

## HOUSE OF REPRESENTATIVES STAFF ANALYSIS

**BILL #:** CS/CS/CS/HB 239 Numeric Nutrient Water Quality Criteria

**SPONSOR(S):** State Affairs Committee, Federal Affairs Subcommittee; Williams and others

**TIED BILLS:** **IDEN./SIM. BILLS:** SB 1490

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR or BUDGET/POLICY CHIEF
1) Agriculture & Natural Resources Subcommittee	12 Y, 3 N, As CS	Kliner	Blalock
2) Federal Affairs Subcommittee	8 Y, 5 N, As CS	Kliner	Cyphers
3) State Affairs Committee	15 Y, 1 N, As CS	Kliner	Hamby

### SUMMARY ANALYSIS

On December 6, 2010, the United States Environmental Protection Agency (EPA) published final rules establishing numeric nutrient criteria for Florida lakes, streams, rivers, and springs. A portion of the final rule, relating to establishing site-specific alternative criteria, became effective on February 4, 2011, 60 days after publication in the Federal Register, Volume 75, No. 233. The remainder of the final rule becomes effective 15 months after publication, on March 6, 2012.

The bill directs the Florida Department of Environmental Protection (DEP) to publish a Notice of Proposed Rulemaking no later than May 31, 2012, to revise the dissolved oxygen criteria applicable to Florida waterbodies to take into account the variability occurring in nature.

The bill prohibits state, regional, or local governmental entities from implementing or giving any effect to EPA's nutrient water quality criteria rules for the state's lakes and flowing waters in any program administered by a state, regional, or local governmental entity where the criteria are more stringent than necessary to protect the biological community and the designated use. The bill does not limit the ability of any water management district or any state, regional, or local governmental entity to:

- Apply for any pollution discharge permit
- Comply with the conditions of such permits, including NPDES permits
- Implement best management practices, source control, or pollution abatement measures for water quality improvement programs as provided by law

Notwithstanding the prohibition to give any effect to the EPA criteria rules, the bill authorizes the DEP to adopt numeric nutrient water quality criteria in accordance with s. 403.061, F.S., for a particular surface water body or group of surface waters. Such criteria may be expressed in terms of concentration, mass loading, waste load allocation, and surrogate standards, such as chlorophyll-a, and may be supplemented by narrative statements. The standards shall be based on objective and credible data, scientific studies and analysis. Implementation of the standard shall only require nutrient reductions where necessary to protect the biological community and the designated use.

The bill declares numeric nutrient total maximum daily loads developed by the DEP and approved by the EPA shall constitute the site specific numeric interpretation of the narrative nutrient water quality criteria.

The bill revises the current classification of surface waters in the state, which are provided for in ch. 62-302, F.A.C. The revised classification system will be implemented to establish the designated uses for state surface waters to more accurately reflect the range of uses that exist within the state and to allow appropriate expectations to be set for all waterbodies. The effective date for the classification system is July 1, 2012. The bill provides for numerous statutory cross-reference changes, also effective in 2012.

Unless otherwise provided, the effective date of the bill is upon becoming a law. The bill's fiscal impact is indeterminate. See Fiscal Comments for details.

# FULL ANALYSIS

## I. SUBSTANTIVE ANALYSIS

### A. EFFECT OF PROPOSED CHANGES:

#### **Introduction: Water Quality Standards for Surface Waters in Florida**

Water quality standards (WQS) are the foundation of the water quality-based pollution control program mandated by the Clean Water Act (CWA). The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters.<sup>1</sup>

The CWA requires states or the Federal Environmental Protection Agency (EPA) to establish WQS for pollutants flowing into surface waters, and prohibits the discharge of any pollutant from a point source, such as a pipe, man-made ditch, or large animal feeding operation, into navigable waters without a National Pollutant Discharge Elimination System (NPDES) permit. In Florida, the water quality of surface waters is primarily regulated through Florida's implementation of the CWA. The CWA provides incentives for Florida to: (a) adopt CWA-compliant WQS; and (b) administer the federal NPDES program on behalf of the EPA.<sup>2</sup>

Under the CWA, states adopt water quality standards for their navigable waters, and review and update those standards at least every three years. States determine WQS for surface waters in three steps:

- Part one is establishing the designated uses for each water body, which may be for drinking, recreation and aquatic life propagation, or for agricultural and industrial purposes;
- Part two is establishing water quality criteria, which can be either numeric or narrative standards that define the amount of pollutant a water body can contain without impairing the designated use; and
- Part three is establishing an anti-degradation policy to maintain and protect existing uses and high quality waters.

The CWA requires states to submit WQS to the EPA for review and approval.<sup>3</sup>

The EPA Administrator must "promptly prepare and publish" proposed regulations setting forth a revised or new WQS for navigable waters:

- If a revised or new WQS submitted by the state is determined by the Administrator not to be consistent with the applicable requirements, or
- In any case where the Administrator determines that a revised or new standard is necessary to meet requirements of the CWA.<sup>4</sup>

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<sup>1</sup>Applicable water quality standards for purposes of the Act are the minimum standards which must be used when the CWA and regulations implementing the CWA refer to water quality standards, for example, in identifying impaired waters and calculating TMDLs under section 303(d), developing NPDES permit limitations under section 301(b)(1)(C), evaluating proposed discharges of dredged or fill material under section 404, and in issuing certifications under section 401 of the Act. 40 CFR 131.21

<sup>2</sup> Under the federal structure established in the U.S. Constitution, states may not be compelled by the Federal Government to enact legislation or take executive action to implement federal regulatory programs. However, Congress can encourage a state to regulate in a particular way by offering incentives -- often in the form of federal funds. Congress may also create a "potential preemption" structure in which states must regulate the activity under state law according to federally approved standards, or have state regulation pre-empted by federal regulation. The Clean Water Act, Clean Air Act, and Safe Drinking Water Act, for example, utilize these techniques. In addition, it is important to note that a state agency in Florida must have legislative authorization to implement a federal law. The Florida Department of Environmental Protection receives federal funds to administer the NPDES permitting program in the state.

<sup>3</sup> This section of the CWA represents the "potential preemption" structure previously mentioned. Apart from receiving federal funds to assist the state in meeting water quality standards approved by the EPA, the state retains local control over its water quality programs, and provides to its NPDES applicants something the federal structure lacks -- administrative deadlines for the agency to approve or deny a permit application.

<sup>4</sup> CWA, s. 303(a)(3)(C).

The Administrator must promulgate any new or revised standards not later than ninety days after publication of the proposed standards, unless prior to such promulgation, the state adopts a revised or new WQS which the Administrator determines to be in accordance with the CWA. After promulgation by the EPA, however, the promulgated rules become the state's WQS until such time as the EPA withdraws the promulgation, again by rule.<sup>5</sup> This may occur if the state proposes and the EPA approves the state's submission.

The CWA also requires that states identify impaired waters not meeting established WQS. In such instances, a state establishes a total maximum daily load, or TMDL, for those impaired waters. A TMDL is a value of the maximum amount of a pollutant that a body of water can receive and still meet WQS.<sup>6</sup> To enforce TMDLs, water quality-based effluent limitations (WQBELs) must be developed and incorporated into NPDES permits for point sources. Each TMDL represents a goal that is implemented by adjusting pollutant discharge requirements in the individual NPDES permits, along with the implementation of nonpoint source controls, such as Best Management Practices.<sup>7</sup> State-established TMDLs and NPDES WQBELs are submitted to the EPA for approval. The EPA may adjust the criteria for either if the federal agency determines the standard does not comply with the CWA.

The threshold limit on pollutants in surface waters (Florida's surface WQS on which TMDLs are based) are set in administrative rule. The state's impaired waters rule contains a table that catalogues over 100 substances, including subparts, with numerical thresholds for surface water classifications, including fresh and marine waters.<sup>8</sup> Generally, a pollutant is expressed as a numerical threshold (e.g., 11mg/L, or 11 milligrams per liter) because certain chemicals (e.g., Benzene, Lead, Mercury), have threshold concentrations above which adverse biological damage is a scientific certainty.

