USWG Priority Research needs - 7/8/2015	Recommended by
Conduct source area monitoring research to confirm the load, concentrations and sources of organic N and P in lawn runoff, and define the specific contribution of lawn and leaf debris to nutrient loads associated with both pervious and impervious cover	Urban Nutrient Management Panel
Further study to determine whether wet weather SSOs should be granted nutrient credit and what sewer monitoring and modeling tools would be needed to compute and verify them.	Gray Infrastructure Panel
Rapid field assessment methods to assess project performance, identify maintenance problems, develop specific rehabilitation regimes, or down-grade nutrient credits where projects fail	Stream Restoration Panel
Research into magnitude and extent of illicit discharges, sewage exfiltration and overflows across the Chesapeake Bay	Gray Infrastructure Panel
The nutrient dynamics within individual ESC practices should be investigated to ascertain whether some practices or design variations promote greater nutrient reduction.	Erosion and Sediment Control Panel
A short-term and intensive monitoring study that focuses on the nutrient concentrations in construction site discharges during the period of high fertilizer wash off risk that occurs during and after site stabilization.	Erosion and Sediment Control Panel
Conduct additional research on stream restoration in the and western coastal plan, the ridge and valley province and the Appalachian plateau as the majority of the available stream research has occurred in the Piedmont portion of the Bay watershed,	Stream Restoration Panel
Conduct monitoring studies to estimate the contribution of sediment and nutrients from stream bank and channel erosion and determine the causes underlying stream bank erosion.	Stream Restoration Panel
Research to evaluate the function of pollutant removal capabilities of urban forested buffers less than 35ft along the flow path.	Filter Strips Panel
Subwatershed monitoring studies that could explore how much upland retrofit implementation is needed to optimize functional uplift when stream restoration and stormwater retrofits are installed as part of an integrated restoration plan.	Stream Restoration Panel
Subwatershed monitoring studies that could explore how much upland retrofit implementation is needed to optimize functional uplift when stream restoration and stormwater retrofits are installed as part of an integrated restoration plan.	Urban Stream Restoration Panel
Credits for additional alternative BMPs (e.g., pet waste). Several of the county restoration plans incorporated pet waste strategies for reducing nitrogen in local TMDLs. For some watersheds (i.e. Gwynns Falls, Loch Raven, Annacostia...) the reductions claimed were from 30 to 50% of the total WLA. Because this BMP was a common strategy - it would help us out of the there was further study and criteria specified for credit.	MDE
Develop improved methods to quantify the actual lawn fertilizer N and P inputs for pervious lands through enhanced reporting and analysis of non-farm fertilizer sales data	Urban Nutrient Management Panel
Development of a database of the different stream restoration projects that are submitted for credit under each protocol, and case studies that profile both failure and success stories and on-going maintenance needs that may be required to preserve the credits (see Section 7.1).	Stream Restoration Panel
Establishment of a nutrient discharge fingerprinting database for grey infrastructure. Database would consist of nutrient concentrations, flow rates and flow durations for each of the discharge types in the watershed as they are submitted for credit.	MDE
Conduct monitoring studies to assess the impact of MS4 education and outreach on water quality.	USWG - threshold literature review on MS4 outreach

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Conduct monitoring studies to quantify the nutrient and sediment load reductions associated with stormwater outfall stabilization efforts.	USWG - threshold literature review on outfall stabilization
Further economic, sociologic, and ecological research to define the value and benefits of local stream restoration projects, beyond nutrient or sediment reduction.	Stream Restoration Panel
Further refinement in stream restoration design methods that are habitat-based and watershed process-oriented,	Stream Restoration Panel
Improve knowledge of best detection methods, nutrient concentrations associated with specific nutrient discharge types, the effect of groundwater migration and denitrification, and more precise methods for estimating the flow volume and duration associated with the discharge types.	Gray Infrastructure Panel
Investigate the use of natural organic polymers as coagulants to reduce turbidity before discharge on construction sites.	MDE
Map the distribution and ground truth the relative proportion of different land uses/covers within the current pervious land classification used in the CBWM, with a focus on high and low nutrient export risk factors.	Urban Nutrient Management Panel
Perform field research to measure surface and subsurface nutrient export associated with high and low risk lawns over a broader range of soil, physiographic, terrain and soil conditions.	Urban Nutrient Management Panel
Research that would help to clarify the grey infrastructure "credit" for the long term. As it is now, it is only temporary, but after a certain period the counties need to add that credit back to their targets. Counties need to know what to budget for when developing restoration plans.	MDE
Should the short-term monitoring study indicate that construction site nutrient loads are equal to or greater than the target CBWM nutrient loads, a longer term study should commence. The focus of the long term study should be to determine whether fertilization rate or formulation recommendations, vegetative stabilization methods and/or down-gradient ESC practices could be modified in order to reduce nutrient export, while still maintaining effective vegetative and soil cover during the entire construction process.	Erosion and Sediment Control Panel
The differences in hydrology from impervious surfaces in low-density versus high-density urban areas.	MDE