

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 Appropriations Committee on Agriculture, Environment, and General Government

BILL: CS/SB 880

INTRODUCER: Environment and Natural Resources Committee and Senators Brodeur and Stewart

SUBJECT: Biosolids

DATE: April 11, 2023

REVISED: _____

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	<u>Carroll</u>	<u>Rogers</u>	<u>EN</u>	<u>Fav/CS</u>
2.	<u>Reagan</u>	<u>Betta</u>	<u>AEG</u>	<u>Pre-meeting</u>
3.	_____	_____	<u>AP</u>	_____

Please see Section IX. for Additional Information:

COMMITTEE SUBSTITUTE - Substantial Changes

I. Summary:

CS/SB 880 creates the biosolids grant program. Subject to the appropriation of funds by the Legislature, the Department of Environmental Protection (DEP) may provide grants to local governmental entities for projects that construct, upgrade, expand, or retrofit domestic facilities that convert wastewater residuals to Class AA biosolids.

The bill requires prioritization of projects based on their economic and market feasibility and environmental benefit. The bill specifies how grant funds will be distributed and requires a 50 percent local match for certain projects.

The bill prohibits the DEP from authorizing a land application site permit for Class B biosolids within the subwatershed of a waterbody listed as impaired for either nitrogen or phosphorus or within an adjoining upstream subwatershed containing surface waters that flow to an impaired waterbody unless the applicant affirmatively demonstrates that the phosphorus and nitrogen in the biosolids will not add to the nutrient load in the impaired subwatershed. The DEP must publish updated maps designating the subwatersheds of waterbodies protected under this prohibition.

The bill provides that new or renewed Class B biosolids land application site permits issued after July 1, 2023, must meet statutory biosolids management requirements by July 1, 2024. All permits for biosolids land application sites must meet the requirements by July 1, 2025.

The bill has an indeterminate fiscal impact subject to appropriations.

The effective date of the bill is July 1, 2023.

II. Present Situation:

Water Quality and Nutrients

Phosphorus and nitrogen are naturally present in water and are essential nutrients for the healthy growth of plant and animal life.¹ The correct balance of both nutrients is necessary for a healthy ecosystem; however, excessive nitrogen and phosphorus can cause significant water quality problems.²

Phosphorus and nitrogen are derived from natural and human-made sources.³ Human-made sources include sewage disposal systems (wastewater treatment facilities and septic systems), overflows of storm and sanitary sewers (untreated sewage), agricultural production and irrigation practices, and stormwater runoff.⁴ Excessive nutrient loads may result in harmful algal blooms, nuisance aquatic weeds, and the alteration of the natural community of plants and animals.⁵

Impaired Waters

Under section 303(d) of the federal Clean Water Act, states must establish water quality standards for waters within their borders and then develop a list of impaired waters that do not meet the established water quality standards and a list of threatened waters that may not meet water quality standards in the following reporting cycle.⁶

Due to limited funds and the wide variety of surface waters in Florida, the DEP has sorted those waters into 29 major watersheds, or basins, and further organized them into five basin groups for assessment purposes.⁷ If the DEP determines that any waters are impaired, the waterbody or segment must be placed on the verified list of impaired waters and a total maximum daily load (TMDL) must be calculated.⁸ A waterbody or segment may be removed from the list at any time

¹ U.S. Environmental Protection Agency, *The Issue*, <https://www.epa.gov/nutrientpollution/issue> (last visited Feb. 10, 2023).

² *Id.*

³ *Id.*

⁴ U.S. Environmental Protection Agency (EPA), *Sources and Solutions*, <https://www.epa.gov/nutrientpollution/sources-and-solutions> (last visited Feb 10, 2023).

⁵ EPA, *The Issue*, <https://www.epa.gov/nutrientpollution/issue> (last visited Feb. 10, 2023).

⁶ 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 Feb. 24, 2023); 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. A total maximum daily load 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. DEP, *Total Maximum Daily Loads Program*, <https://floridadep.gov/dear/water-quality-evaluation-tmdl/content/total-maximum-daily-loads-tmdl-program> (last visited Feb. 10, 2023).

⁷ DEP, *Assessment Lists*, <https://floridadep.gov/dear/watershed-assessment-section/content/assessment-lists> (last visited Feb. 24, 2023).

