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 Environmental Preservation and Conservation

BILL:	SB 874
INTRODUCER:	Senators Young and Mayfield
SUBJECT:	Nutrient Pollution from Onsite Sewage Treatment and Disposal Systems
DATE:	March 13, 2017 REVISED:

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Istler	Rogers	EP	**Pre-meeting**
2.			AEN	
3.			AP	

I. Summary:

SB 874 requires the Department of Environmental Protection (DEP) to develop remediation plans for onsite sewage treatment and disposal systems as part of a basin management action plan in coordination with the Department of Health and relevant local governments and wastewater utilities if the DEP determines that remediation is necessary to achieve a total maximum daily load.

The bill requires $20 million to be appropriated annually from the Land Acquisition Trust Fund to:

- Offset or partially offset property owner costs incurred to retrofit or convert onsite sewage treatment and disposal systems the DEP determines to be individually or collectively contributing excess nutrient pollution in counties contributing to the Indian River Lagoon, the St. Lucie Estuary, or the Caloosahatchee Estuary, and their respective watersheds; and
- Conduct muck dredging and large-scale stormwater improvements in counties contributing to the Indian River Lagoon, the St. Lucie Estuary, or the Caloosahatchee Estuary, and their respective watersheds.

II. Present Situation:

Total Maximum Daily Loads

A total maximum daily load (TMDL), which must be adopted by rule, is a scientific determination of the maximum amount of a given pollutant that can be absorbed by a waterbody and still meet water quality standards.[1] Waterbodies or sections of waterbodies that do not meet the established water quality standards are deemed impaired. Pursuant to the federal Clean Water Act, the Department of Environmental Protection (DEP) is required to establish a TMDL for

[1] Section 403.067, F.S.

impaired waterbodies.[2] A TMDL for an impaired waterbody is defined as the sum of the individual waste load allocations for point sources and the load allocations for nonpoint sources and natural background.[3] Waste load allocations are pollutant loads attributable to existing and future point sources. Load allocations are pollutant loads attributable to existing and future nonpoint sources. Point sources are discernible, confined, and discrete conveyances including pipes, ditches, and tunnels. Nonpoint sources are unconfined sources that include runoff from agricultural lands or residential areas.[4]

Basin Management Action Plans and Best Management Practices

The DEP is the lead agency in coordinating the development and implementation of TMDLs. Basin Management Action Plans (BMAPs) are one of the primary mechanisms the DEP uses to achieve TMDLs. BMAPs are plans that use existing planning tools to address the entire pollution load, including point and nonpoint discharges, for a watershed. BMAPs generally include:

- Permitting and other existing regulatory programs, including water quality based effluent limitations;
- Non-regulatory and incentive-based programs, including best management practices (BMPs), cost sharing, waste minimization, pollution prevention, agreements, and public education;[5]
- Public works projects, including capital facilities; and
- Land acquisition.[6]

The DEP may establish a BMAP as part of the development and implementation of a TMDL for a specific waterbody. First, the BMAP equitably allocates pollutant reductions to individual basins, to all basins as a whole, or to each identified point source or category of nonpoint sources.[7] Then, the BMAP establishes the schedule for implementing projects and activities to meet the pollution reduction allocations. The BMAP development process provides an opportunity for local stakeholders, local government and community leaders, and the public to collectively determine and share water quality clean-up responsibilities.[8]

BMAPs must include milestones for implementation and water quality improvement. They must also include an associated water quality monitoring component sufficient to evaluate whether reasonable progress in pollutant load reductions is being achieved over time. An assessment of

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[2] *Id*.
[3] Section 403.031(21), F.S.
[4] Fla. Admin. Code R. 62-620.200(37). Point source means any discernible, confined, and discrete conveyance, including any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. Nonpoint sources of pollution are essentially sources of pollution that are not point sources. They can include runoff from agricultural lands or residential areas; oil, grease and toxic materials from urban runoff; and sediment from improperly managed construction sites.
[5] Section 403.061, F.S., grants the DEP the power and the duty to control and prohibit pollution of air and water in accordance with the law and rules adopted and promulgated by it. Furthermore, s. 403.061(21), F.S., allows the DEP to advise, consult, cooperate, and enter into agreements with other state agencies, the federal government, other states, interstate agencies, etc.
[6] Section 403.067(7), F.S.
[7] *Id*.
[8] Florida Department of Environmental Protection (FDEP), *Basin Management Action Plans (BMAPs)*, *available at* http://www.dep.state.fl.us/central/Home/Watershed/BMAP.htm (last visited Mar. 10, 2017).

progress toward these milestones must be conducted every 5 years and revisions to the BMAP must be made as appropriate.[9]

Producers of nonpoint source pollution included in a BMAP must comply with the established pollutant reductions by either implementing the appropriate BMPs or by conducting water quality monitoring.[10] A nonpoint source discharger may be subject to enforcement action by the DEP or a water management district (WMD) based on a failure to implement these requirements.[11] BMPs are designed to reduce the amount of nutrients, sediments, and pesticides that enter the water system and help reduce water use. BMPs are developed for agricultural operations as well as for other activities, such as nutrient management on golf courses, silviculture (forestry) operations, and stormwater management.[12]

