NC NUTRIENT SCIENTIFIC ADVISORY BOARD MEETING SUMMARY

SEPTEMBER 3, 2021 / 9:30 AM – 12:00 PM
REMOTE WEB MEETING

ATTENDEES

Members / Advisors
Charles Brown – Cary
Mike Burchell - NCSU
Alisha Goldstein – Chapel Hill
Sally Hoyt – UNC
Bill Hunt - NCSU
Brian Jacobson - AECOM
Josh Johnson – AWCK
J.V. Loperfido – Durham
Grady McCallie – NC Conservation Network
Andy McDaniel - DOT
David Phlegar – Greensboro
Haywood Phthisic – LNBA
Allison Schwarz Weakley - Chapel Hill
Forrest Westall – UNRBA
Sandra Wilbur – Durham

TJCOG Staff
Maya Cough-Schulze

DEQ Staff
Corey Anen - DEMLR
Patrick Beggs - DWR
Trish D'Arconte - DWR
Rich Gannon – DWR
Joey Hester - DWR
John Huisman - DWR

Guests
Akinola Akinrotimi
Teresa Andrews – Guilford County
Angie Arzon
Barney Blackburn
Lisa Booze
Jennifer Buzun
Anne Coan - NC Farm Bureau Federation
Nancy Daly
Alexandra Dinwiddie
Jacob Dorman - Stormwater Solutions
Sujit Ekka
Amy Farinelli – Raleigh
Caroline Heathcoat
Michael Irwin
Keith Larick - NC Farm Bureau Federation
Alix Matos - Brown and Caldwell
Dan McLawhorn – Raleigh
Ian Peterson
Ashley Rodgers
Dori Sabeh
Rick Savage
Brajesh Tiwari
Megan Walsh
Daniel Wiebke
Josh Shinn
Shawn Springer
Sarah Waickowski – NCSU

AGENDA TOPICS

1. Approve May 7, 2021 Meeting Summary
2. SNAP Toll update demonstration and discussion. Trish D'Arconte – NC DWR
3. JLOW and Jordan Rules update

Meeting Materials and the NSAB Charter are available online: www.deq.nc.gov/nps

MEETING SUMMARY

Patrick Beggs (DWR) opened the meeting with introductions and a review of the agenda.

The May 7, 2021 meeting summary was approved.

SNAP Tool updates demonstration and discussion

Presenter: Trish D'Arconte – NCDWR Nonpoint Source Planning Branch
Slides can be found online.

SNAP (Stormwater Nitrogen and Phosphorus) v4.1 is a project-scale tool for modeling nitrogen and phosphorus in stormwater runoff from development sites and nutrient reductions provided by stormwater treatment.

Trish presented a primer on the SNAP tool, including its uses, assumptions, limitations, flexibility, and plan for improvement. Slides can be found online at the Sept 3, 2021 meeting documents.

SNAP is being updated for the first group of Neuse and Tar-Pam local governments that need to begin stormwater rules implementation in Spring 2022.

If new SCMs are approved between SNAP tool versions, DEQ can issue a memo and model it as a custom SCM.

Discussion and Questions:

NCSU grad students are finishing up data collection on Sand Filters, which can be presented in early 2022.

Will SNAP update include new technologies? (stormfilter, silva cell, filterra and bayfilter)

- Beta test version won't have anything new.
- Have to look at what data has been submitted.
- Most of propriety systems don't have runoff reduction.
- Forthcoming data on Silva Cells.

When will projects subject to the Neuse rules be required to start using the SNAP Tool?

- When the LG adopts Neuse Local Program and accompanying ordinances.
- One is currently subject to Neuse Rules, submitting draft local programs next week, going to EMC in March, has 6 months to implement. Latest they would start is Sept 2022.
- Newly subject local governments: Submit local programs next March, will be 6 months behind.

Is the 'text output file' from the new SNAP tool required for Neuse annual reporting?

- Yes: This file is what we want you to submit for Annual Reporting

Will Falls Lake jurisdictions be required to use this tool once adopted?

- Yes: Falls needs to use the newest approved version of SNAP.

Do Falls local governments need to submit a summary of nutrient reductions, or do they submit raw SNAP data?

- Right now Falls can just submit summary table. Open to how to streamline.
- With Neuse and TarPam rules readoption, we are asking for raw data.

Is the project area, the parcel area minus existing BUA? SNAP tool doesn't mention parcel area.

- Yes. Existing BUA is explicitly excluded from project area.

In this revision, some of existing BUA can drain into proposed SCM, yes?

- Trish: Yes, this can drain to SCM, or not. Also, offsite area may drain onto site, into SCM. If collecting runoff from all BUA onsite, can use onsite offset. Basically a credit, since not required to treat that BUA. Since challenging to get total nutrient reduction onsite, we look at this as an option, not an obligation.

We can either put existing BUA as 0 or model it?

- Yes. If they leave the existing BUA off, your total area is your project area. If leave it in, your project area is smaller than total area, which is the entirety of your parcel.

One of the challenges is different audiences with different needs. There is a push to be simple and to show all the data. How much this offsite impervious draining to SCM comes up, and is it worth the level of treatment it's getting?

- Goal was to eliminate running the tool twice, because it is hard to explain and connect two files.
- Offsite BUA being treated in a project SCM. We get that occasionally. Need to be careful about giving credit for treating offsite BUA that might go away or be treated in another SCM in the future.

What about continuous development and SCM construction and nutrient payments?

- We could have a working session with examples these, such as on campuses which seem to be always under construction.

A few projects in Falls basin have trouble meeting onsite 50% requirements. This is incentivizing developers to increase impervious. Does tool have a way to combat this since it goes against the overall intent of the rules? For example, low-density developments – mass-graded subdivisions - that have been 40% impervious and they're changing to 70% impervious to meet goals. Big parking lots.

