STAC WORKSHOP PROPOSAL
2/13/2013 Draft

The Peculiarities of Perviousness:
a workshop to define, measure and model the nutrient dynamics
from the mosaic of land cover known as pervious land

Format: A two day research synthesis workshop

Requesting Bodies and Sponsors: Urban Stormwater Workgroup, Land Use Work Group. Prior Urban BMP Expert Panels.

Audience: (60 to 75)

- Urban stormwater managers
- GIS, mapping and land use experts
- Local and state watershed planners
- Urban foresters, soil and turf scientists
- CBPO modeling and SB teams

Objectives:

Characterize the key source areas and pervious cover types that generate nutrients and or reduce runoff in the urban landscape and determine whether it is feasible to utilize them in Phase 6 of the Chesapeake Bay Watershed Model, by answering the following questions:

- Does the source or cover type depart in a meaningful way from the average nutrient loading from pervious land?

- If so, are their existing or future mapping tools that can accurately measure the source or cover type at the scale of a county and the entire Bay watershed ?

- If so, can the pollutant dynamics of the source or cover type be accurately simulated in the contest of existing or future versions of the watershed ?

- If so, would the source or cover type respond in a unique manner to the application of a new or existing urban BMP type?

Based on the foregoing analysis, recommend the best process for making scientifically sound classification of pervious land for the purposes of predicting and managing nutrient loads from pervious land

Proposed Sessions

(In no order of priority, and several of the following sessions may need to be dropped or combined in order to fully address the topic)

1. The CBWM and Pervious Land: Past, Present and Future (Speaker: Gary Shenk)

2. Runoff Concentrations from the Storm Drain Pipe
What have we learned about pollutant concentrations from mixed urban land over the past three decades, and how does that knowledge inform how we manage pervious and impervious land?
(Possible experts: Tom Grizzard from VA tech, and other runoff monitoring experts in the Bay)

3. Sediment and Vegetation as a Source:
Can different levels of nutrient enrichment in sediments and detritus in the urban landscape be used to define or predict nutrient loading (Possible Speakers: Pouyat. CWP, others)

4. Terrain, Topography and Bay Proximity
How does runoff generation and nutrient loading for pervious land differ across the watershed solely due geographic factors such as karst, coastal plain, mountains, reservoirs or proximity to the bay?
(One speaker per geographic factor)

5. The stream corridor as a land cover type.
How do stream bank erosion, illicit discharges, and sewage transmission losses influence nutrient and sediment loading and processing within the stream corridor?. How does the stream corridor itself act to process nutrients and sediments delivered from upland and adjacent urban land
(Speakers from three different expert panels)

6. How many types of turf cover should be simulated ?
Should turf cover be sub-divided into different types based on nutrient risk, fertilizer application rate or other factor, and if so, can these factors be measured at the local or Bay watershed scale?
(speakers from urban nutrient management panels and some outsiders)

7. RU Connected?
Are their differences in runoff or loads from impervious area that are connected to pervious areas as compared to impervious cover that is directly connected to the storm drain system? If so, can we accurately map connected and disconnected land
(Speakers: Both stormwater researchers and mapping experts)

8. Construction sites as an urban source area
What do we really know about runoff and pollutant generation from the many different stages associated with construction from land clearing and final stabilization, and how is it influenced by the use of traditional or enhanced erosion and sediment control practices? How can we estimate the year to year changes in the acreage of land subject to construction in the context of the watershed model?
(Speakers: multiple members of the ESC expert panel)

9. Does ownership matter?
If it is possible to accurately define who owns the urban land in the watershed model (e.g., federal, commercial, industrial, MS4-regulated or institutional, etc.), would it make any meaningful difference in how these lands are managed or regulated?
(Speakers: ?)

10. Trees on Pervious land: Nutrient Source or Sink?
Pervious land has some tree canopy although it is not considered forest. What are the nutrient exchanges between trees, urban soil and adjacent impervious cover? are any of these exchanges amenable to new urban management practices

11. Urban Ditches: Prospects for Low Cost Retrofits
Development in exurban and rural pervious land is often served by ditches rather than storm drains, particularly in the coastal plain and along highways. Do ditches have different nutrient processing than storm drain pipes, and if so, can these functions be enhanced by retrofits
(possible speakers, Bill Wolinski, Talbot County, MD SHA)

12: Next Steps in the Process for Defining Pervious Land in the CBWM

Proposed Timeframe: Late Summer/Early Fall 2013:

Resources Needed: About 10K for meeting costs and a research intern to handle workshop preparation and logistics

Previous Experience: CSN has extensive experience in arranging workshops and meetings**.** Builds on the 2012 STAC workshop 'The Role of Natural Landscape Features in the Fate and Transport of Nutrients and Sediment'

Workshop Product: Summary of research and recommendations, and draft charge for expert panel to consider them in greater detail