

The Florida Senate
BILL ANALYSIS AND FISCAL IMPACT STATEMENT

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

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

BILL: SB 1468

INTRODUCER: Senator Berman

SUBJECT: Advanced Wastewater Treatment

DATE: January 26, 2026

REVISED: _____

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	<u>Barriero</u>	<u>Rogers</u>	<u>EN</u>	<u>Pre-meeting</u>
2.	<u> </u>	<u> </u>	<u>AEG</u>	<u> </u>
3.	<u> </u>	<u> </u>	<u>FP</u>	<u> </u>

I. Summary:

SB 1468 requires sewage disposal with a permitted capacity of greater than one million gallons per day to submit an annual report to the Department of Environmental Protection (DEP) beginning July 1, 2027. The report must include the facility's year of construction and any maintenance or upgrades, permitted and actual wastewater treatment volumes, current treatment levels and concentrations of specified contaminants, pollutant load estimates, disposal methods and volumes discharged to receiving waterbodies, spill history, elevation, and location relative to floodplains and coastal hazards.

The bill directs DEP, by December 31, 2027, and annually thereafter, to submit to the Governor and Legislature a report detailing all the information contained in the reports from sewage disposal facilities. The report must also include additional information regarding the impairment status of receiving waterbodies and the implementation of total maximum daily loads and basin management action plans, including assigned load reductions and wasteload allocations for pollutants of concern.

II. Present Situation:

Wastewater

Domestic sewage contains toxicants, solid waste, plastics, and bacterial contaminants.¹ It also contains nutrients such as nitrogen and phosphorus.² Once wastewater is treated to standards set and monitored by state and federal officials, it is typically released into a local waterbody.³ However, conventional wastewater treatment is often ineffective at removing certain pollutants, such as contaminants of emerging concern, heavy metals, *Escherichia coli* (e. coli), pharmaceuticals, pesticides, and microplastics.⁴ As a result, the discharge of conventionally treated wastewater can be a significant source of pollution in aquatic ecosystems, leading to documented declines in biodiversity and essential ecosystem functions.⁵

Advanced wastewater treatment (AWT) has been shown to be more effective at reducing effluent toxicity than conventional treatment.⁶ There are several types of AWT technologies. Some AWT methods such as membrane bioreactor filtration can treat wastewater to match the physical, chemical, and biological properties of the waterbody the treated water will be discharged into.⁷ Membrane bioreactors and other AWT technologies, including oxidation processes and powdered activated carbon, have also been shown to be effective at removing micropollutants

¹ Mehtab Haseena et al., *Water pollution and human health*, Environmental Risk Assessment and Remediation, vol. 1, 16, 18 (2017), available at https://www.researchgate.net/publication/326828651_Water_pollution_and_human_health. See also C. Chahal et al., *Pathogen and particle Associations in wastewater: Significance and Implications for Treatment and Disinfection Processes*, Advances in Applied Microbiology, vol. 97, 68 (2016), available at <https://www.sciencedirect.com/science/article/pii/S0065216416300971>.

² See Environmental Protection Agency (EPA), *Nutrient Pollution: Sources and Solutions: Wastewater*, <https://www.epa.gov/nutrientpollution/sources-and-solutions-wastewater> (last visited Jan. 16, 2026).

³ *Id.*

⁴ See Joshua Matesun et al., *Limitations of wastewater treatment plants in removing trace anthropogenic biomarkers and future directions: A review*, Ecotoxicology and Environmental Safety, 1 (2024), available at <https://www.sciencedirect.com/science/article/pii/S0147651324006869>; Jonas Margot et al., *Treatment of micropollutants in municipal wastewater: Ozone or powdered activated carbon?*, Science of The Total Environment, 480 (2013), available at <https://www.sciencedirect.com/science/article/abs/pii/S0048969713005779?via%3Dihub>; Sunanda Mishra et al., *Membrane bioreactor (MBR) as an advanced wastewater treatment technology for removal of synthetic microplastics*, Development in Wastewater Treatment Research and processes, 45 (2022), available at <https://www.sciencedirect.com/science/article/abs/pii/B9780323855839000223>.