The EPA and the Florida Department of Environmental Protection (DEP) executed a Memorandum of Understanding (MOU) in 2007 delineating the state and federal agencies' mutual responsibilities in the DEP's administration of the federal NPDES program (the approved program). Pursuant to the MOU, the EPA acknowledges that the DEP has no veto authority over an act of the Florida Legislature, and reserves the right to initiate procedures for withdrawal of the state NPDES program approval in the event the Florida Legislature enacts legislation or issues any directive which substantially impairs the DEP's ability to administer the NPDES program or to otherwise maintain compliance with NPDES program requirements. If the approved program were withdrawn, entities requiring a NPDES permit for activities relating to wastewater, stormwater, construction, industry, pesticide application, power generation, and some agricultural activities would need to acquire both federal and state permits.

The MOU anticipates situations when the EPA resumes authority over an individual permit and instances when DEP-submitted NPDES permits are disapproved by the EPA until the DEP adjusts the permit conditions to include EPA conditions on the permit. If the permit is issued by the DEP with EPA-imposed conditions, the permit holder may seek an administrative challenge to the DEP's imposition of the conditions in the Florida Division of Administrative Hearings. If the permit is issued by the EPA, the permit holder may seek a federal appeal; however, in the meantime, the permit holder would be required to comply with the federal permit.

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<sup>5</sup> Pursuant to 40 CFR 131.21(c), if EPA finalizes a proposed rule, the EPA promulgated WQS would be applicable WQS for purposes of the CWA until EPA withdraws the federally-promulgated standard. Withdrawing a federal standard would require rulemaking by EPA pursuant to the requirements of the Administrative Procedure Act (5 U.S.C. 551 et seq.).

<sup>6</sup> Generally, the pollutant of concern and a numeric water quality target are, respectively, the chemical causing the impairment and the numeric criteria for that chemical (e.g., chromium) contained in the water quality standard. The TMDL expresses the relationship between any necessary reduction of the pollutant of concern and the attainment of the numeric water quality target. Guidelines for Reviewing TMDLs Under Existing Regulations Issued in 1992, are found at:

<http://water.epa.gov/lawsregs/lawguidance/cwa/tmdl/final52002.cfm>

<sup>7</sup> When a water body is classified as impaired, Florida law also authorizes the DEP to adopt a Basin Management Action Plan, or BMAP, for that particular water body. A BMAP is designed to reduce the pollutant concentrations to meet the TMDL. Strategies may include: educational programs, permit limits on wastewater facilities, best management practices, conservation programs, and financial assistance.

<sup>8</sup> Chapter 62-302.530, Florida Administrative Code.

## Numeric Nutrient Criteria for Surface Waters in Florida

### Current Situation

#### Nutrient and Water Quality

Nutrients, such as nitrogen and phosphorus, are substances that are needed by organisms to live and grow. In aquatic systems, these nutrients feed the growth of bacteria, algae, and other organisms. Nitrogen and phosphorus are essential to the production of plant and animal tissue. Phosphorus is essential to cellular growth and respiration. The DEP has relied on a narrative criterion (described in its impaired waters rule as “an imbalance in natural populations of flora or fauna”) for many years because nutrients are unlike any other pollutant regulated by the CWA. In addition, due to the fact that the vast majority of Florida’s surface waters (from springsheds to man-made ditches) are lumped in to the Class III designation, the narrative standard permits an accurate account of variability, whether it is naturally occurring or man-made.

Natural sources of nitrogen and phosphorus are the atmosphere, soils, and the decay of plants and animals. Unnatural sources include sewage disposal systems (treatment works or septic tanks), overflows of storm and sanitary sewers (untreated sewage), agricultural production and irrigation practices, and runoff from urban areas, neighborhoods, and pastures.

Excessive amounts of nutrients may result in harmful algal blooms, nuisance aquatic weeds, and alteration of the natural community of plants and animals. Dense, harmful blooms of algae can also cause human health problems, fish kills, problems for water treatment plants, and generally impair the aesthetics of waters. Populations of nuisance aquatic weeds can increase in nutrient-enriched waters, which can impact recreational activities like swimming and boating. Increased algal production as a result of increased nutrients can alter plant communities, which in turn can inhibit natural food chain dynamics.

As such, the derivation of specific numeric nutrient criteria to complement the narrative is very complex.<sup>9</sup> Since nutrients are essential to life, a balance must be understood to provide adequate nutrients to sustain aquatic life while not providing excessive nutrients which alter the aquatic ecosystem through species shifts. Each waterbody can have very different and unique nutrient requirements. In order to best develop thresholds at which a healthy aquatic environment can be sustained, it is best to develop a reliable measure of the biological condition of the water body.<sup>10</sup>

#### History of Florida’s Development of Numeric Nutrient Criteria

In recognition of the need to more proactively address impairment of state waters due to nutrients, the DEP implemented a detailed, EPA-approved plan for the development of numeric nutrient criteria and recently proposed revisions to Chapter 62-302, FAC (Water Quality Standards) and Chapter 62-303, FAC (Impaired Waters Rule) to establish numeric nutrient criteria for lakes and streams. DEP selected the “dose-response” approach (investigating the effects of nutrients on biological communities) as the primary method for the development of scientifically defensible numeric nutrient criteria, and has invested significant resources in:

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<sup>9</sup> The development of protective nutrient criteria is immensely more complicated than that for toxic substances. It must be recognized that nutrients should not be regulated at levels that are artificially lower than those concentrations required for normal ecosystem functioning. If humans were to reduce nutrients below the levels that natural aquatic systems are accustomed to, adverse biological effects (disruption of trophic dynamics, loss of representative taxa) would occur. This would be counter to the CWA charge in Section 101 to “protect the physical, chemical, and biological integrity” of the state’s waters and, coincidentally, against Florida law, which prohibits DEP from conducting remediation for natural conditions. Ideally, nutrients should be managed in a range of concentrations with some consideration of a margin of safety on both the upper and lower bounds of the range. Source: *Draft Technical Support Document -- Development of Numeric Nutrient Criteria for Florida Lakes and Streams*

[http://www.dep.state.fl.us/water/wqssp/nutrients/docs/tsd\\_nutrient\\_crit.docx](http://www.dep.state.fl.us/water/wqssp/nutrients/docs/tsd_nutrient_crit.docx)

<sup>10</sup> [http://www.dep.state.fl.us/water/wqssp/nutrients/docs/tsd\\_nutrient\\_crit.docx](http://www.dep.state.fl.us/water/wqssp/nutrients/docs/tsd_nutrient_crit.docx), page 11.

- the development of biological assessment tools
- the documentation of minimally disturbed reference conditions
- the collection of large amounts of water quality and nutrient data
- conducting a variety of studies to link nutrients to adverse effects on valued ecological attributes

This process has required extensive methods development, staff training, and Quality Assurance oversight to ensure the defensibility of the resulting products. The elements of this development and assessment process to date include such components as habitat assessment for streams and lakes, benthic invertebrate indices for streams and lakes, a vegetation index for lakes, and a periphyton index for streams. These activities represent significant investments in staff time and contractual services, with recent and planned funding associated with nutrient criteria development in Florida totaling nearly \$20 million dollars.<sup>11</sup>

While the approved plan called for adoption of the criteria by the end of 2010, DEP accelerated its efforts to adopt numeric nutrient criteria in response to the EPA's January 14, 2009, determination that numeric nutrient water quality criteria are necessary in Florida to implement the Clean Water Act. As part of a settlement agreement with EarthJustice, discussed later in this analysis, EPA was obligated to promulgate numeric nutrient criteria for Florida streams and lakes by a date certain, unless EPA approved criteria proposed by the DEP prior to that date.<sup>12</sup> The DEP did not formally propose alternative criteria to the EPA prior to the final promulgation by the EPA, and the EPA established numeric nutrient criteria for lakes, streams, rivers, and springs, effective March 6, 2012.