Sources of Pollutants

Onsite sewage and disposal systems

Onsite sewage treatment and disposal systems, hereafter referred to as septic systems, can contain any one of the following components: a septic tank; a subsurface drainfield; an aerobic treatment unit; a graywater tank; a laundry wastewater tank; a grease interceptor; a pump tank; a waterless, incinerating or organic waste-composting toilet; and a sanitary pit privy.[13] Septic systems are located underground and treat sewage without the presence of oxygen. Sewage flows from a home or business through a pipe into the first chamber, where solids settle out. The liquid then flows into the second chamber where anaerobic bacteria in the sewage break down the organic matter, allowing cleaner water to flow out of the second chamber into a drainfield.[14]

The Department of Health (DOH) administers septic system programs, develops statewide rules, and provides training and standardization for county health department employees responsible for issuing permits for the installation and repair of septic systems within the state.[15] An estimated 2.7 million septic systems are in use statewide, serving approximately one third of the state's population.[16]

In Florida, development in some areas is dependent on septic systems due to the cost and time it takes to install central sewer systems. For example, in rural areas and low-density developments, central sewer systems are not cost effective. Less than one percent of septic systems in Florida

[9] Section 403.067(7)(a)5., F.S.
[10] Section 403.067(7)(b)2.g., F.S. BMPs for agriculture, for example, include activities such as managing irrigation water to minimize losses, limiting the use of fertilizers, and waste management.
[11] Section 403.067(7)(b)2.h., F.S.
[12] FDEP, *Best Management Practices, Public Information, and Environmental Education Resources*, *available at* http://www.dep.state.fl.us/water/nonpoint/pubs.htm#SILVICULTURE BMP (last visited Mar. 10, 2017).
[13] FDEP, *Wastewater: Septic Systems*, http://www.dep.state.fl.us/water/wastewater/dom/septic.htm (last visited Mar. 5, 2017).
[14] *Id*.
[15] Section 381.0065(3), F.S.
[16] Florida Department of Health (FDOH), *Florida Onsite Sewage Nitrogen Reduction Strategies Study Final Report*, 17 (Dec. 31, 2015), *available at* http://www.floridahealth.gov/environmental-health/onsite-sewage/research/_documents/rrac/10212016-finalnitrogenreport.pdf (last visited Mar. 5, 2017).

are actively managed.[17] The remainder of systems are generally serviced only when they fail, often leading to costly repairs that could have been avoided with routine maintenance.[18] In Florida, approximately 30-40 percent of the nitrogen levels are reduced in a system that is installed 24 inches or more from groundwater.[19] This still leaves a significant amount of nitrogen to percolate into the groundwater, which makes nitrogen from septic systems a potential contaminant in groundwater.[20] Nitrogen sensitivity of Florida watersheds varies greatly, and includes areas of extremely high sensitivity to nitrogen loading and other areas where nitrogen loading from septic systems may be less critical.[21]

Section 373.807(3), F.S., requires the DEP, the DOH, relevant local governments, and relevant local public and private wastewater utilities to develop septic system remediation plans as part of a BMAP that includes an Outstanding Florida Spring,[22] if the DEP determines that septic systems within a priority focus area contribute at least 20 percent of nonpoint source nitrogen pollution or if the DEP determines remediation is necessary to achieve the TMDL. The remediation plan must include cost-effective and financially feasible projects necessary to reduce the nutrient impacts from septic systems within the area.[23]

Muck accumulation

Muck is a fine-grained organic rich sediment that is made up primarily of clay, sand, and decaying plant material. Thick layers of muck build up at the bottom of waterbodies and increase turbidity, inhibit seagrass growth, promote oxygen depletion in sediments and the water above, store and release nutrients, cover the natural bottom, and destroy healthy communities of benthic organisms.[24] Additionally, when muck is suspended within the water column due to wind or human activities, such as boating, these suspended solids limit light availability and further suppress seagrass growth.[25]

Muck removal projects are very expensive and entail dredging muck from the bottom of the waterbody.[26] Muck removal projects have more immediate effects on water quality than external reduction projects, because the nutrient load is reduced as soon as the muck is dredged or flushed from the system.[27] The dredged material is then usually stored temporarily at the site to dry out

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[17] FDOH, *Report on Range of Costs to Implement a Mandatory Statewide 5-Year Septic Tank Inspection Program*, 1 (Oct. 1, 2008), *available at* http://www.floridahealth.gov/environmental-health/onsite-sewage/research/_documents/rrac/2008-11-06.pdf (last visited Mar. 5, 2017).
[18] *Id*.
[19] *Id*. at 18.
[20] University of Florida Institute of Food and Agricultural Sciences (IFAS), *Onsite Sewage Treatment and Disposal Systems: Nitrogen*, 3 (Feb. 2014), *available at* http://edis.ifas.ufl.edu/pdffiles/SS/SS55000.pdf (last visited Mar. 8, 2017).
[21] FDOH, *Florida Onsite Sewage Nitrogen Reduction Strategies Study Final Report*, 14 (Dec. 31, 2015).
[22] See s. 373.802, F.S., for the definition of the term "Outstanding Florida Spring."
[23] Section 373.807(3), F.S.
[24] Tetra Tech, Inc. & Closewaters, LLC, *Save Our Lagoon Project Plan for Brevard County, Florida*, 39 (July 2016) [hereinafter referred to as *Save Our Lagoon*], *available at* http://loveourlagoon.com/BCsave-our-lagoon-project-plan_final.pdf (last visited Mar. 10, 2017).
[25] *Id*.
[26] *See id.* at 39-41.
[27] *Id*. at 39.

