

# **Point Source Working Sub-Group**

IAWA Perspective

Wednesday, November 13, 2013

9:30 AM

# **Flexibility & Alternate Solutions**

- **Integrated Planning, Watershed Planning, Adaptive Management, Effluent Trading, Early Adopter Assistance, Green Solutions, Common Sense Initiative**
  - Can't be an afterthought
  - Must retain options for alternative solutions
  - Must incorporate local needs
  - Must provide incentives to innovation
  - Must recognize budgetary limitations

# Integrated Planning

## Alternative compliance plan that accomplishes:

- Nutrient benefit, OR
- Habitat repair, OR
- Other substantial permit compliance goal (i.e. TMDL, CSO, SSO, or others)

## Then:

- IEPA will evaluate the totality of those plans.
- Each such permit evaluation will be case-by-case.

# Watershed Planning

- Where local plans are established, they should take precedence.
  - Honors the concept of developing local solution.
- Fix problems, don't just build grey solutions.
- Local benefits is what sells most programs.

# **Biological Nutrient Removal Preferred WHY?**

- **Better long-term average discharge**
  - Biology needs to over-perform by a wide margin
- **Associated denitrification is a free bonus**
- **Lower energy usage**
  - Less aeration required
  - Less biosolids is produced, processed, & trucked
- **Less wasted digester capacity**
  - So lower carbon footprint

# Biological Nutrient Removal Preferred

## HOW?

- **Annual-average P limits only**
  - Require systems to be run according to best professional judgment of licensed operators – this should balance BOD, TSS, ammonia, and nutrients.
  - Delete all shorter-term P limits (especially UCSD’s daily P limit, pretty please 😊).
- **Longer construction planning window to allow incorporation into larger construction plans**
  - Already proven to be true.
  - Most plants designed after 2000 include bio-P as a natural part of the plant design (i.e. FRWRD West Plant). Whereas, separate or rushed “Nutrient Projects” are likely chemical-based.
- **Permit revisions**
  - Start up problems and risk of failure concern operators – work to reduce this.
  - Permits should encourage excellent results, not just 100% compliance with numerical limits.
- **Chemical systems should not be required**
  - Remove requirement for back-up chemical systems at bio-P plants.
  - Don’t go too low – requires chemical addition & filtration = huge carbon footprint, few pounds

# Stoner Memo – Paragraph #3

***“Ensure Effectiveness of Point Source Permits in Targeted/Priority Sub-Watersheds...”***

Does recommend local solutions.

Does recommend regular evaluations.

Does not recommend statewide numeric limits.

Does not recommend Gulf-Hypoxia-driven limits.

# **Priority Watersheds Need Preservation**

- **Waterbodies with no sources of anthropogenic nutrients merit protection**
  - Alternates to discharging plants to be investigated
  - If discharging, strict limits to be expected



# Subwatersheds with Local Impacts

- **Local nutrient impairments →  
(targeted/priority) local effluent P limits  
or an alternate solution**
- Large DO swings and sags below DO WQ  
standard
  - = Local nutrient impairment
  - **P effluent limits or  
alternate solutions to impairment**

# **Gulf Hypoxia**

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## **Continental Problem**

# Gulf Hypoxia

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Continental Problem

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Targeted Subwatershed

# Gulf Hypoxia Planning

- No local nutrient imperative exists.
- Removals from anywhere are equally effective.
- Reductions from anywhere are equally effective.

- Question is reduced to:

**What is the fastest way to reduce even more?**

- Significant point source reductions are in place or coming soon.
  - Need to document change in pounds.
  - Need to advertise best solutions.
  - Need to investigate options or impediments.

# NPDES Permits

- **Continue to document effluent data.**
- **Require Draft Facilities Plan Reports regarding nutrients**
  - **Itemize cost-effective nutrient reductions**
  - Advertise methods to optimize operations
  - **Evaluate different levels of reduction possible**
  - Note potential local impacts of reductions
  - **IEPA to evaluate \$/lb P and tons of CO<sub>2</sub>/lb P**
- **Require specific vote by governing authority regarding level of voluntary reductions**

# Why Not One Size Fits All?

- **Should get to well over 45% reductions in P.**
- **Current progress has been (semi-)voluntary – should continue.**
- **Illinois' internal needs addressed with current actions plus enhanced narrative.**
- **Need a next step with everybody contributing what they can.**
- **45% to 70% P reduction from POTWs expected in 10 years.**
  - MWRDGC = 5.25 million people, 10 million PE
  - Fox River watershed = 450,000 people
  - DuPage River/Salt Creek watershed = 200,000 people
  - Springfield = 150,000 people
- **Facilities not actively installing equipment often have serious impediments and “solutions” with massive carbon footprints and financial considerations.**

# Why Not One Size Fits All?

- **IEPA needs to process permits.**
  - Need to write permits in current set of priority/targeted subwatersheds that have local nutrient impairments that must be addressed.
- **Adaptive management requires evaluation.**
  - Need accurate data for evaluation.
  - Industry-wide estimates adequate for initial discussions.
  - Site specific evaluations needed for next level of assessment.
- **Next logical step.**
  - Evaluation of remaining sources is needed.
  - Need to determine impediments to progress.
  - Even if (one-size-fits-all numerical) limits were imposed blindly, studying alternatives would still be necessary.
  - IEPA can target help for those that require it.
  - Option to re-open permits, as needed.

# IEPA Nutrient Initiative

- Consensus of Business, Agriculture, Wastewater Utilities, Stormwater Utilities, Environmental Groups, and Regulators is we have a state-wide problem



# Illinois Environmental Utility

- Statewide solution
- Focus on solving problems
- Tasked with making progress
- Sources of pounds will be motivated to step up and work towards a solution