

NARPs – The Best (and Worst) New Idea in Permitting

NUTRIENT LOSS REDUCTION STRATEGY ANNUAL MEETING
NOVEMBER 2021

**NARP = Nutrient
Assessment and
Reduction
Plan**

If there is **known nutrient-related impairment**

OR

if any of 3 triggers that **imply a threat of eutrophication** are found,

then a NARP is required to address the **impairment/threat in that watershed.**

NARPs in NPDES Permits

supplementation, fermentation, or oxidation. The use of oxidation or denitrification equipment to meet other effluent limits is not prohibited, but those processes will not be considered part of the BNR process for purposes of this permit.

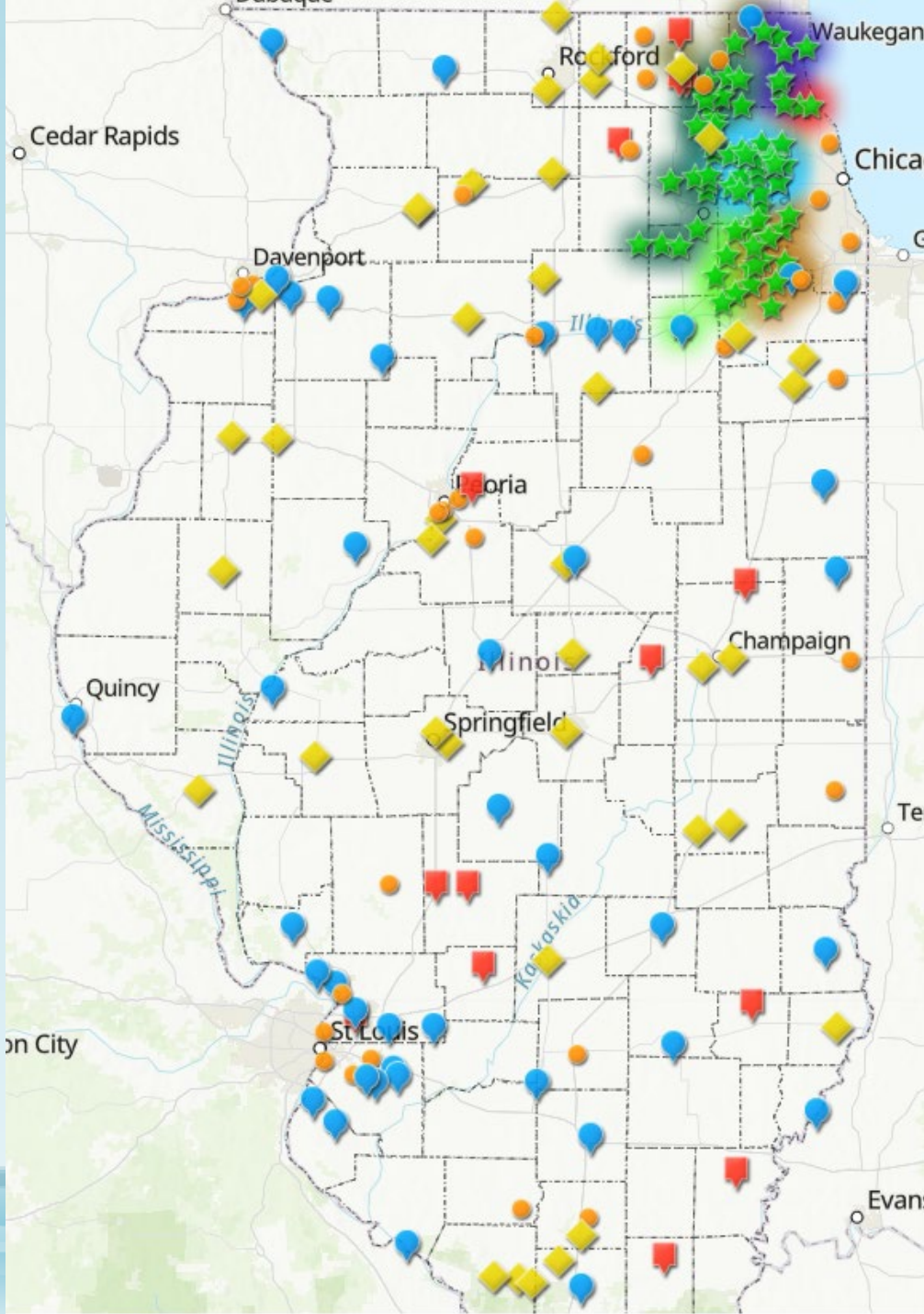
- E. The 0.5 mg/L Total Phosphorus 12 month rolling geometric mean (calculated monthly) effluent limit applies to the effluent from the treatment plant.