### The EPA is Sued over Florida's Narrative Criteria

On July 17, 2008, five environmental groups (the Florida Wildlife Federation, Sierra Club, Conservancy of Southwest Florida, Environmental Confederation of Southwest Florida, and St. Johns Riverkeeper) sued the EPA, alleging failure on the part of the federal agency to comply with the CWA. These groups initially alleged that the EPA's 1998 National Strategy for the Development of Regional Nutrient Criteria was a necessity determination, pursuant to s. 303(c)(4)(B) of the CWA, requiring the EPA to promulgate numeric nutrient rules for Florida. Their amended complaint asserted the 1998 Clean Water Action Plan, coauthored with the U.S. Department of Agriculture, was the necessity determination. The EPA initially defended the suit and contested the plaintiffs' arguments. However, in an EPA internal memorandum from December, 2008, the writer warned that a judicial finding in favor of the plaintiffs could result in the EPA being required to promulgate numeric nutrient rules for the other 49 states. The internal memorandum proposes a strategy to avoid this possibility: if the EPA issues a s. 303(c)(4)(B) necessity determination, that may be used as a basis to settle the lawsuit and request a dismissal from the court.<sup>13</sup>

On January 14, 2009, the EPA placed the DEP on formal notice that numerical criteria for nutrients were necessary for compliance with the CWA. This notice triggered a deadline of one year for the EPA to develop numeric nutrient criteria for Florida's surface waters and 24 months to develop numeric criteria for coastal waters, unless the state proposed criteria acceptable to the EPA before final promulgation. On August 19, 2009, the EPA entered into a consent decree to settle the lawsuit filed by the five environmental groups. The EPA committed to propose numeric nutrient standards for inland

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<sup>11</sup>The DEP's *Florida Numeric Nutrient Criteria History and Status Summary*. This document, and other documentation of nutrient criteria study results, including statistical analyses and interpretation, are found at: <http://www.dep.state.fl.us/water/wqssp/nutrients/>

<sup>12</sup> The determination letter established a schedule for criteria development, with criteria for lakes and streams due by January 14, 2010, and criteria for estuaries due by January 14, 2011. Due to approved extensions of time, the due dates were extended. The EPA numeric nutrient criteria for Florida's inland waters (except for south Florida) will be effective March 6, 2012. The EPA will propose numeric nutrient criteria for Florida's estuaries, flowing waters in south Florida (including canals), and the downstream protection values for flowing waters into estuaries on or before November 14, 2011. The deadline for promulgating a final rule is August 15, 2012.

<sup>13</sup> Only 15 months earlier, the EPA agreed with Florida's methodology and plan to finalize numeric nutrient rules by the end of 2010. The DEP was not a party to the lawsuit, however, several groups representing utilities, local governments, and agriculture in the state intervened.

waters (lakes and flowing waters), as well as for estuarine and coastal waters, by certain dates.<sup>14</sup> The DEP did not formally submit numeric nutrient criteria to the EPA before the deadline.

In drafting the proposed rule, the EPA had the benefit of more than seven years of DEP data and analysis, DEP's nutrient plans, as well as technical support documentation. The DEP maintained contact with the EPA while the EPA formulated the proposed rule.

On January 14, 2010, EPA Administrator Lisa Jackson signed EPA's rule proposing numeric nutrient criteria for Florida's fresh waters. Ten months later, on November 14, 2010, Administrator Jackson signed the final rule adopting numeric nutrient criteria for Florida's fresh waters. On December 6, 2010, the EPA published its final administrative rule. Fifteen months from the publication date, the established numeric water quality standards for nutrients in Florida's inland lakes and flowing waters take effect.

### Comparing the DEP's Plan with the EPA Final Rule

The DEP's 2007 Plan (which was approved by the EPA) and the 2009 Plan do not differ in conceptual approach. The 2009 Plan, however, demonstrated refinement in several areas. For instance, the 2007 Plan also classified lakes by color (or lack thereof), but the 2009 Plan reflected refinements in biological response by incorporating alkalinity levels in specific water bodies. Not reflected in the 2007 Plan, the 2009 Plan incorporated refinements in its stream assessment to develop a final nutrient standard for spring runs. The DEP kept the 2007-established schedule for completing the nutrient rule by the end of 2010.

### *Florida's Rivers and Streams*

For rivers and streams, the DEP determined there was insufficient robust data to develop a scientifically-defensible method establishing a cause-effect relationship between nutrients and biological health endpoints. EPA guidance states that the next best plan involves a reference site distributional approach. The EPA recommends setting criteria based on an inclusive distribution of values obtained from reference sites in a designated ecoregion (based on climate and geology, etc.).<sup>15</sup> The DEP expanded this approach by identifying streams that were minimally affected by human disturbance and nutrients, and also by documenting the existence of "full aquatic life full use support" (using Stream Condition Index methods).<sup>16</sup> According to published EPA guidance, reference reaches may be identified for each class of streams within a state based on best professional judgment. DEP expanded beyond EPA's best professional judgment approach regarding selection of reference streams, and developed an extremely rigorous, multi-step process to ensure that the sites eventually selected truly represented minimal human disturbance and full designated use support.

The DEP's Nutrient Benchmark Site Distributional Approach for nutrient criteria development includes the following:

- Use of the 90th percentile of nutrient concentrations (75th percentile for Bone Valley streams) derived from a distribution of minimally disturbed streams is inherently protective of aquatic life, including biota inhabiting downstream waters

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<sup>14</sup> The EPA numeric nutrient criteria for Florida's inland waters (except for south Florida) will be effective March 6, 2012. The EPA will propose numeric nutrient criteria for Florida's estuaries, flowing waters in south Florida (including canals), and the downstream protection values for flowing waters into estuaries on or before November 14, 2011. The deadline for promulgating a final rule is August 15, 2012.

<sup>15</sup> A memorandum from the Director of the EPA's Office of Science and Technology, Geoff Grubbs (2001), indicated that states are allowed the flexibility to develop and adopt nutrient criteria other than those currently proposed by EPA for water body types in specific Nutrient Ecoregions which were aggregated from Level III (EPA, 1998). As proposed, the EPA criteria recommendations that would include Florida do not fully reflect localized conditions or specific water body designated uses within the state. The DEP Plan proposes to undertake activities to develop criteria for lakes, streams, estuaries, coastal waters (and wetlands) within the state, based on state-specific, subregional data. Upon issuance of §304(a) Ecoregional Nutrient Criteria Recommendations, and since that time, EPA has encouraged states to refine their approach where possible in order to reflect more state-specific data and conditions. DEP Plan, pages 1, 2.

<sup>16</sup> DEP Draft Nutrient Criteria Technical Support Document, p. 98.

- Documentation of healthy biological communities directly demonstrates that aquatic life uses are fully met within the associated range of nutrients

The DEP noted one disadvantage of using the benchmark approach: it does not identify the specific nutrient levels at which biological impairment occurs. For this reason, it cannot be concluded on its face that adverse effects on aquatic life actually occur at concentrations above these values. Therefore, the DEP's methodology included a multi-step verification process which culminated with an extensive field examination process.

The criteria listed in the tables below express annual geometric means that cannot be exceeded more than once every three years.

<b>Numeric Criteria for Florida Streams Total Phosphorus (mg/L)</b>			
Nutrient Watershed Region	EPA	DEP	
		75 <sup>th</sup> %	90 <sup>th</sup> %
Panhandle West	0.06	0.043	<b>0.069</b>
Panhandle East	0.18	0.066	<b>0.101</b>
North Central	0.30	0.216	<b>0.322</b>
Peninsula	0.12	0.088	<b>0.116</b>
West Central	0.49	<b>0.415</b>	0.559

<b>Numeric Criteria for Florida Streams – Total Nitrogen (mg/L)</b>			
Nutrient Watershed Region	EPA	DEP	
		75 <sup>th</sup> %	90 <sup>th</sup> %
Panhandle West	0.67	0.63	<b>0.82</b>
Panhandle East	1.03	1.13	<b>1.73</b>
North Central	1.87	1.13	<b>1.73</b>
West Central	1.65	1.13	<b>1.73</b>
Peninsula	1.54	1.13	<b>1.73</b>

### Florida's Lakes

As previously stated, according to the DEP the most comprehensive and scientifically defensible approach to developing numeric nutrient criteria for surface waters is to establish cause and effect relationships between nutrients (stressors) and valued ecological attributes. Chapters 9 and 10 of DEP's *Nutrient Criteria Technical Support Document* provides justification for use of chlorophyll a as an indicator of designated use support, primarily as a measure of excessive algal growth, which can result in imbalances of natural populations of flora or fauna. Additionally, the Lake Vegetation Index (LVI) is a direct assessment of the floral community and can therefore be used to demonstrate use support.

