



May

E. coli Assessment: When Streams Go Dry or Other Bad Things Happen

Molly Rippke
State of Michigan
Water Resources
Division



October

R code Does Much of our Assessment Data Crunching

- R code flags any site with less than 5 daily geometric means and if it's the only monitored site in the Assessment Unit (AU), it determines that the AU is "Insufficient Information" if it was previously not assessed.
- If an assessment unit has two sites, one with 5 events, and one without enough, the R code uses the site with adequate events to establish attainment for the whole AU.
- But when the sites are in separate AUs, the assessments are done without consideration for other nearby AUs.
- So, anything that is "Insufficient Information" needs a manual check on the decision and that often results in using Best Professional Judgement.



Bad Things Happen. Missing or Broken Bottles

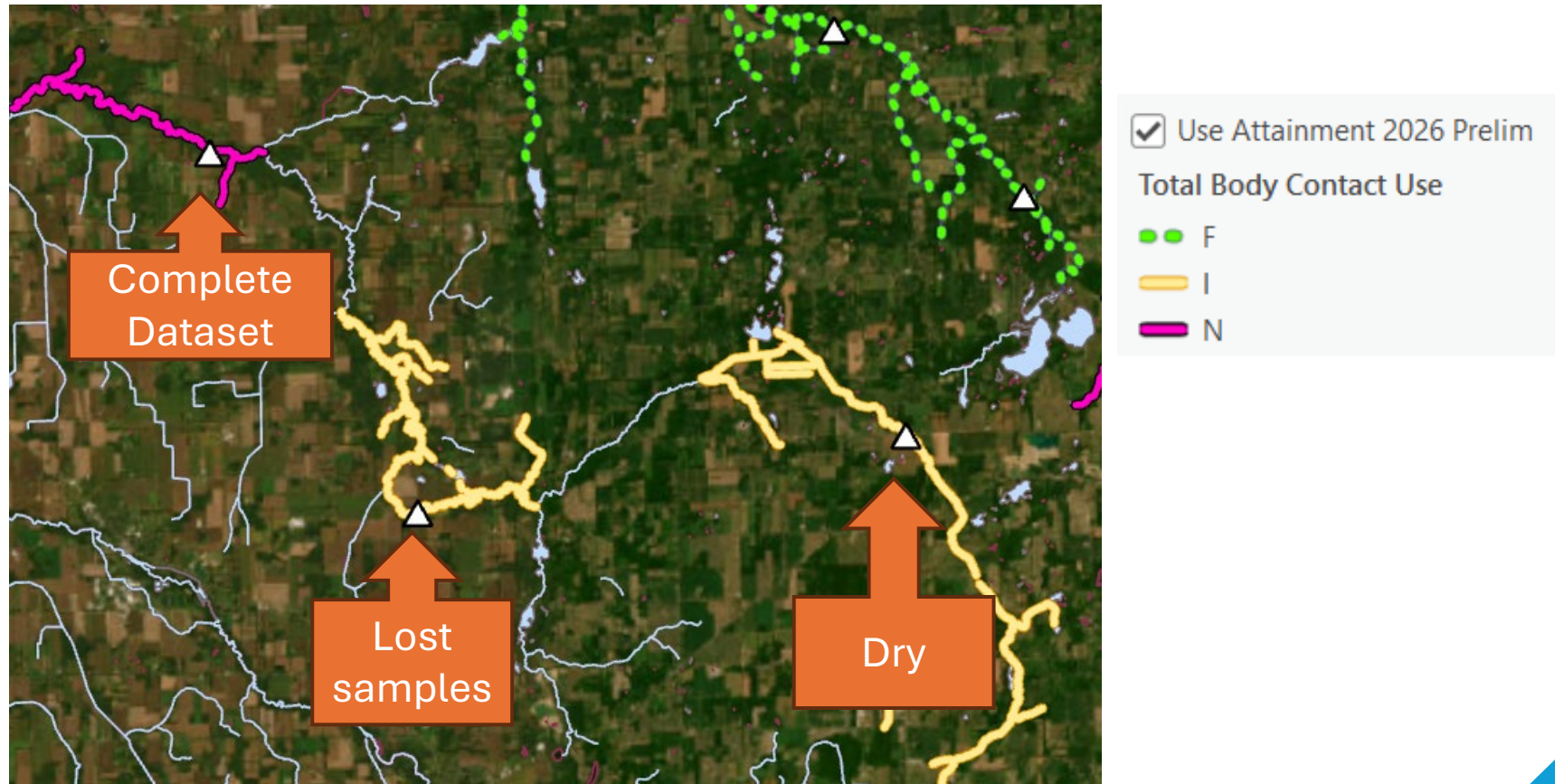
(image: 3 samples left on
the bridge for a whole
week)



