

Nutrient Scientific Advisory Board Meeting Summary
February 2, 2018 @ TJCOG
9:30 am – 12:00 pm

Attendees

Members / Advisors

Michael Burchell - NCSU
Sally Hoyt - UNC
Bill Hunt - NCSU
Eric Kulz - Cary
Andy McDaniel - NCDOT
Haywood Phthisic - LNBA
David Phlegar - Greensboro
Grady McCallie - NCCN
Allison Schwarz Weakley – Chapel Hill
Forrest Westall - UNRBA
Sandra Wilbur - Durham
Michelle Woolfolk - Durham

Facilitator – Dispute Settlement Center

Andy Sachs

Guests

Anne Coan - NC Farm Bureau Federation
Joey Hester - NCDACS DSWC
Keith Larick - NC Farm Bureau Federation
Alix Matos - Brown and Caldwell
Sushama Pradhan - NC DHHS
Ian Peterson - Durham
Jen Schmitz - TJCOG
Steve Wall - UNC Policy Collaboratory
Sarah Waickowski - NCSU

DWR Staff www.deq.nc.gov/nps

Patrick Beggs
Trish D'Arconte
Jim Hawhee
John Huisman

Agenda Topics

1. Agreement on sand filter nutrient load calculations
2. Endorsement of SNAP 4
3. Discuss comments received about *Riparian Buffer Improvement in Developed Areas*

Meeting Materials are available online: www.deq.nc.gov/nps

Meeting Summary

Andy Sachs opened the meeting with introductions and a review of the agenda.

The January 5, 2018 meeting summary was approved.

Sand filter nutrient load discussion

Patrick Beggs (DWR) reminded everyone of the following data table and asked for a discussion leading to a proposal for an NSAB accepted Nitrogen and Phosphorous EMC for sand filters.

Sand Filter EMCs		
	N mg/L	P mg/L
Original JFSLAT v2 tool	0.92	0.14
Current SNAP 4 Sand filters	1.33	0.12
Sand filters including Austin TX data	1.00	0.10
Bioretention w/o IWS (internal water storage)	1.20	0.12

Discussion by topic:

Nutrient accounting tool

- Pre-development calculations are much higher in JFSLAT than in SNAP 4.
 - DWR Response: JFLSAT was based on a modified Simple Method, SNAP 4 is based on a traditional Simple Method.
- We need to have a way to assess the accuracy of the tool.
- The previous sand filter EMC values from JFSLAT v2 tool are NOT defensible.

Research

- NCSU is pursuing a CWMTF grant to monitor and assess the performance of four sand filters
- More research is needed before we can approve this method.
- Sand filters are good for treating all sorts of pollutants, just not necessarily N and P.
- This is just one example of an issue on which we need to decide but we don't have all the data we need, and more will come.
- Request to DWR and others that we come up with a flexible method for allowing testing while getting nutrient reduction credits.
 - Response: DWR can alter SNAP4 more easily.
- We can have a series of chapters describing the evolution of the method as more data become available.
- This will be critical to be able to update based on additional research

Influent vs effluent

- Right now, we only have effluent on which to base results – how do influent concentration affect performance?
- If the water going in is clean, you can't expect it to get cleaner. What's going in to the sand filter is important.
- A performance test in Durham using rooftop runoff performed well. Slight reduction in post development numbers with a sand filter than without; however, sometimes the effluent concentration was higher than the influent.
- Needs to be a way to override the tool to not let it show that effluent N&P is higher than influent.

- This comes down to maintenance. It is possible to get higher nitrogen values if trapped material isn't cleaned out and it breaks down to become dissolved N, which will go right through the sand filter.
- Worry that green roofs won't get credit if this is an issue, so maybe it is not good to promote sand filters?

Implementation:

- Maintenance aspect of sand filters is important.
- I am interested to know how implementer communities feel about this practice.
- Durham foresees many projects will want to use this and will run into issues with performance and nutrient reduction.
- Sites are having trouble achieving reductions even with new SNAP 4 tool.
- Why would developers choose to use sand filters?
- Right now, it's the only underground option for roof runoff treatment that doesn't take up site space.
- We need a fact sheet to go along with whatever choice is finalized so that communities and professionals understand where the numbers came from.
- We need fact sheets for all final methods.
- Developers want to use it now; changing the number to something more difficult to achieve without solid research will be very complicated.
- I'm concerned that allowing a method that may discharge increasing amounts of N over time is a bad precedent.
- What is the timeframe for implementation?
 - DWR response: Minimum of 6 months after Director's approval.
- We still need an override function in case effluent is higher than influent.

Sand Filter Proposal A:

Use the EMC for bioretention without internal water storage (1.2 mg/L N or 0.12 mg/L P) as the EMC for sand filters.

This did not achieve consensus and the discussion captured above continued.

Sand Filter Proposal B:

Use the EMC for bioretention without internal water storage (1.2 mg/L N or 0.12 mg/L P) as the EMC for sand filters with the stipulation that output #s will not exceed input #s if the inputs are below 1.2 mg/L N or 0.12 mg/L P.

This proposal passed by consensus of all members present.

SNAP 4 Endorsement

The SNAP 4 endorsement was previously set aside due to sand filter questions.

SNAP 4 Proposal:

Without commenting on the current or future inclusion of delivery factors in the Falls Lake watershed, the NSAB endorses SNAP 4 as the official nutrient accounting tool for site-scale regulatory compliance of the following Jordan Lake and Falls Lake Nutrient Management Strategy Rules:

- **15A NCAC 02B .0265 - Jordan New Development**
- **15A NCAC 02B .0277 - Falls New Development**
- **15A NCAC 02B .0266 - Jordan Existing Development**
- **15A NCAC 02B .0278 - Falls Existing Development**
- **15A NCAC 02B .0271(10) - Jordan State and Federal Entities - accounting methods for non-NCDOT**
- **15A NCAC 02B.0281(13) - Falls State and Federal Entities – accounting methods for non-NCDOT**

This proposal passed by consensus of all members present.

DWR staff will now forward it to the DWR Director.

Riparian Buffer Improvement in Developed Areas

In January, Trish D'Arconte (DWR) presented the credit practice for Riparian Buffers Improvement in Developed Areas. The NSAB and other interested parties were given a couple weeks to comment on the practice. DWR staff summarized the comments and presented them at the February meeting. The comments and DWR staff initial responses were sent by email to the NSAB. These comments and responses are attached at the end of this meeting summary.

Closing comments

- I'm impressed with the sand filter conversation.
- Sand filter data will be coming soon.
- Thank you [to several people] for reminding us of the big picture.
- It's good to hear what local governments do and need to put up with.
- Thank you to staff for all your work.
- We need to include and remind everyone about buffer importance beyond N & P.

The NSAB will meet March 2, 2018 9:30 am at TJCOG.