Laws, Policies, and Regulations Affecting Florida's Indian River Lagoon

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* Acknowledgements: First, I express my deepest appreciation for Dr. Duane De Freese for allowing me to intern with the Indian River Lagoon National Estuary Program (IRLNEP). You are a fantastic mentor and inspiration to me. Your confidence in me is a gift I will always cherish. Thank you. Secondly, I am incredibly grateful for the rest of the IRLNEP team: Kathy Hill, Daniel Kolodny, Erin Bergman, KJ Ayres, Caleta Scott, Heather Stapleton, and Jessy Wayles. Thank you all for your unwavering support. I truly enjoyed working with you all. Lastly, I would like to thank Clay Henderson for his help in editing this paper.

I. THE HISTORY OF THE INDIAN RIVER LAGOON: AN OVERVIEW

Humankind first interacted with the Indian River Lagoon (IRL) approximately 12,000–15,000 years ago[1] when the first hunters and gatherers occupied the area.[2] In the mid-1600s, Spanish settlers arrived,[3] spreading disease and conducting slavery and warfare efforts that diminished the native population.[4] During the 1760s, the British took dominion of the IRL region.[5] Over time, Spanish and English settlements became agriculturally dependent and approximately 3,000

[1] *History Summary*, BREVARD CNTY.: SPACE COAST FLA., https://www.brevardfl.gov/HistoricalCommission/HistorySummary (last visited May 27, 2024); *Living on the Lagoon*, ONE LAGOON, https://onelagoon.org/living-on-the-lagoon/ (last visited June 3, 2024)

[2] *Community: History*, TOWN OF GRANT-VALKARIA, FLA., https://grantvalkaria.org/community/page/history.

[3] *Living on the Lagoon*, ONE LAGOON, https://onelagoon.org/living-on-the-lagoon/ (last visited June 3, 2024).

[4] *History of the Indian River Lagoon*, Brevard Indian River Lagoon Coalition, (Aug 27, 2018), https://helpthelagoon.org/history-indian-river-lagoon/.

[5] *Living on the Lagoon*, ONE LAGOON, https://onelagoon.org/living-on-the-lagoon/ (last visited June 3, 2024).

acres of the lagoon were drained by 1770.[6] Then, in the 1830s, the U.S. Army and Florida militia entered the IRL watershed during the Second Seminole War.[7] By the 1870s, the lagoon became a bustling trading center home to railroads, bridges, and steamboats.[8] During the 1890s, the IRL was significantly drained to support the region's citrus production.[9] In the 1900s, wetlands were surrounded by dikes and flooded to prevent pesky mosquito breeding and mosquito-borne disease, which destroyed nearly 70% of the lagoon's mangroves.[10] The popularization of automobiles in the 1930s led to the construction of causeways that divided the lagoon and produced harmful runoff.[11] By the 1970s, nearly 303,900 people lived in the IRL region.[12] As the population grew, so did the pollution.

II. AN ESTUARY IN DISTRESS: A CALL TO ACTION

The IRL watershed occupies 40% of Florida's coast, houses over 4,400 plant and animal species, and generates approximately $7.6 billion annually towards Florida's economy.[13] The lagoon is frequently used for recreational purposes: swimming, fishing, boating, water sports, biking, hiking, wildlife viewing, and more.[14] Excessive human conduct, however, has harmed the IRL: rapid development, habitat destruction, overharvesting, runoff, and drainage.[15] Repeated misuse

FIGURE 1: IRL Preserve Park at Sunset. Florida DEP News (@FLDEPNews), X (Jan 19, 2023, 6:00 PM), https://x.com/FLDEPNews/status/1616208914302832654.

[6] ST. JOHNS RIVER WATER MGMT. DIST. & THE INDIAN RIVER LAGOON NATIONAL ESTUARY PROGRAM, INDIAN RIVER LAGOON: AN INTRODUCTION TO A NATURAL TREASURE (2007) [hereinafter INDIAN RIVER LAGOON INTRODUCTION].

[7] *History Summary*, BREVARD CNTY.: SPACE COAST FLORIDA https://www.brevardfl.gov/HistoricalCommission/HistorySummary (last visited May 27, 2024).

[8] INDIAN RIVER LAGOON INTRODUCTION, *supra* note 6 at 34.

[9] *Restoration of Indian River Lagoon Preserve*, FLORIDA STATE PARKS, https://www.floridastateparks.org/learn/restoration-indian-river-lagoon-preserve (last visited Feb. 5, 2025).

[10] Nathaniel Osborn, Oranges and Inlets: An Environmental History of Florida's Indian River Lagoon Oranges and Inlets: An Environmental History of Florida's Indian River Lagoon (Aug. 2012) (M.A. thesis, Florida Atlantic University) (ProQuest).

[11] *Indian River Lagoon Encyclopedia- National Estuary*, INDIAN RIVER LAGOON PROJECT, https://indianriverlagoonnews.org/guide/index.php/Category:National_Estuary (last updated Apr 8, 2023).

[12] INDIAN RIVER LAGOON INTRODUCTION, *supra* note 6.

[13] *Importance*, ONE LAGOON, https://onelagoon.org/importance/ (last visited Nov. 28, 2023).

[14] *Experience the Indian River Lagoon*, ARCGIS STORYMAPS, https://storymaps.arcgis.com/collections/59b60744fa654fbfa8a65a59ee6d0ae9 (last visited Aug. 13, 2023).

[15] *How Valuable is the Indian River Lagoon?*, RESTORE OUR SHORES, https://restoreourshores.org/importance/ (last visited Mar. 29, 2023).

and neglect have destroyed the lagoon's important ecosystems. If we continue this behavior, the IRL, as we know it, will cease to exist.[16]

It is not too late to change our behavior and restore the balance of our nation's environment. Both state and federal laws, implemented and enforced by multiple agencies, protect our nation's water resources, including the IRL. As our environment evolves, so must our laws, policies, and regulations.

III. FEDERAL LAWS, REGULATIONS, AND POLICIES THAT AFFECT THE INDIAN RIVER LAGOON

The earliest U.S. environmental laws were enacted in the late 1800s and early 1900s. For example, the Rivers and Harbors Act of 1899 authorized the federal government to regulate activities throughout waters of the United States.[17] The Lacey Act of 1900 is one of our nation's oldest wildlife protection laws, aimed at addressing the overhunting of birds.[18] In the 1960s, publications, such as Rachel Carson's *Silent Spring*,[19] and natural disasters, including the 1969 Cuyahoga River fires, increased society's awareness of environmental degradation caused by human conduct. During the 1970s, major federal laws, such as the Clean Water Act, National Environmental Policy Act, and Endangered Species Act, were implemented to address growing environmental concerns.[20] While environmental restoration is challenging, enforcement of past environmental laws has proven successful. Regrettably, centuries of environmental degradation forced society to recognize the importance of the environment. Now that we are aware of the damage we've inflicted, we must strive to rectify it. Below is an overview of federal

FIGURE 2: Ohio's Cuyahoga River in flames, one of over a dozen times the river caught fire before environmental standards improved.

[16] *Our Issues*, THE INDIAN RIVERKEEPER, https://www.theindianriverkeeper.org/our-issues/ (last visited May 27, 2024).

[17] *Rivers and Harbors Act*, NOAA FISHERIES (archived 20 Feb. 2025), https://web.archive.org/web/20240814175910/https://www.fisheries.noaa.gov/inport/item/59646.

[18] *The Lacey Act*, NAT'L WHISTLEBLOWER CTR., (Apr. 19, 2021), https://www.whistleblowers.org/what-is-the-lacey-act/.

[19] RACHEL CARSON, SILENT SPRING (1962).

[20] Richard Lazarus & Sara Zdeb, *Environmental Law & Politics*, 29 Insights L. & Soc'y 3.1 (Jan. 5, 2021).

laws, regulations, and policies that promote effective water resource management and marine ecosystem restoration.

