Recommendations of the Expert Panel to Define Removal Rates for Urban Nutrient Management

WQGIT March 11, 2013

Chesapeake Bay Program
A Watershed Partnership

The Expert Panel

Panelist	*Affiliation*
Jonathan Champion	District Department of the Environment
Karl Berger	Metropolitan Washington Council of Governments
Dr. Stu Schwartz	University of Maryland, Baltimore County
William Keeling	Virginia Department of Conservation and Recreation
Dr. Gary Felton	University of Maryland, College Park
Dr. Neely Law	Center for Watershed Protection
Marc Aveni	Prince William County Department of Public Works
Dr. Mike Goatley	Virginia Tech
Tom Schueler	Chesapeake Stormwater Network (panel facilitator)

Technical support by Jeremy Hanson (CRC), Molly Harrington (CRC), Gary Shenk (EPA CBPO), Jeff Sweeney (EPA CBPO) and Mark Sievers (TetraTech) is gratefully appreciated

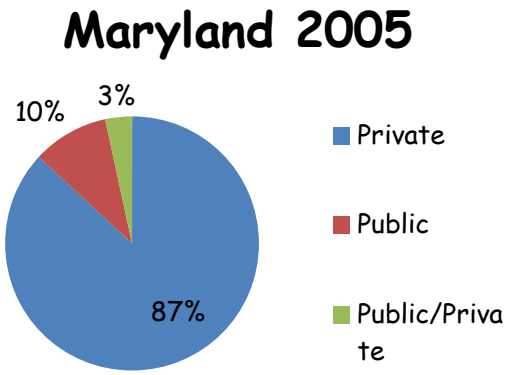
Process

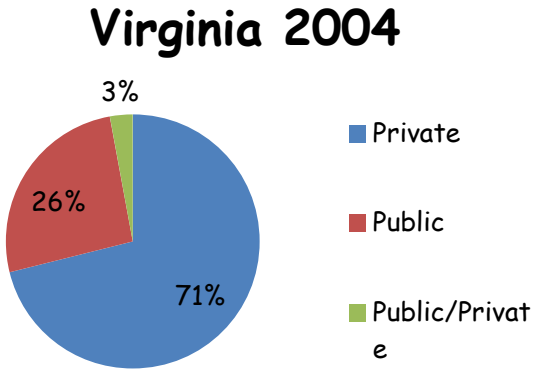
- Dec 17 Roll out Meeting
- 45 day comment period
- Comments received from:
  - MD Dept. of Ag
  - Agricultural Workgroup
  - Ches Bay Commission
  - Gary Felton (panelist)
  - VA DCR
  - PA DEP
  - Industry groups