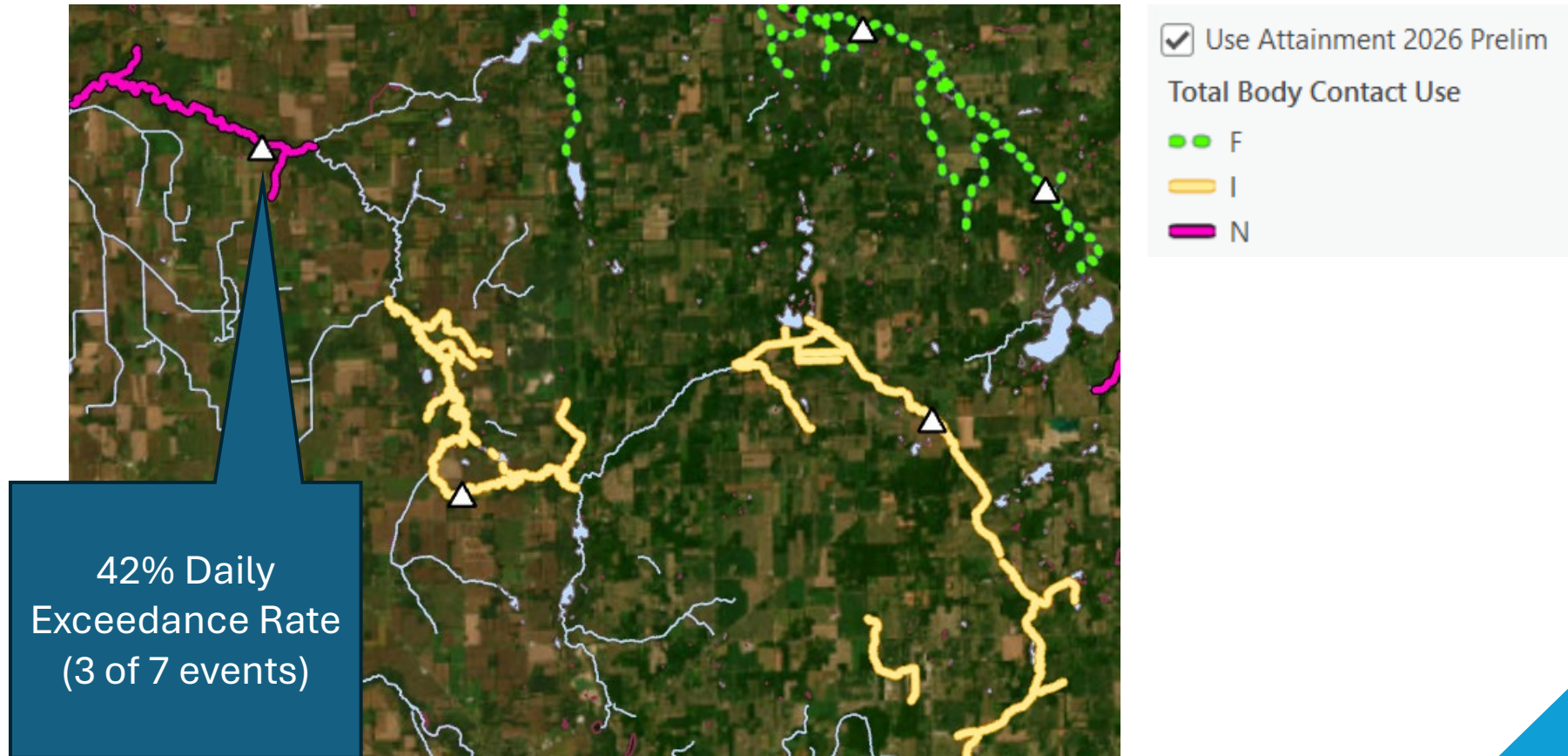
Bad Things
Happen
(Streams go dry
unexpectedly)



