SNAP Update and SCM Credit Doc Revision

DEPARTMENT OF ENVIRONMENTAL QUALITY

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Nutrient Scientific Advisory Board | December 2021

Interrelated Projects – SNAP & SCM Credit Doc

- New Neuse / Tar-Pam Stormwater Rules →
  - Revise SNAP tool

- Needed clarification on data for new SCM types →
  - Revise NEST Program
  - Revise EMC Calculation Method

Goals of SNAP Update

- Incorporate Neuse and Tar-Pamlico Stormwater Rules
- Work well with LG plan review process
- Work well with LGs that have stormwater regs different from State “default”
- Easy for novices to enter necessary data and resolve errors
- Incorporate new SCMs / SCM data
- Reduce “black box” – make it easy as possible for user to trace/view calculations

General SNAP 4.2 Mods

- Explicit tracking of offsite run-on and existing BUA enables “onsite offset”
- More explicit data entry error checking with guides for resolution
- Structured visual formatting of site characteristics needed to apply state and local stormwater requirements
- Runoff volume match (using Simple Method)
- Changed load results to tenths of a pound (from hundredths)
- B&W non-color scheme
- (I hope!) Addressed intermittent fatal crashing
- New SCM performance data!

Requested SNAP Mods Not in 4.2

- Curve number method
- Ability to have SCMs in pre-project land cover
- Ability to determine SCM retrofit uplift from running tool once rather than running tool twice (i.e. if you are modifying an existing SCM)
- Lot size → avg land cover converter
- Dwelling unit/ac → avg land cover converter

New Approach to Existing & Offsite Land Covers

PROJECT AREA LAND COVERS	TN EMC (mg/L)	TP EMC (mg/L)	Pre-Project Area (ft^2)	Post-Project Area (ft^2)
Roof	1.18	0.11	0	
Roadway	1.64	0.34	0	
Parking/Driveway/Sidewalk	1.42	0.18	0	
Protected Forest	0.97	0.03		
Managed Pervious/Landscaping	2.48	1.07		
Unmanaged Protected Herbaceous/Shrub	*0.97*	*0.03*		
Existing BUA - Roof	1.18	0.11		
Existing BUA - Roadway	1.64	0.34		
Existing BUA - Parking/Driveway/Sidewalk	1.42	0.18		
Offsite Roof	1.18	0.11		
Offsite Roadway	1.64	0.34		
Offsite Parking/Driveway/Sidewalk	1.42	0.18		
Offsite Protected Forest	0.97	0.03		
Offsite Managed Pervious	2.48	1.07		
Offsite Protected Herbaceous/Shrub	*0.97*	*0.03*		
CUSTOM LAND COVER 1				
CUSTOM LAND COVER 2				
CUSTOM LAND COVER 3				
LAND TAKEN UP BY SCM	1.18	0.11	0	
		Total Area	**0**	**0**
		Project Area	**0**	**0**

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SNAP Reviews

- Noted errors (expected ones)
- Confusion as to how to use Existing BUA land cover category
- New design strikes better balance between calculating everything for you, but leaving flex for local approaches

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SNAP Qs for an NSAB Subcommittee/Workgroup

- How to handle changes to Existing BUA?
- Can you determine Development Activity type from NET BUA?
- Is Project Area intuitive? (esp given statutory changes to definitions)

