HOUSE OF REPRESENTATIVES STAFF ANALYSIS

BILL #: CS/HB 405 Biosolids Management
SPONSOR(S): Agriculture & Natural Resources Subcommittee, Grall
TIED BILLS: **IDEN./SIM. BILLS:**

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR or BUDGET/POLICY CHIEF
1) Agriculture & Natural Resources Subcommittee	11 Y, 0 N, As CS	Melkun	Shugar
2) Agriculture & Natural Resources Subcommittee		White	Pigott

SUMMARY ANALYSIS

When domestic wastewater is treated, a solid byproduct, called biosolids, accumulates in the wastewater treatment plant and must be removed periodically to keep the plant operating properly. Wastewater facilities can dispose of biosolids by transferring them to another facility, placing them in a landfill, incineration, distributing them as fertilizer, or land applying them for beneficial use at permitted sites. Florida produces a total of 340,000 dry tons of biosolids annually. Approximately two-thirds are beneficially used and one-third is landfilled.

Land application is the use of biosolids at a permitted site that must follow regulations based on crop nutrient needs, phosphorus restrictions in the area, and soil fertility. To minimize potential impacts, land application requires a site-specific nutrient management plan and must meet site management requirements, such as site slopes, setbacks, and depth to groundwater. There are approximately 140 permitted land application sites in Florida.

The highest quality of biosolids can also be distributed and marketed as commercial fertilizers. These processed biosolids do not have restrictions on their use as they must pass stringent pathogen reduction requirements and pollutant limits before distribution, making them safe for public use. Treated biosolids are then sold or given away in bulk quantities, often blended into commercial fertilizer blends. There are approximately 39 facilities in Florida that produce Class AA biosolids.

In 2018, the Department of Environmental Protection (DEP) created a Biosolids Technical Advisory Committee (TAC) to evaluate current management practices and explore opportunities to better protect Florida's water resources. Based on the deliberations of the TAC and feedback from public participants, it was concluded that biosolids must be permitted in a manner that minimizes migration of nutrients to prevent impairment to waterbodies. To achieve this, DEP should: modify current permitting rules; increase the inspection rate of land application; develop site specific groundwater and/or surface water monitoring protocols to detect nutrient migration; develop and conduct biosolids and nutrient management research; and promote innovative technology pilot projects for biosolids processing that could provide a wider range of beneficial end products.

The bill creates s. 403.08715, F.S., providing legislative intent to regulate biosolids management to minimize the migration of nutrients that impair waterbodies and to expedite the implementation of the Biosolids TAC recommendations and implementation of biosolids processing innovative technologies.

The bill further directs DEP to initiate rulemaking by August 1, 2019, and to adopt rules for biosolids management to permit the use of biosolids in a manner that minimizes the migration of nutrients to prevent impairment of surface water and groundwater quality and establishes site-specific groundwater and surface water monitoring requirements.

Finally, the bill requires that an ordinance, moratorium, or regulation adopted before February 1, 2019, by a municipality or county, relating to the land application of Class B biosolids, remain in effect until the ordinance, moratorium, or regulation expires or is repealed by the municipality or county, or until rules adopted by DEP are in effect.

There may be an insignificant negative fiscal impact on DEP that can be absorbed within existing resources.

FULL ANALYSIS

I. SUBSTANTIVE ANALYSIS

A. EFFECT OF PROPOSED CHANGES:

Present Situation

Biosolids

When domestic wastewater is treated, a solid byproduct accumulates in the wastewater treatment plant and must be removed periodically to keep the plant operating properly. The collected material, called biosolids or "sewage sludge," is high in organic content and contains moderate amounts of nutrients.[1] Wastewater facilities can dispose of biosolids by transferring them to another facility, placing them in a landfill, incineration, distributing them as fertilizer, or land applying them to permitted sites.[2] The option selected for use or disposal is typically stated in the permit issued to the wastewater treatment facility by the Department of Environmental Protection (DEP).[3] Florida produces a total of 340,000 dry tons of biosolids annually, of which approximately two-thirds are beneficially used and one-third is landfilled.[4]

Three classes of biosolids are regulated for beneficial use and are categorized based on treatment and quality: Class B, Class A, and Class AA.[5] Treatment is required to either reduce or completely eliminate pathogens. Class B treatment significantly reduces pathogens, but does not completely eliminate them and Class A falls in the middle. Class AA biosolids must be treated to a level that essentially eliminates pathogens and meets strict concentration limits for heavy metals. While Class A and Class AA can be used for a variety of beneficial purposes, Class B, the lowest quality of biosolids, is typically only used for land application.[6]