SPECIAL CONDITION 21. The Agency has determined that the Permittee's treatment plant effluent is located upstream of a waterbody or stream segment that has been determined to be at risk of eutrophication. This determination was made upon reviewing available information concerning the characteristics of the relevant waterbody/segment and the relevant facility (such as quantity of discharge flow and nutrient load relative to the stream flow).

A waterbody or segment is at risk of eutrophication if there is available information that plant, algal or cyanobacterial growth is causing or will cause violation of a water quality standard.

The Permittee shall develop, or be a part of a watershed group that develops, a Nutrient Assessment Reduction Plan (NARP) that will meet the following requirements:

- A. The NARP shall be developed and submitted to the Agency by December 31, 2024 with progress report submitted semi-annually. This requirement can be accomplished by the Permittee, by participation in an existing watershed group or by creating a new group. The NARP shall be supported by data and sound scientific rationale. Annual Progress Reports shall be submitted to the Agency starting 12 months from the effective date of the permit and every 12 months thereafter until completion of the NARP.
- B. The Permittee shall cooperate with and work with other stakeholders in the watershed to determine the most cost-effective means to address the phosphorus related impairment. If other stakeholders in the watershed will not cooperate in developing the NARP, the Permittee shall develop its own NARP for submittal to the Agency to comply with this condition.
- C. In determining the target levels of various parameters necessary to address the phosphorus related impairment, the NARP shall either utilize the recommendations by the Nutrient Science Advisory Committee or develop its own watershed-specific target levels.
- D. The NARP shall identify phosphorus input reductions by point source discharges and non-point source discharges in addition to other measures necessary to remove phosphorus related impairments in the watershed. The NARP may determine, based on an assessment of relevant data, that the watershed does not have an impairment related to phosphorus, in which case phosphorus input reductions or other measures would not be necessary. Alternatively, the NARP could determine that phosphorus input reductions from point sources are not necessary, or that phosphorus input reductions from both point and nonpoint sources are necessary, or that phosphorus input reductions are not necessary and that other measures, besides phosphorus input reductions, are necessary.
- E. The NARP shall include a schedule for the implementation of the phosphorus input reductions by point sources, non-point sources and other measures necessary to remove phosphorus related impairments. The NARP schedule shall be implemented as soon as possible, and shall identify specific timelines applicable to the Permittee.
- F. The NARP can include provisions for water quality trading to address the phosphorus related impairments in the watershed. Phosphorus/Nutrient trading cannot result in violations of water quality standards or applicable antidegradation requirements.
- G. The Permittee shall request modification of the permit within 90 days after the NARP has been completed to include necessary phosphorus input reductions identified within the NARP. The Agency will modify the NPDES permit, if necessary.
- H. If the Permittee does not develop or assist in developing the NARP, and such a NARP is developed for the watershed, the Permittee will become subject to effluent limitations necessary to address the phosphorus related impairments. The Agency shall calculate these effluent limits by using the NARP and any applicable data. If no NARP has been developed, the effluent limits shall be determined for the Permittee on a case-by-case basis, so as to ensure that the Permittee's discharge will not cause or contribute to violations of the dissolved oxygen or narrative water quality standards.