⁸ *Id.*; DEP, *Verified List Waterbody Ids (WBIDs)*, <https://geodata.dep.state.fl.us/datasets/FDEP::verified-list-waterbody-ids-wbids/about> (last visited Feb. 24, 2023); and s. 403.067(4), F.S.

during the TMDL process if it attains water quality criteria.⁹ If the 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 or segment will be placed on the statewide comprehensive study list.¹⁰

Biosolids

The proper treatment and disposal or reuse of domestic wastewater is an important part of protecting Florida's water resources. The majority of Florida's domestic wastewater is controlled and treated by centralized treatment facilities regulated by the DEP. Florida has approximately 2,000 permitted domestic wastewater treatment facilities.¹¹

When domestic wastewater is treated, solid, semisolid, or liquid residue known as biosolids¹² accumulates in the wastewater treatment plant and must be removed periodically to keep the plant operating properly.¹³ Biosolids also include products and treated material from biosolids treatment facilities and septage management facilities regulated by the DEP.¹⁴ The collected residue is high in organic content and contains moderate amounts of nutrients.¹⁵

According to the DEP's estimates in 2019, wastewater treatment facilities produce about 340,000 dry tons of biosolids each year.¹⁶ Biosolids can be disposed of in several ways: transfer to another facility, placement in a landfill, distribution and marketing as fertilizer, incineration, bioenergy, and land application to pasture or agricultural lands.¹⁷ In 2019, about one-third of the total amount of biosolids produced was used for land application¹⁸ and is subject to regulatory requirements established by the DEP to protect public health and the environment.¹⁹

Land application of biosolids involves spreading biosolids on the soil surface or incorporating or injecting biosolids into the soil at a permitted site.²⁰ This practice provides nutrients and organic matter to the soil on agricultural land, golf courses, forests, parks, mine reclamation sites, and

⁹ Section 403.067(5), F.S.

¹⁰ Section 403.067(2), F.S.; ch. 62-303.150, F.A.C.

¹¹ 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 Feb. 10, 2023).

¹² Biosolids are the solid, semisolid, or liquid residue generated during the treatment of domestic wastewater in a domestic wastewater treatment facility and include products and treated material from biosolids treatment facilities and septage management facilities. The term does not include the treated effluent or reclaimed water from a domestic wastewater treatment facility, solids removed from pump stations and lift stations, screenings and grit removed from the preliminary treatment components of domestic wastewater treatment facilities, or ash generated during the incineration of biosolids. Section 373.4595, F.S.

¹³ DEP, *Domestic Wastewater Biosolids*, <https://floridadep.gov/water/domestic-wastewater/content/domestic-wastewater-biosolids> (last visited Mar. 7, 2023).

¹⁴ Fla. Admin. Code R. 62-640.200(6).

¹⁵ DEP, *Domestic Wastewater Biosolids*.

¹⁶ DEP, *Biosolids in Florida*, 5 (2019), available at <https://www.florida-stormwater.org/assets/MemberServices/Conference/AC19/02%20-%20Frick%20Tom.pdf#:~:text=Biosolids%20and%20Management%20in%20Florida%20Estimated%20Total%20Production,two-thirds%20are%20beneficially%20used%20and%20onethird%20is%20landfilled> (last visited Mar. 7, 2023).

¹⁷ *Id.* at 4.

¹⁸ *Id.* at 5.

¹⁹ Fla. Admin. Code R. 62-640.

²⁰ EPA, *Land Application of Biosolids*, <https://www.epa.gov/biosolids/land-application-biosolids> (last visited Mar. 8, 2023).

other disturbed lands. Composted and treated biosolids are used by landscapers and nurseries, and by homeowners for their lawns and home gardens.²¹ A recent study in the Upper St. Johns River Basin compared the timing and intensity of Class B land applications of biosolids to long-term trends in total phosphorus and total nitrogen concentrations and fluxes in eight pasture-dominated, small-to-medium watersheds with varying intensity and cumulative history of land application of biosolids.²² The study showed strong correlative evidence that intensified land applications of Class B biosolids caused increases in the total phosphorus and total nitrogen fluxes in the Upper St. Johns River Basin.²³

U.S. Composting Council

The U.S. Composting Council works to advance compost manufacturing, compost utilization, and organics recycling to benefit its members, society, and the environment.²⁴ The Seal of Testing Assurance Program was created in 2000 to create national lab standards for composting.²⁵ The program intends to provide clear and consistent information to compost producers and buyers regarding compost testing results, components, and recommended directions for use.

