

The Florida Senate
BILL ANALYSIS AND FISCAL IMPACT STATEMENT

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

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

BILL: CS/SB 1278

INTRODUCER: Environment and Natural Resources Committee and Senator Mayfield

SUBJECT: Biosolids Management

DATE: March 12, 2019

REVISED: _____

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Anderson	Rogers	EN	Fav/CS
2.			AEG	
3.			AP	

Please see Section IX. for Additional Information:

COMMITTEE SUBSTITUTE - Substantial Changes

I. Summary:

CS/SB 1278 provides legislative findings that:

- It is in the best interest of the state to regulate biosolids management in order to minimize the migration of nutrients that impair waterbodies; and
- The expedited implementation of the recommendations of the Department of Environmental Protection Biosolids Technical Advisory Committee, including permitting according to site-specific application conditions, an increased inspection rate, groundwater and surface water monitoring protocols, and nutrient management research, will improve biosolids management and assist in protecting the state's water resources and water quality.

The bill establishes a legislative intent to implement innovative technologies in biosolids processing to improve biosolids management and to protect the state's water resources and water quality.

The bill requires the Department of Environmental Protection to adopt rules for biosolids management, including rules regarding:

- Biosolids land application rates that ensure that nutrients do not impair or add to an existing impairment of surface water quality or groundwater quality in nearby or downstream waterbodies;
- Site-specific land application criteria; and
- Monitoring requirements.

The bill authorizes a county or municipality to enact or retain in effect an ordinance, moratorium, or regulation relating to the land application of Class B biosolids. The bill establishes that such an ordinance, moratorium, or regulation shall remain in effect until the local government repeals the ordinance, moratorium, or regulation or lets it expire.

II. Present Situation:

Approximately two-thirds of Florida's population is served by around 2,000 domestic wastewater facilities permitted by the Department of Environmental Protection (DEP).¹ When domestic wastewater is treated, solid, semisolid, or liquid residue known as biosolids² accumulates in the wastewater treatment plant and must be removed periodically to keep the plant operating properly.³ Biosolids also include products and treated material from biosolids treatment facilities and septage management facilities regulated by DEP.⁴ The collected residue is high in organic content and contains moderate amounts of nutrients.⁵

DEP has stated that wastewater treatment facilities produce about 340,000 dry tons of biosolids each year.⁶ 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.⁷ About one-third of the total amount of biosolids produced is used for land application⁸ and is subject to regulatory requirements established by DEP to protect public health and the environment.⁹

Land application is the use of biosolids at a permitted site to provide nutrients or organic matter to the soil, such as agricultural land, golf courses, forests, parks, or reclamation sites. Biosolids are applied in accordance with restrictions based on crop nutrient needs, phosphorus limits in the area, and soil fertility.¹⁰ Biosolids contain macronutrients (such as nitrogen and phosphorus) and micronutrients (such as copper, iron, and manganese) that are utilized by crops. The application of these nutrient-rich biosolids increases the organic content of the soil, fostering more

¹ 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 Mar. 7, 2019).

² Section 373.4595, F.S. 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.

³ DEP, *Domestic Wastewater Biosolids*, <https://floridadep.gov/water/domestic-wastewater/content/domestic-wastewater-biosolids> (last visited Mar. 7, 2019).

⁴ Fla. Admin. Code R. 62-640.200(6).

⁵ *Id.*

⁶ DEP Technical Advisory Committee, *Biosolids Use and Regulations in Florida Presentation*, 5 (Sept. 2018), available at <https://floridadep.gov/sites/default/files/Biosolids101-TAC-090518.pdf> (last visited Mar. 7, 2019).

⁷ *Id.* at 4.

