

**Discussion Notes**  
**Champaign-Urbana, 13 November 2013**  
**Working Group Meeting**

**Key to Abbreviations:**  
**Entries marked with a Q: are questions from Working Group Members**  
**A: Answers from Presenter**  
**Name included: response from a State Agency or Science Team member**  
**No designation—a comment, criticism, explanation for data, etc.**

**I. Introduction**

- a. Roll Call and review of Working Group Members**
- b. New note and agenda policy**
  - i.** Discussion notes of the previous meeting and a draft agenda for the next Working Group meeting will be sent to the Working Group within a week of the Working Group meeting
  - ii.** Comments on the draft agenda are due to Corrie Layfield by the first Monday of the month (i.e. updates to the draft agenda for the January Working Group Meeting would be due January 6<sup>th</sup>, etc.)
  - iii.** The final draft agenda will be sent to the Working Group the first Wednesday of the month (except January)
- c. Upcoming meetings**
  - i.** Working Group Meetings: 15 January, 19 February, 19 March, 16 April, 21 May
  - ii.** Subcommittee Meetings:
    - 1. Urban NPS—December 13<sup>th</sup> in Bloomington-Normal at the Normal Train Station
    - 2. Agriculture Point Source—December 16<sup>th</sup> in Bloomington at the Illinois Farm Bureau office
- d. Review of October 18<sup>th</sup> notes**
  - i.** Final additions and corrections sent to [cmlay@illinois.edu](mailto:cmlay@illinois.edu) by the end of November
- e. Google Group notes**

**II. University of Illinois Science Team Presentation**

- a. Data Review**
- b. Cost Analysis**
  - i. Gary Schnitkey**
    - 1. Costs per acre**
      - a. Scenario Table:**
        - i.** Stabilizer price may be too low
        - ii.** Question: Input costs included in budgets in perennial/energy crops

1. Answer: All the overhead, etc. were included in all the costs
- iii. Other scenarios—assuming only change in N-application is difference
- iv. Burn down for cover crop—two of those—\$12/13
- v. Preliminary costs for cover crops
  1. May increase yields
  2. Risk associated w/ this as widespread practice
- vi. Edge of field—didn't look at drainage water management
  1. Left out for now, because science of that has questions about effectiveness on watershed scale
- vii. Q: Fall to spring on tile-drained costs: would fertilizer dealers have to add equipment and charge more?
  1. A: No—base scenario is fall application. Now, looking at both. Did not assume any increase in N-prices or application costs (arguable). Same number of applications across the field, switched to N-solution, higher ammonia prices. Assumed that need 30% more equipment to cover this scenario—efficiency is 30% less
- b. Only eliminating applications on high-P soils.

**ii. Mark David**

**1. Point source costs**

- a. Q: In final report could these units be changed to something like expense per household or per person?
  - i. A: The information to do that will be available

**2. N loss reduction cost**

- a. Q: When first discussed Point Source, the 6 mg/L—where did that come from?
  - i. A: Needed something
  - ii. Response: Drives everything, is half of what we expect to get—10 to 12 mg/L
    1. A: Mistake--\$1.59. Should read PS reduction and \$1.72, and should 10 mg/L
- b. Q: Whisker plot—are these case studies? Are more?
  - i. A: Yes, a lot. Can add more.
- c. Q: MWRD has estimates for new process with saleable P, and since a large percentage for the PS reduction, can plug in their numbers?

- i. A: Numbers aren't available because of pending lawsuits
- d. Colorado—has a big study. Are much higher than the EPA numbers
- e. Q: What are the size of the buffers?
  - i. A: 35 ft on each edge of stream

### iii. Greg McIsaac

#### 1. P loss reduction costs

- a. Q: 6 years of P available: how many lbs/acre is 6 years-worth?
  - i. A: It's from a paper—we will make available
  - ii. Q: Mining the Soil—P-levels are sufficient
    - 1. A: Is more soil test of P—hard to deplete
    - 2. Q: Hard to rebuild, too
      - a. A: P-levels are high in state
      - b. A: P-costs/lb are a lot higher
- b. Q: Some alternatives here, apply to both N and P—trying to achieve N and P at a treatment plant would have to add both costs, but with cover crop, can achieve both nutrient reductions for same price.
  - i. A: Science Team developing scenarios, and those will take into account those joint costs
  - ii. A: Aren't additive—some practices exclude others
  - iii. Q: When to do this—apply N-practices and P-practices on the HUC 8 maps in high-loading watersheds—generally these acres aren't the same watersheds
    - 1. A: Yes, aren't always the same places. Will look cheap practices in high concentration areas and look at that. Is tricky, because not additive. One thing we don't present is the difference in upfront vs. annual cost. P is very diffuse in ag, so cost/lb is very high. Some are very cheap.