Regulation of Biosolids in Florida

The DEP regulates three classes of biosolids for beneficial use: Class AA, Class A, and Class B biosolids.²⁶ The classes are categorized based on treatment and quality, with Class AA biosolids receiving the highest level of treatment, and Class B receiving the lowest.²⁷ Treatment of biosolids must reduce pathogens, the attractiveness of the biosolids for pests like insects and rodents, and the amount of toxic metals in the biosolids.²⁸

Class AA biosolids can be distributed and marketed like other commercial fertilizers with few further restrictions.²⁹ Typically, Class B biosolids are used in land application and the map on the following page shows current permitted Class B biosolids land application sites.³⁰ At the time of land application, there must be a minimum unsaturated soil depth of two feet between the depth of biosolids placement and the water table level.³¹ Biosolids may not be applied on soils where the seasonal high-water table is less than six inches from the intended depth of biosolids

²¹ *Id.*

²² Andy Canion, et al., *Trends in phosphorus fluxes are driven by intensification of biosolids applications in the Upper St. Johns River Basin (Florida, United States)*, Lake and Reservoir Management, 2 (2022) (on file with the Senate Committee on Environment and Natural Resources).

²³ *Id.* at 1.

²⁴ U.S. Composting Council, *Mission Statement*, <https://www.compostingcouncil.org/> (last visited Mar. 14, 2023).

²⁵ U.S. Composting Council, *Seal of Testing Assurance Program for Compost Manufacturers*, <https://www.compostingcouncil.org/page/CompostManufacturersSTA> (last visited Mar. 14, 2023).

²⁶ Chapter 62-640.200, F.A.C.

²⁷ *Id.*; DEP, *Domestic Wastewater Biosolids*.

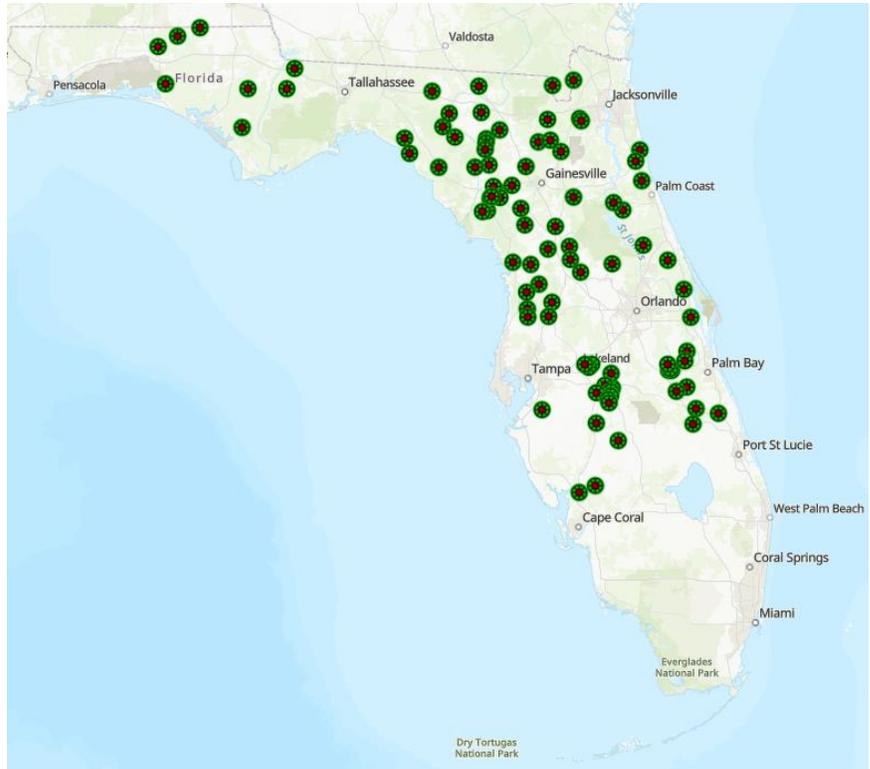
²⁸ Chapter 62-640.200, F.A.C.

²⁹ DEP, *Domestic Wastewater Biosolids*; National Biosolids Data Project, *Florida Biosolids*, <https://www.biosolidsdata.org/florida> (last visited Mar. 8, 2023); ch. 62-640.850, F.A.C.

³⁰ DEP, *Biosolids in Florida* at 4; DEP, *Domestic Wastewater Biosolids*; DEP, *Wastewater Facility Regulation (WAFR) Map – Residual Application Sites*, <https://www.arcgis.com/apps/mapviewer/index.html?layers=70300d6abaa5463e83091786599d06dd> (last visited Mar. 8, 2023).