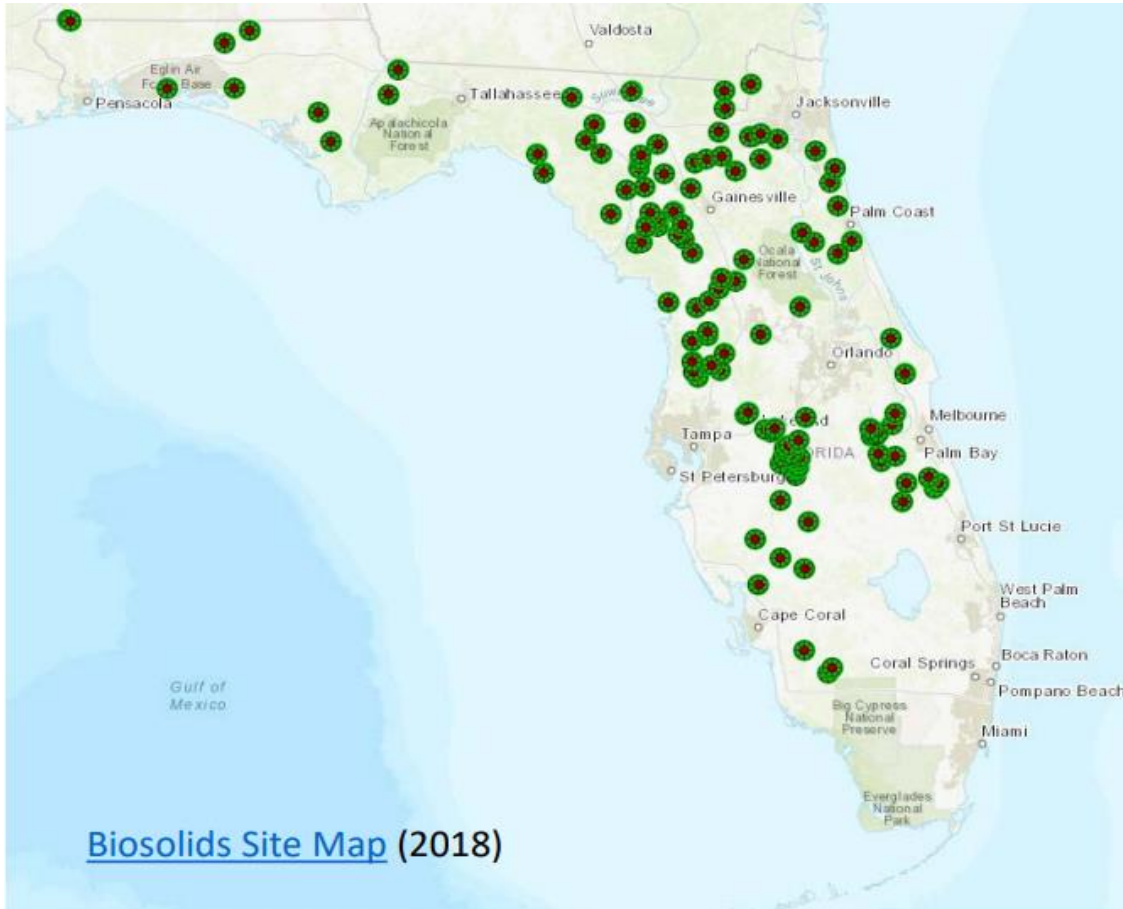
⁸ *Id.* at 5.

⁹ Fla. Admin. Code R. 62-640.

¹⁰ DEP Technical Advisory Committee, *Biosolids Use and Regulations in Florida*, 8 (Sept. 2018), available at <https://floridadep.gov/sites/default/files/Biosolids101-TAC-090518.pdf> (last visited Mar. 9, 2019); see also, United States EPA, A Plain English Guide to the EPA Part 503 Biosolids Rule, 26 (Sept. 1994), available at <https://www.epa.gov/sites/production/files/2018-12/documents/plain-english-guide-part503-biosolids-rule.pdf> (last visited Mar. 9, 2019).

productive plant growth.¹¹ To prevent odor or the contamination of soil, crops, livestock, and humans, land application sites must meet site management requirements such as site slopes, setbacks, and proximity to groundwater restrictions.¹²

There are approximately 140 permitted land application sites in Florida, with waste haulers being the most common site permittees.¹³



Regulation of Biosolids by DEP

DEP regulates three classes of biosolids for beneficial use.

- Class B - minimum level of treatment;
- Class A - intermediate level of treatment; and
- Class AA - highest level of treatment.¹⁴

DEP categorizes the classes based on treatment and quality. Treatment of biosolids must:

- Reduce or completely eliminate pathogens;
- Reduce the attractiveness of the biosolids for pests (such as insects and rodents); and

¹¹ *Id.* at 20.

¹² *Id.* at 9.

¹³ *Id.* at 20. Wastewater treatment facilities commonly contract with waste haulers instead of applying the biosolids themselves.

¹⁴ *Id.* at 6.

- Reduce the amount of toxic metals in the biosolids.¹⁵

Class AA biosolids can be distributed and marketed as fertilizer. Because they are the highest quality, they are not subject to the same regulations as Class A and Class B biosolids and are exempt from nutrient restrictions.¹⁶ Typically, Class B biosolids are used in land application.¹⁷

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 distributors¹⁸ and include permit requirements for both treatment facilities and biosolids application sites.¹⁹

Each permit application for a biosolids application site must include a site-specific nutrient management plan (NMP) that establishes the specific rates of application and procedures to land apply biosolids.²⁰ Biosolids may only be applied to land application sites that are permitted by DEP and have a valid NMP.²¹ Biosolids must be applied at rates established in accordance with the nutrient management plan and may be applied to a land application site only if all concentrations of minerals do not exceed ceiling and cumulative concentrations determined by rule.²² According to the St. Johns Water Management District, application rates of biosolids are determined by crop nitrogen demand, which can often result in the overapplication of phosphorus to the soil and can increase the risk of nutrient runoff into nearby surface waters.²³

Once a facility or site is permitted, it is subject to monitoring, record-keeping, reporting, and notification requirements.²⁴ The requirements are site-specific and can be increased or reduced by 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.²⁵

State 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, the Caloosatchee and St. Lucie Rivers, and their estuaries. As part of those

¹⁵ *Id.* at 7.

