

Phosphorus Task Force Phase 2 Meeting
March 14, 2013
Riffe Tower, Rm. 1960

Attendance

Task Force

Dick Bartz (for Dan Button), Doug Busdeker, Tim Berning, Steve Davis, Libby Dayton, Kevin Elder, Karl Gebhardt, Gail Hesse, Todd Hesterman, Kevin King, Amy Klei, Greg LaBarge, Joe Logan, Terry McClure, Jeffrey Reutter, Mark Scarpitti, Jeff Tyson, Julie Weatherington-Rice, Rick Wilson, Chris Wible, Ron Wyss

Observers

Mike Bailey, John Fritz, Jack Kramer, Linda Merchant-Masonbrink, Trinkka Mount, John Oster, Anthony Sasson, Scott Sowa, Bill Stanley

Handouts

Agenda

Minutes from February 6 Task Force meeting

LSC 130 0081-2 Legislation

Memorandum re: Comments on proposed legislation

Phosphorus Loading and Concentration Recommendations

Drainage Management

Draft report Table of Contents

4R Nutrient Stewardship – slides printout

Reducing Nutrient Runoff in the Upper Blanchard Watershed – brochure

NRCS Fact Sheets – About CEAP (2 fact sheets)

NRCS Fact Sheet – Key findings from the CEAP-Cropland Assessment Practices on Cultivated Cropland in the Great Lakes Region

USDA Fact Sheet – Surveys

Announcements

We need an extra meeting date in June. It will be June 5.

There are two recent developments that everyone should be aware of: proposed legislative changes and an effort to develop a streamlined version of the nutrient management plans.

Proposed Legislation:

ODA and DNR Soil and Water Conservation are proposing the legislation, which includes the following main provisions:

- Defining agricultural production
- Certifying applicators of nutrients for everybody applying to more than 10 acres.
- Changes how fertilizer sales are reported (by county)

- Expands nutrient management plans (NMPs) from including just manure to also include fertilizer application
- Keeps the Distressed Watershed designation where there is an imminent threat to health; an NMP is mandatory
- Introduces Critical Natural Resource Area – impaired per 303(d) list for nutrients, but not imminent threat to health; an NMP is encouraged
- Addresses non-disclosure to provide farmers comfort in developing a NMP that is followed up by inspections

The draft legislation document was distributed at the nutrient meeting hosted by the 3 directors at the March 7 meeting at ODA. The legislation is currently draft. It is not yet sponsored or introduced. There will be 30 days for comments, due April 7, 2013. Karl Gelbhart (ODNR) and John Schlichter (ODA) are the contacts.

Questions:

Can this be connected to the Certainty Program? The basis of the Certainty Program should rest in NMP. We need to get this in statute first.

Could soil and water districts aggregate information by watershed? Yes. For example, at Grand Lake St. Marys, the SWCD can say the number of acres under NMP, but not identify individual farmers.

Will there be additional staff and funding? This is a lot of work for underfunded staff. Department of Agriculture would be requiring a fee. But this should not be too onerous since those only apply to distressed watersheds, and voluntarily to Critical Natural Resource Areas. TMDL watersheds will be another target. We should look at reallocation of existing funding before we ask for more money.

How many NMPs will be written? There are approximately 17,000 public and private pesticide applicators, so there would be 3-4 times that number of nutrient applicators (manure and fertilizer).

How long to get in place assuming passage? A three year phase-in is anticipated.

How will data from NMPs be used?

Farm Logic is a good database for complete accounting on the web and the information is entered once. It is an efficient program. If the data is housed in a federal agency, the information is protected. If we were to tie conservation compliance with subsidies, this database program would be helpful in this regard.

This will be predominately voluntary. If you want pushback, tell producers you have to report on every acre and not explain how this will be used in the future.

Our approach needs to be compatible with neighboring states like Indiana since people work on both sides of the state line.

