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 Environmental Preservation and Conservation Committee

BILL:	SB 118
INTRODUCER:	Senator Constantine
SUBJECT:	Wekiva Onsite Sewage Treatment Disposal System Compliance Grant Treatment
DATE:	February 11, 2009 REVISED:

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Wiggins	Kiger	EP	**Pre-meeting**
2.			HR	
3.			HHS	
4.				
5.				
6.				

I. Summary:

This bill creates the Wekiva Onsite Sewage Treatment and Disposal System Compliance Grant Program in the Department of Health (DOH). The program would provide grants of up to $10,000 per property to low-income property owners who are using onsite sewage treatment disposal systems in the Wekiva Study Area or the Wekiva River Protection Area.

The bill allows any property owner in the identified areas with an income less than or equal to 200 percent of the federal poverty level (FPL) to qualify for a grant to offset the cost of complying with rules requiring the property owner to alter, repair, or modify any existing onsite sewage treatment and disposal system to a nitrogen-reducing performance-based treatment system. The amount of the grant is limited to the cost differential between the replacement of a comparable existing onsite sewage treatment and disposal system and that of an upgraded nitrogen-reducing performance-based treatment system, but may not exceed $10,000 per property. The grant shall be in the form of a rebate to the property owner for costs incurred in complying with requirements for onsite sewage treatment and disposal systems.

The bill requires DOH to adopt rules for the forms, procedures, and requirements for applying for and disbursing grants under this bill and for documenting compliance costs incurred by the property owner. The bill also requires the DOH, in coordination with the Department of Environmental Protection (DEP) and the St. Johns River Water Management District, to continue to evaluate, by any means the department deems appropriate, the level of nitrogen deposited in the Wekiva Study Area by onsite sewage treatment and disposal systems.

This bill creates an undesignated section of law.

II. Present Situation:

Sewage Treatment and Disposal Systems and Their Effect on Public Health

Human sewage contains disease-causing viruses, bacteria, and parasites. Preventing sewage contamination of drinking water has been the primary way that public health officials have prevented the epidemics that occurred in early United States history. The primary health hazard from drinking water with nitrate-nitrogen occurs when nitrate is transformed to nitrate in the digestive system. The nitrite oxidizes iron in the hemoglobin of the red blood cells to form methemoglobin, which lacks the oxygen-carrying ability of hemoglobin. This creates the condition known as methemoglobinemia (sometimes referred to as "blue baby syndrome"), in which blood lacks the ability to carry sufficient oxygen to the individual body cells causing the veins and skin to appear blue.[1] Babies consume large quantities of water relative to their body weight, especially if water is used to mix powdered or concentrated formulas or juices.[2]

Sewage also contains nutrients, such as nitrogen and phosphorous, that can adversely affect the ground and surface water quality, as well as the public health. Potable water in central Florida is supplied almost exclusively by groundwater from the Floridian aquifer. The viability of the Wekiva ecosystem and regional water supply are dependent on maintaining groundwater recharge to the aquifer. Nitrogen levels in the environment as low as one milligram per liter (mg/L) has been shown to degrade the aquatic environment in Florida's springs.

In most parts of the state, municipalities and other local governmental entities own and/or operate regional sewage treatment and disposal systems. In areas where a centralized sewerage system is not available, residential and commercial buildings are required to have onsite sewage treatment and disposal systems (e.g., septic tanks and drainfields). The DOH regulates the installation and use of onsite sewage treatment and disposal systems to ensure that human sewage does "not adversely affect the public health or significantly degrade the groundwater or surface water."[3]

The Wekiva River Basin

The Wekiva Basin, consisting of the Wekiva River, the St. Johns River, and their tributaries, along with associated lands in central Florida, is part of a wildlife corridor that connects northwest Orange County with the Ocala National Forest. In recent years, the state has acquired more than 60,000 acres of conservation lands in this area at a cost of $139 million. These conservation lands provide habitat for the Florida black bear, burrowing owl, sandhill crane, Florida scrub jay, gopher tortoise, and the limpkin.

The Wekiva River and its tributaries have been designated an Outstanding Florida Water, a National and Scenic River, a Florida Wild and Scenic River, and a Florida Aquatic Preserve. The river is a spring-fed system associated with 19 springs that are connected to the Floridan Aquifer. Eleven of these springs are second and third magnitude springs, meaning those springs discharge 10 to 100 cubic feet of water per second or 1 to 10 cubic feet of water per second, respectively.

[1] http:www.water.-research.net/nitrate.htm (last visited 2/13/09)
[2] http:pmep.cce.cornell.edu/facts-slides-self/facts/nit-heef-grw85.html (last visited 2/13/09)
[3] S. 381.0065(1), F.S.