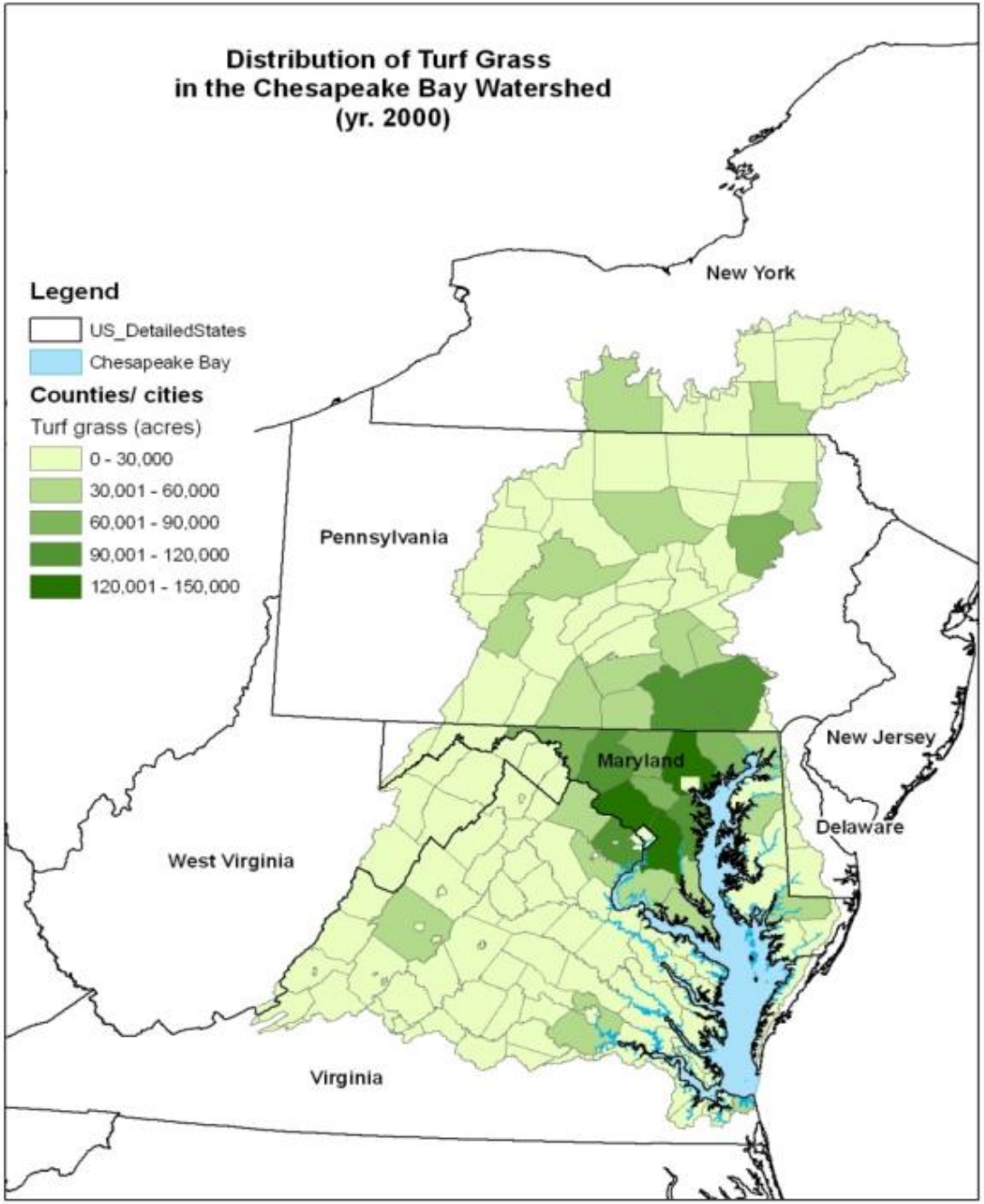
- Version 2 released Feb 3, along with response to comments, and conformity review (Appendix E)
- USWG and WTWG have endorsed the report and request approval today

Pervious land has grown steadily in the last 3 decades

Most recent estimates by P. Claggett indicate pervious land is about 10% of entire Bay watershed






Distribution of Turf Grass
in the Chesapeake Bay Watershed
(yr. 2000)
Legend
US_DetailedStates
Chesapeake Bay
Counties/ cities
Turf grass (acres)
0 - 30,000
30,001 - 60,000
60,001 - 90,000
90,001 - 120,000
120,001 - 150,000
New York
Pennsylvania
New Jersey
Maryland
Delaware
West Virginia
Virginia

Summary of Urban Nutrient Management Credits for Phosphorus and Nitrogen on Urban Pervious Land				
Nutrient	*Statewide with P fertilizer legislation*	*Statewide without P fertilizer legislation*	*Urban Nutrient Management (UNM)*	*Alternative Outreach Option*
TP	25%	20%	Low risk: 3% High risk: 10% Blended: 4.5%	Alternative: 0% Passive: 0%
TN	N Law Credit: 9% for qualifying commercial applicators, 4.5% for do-it-yourselfers (MD) Other States: 3% for every 10% decrease in N urban fertilizer input from CBWM benchmark		Low risk: 6% High risk: 20% Blended: 9%	Alternative: 3% Passive: 0%

High Risk Factors Defined

- Owners are currently over-fertilizing beyond state or extension recommendations
- P-saturated soils as determined by a soil P test
- Newly established turf
- Steep slopes (more than 15%)
- Exposed soil (more than 5 % for managed turf and 15% for unmanaged turf)
- High water table (within three feet of surface)
- Over-irrigated lawns
- Soils that are shallow, compacted or have low water holding capacity)
- High use areas (e.g., athletic fields, golf courses)
- Sandy soils (infiltration rate more than 2 inches per hour)
- Adjacent to stream, river or Bay (within 300 feet)
- Karst terrain

Justification of Core UNM Practices

- More than 40 studies support reduced risk of N export associated w/ individual lawn care practices
- Practices include both fertilization AND management of "lawn biomass"

Core UNM Practices for the Chesapeake Bay

1. Get *technical assistance* to develop an effective UNM plan for the property
2. Maintain a **dense** vegetative cover of grass
3. Choose not to fertilize, **OR** adopt a reduce rate/monitor approach **OR** the use the small fertilizer dose approach
4. Retain clippings and mulched leaves on the yard and keep them out of streets and storm drains
5. Do not apply fertilizer before spring green up or after Halloween *

Core UNM Practices for the Chesapeake Bay

6. Maximize use of slow release N fertilizer during the active growing season
7. Set mower height at 3 inches or taller
8. Immediately sweep off any fertilizer that lands on a paved surface
9. Do not apply fertilizer within 15 to 20 feet of a water feature and manage this zone as a perennial planting, meadow or a forested buffer
10. Employ lawn practices to increase soil porosity and infiltration capability especially on portions of the lawn that can treat stormwater runoff.