³¹ Section 403.0855(3), F.S.

placement, unless a nutrient management plan and water quality monitoring plan provide reasonable assurances that the land application of biosolids at the site will not cause or contribute to a violation of surface water quality standards or groundwater standards.³²



Biosolids are regulated under Rule 62-640 of the Florida Administrative Code. The rules provide minimum requirements, including monitoring and reporting requirements, for the treatment, management, use, and disposal of biosolids. The rules are applicable to wastewater treatment facilities, applicators, and distributors³³ and include permit requirements for both treatment facilities and biosolids application sites.³⁴

Each permit application for a biosolids land application site must include a site-specific nutrient management plan (NMP) that establishes the specific rates of application and procedures.³⁵ Biosolids may only be applied to sites that are permitted by the DEP and have a valid NMP.³⁶ Biosolids must be applied at rates established in accordance with the NMP and may be applied to a site only if all concentrations of minerals do not exceed ceiling and cumulative concentrations determined by rule.³⁷

Once a facility or site is permitted, it is subject to monitoring, record-keeping, reporting, and notification requirements.³⁸ The requirements are site-specific and can be increased or reduced by the DEP based on the quality or quantity of wastewater or biosolids treated; historical variations in biosolids characteristics; industrial wastewater or sludge contributions to the facility; the use, land application, or disposal of the biosolids; the water quality of surface and ground water and the hydrogeology of the area; wastewater or biosolids treatment processes; and the compliance history of the facility or application site.³⁹

³² *Id.*

³³ Fla. Admin. Code R. 62-640.100.

³⁴ Fla. Admin. Code R. 62-640.300.

³⁵ Fla. Admin. Code R. 62-640.500.

³⁶ *Id.*

³⁷ Fla. Admin. Code R. 62-640.700.

³⁸ Fla. Admin. Code R. 62-640.650.

³⁹ *Id.*

Bans on the Land Application of Biosolids

Section 373.4595, F.S., sets out the statutory guidelines for the Northern Everglades and Estuaries Protection Program. This statute is designed to protect and promote the hydrology of Lake Okeechobee and the Caloosahatchee and St. Lucie rivers and their estuaries. As part of those protections, the Legislature banned the disposal of domestic wastewater biosolids within the Lake Okeechobee, Caloosahatchee River, and St. Lucie River watersheds unless the applicant can affirmatively demonstrate that the nutrients in the biosolids will not add to nutrient loadings in the watershed.⁴⁰ The prohibition against land application in these watersheds does not apply to Class AA biosolids that are distributed as fertilizer products in accordance with Rule 62-640.850 of the Florida Administrative Code.⁴¹ This ban resulted in increases in land application of Class B biosolids in the northern part of the state, particularly in the Upper St. Johns River Basin, which received 78 percent of statewide Class B biosolids applications by 2019.⁴²

The land application of Class A and Class B biosolids is also prohibited within priority focus areas in effect for Outstanding Florida Springs if the land application is not in accordance with an NMP that has been approved by the DEP.⁴³ The NMP must establish the rate at which all biosolids, soil amendments, and nutrient sources at the land application site can be applied to the land for crop production, while minimizing the amount of pollutants and nutrients discharged into groundwater and waters of the states.⁴⁴

A municipality or county may regulate the land application of Class A or Class B biosolids if the regulation was adopted before November 1, 2019. Such regulations are valid until repealed by the municipality or county.⁴⁵

III. Effect of Proposed Changes:

The bill contains whereas clauses that acknowledge the following:

- The Legislature encourages the highest levels of treatment, quality, and use for biosolids; and
- The Legislature encourages the beneficial use of biosolids in a manner that will foster public acceptance, as well as innovative and alternative uses for biosolids.

Section 1 creates s. 403.0674, F.S., to create the biosolids grant program within the DEP. The bill provides that, subject to the appropriation of funds by the Legislature, the DEP may provide grants to counties and municipalities in the state to support projects to construct, upgrade, expand, or retrofit domestic facilities that convert wastewater residuals to Class AA biosolids. An applicant must be a county or municipal governmental entity; however, applicants are encouraged to form public-private partnerships with private utilities and firms.

⁴⁰ Chapter 2016-1, Laws of Florida; *see* s. 373.4595, F.S.

⁴¹ *Id.*

⁴² Andy Canion, et al., *Trends in phosphorus fluxes are driven by intensification of biosolids applications in the Upper St. Johns River Basin (Florida, United States)* at 1.

⁴³ Section 373.811(4), F.S.

⁴⁴ *Id.*

⁴⁵ Section 403.0855, F.S.