IEPA's NARP Map

<https://illinois-epa.maps.arcgis.com/home/item.html?id=dd82c86b7325412f823f623b51fe6db9>

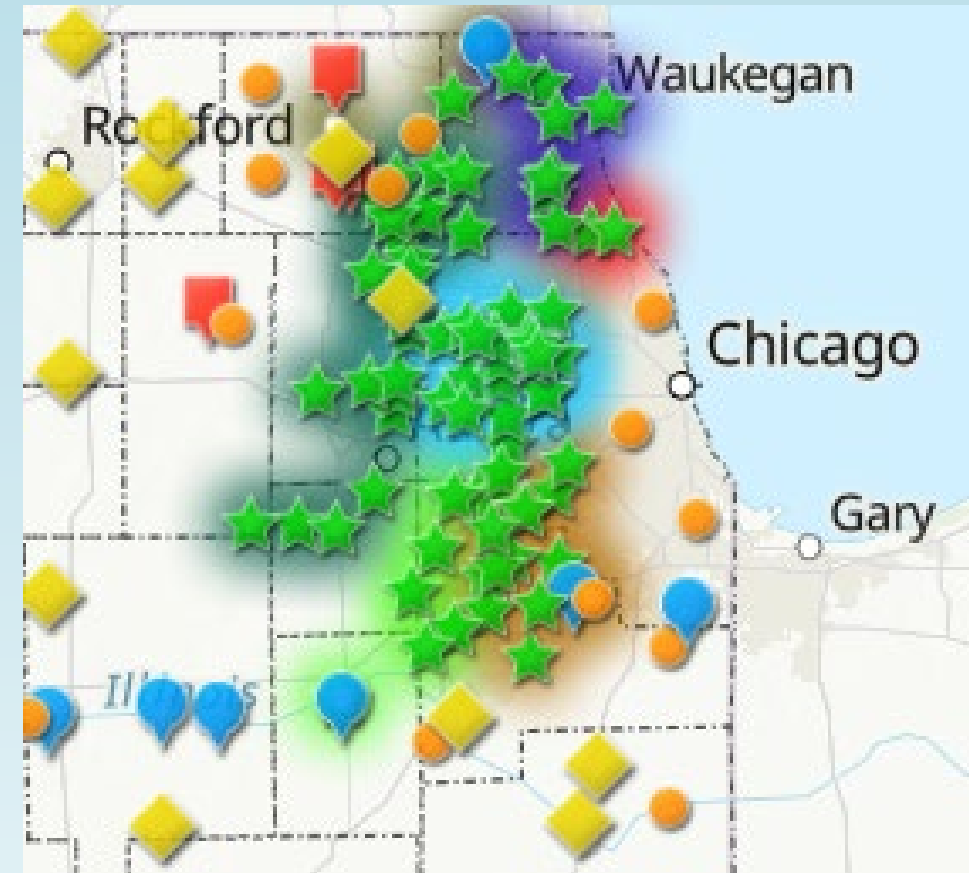
NARPs by the Numbers – ~90 Permittees / 6 Watersheds

- **89** Permittees



- **6** IEPA watershed groups

- Upper Des Plaines
- Lower Des Plaines
- **DuPage/Salt Creek**
- Lower DuPage
- **Fox River**
- North Branch