⁵ See Daniel Stalter et al., *Do Contaminants Originating from State-of-the-Art Treated Wastewater Impact the Ecological Quality of Surface Waters?*, Plos One, vol. 8, 8 (2013), available at <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0060616>; Katja Bunzel et al., *Effects of organic pollutants from wastewater treatment plants on aquatic invertebrate communities*, Water Research, vol. 47, 597 (2013), available at <https://www.sciencedirect.com/science/article/abs/pii/S0043135412007610?via%3Dihub>; Dania Albini et al., *The combined effects of treated sewage discharge and land use on rivers*, Global Change Biology, 6415 (2023), available at <https://pmc.ncbi.nlm.nih.gov/articles/PMC10946937/>.

⁶ Johannes Völker et al., *Systematic Review of Toxicity Removal by Advanced Wastewater Treatment Technologies via Ozonation and Activated Carbon*, American Chemical Society ES&T, vol. 53, 7226 (2019), available at <https://pubs.acs.org/doi/full/10.1021/acs.est.9b00570>.

⁷ University of Florida Institute of Food and Agricultural Sciences, *Advanced Wastewater Treatment (AWT)*, <https://blogs.ifas.ufl.edu/sarasotaco/2020/07/30/advanced-wastewater-treatment-awt/> (last visited Jan. 16, 2026).

such as pharmaceuticals, pesticides, and microplastics,⁸ and nutrients like phosphorus.⁹ Adsorption processes have also been shown to be potential solutions for the removal of micropollutants in advanced treatment plants.¹⁰

Domestic Wastewater Treatment Facilities in Florida

The majority of the state's wastewater is controlled and treated by centralized treatment facilities regulated by the Department of Environmental Protection (DEP).¹¹ Florida has approximately 2,000 permitted domestic wastewater treatment facilities.¹²

Wastewater treatment facilities are required to provide secondary treatment prior to reuse or disposal.¹³ Such treatment requires that carbonaceous biochemical oxygen demand (CBOD5) and total suspended solids (TSS) not exceed specific levels based on the method of disposal (i.e., surface water disposal, reuse, land application, or groundwater discharge).¹⁴ For example, for land application or groundwater discharge, the annual average of CBOD5 and total suspended solids may not exceed 20.0 milligrams per liter (mg/L), and the maximum-permissible concentration in any single sample may not exceed 60.0 mg/L.¹⁵

AWT provides a reclaimed water product containing no more than the following concentrations of pollutants:

- 5 mg/L of Biochemical Oxygen Demand;
- 5 mg/L of Suspended Solids;
- 3 mg/L of total nitrogen; and
- 1 mg/L of total phosphorus.¹⁶

⁸ See Margot, *Treatment of micropollutants in municipal wastewater: Ozone or powdered activated carbon?* at 480; Radhakrishnan Krishnan et al., *Recent approaches and advanced wastewater treatment technologies for mitigating emerging microplastics contamination—A critical review*, *Science of the Total Environment*, vol. 858 (2023), available at <https://www.sciencedirect.com/science/article/abs/pii/S004896972206781X?via%3Dihub>.

⁹ EPA, *Advanced Wastewater Treatment to Achieve Low Concentration of Phosphorus*, 3 (2007), available at <https://www.epa.gov/sites/default/files/2019-02/documents/advanced-wastewater-treatment-low-concentration-phosphorus.pdf>.

¹⁰ Biniam Belete et al., *Micropollutant Removal Efficiency of Advanced Wastewater Treatment Plants: A Systematic Review*, *Environmental Health Insights*, vol. 17, 1 (2023), available at <https://journals.sagepub.com/doi/full/10.1177/11786302231195158>.

¹¹ DEP, *Domestic Wastewater Program*, <https://floridadep.gov/water/domestic-wastewater> (last visited Jan. 19, 2026).

