within the Refuge boundary is the most important sea turtle nesting habitat in the United States.³⁶

Sea turtles are large, air-breathing reptiles that inhabit tropical and subtropical seas throughout the world.³⁷ Their shells consist of an upper part (carapace) and a lower section (plastron). Hard scales (or scutes) cover all but the leatherback turtle and the number and arrangement of these scutes can be used to determine the species.³⁸

Only female sea turtles come ashore to nest as males rarely ever return to land after crawling into the sea as hatchlings. Most females return to nest on the beach where they were born. Nesting

²⁹ Tetra Tech, Inc. & Closewaters, LLC, *Save Our Indian River Lagoon Project Plan 2019 Update* at xi; [Marine Resources Council, *Indian River Lagoon Health Update*, 4-7 \(2018\), available at https://savetheirl.org/wp-content/uploads/mrc-report-card-2018-min.pdf](https://savetheirl.org/wp-content/uploads/mrc-report-card-2018-min.pdf).

³⁰ DEP, *Basin Management Action Plan, St. Lucie River and Estuary Basin*, 15 (2020), available at https://publicfiles.dep.state.fl.us/DEAR/DEARweb/BMAP/NEEP_2020_Updates/St_Lucie_BMAP_01-31-20.pdf; DEP, *Basin Management Action Plan, Lake Okeechobee*, 14 (2020), available at https://publicfiles.dep.state.fl.us/DEAR/DEARweb/BMAP/NEEP_2020_Updates/Lake%20Okeechobee%20BMAP_01-31-20.pdf.

³¹ Tetra Tech, Inc. & Closewaters, LLC, *Save Our Indian River Lagoon Project Plan 2019 Update* at xi.

³² IRL 2011 Consortium, *Indian River Lagoon 2011 Superbloom - Plan of Investigation*, 2-3 (2012), available at https://www.sjrwmd.com/static/waterways/irl-technical//2011superbloom_investigationplan_June_2012.pdf; Marine Resources Council, *Indian River Lagoon Coastal Community Report Card*, 2,4 (2022), available at <https://savetheirl.org/wp-content/uploads/IRLReportCard2022-opt.pdf>.

³³ Brown tide is a type of algal bloom dominated by a brown, microscopic marine algae, which can be harmful to ecosystems in high concentrations, and was first documented in state waters in 2012. FWC, *Effects of Brown Tide in the Indian River Lagoon (2012)*, <https://myfwc.com/research/redtide/monitoring/historical-events/brown-tide/> (last visited Feb. 15, 2023).

³⁴ Tetra Tech, Inc. & Closewaters, LLC, *Save Our Indian River Lagoon Project Plan 2019 Update* at xi.

³⁵ Sea Turtle Conservancy, *Barrier Island Education Center*, <https://conserveturtles.org/barrier-island-education-center/> (last visited Mar. 21, 2023).

³⁶ *Id.*

³⁷ Sea Turtle Conservancy, *Information about Sea Turtles: An Introduction*, <https://conserveturtles.org/information-about-sea-turtles-an-introduction/> (last visited Mar. 21, 2023).

³⁸ *Id.*

seasons occur at different times around the world. In the U.S., nesting occurs from April through October. Most females nest at least twice during each mating season; some may nest up to ten times in a season. However, a female will not nest in consecutive years, typically skipping one or two years before returning.³⁹

Researchers do not yet know how long young sea turtles spend in the open sea or exactly where they go, but once they reach the size of a dinner-plate they appear at feeding grounds in nearshore waters. They grow slowly and take between 15 and 50 years to reach reproductive maturity, depending on the species. There is no way to determine the age of a sea turtle from its physical appearance. It is theorized that some species can live over 100 years.⁴⁰

Green, leatherback, and hawksbill sea turtles are classified as endangered in the U.S. under the Endangered Species Act.⁴¹ More loggerheads nest within the Carr Refuge than anywhere else in the Western Hemisphere. Over the past several years, there has been an observed increase in both green turtle and leatherback nesting in the Carr Refuge, indicating that the protection of these beaches is essential to the survival and recovery of these three species.⁴²

III. Effect of Proposed Changes:

Section 1 creates s. 380.0553, F.S., to establish the Brevard Barrier Island Area as an area of critical state concern. The bill may be cited as the “Brevard Barrier Island Area Protection Act.” The bill contains the following legislative findings regarding the necessity of designating the Brevard Barrier Island Area as an area of critical state concern:

- The southern barrier island of Brevard County represents one of the most fragile and endangered coastal ecosystems in North America and the beaches, dunes, coastal scrub, and maritime hammock areas of the barrier island ecosystem represent some of the most fragile and endangered natural upland communities in the state and nation;
- The beaches of the region are among the most important nesting grounds for threatened and endangered sea turtles in the Western Hemisphere and the beach running the length of the southern barrier island in Brevard County is home to the largest nesting aggregation of loggerhead sea turtles in the world and the management decisions made in the region have global impacts for the species;
- The Archie Carr National Wildlife Refuge is located within the Brevard Barrier Island Area and is a significant conservation area designated to protect habitat at the most significant area for loggerhead sea turtle nesting in the world, at the most significant area for green turtle nesting in North America, and for a diverse array of plant and animal species;
- The Indian River Lagoon (IRL), designated as an Estuary of National Significance by the U.S. Environmental Protection Agency in 1990, borders the western shore of the barrier

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ *Id.* The Endangered Species Act (ESA) defines an endangered species as any species which is in danger of extinction throughout all or a significant portion of its range. Endangered species are automatically protected by prohibitions of several types of “take,” including harming, harassing, collecting, or killing, under Section 9 of the ESA. NOAA, *What is the difference between a threatened and endangered species?*, <https://oceanservice.noaa.gov/facts/endangered.html> (last visited Mar. 21, 2023).