In addition to being land applied, Class AA can be distributed and marketed as a commercial fertilizer.[7] Class AA biosolids may have different physical forms including biosolids compost, pellets, heat-dried granular products (i.e. non-uniform size particles), alkaline-treated semi-solid forms, and even liquid. Class AA biosolids products are also not subject to site management requirements if distributed and marketed as a fertilizer or distributed and marketed to a person or entity that will sell or give away the biosolids products as a fertilizer or component of a fertilizer.[8] There are approximately 39 facilities in Florida that produce Class AA biosolids.[9] In 2016, a total of 197,115 dry tons of Class AA biosolids product was distributed and marketed in Florida.[10]

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[1] DEP, *Domestic Wastewater Biosolids*, available at https://floridadep.gov/water/domestic-wastewater/content/domestic-wastewater-biosolids (last visited Feb. 4, 2019); "Biosolids" is defined in r. 62-640.200(6), F.A.C., as 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." The treated effluent or reclaimed water from a domestic wastewater treatment plant is not included. Also, solids removed from pump stations and lift stations, screenings and grit removed from the preliminary treatment components of domestic wastewater treatment facilities, other solids as defined in subsection 62-640.200(31), F.A.C., and ash generated during the incineration of biosolids are not included. Biosolids include products and treated material from biosolids treatment facilities and septage management facilities regulated by DEP.

[2] DEP, *Biosolids Use and Regulations in Florida* (Sept. 2018), slide 3, available at https://floridadep.gov/sites/default/files/Biosolids101-TAC-090518.pdf (last visited Feb. 22, 2019).

[3] *Id.* at slide 4.

[4] *Id*. at slide 5.

[5] *Id*. at slide 6.

[6] *Id*. at slide 7.

[7] *Id.* at slide 6.

[8] DEP, *Biosolids in Florida: 2013 Summary* (Dec. 2014), p. 4, available at https://floridadep.gov/sites/default/files/BiosolidsFlorida-2013-Summary_2.pdf (last visited Feb. 25, 2019).

[9] DEP, *Biosolids Use and Regulations in Florida* (Sept. 2018), slide 13, available at https://floridadep.gov/sites/default/files/Biosolids101-TAC-090518.pdf (last visited Feb. 25, 2019).

[10] *Id*. at slide 19.

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. The biosolids are applied in accordance with restrictions based on crop nutrient needs, phosphorus limits in the area, and soil fertility.[11] 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 productive plant growth.[12] To prevent odor or the contamination of soils, crops, livestock, and humans, land application sites must meet site management requirements such as site slopes, setbacks, and proximity to groundwater restrictions.[13] There are approximately 140 permitted land application sites in Florida.[14]

Regulatory History

The beneficial use of biosolids is regulated by DEP under ch. 62-640, F.A.C., and by the United States Environmental Protection Agency (EPA) under Title 40 Code of Federal Regulations Part 503 (Part 503).[15] Adopted in 1993, Part 503 created standards for the final use or disposal of biosolids generated during domestic wastewater treatment. The standards included general requirements, pollutant limits, management practices, and operational standards for biosolids. Standards were also included for biosolids applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator.[16]

In 1990, DEP adopted rules governing biosolids based on the draft of Part 503 and previously adopted solid waste rules.[17] DEP's rules were revised in 1998 to be consistent with the final version of Part 503 that became effective in 1993. Part 503 was self-implementing, meaning it did not require permits to be issued. Also, it did not specifically address phosphorus, a major pollutant in Florida.[18] As a result, Florida amended the rules in 2010 to improve site accountability and nutrient management by requiring site permits for the land application of biosolids, nutrient management plans (NMPs), provisions governing phosphorus limitations, and site management requirements.[19] Additionally, the rules clarified that the disposal and incineration of biosolids must be in accordance with DEP's solid waste[20] and air[21] rules to protect water quality and human health.

To reduce potential impacts to water quality, agricultural land application sites require a NMP. NMPs are site-specific plans that specify the rate at which biosolids can be applied in the area, the method of application allowed (i.e. surface application, injection, incorporation, etc.), the zone in which biosolids can be applied, pollutant concentration targets[22], and cumulative pollutant loading limits from all

[11] DEP, *Biosolids Use and Regulations in Florida* (Sept. 2018), slide 23, available at https://floridadep.gov/sites/default/files/Biosolids101-TAC-090518.pdf (last visited Feb. 25, 2019); *see also,* United States EPA, *A Plain English Guide to the EPA Part 503 Biosolids Rule* (Sept. 1994), p. 26, available at https://www.epa.gov/sites/production/files/2018-12/documents/plain-english-guide-part503-biosolids-rule.pdf (last visited Feb. 26, 2019).