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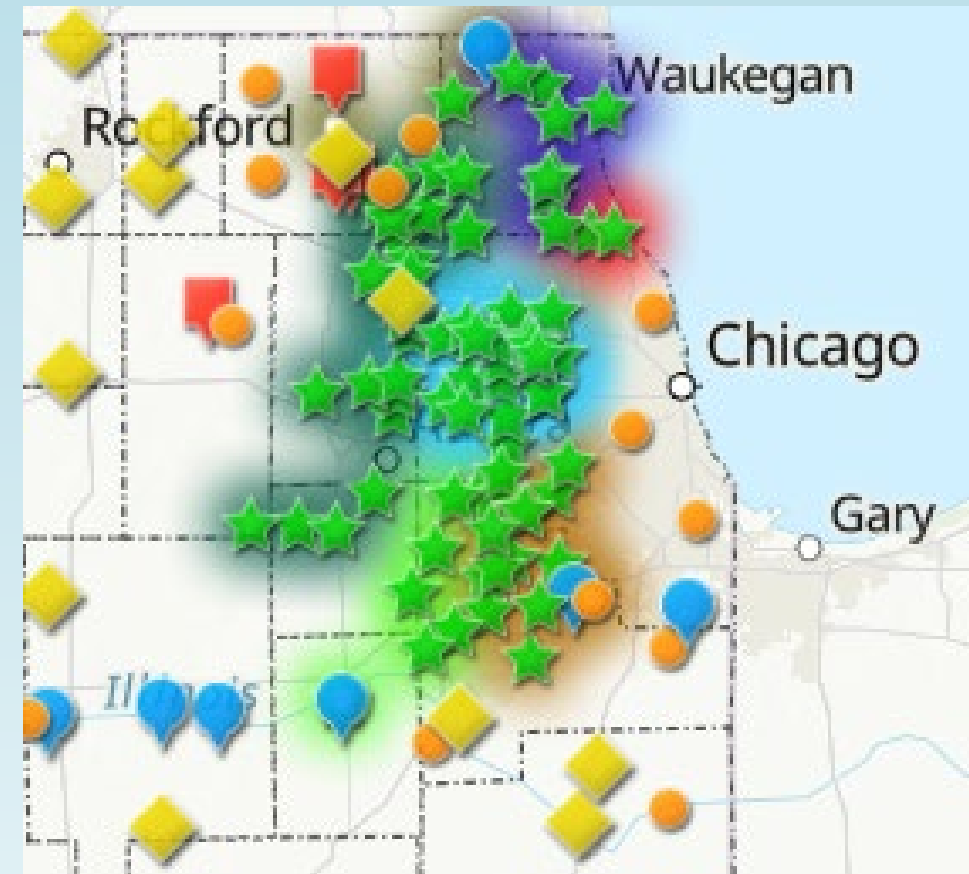
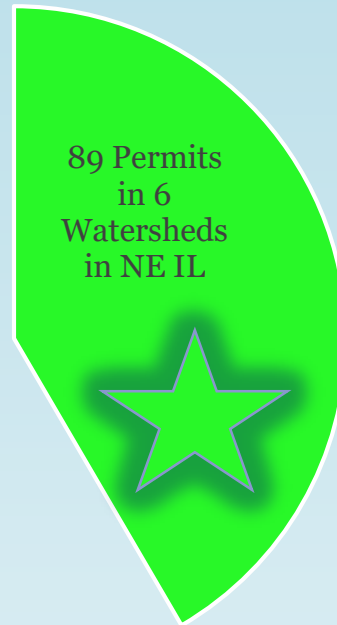
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- Upper Des Plaines
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- Many treatment plants per watershed group

- Have been active for up to 18 years

- Millions of ratepayers



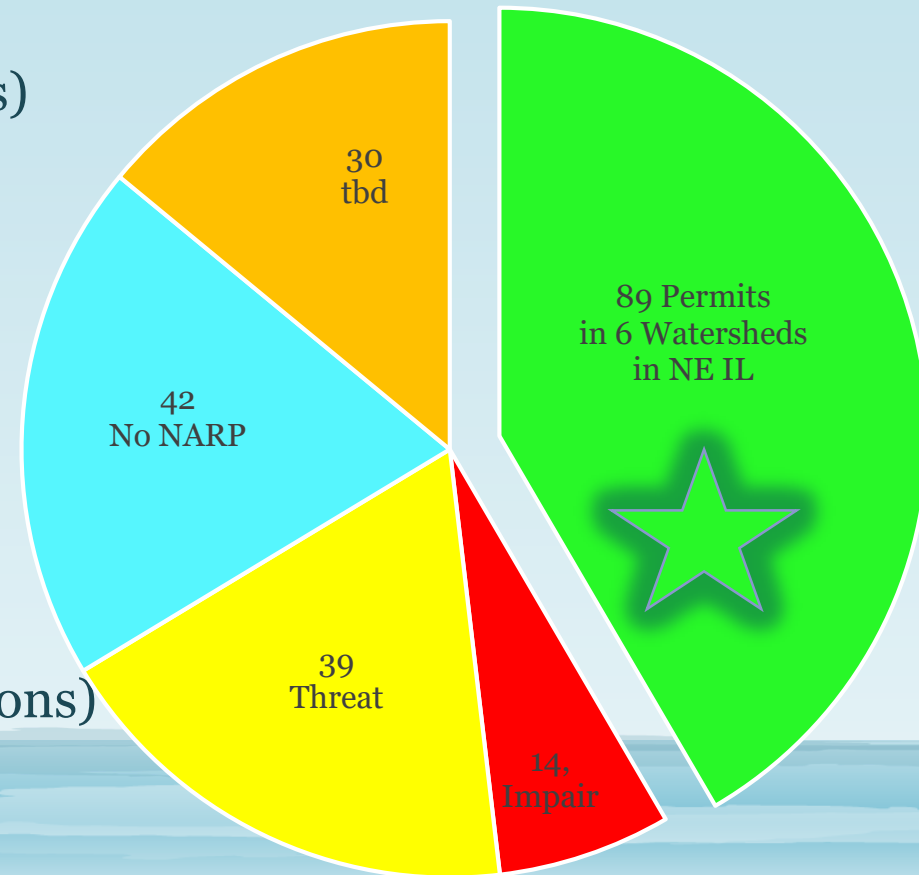
NARPs are the Greatest Idea...