and can be used for beneficial purposes, if deemed safe and cost-effective, or is transported to a landfill property for disposal.[28]

Stormwater runoff

In undeveloped areas, precipitation typically soaks into the ground; however, when buildings, parking lots, roads, and other impervious surfaces are added to the landscape the ground cannot absorb the water.[29] Therefore, water from rain, known as stormwater, instead of soaking into the ground, flows into a waterbody or a storm drain.[30] Stormwater runoff often contains high levels of nitrogen and phosphorous from fertilizers and pet and yard waste.[31]

To develop what was once marshlands, expansive canal networks were constructed to drain areas for development and provide for flood control. The purpose of canals is to collect and divert stormwater for the purposes of drainage, flood control, irrigation, navigation, and recreation.[32] In the southeastern portion of state, the system was designed to drain water quickly to the coast.[33] The system is highly effective at serving its intended purpose, but has unintended consequences, such as an increase in the quantity, timing, and distribution of nutrients, sediments, and freshwater loadings to coastal waters.[34]

Polluted stormwater runoff is regulated through the implementation and enforcement of the National Pollutant Discharge Elimination System (NPDES) permitting program, which, in Florida, is enforced by the DEP. Under the program, every point source that discharges a pollutant into waters of the United States must obtain an NPDES permit establishing the amount of a particular pollutant that an individual point source can discharge into a specific waterbody. Municipal storm sewer systems (MS4s) transport polluted stormwater runoff.

An MS4 is a conveyance that is:

- Owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.,
- Designed or used to collect or convey stormwater (e.g., storm drains, pipes, ditches),
- Not a combined sewer; and

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[28] IFAS, *Muck Removal in the Save Our Lagoon Indian River Lagoon Project Plan, Brevard County*, http://www.brevardfl.gov/docs/default-source/natural-resources-documents/muck-fact-sheet.pdf?sfvrsn=1 (last visited Mar. 10, 2017); *see also* St. Johns River Water Management District, *Eau Gallie Muck Dredging Project Frequently Asked Questions*, (Feb. 2, 2017), *available at* http://www.sjrwmd.com/EGRET/pdfs/Eau-Gallie-muck-dredging-project-FAQ.pdf (last visited Mar. 10, 2017).

[29] United States Environmental Protection Agency (EPA), *Nutrient Pollution, Sources and Solutions: Stormwater*, https://www.epa.gov/nutrientpollution/sources-and-solutions-stormwater (last visited Mar. 10, 2017).

[30] *Id*.

[31] *Id*.

[32] IFAS, *Canals*, https://plants.ifas.ufl.edu/manage/overview-of-florida-waters/waterbody-types/canals/ (last visited Mar. 10, 2017).

[33] *See* United States Geological Survey, *Development of Water-Management System and Impact on the Hydrology of Southeastern Florida*, https://sofia.usgs.gov/publications/circular/1275/devimpact.html (last visited Mar. 10, 2017).

[34] *See* Jones Edmunds & Associates, Inc. & Collective Water Resources, LLC, *Indian River Lagoon Stormwater Capture and Treatment Preliminary Feasibility Analysis*, 1 (Dec. 2016) [hereinafter referred to as *IRL Stormwater Feasibility Analysis*], *available at* ftp://ftp.dep.state.fl.us/pub/outgoing/dear/septicmaps/IRL_FinalFeasibility_CompiledtReport_20161223.pdf (last visited Mar. 11, 2017).

- Not part of a sewage treatment plant, or publicly owned treatment works (POTW).[35]

To prevent harmful pollutants from being washed or dumped into waterbodies, the operator of an MS4 may be required to obtain an NPDES permit and develop a stormwater management program.[36]

Projects to remove pollutants from stormwater runoff or prevent such runoff from being quickly discharged to tide are being developed.[37] The benefits of effective stormwater management include protection of wetlands and aquatic ecosystems; improved water quality of receiving waterbodies; conservation of water resources; protection of public health; and flood control.[38]

Indian River Lagoon

The Indian River Lagoon (IRL) spans 156 miles of Florida's east coast, extending from Ponce de Leon Inlet near New Smyrna Beach in Volusia County to Jupiter Inlet in Martin County.[39] The IRL system is composed of three main waterbodies: the Mosquito Lagoon, the Banana River, and the Indian River Lagoon.[40] More than 71 percent of its area and nearly half its length is within Brevard County.[41] The IRL system is an estuary in which freshwater from uplands and tributaries meets and mixes with saltwater from the ocean to create an estuarine environment.[42]

The IRL is one of the most biologically diverse estuaries in North America and is home to more than 2,000 species of plants, 600 species of fish, 300 species of birds, and 53 endangered or threatened species.[43] The estimated economic value received from the IRL in 2014 was approximately $7.6 billion, $1.57 million of which was attributable to recreation and visitor-related activity.[44] Industry groups that are directly influenced by the IRL support nearly 72,000 jobs, collecting wages of more than $1.2 billion annually.[45]

