**Proposed Charge for the Urban Filter Strips/ Stream Buffer Upgrade Expert Panel**
**11-27-2012**

***Background***

| **EXPERT BMP REVIEW PANEL: Urban Filter Strips/Stream Buffer Upgrade** | | |
|---|---|---|
| ***Panelist*** | ***Affiliation*** | ***e-mail Contact*** |
| TBD | TBD | TBD |
| Neely Law, PhD. | CWP (facilitator) | nlaw@chesapeakebay.net |

Urban filter strips/ stream buffer upgrade is a new best management practice(s) for urban land uses. Urban filter strips and stream buffer upgrades may be considered as separate practices or as a treatment train where the urban filter strip would be a pre-treatment practice and discharge sheetflow to the stream buffer upgrade.

Urban filter strips, also referred to as vegetated filter strips or grass filter strips, are designed to slow runoff velocities and treat sheetflow from adjacent impervious and pervious areas. To some extent, filter strips may provide similar functions as grass or riparian buffers that trap and filter sediment, uptake and infiltrate soluble nutrients. However, the application of these practices may differ as it is deemed impractical to implement the 35 feet minimum width standards for forest buffers in urban land uses (EPA 1998). Currently, there is no credit for urban grass buffers as the nutrient and sediment load reduction from this BMP is reflected in the change in land use.

The criteria and application of urban filter strips vary within the Chesapeake Bay States and range in pollutant removal efficiencies. In many applications, the use of a level spreader upslope of a riparian buffer or filter strip is recommended to disperse water at a slower rate and more evenly across the vegetated surface (buffer or filter strip) (Winston and Hunt 2010). A summary of vegetated filter strips from Chesapeake Bay State's stormwater manual guidance is provided in Table 1.

| **Table 1. Example Criteria for the Use of Vegetated Filter Strips** | | | |
|---|---|---|---|
| **Jurisdiction** | **Criteria** | **Efficiency** | **Notes** |
| VA DCR | Min. 25 ft in length, 2% slope; increase length by 4 ft for every 1% slope increase beyond 2%; Optimum filter strip length is 80 to100 ft | 10% TP removal with impervious cover between 16% to 21% | Suggested use of level spreader or grading to enhance function of filter strip; filter strip length is a function of flowpath length and slope |
| PA DEP | Min 25 ft length, recommended use of level spreader | 10% Nitrate, 20% TP and 30%TSS | Required length varies based on vegetation type |
| DE (Lucas, 2005) | Min 5ft, maximum hydraulic loading | N/A | Suggested use for pre-treatment |

| Table 1. Example Criteria for the Use of Vegetated Filter Strips | | | |
|---|---|---|---|
| **Jurisdiction** | **Criteria** | **Efficiency** | **Notes** |
| | rate 30 $ft^3$/linear ft with no maximum length; 1% to 25% slope | | |
| MDE | N/A | N/A | Pre-treatment use |

Stream buffer upgrade is not defined by the Chesapeake Bay Program as a practice in either agriculture or urban land uses. Potential definitions for consideration may be a change in land cover type from grass to forested land use, or defined by a reduced minimum width requirement (e.g., less than 35 ft) to account for the space limitations and other conflicts (e.g. utilities, roads, stream crossings) in urban watersheds.

### *Expert Panel Charge*

The initial charge of the panel is to review all of the available science on the nutrient and sediment removal performance associated with qualifying urban filter strips and/or stream buffer upgrade practices.

The panel is specifically requested to:

- Provide a specific definition of what constitutes effective urban filter strips and stream buffer upgrades as separate or combined practice(s) in the context of any nutrient or sediment reduction credit, and define the qualifying conditions under which such practices may be eligible to receive the credit.

- Review the current CBWM modeling assumptions to simulate the impact of grass buffers, forested and riparian buffers to agricultural land uses and recommend how practice(s) should be represented in the CBWM.

- Define the proper units that local governments will report retrofit implementation to the state to incorporate into the CBWM.

Beyond this specific charge, the panel is asked to:

- Determine whether to recommend that an interim BMP rate be established for urban filter strips/stream buffer upgrade prior to the conclusion of the panel for WIP planning purposes.

- Recommend procedures for reporting, tracking and verifying any recommended urban filter strips/stream buffer upgrade credits over time.

- Critically analyze any unintended consequence associated with the credit and any potential for double or over-counting of the credit

While conducting its review, the panel shall follow the procedures and process outlined in the WQGIT BMP review protocol.

### *Panel Support*

Hannah Martin will support the expert panel (Chesapeake Bay Program support to the Habitat Goal Implementation Team (GIT-2).

### *Panel Schedule*

- First teleconference call in February 2013 to review panel charge, scope the work ahead, and review the literature synthesis and identify additional research needs
- Second teleconference call in March 2013 to work through definitions, qualifications and reporting, tracking, and verification methods
- Report back to USWG in February to determine if any interim rates are warranted
- Continue teleconferences and/or face to face meetings in the summer/early fall of 2013 until consensus is reached

*Questions for USWG*

1. *Who should be on the panel? See Table 2 for potential panel members.*
2. *Is there a CBP working definition for urban filter strips/stream buffer upgrade practices other than the ones provided here?*
3. *Are there other issues of concern we should be aware of for this expert panel?*

*Potential Panel Members*

It is recommended that the panel include at least six individuals; three recognized topic experts and three individuals with expertise in environmental and water quality-related issues. It is also important that the review panel has appropriate geographic representation (WQGIT BMP review protocol, p.2).

**Table 2. Potential Panel Members, Groups, and Geographic Representation for WQGIT Consideration and Input**

| Name | Affiliation | State |
|---|---|---|
| Sally Claggett | US Forest Service, Forestry Workgroup | CB-wide |
| Ken Belt | US Forest Service, Northern Research Station, member of Riparian and grass buffer expert panel | CB-wide |
| Steve Stewart | Baltimore County | MD |
| Don Outen | Baltimore County | MD |
| Anne Harrison Strang | MD DNR | MD |
| Janis Outen | MDE | MD |
| Tom Jordan | Smithsonian Environmental Research Center (SERC) | CB-wide |
| Dan Frisbee | Stormwater Program Coordinator, Charlottesville, VA | VA |
| Urban Forester | Casey Trees, Washington, D.C. | DC |
| Bill Hunt/Ryan Winston | North Carolina State University, Cooperative Extension, Stormwater Team | NC |
| TBD | Habitat GIT | |