Proposed Charge for the
Floating Treatment Wetland Expert Panel
06-13-2013

Candidates for Expert BMP Review Panel: Floating Treatment Wetlands		
Panelist	***Affiliation***	**e-mail Contact**
Sarah White	Clemson University	Swhite4@clemson.edu
David Sample	Virginia Tech	dsample@vt.edu
Andy Lasur	U of MD	lazur@umd.edu
Josh McGrath	*U of MD*	*mcgrathj@umd.edu*
Sarah Lane	MD DNR	slane@dnr.state.md.us
Ryan Winston	NCSU	ryan_winston@ncsu.edu
Chris Streb	Biohabitats	cstreb@biohabitats.com
Drew Ferrier	Hood College	dferrier@hood.edu
Randy Chambers	College of William and Mary	rmcham@wm.edu
Karen Duhring	VIMS	karend@vims.edu
Lewis Linker	CBPO	llinker@chesapeakebay.net
Kevin Brittingham	Baltimore County	kbrittingham@baltimorecountymd.gov
Need some local and state representatives, as well as some periphyton researchers, a WTWG member, a rep from Ag work group, and possibly a habitat GIT rep to join panel		
Tom Schueler Cecilia Lane	CSN (Panel co-facilitators)	Watershedguy@hotmail.com watershedgal@hotmail.com
The panelists listed in italics have not yet responded to the request to serve		

Background

On July 25, 2012 the Chesapeake Stormwater Network hosted a "New Technologies Technical Workshop" that focused on the new technologies collectively known as Floating Treatment Wetlands (FTW) as potential BMP to improve water quality in the Chesapeake Bay. Researchers presented their initial monitoring results and findings, and based on this information, the Urban Stormwater Workgroup decided at its August 26 meeting that enough independent data would be available by mid-2013 to warrant forming a FTW Expert Panel (see August 14 memo to USWG).

Floating Treatment Wetlands

FTW have been implemented in open-water systems, stormwater ponds, farm ponds and CAFO lagoons and aquatic nursery operations. In keeping with its established policy, the USWG asks the panel to make recommendations for a generic and non-proprietary class of FTW. The panel is encouraged to evaluate performance research on proprietary FTW designs, but is not asked to endorse or recommend any specific proprietary design.

The initial charge of the panel is to review all of the available science on the nutrient and sediment removal performance associated with different floating treatment wetland

(FTW) design applications. In doing so, the USWG specifically requests that the Panel investigate the following variables that may influence the performance of FTWs:

- A clear and operational definition of the various classes and applications of floating treatment wetland technology, that explicitly references general design and performance specifications.

- Determine the primary modes of nutrient removal by FTW (e.g., plant uptake, denitrification or other mechanisms, and whether unit rate(s) can be assigned based on the FTW dimensions or design factors.

- Investigate whether the overall rates are permanent, seasonal or temporary, and how maintenance, harvesting and/or vegetation disposal influence long-term FTW performance

- Check whether the choice of different aquatic plant species can influence FTW removal modes or rates

- Assess possible environmental risks (e.g., invasive species, benthic shading, DO depletion) and benefits (fish habitat, etc.) of FTW, and provide general permitting guidance to the regulatory community on how to maximize benefits, and minimize risk

- Look at long-term maintenance, replacement frequency, life-cycle costs and potential applicability for offset/trading.

- Define the qualifying conditions under which a locality can receive a nutrient and/or sediment reduction credit.

- Recommend appropriate procedures and units for reporting, tracking, and verification of the FTW practice.

Beyond this specific charge, the panel is asked to;

- Take an adaptive management approach to refine the accuracy of its removal rate protocol, including any recommendations for further monitoring research that would fill critical management gaps.

- Critically analyze any unintended consequences associated with the nutrient management 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 BMP review protocol, as amended (WQGIT, 2013).

Coordination:

The work of the expert panel will be coordinated with the Agricultural Work Group, since some FTW applications are associated with farm ponds and CAFO lagoons.

Proposed Panel Schedule

- Kickoff teleconference in August of 2013 to identify new literature, discuss charge, and plan a research review workshop for later in the Fall

- Continue teleconferences and/or face to face meetings until a consensus is reached, with a goal of having a revised panel report by March of 2014.