A. The Federal Water Pollution Control Act (FWPCA) of 1948

The first major U.S. law addressing water pollution was the Federal Water Pollution Control Act (FWPCA) of 1948. This 1948 Act authorized Public Health Services to collaborate with other federal, state, and local entities to implement water pollution prevention programs.[21] The Act was soon amended by the FWPCA of 1956, which made states, with support from Public Health Services, predominantly responsible for enacting water pollution control programs.[22] The shift towards state power was exemplified when President Eisenhower rejected a bill that would return pollution program control back to federal agencies. Eisenhower wrote, "[t]he Federal Government can help, but it should stimulate State and local action rather than provide excuses for inaction."[23] The Water Quality Act of 1965 provided states with federal funding to ensure they complied with newly established water quality standards.[24]

B. The National Environmental Policy Act (NEPA) of 1970

The National Environmental Policy Act (NEPA), deemed the "Magna Carta" of environmental law, was enacted in January 1970.[25] NEPA established nationwide environmental policy and created the Council on Environmental Quality (CEQ). NEPA required that all practical means be used to ensure nature and humankind coexist for future generations.[26] To achieve this goal, NEPA required an Environmental Impact Statement (EIS) be published for all public works projects. The EIS requirement promoted transparency by requiring federal agencies to publicize environmental impacts, resources used, and alternative solutions to every proposed decision they made that affected the environment.[27]

NEPA's ambitious goals would be impossible without the CEQ being established as part of the Executive Office of the President.[28]

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[21] 33 U.S.C. §1251 (amended 1972).

[22] Curtiss M. Everts, Jr. & Arve H. Dahl, *The Federal Water Pollution Control Act of 1956*, 47 AM. J. PUB. HEALTH 305, 305 (1957).

[23] Dwight D. Eisenhower, *Veto of Bill to Amend the Federal Water Pollution Control Act*, THE AM. PRESIDENCY PROJECT, https://www.presidency.ucsb.edu/node/234979 (last visited Jan. 28, 2025).

[24] *Making Water Quality a National Priority,* MICH. IN THE WORLD, https://michiganintheworld.history.lsa.umich.edu/environmentalism/exhibits/show/main_exhibit/pollution_politics/water-quality-shift-in-priorit (last visited May 30, 2024).

[25] NAT'L ENV'T POL'Y ACT (Jan. 20, 2021), https://ceq.doe.gov.

[26] National Environmental Policy Act, § 102, 42 U.S.C. 4331(a) (1969).

[27] *Id.* § 4332(2)(C).

[28] NAT'L ENV'T POL'Y ACT (Jan. 20, 2021), https://ceq.doe.gov.

The CEQ forces federal agencies to comply with NEPA, interprets NEPA requirements, proposes national policies that promote environmental wellbeing, and deals with NEPA-related conflict.

Essentially, NEPA made agencies consider the environmental consequences of their actions by requiring them to publicize certain information. The CEQ acts as the enforcer and problem-solver when issues arise.

C. The Clean Water Act (CWA) of 1972

The Environmental Protection Agency (EPA) was established by executive order, following the passage of NEPA in 1970. Creating the EPA resolved past conflicts between federal and state actors fighting over who controlled environmental programs.[29] Now, one agency, the EPA, dealt with all environmental responsibilities. Two years later, the Clean Water Act (CWA) of 1972 was passed, which authorized the EPA to create nationwide water quality standards.[30] The CWA also established the National Pollutant Discharge Elimination System (NPDES) program, which prohibited pollutant discharge from point sources into U.S. waters without a permit.[31] A point source is "any single identifiable source of pollution from which pollutants are discharged, such as a pipe, ditch, ship or factory smokestack."[32] Put differently, the CWA regulated and protected wetlands by requiring a permit for dredging or filling of wetlands which were deemed waters of the United States.

The EPA and CWA promoted nationwide consistency while simultaneously allowing individual states to address water pollution locally. To further the CWA's wastewater treatment efforts, Congress signed the Municipal Wastewater Treatment Construction Grant Amendments in 1981. These Amendments provided federal funding for environmentally conscious construction and water treatment projects. This funding decreased the economic burden that states would have faced from prioritizing local environmental needs.[33] Six

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[29] *The Origins of EPA*, U.S. ENV'T PROT. AGENCY, https://www.epa.gov/history/origins-epa (last visited June 5, 2023).

[30] Clean Water Act, 33 U.S.C. § 1251 *et seq.*; *Summary of the Clean Water Act*, U.S. ENV'T PROT. AGENCY, https://www.epa.gov/laws-regulations/summary-clean-water-act (last visited June 22, 2023).

[31] *NPDES Permit Basics*, U.S. ENV'T PROT. AGENCY, https://www.epa.gov/npdes/npdes-permit-basics (last visited Dec. 11, 2023).

[32] *Point Source Pollution Tutorial*, NAT'L OCEANIC AND ATMOSPHERIC ADMIN., https://oceanservice.noaa.gov/education/tutorial_pollution/03pointsource.html (June 1, 2024).

[33] *Statement on Signing the Municipal Wastewater Treatment Construction Grant Amendments of 1981*, RONALD REAGAN LIBR. (Dec. 29, 1981), https://www.reaganlibrary.gov/archives/speech/statement-signing-municipal-wastewater-treatment-construction-grant-amendments-1981.

years later, the Water Quality Act of 1987 created the Clean Water State Revolving Fund (CWSRF), which replaced the Construction Grant Amendments. This Act established EPA-state partnerships which furthered local efforts addressing water quality by providing federal support.[34]

As populations grew, non-point source pollution became a growing concern. Non-point pollution occurs "when runoff from rain and snowmelt carries pollutants into waterways such as rivers, streams, lakes, wetlands, and even groundwater."[35] Previously, NPDES permitting applied to easily identifiable point source pollution. However, the Combined Sewer Overflows (CSO) program of 1994, expanded NPDES permitting to non-point pollution sources, such as stormwater and wastewater overflows. The Wet Weather Water Quality Act of 2000 required all permits, orders, or decrees post-1994 to conform to CSO program standards.[36] For example, in 2000, Florida's NPDES Stormwater Program required permitting before non-point sources, such as municipal separate storm sewer systems (MS4s), construction activities, or industrial activities could discharge water. Florida's non-point source discharge is monitored to prevent toxic runoff from entering state waters, such as the IRL.[37]

The Beaches Environmental Assessment and Coastal Health Act (BEACH Act) of 2000 required states, territories, and tribes with coastal waters to adopt new or revised standards based on EPA coastal testing and monitoring results. This Act provided states with EPA funding to help them comply with newly developed standards. Further, the EPA was required to alert the public when potential coastal recreational water problems arose.[38]

More actors were needed to assist these increasing pollution prevention efforts. In 2014, President Obama signed the Water Resources Reform and Development Act (WRRDA), which required the United States Army Corps of Engineers (USACE) to maintain America's waterways (including wetlands), address natural disasters,

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[34] *History of the Clean Water Act*, U.S. ENV'T PROT. AGENCY, https://www.epa.gov/laws-regulations/history-clean-water-act (last visited June 22, 2023).

[35] *What Is Nonpoint Source Pollution?*, ILL. ENV'T PROT. AGENCY, https://epa.illinois.gov/topics/water-quality/watershed-management/nonpoint-sources/what-is-nonpoint-source-pollution.html (last visited June 13, 2024).

[36] *Combined Sewer Overflows (CSOs)*, U.S. ENV'T PROT. AGENCY, https://www.epa.gov/npdes/combined-sewer-overflows-csos (last visited Oct. 5, 2023).

[37] *NPDES Stormwater Program,* FLORIDA DEP'T OF ENV'T PROT., https://floridadep.gov/water/stormwater (last visited May 31, 2024).