### iv. General Questions and Discussion about Science Team Presentation

- 1. Q: For acre of corn—what is the revenue of one acre:
  - a. A: On cash-rent/acre basis, is about \$200/\$250 an acre. Moving forward, expecting \$50/acre—this is profit
- 2. Website for Science Team data:
 

[http://biogeochemistry.nres.illinois.edu/Biogeochem\\_lab/Illinois\\_Science\\_Assessment.html](http://biogeochemistry.nres.illinois.edu/Biogeochem_lab/Illinois_Science_Assessment.html)
- 3. Iowa Costs:
  - a. They did very different methodologies, but our numbers match up fairly well

- v. January mtg scenario: will shoot for a 45% reduction—will be multiple scenario. Aren't for N and P at the same time. Infinite options, and Science Team will choose several.
  - 1. High up front, low long term
  - 2. Won't pick the most expensive, nor the ones with no benefit
  - 3. Other Thoughts:
    - a. Q: As come up with scenarios can send to Working Group so can see what evaluated? How likely are we to move from the 6 scenarios, to our ultimate strategy? Is an important step, seems like everyone at the table should have some input
      - i. A: Mark: these scenarios are examples, and the Working Group can use and take the scenarios in any direction they want. If you have ideas, send to Science Team
      - ii. A: Will be time in January to discuss the tradeoffs
      - iii. A: Could do interim reductions
    - b. Q: High costs to remove nutrients in Ag, lower costs at Point Sources; seems like ideal situation for nutrient trading. Will a trading scenario be evaluated?
      - i. A: That seems like a strategy document item
      - ii. A: First cut is scenarios, and change from there
      - iii. A: For P--% from each source is equal now, but N PS won't get us to targets

### **III. Overview of Iowa, Minnesota, and Ohio strategies to establish watershed load reduction**

#### **IV. Facilitated Discussion: How will Illinois articulate load reduction goals?**

##### **a. Intermediate goals or final goals**

- i. There may turn out to be some natural breakpoints
- ii. Think about at a high level, because right now hard to pick a number, but:
- iii. Neither Iowa or Ohio set dates for when these reductions will happen—so input on goal statements and interim goals—input would be useful: should goal include a year? And what about interim milestone?
- iv. Need something that's realistic: 45% isn't realistic—saying 20%, and seeing that is something we can see with current results, know we can do that now. Will be easier to sell people on it if able to demonstrate
- v. Second phase: data collecting and the considerations, need to increase production over the next couple years: if going from 200 bushel crop to 300, keep that in mind
- vi. Take the realistic number and use that as intermediate goal over a set amount of time. It's not impossible to think that over a longer period

of time, might come up with technologies that can develop over time to hit the 45% goal

- vii. Some agreement on intermediate goal: let the science drive that—once we have January mtg and workgroups, then will have some numbers to talk about
- viii. Agreement on time-bound intermediate and final goals—want a year
  - 1. What is a reasonable expectation of that
  - 2. Recognizing the different sources—looking at solutions
  - 3. Recognizing still some uncertainty in how to meet these reduction goals
- ix. May work best articulate by practice—what N and P does that give us, and doesn't really matter the source
  - 1. Wait to see scenarios
- x. Favor N and P targets and w/in that looking at equitable distributions between NPS and PS depending on loading. If we only target our efforts where we get most bang for buck, we might lose the watersheds that don't have the most economically advantageous situation, and they will not get to enjoy local benefits.

Conclusion: An intermediate goal should be set. Let the science determine the location of that goal. Following the January meeting and workgroups, then the Working Group can discuss.

#### **b. Source type versus nutrient type**

Conclusion: Favor nutrient targets and an equitable distribution of local watershed benefits.

#### **c. How to articulate goals (e.g. target % by year x)**

Conclusion: Favor time-bound intermediate and final goals with established years for achievement of proposed goals.

#### **d. Existing Credit – Illinois EPA (MW, AW)**

##### **i. Phosphorus**

- 1. Already in process in putting limits in NPDES permits. Interim P standard
  - a. 27% of major NPDES discharges have P limits—about 67% of flow from major point sources
  - b. Close to having permit language for Fox River watershed with P limit, and requirements to get lower than that
  - c. Salt Creek Watershed—also working on nutrients
  - d. Haven't looked at TMDL process, but in the reduction side, should be able to look at the trajectory for reduction

- e. On NPS side: look at what achieved in past years—319, NRCS programs, state D of Ag., can't predict what those programs may present in the future, know that continued implementation will result in reductions
- f. Statewide activities in effect, but reductions from those: ban on P in commercial application to residential lawns—don't know results for that. Room for expansion.
  - i. Ban in dishwashing detergent, but not for commercial operations, hospitals, etc.
- g. Programs to take credit for. With a little refinement, can increase what those can achieve in future

## ii. Nitrogen

1. 319 Grant and Illinois Green Infrastructure Program
  - a. Urban and Ag.—for N, annual reductions of ~854,042lbs/yr
    - i. At 0.5% toward 45%--from 2000 to today
    - ii. Cost per lb/practices—grant funds only: ~\$54.00/pound reduced
  - b. P—2.4% toward 45% goal—however, spending 2x to reach that goal
2. Where do we get reductions —these two programs in 13 years, know what accomplished
  - a. Other programs: State, Federal, Watershed, Local, Non-profits
3. An opportunity to think about programs we can include in strategy, and do we want to do so?
  - a. Getting credit for these things already, esp. if happen since action plan published
    - i. Heck yes, every % point matters
    - ii. Other useful outcomes of these goals?
      1. Wq is goal of program—nutrients and sediments
  - b. Q: 319—hard to have confidence in the lbs coming out—so numbers pretty squishy?
    - i. A: Yes, but developed through modeling programs commonly used to find these numbers
4. How making next decisions on grants
  - a. USEPA sets guidelines—we can change for watersheds with plan, and implement plan, we can prioritize the funds for nutrients
    - i. Can alter focus in next round of grants
    - ii. Tease out accuracy of Science Team results—lots of questions associated with those numbers, but can the grants confirm that those assumptions are returns are real

- iii. Pulling in from multiple areas to achieve monitoring
  - iv. Need watershed scale—that's the real limitation—can't really tell if 319 programs did translate to real reductions
5. NB: Storm water considered NPS in both the nitrogen and phosphorus reports

Conclusion: Include credit for nutrient reductions coming from existing programs.