- I don't think the Tool can do anything about that. This is particular to the Falls Rules.

- First time I've heard about this – I appreciate you bringing this up.
- It becomes an issue where the cost of a bioretention is more than building a big parking lot.
- The way the Falls rules are set up to require 50% onsite reduction, it is easier to achieve that with more impervious, and more "dirty" impervious onsite. It's also an effect of the EMC approach, rather than the old wet ponds getting a percent reduction of N and P
- Is there some way we can get this kind of feedback as part of annual reporting, so we can incorporate it prior to rule readoption?
- We're trying to look at some green infrastructure, and if you have a bioretention with IWS that discharges to a dry basin for peak flow, it puts the nutrients back in, so it doesn't make sense to have a treatment train.
- If you take clean water from bioretention and sent it to another SCM that doesn't reliably release cleaner water, they do go up. Probably not to the EMC – but they do get worse.
- I wonder if this needs to be a feature of some SCMs, that the EMC out or total load wouldn't be more than the EMC in? The only one treated this way right now is sand filter.
- Some SCMs, (eg: ponds) do make it worse.
- A reason for reduction of impact for New Development "on-site" was to prevent projects just "buying their way" out of complying with the rules (also, there are local stream impacts from new projects). It is not unusual for the regulated community to "find their way around" something that wasn't considered when the rules were developed. Requiring on-site controls to some level is a reasonable objective, making this specific (50%) has just provided a way to "game" the process. This is the reason that what "seemed like a good idea then" has to be addressed when the rules get readopted. In the meantime, when faced with this, you can always just say "you can't do that!" It works sometime.

Treatment Trains

- What are consequences of putting dry detention in front of bioretention rather than after?
- Small watersheds lead to bigger ones, so that wouldn't work. But we could come up with a "situational EMC concentration" so that if water is being treated by bioretention and then goes to dry detention, it doesn't go all the way up to dry detention EMC.
- If it's just detention, not treatment, why run it through the tool?
- Trying to be transparent in the tool, include all practices.
- If it's onsite, don't exclude it from calculation.
- Another solution is to have the "Treated" component of the bioretention discharge without entering the dry pond, while the overflow and bypass flows go to the dry pond.
- This is consistent with several designs for streetside bioretention.
- Bioretention is designed as an offline device where it only receives the 1-inch WQV.
- It is important for SNAP to be able to route the treated fate differently than the overflow fate
- Is there anything other than bioretention where we might get this split between overflow and throughflow? Answer: Bioswales.
    - Are these modeled differently than bioretention?
        - Not per MDC

Runoff volume match

- MDC for runoff volume match references annualized runoff, and relies on Storm-EZ which relies on storm events not annualized data.
- How is state handling runoff volume match – Storm EZ or SNAP?
- DEMLR is in the process of replacing Storm EZ, there isn't anything yet
- It would be good to roll it into SNAP.
- It would be helpful to have one tool.

Outreach

- It is important to communicate to the consulting/development community that the new tool will have to be used in Falls once the date of adoption has been issued.
- Does DWR have an outreach approach to let folks know that this new tool will be required once it is issued.
- Falls jurisdictions are adopting new SNAP - there may be a couple that are not subject to Neuse. DWR will do outreach and is also training for Local Governments.
- Larger problem is outreach to designers & consultants. I don't really know the best way of SNAP outreach for that population.
- Durham maintains a "Development Community" e-mail list and will send notifications to it. Also has quarterly seminars for the development community, and would love to feature Trish and the SNAP Tool at one of these seminars!

SNAP Testing volunteers:

- Daniel Wiebke, McAdams
- Bill Hunt/NCSU
- Caroline Heathcoat, McGill
- Sally Hoyt, Raleigh
- Sandi Wilbur, Durham
- Ashley Rodgers, Wake Co

Jordan rules update

Jim Bowen, UNC-G, is working on modeling.

DWR Modeling and Assessment Branch will review and release to the public. Release is expected early 2022.

Timeline

- 2021-2022 Model Revision and Review
- 2022 Rule Concepts Development and Review (w/Stakeholder Involvement)

- 2022-2023 Draft Rule Development and Review (w/Stakeholder Involvement)
- 2023 Rules Impact Analysis Development
- 2024 Hearings / Approval / Adoption (w/Stakeholder Involvement)

Because these rules will not be readopted till 2024-2025, Jordan communities need to continue to submit Existing Development Stage One annual reports. These are due Oct 30.

When the Jordan rules are completed, we will have another SNAP update.

JLOW Update

Plans to meet with Secretary Biser to present the JLOW report. Plan is to incorporate one water concepts into rule revision. DEQ continues to support this in theory, practice and financing. TJCOG has current funding for JLOW administration from DWR and will submit competitive grant this fall to start new funding in 2022.

Will the workgroups review the final report again?

- No. The report is not a commitment by participants to support specific actions, but a commitment to continue the development of JLOW through rule readoption planning. JLOW phase 2 kickoff meeting in October.

NSAB Updates/Round robin

Bill Hunt: 2022 SCM Operation and Maintenance Conference in Wilmington is coming up. Still in-person. There is a negotiated discounted rate for government staff to attend.

Mike Burchell: Met with NPS group about constructed wetlands for wastewater treatment. Adding these in small rural areas facing new nutrient regulations could be a good tool to re-add.

DWR aims to release a finalized SNAP tool in March of 2022. We are looking for any members of local governments or consultants willing to test this initial tool release for bugs, usability, and potential additional modification.

Upcoming NSAB meetings will address issues related to Tool implementation including: receiving feedback from testers, revised methods for evaluating SCM performance, and revised SCM performance metrics based on these methods.

The NSAB will meet December 3, 2021.