[38] *About the BEACH* Act, U.S. ENV'T PROT. AGENCY, https://www.epa.gov/beaches/about-beach-act (last visited Dec. 12, 2023).

and promote environmental restoration.[39] USACE, the main supporter of our nation's infrastructure, placed environmental sustainability at its forefront because of the WRRDA.[40]

D. The Coastal Zone Management Act (CZMA) of 1972

During the 1970s, heavy development and construction occurred in coastal regions. While coastal infrastructure boosts our nation's economic success, it also threatens the natural world. The Coastal Zone Management Act (CZMA) of 1972 balanced coastal economic and environmental concerns.[41] The CZMA aimed to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone."[42] The CZMA established the National Coastal Zone Management Program, National Estuarine Research Reserve System, and Coastal and Estuarine Land Conservation Program (CELCP). The Management Program administers coastal management programs, the Reserve completes studies that further our nation's understanding of estuaries, and CELCP provides funding to state and local governments to purchase and conserve threatened coastal or estuarine land.[43]

E. The Marine Mammal Protection Act (MMPA) of 1972

The Marine Mammal Protection Act (MMPA) was passed in October of 1972 to address human conduct, such as littering and overfishing, that severely threatened marine mammal species. MMPA established a national policy that prevented the extinction and depletion of marine mammals.[44] MMPA made it illegal to harass, feed, hunt, capture, or kill any marine mammal.[45] The Marine Mammal Commission was created to study the effectiveness of current marine mammal protection laws and suggest necessary improvements.[46] Under the MMPA, the National Oceanic and Atmospheric Administration (NOAA) protects whales, dolphins, porpoises, seals, and sea lions.

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[39] *Water Resources Reform and Development Act (WRRDA) of 2014*, U.S. ARMY CORPS OF ENG'RS, https://www.usace.army.mil/Missions/Civil-Works/Project-Planning/Legislative-Links/wrrda2014/.

[40] *About Us,* U.S. ARMY CORPS OF ENG'RS, https://www.usace.army.mil/about/ (last visited May 30, 2024).

[41] *Coastal Zone Management Act,* BUREAU OF OCEAN ENERGY, https://www.boem.gov/environment/environmental-assessment/coastal-zone-management-act (last visited May 31, 2024).

[42] *Coastal Zone Management Act,* NOAA OFFICE FOR COASTAL MGMT., https://coast.noaa.gov/czm/act/ (last visited May 31, 2024).

[43] *Id.*

[44] *Marine Mammal Protection Act,* MARINE MAMMAL COMM'N, https://www.mmc.gov/about-the-commission/our-mission/marine-mammal-protection-act/ (last visited May 2, 2024).

[45] *Marine Animals and the Marine Mammal Protection Act*, THE MARINE MAMMAL CTR., https://www.marinemammalcenter.org/marine-mammal-protection-act (last visited May 31, 2024).

[46] *Our Mission*, MARINE MAMMAL COMM'N, https://www.mmc.gov/about-the-commission/our-mission/ (last visited Feb. 3, 2023).

The U.S. Fish and Wildlife Service (USFWS) protects walruses, manatees, sea otters, and polar bears.[47]

F. The Endangered Species Act (ESA) of 1973

FIGURE 3: A Florida manatee, a species saved by the endangered species act

Unfortunately, population growth and human conduct has harmed species far beyond just marine mammals. In December of 1973, the Endangered Species Act (ESA) was passed to preserve declining species and their environments. The ESA is implemented by the USFWS and National Marine Fisheries Service (NMFS).[48] The ESA allows individuals and organizations to request species be listed as "endangered" or "threatened," and the FWS and NMFS analyze species before adding them to these lists. Once approved, these protected species and their environments undergo recovery plans carried out by federal, state, tribal, and local officials. The recovery status of listed species is constantly monitored. Once a species recovers, it is removed from the list. The ESA has helped 99% of protected species avoid extinction.[49]

Approximately fifty-three species of animals living within the IRL's watershed are classified as "threatened" or "endangered" and protected under the ESA.[50] For example, in the 1970s, less than 1,000 manatees remained in Florida, so they became protected under the ESA. In 2019, over 6,000 manatees existed because of stricter boat speed regulations and ESA programs improving seagrass habitats.[51] As of January 2024, the Florida Fish and Wildlife Commission (FFWC) reported approximately 7,000 to 11,000 manatees currently live in Florida.[52] Unfortunately, harmful algae blooms have degraded seagrass habitats which caused a manatee mortality event; manatees

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[47] *Marine Mammal Protection Act Policies, Guidance, and Regulations*, NOAA FISHERIES (May 2, 2023) https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-protection-act-policies-guidance-and regulations.

[48] *Endangered Species Act*, DEFS. OF WILDLIFE, https://defenders.org/endangered-species-act.

[49] *The US Endangered Species Act*, WORLD WILDLIFE FUND, https://www.worldwildlife.org/pages/the-us-endangered-species-act (last visited May 2, 2024).

[50] INDIAN RIVER LAGOON INTRODUCTION, supra note 6, at 6.

[51] Kim Dinkins, *The Endangered Species Act Turns 50!*, SAVE THE MANATEE (Oct. 1, 2023), https://savethemanatee.org/THE-ENDANGERED-SPECIES-ACT-TURNS-50/.

[52] Diba Mohtasham, *A Florida Park Just Saw a Record Number of Manatees Gather Together in Its Waters*, NPR (Jan. 29, 2024, 3:36 PM), https://www.npr.org/2024/01/29/1227564655/manatee-numbers-at-florida-state-park-increase.

are currently being reviewed to move from "threatened" to "endangered."[53]

G. The National Estuary Program (NEP) of 1987

In 1987, the National Estuary Program (NEP) was established under §320 of the CWA.[54] NEPs are non-regulatory (lacking enforcement authority) programs that create Comprehensive Conservation and Management Plans (CCMPs) addressing the needs of 28 estuaries of national significance. CCMPs are long-term, localized plans that restore water quality and protect living resources within estuary watersheds.[55] These plans are executed with EPA guidance, assistance, and partial funding.[56] All NEPs have a multi-stakeholder Management Conference to ensure all voices are heard and local needs are met. Essentially, NEPs protect estuarine ecosystems by executing a plan shaped by the public. For example, the Indian River Lagoon National Estuary Program (IRLNEP), formally established in 1991, was initially sponsored by Sant John's River and South Florida Water Management District. Now, however, the IRLNEP is sponsored by the Indian River Lagoon Council which consists of representatives from the five lagoon-bordering counties, St. Johns River and South Florida Water Management Districts, and the Florida Department of Environmental Protection (FDEP).[57] The IRLNEP's Management Conference consists of many local partners to ensure all communities receive the support they need. These stakeholders shape the IRLNEP's CCMP, which addresses the unique needs of the IRL watershed.[58]

H. The North American Wetlands Conservation Act (NAWCA) of 1989

In 1989, the North American Wetlands Conservation Act (NAWCA) began funding wetlands conservation projects through the U.S. Standard Grant Program, U.S. Small Grant Program, Mexico Program, and

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[53] *Algae Blooms and Seagrass Loss*, SAVE THE MANATEE CLUB (June 19, 2024), https://savethemanatee.org/manatees/algae-blooms.

[54] *Overview of the National Estuary Program*, U.S. ENV'T PROT. AGENCY, (June 12, 2024), https://www.epa.gov/nep/community-based-watershed-management-handbook.

[55] *Id.*

[56] *Id.*

[57] *The Indian River Lagoon NEP*, ONE LAGOON, https://onelagoon.org/irlnep/ (last visited Apr. 23, 2024).

[58] To learn more about the IRLNEP, see discussion *infra* Section IV, State Laws, Regulations, and Policies that Impact the Indian River Lagoon.

Canada Program.[59] Grants are approved by the North American Wetlands Conservation Council in collaboration with the Migratory Bird Conservation Commission during two annual application review cycles.[60] Several of these funded projects directly benefited the IRL: Invasive Species Eradication & Mangrove Planting In The IRL (2005), Invasive Species Eradication & Habitat Enrichment In The IRL (2008), Critical Bird Habitat Restoration In The IRL (2008), St. Johns River Headwaters Project (2010), Critical Bird Habitat Restoration in the NWRs of the IRL (2011), and IRL Coastal Wetlands (2012).[61] Overall, NAWCA has funded preservation of over 32 million acres of wetlands, including areas far beyond the IRL.[62]

I. The Estuary Restoration Act (ERA) of 2000

Local action insufficiently addressed estuarine ecosystem decline; federal action needed to occur. Nearly half of our nation's population lives near estuarial waters, and many rely on estuaries for recreational, resource, educational, economic, and environmental purposes. Human activity, such as lawn fertilization, untreated sewage, wastewater discharge, construction, industrial activities, and surface runoff destroys estuary ecosystems.[63] In November of 2000, the Estuary Restoration Act (ERA) federally addressed wetland habitat loss and ongoing damage. The ERA declared estuaries a national priority, funded restoration projects, created partnerships throughout public and private sectors, and developed a unified approach to estuary restoration.[64] The ERA established the Estuary Habitat Restoration Council, consisting of representatives from NOAA, the USFWS, the EPA, Department of Agriculture, and USACE.[65] The Council monitors estuaries, recommends programs for funding, and implements federal protection programs.