Greg La Barge reported that when the following questions were posed to 917 farmers at a conference last week, it was clear the farm community is ready to address the nutrient problem; there is a developing awareness of nutrient impacts on water:

- 71% of farmers thought phosphorus is an issue
- 97% of farmers are doing soil testing (94% of this percentage are doing it according to recommendations)
- 40% of farmers are incorporating nutrients within 30 days of application
- 21% of farmers thought the tri-state application recommendations would limit yield
- 40% of farmers apply fertilizer in the fall
- 48% of farmers apply fertilizer March-May

There was a suggestion that his info should possibly be included in the task force report.

Nutrient Management Plan (CNMP)

Many comments that the CNMP paperwork is too complicated and long. But it meets national guidance. Now NRCS wants to streamline the process.

NRCS, ODA, OSU, ODNR, OEPA will work together on this. The first meeting was held recently.

The main emphasis is on fertilizer only plans. Custom applicators are a vital component to this. The goal to have one plan the state and NRCS can offer together.

TSP training is scheduled for April 2 with private consultants. The hope is to release revised templates at that meeting but they might not be ready on time. Since the agencies are trying to include the national guidance, there may be no need to get approval at the national level.

It's obvious that labs are sampling and analyzing accurately, but recommendations can vary. Applicators may or may not be using the recommendations.

Targets for DRP and TP-Revised Recommendations

The subgroup heard the discussion at the February task force meeting and met again to revisit and clarify the subgroup recommendations. A revised paper was distributed to members prior to the meeting.

Targets are a conservative first step. They will result in improvement but may or may not reduce blooms to an "acceptable level". What is an acceptable level?

The goal was to develop a loading target for the western basin.

Focus is on an adaptive management approach. There will be an annual review of targets and blooms. We need a good monitoring program to do that. Targets will be modified as needed. If this approach is not accepted, then the target would have to be significantly lower to have a guarantee of a good result.

The Task Force asked for evaluating impacts to the lake from streams, other than the Maumee. The subcommittee focused on the Maumee primarily because of the high loads and because it is the primary driver of HABs in the western basin. The Maumee River is 4.2 million of the 7.1 million drainage acres. Models are based on the Maumee loading. The NOAA model focuses on March 1 to June 30 (4 month spring). Amount of runoff per acre into tributaries between Monroe and Sandusky mirrors the Maumee loads. Therefore similar recommendations should apply for all these tributaries. Use the monitoring of the Maumee to see how effective we are in all the tributaries combined.

Sandusky Bay will also see a reduction in HAB severity. However, predictions for Sandusky Bay are more difficult because it is a confined, shallow, and warmer bay which still may still have blooms even if targets are met.

Recommendations:

There should be an average annual load across multiple years to account for weather variability. Sufficient reduction in average loads will produce a good result. It will reduce frequency and severity of HABs. The target is based on the average load of the past 6 years: 2007 through 2012. These years capture the conditions the models tell us that we expect in the future.

Total P – Recommend 37% reduction in the average spring load of 1.275 metric tons for 2007-12 or a target of 800 metric tons. Spring is March-June. For annual TP loads we recommend a 39% reduction from the average annual TP load from 2007-12 of 2,630 metric tons, or a target of 1,600 metric tons. This should significantly reduce HABs.

Will the 6 years be the standard number of years average? Don't know yet.

DRP–Spring target only (the NOAA model is not helpful for addressing a fall target). Recommend a spring loading reduction of 41% in the average spring load from 2007-12 of 256 metric tons or a target of 150 metric tons.

P-Concentration- No recommendation for concentration will be given since it is so challenging to calculate. It is difficult to address concentrations because algae take it up quickly. Once it is in the lake, there is variability of P availability. We should control load instead of trying to control concentration.

We know that prolonged TP concentrations of 50 ppb or higher or a consistent DRP concentration of 10 ppb or higher in a river or lake will produce a HAB.

There are long standing TP targets for western basin at 15 ppb and 10 ppb for central basin. This is exceeded regularly. And sometimes when the numbers are lower, there is a HAB.