The balance of the IRL's delicate ecosystem has been disturbed by increased development in the area. Development has led to harmful levels of nutrients and sediments entering the lagoon as a result of stormwater runoff from urban and agricultural areas, wastewater treatment facility discharges, septic systems, and excess fertilizer applications.[46] In the last 5 years, there have been recurring brown tides; unusual mortalities of dolphins, manatees, and shorebirds; and large

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[35] EPA, *National Pollutant Discharge Elimination System (NPDES), NPDES Stormwater Program*, https://www.epa.gov/npdes/npdes-stormwater-program (last visited Mar. 10, 2017).
[36] *Id*.
[37] EPA, *Nutrient Pollution, Sources and Solutions: Stormwater*, https://www.epa.gov/nutrientpollution/sources-and-solutions-stormwater (last visited Mar. 10, 2017).
[38] EPA, *National Pollutant Discharge Elimination System (NPDES), NPDES Stormwater Program*, https://www.epa.gov/npdes/npdes-stormwater-program (last visited Mar. 10, 2017).
[39] Indian River Lagoon Council (IRLC) , *About the Indian River Lagoon*, http://www.irlcouncil.com/ (last visited Mar. 10, 2017).
[40] *Id*.
[41] *Save Our Lagoon* at 1.
[42] IRLC, *About the Indian River Lagoon*, http://www.irlcouncil.com/ (last visited Mar. 10, 2017).
[43] *Id*.
[44] East Central Florida Regional Planning Council and the Treasure Coast Regional Planning Council, *Indian River Lagoon Economic Valuation Update*, vi (Aug. 26, 2016), *available at* http://tcrpc.org/special_projects/IRL_Econ_Valu/FinalReportIRL08_26_2016.pdf (last visited Mar. 10, 2017).
[45] *Save Our Lagoon* at ix.
[46] *Id*. at vi.

fish kills due to low dissolved oxygen from decomposing algae.[47] Additionally during 2011, a massive phytoplankton algae bloom occurred throughout most of the Indian River Lagoon system, extending from Southern Mosquito Lagoon to just north of Ft. Pierce Inlet.[48] This "2011 Superbloom" lasted for a duration of 7 months and a massive loss of seagrass coverage. There is no single answer to why the bloom occurred, but studies have indicated that nitrogen inputs from septic systems in the Indian River Lagoon basin are a major source of nutrients that drive harmful algae blooms.[49]

The St. Johns River Water Management District (SJRWMD) and local governments have been proactive in implementing projects to address water quality issues in the lagoon. Brevard County established the Save Our Indian River Lagoon Project Plan. The plan outlines local projects planned to meet water quality targets and improve the health, productivity, aesthetic appeal, and economic value of the lagoon.[50] In 2016, the county passed a referendum, approved by 62.4 percent of the voting population, to authorize the issuance of a half-cent infrastructure sales tax to pay for a portion of the plan.[51]. The sales tax is estimated to generate $32 million per year.[52]

It is estimated to cost $4.6 billion to accomplish the required nutrient load reductions in all four BMAPs that cover the IRL region.[53] With efforts extended over a 20-year period, it would require an annual investment of $230 million to sustain an IRL-based economy.[54] The annual cost compared to the IRL's estimated total economic output of $7.6 billion provides a return on investment of 33:1, which can be expected to increase as the IRL improves in health and productivity.[55]

Onsite sewage and disposal systems

In 1990, the Legislature enacted the Indian River Lagoon System and Basin Act, in part, to protect the IRL system from the improper use of septic systems.[56] The act required the SJRWMD and the South Florida Water Management District (SFWMD) to identify areas where improper septic tank use poses a threat to the water quality of the IRL system.[57] There are six counties that

[47] *Id*. at 1.
[48] Indian River Lagoon Consortium, *Indian River Lagoon 2011 Superbloom Plan of Investigation*, 2 (June 2012), *available at* http://www.sjrwmd.com/indianriverlagoon/technicaldocumentation/pdfs/2011superbloom_investigationplan_June_2012.pdf (last visited Mar. 8, 2017).
[49] *See* Brian E. Lapointe, Laura W. Herren, David D. Debortoli, Margaret A. Vogel, *Evidence of sewage-driven eutrophication and harmful algae blooms in Florida's Indian River Lagoon*, (Jan. 28, 2015), *available at* http://static.politico.com/27/4c/d449d31440529b9d75d8ac3bb461/2015-study-of-indian-river-lagoon-algae.%202015.pdf (last visited Mar. 8, 2017).
[50] *Save Our Lagoon* at vi.
[51] Brevard County Supervisor of Elections, *2016 General Election Official Results*, http://enr.electionsfl.org/BRE/1616/Summary/ (last visited Mar. 9, 2017); *see* Brevard County Ordinance 2016-15, *Placing a Referendum on November 8, 2016 Ballot for One-Half Cent Infrastructure Sales Tax to Fund Implementation of the Save our Lagoon Project Plan* (August 23, 2016), *available at* http://www.brevardfl.gov/docs/default-source/countymanager/save-our-lagoon-referendum-election-2016-ordinance-august-23-2016.pdf?sfvrsn=2 (last visited Mar. 9, 2017).
[52] *Save Our Lagoon* at 60.
[53] East Central Florida Regional Planning Council and the Treasure Coast Regional Planning Council, *Indian River Lagoon Economic Valuation Update*, x (Aug. 26, 2016).
[54] *Id*.
[55] *Id*.
[56] *See* ch. 90-262, Laws of Fla.
[57] Chapter 90-262, s. 4, Laws of Fla.

have septic systems that contribute to the health of the IRL including Volusia, Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties.