J. The Comprehensive Everglades Restoration Plan (CERP) of 2000

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[59] *North American Wetlands Conservation*, U.S. FISH & WILDLIFE SERV., https://www.fws.gov/program/north-american-wetlands-conservation (last visited May 8, 2024).

[60] *Id.*

[61] *DBHC Grant Summary Query Application*, U.S. FISH & WILDLIFE SERV., https://www.fws.gov/grantsum/gsQuery (last visited June 1, 2024).

[62] *North American Wetlands Conservation*, U.S. FISH & WILDLIFE SERV., https://www.fws.gov/program/north-american-wetlands-conservation (last visited May 8, 2024).

[63] *Basic Information About Estuaries*, U.S. ENV'T PROT. AGENCY, https://www.epa.gov/nep/basic-information-about-estuaries (last visited Mar. 14, 2024).

[64] *The Estuary Restoration Act*, NAT'L OCEANIC & ATMOSPHERIC ADMIN., https://www.fisheries.noaa.gov/national/habitat-conservation/estuary-restoration-act (last visited Feb. 26, 2024).

[65] *Estuary Habitat Restoration Council*, U.S. ARMY CORPS OF ENG'RS, https://www.usace.army.mil/Missions/Environmental/Estuary-Restoration/Estuary-Habitat-Restoration-Council/ (last visited June 1, 2024)

Congress passed the Comprehensive Everglades Restoration Plan (CERP) in 2000 to protect, restore, and preserve the South Florida ecosystem while simultaneously addressing other water-related needs. This Plan has cost over $10.5 million and has a 35+ year timeline, making CERP the largest hydrologic restoration project this nation has ever seen.[66] CERP has directly benefitted the IRL through the the C-44 Reservoir and Stormwater Treatment Area project. This multi-billion dollar project consists of a 3,400-acre reservoir, a high-performing pump station, and 6,300 acres of stormwater treatment areas.[67] This project is expected to capture harmful runoff, reduce average annual total nutrient loads, and improve the Southern IRL with a projected 60,500 acre-feet of new water storage and 3,600 acres of new wetlands.[68]

K. The Congressional Estuary Caucus of 2017

Improving America's estuaries was prioritized due to their ecological and economic significance. In 2017, the bipartisan Congressional Estuary Caucus formed to educate government officials on the importance of estuaries and their protection programs.[69] The Caucus encourages ongoing Congressional discussion of national estuaries. Currently, forty congressional members have joined the caucus, including Florida Congressman Bill Posey as Co-Chair.[70] The Caucus holds estuary expert briefings that educate our nation's leaders on algal blooms, coastal resilience, and estuarine ecosystems. These conversations lead to the implementation and support of programs working towards estuary conservation.[71] Estuaries are indispensable: they house roughly 40% of the U.S. population, contribute to approximately 47% of the country's gross domestic product, and support more than 68% of commercial fish catch.[72] Initiatives, such as the bipartisan Congressional Estuary Caucus, are critical to ensuring estuaries continue to thrive.

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[66] *Comprehensive Everglades Restoration Plan (CERP)*, NAT'L PARKS SERV. (Mar 17, 2025), https://www.nps.gov/ever/learn/nature/cerp.htm.

[67] *Indian River Lagoon - South C-44 Reservoir & STA*, U.S. ARMY CORPS OF ENG'RS (March 2004), https://www.saj.usace.army.mil/Missions/Environmental/Ecosystem-Restoration/Indian-River-Lagoon-South/.

[68] *Id.*

[69] *Congressional Estuaries Caucus*, RESTORE AMERICA'S ESTUARIES, https://estuaries.org/advocacy/ (last visited Mar. 19, 2024).

[70] *Indian River Lagoon*, CONGRESSMAN BILL POSEY: REPRESENTING THE 8TH DIST. OF FLA. (archived Dec. 17, 2024), https://web.archive.org/web/20240815145922/https://posey.house.gov/issues/issue/?IssueID=111851.

[71] *About the Estuary Caucus*, CONGRESSIONAL ESTUARY CAUCUS (archived Dec. 13, 2024), https://web.archive.org/web/20240725013904/https://posey.house.gov/estuaries/.

[72] *Why Are Estuaries Important?*, RESTORE AMERICA'S ESTUARIES (Sept. 21, 2022), https://estuaries.org/why-are-estuaries-important/.

L. The Bipartisan Infrastructure Investment and Jobs Act of 2021

The aforementioned laws, policies, and regulations require funding to be successful. In 2021, the bipartisan Infrastructure Investment and Jobs Act was enacted to improve America's infrastructure and competitiveness.[73] This funding aimed to "rebuild America's roads, bridges and rails, expand access to clean drinking water, ensure every American has access to high-speed internet, tackle the climate crisis, advance environmental justice, and invest in communities that have too often been left behind."[74] A guidebook was published for communities to understand the funding application process, eligibility, and uses.[75]

The infrastructure law allocated $132 million towards the EPA's NEP for a five-year time frame (2022–2027). The $132 million supports nationwide projects addressing climate resilience, equity, and estuary water and ecosystem quality. The infrastructure law's funding supports plans developed in NEP's CCMPs.[76]

IV. STATE LAWS, REGULATIONS, AND POLICIES THAT AFFECT THE INDIAN RIVER LAGOON

We've just covered 73 years of federal laws, regulations, and policies that affect the IRL. Now, imagine you're in Florida in the year 1967. The state is experiencing a tourism boom, followed by major urban and agricultural growth.[77] The EPA has yet to be established, so the struggle between federal and state monitoring of water pollution persists. The Water Quality Act of 1965 was recently passed, providing states with federal funding so they can comply with newly established water quality standards.[78] It is time for Florida to take control.

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[73] Infrastructure Investment and Jobs Act, 23 U.S.C.A § 101 (2021).

[74] *Fact Sheet: The Bipartisan Infrastructure Deal*, NAT'L ARCHIVES (Aug. 5, 2021), https://bidenwhitehouse.archives.gov/briefing-room/statements-releases/2021/08/05/fact-sheet-the-bipartisan-infrastructure-investment-and-jobs-act-advances-president-bidens-climate-agenda/.

[75] *Guidebook to the Bipartisan Infrastructure Law*, NAT'L ARCHIVES (last updated Jan. 2024), https://bidenwhitehouse.archives.gov/build/guidebook/.

[76] *Biden-Harris Administration Announces $132 Million for EPA's National Estuary Program from the Bipartisan Infrastructure Law*, U.S. ENV'T PROT. AGENCY (July 26, 2022), https://www.epa.gov/newsreleases/biden-harris-administration-announces-132-million-epas-national-estuary-program.

[77] *Living on the Lagoon*, ONE LAGOON, https://onelagoon.org/living-on-the-lagoon/ (last visited May 1, 2024).

[78] *Making Water Quality a National Priority,* MICH. IN THE WORLD, https://michiganintheworld.history.lsa.umich.edu/environmentalism/exhibits/show/main_exhibit/pollution_politics/water-quality-shift-in-priorit (last visited May 30, 2024).