The Wekiva Basin Area Task Force

The central Florida region has experienced significant growth in the last 20 years, resulting in increased transportation demands and development pressure on lands within the Wekiva Basin. During the period between 1980 and 1990, the growth rate in Lake, Seminole, and Orange Counties exceeded 30 percent. The growth rate for this three-county area is expected to exceed 20 percent through the year 2010. While projected growth for the state between 2010 and 2020 is 13 percent, the growth rate for central Florida is expected to be 17 percent.

The desire to balance the transportation needs associated with this projected growth and protection of the Wekiva Basin prompted Governor Bush to create the Wekiva Basin Area Task Force on September 26, 2002.[4] The task force was charged with evaluating and making recommendations on the most appropriate location for a highway route connecting State Road 429 to Interstate 4 while providing the greatest protection to the Wekiva Basin. Also, the Task Force was asked to evaluate and recommend a transportation plan that considered the potential expansion of roads and corridors within the Wekiva Basin to address, among other issues, land acquisition, springshed protection, innovative road design, protection of rural character, protection of habitat, utilization of financial resources, and the adequacy of local governments relating to transportation corridors. The Task Force completed its work in 2003, and provided over a dozen recommendations in its final report.[5]

The Wekiva Parkway and Protection Act of 2004 (Ch. 2004-384, L.O.F.)

On July 1, 2003, Governor Bush issued Executive Order No. 03-112, creating a 28-member Wekiva River Basin Coordinating Committee, chaired by Senator Lee Constantine. The Committee was to be a forum to identify enhanced land use planning strategies and development standards that are consistent with protected property rights and which improve and assure protection of surface and groundwater resources, including the recharge potential of the Wekiva Study Area. The committee was charged with considering the recommendations of the Wekiva Basin Area Task Force; the most current and new information being developed regarding quantity, quality, distribution and timing of groundwater recharge in the Wekiva Study Area; and wildlife in the Wekiva Study Area.[6]

The committee was also directed to consider the use of innovative planning and development strategies, such as rural land stewardship and other mechanisms for concentrating development in appropriate areas, and the use of the latest science-based information and methods, performance-based-planning strategies, and development standards. In addition, the committee was to address issues of compatibility with the existing comprehensive plans and land development regulations of those local governments with jurisdiction over lands located within the Wekiva River Protection Area.[7]

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[4] *See* Executive Order No. 2002-259.
[5] Wekiva Basin Area Task Force, *Final Report: Recommendations for Planning and Locating the Wekiva Parkway While Preserving the Wekiva River Basin Ecosystem*, January 15, 2003. Found at: http://www.dca.state.fl.us/fdcp/DCP/wekiva/wekivatf/January03/WekivaReport.pdf (last visited on February 13, 2009).
[6] Executive Order Number 03-112, July 1, 2003, page 3.
[7] Ibid.

The Wekiva River Basin Coordinating Committee issued its final report on March 16, 2004. The committee's recommendations were adopted and passed into law (ch. 2004-384, L.O.F.). The law created part III of ch. 369, F.S., consisting of ss. 369.314-369.324, F.S., as the Wekiva Parkway and Protection Act. Some of the major provisions of the law include:

- Statements of legislative findings and intent;
- A legal description of the Wekiva Study Area, including the majority of the land within the Wekiva Study Area which contributes groundwater recharge to the Wekiva River and springs (counties and municipalities located within the Wekiva Study Area include: Lake County and the municipalities of Eustis and Mount Dora; Orange County and the municipalities of Apopka, Eatonville, Maitland, Oakland, Ocoee, Orlando and Winter Garden; and Seminole County and the municipalities of Lake Mary, Longwood and Altamonte Springs);
- Guiding principles for the Wekiva Parkway Design Features and Construction and, a requirement that, if any improvements are considered to SR 44 through the Wekiva River Protection Area, then the guiding principles apply;
- A requirement that the Department of Transportation (DOT), the DEP, the St. Johns River Water Management District, the Orlando-Orange County Expressway Authority, and other land acquisition entities cooperate and establish funding responsibilities and partnerships by agreement, to the extent funds are available to the various entities, to develop the Wekiva Study Area;
- A requirement that the DOT, subject to an appropriation by the Legislature, purchase lands in the Wekiva Study Area necessary for the construction of the Wekiva Parkway and the preservation of environmentally sensitive lands; and,
- Requirements for several studies and rulemaking related to the development and protection of the Wekiva Study Area, including looking at methods to reduce nitrates from leeching into the watershed from onsite sewage treatment and disposal systems.