- Ended permitting gridlock
- Replaced or Avoided TMDLs
- IEPA shifting focus to watersheds
- Involved new stakeholders
- Recognizing other factors are important (not just P)
- **USEPA accepting NARP/watershed work**
- Allowed Illinois to begin working on solutions
- Great success in NE Illinois



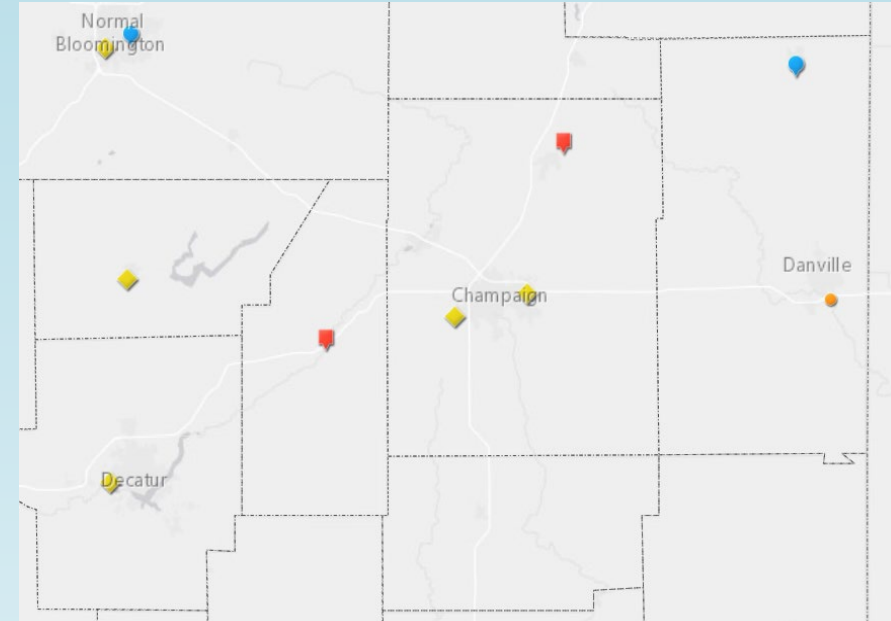
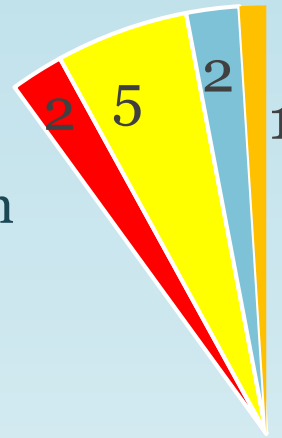
NARPs by the Numbers – 184 Permittees

- **89** Plants are part of **6** IEPA-recognized watershed groups (average of 15 dischargers per group)
 - Des Plaines, Lower Des Plaines, DuPage/Salt Creek, Lower DuPage (PIPs), Fox (FRIP), North Branch (CAWS)
- **53** Majors have NARP requirement (56% of NARP evaluations)
 - **14** Waterway impairment (15% of evaluations)
 - **39** Threat of eutrophication ($39/95 = 37\%$ of evaluations)
- **42** Majors no NARP needed ($42/95 = 44\%$ of evaluations)
- **30** Majors are still to be determined ($30/95 = 32\%$ of evaluations)