Recommendations for the whole lake will be out in 2016 and addressing the dead zone. We probably will find that you can't eliminate that dead zone.

We need to have enough nutrients so you are not starving the system and reducing the fishery. The percentage of reductions called for in the targets apply to all of the watersheds from Monroe, Michigan to Sandusky, Ohio. While the River Raisin has a smaller unit area load, its discharge goes past the Monroe Power Plant and that due to thermal conditions, a smaller amount of p will have a bigger impact.

Comments:

Aren't the proposed targets are above the LAMP recommendations? We may have to adjust through adaptive management.

Can the NOAA satellite imagery be correlated with the load? Where are these numbers coming from A comment was made asking what was meant by reviewing the target annually and does that mean we might be changing the target on a year to year basis? Clarification was provided that we would review the loads annually against the target but any changes to the targets might/could be made after we have multiple years of comparing loadings to HAB responses. There is no intention to change the target on a regular basis. The model was developed by NOAA. It is a simple load response model based on 11 years of data.

This proposal would mean 2/3 pound of P and 0.1 DRP per acre (may not include the big flushes because data not available). Aren't we at lower levels right now? What if there were no additional inputs of phosphorus, wouldn't we still see HABs from P already in the Lake? Answer: The problem is likely caused by some acres more than others. There are already a lot of farmers who are managing nutrients effectively at lower levels..

How does policy address what will happen if HABs are not reduced sufficiently? There can be reconsideration of the goal and adaptive management to reach a new goal.

Will incorporation be required on flat land? Good segue to discussion of practices later in the meeting.

4R Dealer Certification Program (Handout)

Doug Busdeker (Andersons), John Fritz (Andersons), John Oster (Morrall Company)

4R Nutrient Stewardship: Right Rate, Right Source, Right Time, Right Place. The 4Rs come from The Fertilizer Institute (TFI), a group of fertilizer manufacturers. 4Rs are not new, but trying to sensitize producers to economic, environmental, and social impacts of fertilizer application. More info is

available on the Ohio AgriBusiness Association (OABA) website (http://www.oaba.net/aws/OABA/pt/sp/home_page).

Precision Agriculture Program includes

- GPS soil sampling by management zones (not grids)
- VRT of lime and fertilizer
- Evaluate yield maps

Work with grower on variable rate seeding. Use NDVI (Normalized Difference Vegetative Index) maps. Consult with grower on all aspects of production

4R Dealer Certification Determining Management Zones:

Soil Type, Yield Map, Aerial photos, NDVI maps, Veris Data, manually layout of zones.
Zones about 12 acres or less. If flat, can get up to 18 acres.

Why 4R Dealer Certification:

- Provide guidance and direction for a consistent, recognized program for the agricultural community and ensures social, environmental and economic 4R nutrient sustainability goals.
- Leads to long term positive impacts on water quality in the western basin.
- Target audience is CCAs, agricultural retailers, crop advisors, and service providers.

4R consistency relies on a structure of education, record keeping, assessment, following Federal/State laws, annual review, and private, 3rd party validation.

With 4rs consistently used, expected results are:

- Reduced P loads to Lake Erie
- Reduce or eliminate HABs
- Agriculture “doing our part”
- Keep P in your field
- Improved soil health
- Environmental, social and economic solutions
- Commitment to all stakeholders
- Cleaner water.

If we place all the phosphorus the plant needs with the seed, the seed would not germinate. So we have to consider this when thinking about BMPs.

There are 900 outlets for fertilizer in Ohio. Of those, 197 are from Sandusky and Maumee watersheds.

Conservation Effectiveness Assessment Program (CEAP) – USDA/NRCS effort (Davis)

- CEAP started as a national initiative to assess the effect of conservation practices on water quality.
- Pilot projects were initiated to research and tie practices with data.
- Then regional studies were initiated to model efforts for Chesapeake, Mississippi Gulf, Great Lakes CEAP studies.
- The Apex model incorporated cultural, edge of field, stream and lake loading of sediment and nutrient data using national parameters. The report was released in December 2011 and pointed to nitrogen as the nutrient of concern.