[12] DEP, *Biosolids Use and Regulations in Florida* (Sept. 2018), slide 20, available at https://floridadep.gov/sites/default/files/Biosolids101-TAC-090518.pdf (last visited Feb. 25, 2019).

[13] *Id*. at slides 8-9.

[14] *Id*. at slide 20.

[15] United States EPA, *Biosolids Laws and Regulations*, available at https://www.epa.gov/biosolids/biosolids-laws-and-regulations (last visited Feb. 25, 2019).

[16] 40 C.F.R. Part 503.

[17] Chapters 62-701 and 62-709, F.A.C.

[18] DEP, *Biosolids Rule/Permitting* (Nov. 2018), slide 2, available at https://floridadep.gov/water/domestic-wastewater/documents/tac-3-biosolids-rulepermitting (last visited Feb. 25, 2018); *see also*, DEP, *Biosolids Use and Regulations in Florida* (Sept. 2018), slide 11, available at https://floridadep.gov/sites/default/files/Biosolids101-TAC-090518.pdf (last visited Feb. 25, 2019).

[19] DEP, *Biosolids Rule/Permitting* (Nov. 2018), slide 2, available at https://floridadep.gov/water/domestic-wastewater/documents/tac-3-biosolids-rulepermitting (last visited Feb. 25, 2018); *see* ch. 62-640, F.A.C.

[20] Chapter 62-701, F.A.C.

[21] *See* Chapters 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C.

[22] The pollutant concentration target may be a total maximum daily load (TMDL). When a river, lake, estuary, or spring does not meet state water quality standards, DEP determines a water quality restoration goal known as a TMDL that will restore the waterbody so

sources at the application site.[23] NMPs are submitted to DEP along with the permit application for each agricultural site.

Agricultural sites that are required to have a NMP are also often required to participate in the Florida Department of Agriculture and Consumer Services (DACS) Best Management Practices (BMP) program because of the potential impact biosolids may have on impaired waters.[24] BMPS are used on agricultural sites to protect water quality.[25] Agricultural BMPs are defined as the practice or combination of practices determined to be the most effective and practicable means for improving water quality in agricultural discharges, such as fertilizer runoff from a farm.[26] Typical practices include nutrient management, irrigation and water table management, and water resource protection. Nutrient management practices for biosolids land application address appropriate source, rate, timing, and placement of nutrients to minimize impacts to water resources. Irrigation and water table management practices address methods for irrigating to reduce water and nutrient losses to the environment and to maximize the efficient use and distribution of water. And finally, water resource protection practices, such as the site management requirements for biosolids, help to reduce or prevent the transport of nutrients and sediments from production areas to water resources.[27] The BMPs for the site are typically included in facility permits.[28]

While counties do not have the authority to permit the management of biosolids in Florida, some, through their local regulations, have enacted limitations on the use of biosolids within the county limits. For example, Indian River County has established a moratorium that prohibits the use of Class B biosolids for a certain time period where waterways are at high risk for pollutant loadings due to the rainy season. The county also recently extended this moratorium for another six months.[29] The Treasure Coast Regional Planning Council and the Southwest Florida Regional Planning Council have also issued resolutions supporting increased awareness of biosolids management issues with a goal to reduce and eventually eliminate the land application of biosolids.[30]

Biosolids Technical Advisory Committee

In 2018, DEP created a Biosolids Technical Advisory Committee (TAC) to evaluate current management practices and explore opportunities to better protect Florida's water resources.[31] The TAC members represented stakeholders from several interest areas including environmental and agricultural industry experts, large and small utilities, waste haulers, consultants and academics.[32] The meetings included presentations and open public comment as well as discussion among the TAC members, the audience, and DEP.

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that it meets water quality standards. TMDLs establish a target for the maximum of a specific pollutant that may be present while ensuring the functionality and health of the affected waterbody; therefore, a waterbody may have multiple TMDLs to address different pollutants.

[23] DEP, *Nutrient Management Plans*, available at https://floridadep.gov/water/domestic-wastewater/documents/nutrient-management-plans-biosolids (last visited Feb. 25, 2019); *see also*, r. 62-640.500, F.A.C.

[24] "Impaired water" is defined in r. 62-303.200(7), F.A.C., as a waterbody or waterbody segment that does not meet its applicable water quality standards […] due in whole or in part to discharges of pollutants from point or nonpoint sources.

[25] Section 403.067(7)(c), F.S.; *see* ch. 2016-1, Laws of Fla.

[26] Section 373.4595(2)(a), F.S.

[27] DACS, *Agriculture and Water Quality*, available at https://www.freshfromflorida.com/content/download/33106/813038/Agriculture_and_water_quality_2018.pdf (last visited Feb. 26, 2019).

[28] Section 403.067(7)(c), F.S.; *see* ch. 2016-1, Laws of Fla.

