



Banana River Lagoon Basin Management Action Plan (BMAP) Provisional Credits for Nutrient Reductions from Nonstructural Activities March 12, 2010

Provisional BMAP Credits

Nonstructural activities are evaluated for *provisional* BMAP credit because there are efforts underway to better define the effectiveness of these activities based on conditions in Florida. In future BMAP iterations, the amount of credit may be adjusted up or down based upon the best available information at that time. Entities who wish to use these types of credits to meet their allocations should be aware that the credit amounts may change over time. Despite their provisional classification, the Florida Department of Environmental Protection (FDEP) supports the use of these activities at the local level to meet BMAP goals and achieve nutrient load reductions.

Provisional Credit for Education and Outreach Efforts

Quantitative credit can be given to stormwater management entities (such as local governments) for public education and outreach efforts that target nutrient reductions. Up to a 6% stormwater load reduction in both total nitrogen (TN) and total phosphorus (TP) for education efforts can be listed on a BMAP project table. The 6% load reduction estimate is based on the Environmental Protection Agency (EPA) Center for Watershed Protection's Watershed Treatment Model.

In order for credit to be given in a BMAP, each entity that wishes to include education in their project table must provide a detailed write up that outlines their current and planned education and outreach efforts, which help to reduce nutrient loads. These efforts should be quantified to the extent possible (e.g. the number of pamphlets distributed per year, number of presentations given per year). Depending on the level of effort demonstrated by the detailed description of the local education program, the amount of reduction credited may be adjusted at the FDEP's discretion.

Credit will be given for the following acceptable education activities:

1. Local funding to implement the Florida Yards and Neighborhoods program within the city or county.
2. Local land development codes or ordinances that require Florida Friendly landscaping on all new developments, require commercial landscapers to obtain training and certification through the Green Industry BMP program, require irrigation systems per Sections 125.568 and 166.048, F.S. and Section 373.185, F.S., and which specify fertilizer application rates and types. Local ordinances that control pet waste and require that residents pick up and properly dispose of pet wastes. Full credit given if local codes include all four components (landscaping, irrigation, fertilizer, and pet waste management), partial credit for programs that only require one or two components.

Model ordinances are available at: <http://www.dep.state.fl.us/water/nonpoint/pubs.htm> and model irrigation ordinances are available from the SJRWMD.

3. Implementation of public service announcements (PSAs) on local cable or commercial television and radio stations. PSAs can include those developed locally or those developed through the Think About Personal Pollution (TAPP) Campaign (<http://www.tappwater.org/>). Other PSAs are available through the UCF Stormwater Academy (<http://www.stormwater.ucf.edu>).
4. Informational pamphlets on pollution prevention, fertilizer application, Florida Friendly Landscaping, water conservation, septic tank maintenance, etc. The Stormwater Education ToolBox (SET) is available on-line from the UCF Stormwater Management Academy (<http://www.stormwater.ucf.edu>). Presentations on the above topics to civic groups, local businesses, students, and the general public.
5. Websites to provide information on reducing nutrient pollution for homeowners and businesses.
6. Inspection program and public call-in number to address illicit discharges.

Credit is assigned for the above efforts as follows:

- If all six types of activities are conducted by an entity, then the full 6% reduction is assigned.
- If an entity only has the PSAs, websites, brochures, and the inspection program, they will receive a 1% reduction credit.
- If an entity only has FYN, they will receive a 3% reduction credit.
- If an entity only has the Florida friendly ordinances (landscaping, irrigation, fertilizer, and pet waste management), then they will receive a 2% reduction.
- Other combinations of efforts are analyzed on a case-by-case basis for credit.

Provisional Credit for Street Sweeping Activities

FDEP is awaiting results from the Florida Stormwater Association (FSA) street sweeping study to provide additional information on how provisional credits should be calculated in the Indian River Lagoon BMAPs. FDEP intends to grant provisional credit for street sweeping efforts and is working on calculations that are specific to Florida conditions.

In the meantime, FDEP wanted to share an example of the calculations that have been used in another basin. The previous method for calculating TP reductions from street sweeping is based on a per roadway mile swept; TN values based on this method have not yet been utilized. The miles of roadway swept and the frequency will be obtained from each of the entities. It is important to note the calculation should use roadway miles and not curb miles (as reported in the MS4 reports). The U.S. Geological Survey (USGS) report, "Potential Effects of Structural Controls and Street Sweeping on Stormwater Loads to the Lower Charles River" (Zarriello, et al) was used as the starting point for determining the TP load per mile of roadway. The report estimated the TP load to be 14 g/mi/day. This value was reduced by 50% to account for the uncertainty in the 14 g/mi/day value as an aggregate across a variety of rainfall conditions (which was the process to calculate the load in the report). The resulting load was 7 g/mi/day. This value was then reduced again by 50% to account for the difference between Massachusetts values and Florida. Therefore, the value that was used was 3.5 g/mi/day of TP (or 1,277.5

g/mi/yr of TP). The conservative value balanced the need to provide load reduction credit for street sweeping activities with the uncertainty of available data. These reductions will be recalculated in future iterations of the BMAP where they were utilized based upon development of Florida-specific values, such as the FSA study.

The TP removal efficiency values for different frequencies of sweeping were determined using data from the EPA Center for Watershed Protection, University of South Florida, and Orange County's Stormwater Management Division (see table below).

Street Sweeping Efficiency Values	
Sweeping Frequency	TP Removal Efficiency
Daily or 2 times/week	7%
Weekly	5%
2 times/month	4%
Monthly	3%
Quarterly	2%
Annually	1%

The total miles swept were multiplied by the TP g/mi/year (1,277.5 g/mi/yr) and then multiplied by the efficiency value from the above table based on the frequency of sweeping. The final value was converted to lbs/year to assign credit in the BMAP.

Contact Information

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