⁴² Sea Turtle Conservancy, *Barrier Island Education Center*.

island and the natural habitats of the barrier island ecosystem protect the water quality and productivity of the IRL;

- The saltwater recreational fishery of the IRL generates hundreds of millions of dollars per year in local economic benefits;
- Density limitations and natural resource protection on the barrier island has increased public tax burdens associated with the provisions of services, building and maintenance of infrastructure for barrier island residential developments, and public costs for rebuilding public and private structures following severe erosion events;
- Protection of the primary dune system of the barrier island provides the only protective buffer for local development from storm surges associated with tropical storms and hurricanes; and
- The entirety of the barrier island lies within a zone that is the first to be subject to mandatory evacuation protocols due to the vulnerability of the barrier island in hurricane events and the adverse impacts of such vulnerability on evacuating safely.

Through this bill, the Legislature intends to:

- Establish a land use management system that protects the natural environment of the southern Brevard Barrier Island Area;
- Establish a land use management system that promotes orderly and balanced growth in accordance with the capacity of existing public facilities and services;
- Protect and improve the IRL ecosystem, including improving water quality of the Brevard Barrier Island Area through federal, state, and local funding of water quality improvement projects; and
- Ensure that the population of the Brevard Barrier Island can be safely evacuated in the event of a hurricane.

The bill provides that the Brevard Barrier Island Area is that portion of Brevard County bounded on the north by the southern boundary of the Town of Melbourne Beach, on the east by the Atlantic Ocean, on the west by the Indian River, and on the south by the southern boundary of Sebastian Inlet State Park. The bill provides township, ranges, and sections as designated by the Brevard Public Land Survey System.

The bill directs state, regional, and local agencies and units of government in the Brevard Barrier Island Area to coordinate their plans and conduct their programs and regulatory activities to be consistent with all of the following guiding principles for development within the area:

- Preventing the adverse impacts of development on resources critical to sea turtle habitat by prohibiting new shoreline hardening structures and enforcing existing state and county coastal construction regulations;
- Prioritizing water quality restoration projects in the IRL;
- Reducing nutrient contributions from septic tanks and wastewater facilities, stormwater discharges, and agriculture non-point sources into the IRL;
- Supporting innovative, nature-based solutions including living shorelines, and freshwater and coastal wetland restoration;
- Safeguarding against adverse economic, social, environmental, and public health and safety impacts posed by flooding and storm surge by protecting critical assets identified in s. 380.093, F.S.;

- Protecting shoreline and marine resources, including mangroves, seagrass beds, wetlands, sea turtles, manatees, and fish and wildlife, and related habitats;
- Protecting upland resources, including dune ridges, beaches, wildlife, and related habitats;
- Limiting the adverse impacts of development on the quality of water throughout the Brevard Barrier Island Area and the Indian River Lagoon;
- Enhancing natural scenic resources to promote the aesthetic benefits of the natural environment; and
- Ensuring that development is compatible with the unique barrier island characteristics.

The bill allows the designation of the Brevard Barrier Island Area as an area of critical state concern to be recommended for removal if the legislative intent has been fulfilled and the work program tasks specified in rules of the Administration Commission have been completed. Beginning November 30, 2030, the state land planning agency must annually submit a written report to the Administration Commission describing the progress of the Brevard Barrier Island Area and shall recommend removing the area of critical state concern designation if it determines that:

- Adequate restoration and renourishment programs are in place to preserve the beaches and dunes of the southern barrier island in Brevard County for nesting sea turtles;
- Seagrass replanting in the IRL extending the length of the Brevard Barrier Island Protection Area is in a coverage volume that would establish recovery to scientifically defensible reference targets;
- Nonpoint pollution sources into the IRL that contribute to total phosphorus, total nitrogen, chlorophyll-a, fecal coliform, and metals have been sufficiently reduced to meet water quality criteria standards resulting in the removal of the IRL from the impaired waters list;
- The green sea turtle (*Chelonia mydas*), loggerhead sea turtle (*Caretta caretta*), and leatherback sea turtle (*Dermochelys coriacea*) have been delisted from the Florida Endangered and Threatened Species rule and the Florida Marine Turtle Protection Act;
- All local comprehensive plans and land development regulations and the administration of such plans and regulations are adequate to protect the Brevard Barrier Island Area, fulfill the legislative intent expressed in the bill, and are consistent with and further the principles guiding development; and
- A local government has adopted a resolution at a public hearing recommending the removal of the designation.

Section 2 provides an effective date of July 1, 2023.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

D. State Tax or Fee Increases:

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 creates section 380.0553 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 March 27, 2023:

The committee substitute makes technical changes.

B. Amendments:

None.