In Brevard County alone, there are approximately 82,000 permitted septic systems, of which nearly 59,500 pollute groundwater that migrates to the lagoon.[58] The Save Our Lagoon Plan includes septic system upgrades and removals at a total cost of approximately $64 million.[59] The estimated total cost to convert all septic tanks in the county to central sewage treatment is $1.19 billion.[60]

Muck accumulation

Muck is not natural to the bottom of the lagoon, but it now covers an estimated 15,900 acres of the lagoon bottom in Brevard County, and tends to accumulate in deeper waters, sometimes in layers more than 6 feet thick.[61] Muck is transported into the lagoon through freshwater runoff, which carries with it soil from erosion and organic debris from sod, grass clippings, leaves, and other vegetation.[62]

When muck covers the naturally sandy bottom of the lagoon, it destroys habitats such as seagrass by inhibiting growth and impacts bottom-dwelling organisms by depleting oxygen in the sediments and surrounding waters.[63] Muck also accumulates potential pollutants and stores and releases nutrients into the water, which can feed algae blooms.[64] The annual release of nutrients from decaying muck is almost as much as the annual external loading delivered by stormwater and groundwater baseflow combined.[65]

Muck removal includes dredging large deposits of muck in big, open water areas within the lagoon with the goal of reducing the amount of nitrogen and phosphorous that could be released if the muck were to stay in the lagoon.[66] There are a few muck removal projects currently underway in Turkey Creek, the Eau Gallie River, and Cocoa Beach.[67] The estimated total cost for all muck removal projects is $198.1 million.[68]

In 2016, the Legislature appropriated $21.5 million to Brevard County for the removal of muck from the IRL.[69] Of the appropriation, $1.5 million is required to be given to the Indian River Lagoon Research Institute for the purpose of a scientific assessment to determine the

[58] *Save our Lagoon* at 5.
[59] *Id*. at viii.
[60] *Id*. at 5.
[61] Florida SeaGrant, *Muck Removal in the Save Our Indian River Lagoon Project Plan, Brevard County*, http://www.brevardfl.gov/docs/default-source/natural-resources-documents/muck-fact-sheet.pdf?sfvrsn=1 (last visited Mar. 10, 2017).
[62] *Id*.
[63] *Id*.
[64] *Id*.
[65] *Save Our Lagoon* at 40.
[66] Florida SeaGrant, *Muck Removal in the Save Our Indian River Lagoon Project Plan, Brevard County*, http://www.brevardfl.gov/docs/default-source/natural-resources-documents/muck-fact-sheet.pdf?sfvrsn=1 (last visited Mar. 10, 2017).
[67] *Id*.
[68] *Save Our Lagoon* at 58.
[69] Chapter 2016-66, Laws of Fla.

environmental benefits of the project.[70] The long-term success of muck removal is dependent upon continued reductions in land-based sources of pollutants to prevent the continued build-up of muck in the lagoon.[71]

Stormwater runoff

The drainage systems of the east coast of Florida were constructed to support agriculture and urban development. These systems have increased the volume of inflows into the IRL, while also changing the timing of flows and increasing nutrient loads conveyed to the IRL.[72] Canal diversions to the IRL increase nutrient, sediment, and freshwater loading to the IRL and decrease flows to the St. Johns River.[73] Stormwater runoff contributes a significant portion of total nitrogen and total phosphorus to the lagoon each year.[74]

In Brevard County, there are more than 1,500 stormwater outfalls to the IRL.[75] Brevard County in 1990 implemented a stormwater utility assessment, which established an annual assessment rate of $36 per year per equivalent residential unit (ERU), which was increased to $64/ERU in 2016.[76] The collections raised in 2016 due this assessment is estimated at $6 million.[77] Of the funding raised, a portion is available for capital improvement programs or other stormwater BMPs and is split between water quality improvement programs and flood control and mitigation programs.[78] In addition, funding is spent on annual program operating expenses, such as NPDES permit compliance activities (street sweeping, trap and box cleaning, and aquatic weed harvesting), and outfall/ditch treatments.[79]

Large-scale stormwater capture and treatment projects are intended to store and treat stormwater runoff before it enters the IRL. For example, the C-10 Water Management Area is a project that diverts water from the IRL system to the St. Johns River through a system of pump stations.[80] The project is estimated to provide a total nitrogen reduction of 29,300 pounds with an estimated capital cost of $22.3 million.[81] Another example is the Nova Canal Watershed Alternative Water supply project to divert water away from the IRL to an integrated water resource system that fully utilizes stormwater, surface water, and reclaimed water.[82] The project is estimated to provide a total nitrogen reduction of 33,000 pounds with an estimated capital cost between $22.1 million and $35.9 million.[83]