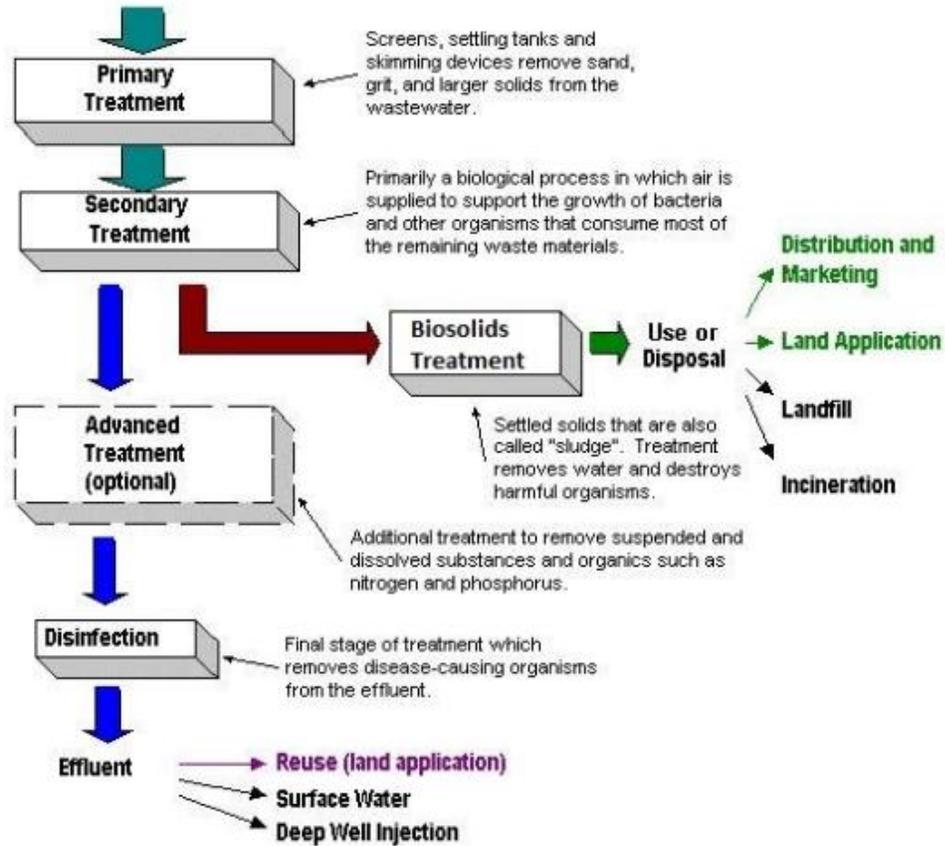
¹² DEP, *General Facts and Statistics about Wastewater in Florida*, <https://floridadep.gov/water/domestic-wastewater/content/general-facts-and-statistics-about-wastewater-florida> (last visited Jan. 19, 2026).

¹³ Sections 403.086(1)(a) and (2), F.S.; Fla. Admin. Code R. 62-600.420.

¹⁴ CBOD5 is the quantity of oxygen utilized in the carbonaceous biochemical oxidation of organic matter present in water or wastewater, reported as a five-day value determined using approved methods. Fla. Admin. Code R. 62-600.200(8).

¹⁵ Fla. Admin. Code R. 62-600.420(3). DEP, *Domestic Wastewater Treatment Process*, available at <https://floridadep.gov/water/domestic-wastewater/documents/domestic-wastewater-treatment-process> (showing flowchart of wastewater treatment process).

¹⁶ Section 403.086(4)(a), F.S. This statute defines the term “advanced waste treatment,” rather than “advanced wastewater treatment.” However, the term is used in the context of wastewater treatment and appears to refer to the treatment of wastewater.