Wekiva Basin Onsite Sewage Treatment and Disposal System Study 2004

One of the studies required by the Wekiva Parkway and Protection Act directs the DOH, in consultation with the DEP, to:

> "study the efficacy and applicability of onsite disposal system standards needed to achieve nitrogen reductions protective of groundwater quality within the Wekiva Study Area including publicly owned lands and report to the Governor and the Department of Community Affairs no later than December 1, 2004. Based on the December 2004 report, the DOH shall, if appropriate, by March 1, 2005, initiate rulemaking to achieve nitrogen reductions protective of water quality or recommend legislation for any additional statutory authority needed to implement the report recommendations. The study shall consider:
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> (a) For new developments within the Wekiva Study Area and any existing development within the Wekiva River Protection Area using onsite disposal systems, a more stringent level of wastewater treatment, including, but not limited to, the use of multiple tanks to combine aerobic and anaerobic treatment to reduce the level of nitrates.

(b) The implementation of a septic tank maintenance and inspection program which includes upgrading certain onsite disposal systems permitted prior to 1982 to meet minimum DOH standards; replacement of failing systems and systems not meeting current standards; and providing funding mechanisms for supporting a septic tank inspection and maintenance program."[8]

The DOH completed its report, which was published on December 1, 2004.[9] The study found that the Wekiva Study Area is underlaid by a karst geology characterized by limestone or dolostone bedrock with caves and springs. The report states that onsite sewage treatment and disposal systems have been used for many years as a relatively low maintenance, low cost method of safely treating and disposing of human waste, and that there are an estimated 87,000 septic tanks used for onsite sewage disposal by property owners in the Wekiva Study Area.

The typical, conventional onsite sewage treatment and disposal system consists of a septic tank, distribution piping, and drainfield. The treatment process begins in the septic tank. The septic tank is designed to skim off fats, oils, and greases; settle out the larger solids; and partially treat the sewage through breakdown by anaerobic bacteria. The waste then leaves the tank through the distribution piping and is distributed into the soil by the drainfield. Unsaturated soil surrounding the drainfield is extremely effective at removing disease-causing viruses, bacteria, and parasites. In 1983, the department adopted a requirement that there be two feet of unsaturated soil beneath the drainfield to achieve effective removal of these disease-causing agents.

The study goes on to find that the conventional septic system is generally less effective at removing nutrients, particularly nitrogen, than disease-causing viruses, bacteria, and parasites. Onsite sewage treatment and disposal system research has shown that certain environments have a higher capability of naturally removing the nitrogen once it leaves the drainfield. However, in the karst environment, such as the Wekiva Study Area, nitrogen responds differently. The DOH concluded a study designed to measure the influence of a conventional onsite sewage treatment and disposal system on the groundwater in karst areas. In this study, nitrogen levels were found as high as 60 mg/L in the groundwater adjacent to the drainfield, indicating that there was little or no removal.

Using existing Florida research data, it is estimated that a family of four will discharge 25 pounds of nitrogen per year into the drainfield of a conventional onsite sewage treatment and disposal system. A conventional system costs from $5,500 to $7,500. A comparable system that also reduces nitrates costs from $7,500 to $9,000.

The study concluded that in areas where development densities are low, the overall costs of onsite sewage treatment and disposal systems are less than sewering, and that onsite sewage treatment and disposal systems can provide protection of the environment and the public health that is comparable to a central sewer system. Based on these findings, the DOH provided the following recommendations:

[8] S. 369.318(2), F.S. (Section should be reported to Statutory Revisions as obsolete.)
[9] *Wekiva Basin Onsite Sewage Treatment and Disposal System Study*, Bureau of Onsite Sewage Programs, Division of Environmental Health, Florida Department of Health. December 1, 2004.
http://www.doh.state.fl.us/ENVIRONMENT/ostds/wekiva/wekivastudyrtp.pdf Found at: (last visited on February 13, 2009).

- Set a discharge limit of 10 milligrams per liter of total nitrogen for new systems, systems being modified, and for existing systems in the primary and secondary Wekiva Study Area protection zones.
- Prohibit the land spreading of septage and grease trap waste in the Wekiva Study Area. Septage waste would be required to be disposed of at wastewater treatment plants.
- Evaluate the economic feasibility of sewering versus nutrient removal upgrades to existing onsite sewage treatment and disposal systems. A phased-in approach to replacing the remaining existing systems should be developed with a target completion date of 2010.
- Establish new regional wastewater management entities or modify existing ones to oversee the maintenance of all wastewater discharged from onsite sewage treatment and disposal systems in the study area. These programs should take the privatization approach and contract with existing licensed septic tank contractors.