The “Choose not to fertilize” option only applies to mature, flat lawns with dense ground cover

Norm goulet’s house does not qualify

Unresolved Issue

Debate over Alternative Outreach Option.

1: drop it entirely (cuts in yellow)
2: drop it as a credit, but retain some language on innovation in Section 7
3: Retain as is

USWG Voted for Option 3

WTWG and AG Workgroup voted for Option 2

DECISION NEEDED TODAY FROM WQGIT TODAY

Alternative Outreach

Alternative methods to motivate property owners or commercial applicators to implement the core UNM practices, such as:

- Use of local or regional social media/marketing campaigns to deliver the core message to a geographically defined target population, and encourage them to develop a UNM plan/pledge.
- Map high risk export factors within a community to target outreach efforts to develop more UNM plans in these areas
- Target training to commercial applicators, lawn care companies, landscape contractors or property managers to encourage them to adopt UNM practices
- Point of sale outreach at retail sales outlets to encourage UNM practices
- Other innovative outreach efforts, as approved by state and/or extension service.

Alternative Outreach (cont.)

- The acreage of UNM plans and/or pledges is still the metric for nutrient credit
- Sponsoring agencies are eligible for a three year N reduction credit equivalent to 3% of the N load generated for the total pervious area within the geographical area target.
- Credit is contingent upon the implementation of a before and after survey to measure actual changes in fertilization behavior outcomes.
- After 3 years, the credit is adjusted upwards or downwards based on the actual survey results or UNM plans.

Other Issues

- Add New Nitrogen Fertilizer Law Credit for MD.
- USWG and WTWG supports, w/ some word-smithing

- New language on UNM plan verification. USWG and WTWG supports

- Drop definition and use of conservation landscaping USWG and WTWG supports, roll conservation landscaping into another expert panel

- Edits to core UNM practices. USWG and WTWG supports

- Non-farm fertilizer statistics USWG supports

The Nitrogen Fertilizer Law Credit

- refers to any state legislation or regulations that:

(a) limits the N content and establishes minimum slow release content for DIY fertilizer products sold in retail outlets

(b) sets an upper limit on the maximum amount of N fertilizer that commercial applicators can apply in any one application (0.9 lbs/acre/year)

(c) prohibits application on paved surfaces, water features, or during the dormant season, and,

(d) has verifiable procedures for commercial applicator training, certification, and application record-keeping, including fines for non-compliance

State-wide N fertilizer Law Credit

- Commercial applicators in Maryland are now required to use at least 7 out of the 10 core UNM practices. Consequently, MD is eligible to take the "blended" UNM nitrogen credit (i.e., 9%) for the total acreage of lawns managed by commercial applicators that it can verify as conforming with the new regulations.

- Maryland may also receive low risk UNM nitrogen credit (4.5%) for the acreage of home lawns managed by do-it-yourselfer, as influenced by its new retail sales and labeling requirements. The smaller credit is warranted by the fact that only 4 of the 10 core UNM practices are implemented under this approach (i.e., several practices are still subject to homeowner discretion).

*To prevent double counting, MD would **not** be eligible for UNM credits, except on non-fertilized lawns*

Fundamental Reporting Unit: Acres in UNM Plan

UNM Plan for 9200 Bradford Pear Lane: 0.5 acres		
1	Get Expert Lawn Advice	✓
2	Maintain Dense Cover on Turf	✓
3	Choose NOT to fertilize	✓
4	Recycle Lawn Clippings and Compost Fallen Leaves	✓
5	Correct Fertilizer Timing	N/A
6	Use Slow Release Fertilizer	N/A
7	Set Mower Height at 3 inches	✓
8	No off-target fertilization	N/A
9	Fertilizer free buffer zones around water features	✓
10	Increase soil porosity and infiltration	✓

UNM Verification Issues

- 84,000 farms vs. 4 million lawns
- What would on-site UNM verification actually measure ?
- Very limited existing institutional capacity for UNM delivery and verification
- Residential lawn police ?
- Work on issue in the future with *Ag* workgroup

UNM Communication Issues

- Need for Bay-wide meeting of urban extension, soil scientists, turf specialists and green industry professionals to craft and deliver a consistent and concise Bay UNM message to homeowners