The DEP evaluated responses in both chlorophyll a and the LVI to total phosphorus and total nitrogen concentrations. Lakes were initially categorized based on color categories previously adopted in Florida's Impaired Waters Rule. Lakes with color less than or equal to 40 platinum cobalt units (PCU) were categorized as clear, and lakes with color greater than 40 PCU were categorized as colored. Based upon recommendations from the Nutrient TAC, the DEP evaluated whether there were any differences in the relationships between nutrients and chlorophyll a in clear lakes with specific conductance values above and below 100  $\mu$ mhos/cm.<sup>17</sup> The specific conductance threshold was

<sup>17</sup> Conductivity is a measure of the ability of water to pass an electrical current. Conductivity in water is affected by the presence of inorganic dissolved solids such as chloride, nitrate, sulfate, and phosphate anions (ions that carry a negative charge) or sodium, magnesium, calcium, iron, and aluminum cations (ions that carry a positive charge). Organic compounds like oil, phenol, alcohol, and sugar do not conduct electrical current very well and therefore have a low conductivity when in water. Conductivity in streams and rivers is affected primarily by the geology of the area through which the water flows. Streams that run through areas with clay soils tend to have higher conductivity because of the presence of materials that ionize when washed into the water. Ground water inflows can have the same effects depending on the bedrock they flow through. Discharges to streams can change the conductivity depending on their make-up. A failing sewage system would raise the conductivity because of the presence of chloride, phosphate, and nitrate; an

designed to capture lakes that receive input from calcareous aquifer sources, which naturally contain higher levels of phosphorus than do lakes that receive most of their water from (low conductivity) rainfall.

Color primarily affects lake response to nutrients by limiting light at very high color levels, but color is also an indirect indication of the source of the water reaching the lake. High water color (> 40 PCU), which is imparted from breakdown of natural leaf litter, indicates that a lake is influenced by surface water runoff from forests and wetlands, and would contain higher natural nutrient levels than a rainfall driven system. Low color lakes (< 40 PCU) derive their water primarily from rainfall, unless high alkalinity is also present, meaning higher phosphorus Floridan aquifer groundwater has influenced the system.

After dividing lakes into categories of color and alkalinity, the DEP determined statistically strong, dose-response relationships between nutrients and chlorophyll a (an indicator of algal biomass or primary productivity). The DEP then used multiple lines of evidence, including paleolimnology, fisheries success, expert opinion, lack of harmful algal blooms, and user perception, to determine chlorophyll a levels that would be protective of designated uses. The DEP concluded that a chlorophyll a level of 20 ug/L would protect human and aquatic life uses in both colored lakes and in clear, high alkalinity lakes. For clear, low alkalinity lakes, the protective chlorophyll a threshold was set at 9 ug/L.

Because algal response is influenced by factors other than nutrients (grazing, macrophyte nutrient uptake, water retention time), the DEP contends the most scientifically defensible strategy for managing nutrients within the range of uncertainty is to verify a biological response prior to taking management action. If data demonstrate that a given lake is biologically healthy and does not experience excess algal growth (e.g., < 20 µg chlorophyll a/L in a colored lake or high conductivity clear lake) despite having nutrient concentrations within the range of uncertainty, then no nutrient reductions are needed.

Lakes Criteria					
Lake Type	DEP Response (Chl-a ug/L)	EPA Response (Chl-a ug/L)	Stressor	DEP	EPA
Clear/Low Alkalinity	9	6	TP (mg/L)	0.015 - 0.043	0.01 (0.01 – 0.03)
			TN (mg/L)	0.85 - 1.14	0.51 (0.51 – 0.93)
Clear/High Alkalinity	20	20	TP (mg/L)	0.030 - 0.087	0.03 (0.03 – 0.09)
			TN (mg/L)	1.0 - 1.81	1.05 (1.05 – 1.91)
Colored	20	20	TP (mg/L)	0.05 - 0.157	0.05 (0.05 – 0.16)
			TN (mg/L)	1.23 - 2.25	1.27 (1.27 – 2.23)

### Florida's Spring Runs

Similar to the methods being used to establish numeric nutrient criteria for lakes and streams, the DEP utilized multiple lines of evidence taken from the results of different types of research as well as

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oil spill would lower the conductivity. The basic unit of measurement of conductivity is the mho or siemens. Conductivity is measured in micromhos per centimeter (µmhos/cm) or microsiemens per centimeter (µs/cm). Distilled water has a conductivity in the range of 0.5 to 3 µmhos/cm. The conductivity of rivers in the United States generally ranges from 50 to 1500 µmhos/cm. Studies of inland fresh waters indicate that streams supporting good mixed fisheries have a range between 150 and 500 µhos/cm. Conductivity outside this range could indicate that the water is not suitable for certain species of fish or macroinvertebrates. Industrial waters can range as high as 10,000 µmhos/cm. Source: <http://water.epa.gov/type/rsl/monitoring/vms59.cfm>



empirical data available from various monitoring programs to develop nitrate criteria for clear streams, including springs. The DEP focused on developing nitrate-nitrite criteria for springs and clear streams (< 40 PCU), rather than phosphorus, for four distinct reasons:

- Increases in nitrate-nitrite concentrations are nearly omnipresent in areas where anthropogenic loading to the land's surface has occurred
- Once in the ground water, de-nitrification is negligible and nitrate-nitrite appears to be transported as a conservative solute
- Although Florida's geology is naturally rich in phosphorus, there does not appear to be a trend of increasing phosphorus concentrations in spring discharges. While nitrate-nitrite concentrations have increased significantly in most spring discharges, phosphorus concentrations have remained relatively constant over the past 50 years
- Since springs are naturally rich in phosphorus, the majority of Florida springs are likely to have been historically nitrogen limited

Through extensive laboratory experiments, in situ field surveys, TMDL development activities for the Wekiva River and Rock Springs Run, studies, and using data derived from nutrient gradient studies of Rapid Periphyton Survey (algal responses to nutrients and other variables), the DEP derived a 0.35 mg/L nitrate-nitrite criterion for spring runs.<sup>18</sup> At monthly concentrations below 0.35 mg/L, the DEP obtained high confidence (95% Confidence Interval) that adverse responses will not be observed.

The EPA's Final Rule criteria threshold established for spring runs is identical to the DEP's threshold.

#### *Site Specific Alternative Criteria for Florida Waters*

Nutrient dynamics are complex and the impacts are site-specific, and there will always be cases where statewide criteria are over-protective for specific water bodies. To address this possibility, the DEP developed rule language for a new process for developing Site Specific Alternative Criteria (SSAC) for nutrients. This new "Type III" SSAC process would require a demonstration that the SSAC is fully protective of designated uses based on the SCI and LVI, for streams and lakes, respectively. Under the draft rule, a Type III SSAC would be adopted if two spatially and temporally independent biological health assessments indicated that the existing nutrient regime supported healthy biota. To ensure that the SSAC is also protective of downstream waters, DEP also added a requirement that all downstream waters attain water quality standards related to nutrients.

The DEP Plan included previously adopted nutrient TMDLs (adopted in Chapter 62-304, FAC) as SSACs, because the TMDLs:

- Establish site specific and sensitive responses to nutrient enrichment for a particular area
- Use data appropriate for a site specific assessment
- Establish a protective endpoint equivalent to numeric criteria
- Reflect geographically explicit protective conditions, and are more appropriate than a statewide criterion because it would be counter-productive for statewide nutrient criteria to supersede the TMDL.

The DEP designed the recommended revisions to Chapter 62-303 (Impaired Waters Rule) to implement the proposed revisions to Chapter 62-302. The revisions would have allowed the DEP to assess waters for nutrient impairment using the numeric nutrient criteria in addition to the current narrative nutrient impairment thresholds in the IWR, and to assess waters for biological impairment using the new SCI and LVI thresholds. Both rules are still in draft stages.<sup>19</sup>

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<sup>18</sup> During the development of the TMDL for these water bodies, protective nutrient concentration targets were derived using periphyton and water quality data collected from the Suwannee River and two tributaries, the Withlacoochee River and Santa Fe River (Hornsby et al. 2000). These data were considered applicable to the Wekiva River and Rock Springs Run since the Suwannee River is heavily influenced by spring inflow, and in the absence of anthropogenic inputs, the algal communities would be expected to be generally similar in composition to those in the Wekiva River and Rock Springs Run. DEP's *Nutrient Criteria Technical Support Document*, Chapter 4.