A. The Florida Air and Water Pollution Control Act (FAWPCA) of 1967

As Florida's population continued to grow, so did the state's pollution. While the Florida Air and Water Pollution Control Act (FAWPCA) of 1967 addressed all pollution, we will focus solely on water pollution regulations. FAWPCA aimed to conserve and improve Florida's waters to protect humans, ecosystems, wildlife, and Florida's social and economic wellbeing.[79] The Act authorized a pollution council to establish water quality standards, identify pollution sources, and constantly monitor water quality to ensure current measures were effective. The council established programs, regulations, and permit requirements that promoted compliance with Florida's water quality standards.[80] FAWPCA allowed Florida to review and establish water quality standards, a responsibility granted to states under the FWPCA of 1956.[81]

B. Florida Pollutant Discharge Prevention and Control Act (FPDPCA) of 1970

As a response to multiple oil spills, Florida Statutes Chapter 376 declared, "the preservation of this use [of the seacoast of the state] is a matter of the highest urgency and priority."[82] In 1970, the Florida Pollutant Discharge Prevention and Control Act (FPDPCA) prohibited vessels from discharging oil or pollutants into Florida's territorial waters; those who refused to comply were responsible for cleanup costs.[83] FPDPCA provided FDEP and FFWC with the Florida Coastal Protection Trust Fund (FCPTF) to aid in restoration efforts. FDEP developed discharge criteria, assessed damages, coordinated emergency response to spills, and created procedures for removing pollutants. FFWC helped damaged wildlife and removed derelict vessels or helped local governments do so.[84] Under FPDPCA, vessels carrying more than 10,000 gallons of pollutants were required to have a discharge prevention and control contingency plan, an onboard discharge officer who executes the plan, compliant discharge prevention gear, a FDEP-issued discharge prevention and response certificate, and

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[79] Michael T. Olexa, Tatiana Borisova & Jana Caracciolo, *2021 Handbook of Florida Water Regulation.: Florida Air and Water Pollution Control Act*, ASKIFAS (June 22, 2021), https://edis.ifas.ufl.edu/publication/FE607.

[80] *Id.*

[81] *Water Quality Standards*, FLA. DEP'T OF ENV'T PROT., https://floridadep.gov/dear/water-quality-standards (last visited June 3, 2024).

[82] *Pollutant Discharge Prevention and Removal (Florida Statutes: Title XXVIII Natural Resources; Conservation, Reclamation, and Use*; *Chapter 376; Ss. 376.011-376.86)*, FAOLEX DATABASE, (Aug. 1, 2018), https://www.fao.org/faolex/results/details/en/c/LEX-FAOC182725/.

[83] Settlement Guidelines for Civil and Administrative Penalties, State of Florida (Office of General Counsel 2022).

[84] *FWC Wildlife Health Program*, FLA FISH & WILDLIFE CONSERVATION COMM'N (2022), https://myfwc.com/research/wildlife/health/program/.

insurance covering potential spillage.[85] By creating regulations and holding the noncompliant accountable, FPDPCA addressed environmental disasters caused by vessel discharge.

C. The Florida Environmental Protection Act of 1971

Florida's 1968 Constitution declared, "[i]t shall be the policy of the state to conserve and protect its natural resources and scenic beauty. Adequate provision shall be made by law for the abatement of air and water pollution and of excessive and unnecessary noise and for the conservation and protection of natural resources."[86] The Florida Environmental Protection Act of 1971[87] authorized parties to seek injunctive relief to force noncompliant parties to comply with environmental standards, to prevent parties from violating environmental laws, rules, or regulation, or even prevent an individual from obtaining a license or permit if their conduct would cause pollution or environmental degradation.[88] Thus, the Florida Environmental Protection Act of 1971 created a legal consequence for those actively harming the environment.

D. The Florida Water Resources Act of 1972

Historically, all Florida property owners had equal rights to use water on their property if their usage did not harm surrounding property owners.[89] Two Florida water management districts existed, the Southwest Florida Water Management District and the Central and Southern Florida Flood Control District, which focused on isolated issues, including mosquito control and irrigation.[90] In April 1972, The Florida Water Resources Act created a cohesive water resource management framework consisting of five water management districts: Northwest Florida Water Management District, Suwannee River Water Management District, St. Johns River Water Management District, Southwest Florida Water Management District, and South Florida Water Management District.[91] Water Management Districts

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[85] Michael T. Olexa, Tatiana Borisova & Jana Caracciolo, *2021 Handbook of Florida Water Regulation: Florida Pollutant Discharge Prevention and Control Act*, ASKIFAS, (June 18, 2021). https://edis.ifas.ufl.edu/publication/FE585.

[86] FLA. CONST. art. II, §7 (1968).

[87] FLA. STAT. § 403.412 (2023).

[88] Roger B. Handberg, *The Florida Attorney General's Environmental Protection Authority*, 85 FLA. BAR J., no. 9, 2011, at 26.

[89] Tatiana Borisova, Michael T. Olexa & Jana Caracciolo, *2021 Handbook of Florida Water Regulation: Florida Water Resources Policy*, ASKIFAS (June 24, 2021), https://edis.ifas.ufl.edu/publication/FE1043.

[90] FLA. STAT. §373.026 (2021); *Our Work*, S. FLA. WATER MGMT DIST., https://www.sfwmd.gov/our-work (last vistited Feb 5, 2025).

[91] *History*, S. FLA. WATER MNG'T DIST., https://www.sfwmd.gov/who-we-are/history (last visited June 10, 2024).

became based around watersheds, as opposed to political boundaries. For example, the IRL falls within the St. Johns River and South Florida Water Management Districts.[92] These five districts construct and operate district works, regulate consumptive use of water and water systems, supervise water well construction, and evaluate water supplies.[93]

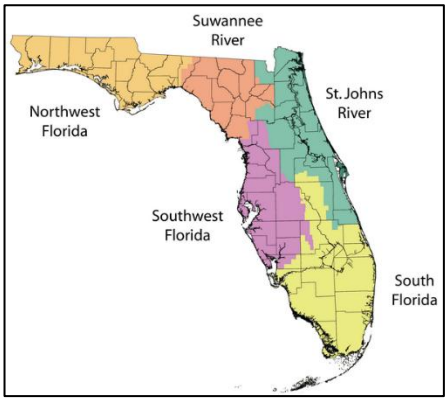

FIGURE 4: Map of Florida Water Management Districts. *Water Management Districts*, FLA. DEP'T OF ENV'T PROT. (Mar. 4, 2025), https://floridadep.gov/owper/water-policy/content/water-management-districts

The Florida Water Resources Act created a water management district network that promotes consistency and efficiency. The Act established a water use permitting system, which allows surface and groundwater withdrawal for beneficial use, such as public water supply, irrigation, industrial use, and power generation. When water withdrawals exceed a certain limit, however, permits are required. To receive a permit, individuals must prove their water usage is beneficial, consistent with public interest, and doesn't interfere with other pre-existing uses.[94] There are separate permits for well construction and Environmental Resource Permits (ERP) for any conduct altering surface water flow (e.g. dredging, restoration projects, construction, wetland impacts, and any activities that generate runoff).[95]

Overall, The Florida Water Resources Act of 1972 created watershed boundary water management districts that were responsible for water supply, surface water management, wetlands, and other major regulatory considerations.

E. The Aquatic Preserves Act of 1975

By 1975, several regulations protected Florida's water resources. The Aquatic Preserves Act of 1975 set aside inland and coastal areas as state-owned land to ensure these areas remain undeveloped and in their natural

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[92] For a map of Florida's water management districts, see *Who We Are*, S. FLA. WATER MNG'T DIST., https://www.sfwmd.gov/who-we-are (last visited June 12, 2024).

[93] Joëlle Hervic, *Water, Water Everywhere?, Part II*, 77 FLA. BAR J., no. 1, 2003, at 49.

[94] FLORIDA'S WATER PERMITTING PORTAL, http://flwaterpermits.com/ (last visited July 1, 2024); *Water Use Permit*, SW. FLA. WATER MGMT. DIST., https://www.swfwmd.state.fl.us/business/epermitting/water-use-permit (last visited Sept. 15, 2024).