The bill directs the DEP to prioritize grant funding for projects by considering each project's economic and market feasibility, as well as the environmental benefit that a project may provide. To evaluate a project's economic and market feasibility, the bill directs the DEP to review a detailed cost-benefit analysis which includes the project's overall economic impact and both current and future market potential, including current or prospective buyers or users of the project's Class AA biosolids.

To evaluate the environmental benefit of a project, the bill directs the DEP to review an analysis of how the project's Class AA biosolids are projected to minimize the migration of nutrients and other pollutants that degrade water quality.

The bill requires the DEP to administer the grant program so that, of the funds made available each year under the grant program:

- At least 33 percent is reserved for projects that convert wastewater residuals into composted Class AA biosolids that meet the requirements of the U.S. Compost Council's Seal of Testing Assurance Program as being fully stabilized.
- At least 33 percent is reserved for projects that convert wastewater residuals into both Class AA biosolids and a solution of ammonia nitrogen, a valuable alternative to synthetic nitrogen fertilizers.
- At least 10 percent is reserved for projects within an area designated as a rural area of opportunity.

The bill permits the DEP to reallocate the reserved funds to other projects that are prioritized based on the DEP's evaluation if the DEP does not receive sufficient project applications.

The bill directs the DEP to require that each project grant have a minimum of a 50 percent funding match from local, state, federal, or private funds. The DEP may waive, in whole or in part, the match requirement for proposed projects within an area designated as a rural area of opportunity.

Section 2 amends s. 403.0855, F.S., to prohibit the DEP from authorizing a land application site permit for Class B biosolids within the subwatershed of a waterbody or waterbody segment listed as impaired for either nitrogen or phosphorus or within an adjoining upstream subwatershed containing surface waters that flow to a waterbody designated as impaired for either nitrogen or phosphorus unless the applicant affirmatively demonstrates that the phosphorus and nitrogen in the biosolids will not add to the nutrient load in the impaired subwatershed.

The demonstration must be based on achieving a net balance between nutrient imports relative to exports on the permitted land application site. Exports may include only nutrients removed from the subwatershed through products generated on the permitted land application site. Beginning November 1, 2023, and each November 1 thereafter, the DEP must publish updated maps designating the subwatersheds of waterbodies protected under this subsection.

The bill provides that new or renewed Class B biosolids land application site permits issued after July 1, 2023, must meet statutory biosolids management requirements by July 1, 2024. All permits for biosolids land application sites must meet the requirements by July 1, 2025.

Section 3 provides an effective date of July 1, 2023.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

D. State Tax or Fee Increases:

None.

E. Other Constitutional Issues:

None.

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

Any private person or entity involved in biosolids disposal will likely experience a negative fiscal impact due to the restriction of biosolids land application. These impacts may be offset by the grant program.

C. Government Sector Impact:

Any county or municipal governmental entity involved in biosolids disposal will likely experience a negative fiscal impact due to the restriction of biosolids land application. If funded, these impacts may be offset by the grant program.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

This bill creates section 403.0674 of the Florida Statutes.

This bill substantially amends section 403.0855 of the Florida Statutes.

IX. Additional Information:**A. Committee Substitute – Statement of Changes:**

(Summarizing differences between the Committee Substitute and the prior version of the bill.)

CS by Environment and Natural Resources on March 14, 2023:

- Removes allocations from the wastewater grant program and the Clean Water State Revolving Fund for projects that convert wastewater residuals to Class A and Class AA biosolids to create a separate biosolids grant program for projects to construct, upgrade, expand, or retrofit domestic facilities that convert wastewater residuals to Class AA biosolids.
- Requires that an applicant for a biosolids grant must be a county or municipal governmental entity.
- Encourages applicants to form public-private partnerships with private utilities and firms.
- Provides for prioritization for projects based on each project's economic and market feasibility and environmental benefit.
- Assigns specific percentages of funds to certain projects and allows the Department of Environmental Protection (DEP) to reallocate those funds if DEP does not receive sufficient applications.
- Requires each project grant to have a minimum of a 50 percent funding match from local, state, federal, or private funds and allows DEP to waive the match requirement for proposed projects within a rural area of opportunity.
- Specifies that DEP may not authorize a land application site permit for Class B biosolids within the subwatershed of a waterbody or waterbody segment or an upstream subwatershed that is listed as impaired for either nitrogen or phosphorus pursuant to s. 403.067, F.S.
- Delays the date by which DEP must publish updated maps designating the subwatershed of protected waterbodies by four months.

Changes the issuance date after which new or renewed Class B biosolids land application site permits must meet biosolids management requirements.

B. Amendments:

None.