



## Economic Impact Analysis Virginia Department of Planning and Budget

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### 4 VAC 5-15 – Nutrient Management Training and Certification Regulations Department of Conservation and Recreation July 30, 2013

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#### Summary of the Proposed Amendments to Regulation

Pursuant to Chapter 796 of the 2012 Virginia Acts of Assembly, the Department of Conservation and Recreation (DCR) proposes to incorporate in its regulations new, and lower than current, recommended fertilizer application rates for nitrogen for new and existing lawns.

#### Result of Analysis

The benefits likely exceed the costs for all proposed changes.

#### Estimated Economic Impact

Pursuant to Chapter 796 of the 2012 Virginia Acts of Assembly, the proposed changes will incorporate in the regulations new, and lower than current, recommended fertilizer application rates for new and existing lawns. Chapter 341 of the 2011 Virginia Acts of Assembly directed the Virginia Department of Agriculture and Consumer Services (VDACS), in consultation with DCR and the Chesapeake Bay Commission, to prepare a report concerning, among other things, the recommended fertilizer application rates for lawns. In response, VDACS assembled a technical advisory committee that recommended the application rates below.

*For lawn fertilizer and lawn maintenance fertilizer:*

- *No more than 0.7 pounds per 1,000 square feet of readily available nitrogen, as defined by AAPFCO, during any given 30 day period.*
- *No more than 0.9 pounds per 1,000 square feet of total nitrogen on cool season grasses during any given 30 day period.*
- *No more than 1.0 pound per 1,000 square feet of total nitrogen on warm season grasses during any given 30 day period.*

*For “Slow or Controlled Release Fertilizer,” and for “Enhanced Efficiency” lawn maintenance fertilizer:*

- *No more than 2.5 pounds of nitrogen per 1,000 square feet per application, with a release rate of no more than 0.7 pounds of nitrogen per 1,000 square feet per 30 days.*
- *The total annual application rate shall not exceed 80% of the nitrogen rates recommended for cool or warm season grasses in the Virginia Nutrient Management Standards and Criteria.*

Following the technical advisory committee's recommendations, Chapter 796 of the 2012 Virginia Acts of Assembly directed DCR to adopt these recommended fertilizer application rates in its regulations. In response, DCR updated its 2014 version of the document titled "Virginia Nutrient Management Standards and Criteria" to reflect these recommendations, and now proposes to make the same update to fertilizer application rates in its regulations pursuant to the new 2014 version.

The proposed recommended application rates are approximately 30% lower than the current rates. DCR estimated in 2012 that the change in the recommended application rates could amount to as much as 164,000 pounds of nitrogen reductions over 1.2 million acres of the area they are applied to. While this estimate continues to be the most current data available, there appears to be significant uncertainty associated with it. These rates are recommendations; they are not and will not be enforced. Their implementation will be accomplished primarily through education and training efforts directed to homeowners, golf courses, lawn maintenance businesses, etc. An accurate estimate would require compliance with the current rates, as well as the proposed rates, both of which are not known. Nonetheless, a general reduction in the quantity of fertilizers applied to lawns would have certain effects on property owners with lawns, manufacturers, DCR, and the environment.

Property owners with lawns could be private individuals, small or large for-profit corporations, non-profit organizations, or local, state or even federal government entities. However, DCR does not have an accurate inventory of entities that may be affected by these proposed application rates. If property owners reduce their fertilizer application rates, they would purchase less and realize some monetary savings. At the present time, home lawn fertilizer costs approximately \$1 per pound. At this price, a 164,000 pounds reduction in fertilizer consumption would produce \$164,000 in savings to property owners. In addition, nitrogen reductions in the Commonwealth's water bodies may result in fewer post-construction controls to reduce runoffs.

These controls are known as best management practices and may include but are not limited to rainwater harvesting, vegetated roofs, bioretention, filtering practices, extended detention ponds, etc.

A non-negligible decrease in the quantity of fertilizers applied would also reduce the revenues of manufacturers. However, manufacturers are unlikely to experience any other significant compliance costs because the statute explicitly prohibits a ban on the sale of fertilizers whose labels are inconsistent with the new proposed rates at the time the proposed regulations go into effect. The proposed rates and their effective dates are already publicly available and manufacturers are likely to be in compliance by the time they become effective in July 2014.