<sup>19</sup> See Surface Water Draft Rules at [http://www.dep.state.fl.us/water/rules\\_dr.htm](http://www.dep.state.fl.us/water/rules_dr.htm)

The EPA did not include Florida's water bodies with previously-approved nutrient TMDLs as SSAC under the Final Rule. As such, the DEP will be required to submit the TMDLs again to the EPA for consideration as SSAC under the Final Rule.

### *Downstream Protection of Florida Waters*

The DEP could discern no defensible method to quantitatively describe the maximum nutrient concentrations allowed for the protection of downstream waters. According to the DEP, there exists no adequate, statewide calibrated model that could be used to numerically determine, without great uncertainty, protective nutrient loads for downstream lakes or estuaries. With no scientifically defensible solution to reply upon, the DEP proposed a narrative statement to ensure downstream waters protection.

The EPA did not include Florida's downstream protection methodology in the final rule. Instead, the EPA promulgated an equation to adjust in-stream total phosphorus criteria to protect downstream lakes.

EPA's final rule proposes an alternative regulatory approach the state may consider if meeting numeric criteria for certain water bodies is unattainable; re-designation of water use. Pursuant to the CWA, states establish water quality standards (WQS) in three steps:

- Establish designated uses for each water body, which may be for drinking, recreation and aquatic life propagation, or for agricultural and industrial purposes
- Establish water quality criteria, which can be either a numeric or narrative standard that defines the amount of pollutant a water body can contain without impairing the designated use
- Establish an anti-degradation policy to maintain and protect existing uses and high quality waters

### Snapshot Comparison of the EPA's Final Rule and the DEP Plan

In general, the quantitative values promulgated by the EPA for lakes and streams were similar to those in the DEP's NNC Plan, and the value reached for springs was identical. In key areas related to implementation, however, there are significant differences in the two approaches.

- The DEP's multi-tiered approach (numerical criteria with follow-up biological assessment) was not adopted by the EPA. The DEP demonstrated that some water bodies with nutrient thresholds that exceed the value of undisturbed reference waters have healthy biota and do not need restoration. The DEP's intent was to have "biological confirmation" that nutrient concentrations above the numeric standard actually resulted in biological impairment of the water body.
- The EPA rejected the DEP's approach to protect downstream lake values by using the narrative criteria, and instead promulgated an equation to adjust in-stream total phosphorus criteria to protect downstream lakes. This will likely result in more stringent instream values.
- The EPA did not accept Florida's existing nutrient TMDLs as meeting CWA WQS under the rule, even though the TMDLs have already been approved by the EPA. As a result, the DEP must re-establish to the EPA that water bodies with approved TMDLs comply with provisions of the CWA.

### Cost of Compliance with the Final Rule

The fiscal impact of the EPA's rule on industrial dischargers, municipal wastewater and urban stormwater facilities, agriculture, and the regulatory agencies is unclear. EPA-generated annualized cost estimates to achieve the numeric criteria (\$130-\$150 million) differ dramatically from estimates provided by the DEP (\$5.7 - \$8.4 billion). The difference in cost estimates is largely due to the different baselines utilized by the two entities: the EPA based its cost estimates on the difference between the EPA criteria and the criteria in the draft DEP Plan. A study commissioned by the Florida Water Environment Association Utility Council in November, 2010, estimates that wastewater utilities alone will spend between \$24 billion and \$51 billion in capital costs for additional wastewater treatment

facilities and incur increases in annual operating costs between \$4 million and \$1 billion to comply with the federal numeric nutrient criteria. According to the commissioned study, the EPA's cost estimate inadequately accounted for existing baseline conditions, failed to address all direct costs, and did not consider all indirect costs to businesses and the public, including the costs of uncertainty. If the EPA enforces "end-of-pipe" criteria (requiring all discharger effluent levels to be at or below the federally-promulgated standards), the total annual costs could range from \$3.1 to \$8.4 billion (based on the estimated fifth and ninety-fifth percentile of costs). Even if EPA enforces criteria to less strict BMPs and Limit of Technology standards in which effluent is not at or below the federal standard, then the annual costs could range from \$1.0 to \$3.2 billion (based on the estimated fifth and ninety-fifth percentile of costs in this scenario).

Because the numeric nutrient criteria is water body-specific, the expected costs for compliance will be largely site-specific and contingent upon the level of impairment. The EPA only just published guidance documents detailing how the rule is to be implemented and cost estimates have not yet been updated.

### Legal Challenges to the EPA's Final Rule

Several parties, representing the environment, state and local governments, water utilities, wastewater, stormwater, agriculture, and fertilizer industries, have challenged the EPA-promulgated numeric nutrient rules in federal court.<sup>20</sup> With the exception of the challenge filed by environmental groups, the complaints share a common theme; that the EPA's actions are arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law; in excess of statutory jurisdiction, authority, or limitations, or short of statutory authority; or without observance of procedures required by law.<sup>21</sup> EarthJustice, representing the environmental groups, is challenging the portion of the Final Rule providing a watershed approach to Site Specific Alternative Criteria.

The legal challenges were filed in federal courts located in Tallahassee and in Pensacola, Florida. The EPA has not yet established which documents will comprise the administrative record for the case. A case management conference was held in Tallahassee, March 17, 2011, before Judge Hinkle. All of the Florida cases were consolidated for case-management purposes only and will be maintained on a common docket under Consolidated Case No. 4:08cv324. The deadline for all preliminary motions was set for May 1, 2011. Plaintiffs' summary judgment motions must be filed by June 15, and cross motions must be filed by September 15. The deadline for reply memoranda in support of or in opposition to summary judgment motions is October 31. A reply in support of any cross motion must be filed by December 12. The Clerk of Court must set a hearing on all pending motions for January 9, 2012.

### **Effect of Proposed Changes**

The bill prohibits state, regional, or local governmental entities from implementing or giving any effect to the federally-promulgated criteria rules in any program administered by a state, regional, or local governmental entity where the criteria are more stringent than necessary to protect the biological community and the designated use. The bill does not limit the ability of any water management district or any state, regional, or local governmental entity to:

- Apply for any pollution discharge permit
- Comply with the conditions of such permits, including NPDES permits

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<sup>20</sup> The State of Florida v. Jackson, Case No. 03:10-cv-503-RV-MD; The Mosaic Company, Inc., v. Jackson, Case No. 03:10-cv-506-RV-EMT; The Fertilizer Institute v. U.S. EPA, Case No. 03:10-cv-507-RS-MD; CF Industries, Inc., v. Jackson, Case No. 03:10-cv-513-MCR-MD; Destin Water Users, Inc., South Walton Utility Co., Inc., Emerald Coast Utilities Authority, City of Panama City, Okaloosa County Board of County Commissioners v. Jackson, Case No. 03:10-cv-532-MCR-EMT; Florida League of Cities, Inc., and Florida Stormwater Association, Inc., v. Lisa P. Jackson, Case No. 3:11-cv-11; Florida Pulp and Paper Association Environmental Affairs, Inc., Southeast Milk, Inc., and Florida Fruit and Vegetable Association v. Lisa Jackson, Case No. 3:11-cv-47-MCR/EMT; Florida Wildlife Federation v. EPA, Case No. 04:10-cv-511-SPM-WCS (filed prior to promulgation); Florida Wildlife Federation v. Jackson, Case No. 04:08-cv-324-RH-WCS (filed before the issuance of the Determination Letter).

<sup>21</sup> Citing 5 U.S.C. s. 706(2)(A)(C) and (D).

- Implement best management practices, source control, or pollution abatement measures for water quality improvement programs as provided by law

Notwithstanding the prohibition to give any effect to the EPA criteria rules, the bill authorizes the DEP to adopt numeric nutrient water quality criteria in accordance with s. 403.061, F.S., for a particular surface water body or group of surface waters. Implementation of the standard shall only require nutrient reductions where necessary to protect the biological community and the designated use. Such criteria may be expressed in terms of concentration, mass loading, waste load allocation, and surrogate standards, such as chlorophyll-a, and may be supplemented by narrative statements. The standards shall be based on objective and credible data, scientific studies and analysis

The bill declares numeric nutrient total maximum daily loads developed by the DEP and approved by the EPA shall constitute the site specific numeric interpretation of the narrative nutrient water quality criteria.