¹⁶ *Id.* at 8.

¹⁷ *Id.* at 6.

¹⁸ Fla. Admin. Code R. 62-640.100.

¹⁹ Fla. Admin. Code R. 62-640.300.

²⁰ Fla. Admin. Code R. 62-640.500.

²¹ *Id.*

²² Fla. Admin. Code R. 62-640.700.

²³ Victoria R. Hoge, Environmental Scientist IV, St. Johns River Water Management District, *Developing a Biosolids Database for Watershed Modeling Efforts*, abstract available at

http://archives.waterinstitute.ufl.edu/symposium2018/abstract_detail.asp?AssignmentID=1719 (last visited Mar. 8, 2019).

²⁴ Fla. Admin. Code R. 62-640.650.

²⁵ *Id.*

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.²⁶ 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.²⁷

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 a NMP that has been approved by DEP.²⁸ 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.²⁹

Local Regulation of Biosolids

The Indian River County Code addresses land application of biosolids by providing criteria for designated setbacks, reporting requirements, and required approval. In July 2018, the Indian River County Commission voted for a six-month moratorium on the land application of Class B biosolids on all properties within the unincorporated areas of the county.³⁰ The ordinance also directs the County Administrator to coordinate with DEP on a study to report the findings and recommendations concerning Class B biosolids land application activities and potential adverse effects.³¹ The County Commission voted in January 2019 to extend the moratorium for an additional six months.³²

The City Council of Fellsmere adopted a similar moratorium, Ordinance 2018-06, in August 2018 authorizing a temporary moratorium for 180 days or until a comprehensive review of the impact on the city's ecosystem is completed.³³ In January 2019, the ordinance was extended for an additional 180 days.³⁴

The Treasure Coast Regional Planning Council held a Regional Biosolids Symposium in June 2018, where regional representatives and stakeholders discussed biosolids and alternative

²⁶ Chapter 2016-1, Laws of Florida; *see* section 373.4595, F.S.

²⁷ *Id.*

²⁸ Section 373.811(4), F.S.

²⁹ *Id.*

³⁰ Indian River County Commission Ordinance 18-2020 (Jul. 17, 2018), *available at* http://ircgov.granicus.com/player/clip/183?view_id=1&meta_id=64650 (last visited Mar. 9, 2019).

³¹ *Id.*

³² Indian River County Commission Ordinance 18-2642 (Jan. 14, 2019), *available at* http://ircgov.granicus.com/player/clip/204?view_id=1&meta_id=77302 (last visited Mar. 9, 2019).

³³ Fellsmere City Council Meeting, *Agenda* (Aug. 16, 2018), *available at* https://www.cityoffellsmere.org/sites/default/files/fileattachments/city_council/meeting/8301/co20180816agenda.pdf (last visited Mar. 8, 2019).

³⁴ Fellsmere City Council Meeting, *Agenda* (Feb. 7, 2019), *available at* https://www.cityoffellsmere.org/sites/default/files/fileattachments/city_council/meeting/14391/co20190221agenda.pdf (last visited Mar. 8, 2019).

techniques for disposal.³⁵ At its meeting in July, the Treasure Coast Regional Planning Council adopted a resolution encouraging state and local governments to prioritize the reduction and eventual elimination of the land application of human wastewater biosolids.³⁶ It also encouraged the state to establish a Pilot Projects Program to incentivize local utilities to implement new wastewater treatment technologies which would allow more efficient use of biosolids.³⁷

DEP Biosolids Technical Advisory Committee

In 2018, DEP created a Biosolids Technical Advisory Committee (TAC) to establish an understanding of potential nutrient impacts of the land application of biosolids, evaluate current management practices, and explore opportunities to better protect Florida's water resources. The TAC members represent various stakeholders including environmental and agricultural industry experts, large and small utilities, waste haulers, consultants, and academics.³⁸

The TAC convened on four occasions from September 2018 to January 2019 and discussed the current options for biosolids management in the state, ways to manage biosolids to improve the protection of water resources, and research needs to build upon and improve biosolid management.³⁹ Based on the presentations and discussion, the TAC made the following recommendations:

- Permit biosolids in a manner that minimizes migration of nutrients to prevent impairment to waterbodies. DEP should modify current permitting rules to:
 - Establish the rate of biosolids application based on site specifics, such as soil characteristics/adsorption capacity, water table, hydrogeology, site use, and distance to surface water to better prevent nutrient pollution offsite;
 - Evaluate the percentage of water extractable phosphorus in all biosolids to inform the appropriate application rate; and
 - Establish criteria for low, medium, and high-risk sites that guide application practices and required water quality monitoring;
- Increase the inspection rate of land application;
- Develop site specific groundwater and/or surface water monitoring protocols to detect nutrient migration;
- Develop and conduct biosolid and nutrient management research on nutrient runoff through surface and groundwater flow with various application rates, types of biosolid application, and geologic conditions; and
- Promote innovative technology pilot projects for biosolids processing that could provide a wider range of beneficial end products.⁴⁰

³⁵ Treasure Coast Regional Planning Council Regional Biosolids Symposium, *Charting the Future of Biosolids Management Executive Summary* (Jun. 18, 2018), available at <http://www.tcrpc.org/announcements/Biosolids/summit%20summary.pdf> (last visited Mar. 9, 2019).

³⁶ Treasure Coast Regional Planning Council Resolution 18-03 (Jul. 20, 2018), available at <http://www.flregionalcouncils.org/wp-content/uploads/2019/01/Treasure-Coast-Resolution-No.-18-03.pdf> (last visited Mar. 9, 2019).

³⁷ *Id.*

³⁸ The seven members of TAC included two academic representatives from the University of Florida, two representatives of small and large utilities, and one representative each for environmental interests, agricultural interests, and waste haulers.

³⁹ DEP, *DEP Biosolids Technical Advisory Committee*, <https://floridadep.gov/water/domestic-wastewater/content/dep-biosolids-technical-advisory-committee> (last visited Mar. 6, 2019).

⁴⁰ *Id.*

III. Effect of Proposed Changes:

The bill provides legislative findings:

- It is in the best interest of the state to regulate biosolids management in order to minimize the migration of nutrients that impair waterbodies; and
- The expedited implementation of the recommendations of the Department of Environmental Protection (DEP) Biosolids Technical Advisory Committee, including permitting according to site-specific application conditions, an increased inspection rate, groundwater and surface water monitoring protocols, and nutrient management research, will improve biosolids management and assist in protecting the state's water resources and water quality.

The bill establishes a legislative intent to implement innovative technologies in biosolids processing to improve biosolids management and to protect the state's water resources and water quality.

The bill defines the term "biosolids" to mean the "solid, semisolid, or liquid residue generated during the treatment of domestic wastewater in a domestic wastewater treatment facility, formerly known as "domestic wastewater residuals" or "residuals," and includes products and treated material from biosolids treatment facilities and septage management facilities regulated by the department. 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."

The bill requires DEP to adopt rules for biosolids management, including rules regarding:

- Biosolids land application rates that ensure that nutrients do not impair or add to an existing impairment of surface water quality or groundwater quality in nearby or downstream waterbodies;
- Site-specific land application criteria; and
- Monitoring requirements.

The bill provides that the rules adopted by DEP are not subject to the following statutory requirements:

- The requirement for ratification by the Legislature if the adverse impact or regulatory costs of an adopted rule are in excess of \$1 million in the aggregate within 5 years after the implementation of the rule; and
- The requirement that DEP complete a study for submission to the Environmental Regulation Commission of the economic and environmental impact, which includes the benefits and costs to the public of any proposed standards that would be stricter than applicable federal standards.

The bill clarifies that the proposed legislation does not conflict with statutes governing the Northern Everglades and Estuaries Protection Program.

The bill authorizes a county or municipality to enact or retain in effect an ordinance, moratorium, or regulation relating to the land application of Class B biosolids. The bill establishes that such

an ordinance, moratorium, or regulation shall remain in effect until the local government repeals the ordinance, moratorium, or regulation or lets it expire.

The bill takes effect upon becoming a law.

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:

There may be a negative fiscal impact on wastewater treatment facilities and waste haulers if they have to change their practices to comply with new or revised rules adopted by DEP.

C. Government Sector Impact:

There may be a positive fiscal impact on government expenditures if the new or revised rules adopted by DEP improve water quality, resulting in decreased expenditures on water cleanup.

The bill may have a negative fiscal impact on DEP due to costs incurred for the adoption and implementation of rulemaking procedures. However, any costs incurred may be offset or decreased by the exemption from the statutory requirements for legislative ratification and the economic and environmental impact study.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

This bill creates section 403.0855 of the Florida Statutes.

IX. Additional Information:

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

CS by Environment and Natural Resources Committee on March 12, 2019:

- Clarifies that DEP must adopt rules establishing land application rates that ensure nutrients do not add to an existing impairment of surface or groundwater quality, in addition to rates that ensure nutrients do not impair water quality.
- Clarifies that a local government may enact a new ordinance, moratorium, or regulation relating to the land application of Class B biosolids, in addition to allowing an existing ordinance, moratorium, or regulation to remain in effect.

- B. **Amendments:**

None.