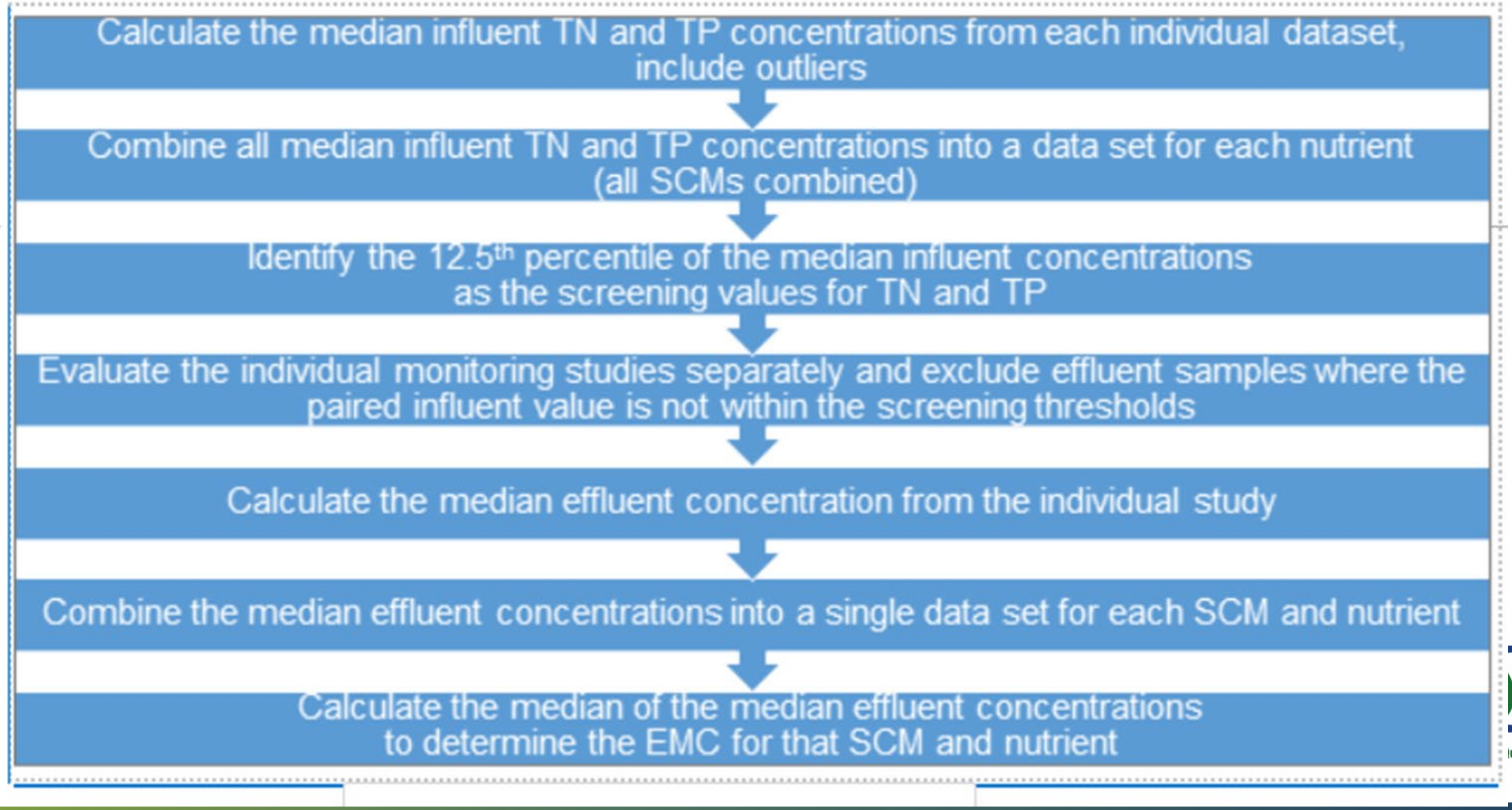
SCM Credit Doc Revision

- Started as a need to clarify New Stormwater Tech process (NEST) for approving new SCMs
- Creates systematic method for EMC determ.
- Address influent conc's way lower than SNAP land cover values (data/study quality)
- Incorporate new SCM performance data
- Decided to move NEST chapter from Stormwater Design Manual to SCM Credit Doc

Clarified SCM Study Requirements

- Old NEST assumed studies aren't already completed, so new NEST clarifies needs for existing studies & data, splits off from Review/Approval process
- Enables securing approval as Primary SCM, going back later for nutrients, revising performance
- Screening values for influent data

Proposed EMC Flowchart



SCM Credit Doc Review

- Received 3 reviews (THANK YOU)
- Good to move NEST into SCM Credit Doc
- Clarification Comments
- Substantive Comments
- Responding to comments
- Soliciting input for Qs DWR still have

SCM Credit Doc – Clarification Comments

- A lot related to harmonizing between DEMLR and DWR, terms, links to outside docs
- Need for clear definitions of concepts
- Some processes defined by Statute or Rules (e.g. case-by-case approvals or “more protective” practices)
- Need a flow-chart of EMC calculation process
- Inconsistency in describing EMC process