AWT is required before discharging into certain impaired waterbodies, including, but not limited to, the Indian River Lagoon beginning July 1, 2025, and by January 1, 2033, waterbodies that are not attaining nutrient-related standards or that are subject to a nutrient basin management action plan (BMAP) or reasonable assurance plan.¹⁷ In addition, in 2024, the Legislature passed a law requiring that by July 1, 2034, wastewater treatment facilities providing reclaimed water for irrigation or land application in areas within a nutrient BMAP or a reasonable assurance plan must meet AWT standards for total nitrogen and total phosphorus if DEP determines that the use of reclaimed water is causing or contributing to nutrient impairment.¹⁸ For such determinations made by DEP after July 1, 2024, the facility has 10 years to meet AWT standards.¹⁹ DEP may also order AWT if deemed necessary.²⁰

Wastewater treatment facilities may be required to provide additional treatment to satisfy water quality standards for receiving surface and ground waters.²¹ Systems within Monroe County are subject to different treatment requirements.²²

¹⁷ Section 403.086(1)(c)1. and 2., F.S.

¹⁸ Chapter 2024-180, s. 13, Laws of Fla.; section 403.086(1)(c)3., F.S.

¹⁹ *Id.*

²⁰ Section 403.086(1)(a), F.S.

²¹ Fla. Admin. Code R. 62-600.430.

²² Section 403.086(11), F.S.

Wastewater treatment facilities must monitor the flow, the influent for CBOD5 and TSS, and the effluent for all effluent parameters as required by the permit.²³ The minimum schedule for sampling is based on the facility's permitted capacity. For example, for facilities with a permitted capacity of 5 million gallons per day (mgd) up to 15 mgd, sampling must be conducted according to the following parameters:²⁴

- Continuous testing for flow, pH, and chlorine residual;²⁵
- Weekly testing for e. coli or enterococci;
- Daily (seven days per week) testing for TSS, CBOD5, nutrients, chlorine residual, and total coliform.²⁶

Impaired Waters, Total Maximum Daily Loads (TMDLs), and BMAPs

Under section 303(d) of the federal Clean Water Act, states must establish water quality standards for waters within their borders and develop a list of impaired waters that do not meet such water quality standards.²⁷ States must also develop a list of threatened waters that may not meet water quality standards in the following reporting cycle.²⁸

Due to limited funds and the wide variety of surface waters in Florida, DEP sorted those waters into 29 major watersheds, or basins, and further organized them into five basin groups for assessment purposes.²⁹ If DEP determines that any waters are impaired, the waterbody must be placed on the verified list of impaired waters, and a TMDL must be calculated.³⁰ A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards.³¹ A waterbody may be removed from the verified list at any time during the TMDL process if it attains water quality standards.³² If DEP determines that a waterbody is impaired but further study is needed to determine the causative pollutants or other factors contributing to impairment before the waterbody is placed on the verified list, the waterbody will be placed on a statewide comprehensive study list.³³

²³ Fla. Admin. Code R. 62-600.660(1).

²⁴ *Id.* at Figure 1.

²⁵ Total chlorine residual measured for disinfection effectiveness. *Id.* at n. 2.

²⁶ Fecal coliform must be tested five days per week, but total coliform must be tested seven days per week. *Id.* at Figure 1.

²⁷ EPA, *Overview of Identifying and Restoring Impaired Waters under Section 303(d) of the CWA*, <https://www.epa.gov/tmdl/overview-identifying-and-restoring-impaired-waters-under-section-303d-cwa> (last visited Jan. 19, 2026); 40 C.F.R. 130.7. Following the development of the list of impaired waters, states must develop a total maximum daily load for every pollutant/waterbody combination on the list. DEP, *Watershed Evaluation and Total Maximum Daily Loads (TMDL) Section*, <https://floridadep.gov/dear/water-quality-evaluation-tmdl/content/total-maximum-daily-loads-tmdl-program> (last visited Jan. 19, 2026).

²⁸ *Id.*

²⁹ DEP, *Assessment Lists*, <https://floridadep.gov/dear/watershed-assessment-section/content/assessment-lists> (last visited Jan. 19, 2026).

³⁰ *Id.*; DEP, *Verified List Waterbody Ids (WBIDs)*, <https://geodata.dep.state.fl.us/datasets/FDEP::verified-list-waterbody-ids-wbids/about> (last visited Jan. 19, 2026); section 403.067(4), F.S.

³¹ Section 403.067(6)(a), F.S. *See also* 33 U.S.C. § 1251, s. 303(d) (the Clean Water Act).