Another study was launched for the western basin at HUC 8 level in 2012. This would redo the CEAP model for the Lake Erie watershed, looking at the Maumee watershed and collecting cultural data. The Apex model will generate edge of field runoff data and will show what reductions are necessary. Then data will be run through SWAT model. Then through the Humus model. This generates stream loading and stream processing and generates load exports to the lake. Loadings of N and P would come out of these models.

CEAP:

- 1) Cropland Assessment
- 2) Pastureland
- 3) Biological
- 4) Rangeland

TNC will work on additional models to look at habitat issues and aquatic species. Great Lake Protection funding may also be involved in CEAP.

TNC Great Lakes Project-Collaborative (PowerPoint) (Scott Sowa-TNC)

How Much Conservation is Enough?

A team consisting of personnel from NRCS, USDA, Nature Conservancy, and OSU Sea Grant was established to focus on improvement for multiple biological endpoints. The scale is 6,739 NHDPlus. The Western Lake Erie CEAP will be complete in April, 2015.

CEAP includes 6 strategies. The watershed strategy is what we address today.

Strategic Conservation is like the 4Rs. It is outcome or goal driven and guided by science, but grounded in reality to solve real world problems. Think logistics on the front end.

TNC is developing a suite of information and decision tools to set realistic ecological goals, related conservation actions, support logistics, support variety at any location.

3 Project Areas:

- Missouri River

- Great Lakes
- Western Basin

As part of this initiative, there will be scenarios for priority watersheds-using combination of 12 BMPs. The western Lake Erie CEAP utilizes a wildlife component.

Framework for Task Force Report Recommendations

The draft Table of Contents generated the following discussion:

- An update to 2011 tourism data - \$11.4 billion (updated). The economic value of agriculture should also be included.
- Each section will have prescribed subsections...background, discussion, conclusion, recommendations
- Each section can have its own reference material referenced.
- Research and Monitoring (activities underway-edge of field, P index, edge of field and monitoring) Gaps and needs.
- Activities underway as a result of Task Force 1 - New Initiatives and programs coming out of work from the Task Force (4R, CEAP, training initiative CTC, proposed legislation) Increasing number of soil test samples.
- The following discussion focused on approaches to goal setting for practices:
- Include costs of management of BMPs, how long the BMPs lasts. Look at more than the front end costs. Also consider landlord/tenant issues. Who bears the cost and who manages it? Consider the cost vs. the amount of P or DRP reduction. Shouldn't encourage a lot of cost share.
- BMP goals should be included with an emphasis on adapting to the situation - not uniform application.
- Identify how many acres are under CREP.
- There will be better buy in if there is not much money required up front, and then the farmer gets some reimbursement.
- We should de-link goals for practices and dollar amounts. How many acres are reasonable to think about certain BMPs and how do you get there? We could suggest costs but not say how that cost will be borne.
- The problem with looking at individual BMPs is the practice by itself doesn't mean a lot unless it is incorporated with other practices and a NMP. This should be mentioned.
- Establish the framework: Avoid, Control, Trap
- BMPs should all be considered that are already in NRCS documents.
- Can we look at cost/benefit ratio for each group of BMPs? Do we have enough data?
- We need to look at recommendations to producers coming from soil test laboratories. The project funded after the first P Task Force evaluated accuracy of soil test data for many Ohio soil test labs but we need to take a closer look at the recommendations made based upon those results.

Next Steps

We will revise the Table of Contents. The Drainage Management Section will also be revised. Elder and LaBarge will look at an approach to developing goals for practices for discussion at the next meeting. Scarpitti and Hesterman will write Section 4 on Soil Health. They will include promoting matrix rather than preferential flow and increase in organic matter. Dayton can do a 5 year running average of soil data through 2012.