SCM Credit Doc – Substantive Topics

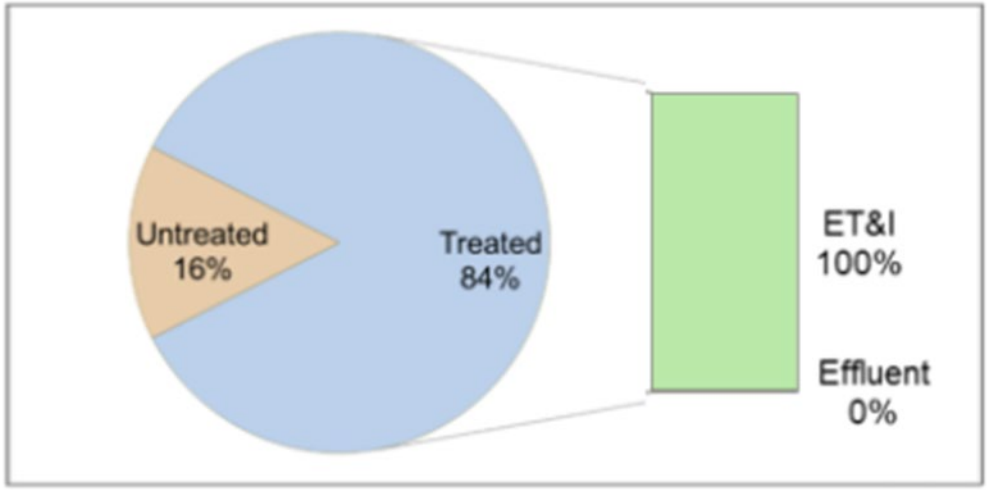
- Consistence between proprietary and non-proprietary:
- # studies
- Approved SCMs that can't follow proposed method due to insufficient data
- Changes in SCM performance
- Estimated % reduction values
- Primary vs Secondary SCMs

How to present Hydrologic Split?

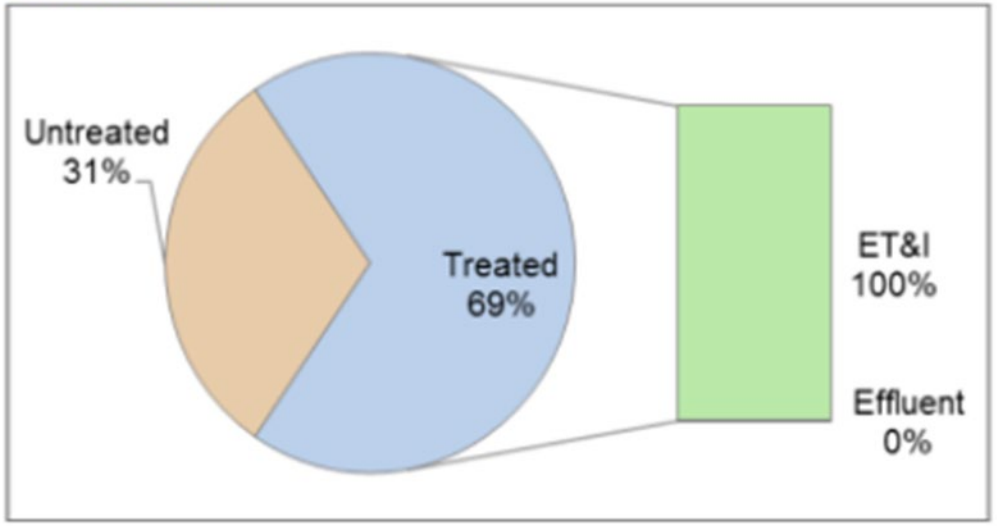
SCM	Role	% Annual Runoff Treated if 100% Sized	% Treated Runoff to Fates		
			HSG	ET&I	Effluent
Bioretention per MDC	Primary	94	A	90	10
			B	71	29
			C	34	66
			D	13	87
Bioretention per MDC but without IWS (retrofits and special cases only)	Primary	94	A	51	49
			B	20	80
			C	11	89
			D	9	91

How Hydro Fates Are Presented

a. 100% sized



b. 70% sized



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Estimated Schedule

- January – “final draft” of SCM Credit Document for NSAB review
- February NSAB –
  - review updated SCM performance data
  - Discussion of SCM Credit doc
- March – SNAP 4.2 for final review/comments
- April? – release SNAP 4.2

Questions?

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