The bill directs the DEP to publish a Notice of Proposed Rulemaking no later than May 31, 2012, to revise the dissolved oxygen criteria applicable to Florida waterbodies to take into account the variability occurring in nature. The current dissolved oxygen standard was created in the 1970's and does not reflect Florida's natural conditions, consequently, there may be a number of waters listed as impaired due to the inaccurate standard.

## **Surface Water Classification**

### **Current Situation**

A significant part of the water quality protections established by the CWA is based on a waterbody's designated uses. Designated uses serve the dual purpose of setting water quality goals for a specific waterbody and establishing the applicable water quality criteria for the waterbody. These goals and criteria serve as the regulatory basis for the establishment of water quality-based treatment controls, strategies, and management decisions by the various programs that incorporate or are designed to implement CWA goals. In the DEP's Division of Water Resource Management and the Division of Environmental Assessment and Restoration, these programs include Nonpoint Source Management, NPDES permitting, Water Reuse, TMDLs, Environmental Resource Permitting, Watershed Monitoring, and Everglades Restoration.

The CWA requires that the surface waters of each state be classified according to designated uses.<sup>22</sup> Florida's classification system was developed in 1968<sup>23</sup> and contains the following classes:

- Class I: Potable Water Supplies
- Class II: Shellfish Propagation or Harvesting
- Class III: Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife
- Class IV: Agricultural Water Supplies
- Class V: Navigation, Utility, and Industrial Use

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<sup>22</sup>The CWA requires that the surface waters of each state be classified according to designated uses, and that states adopt criteria that are protective of the uses. The CWA also allows states to revise designated uses when appropriate, and the EPA has specifically encouraged states to refine their designated uses to make them more precise.

<sup>23</sup> Since 1968, the classification system has been altered only once. The DEP amended its water classification rule, effective August 5, 2010, creating a sub-class of Class III waters called "Class III-Limited" surface waters. Class III Limited share the same water quality criteria as Class III except for any site specific alternative criteria that have been established for the waterbody under Rule 62-302.800, F.A.C. Chapter 62-302.400(5), F.A.C. Class III-Limited waters are restricted to waters with human-induced physical or habitat conditions that prevent attainment of Class III uses and do not include waterbodies that were created for mitigation purposes. Rulemaking will be necessary to re-assign any water body to the new sub-class. No specific water body has been yet classified as Class III-Limited.

There are standards designed to protect the various designated uses within each class. Class I waters have standards to protect potable drinking water sources, human recreation, human consumption of fish, and protection of aquatic life. Class II waters have standards to protect human consumption of fish and shellfish, human recreation, and protection of aquatic life. Class III waters have standards to protect human consumption of fish (and cooked shellfish), human recreation, and protection of aquatic life. Class IV waters have standards protective of agricultural and industrial uses, while the dormant Class V designation has standards that are protective of industrial uses.<sup>24</sup>

In 2006, in response to the EPA's encouragement to refine designated uses and requests from a wide cross section of stakeholders, the DEP initiated the Designated Uses Policy Advisory Committee (PAC), a stakeholder committee that evaluated whether Florida's surface water classification system contained in Chapter 62-302, Florida Administrative Code (F.A.C.), needs to be refined.

Stakeholders had raised questions about the validity of restoration goals that were established as TMDLs, and tied to the existing designated uses and water quality criteria. Some stakeholders expressed concern that pristine waters are not adequately protected by the current classification system, while other stakeholders were concerned that the current classification establishes unreasonable goals and restoration requirements for other waterbodies.

These divergent concerns reflect the fact that the vast majority of surface waters in Florida have the identical designated uses. Despite the wide variety of the state surface waters, ranging from naturally flowing rivers, spring runs, and open-water lakes, to concrete drainage ditches, upland cut canals, and other man-made or altered features, they are almost all designated Class III, which supports the designated uses of "recreation and the propagation and maintenance of a healthy, well-balanced population of fish and wildlife." While there are higher classifications (Class I and II), they are for higher human uses (water supply and shellfish, respectively), and they have the same aquatic life expectations as Class III waters. As such, with the limited exception of Class IV waters, which are for agricultural water supplies, there is only one level of protection afforded to aquatic life, with the same expectation of a healthy aquatic life assemblage in a pristine stream as in a man-made, concrete-lined ditch. According to the DEP, these ecosystems are so different from one another, with such varying potential aquatic habitats, and with such a wide range of public purposes and public expectations, that it is unreasonable to assume they can be held to the same standards or protected in precisely the same way.<sup>25</sup>

After nearly one year of review and discussion of EPA guidance documents and scientific analysis, the PAC members agreed that refinements to the current classification system are warranted because the current system does not adequately describe the range of uses in surface waters that exists around the state. The PAC members generally agreed that Florida's designated use classification system should be refined in the following manner:

- Split the human and aquatic life uses into separate use classification systems so that the unique criteria associated with each broad category could be readily identified. This would allow readers to better understand differences in water quality necessary to protect specific uses within each broad use category.
- Establish two additional human uses and three additional aquatic life uses to incorporate flexibility into the current system. Use Attainability Analysis would have to be conducted before any waters could be reclassified into any use requiring less protection than its current (generally default Class III) classification.<sup>26</sup>

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<sup>24</sup> *Draft Recommendations of the Designated Uses Policy Advisory Committee for the Refinement of Florida's Surface Water Classification System*, August 2009, p. 3.

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*, at p. 10. A Use Attainability Analysis is the process established in federal regulations for reviewing and revising designated uses. The only UAA conducted in Florida to date was for an upgrade in the designated uses for the Fenholloway River in 1997. The UAA demonstrated that Class III uses were attainable, and the river was reclassified from Class V to Class III.

While the PAC primarily focused on the design of the designated use structure, it also noted the importance of establishing the criteria for each classification because the criteria define the water quality goals of each use. The DEP and PAC members agreed early on that the expectations associated with toxic pollutants, which constitute the majority of the criteria that exist today, should not change for any waterbody. The PAC also concluded that only a few criteria are likely to be considered for change. Apart from bacteriological criteria, criteria that reflect physical, chemical, and biological conditions could be subject to change to better reflect the uses and expectations of certain waterbodies, including criteria for biological integrity, dissolved oxygen, and nutrients. For aquatic life-based criteria, criteria could be adopted not only to reflect different expectations for designated uses but also to reflect the variability that may exist by waterbody type. Other subdivisions that could be established include recognizing the difference between flowing and standing waters, recognizing the unique characteristics associated with wetlands and springs, separating the state into bioregions, or splitting out lakes by naturally occurring nutrient levels.

As proposed by the PAC, the renaming conventions are shown in Table 1.

**Table 1. Equivalent Classifications for Existing Classes**

Existing Class	Proposed Human Use	Proposed Aquatic Life Use
Class I	HU-1	AL-2
Class II	HU-2	AL-2
Class III	HU-3	AL-2
Class IV	HU-6	N/A <sup>27</sup>
Class V	HU-7	N/A <sup>28</sup>

As stated by the Designated Uses PAC:

The refined classification system would enable citizens, organizations, and state and local governments both to identify waters meriting higher use protection and to more precisely focus restoration efforts on goals that provide the best environmental benefit. Without this refinement, some of Florida's limited resources for restoration of water quality will be spent unwisely, as they will be directed inappropriately at waters, which due to human habitat and hydrological alterations, cannot fully attain the current Class III uses. Ultimately, those waters used for recreation (human uses) and those waters supporting healthy biological communities (aquatic life uses) must be fully protected under a revised classification system.<sup>29</sup>

Despite this conclusion, DEP did not adopt a revised classification system. Rather, it amended its water classification rule, effective August 5, 2010, creating a sub-class of Class III waters. Pursuant to 62-302.400(5), F.A.C.:

Class III-Limited surface waters share the same water quality criteria as Class III except for any site specific alternative criteria that have been established for the waterbody under Rule 62-302.800, F.A.C. Class III-Limited waters are restricted to waters with human-induced physical or habitat conditions that prevent attainment of Class III uses and do not include waterbodies that were created for mitigation purposes. "Limited recreation" means opportunities for recreation in the water are reduced due to physical conditions. "Limited population of fish and wildlife" means the aquatic biological community does not fully resemble that of a natural system in the types, tolerance and diversity of species present. Class III-Limited waters are restricted to:

<sup>27</sup> The existing criteria for Class IV waters were based primarily on human uses (the protection of crops and agricultural water supply), and so there is no directly comparable classification for aquatic life in Class IV waters. However, there is a limited set of aquatic life use criteria applicable to Class IV waters, and these criteria would continue to apply. The criteria could be included in HU-6 or as a separate aquatic life use classification.