Proposed Rule 64E-6.001

In June 2005, based on the recommendations of the Wekiva Basin Onsite Sewage Treatment and Disposal System Study, the DOH proposed a rule to limit nitrogen input from onsite sewage treatment and disposal systems within the Wekiva Study Area to 10 mg/L. The rule language was modified and republished in November 2005.

The proposed rule came under considerable opposition from those who questioned the findings and recommendations in the study, including property owners and builders. Specifically, stakeholders raised concerns whether sufficient data exists on the extent to which onsite sewage treatment and disposal systems directly contribute to increased nitrogen levels in the Wekiva watershed. Based on the lack of a causal link between the systems and nitrogen levels, specific stakeholders argue that the cost of upgrading or replacing conventional systems is not justified.

Further, the chair of the DOH's Technical Review and Advisory Panel (TRAP)[10] recently wrote that the proposed rule could affect up to 55,000 existing homes and any new construction in the Wekiva Study Area. TRAP estimates that the cost of installing a nitrogen reduction system could be up to $15,000 per household, and a capital/operating/maintenance cost of $189 a month.

The proposed rule language containing the limit to nitrogen input has not been adopted at this time. However, the Department of Health (DOH) announced on February 13, 2009, that it will present rule language for the Wekiva Study Area (WSA) to the Technical Review Advisory Panel (TRAP) at its meeting on February 19, 2009, in Orlando. While the 2007 Legislature appropriated $1 million to DOH to begin a multi-year study on cost effective nitrogen reduction systems, existing studies show that onsite sewage systems are significant contributors of nitrogen to groundwater in the Wekiva Study Area. As such DOH believes that the 2004 Wekiva Parkway and Protection Act requires it to go forward with rule language to provide for nitrogen reduction systems in the WSA.[11]

[10] The Technical Review and Advisory Panel (TRAP) is established in s. 381.0068, F.S., for the purpose of assisting the DOH in rulemaking and decision making that affects the regulation, location, and technology of onsite sewage treatment and disposal systems in Florida.

[11] www.MyFLoridaEH.com on the Bureau of Onsite Sewage Systems web page (last visited on February 13, 2009)

III. Effect of Proposed Changes:

This bill creates the Wekiva Onsite Sewage Treatment and Disposal System Compliance Grant Program in the DOH. The purpose of the program is to provide grants to low-income property owners in the Wekiva Study Area or the Wekiva River Protection Area using onsite disposal systems to assist the property owners in complying with rules for onsite sewage treatment and disposal systems developed by the DOH, the DEP, or the St. Johns River Water Management District and to enforce compliance with standards for onsite sewage treatment and disposal systems. The grant program is effective upon final adoption of department rules and may be applied to costs incurred on or after such date.

The bill allows any property owner in the identified areas with an income less than or equal to 200 percent of the federal poverty level (FPL) to qualify for a grant to offset the cost of complying with rules requiring the property owner to alter, repair, or modify any existing onsite sewage treatment and disposal system to a nitrogen-reducing performance-based treatment system. The amount of the grant is limited to the cost differential between the replacement of a comparable existing onsite sewage treatment and disposal system and that of an upgraded nitrogen-reducing performance-based treatment system, but may not exceed $10,000 per property.

The bill specifies that the grant shall be in the form of a rebate to the property owner for costs incurred in complying with requirements for onsite sewage treatment and disposal systems. The property owner shall provide to the DOH in the grant application documentation of costs incurred in complying with requirements for the system.

The bill requires DOH to adopt rules for the forms, procedures, and requirements for applying for and disbursing grants under this bill and for documenting compliance costs incurred by the property owner.

The bill also requires the DOH, in coordination with the DEP and the St. Johns River Water Management District, to continue to evaluate, by any means the department deems appropriate, the level of nitrogen deposited in the Wekiva Study Area by onsite sewage treatment and disposal systems.

The bill specifies this act 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.

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

The grant would help property owners who must alter, repair, or modify any existing onsite sewage treatment and disposal system to a nitrogen-reducing performance-based treatment system. The amount of cost offset is indeterminate at this time because it would vary per property owner and the type of system currently being used.

C. Government Sector Impact:

The DOH estimated the anticipated amount needed for the grant program based on the number of pre-1983 onsite systems in the Wekiva Study Area and the percentage of Orange County residents at 200 percent of the poverty level from the 2000 census (31.1 percent). During the five year inspection program it is estimated that 182 low income property owners would qualify for assistance each year. The cost difference could range from $1,750 to $8,400. Using an average of $5,000 a grant, a budget of $1.82 million would be required for each of the next 5 years for the grants. With the DOH administrative costs included, the fiscal impact of the bill in the first year is $1,906,301.
There are no fiscal provisions for this grant program included in this bill.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Additional Information:

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

None.

B. Amendments:

None.