

## **EPA Chesapeake Bay Program - Report 2013**

### **CONCLUSION - "A dense vegetative cover of turfgrass on a lawn reduces pollution and runoff."**

**- EPA Chesapeake Bay Program Final Report 2013 EAST DUNDEE, IL — June 14, 2013**

According to a recent report released by the Chesapeake Stormwater Network, more than 3.5 million acres of urban pervious lands exist in the Chesapeake Bay watershed, comprising nearly 10% of its total area and a good part of that land cover is comprised of both fertilized and unfertilized turfgrass. The question is – were the original approved definitions of Urban Nutrient Management proposed by the Chesapeake Bay Program ambiguous and justified?

Let's begin by turning back the clock to March 2011 when a report by Environmental Maryland titled, ***"Urban Fertilizers and the Chesapeake Bay: An Opportunity for Major Pollution Reduction"***, detailed the harmful effects of lawn fertilizer on the Chesapeake Bay and concluded that to reduce pollution for lawn fertilizer, lawmakers needed to take two broad steps: limit the amount and type of nutrients in the fertilizer itself, and ensure that homeowners and lawn care companies apply less fertilizer to the ground.

Prior to, and well after the report was released, concerned citizens, local law makers, environmentalists, community activists, etc., all with the best of intentions expressed their concern and the need for stronger restrictions or the discontinued use of lawn fertilizers all together.

But wait! More than a few heads turned last winter when the U.S. Environmental Protection Agency's Chesapeake Bay Program pulled together a "panel of experts" to look at lawns, lawn care and the impact lawns have on water quality in the Chesapeake Bay. Their approved final report, ***"Recommendations of the Expert Panel to Define Removal Rates for Urban Management"***, that was prepared by Tom Schueler and Cecilia Lan of the Chesapeake Stormwater Network revealed some interesting conclusions including - - Lawn fertilization is actually good for water quality.

- The "panel of experts" was comprised of a diversified group including:  
Jonathan Champion, District Department of the Environment - Stormwater, Watershed Protection Division, District of Columbia
- Karl Berger - Metropolitan Washington Council of Governments
- Dr. Stu Schwartz - a senior scientist with the Center for Urban Environmental Research and Education, University of Maryland, Baltimore County
- William Keeling - Virginia Department of Conservation and Recreation
- Dr. Gary Felton, Associate Professor & Extension Specialist, Bioenvironmental Engineering/ Water Quality, College of Agriculture and Natural Resources, University of Maryland, College Park
- Dr. Neely Law - Center for Watershed Protection
- Marc Aveni - Prince William County Department of Public Works
- Dr. Mike Goatley, College of Agriculture and Life Sciences, Department of Crop & Soil Environmental Sciences, Virginia Tech
- Tom Schueler - Chesapeake Stormwater Network (panel facilitator)
- Technical support providers included: Jeremy Hanson (CRC), Molly Harrington

- (CRC), Gary Shenk (EPA CBPO), Jeff Sweeney (EPA CBPO) and Mark Sievers (TetraTech).

The panel reviewed over 150 research studies and additional reports to understand turfgrass nitrogen (N) and phosphorus (P) dynamics, homeowner fertilization behaviors, the effects of P fertilizer restrictions in watershed outside of the Bay and the effect of various outreach campaigns to change those behaviors. The panel's conclusion, based upon a review of all the science and research done on the topic -

***“ . . . a dense vegetative cover [of turfgrass] helps to reduce surface runoff which can be responsible for significant nutrient export from the lawn, regardless of whether it is fertilized or not. Dense cover has been shown to reduce surface runoff volumes in a wide range of geographic settings and soil conditions.”***

*(Easton and Petrovic, 2004, 2008a,b, Garn, 2002, Bierman et al 2010, Ohno et al, 2007, Raciti et al, 2008, Shuman, 2004, Vlach et al, 2008, Legg et al, 1996 and Spence et al, 2012.)*

The experts concluded that the healthier a lawn, the better it is at controlling pollutants that can affect water quality in streams and rivers, and eventually the Chesapeake Bay.

Gregg Robertson, a government relations consultant for the Pennsylvania Landscape & Nursery Association offered these comments:

“Those of us who have been following this issue knew this was the case from the research. But the industry saying it was one thing, the EPA saying it quite another matter.

“The conventional ‘wisdom’ up to this point and the attitude around EPA was that fertilizing your lawn was bad for water quality. In fact, the opposite is true. The research shows that a responsible program of lawn fertilization will actually improve water quality in the Bay.

“The report’s data show that, on the whole, lawns in the Chesapeake Bay watershed are under fertilized, with 50 percent receiving no fertilizer at all. Do-it-yourself homeowners fertilize only an average of 1.7 times per season, while the report recommends three to four applications per year. Ninety-one percent of those who apply any fertilizer are do-it-yourselfers.”

Robertson went on to add, “... the good news for our industry is the report’s first recommendation for Bay-friendly lawn care practices is for homeowners to “Consult with the local extension service office, certified plan writer or applicator to get technical assistance to develop an effective urban nutrient management plan for the property, based on soil test analysis.

“Let me translate that: EPA is recommending that homeowners consult our industry to develop a plan to care for their lawns. Its second recommendation is what I believe is the summation of all the research on the topic of lawn care and water quality: Maintain a dense vegetative cover of turfgrass to reduce runoff, prevent erosion and retain nutrients.

“The research demonstrates that dense vegetative cover helps to reduce surface runoff, which can be responsible for significant nutrient export from the lawn, regardless of whether it is fertilized or not. If a lawn does not have a dense cover, it has an elevated risk for nutrient export, especially if soils are compacted or slopes are steep. In these situations, the primary nutrient management practice is to identify the factors responsible for the poor turf cover, and implement practices to improve it (e.g., tilling, soil amendments, fertilization or conservation landscaping).”

Robertson when on to add, “To put this in clearer language, healthier lawns mean a healthier Chesapeake Bay. And if this isn’t enough, the report recommends that fertilizer be applied in small doses over the season in three to four applications. The report then cites research that confirms that it’s the practice of lawn care companies to apply fertilizer in four to five smaller applications over the course of the season.”

The report contains several common-sense recommendations under the title of *Core Urban Nutrient Management Practices* for the Chesapeake Bay. They include the following:

- Consult with the local extension service, master gardener or certified applicator to get technical assistance to develop an effective urban nutrient management plan for the property.
- Maintain a dense vegetative cover of turf grass to reduce runoff, prevent erosion, and retain nutrients.
- Choose not to fertilize, OR adopt a reduce rate/monitor approach OR the small fertilizer dose approach.
- Retain clippings and mulched leaves on the yard and keep them out of streets and storm drains.
- Do not apply fertilizers before spring green up or after grass becomes dormant.
- Maximize use of slow release N fertilizer during the active growing season.
- Set mower height at 3 inches or taller.
- Immediately sweep off any fertilizer that lands on a paved surface.
- Do not apply fertilizer within 15 to 20 feet of a water feature (depending on applicable state regulations) and manage this zone as a perennial planting, meadow, grass buffer or a forested buffer.
- Employ lawn practices to increase soil porosity and infiltration capability, especially along portions of the lawn that convey or treat stormwater runoff.

If everyone associated in any way with the green industry, (i.e., landscapers, landscape architects, sports field managers, golf course superintendents, green industry associations, turfgrass producers, etc.) helped to communicate these best management practices to homeowners, lawn care providers and fellow green industry professionals, the benefit to our environment would be immense, and it would have a positive impact on protecting the water quality of our rivers, lakes and streams worldwide.

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