<sup>28</sup> There are currently no Class V waters, and the determination of the appropriate classification and criteria for these waters will be deferred.

<sup>29</sup> *Draft Recommendations of the Designated Uses Policy Advisory Committee for the Refinement of Florida's Surface Water Classification System*, August 2009, p. 20.

(a) Wholly artificial waterbodies that were constructed consistent with regulatory requirements under Part I or Part IV of Chapter 373, Part I or Part III of Chapter 378, or Part V of Chapter 403, F.S.; or

(b) Altered waterbodies that were dredged or filled prior to November 28, 1975. For purposes of this section, "altered waterbodies" are those portions of natural surface waters that were dredged or filled prior to November 28, 1975, to such an extent that they exhibit separate and distinct hydrologic and environmental conditions from any waters to which they are connected.

Rulemaking will be necessary to re-assign any water body to the new sub-class. No specific water body has been yet classified as Class III-Limited.

### **Effect of Proposed Changes**

The bill revises the current classification of surface waters in the state, which establishes the designated uses for state surface waters, to more accurately reflect the range of uses that exist within the state and to allow appropriate expectations to be set for all waterbodies. The reclassification system becomes effective on July 1, 2012.

The DEP is authorized to promulgate rules to implement this classification system. Waters or groups of similar waters will be assigned to the revised classifications pursuant to Chapter 120, F.S. When adopting waters into the appropriate classification, the DEP is required to take into consideration that man-made or other structurally modified waters may exhibit physical, hydrologic and other factors that limit the attainable uses of the water. In assigning waters to the revised classifications the DEP is required to assess the economic costs of achieving designated uses on individual entities and communities. The classification of waters will also include the establishment of appropriate water quality criteria for the waters.

Created surface waters, constructed pursuant to Chapter 378, F.S. (land reclamation due to mining activities), or any waters constructed for purposes of mitigation under Chapter 373, F.S. (environmental resource permitting), shall not be assigned a classification until such time as the DEP approves the constructed waterbody for final release of obligations under Chapter 378, F.S. At such time the DEP will assign the highest attainable use to the waterbody, considering the location and purpose for which the waterbody was constructed.

Further refinement to the system must be made pursuant to administrative rule, which is subject to legislative ratification. Upon ratification, the classification system provided for in this bill will no longer be effective.

The bill proposes splitting Florida's outdated classification system into two use expectations; Human Use (HU) and Aquatic Life Use (AL), as follows:

- HU-1: Protection of potable water supply suitable for consumption following conventional drinking water treatment (also includes HU-3 uses).
- HU-2: Shellfish propagation or harvesting (also includes HU-3 uses).
- HU-3: Protection of full body contact and possible ingestion, and fish consumption. *Protection of fish consumption* requires maintaining a level of water quality that prevents unpalatable flavor or accumulation of substances harmful to human health in fish tissue (default).
- HU-4: Protection of incidental contact and fish consumption, and incidental human contact. Categories of uses may include, but is not limited to, waters used for flood control, shipping ports, stormwater or agricultural conveyance or storage, non-potable water supply or waters that are constructed and wholly artificial.
- HU-5: Protection of fish consumption, but human contact is limited or restricted through institutional controls due to unsafe physical conditions. This category of uses may include, but is not limited to, waters used for flood control, shipping ports, stormwater or agricultural conveyance or storage, non-potable water supply or waters that are constructed and wholly artificial.

- HU-6: Protection of waters for crop irrigation or consumption by livestock. Maintaining a level of water quality suitable for consumption of water by livestock or surface water withdrawal for irrigation of cropland.
- HU-7: Utility, and industrial uses. Maintaining a level of water quality suitable for utility and industrial purposes.
- AL-1: Propagation and maintenance of aquatic communities that approximate the biological structure and function of natural background. Natural structural, functional, and taxonomic integrity is preserved or approximated; structure and function similar to natural community; and ecosystem level functions are fully maintained.
- AL-2: Propagation and maintenance of a healthy, well-balanced aquatic community with minimal deviation of biological structure and function relative to natural background. (Default) Overall balanced distribution of all expected groups of taxa and all ecosystem functions are fully maintained. May have changes in biological structure as evidenced by the replacement of sensitive taxa by more tolerant taxa.
- AL-3: Protection of an aquatic community with moderate deviation of biological structure and function relative to natural background. Changes in biological structure and function have resulted in an altered aquatic community. Represents the transition between a community characterized by sensitive or expected taxa to one characterized by tolerant taxa. Biology may be limited due to habitat limitations, hydrologic modifications, physical alterations, or other factors identified by rule.
- AL-4: Protection of an aquatic community with substantial deviation of biological structure and function relative to natural background. Substantial changes in biological structure and function have resulted in a limited aquatic community. Community consists primarily of tolerant taxa able to survive and propagate under adverse or variable environmental conditions. Biology may be limited due to extreme habitat limitations, hydrologic modifications, physical alterations, or other factors identified by rule.

Codifying the classification in statute does not “move” any waters into a different use. At this point the system merely renames the use designations. Administrative rulemaking will be required in order to move any specific waters into a different use category. Unless otherwise specified by rule, the current classification of waterbodies will be renamed as follows:

- Class I is renamed as Human Use 1, Aquatic Life Use 2.
- Class II is renamed as Human Use 2, Aquatic Life Use 2.
- Class III is renamed as Human Use 3, Aquatic Life Use 2.
- Class IV is renamed as Human Use 6 and shall contain all of the criteria associated with the current Class IV classification.
- Class V is renamed as Human Use 7 and shall contain all of the criteria associated with the current Class V classification.

## B. SECTION DIRECTORY:

**Section 1.** Amends s. 403.061, F.S., directing the DEP to file a Notice of Proposed Rulemaking to revise dissolved oxygen criteria by a date certain.

**Section 2.** Creates s. 403.0675, F.S., prohibiting state, regional, and local governments from implementing or giving any effect to the EPA-promulgated numeric nutrient criteria in any state, regional, or local government regulatory program under certain circumstances; authorizes the DEP to promulgate numeric nutrient criteria meeting specified requirements; declares numeric nutrient TMDLs approved by the EPA to constitute site specific numeric interpretation of the narrative nutrient water quality criteria.

**Section 3.** Creates s. 403.066, F.S., providing a classification system for surface water designated uses, effective July 1, 2012.



**Section 4.** Amends s. 373.199 (4)(d), F.S., providing statutory cross reference changes to reflect the revised classification system.

**Section 5.** Amends s. 373.453 (2)(e), F.S., providing statutory cross reference changes to reflect the revised classification system.

**Section 6.** Amends paragraph (m) of subsection (2) and paragraph (e) of subsection (4) of section 373.4592, F.S., providing statutory cross reference changes to reflect the revised classification system.

**Section 7.** Amends paragraph (b) of subsection (1) and paragraph (b) of subsection (2) of section 373.461, F.S., providing statutory cross reference changes to reflect the revised classification system.

**Section 8.** Amends s. 380.061 (3)(a), F.S., providing statutory cross reference changes to reflect the revised classification system.

**Section 9.** Amends s. 403.061 (29), F.S., providing statutory cross reference changes to reflect the revised classification system.

**Section 10.** Amends s. 403.086 (7)(b), F.S., providing statutory cross reference changes to reflect the revised classification system.

**Section 11.** Amends s. 403.0882 (6)(b), F.S., providing statutory cross reference changes to reflect the revised classification system.

**Section 12.** Amends s. 403.121 (3)(c), F.S., providing statutory cross reference changes to reflect the revised classification system.

**Section 13.** Amends s. 403.707 (5), F.S., providing statutory cross reference changes to reflect the revised classification system.