[29] Tyler Treadway, *Indian River County may extend biosolids ban prompted by Blue Cypress Lake algae bloom*, TCPalm (Dec. 11, 2018), available at https://www.tcpalm.com/story/news/local/indian-river-lagoon/health/2018/12/11/indian-river-county-wants-extend-its-class-b-biosolids-ban/2264926002/ (last visited Feb. 27, 2019);

[30] SOUTHWEST FLORIDA REGIONAL PLANNING COUNCIL Res. 2018-03; TREASURE COAST REGIONAL PLANNING COUNCIL Res. 18-03.

[31] DEP, *DEP Biosolids Technical Advisory Committee*, available at https://floridadep.gov/water/domestic-wastewater/content/dep-biosolids-technical-advisory-committee (last visited Feb. 25, 2018).

[32] *Id*.

Based on the deliberations of the TAC and feedback from public participants, DEP recommended the following actions:

- Biosolids must be permitted 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;
  - 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 biosolids and nutrient management research on nutrient run-off through surface and groundwater flow using various application rates, types of biosolids application and different geologic conditions.
- Promote innovative technology pilot projects for biosolids processing that could provide a wider range of beneficial end products.[33]

Proposed Changes

The bill creates s. 403.08715, F.S., to provide legislative intent to regulate biosolids management to minimize the migration of nutrients that impair waterbodies and to expedite the implementation of the Biosolids TAC recommendations and the implementation of biosolids processing innovative technologies.

The bill specifies that the term biosolids has the same meaning as in s. 373.4595(2), F.S.

The bill further directs DEP to initiate rulemaking by August 1, 2019, and to adopt rules for biosolids management to:

- Permit the use of biosolids in a manner that minimizes the migration of nutrients and prevents impairment of surface water and groundwater quality, including site-specific land application rates, an evaluation of the percentage of water extractable phosphorus, and criteria for low, medium, and high-risk sites that guide application practices and required water quality monitoring; and
- Establish site specific groundwater and surface water monitoring requirements.

Finally, the bill requires that an ordinance, moratorium, or regulation adopted before February 1, 2019, by a municipality or county, relating to the land application of Class B biosolids, remain in effect until the ordinance, moratorium, or regulation expires or is repealed by the municipality or county, or until rules adopted by DEP are in effect.

B. SECTION DIRECTORY:

Section 1 creates s. 403.08715, F.S., to provide legislative intent regarding biosolids and directs DEP to conduct rulemaking.

Section 2 provides that certain ordinances, moratoriums, or regulations remain in effect until they are repealed or expire, or until DEP rules are in effect.

Section 3 provides an effective date of July 1, 2019.

[33] DEP, *Biosolids Technical Advisory Committee Recommendations* (January 2019), available at https://floridadep.gov/water/domestic-wastewater/documents/tac-4-biosolids-tac-considerations (last visited Feb. 25, 2018).

II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:

None.

2. Expenditures:

The bill may have an insignificant negative fiscal impact on DEP to conduct rulemaking. DEP is currently regulating biosolids, so there should not be any additional workload related to biosolids management after the rules are promulgated. There may be a reduction in state expenditures by reducing the amount spent by state agencies to remove pollutants from water resources as a result of land applying biosolids. The fiscal impact of the bill can be absorbed within existing resources.

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues:

None.

2. Expenditures:

The bill may have an indeterminate negative fiscal impact on local government expenditures because more restrictive land application rules may reduce or prohibit the future use of existing permitted biosolids land application sites, thereby requiring wastewater facilities owned by local governments to identify alternative disposal methods.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

The bill may have an indeterminate negative fiscal impact on the private sector because more restrictive land application rules may reduce or prohibit the future use of some currently permitted facilities, thereby requiring facilities and haulers to find an alternative disposal method. The bill may have an indeterminate negative impact on private owners of the land where biosolids are land applied. Further, the bill may negatively impact customers served by a wastewater facility that must find alternative disposal options for biosolids.

D. FISCAL COMMENTS:

None.

III. COMMENTS

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

Not applicable. This bill does not appear to require counties or municipalities to spend funds or take action requiring the expenditures of funds; reduce the authority that counties or municipalities have to raise revenues in the aggregate; or reduce the percentage of state tax shared with counties or municipalities.

2. Other:

None.

B. RULE-MAKING AUTHORITY:

The bill requires DEP to conduct rulemaking to adopt the recommendations of the TAC. While the bill does not expressly grant rulemaking authority to DEP, existing rulemaking authority is sufficient.

C. DRAFTING ISSUES OR OTHER COMMENTS:

None.

IV. AMENDMENTS/ COMMITTEE SUBSTITUTE CHANGES

None.