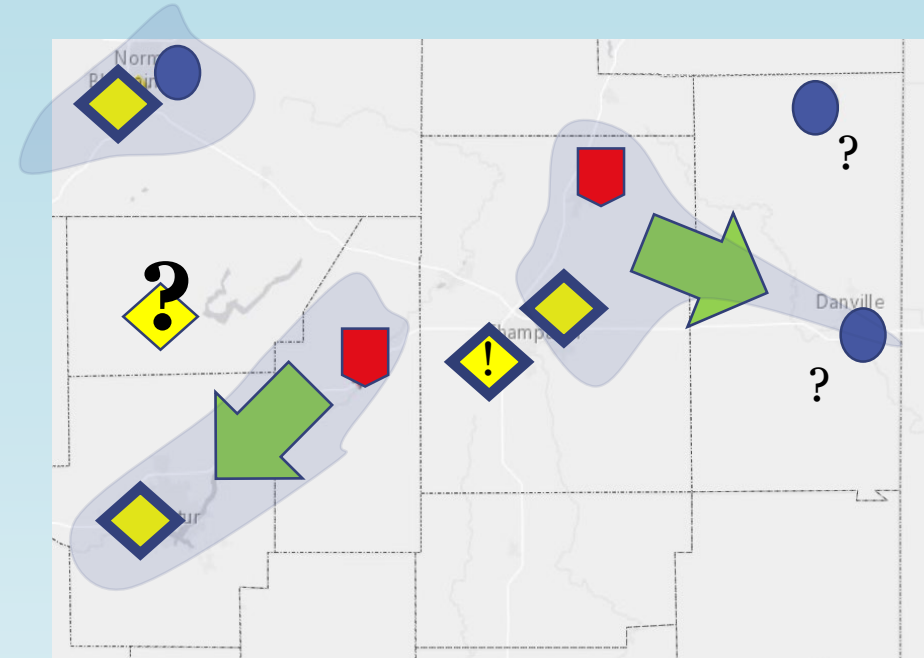
NARPs by the Numbers – East Central Illinois

- East Central IL
- **8 Permittees** over 6 counties
- **6 Watersheds** with 1 or 2 dischargers each
 - Sugar Creek (**BNWRD**)
 - Kickapoo Creek (BNWRD)
 - Coon Creek (Clinton)
 - Sangamon River (**Decatur**, Monticello)
 - Kaskaskia River (**UCSD**)
 - Saline Branch Salt Fork (**UCSD**), North Branch Salt Fork (Rantoul), Vermillion (Danville, Hoopeston)
- Getting started on NARP work
- **450,000 ratepayers** in **3 cities** > **50,000** and 3 cities between 10,000 and 50,000