**Section 14.** Amends s. 403.813 (1)(m), F.S., providing statutory cross reference changes to reflect the revised classification system.

**Section 15.** Provides an effective date of upon becoming a law, unless otherwise provided.

## **II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT**

### **A. FISCAL IMPACT ON STATE GOVERNMENT:**

1. Revenues:

See, Section D, FISCAL COMMENTS

2. Expenditures:

See, Section D, FISCAL COMMENTS

### **B. FISCAL IMPACT ON LOCAL GOVERNMENTS:**

1. Revenues:

See, Section D, FISCAL COMMENTS

2. Expenditures:

See, Section D, FISCAL COMMENTS

### **C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:**

D. FISCAL COMMENTS:

The bill authorizes DEP to develop numeric nutrient criteria and to implement these criteria under specified conditions. Rulemaking authority is provided to DEP for implementation of a revised classification system for water bodies. The bill also directs DEP to revise its rule on dissolved oxygen criteria. Finally, applying the classification system provided in the bill to change designated uses of waterbodies will require rulemaking. According to DEP estimates in the recent past, costs associated with rulemaking start around \$10,000, not including costs associated with legal challenges. DEP will incur additional costs and workload developing and analyzing the data and science on which the above actions will be based.

All rules promulgated to implement this legislation will be subject to s. 120.541, F.S., requiring a statement of estimated regulatory costs. Section 120.541(2)(a), F.S., reads as follows:

(2) A statement of estimated regulatory costs shall include:

(a) An economic analysis showing whether the rule directly or indirectly:

1. Is likely to have an adverse impact on economic growth, private sector job creation or employment, or private sector investment in excess of \$1 million in the aggregate within 5 years after the implementation of the rule;
2. Is likely to have an adverse impact on business competitiveness, including the ability of persons doing business in the state to compete with persons doing business in other states or domestic markets, productivity, or innovation in excess of \$1 million in the aggregate within 5 years after the implementation of the rule; or
3. Is likely to increase regulatory costs, including any transactional costs, in excess of \$1 million in the aggregate within 5 years after the implementation of the rule.

Pursuant to s. 120.541(3), F.S., proposed rules which will have an adverse impact of more than \$1 million over 5 years must be submitted to the Florida Legislature for ratification before rule may go into effect. Considering the historic costs for surface water restoration, the DEP rules are likely to meet or exceed this threshold. An exception to paragraph (2)(a) applies for the adoption of emergency rules pursuant to s. 120.54(4) or the adoption of federal standards pursuant to s. 120.54(6). Neither exception appears to apply in this case.

Other fiscal impacts of the bill are indeterminate and are contingent upon future actions by the EPA, other affected parties, and the courts. Public and private entities requiring new or renewal NPDES permits when the federal criteria is effective will need to comply with the federally-promulgated criteria associated with affected waterbodies. The relationship between EPA's criteria and Florida's criteria will affect the NPDES permitting process, but it is premature to speculate on the bill's impacts in this area.

### III. COMMENTS

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

This bill does not appear to require counties or municipalities to take an action requiring the expenditure of funds, reduce the authority that counties or municipalities have to raise revenue in the aggregate, nor reduce the percentage of state tax shared with counties or municipalities.

2. Other:

None noted.

B. RULE-MAKING AUTHORITY:

The bill authorizes the DEP to promulgate by rule numeric nutrient criteria for surface waters, and provides specific conditions thereto. The bill also provides DEP rulemaking authority to implement the surface water designated uses system and to revise the system, subject to legislative ratification. If modified by rule and ratified by the Legislature, the bill provides for the classification system established in the bill to be repealed.

C. DRAFTING ISSUES OR OTHER COMMENTS:

None.

**IV. AMENDMENTS/ COMMITTEE SUBSTITUTE CHANGES**

On April 5, 2011, the Federal Affairs Subcommittee introduced a Proposed Committee Substitute. The differences between the CS version of the bill and the PCS are as follows:

CS Version	PCS as amended
Prohibits state, regional, or local governmental entities from implementing or giving any effect to the federally-promulgated criteria in any program administered by a state, regional, or local governmental entity.	Limits the prohibition to situations where the criteria are more stringent than necessary to protect the designated use.
Authorizes the DEP to adopt numeric nutrient criteria for a particular surface water body or class of surface waters if the DEP determines that numeric nutrient criteria are necessary to protect aquatic life expected to inhabit those waters. The adopted numeric nutrient water quality criteria shall be based on objective and credible data and studies and reports establishing the nutrient levels at which the water bodies may accept or assimilate without exhibiting imbalances of naturally occurring populations of flora and fauna based on a cause and effect relationship between nutrient levels and biological responses. In addition, such criteria may be expressed in terms of concentration, mass loading, waste load allocation, and surrogate standards, such as chlorophyll-a, and may be supplemented by narrative statements.	Authorization shall be in accordance with s. 403.061, F.S., and implementation of the standard shall only require nutrient reductions where necessary to protect the designated use. DEP may adopt numeric nutrient water quality criteria for a particular surface water or group of surface waters in accordance with s. 403.061, which may be expressed in terms of concentration, mass loading, waste load allocation, and surrogate standards, such as chlorophyll-a, and may be supplemented by narrative statements. The standards established in accordance with this subsection shall be based on objective and credible data, scientific studies and analysis. Implementation of the standard shall only require nutrient reductions where necessary to protect the designated use.
The bill designates DEP-adopted nutrient Total Maximum Daily Loads (TMDLs) that were approved by the EPA as of December 6, 2010, as site-specific numeric nutrient water quality criteria. The site-specific criteria are not effective if the EPA disapproves, approves in part, or conditions its approval of the criteria, unless ratified by the Legislature. The site-specific criteria are subject to s. 403.067, F.S. (Florida Watershed Restoration Act), administrative rules and orders issued thereto, and are subject to s. 120.56(3), F.S., authorizing a substantially affected person to seek an administrative determination of the invalidity of an existing rule. Once approved and effective, the site-specific criteria may be modified, based on objective and credible data, studies and reports, by department rulemaking in accordance with s. 403.804, F.S., after approval by the Environmental Regulations Commission.	Provides that numeric nutrient total maximum daily loads developed by the DEP and approved by the EPA constitute the site specific numeric interpretation of the narrative nutrient water quality criteria.
Not in bill	Revises the Designated Uses for Florida Surface Water Classification System and places the system in statute. Authorizes DEP to revise the classification system by rule, which must be ratified by the Legislature prior to its taking effect. If such revisions are ratified, the statutorily created classification system will no longer be in effect.
Not in bill	Directs the DEP to publish a Notice of Proposed Rulemaking no later than May 31, 2012, to revise the dissolved oxygen criteria applicable to Florida waterbodies

CS Version	PCS as amended
	to take into account the variability occurring in nature.
Effective date of July 1, 2011	Same

On April 5, 2011, the Federal Affairs Subcommittee approved an amendment to the PCS that was offered by Representative Trudi Williams, the sponsor for CS/HB 239. The amendment removed the authorization to the DEP to promulgate rules establishing numeric nutrient criteria, and removed the designation of numeric nutrient total maximum daily loads developed by the DEP and approved by the EPA as the site specific numeric interpretation of the narrative nutrient water quality criteria. Bill drafting staff added numerous statutory cross-reference changes to reflect the revised classification system.

On April 14, 2011, the State Affairs Committee approved a strike-all amendment that was offered by the bill's sponsor. The Strike-all amendment includes all of Section 2 from the PCS that was introduced by the Federal Affairs Committee on April 5, 2011, relating to numeric nutrient criteria, with the following changes:

- The strike-all prohibits state, regional, or local governmental entities from implementing or giving any effect to the EPA-promulgated criteria in any program administered by a state, regional, or local governmental entity where the criteria are more stringent than necessary to protect the biological community and the designated use.
- The addition of the biological community is repeated in the section authorizing the DEP to promulgate numeric nutrient water quality criteria and to implement the standard. Implementation of the standard shall only require nutrient reductions where necessary to protect the biological community and the designated use.

In addition, the strike adds proviso language providing that the revised classification system and the statutory cross-references reflecting the revised system become effective at the same time - July 1, 2012. The analysis reflects the CS/CS, as amended.