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[70] *Id*.
[71] *Id*.
[72] *IRL Stormwater Feasibility Analysis* at 4-1.
[73] *Id*. at 1-1.
[74] See *Save Our Lagoon* at 10, for specific nutrient loadings from different sources in each sub-lagoon.
[75] *Save Our Lagoon* at 32.
[76] *Id*. at 2.
[77] *Id*.
[78] *Id*.
[79] *Id*.
[80] *IRL Stormwater Feasibility Analysis* at 6-37.
[81] *Id*. at 6-48, 49.
[82] *Id*. at 6-47.
[83] *Id*. at 6-48, 49.

St. Lucie River and Estuary

The St. Lucie Estuary is located in Martin, St. Lucie, and Okeechobee counties.[84] The inland portion of the St. Lucie Estuary is composed of a North Fork and a South Fork, which converge at the Roosevelt Bridge to form a single waterbody that extends eastward and joins the southern portion of the Indian River Lagoon.[85] The North Fork receives flows from the C-23 and C-24 canals. The South Fork receives flows from the St. Lucie River, which is referred to as the C-44 Canal. Approximately 42 percent of the freshwater inflows from canals that discharge into the St. Lucie Estuary are from Lake Okeechobee and these discharges carry significant nutrient loads, which have a known impact on the estuary.[86] These canals swiftly convey large volumes of runoff from predominantly agricultural drainage areas, with associated nutrients and sediments, directly to the St. Lucie Estuary.[87]

This constructed drainage system rapidly drains the St. Lucie watershed basin into the St. Lucie Estuary. Large-scale flow storage and capture and treatment projects are necessary in the South-IRL basin.[88] Such projects include, for example, the City of Port St. Lucie Water Farming Project. This project consists of six phases and is located on the site of the McCarty Ranch extension.[89] The project's goal is to maximize the amount of water stored within the site at the end of the wet season without causing a discharge, and reduce harmful flows to the St. Lucie Estuary.[90]

In 2013, the DEP adopted a BMAP for the St. Lucie River and Estuary to address the TMDL for total phosphorous and total nitrogen.[91] Many of the municipalities in the basin, because they discharge stormwater and qualify as an MS4, are regulated by the NPDES permit program. The BMAP includes load reductions for total nitrogen for MS4s. The City of Port St. Lucie initiated the Veteran's Memorial Stormwater Retrofit Project, which includes the construction of several detention ponds and three control structures to treat stormwater.[92] Martin County is currently constructing the All American Ditch Stormwater Quality Retrofit Project, which includes the installation of water control structures and a pipe system that will capture and convey stormwater runoff from a 268-acre, predominantly medium-density residential neighborhood, to a treatment facility.[93]

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[84] FDEP, *Final St. Lucie River and Estuary Basin Management Action Plan*, xi (May 2013), *available at* http://www.dep.state.fl.us/water/watersheds/docs/bmap/stlucie-estuary-nutr-bmap.pdf (last visited Mar. 10, 2017).
[85] *Id*.
[86] *Id*. at xiv.
[87] *IRL Stormwater Feasibility Analysis* at 6-1.
[88] *Id*. at 4-2.
[89] *Id*. at 6-7.
[90] *Id*. at 6-7
[91] FDEP, *Final St. Lucie River and Estuary Basin Management Action Plan*, xii (May 2013).
[92] FDEP, *2016 Progress Report for the St. Lucie River and Estuary Basin Management Action Plan*, 14 (Jan. 2017), *available at* http://www.dep.state.fl.us/water/watersheds/docs/bmap/StLucieRiverEstuaryBMAP-APR-2016.pdf (last visited Mar. 10, 2017).
[93] *Id*. at 15.

Caloosahatchee River and Estuary

The Caloosahatchee River runs from Lake Okeechobee through a series of locks to San Carlos Bay, which divide the canal into freshwater and marine water segments.[94] The river conveys freshwater to the Caloosahatchee Estuary through the S-79 structure from both runoff from the Caloosahatchee River Watershed and releases from Lake Okeechobee. Approximately half of the volume of water that reaches the Caloosahatchee Estuary is water that passed through the S-77 structure from Lake Okeechobee.[95]

A BMAP for the Caloosahatchee River and Estuary was adopted in 2012 to implement the total nitrogen TMDL. Many of the municipalities in the basin, because they discharge stormwater and qualify as an MS4, are regulated by the NPDES permit program. The BMAP includes load reductions for total nitrogen for MS4s. Lee County is in the design and permitting phase of the Nalle Grade Stormwater Park project, which is a dry retention pond designed to provide a future load removal of 2,485 pounds per year of total nitrogen.[96] Additionally, the City of Cape Coral completed a phase-program to eliminate certain septic tanks and connect the systems to sewer.[97]

Land Acquisition Trust Fund

Documentary stamp tax revenues are collected under ch. 201, F.S., which requires an excise tax to be levied on two classes of documents: deeds and other documents related to real property, which are taxed at the rate of $0.70 per $100; and certificates of indebtedness, promissory notes, wage assignments, and retail charge account agreements, which are taxed at $0.35 per $100.[98]