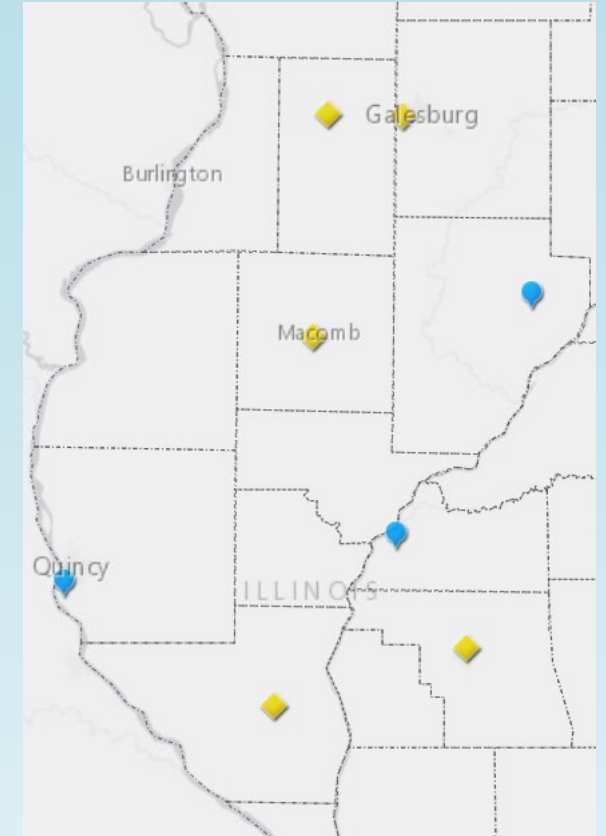
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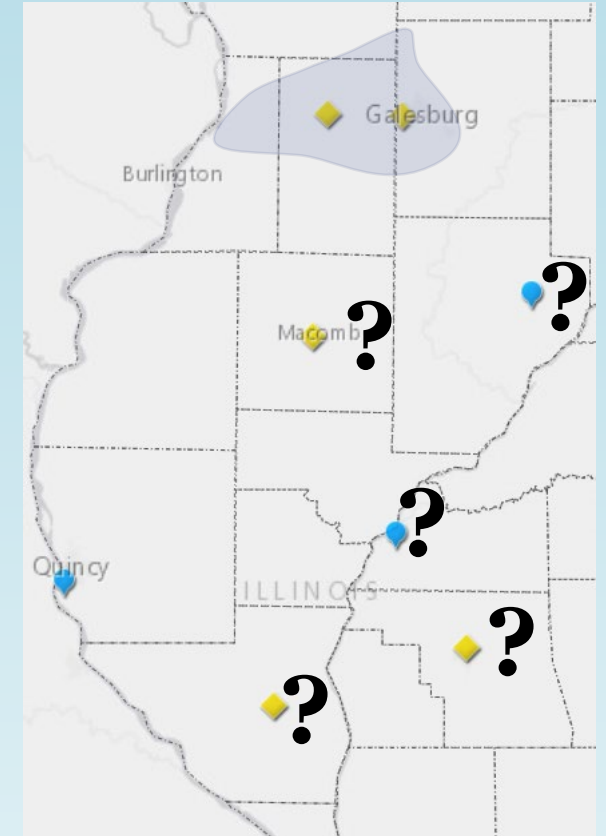
NARPs by the Numbers – West-Central Illinois

- 13 counties
- **8 Permittees**
- **4 Watersheds,**
- **5 NARPs**
- **< 100,000 ratepayers in entire region**
 - **0 cities > 50,000**
 - 2 cities between 10,000 and 50,000 (Quincy doesn't need a NARP)



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Starting Up NARPs All Across IL Has Been Rough...

- **Too many watersheds + not enough help = Gridlock²**
- **COVID and other “#1” priorities compete.**
- **NARP language assumes impairment**
 - But ~3/4 of NARPs are based upon threat of eutrophication
 - Scant guidance for threat of eutrophication assessment – how do you undo a threat?
- **NARPs assume the primary problem is P**
 - Looming deadlines focus attention on progress for P reductions, not waterway needs.
 - If you only get credit for P reductions, it is natural to focus limited resources here.
 - If only P solutions are tried, many/most waterways will remain impaired.

NARPs are the Worst Thing...



- **NARP language encourages “Gray solutions for P only”**
 - P removal is done most reliably by expensive POTWs
 - Once \$ are spent on gray solutions, few \$ for other ideas.
 - State Revolving Loan Fund is fully committed for ~20 years.
- **1 set of permit language implies an expectation of similar results**
 - Away from Chicago < 1/10 of financial and technical support.
 - Pekin is required to do NARP for IL River.
 - Dozens of similar mis-matches – this is fundamentally unfair.
- **Numeric Nutrient Criteria Requirement**
 - Re-living 20 years of arguing will force us back into stereotypical roles
 - This will likely be all-consuming and stop progress in areas where there is agreement

Thoughts to consider...

- **If P from POTWs is a significant part of the problem,**
 - ... we are on a path to getting significantly better statewide.
- **If reduced P from POTWs is not expected to improve waterway,**
 - ... should the emphasis upon P reductions in NARPs be reevaluated?
- **Improved guidance needed**
 - Especially for what to do when faced with “threat of eutrophication”
 - Especially for small or isolated dischargers
- **Let IEPA permit streamlined requirements for some?**
 - A photocopy of somebody else’s plan to meet a deadline is not really useful
 - If isolated discharger is committed to reductions, let them focus on that important work

Questions? Comments?

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