[95] *Environmental Resource Permitting Help*, FLA. DEP'T OF ENV'T PROT., https://floridadep.gov/water/submerged-lands-environmental-resources-coordination/content/environmental-resource-0 (last visited June 12, 2024). To learn more about the ERP Permitting Process, see discussion *infra* Section IV.K, Florida Department of Environmental Protection (FDEP).

condition.[96] Certain bodies of water are designated as "aquatic preserves" so their "aesthetic, biological and scientific values may endure for the enjoyment of future generations."[97] Once an area becomes an aquatic preserve, it cannot be altered and remains under state control forever. The Indian River from Malabar to Fort Pierce, Banana River, and Mosquito Lagoon are all recognized aquatic preserves. Currently, Florida has 41 aquatic preserves, which ensures these natural areas will prevail into future generations.[98]

F. Protecting Florida's Drinking Water

The 1974 Federal Safe Water Drinking Act (SWDA) protected public health by regulating our nation's drinking water. SWDA authorized the EPA to establish nationwide drinking water quality standards.[99] Drinking water quality varies drastically, so states, with EPA guidance, needed to take matters into their own hands.

The Florida Water Quality Assurance Act (WQAA) of 1983 addressed groundwater protection and hazardous waste contamination.[100] Due to a growing population and increased agricultural-dependency, Florida's groundwater became the state's main drinking source. The WQAA protects Florida's groundwater by providing funding for groundwater improvement projects.[101] WQAA allows parties to seek legal remedies for discharge or water pollutant related issues; the party must prove the occurrence of prohibited discharge or another pollutive condition to be heard in court.[102] Thus, the WQAA provides funding to improve Florida's groundwater and holds those who do not comply accountable.

Florida has always prioritized their water resources. The state initially focused on protecting marine ecosystems and wildlife but shifted to focusing on drinking water following the WQAA. Florida's State Underground Petroleum Environmental Response (SUPER) Act of 1986 required routine

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[96] *Living on the Lagoon*, ONE LAGOON, https://onelagoon.org/living-on-the-lagoon/ (last visited May 1, 2024).

[97] *Aquatic Preserve Program*, FLA. DEP'T OF ENV'T PROT., https://floridadep.gov/rcp/aquatic-preserve (last visited June 12, 2024).

[98] *A Boating and Angling Guide to Tampa Bay: Aquatic Preserves*, FLA. MARINE, https://ocean.floridamarine.org/boating_guides/tampa_bay/pages/aquatic_preserves.html (last visited June 12, 2024).

[99] *Overview of the Safe Drinking Water Act*, U.S. ENV'T PROT. AGENCY (Jan. 23, 2025), https://www.epa.gov/sdwa/overview-safe-drinking-water-act.

[100] Wade L. Hopping & William D. Preston, *The Water Quality Assurance Act of 1983 – Florida's "Great Leap Forward" into Groundwater Protection and Hazardous Waste Management*, 11 FLA. ST. U. L. REV. 599, 601 (1983).

[101] Alexa J. Lamm & Pei-wen Huang, *Water Quality Assurance Act: What Is It and How Can We Talk About It?*, POL'Y EXTENSION PROGRAM, https://www.piecenter.com/pep/wp-content/uploads/PEP_WQAA_Final.pdf (last visited June 12, 2024).

[102] Lauren D. Brooks, *The New Scope of Florida's Water Quality Assurance Act*, 95 FLA. BAR J., no. 6, 2021, at 48.

drinking water well sampling and investigations of contaminated petroleum facilities, such as service stations and fuel oil sites.[103] Under the SUPER Act, contaminated drinking water areas, such as leaking underground storage tanks or surface spills, are identified. Suspected areas are investigated, and if contaminated, the public is immediately notified of potential health effects and offered alternative sources of clean drinking water.[104]

G. The Surface Water Improvement and Management (SWIM) Act of 1987

The Surface Water Improvement and Management (SWIM) Act of 1987 required Florida's five water management districts to identify priority bodies of water and implement improvement projects.[105] Florida's Legislature stated that surface waters were declining and could no longer provide safe recreational opportunities, drinking water, habitat for plant and animal species, or economic benefits.[106] To fix this decline, pollution sources and environmentally degrading conduct were identified. Once identified, Water Management Districts developed plans to improve Florida's surface water ecosystems and conducted studies to further understand the causes of environmental decline.[107] The SWIM Act exemplifies how agencies, such as Florida's Water Management Districts, must remain adaptable and willing to address Florida's changing environmental needs.

H. Florida's Land Acquisition Programs

Florida is home to many large, intact ecosystems, which is rare in the eastern United States. Without land acquisition efforts, such as Preservation 2000 (P2000), such ecosystems would be non-existent. Massive population influxes in the 1990s severely harmed Florida's natural resources. A 1990 evaluation of Florida's ecosystems predicted, "at the 1990 rate of development, about 3 million acres of wetlands and forests would be converted to other uses by the year 2020."[108] Florida's freshwater, ecological diversity, open space,

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[103] *SUPER Act Program*, FLA. HEALTH COLUMBIA CNTY. (Jan. 31, 2025, 2:25 PM), https://columbia.floridahealth.gov/programs-and-services/environmental-health/SUPER%20Act/index.html.

[104] *Well Surveillance Program (SUPER Act Program)*, FLA. HEALTH LEE CNTY. (Jan. 3, 2019, 2:04 PM), https://lee.floridahealth.gov/programs-and-services/environmental-health/super-act/index.html.

[105] Vivianna Bendixson, *Surface Water Improvement and Management (SWIM) Program*, SW. FLA. WATER MGMT. DIST. (Nov. 2022), https://www.swfwmd.state.fl.us/about/newsroom/surface-water-improvement-and-management-swim-program.

[106] FLA. STAT. § 373.451(2); *see also* JOHN W. TURCOTTE, OFF. OF PROGRAM POL'Y ANALYSIS AND GOV. ACCOUNTABILITY, FOLLOW-UP REPORT ON THE SURFACE WATER IMPROVEMENT AND MANAGEMENT PROGRAM 1 (1998).

[107] FLA. STAT. § 373.451 (2024).

[108] *History of State Lands*, FLA. DEP'T OF ENV'T PROT. (Mar. 14, 2024, 12:34 PM), https://floridadep.gov/lands/lands-director/content/history-state-lands.

recreational lands, and rich biodiversity was predicted to decline. Improving and expanding pre-existing land acquisition programs, such as the Aquatic Preserves Act, was deemed the ideal solution.

P2000, established in 1990, is the most ambitious land acquisition program the country has ever seen. Once land is purchased under P2000, it is guaranteed to remain untouched. P2000 was a $3 billion land preservation fund disbursed over a ten-year period in $300 million annual increments. This funding established over 1.8 million acres of conservation land throughout Florida.[109] This funding was sourced from "documentary stamps," the taking of a small percentage of money collected from real estate transactions.[110] In 1998, the Indian River Lagoon Blueway was added to P2000's priority list. Subsequently, 11,038 acres of the IRL were purchased for $45,794,168.[111]

The legislature passed "Florida Forever" in 1999 because voters authorized an amendment to the constitution to allow a dedicated state tax to fund both land acquisition and restoration.[112] All funding was achieved solely through documentary stamps.[113] In 2023, 17,022 IRL acres were purchased for $787,897,669, promoting economic success and preserving one of the country's most biodiverse ecosystems. Florida Forever has established 907,412 acres of conservation land for approximately $3.3 billion; 2.6 million acres of Florida's 10 million acres of conservation land have been established through P2000 and its successor thus far.[114]

I. The Indian River Lagoon System and Basin Act of 1990

In 1990, the Indian River Lagoon System and Basin Act of 1990 was created to protect the IRL from discharges from wastewater treatment plants and improper septic system usage.[115] The Act aimed to (1) eliminate surface water discharge, (2) investigate the possibility of reusing water, and (3) centralization wastewater collection and treatment facilities.[116]

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[109] *Id.*

[110] *Florida Documentary Stamp Tax*, FLA. DEP'T OF REVENUE, https://floridarevenue.com/taxes/taxesfees/Pages/doc_stamp.aspx (last visited June 12, 2024).

[111] FLA. DEP'T OF ENV'T PROT., DIV. OF STATE LANDS, 2024 FLORIDA FOREVER PLAN: SUMMARY OF RECOMMENDATIONS AND STATUS AS OF DECEMBER 2023 423 (May 24, 2024).

[112] FLA. CONST. art. VII, § 11(e).