If R code was in charge and we blindly followed, then smaller datasets would be “insufficient information”.



Look beyond the site, because it represents the river (extrapolate). We know this river is impaired.



Monitored, Extrapolated, and Monitored & Extrapolated



General

Uses

Parameters

Sources

Documenting
in Attains
(Assessment
Basis)

Use Attainment - Total Body Contact Recreation

Fields with an asterisk (*) are required.

Use Name* ⓘ

Total Body Contact Recreation

Use Support* ⓘ

Not Supporting

Threatened ⓘ

☒ No ☐ Yes

Organization IR Category ⓘ

[Show
Definition](#)

Assessment Basis ⓘ

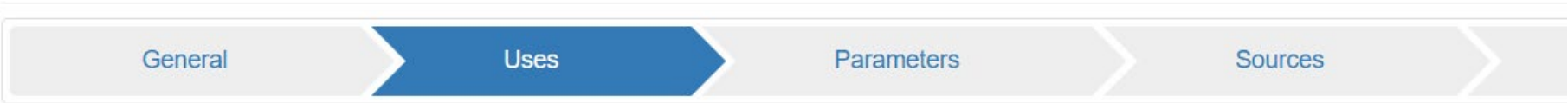
Monitored & Extrapolated Data

Assessment Date ⓘ

Monitoring Start Date ⓘ

Select Assessment Basis
Extrapolated Data
Monitored & Extrapolated Data
Monitored Data

Documenting in Attains (Use Comments)



Use Attainment - Total Body Contact Recreation			
Trend	Not Specified	Assessment Basis	Monitored & Extrapolated Data
Assessed By	Not Specified	Assessed On	Not Specified
Monitoring Start	Not Specified	Monitoring End	Not Specified
Org IR Category	Not Specified	Org Qualifier Flag	Not Specified
Comment	Update 2022: EGLE-WWA monitored 2 site(s) on tributaries in this segment (Site ID [year]: 520266, 520560) and one site on the mainstem Escanaba downstream (210328), in 2020. The downstream site was fully attaining the TBC WQS, and while only monitored for one event, the tributary sites also met the daily TBC WQS . (Rippke, 09/2021, Staff Report: MI/EGLE/WRD-21/011. For data summaries see Michigan.gov/EcoliTMDL). Show Less		



R code cannot
do these
assessments.

- These are Best Professional Judgment, and comments should be more detailed.
- We do them by hand.
 - We have a total of 14 Aus that are marked “Monitored & Extrapolated” for the Total Body Contact Use.
 - 243 marked “Extrapolated” for the Total Body Contact Use.
- Overall, per cycle, that is not many. The manual ATTAINs work is worth it to avoid wasting dollars and time revisiting sites where we already know ‘the answer’.

Remember, courts do not allow 'ad hoc' explanations for our decisions. Be consistent and document your methods and reasons!

Molly Rippke
Michigan Department of
Environment, Great Lakes, and Energy
rippkem@michigan.gov
www.mi.gov/Ecoli