The effects of the new application rates on DCR are not expected to be significant. The main effect on DCR is likely to be in terms of the need to provide training to educate affected entities about the changes in the recommended rates. However, the proposed regulations do not have any provisions requiring additional training. DCR estimates that changing the curriculum of the existing training would be sufficient enough to address the education aspect of the proposed rate changes. Thus, the administrative costs for DCR are expected to be minimal.

A significant reduction in the quantity of fertilizers applied to lawns would have certain positive environmental impacts. When properly applied, nutrients in fertilizers help plants grow and look beautiful. Thus, they are extensively used by property owners to maintain their landscape. However, lawn fertilizers sometimes run off into surface streams and other water bodies especially if they land on sidewalks, driveways, or gutters. Once they reach water bodies, they fuel growth of algae which, upon decomposition, reduces oxygen levels in the water and harms fish and other organisms. Nutrients in fertilizers may also leach into groundwater and contaminate it. The amount of runoff and leaching are affected by many factors including the slope of the area, the characteristics of the soil, vegetation, and the amount and timing of rainfall or watering. Finally, excess fertilizer application can injure the very landscape plants they are intended to help. In short, while proper application of fertilizers helps maintain landscape beauty and quality, misapplication can pollute lakes, rivers, bays, and even groundwater.

As the quality of water improves, the beneficial uses of water also improve. Thus, improved freshwater, marine, and estuarine quality certainly has an economic value. The value may stem from the improved commercial and recreational use of water resources such as fishing

and duck hunting; improved primary and secondary contact recreational uses such as swimming and boating; improved tourism activity such as an increase in the number of visitors from other states; improved aquatic and wild life support such as providing a suitable habitat for certain species; improved water quality for potable and non-potable uses such as drinking and agricultural irrigation; a reduced need for cleaning efforts such as reductions in TMDL implementation costs for the Chesapeake Bay; etc.

### **Businesses and Entities Affected**

These regulations apply to the property owners with lawns which could be private individuals, small or large for-profit corporations, non-profit organizations, or local, state or even federal government entities. Improved water quality could benefit all members of the public.

### **Localities Particularly Affected**

While recommended application rates are uniform across the Commonwealth, reduced fertilizer runoff would benefit downstream localities more than it would upstream localities.

### **Projected Impact on Employment**

The recommended reduction in the fertilizer application rates may reduce demand for labor by manufacturers as less of it may be produced in the Commonwealth. On the other hand, improvements in water quality would likely add to the demand for labor due to increased uses stimulating economic activity.

### **Effects on the Use and Value of Private Property**

Applying the proper quantity of fertilizer is expected to benefit lawns as well as the quality of water bodies. A positive effect on the use and value of private properties in proximity of the improved lawns and improved water bodies may be expected.

### **Small Businesses: Costs and Other Effects**

Most of the manufacturers of lawn fertilizers are believed to be large businesses. Thus, no significant cost on small businesses is expected. However, increased uses of water resources may benefit small businesses in proximity to these resources.

## **Small Businesses: Alternative Method that Minimizes Adverse Impact**

The new recommended lawn fertilizer rates are not expected to have an adverse impact on small businesses.

## **Real Estate Development Costs**

Nitrogen reductions in the Commonwealth's water bodies may lead to fewer post-construction controls known as best management practices and may reduce real estate development costs.

## **Legal Mandate**

The Department of Planning and Budget (DPB) has analyzed the economic impact of this proposed regulation in accordance with Section 2.2-4007.04 of the Administrative Process Act and Executive Order Number 14 (10). Section 2.2-4007.04 requires that such economic impact analyses include, but need not be limited to, a determination of the public benefit, the projected number of businesses or other entities to whom the regulation would apply, the identity of any localities and types of businesses or other entities particularly affected, the projected number of persons and employment positions to be affected, the projected costs to affected businesses or entities to implement or comply with the regulation, and the impact on the use and value of private property. Further, if the proposed regulation has an adverse effect on small businesses, Section 2.2-4007.04 requires that such economic impact analyses include (i) an identification and estimate of the number of small businesses subject to the regulation; (ii) the projected reporting, recordkeeping, and other administrative costs required for small businesses to comply with the regulation, including the type of professional skills necessary for preparing required reports and other documents; (iii) a statement of the probable effect of the regulation on affected small businesses; and (iv) a description of any less intrusive or less costly alternative methods of achieving the purpose of the regulation. The analysis presented above represents DPB's best estimate of these economic impacts.