[113] *Florida Forever: Public Land Conservation*, THE NATURE CONSERVANCY (Mar. 16, 2021), https://www.nature.org/en-us/about-us/where-we-work/united-states/florida/stories-in-florida/florida-forever-public-funding-story/.

[114] *Florida Forever*, FLA. DEP'T OF ENV'T PROT., https://floridadep.gov/floridaforever (last visited June 14, 2024).

[115] Comm. Substitute for H.B. No. 3247, 11th Leg., Reg. Sess. (Fla. 1980).

[116] *Reuse Statutory Authority*, FLA. DEP'T OF ENV'T PROT. (Apr. 18, 2022), https://floridadep.gov/water/domestic-wastewater/content/reuse-statutory-authority.

J. The Indian River Lagoon National Estuary Program (IRLNEP)

In 1987, Section 320 of the CWA established the NEP to "identify, restore and protect estuaries along the coasts of the United States."[117] Water conservation is ingrained in Florida's Constitution and legal framework. To further protect the state's water resources, the IRL was nominated for inclusion into the NEP in 1990. After EPA review, the IRLNEP was established in 1991. The SWIM Act of 1987 authorized Florida's water management districts to restore priority bodies of water; the IRLNEP worked to restore the IRL. With such analogous goals, the SWIM plan and IRLNEP merged to create the Indian River Lagoon Program.[118]

The IRLNEP is one of 28 NEPs nationwide; the NEP network structure ensures each estuary of national significance has its unique needs addressed. Currently, the IRLNEP is governed by a policy committee the Indian River Lagoon Council, which was established in February 2015. The Council consists of representatives of the five lagoon-bordering counties, the St. Johns River and South Florida Water Management Districts, and the FDEP. [119] All IRLNEP decisions are governed by the Council, with input from a management conference, STEM advisory committee, and citizens' advisory committee.[120]

The IRLNEP promotes the continuation of quality sediment and water in the IRL; supports a healthy ecosystem home to diverse species, commerce, and recreation; raises awareness and encourages teamwork to protect the IRL; and identifies and develops funding to support projects that protect the IRL. These goals are addressed in a CCMP; the IRLNEP published their initial CCMP in 1996, with updates and further plans published in 2008 and 2019.[121] The IRL Vital Signs Wheel consists of 32 action plans that collectively create an

FIGURE 5: IRL Vital Signs Wheel. *Steps to Success*, ONE LAGOON (Spet. 25, 2024), https://onelagoon.org/steps-to-success/.

[117] Sam Ziegler, *Oceans, Coasts, and Estuaries*, U.S. ENV'T PROT. AGENCY (Jan. 19, 2017), https://19january2017snapshot.epa.gov/www3/region9/water/oce/estuaries.html; *see also* Clean Water Act § 320, 33 U.S.C. § 1330 (2024).

[118] *Living on the Lagoon,* ONE LAGOON, https://onelagoon.org/living-on-the-lagoon/ (last visited May 1, 2024).

[119] *The Indian River Lagoon NEP*, ONE LAGOON, https://onelagoon.org/irlnep/ (last visited Apr. 23, 2024).

[120] *Id.*

[121] *Resources*, ONE LAGOON, https://onelagoon.org/resources/ (last visited Nov. 29, 2023).

optimally healthy lagoon.[122] The aforementioned stakeholders identify relevant action plans and collaboratively generate a CCMP that outlines the necessary steps in achieving a healthy IRL.

While the IRLNEP has supported many successful projects, the EPA highlights the License Plate Revenue project as an NEP Success Story. First, 12,000 registered Florida vehicle owners signed a lagoon plate purchase agreement. Then, with approval from a Florida state representative and senator, and a $15,000 one-time administration fee paid to the Florida Department of Motor Vehicles, the Indian River Lagoon Specialty License Plate Revenue Program was established. The IRLNEP receives $15 from each license plate sale, which has raised more than $4 million in just seven years (approximately $400,000 annually). Vehicle owners pay the plate fee annually, which establishes a steady funding source. From that funding, 80% of license plate proceeds support habitat restoration, while the other 20% supports environmental education projects. The lagoon license plate ranks 16th out of Florida's 103 specialty license plates.[123]

FIGURE 6: IRL License Plate Sample. *The IRL License Plate*, ONE LAGOON (Aug. 13, 2024), https://onelagoon.org/irl-license-plate/.

The IRLNEP improves the health of the IRL by collaborating with diverse stakeholders to establish a CCMP that describes the steps to achieving the ideal Lagoon status. The License Plate Program is just one project working towards improving the IRL.

K. The Florida Department of Environmental Protection (FDEP)

Historically, the Department of Environmental Regulation and Department of Natural Resources implemented many of Florida's environmental regulations. In 1993, however, these two departments merged, forming the FDEP,[124] the lead agency in managing and protecting Florida's environment.[125] FDEP's Division of Water Resource Management implements all state-level water regulations

[122] *Steps to Success*, ONE LAGOON (Sept. 25, 2024), https://onelagoon.org/steps-to-success/.

[123] *Indian River Lagoon National Estuary Program (NEP)(FL) Uses License Plate Revenue Supports Environmental Education and Habitat Restoration*, U.S. ENV'T PROT. AGENCY (May 14, 2024), https://www.epa.gov/nep/indian-river-lagoon-national-estuary-program-nep-fl-uses-license-plate-revenue-supports.

[124] *Florida Department of Environmental Protection*, GULFBASE, https://www.gulfbase.org/organization/florida-department-environmental-protection (last visited June 17, 2024).

[125] Handberg, *supra* note 88.

and is the point of contact for federal water programs.[126] Under the Florida Water Resources Act, FDEP and Florida's five water management districts manage all state water resources.[127] Analogous to how the EPA undertakes all federal environmental responsibilities, FDEP undertakes all state environmental responsibilities.[128]

The FDEP administers the Total Maximum Daily Load (TMDL) program. Under the CWA, states must submit a list of surface waters that are non-compliant with the EPA's federal water quality standards. FDEP established TMDL limits, or the amount of pollution a body of water can inhabit during a specified time period and still remain compliant with federal water quality standards.[129] The Florida Watershed Restoration Act (FWRA) of 1999 extended federal TMDL requirements to the state level.[130] State water quality standards are published in Florida's Administrative Code and the FDEP ensures impaired waters are identified, reported to the EPA, and improved and monitored until compliant.[131]

The FDEP administers state environmental permitting programs. For example, the FWPCA of 1972 established the NPDES program which prohibited the discharge of pollutants from a point source into United States waters without a permit.[132] In Florida, any conduct altering surface water flow, such as restoration projects, dredging, filling, or any activity that generates stormwater runoff, requires an ERP permit. ERP permits are processed by either a water management district or FDEP, depending on the activity.[133] If your project consists of dredging or filling in waters of the United States or involves construction in or on navigable U.S. waters, then you will need federal authorization from USACE.[134] Minor projects (e.g. small docks, derelict vessel removal), occurring in USACE regulated waters may

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[126] *Division of Water Resource Management*, FLA. DEP'T OF ENV'T PROT., https://floridadep.gov/water (last visited June 17, 2024).

[127] *Water Supply*, FLA. DEP'T OF ENV'T PROT. (Dec. 17, 2024, 1:37 PM), https://floridadep.gov/owper/water-policy/content/water-supply.

[128] *The Origins of EPA*, U.S. ENV'T PROT. AGENCY (June 5, 2023), https://www.epa.gov/history/origins-epa.

[129] Michael T. Olexa, Tatiana Borisova & Jana Caracciolo, *2021 Handbook of Florida Water Regulation: Florida Air and Water Pollution Control Act*, ASKIFAS (June 22, 2021), https://edis.ifas.ufl.edu/publication/FE607.

[130] Kati W. Migliaccio, Yuncong Li & Thomas A. Obreza, *Evolution of Water Quality Regulations in the United States and Florida*, IFAS EXTENSION: U. FLA., ABE 381, Dec. 2007, at 1, 2.

[131] FLA. ADMIN. CODE ANN. 62-302, 62-302.530.

[132] *NPDES Permit Basics*, U.S. ENV'T PROT. AGENCY (Dec. 11, 2023), https://www.epa.gov/npdes/npdes-permit-basics.