³² Section 403.067(5), F.S.

³³ Section 403.067(2), F.S.; ch. 62-303.150, F.A.C.

BMAPs are one of the primary mechanisms DEP uses to achieve TMDLs. BMAPs are plans that address the entire pollution load, including point and nonpoint discharges,³⁴ for a watershed. There are currently 34 adopted BMAPs in Florida.³⁵

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.³⁶ Then, the BMAP establishes the schedule for implementing projects and activities to meet the pollution reduction allocations.³⁷ Producers of nonpoint source pollution included in a BMAP must comply with the established pollutant reductions by implementing appropriate best management practices or conducting water quality monitoring.³⁸

Public Notification of Pollution Releases

Florida law requires public notification of certain pollution releases.³⁹ A reportable pollution release is any unauthorized release or discharge of a substance into the air, land, or waters of the state that must be reported to the Division of Emergency Management's State Watch Office under applicable rules, permits, orders, or variances.⁴⁰ If an owner or operator of an installation discovers such a release, they must notify DEP within 24 hours.⁴¹ If no notification is made, DEP may take enforcement action against all parties subject to the notification requirement.⁴² If the pollution release migrates beyond the facility's property, the owner or operator must provide an additional notice to DEP within 24 hours of the discovery of the migration.⁴³

DEP must publish all pollution notifications on its websites within 24 hours of receipt and maintain an electronic mailing list for local governments, health departments, news media, and other interested parties to receive announcements of any notices.⁴⁴ DEP must also provide an online form and email submission option for reporting pollution releases.⁴⁵ Providing notice of a pollution release does not constitute an admission of liability or harm.⁴⁶ However, failure to provide the required notification can result in civil penalties.⁴⁷

³⁴ "Point source" is defined as 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 sources of pollution that are not point sources. Fla. Admin. Code R. 62-620.200(37).

³⁵ DEP, *Basin Management Action Plans (BMAPs)*, <https://floridadep.gov/dear/water-quality-restoration/content/basin-management-action-plans-bmaps> (last visited Jan. 19, 2026).

³⁶ *Id.*

³⁷ *Id.*

³⁸ Section 403.067(7)(b)2.g., F.S. For example, BMPs for agriculture include activities such as managing irrigation water to minimize losses, limiting the use of fertilizers, and waste management.

³⁹ Section 403.077, F.S.

⁴⁰ Section 403.077(1), F.S.

⁴¹ Section 403.077(2)(a), F.S.

⁴² Section 403.077(2)(b), F.S.

⁴³ Section 403.077(2)(d), F.S.

⁴⁴ Section 403.077(3)(a) and (b), F.S. See DEP, *Public Notice of Pollution*, <https://floridadep.gov/sec/sec/content/public-notice-pollution> (last visited Jan. 19, 2026).

⁴⁵ Section 403.077(3)(c), F.S.

⁴⁶ Section 403.077(4), F.S.

⁴⁷ Section 403.077(5), F.S.

Contaminants of Emerging Concern

Contaminants of emerging concern (CECs) are broadly defined as any synthetic or naturally occurring chemical that is not commonly monitored in the environment but has the potential to enter the environment and cause known or suspected adverse ecological and/or human health effects.⁴⁸ In some cases, release of CECs to the environment may have occurred for a long time but may not have been recognized until new detection methods were developed. In other cases, synthesis of new chemicals or changes in use and disposal of existing chemicals can create new sources of CECs.⁴⁹

While there are no regulatory limits for CECs, there may be a long-term potential risk to human health or the environment associated with CECs.⁵⁰ Additional studies may also bring new or changing health exposure information. The United States Environmental Protection Agency prioritizes CECs for research and data collection. As part of this data collection, all large and selected smaller public water systems across the U.S. are required to monitor for the targeted CECs.⁵¹

III. Effect of Proposed Changes:

Section 1 includes the following legislative findings:

- The discharge of inadequately treated wastewater and aging sewage disposal facilities compromise the quality of the environment, including freshwater, brackish water, and nearshore and offshore salt waters, and threatens the quality of life and local economies in this state that depend on those resources.
- Requiring advanced wastewater treatment or better at all sewage disposal facilities with a permitted capacity of greater than one million gallons per day in this state is a necessary long-term investment that will fundamentally improve wastewater treatment.