In 2014, Florida voters approved Amendment One, a constitutional amendment to provide a dedicated funding source for water and land conservation and restoration. The amendment required that starting on July 1, 2015, and for 20 years thereafter, 33 percent of net revenues derived from the documentary stamp taxes be deposited into the Land Acquisition Trust Fund (LATF). Section 28, Art. X of the State Constitution requires that funds in the LATF be expended only for the following purposes:

> As provided by law, to finance or refinance: the acquisition and improvement of land, water areas, and related property interests, including conservation easements, and resources for conservation lands including wetlands, forests, and fish and wildlife habitat; wildlife management areas; lands that protect water resources and drinking water sources, including lands protecting the water quality and quantity of rivers, lakes, streams, springsheds, and lands providing recharge for groundwater and aquifer systems; lands in the Everglades Agricultural Area and the Everglades Protection Area, as defined in Article II, Section 7(b); beaches and shores; outdoor recreation lands, including recreational trails, parks, and urban open space; rural

[94] FDEP, *Final Caloosahatchee Estuary Basin, Basin Management Action Plan for the Implementation of Total Maximum Daily Loads for Nutrients Adopted by the FDEP*, 1 (Dec. 2012), *available at* http://www.dep.state.fl.us/water/watersheds/bmap.htm (last visited Jan. 31, 2017).
[95] *Id*. at 3.
[96] FDEP, *2015 Progress Report for the Caloosahatchee Estuary Basin Management Action Plan*, 11, (June 2016) *available at* http://www.dep.state.fl.us/water/watersheds/docs/bmap/caloosa-estuary-bmap-apr2015.pdf (last visited Mar. 10, 2017).
[97] *Id*.
[98] *See* ss. 201.02 and 201.08, F.S.

> landscapes; working farms and ranches; historic or geologic sites; together with management, restoration of natural systems, and the enhancement of public access or recreational enjoyment of conservation lands. [99]

To implement s. 28, Art. X of the State Constitution, the Legislature in the 2015 Special Session A passed ch. 2015-229 Laws of Florida.[100] This act, in part, amended the following sections of law:

- Section 201.15, F.S., to conform to the constitutional requirement that the LATF receive at least 33 percent of net revenues derived from documentary stamp taxes; and
- Section 375.041, F.S., to designate the LATF within the Department of Environmental Protection as the trust fund to serve as the constitutionally mandated depository for a percentage of the tax revenues.[101]

In 2016, the Legislature passed ch. 2016-201, Laws of Florida, referred to as "Legacy Florida."[102] Legacy Florida amended s. 375.041, F.S., to require specified minimum distributions from the LATF. Under s. 375.041, F.S., funds deposited into the LATF must be distributed in the following order and amounts:

- First, obligations relating to debt service, specifically:
  - First to payments relating to debt service on Florida Forever bonds and Everglades restoration bonds; and
  - Then to payments relating to debt service on bonds issued before February 1, 2009, by the South Florida Water Management District and the St. Johns River Water Management District;
- Then, before funds are authorized to be appropriated for other uses:
  - A minimum of the lesser of 25 percent of the funds remaining after the payment of debt service or $200 million annually for Everglades projects that implement the Comprehensive Everglades Restoration Plan (CERP), the Long-Term Plan,[103] or the Northern Everglades and Estuaries Protection Program (NEEPP), with priority given to Everglades projects that reduce harmful discharges of water from Lake Okeechobee to the St. Lucie or Caloosahatchee estuaries in a timely manner. The following specified distributions are required from these funds:
    - $32 million through the 2023-2024 Fiscal Year for the Long-Term Plan;
    - After deducting the $32 million, the minimum of the lesser of 76.5 percent of the remainder or $100 million through the 2025-2026 Fiscal Year for the CERP; and
    - Any remaining funds for Everglades projects under the CERP, the Long-Term Plan, or the NEEPP.
  - A minimum of the lesser of 7.6 percent of the funds remaining after the payment of debt service or $50 million annually for springs restoration, protection, and management projects; and
  - Five million annually to the St. Johns River Water Management District for projects dedicated to the restoration of Lake Apopka.[104]

[99] FLA. CONST. art. X, s. 28.
[100] Chapter 2015-229, Laws of Fla.
[101] Chapter 2015-229, s. 9, s. 50, Laws of Fla.
[102] Chapter 2016-201, Laws of Fla.
[103] Note that the "Long-Term Plan" includes the Restoration Strategies Regional Water Quality Plan.
[104] Section 375.041, F.S.

- Then any remaining moneys are authorized to be appropriated for the purposes set forth in s. 28, Art. X, of the State Constitution.[105]

The General Revenue Estimating Conference in December of 2016 estimated that for the 2017-2018 Fiscal Year a total of $2.48 billion would be collected in documentary stamp taxes. Thirty-three percent of the net revenues collected or approximately $814.1 million must be deposited into the LATF as required under s. 28, Art. X of the State Constitution.[106]

III. Effect of Proposed Changes:

SB 874 requires the DEP, the DOH, relevant local governments, and relevant local public and private wastewater utilities to develop an onsite sewage treatment and disposal system remediation plan, as part of a BMAP, if the DEP determines that remediation is necessary to achieve a TMDL. The bill provides that in order to promote cost-effective remediation, the DEP is authorized to identify one or more priority focus areas.