[133] *Environmental Resource Permitting Coordination, Assistance, Portals*, FLA. DEP'T OF ENV'T PROT. (June 9, 2023), https://floridadep.gov/water/submerged-lands-environmental-resources-coordination/content/environmental-resource-permitting.

[134] *Obtain a Permit*, U.S/ ARMY CORPS OF ENG'RS, https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Obtain-a-Permit/ (last visited Mar. 1, 2025).

qualify for a State Programmatic General Permit (SPGP), where USACE delegates the state to provide both state and federal authorization. If a project is approved for SPGP during the state's review, then no additional federal application is required. However, if a project doesn't qualify for a SPGP, a separate federal permit application must be submitted.[135]

As the environment changes, so must the responsibilities of different agencies. The Clean Waterways Act of 2021 transferred authority from the Department of Health to the DEP to deal with the Onsite Sewage Program by creating a temporary sewage department in the FDEP. Local governments must create septic mediation plans; FDEP oversees local plans, provides funding, and offers guidance.[136] This Act prohibits wastewater facilities from discharging into the IRL without proper waste treatment. The Department of Agriculture and Consumer Services was tasked with bi-annual inspections of agricultural sites and their runoff, prioritizing those adjacent to the IRL.[137] This Act also increased fine limits from $10,000 to $50,000 for total administrative penalties and raised the cap per violator from $5,000 to $10,000. Overall, the Clean Waterways Act addressed multiple water resource issues, including wastewater treatment, stormwater, and agriculture. The IRL has been prioritized due to its ecological and economic importance.[138]

Oftentimes, laws, policies, and regulations are amended to reach maximum effectiveness. Environmental laws, policies, and regulations must adapt as humanity's knowledge of the natural world expands. For example, on June 28, 2024, Senate Bill 7040 (SB 7040) changed pre-existing ERP laws by implementing stricter requirements for the operation, maintenance, and inspection of stormwater projects.[139] However, to avoid repetitive review, projects being inspected under another stormwater law are not subject to inspection under SB 7040.[140] For example, projects adhering to Florida's Best

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[135] *State 404 Program*, FLA. DEP'T OF ENV'T PROT. (July 16, 2024, 2:02 PM), https://floridadep.gov/water/submerged-lands-environmental-resources-coordination/content/state-404-program.

[136] *Governor Ron DeSantis Signs SB 712 "The Clean Waterways Act"*, EXEC. OFF. OF THE GOVERNOR RON DESANTIS (June 30, 2020), https://www.flgov.com/eog/news/press/2020/governor-ron-desantis-signs-sb-712-clean-waterways-act.

[137] Marlowe Starling, *DeSantis Signs Sweeping New Environmental Law for Cleaner Water*, FLA. TIMES-UNION (July 1, 2020, 8:21 AM), https://www.jacksonville.com/story/news/environment/2020/07/01/desantis-signs-sweeping-new-environmental-law-for-cleaner-water/41714235/.

[138] *See Bill Summary for SB 712: Environmental Resource Management*, FLA. SENATE, https://www.flsenate.gov/Committees/billsummaries/2020/html/2136.

[139] *ERP Stormwater Resource Center*, FLA. DEP'T OF ENV'T. PROT. (Dec. 13, 2024, 5:57 PM), https://floridadep.gov/water/engineering-hydrology-geology/content/erp-stormwater-resource-center.

[140] *CS/SB 7040 — Ratification of the Department of Environmental Protection's Rules Relating to Stormwater*, FLA. SENATE, https://www.flsenate.gov/Committees/BillSummaries/2024/html/3441 (last visited July 1, 2024).

Management Practices (BMP) Plan are not subject to repeat inspection under SB 7040. BMPs are methods proven to be the most effective and practical way to improve water quality in an area.[141] BMPs can be implemented by individuals and industries or businesses.[142] For example, the FDEP implemented Operation Cleansweep, an affordable, environmentally friendly way for farmers, pest control services, and golf course operators to dispose of pesticides.[143]

L. House Bill 1379: $100 Million Towards Restoring the Indian River Lagoon

Previously, the IRL was mentioned generally in legislation, such as the Clean Waterways Act of 2020 (SB 712), which required local governments to create wastewater treatment plans, prevented wastewater treatment facilities from discharging into the Indian River Lagoon without extensive treatment, and granted the DEP more authority to deal with stormwater regulations.[144] However, House Bill 1379 (HB 1379), signed into effect in May of 2023, was implemented solely to improve the IRL.[145] DeSantis declared Florida must "continue[] its momentum to protect Florida's environment, especially the IRL."[146] This Bill allocated $100 million towards IRL improvement projects, created the IRL Protection Program—a new IRL water quality monitoring program—and established new requirements for septic systems within the IRL watershed. HB 1379 was geared towards reducing excessive nutrients from entering the IRL, which protects seagrass, prevents algal blooms, and improves ecosystems for species such as the Florida Manatee. To achieve this goal, Basin Management Action Plan (BMAP) projects and onsite sewage treatment and disposal systems (OSTDS) requirements were implemented. Enhanced nutrient-reducing onsite sewage treatment and disposal systems (ENR-OSTDS) were installed with every new septic system.[147] While this Bill is

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[141] *Agricultural Best Management Practices*, FLA. DEP'T OF AGRIC. & CONSUMER SERVS., https://www.fdacs.gov/Agriculture-Industry/Water/Agricultural-Best-Management-Practices (last visited July 24, 2024).

[142] *Best Management Practices (BMPs)*, S. FLA. WATER MGMT. DIST., https://www.sfwmd.gov/doing-business-with-us/bmps (last visited July 24, 2024).

[143] *Operation Cleansweep for Pesticides,* FLA. DEP'T OF ENV'T PROT. (Mar. 11, 2024), https://floridadep.gov/waste/permitting-compliance-assistance/content/operation-cleansweep-pesticides.

[144] CS/CS/SB 712, 2020 Leg., 1st Reg. Sess. (Fla. 2020).

[145] FLA. STAT. § 373.469 (2024).

[146] *Governor Ron DeSantis Awards $100 Million for Projects to Restore the Indian River Lagoon*, EXEC. OFF. OF THE GOVERNOR RON DESANTIS (December 18, 2023), https://www.flgov.com/2023/12/18/governor-ron-desantis-awards-100-million-for-projects-to-restore-the-indian-river-lagoon/.

[147] *See* FLA. DEP'T OF ENV'T. PROT., 2023 FLORIDA LEGISLATIVE SESSION: HOUSE BILL 1379, https://floridadep.gov/sites/default/files/DEP_HB1379_SB1632_OnePageDocument_05042023-v02.pdf.

relatively recent (July 1, 2023), the IRL has already benefited from its funding, monitoring, and requirements.

V. THE FUTURE OF THE INDIAN RIVER LAGOON

The IRL is one of the most biologically diverse estuaries in North America, contributes heavily to Florida's economy, and provides jobs and natural resources.[148] While the Lagoon has improved, recovering from years of man-made pollution and harm takes time. Constant funding and adaptive laws, regulations, policies, and programs ensure the Lagoon's changing needs are met. 71% of earth is covered in water; the IRL is just one example.[149] As we learn more about the environment, the legal frameworks protecting it must adapt. Earth's demands are not fixed, but rather mutable; our laws, policies, and regulations must reflect that. To improve our environment, we must think like our environment.[150]

[148] Harbor Branch Oceanographic Institute, *Indian River Lagoon — Facts and Figures*, FLA. ATL. UNIV., https://www.fau.edu/hboi/research/marine-ecosystem-conservation/irlo/outreach/irl-facts-and-figures/ (last visited Sept. 1, 2024).

[149] Water Science School, *How Much Water Is There on Earth*, U.S. GEOLOGICAL SURV. (Nov. 13, 2019), https://www.usgs.gov/special-topics/water-science-school/science/how-much-water-there-earth.

[150] Douglas P. Wheeler & Douglass Lea, *Rediscovering Ecology*, 16 EPA J., no. 6, 1990, at 34, 34.

LAGOON LAWS: TIMELINE

FEDERAL LAWS INFOGRAPHIC

STATE LAWS INFOGRAPHIC