The bill provides that, by July 1, 2027, and annually thereafter, sewage disposal facilities with a permitted capacity of greater than 1 million gallons per day in this state must report to the Department of Environmental Protection (DEP) all of the following:

- Year of construction for the facility and any maintenance or upgrades.
- Total permitted volume of water treated daily.
- Actual permitted volume of water treated daily, including the most recent one-year and five-year averages.
- Current level of treatment, including concentrations for each of the following:
 - Biochemical oxygen demand.
 - Suspended solids.
 - Total nitrogen.
 - Total phosphorus.

⁴⁸ National Centers for Coastal Ocean Science, *Contaminants of Emerging Concern*, <https://coastalscience.noaa.gov/science-areas/pollution/modern-use-chemicals/> (last visited Jan. 19, 2026).

⁴⁹ *Id.*

⁵⁰ DEP, *Regulated Drinking Water Contaminants and Contaminants of Emerging Concern*, <https://floridadep.gov/comm/press-office/content/regulated-drinking-water-contaminants-and-contaminants-emerging-concern> (last visited Jan. 16, 2026).

⁵¹ *Id.*

- Perfluorooctanoic acid.
- Perfluorooctanesulfonic acid.
- Molybdenum.
- Other contaminants of emerging concern as determined by DEP.
- Estimated total pollutant loading based on permitted volume and concentrations.
- Disposal methods and the volume discharged to any receiving waterbodies, if applicable, pursuant to s. 403.064(16), F.S.⁵²
- Total volume and concentration of any permitted and nonpermitted wastewater spills since 2010.
- Elevation of the facility and supporting infrastructure.
- Location within a floodplain, flood zone, or coastal high-hazard area and, if applicable, the corresponding zone number.

The bill provides that, in order to prioritize the upgrade of sewage disposal facilities and investments in wastewater infrastructure, by December 31, 2027, and annually thereafter, DEP, in consultation with the water management districts and sewage disposal facilities, must submit to the Governor and Legislature and publish on its website a report detailing all of the following information for sewage disposal facilities with a permitted capacity of greater than 1 million gallons per day:

- Year of construction for the facility and any maintenance or upgrades.
- Total permitted volume of water treated daily.
- Actual permitted volume of water treated daily, including the most recent one-year and five-year averages.
- Current level of treatment, including concentrations for each of the following:
 - Biochemical oxygen demand.
 - Suspended solids.
 - Total nitrogen.
 - Total phosphorus.
 - Perfluorooctanoic acid.
 - Perfluorooctanesulfonic acid.
 - Molybdenum.
 - Other contaminants of emerging concern as determined by DEP.
- Estimated total pollutant loading based on permitted volume and concentrations.
- Disposal methods and the volume discharged to any receiving waterbodies, if applicable, pursuant to s. 403.064(16), F.S.
- Impairment status of any receiving waterbodies within the watershed.
- Implementation status of total maximum daily loads and basin management action plans and assigned reductions for load allocations and wasteload allocations for pollutants of concern.
- Total volume and concentration of any permitted and nonpermitted wastewater spills since 2010.
- Elevation of the facility and supporting infrastructure.
- Location within a floodplain, flood zone, or coastal high-hazard area and, if applicable, the corresponding zone number

⁵² Section 403.064(16), F.S., requires domestic wastewater utilities to eliminate nonbeneficial surface water discharges by January 1, 2032.

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

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

D. State Tax or Fee Increases:

None.

E. Other Constitutional Issues:

None.

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

Privately owned sewage disposal facilities may incur indeterminate costs to prepare the annual reports required by this bill.

C. Government Sector Impact:

The Department of Environmental Protection and publicly owned sewage disposal facilities may incur costs to prepare the reports required by this bill.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

None.

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.

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