The bill requires the DEP when identifying priority focus areas to consider:
- Soil conditions;
- Groundwater or surface water travel time;
- Proximity to surface waters, including predominantly marine waters as defined by DEP rule;
- Hydrogeology;
- Onsite system density;
- Nutrient load; and
- Other factors that may lead to water quality degradation.

Under the remediation plan, the DEP must identify cost-effective and financially feasible projects that are necessary to reduce the nutrient impacts from onsite sewage treatment and disposal systems. The plan is required to be completed and adopted as part of a BMAP no later than the first 5-year milestone assessment.

The bill provides that the DEP is the lead agency in coordinating the preparation and adoption of the remediation plan and in developing and adopting the plan must:
- Collect and evaluate credible scientific information on the effect of nutrients on surface and groundwater;
- Work with local stakeholders to develop a public education plan to provide area residents with reliable, understandable information about onsite sewage treatment and disposal systems and surface and groundwater pollution;
- Ensure that the plan includes options, if appropriate, for system repair, upgrade, or replacement; drainfield modification; the addition of effective nutrient-reducing features; connection to a central sewerage system; or other actions addressing onsite sewage treatment and disposal system issues;

[105] *Id*.
[106] Office of Economic and Demographic Research, Revenue Estimating Conference, *Documentary Stamp Tax, Executive Summary* (Dec. 12, 2016) *available at* http://www.edr.state.fl.us/Content/conferences/docstamp/docstampexecsummary.pdf (last visited Jan. 23, 2017).

- Include a priority ranking for each onsite system, or group of systems, that requires remediation to be used to ensure the most effective, efficient use of the funding provided for onsite system remediation; and
- Ensure that the plan includes an implementation schedule for completion of the actions related to reducing onsite sewage treatment and disposal system nutrient loads, with milestones, periodic progress evaluations, and a completion date necessary to achieve the total maximum daily load within the timeframe established in the BMAP.

In awarding funds for onsite system remediation, the bill authorizes the department to consider expected nutrient reduction benefit per unit cost, the size and scope of the project, local financial contribution to the project relative to the overall cost, and the financial impact on property owners and the community. Additionally, the DEP is authorized, at its discretion, to totally or partially waive its funding considerations for local contributions for proposed projects within an area designated as a rural area of opportunity under s. 288.0656, F.S.

The bill requires that any installation, repair, modification, or upgrade of onsite sewage treatment and disposal system on a lot of 1 acre or less which is within the boundaries of a BMAP with an onsite sewage treatment and disposal remediation plan must conform to the requirements of the remediation plan.

The provisions in the bill relating to remediation plans for onsite sewage treatment and disposal systems are an expansion of s. 373.807, F.S., which only applies to Outstanding Florida Springs. The bill expands the requirements to apply to any waterbody or segment with a BMAP for which the DEP determines that remediation is necessary to achieve the TMDL.

The bill requires $20 million to be appropriated annually from the Land Acquisition Trust Fund to:

- Offset or partially offset property owner costs incurred to retrofit or convert onsite sewage treatment and disposal systems the DEP determines to be individually or collectively contributing excess nutrient pollution in counties contributing to the Indian River Lagoon, the St. Lucie Estuary, or the Caloosahatchee Estuary, and their respective watersheds; and
- Conduct muck dredging and large-scale stormwater improvements in counties contributing to the Indian River Lagoon, the St. Lucie Estuary, or the Caloosahatchee Estuary, and their respective watersheds.

The DEP is authorized to use the appropriated fund to make grants or provide other forms of financial assistance to local governments or other entities for the stated purposes.

The bill has an effective date of July 1, 2017.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

D. Other Constitutional Issues:

Section 28, Art. X of the State Constitution requires that 33 percent of net revenues derived from documentary stamp taxes be deposited into the LATF to be used for the acquisition and improvement of land, water areas, and related property interests, together with management, restoration of natural systems, and the enhancement of public access or recreational enjoyment of conservation lands. For the full text of s. 28, Art. X of the State Constitution, see the Present Situation section of this analysis beginning on page 11.

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

Within local government areas where septic systems represent a significant water quality problem, now or in the future, as determined by the DEP, some property owners may be required as a result of the BMAP process to upgrade or replace their septic systems or connect to an available central sewer system, which would result in a negative, indeterminate cost to property owners. However, this cost may be offset by local government contributions or, for septic tanks that contribute to pollution in the Indian River Lagoon, the St. Lucie Estuary, or the Caloosahatchee Estuary, by specific appropriations from the LATF as required under the bill.

C. Government Sector Impact:

The bill has a negative, recurring impact to the LATF of $20 million. The bill may have an indeterminate, positive fiscal impact on counties that receive financial assistance as a result of this bill.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

This bill substantially amends the following sections of the Florida Statutes: 375.041 and 403.067.

IX. Additional Information:

A. Committee Substitute – Statement of Changes:
(Summarizing differences between the Committee Substitute and the prior version of the bill.)

None.

B. Amendments:

None.