

Policy Working Group

Conclusions and Next Steps

Meeting 4: Aug 30, 2016

1:00 – 4:00 pm

NRCS Office Conference Room

2118 W Park Ct, Champaign

Statewide Nutrient Trend Analysis Update thru 2015 (Mark David)

- Presented the results from their recent paper: Mclsaac et al. (2016) <https://dl.sciencesocieties.org/publications/jeq/pdfs/45/4/1268>. Nitrate shows a 10% decrease overall with most main rivers showing this decrease. Total P concentration overall shows an increase with some of the main rivers are going up and some going down.

N-Watch update (Jean Payne)

- Sixty farmers are participating in N Rate Trials. Nitrate in lakes in Vermilion, Decatur, Springfield were high in May; low in Aug. MRTN is important as more farmers follow recommendations.

MWRDGC update (Thomas Granato)

- MWRDGC is recovering high strength P waste. The Stickney plant uses EBPR and the Ostara process to remove P and ammonium. They are further optimizing these processes. The Calumet plant needs a carbon source to initiate the process. The O'brien plant has been testing an algal remediation process. They are collaborating with the Illinois Sustainable Technology Center. At the Egan plant, they are in operational testing for nitrogen removal process.

Status of NLRs Implementation Workgroups, Forums, and Councils

- Agriculture Water Quality Partnership Forum and Technical Subcommittee (Warren Goetsch)
 - The Tech Subcommittee has developed a spreadsheet for gathering land measures. They worked with NASS to develop survey to augment data. Have 32% response rate. Hoping to have information by the end of November.
- Urban Stormwater Working Group (Eliana Brown)
 - This group is focusing on stormwater education for general audiences and for professional staff and BMP tracking.
- Performance Benchmark Committee and Point Source Working Group (Cindy Skrukrud and Rick Manner)
 - Tracking for Point Source has been the focus.
- Nutrient Monitoring Council (Kelly Warner)
 - Eight superstations are currently implemented. Might recommend an additional superstation at Lemont or Rt 53. Groundwater monitoring is happening under a 106b grant.

Nutrient Science Advisory Committee Update (Todd Royer)

- Nutrient criteria are a data driven process. The goal is to have a scientifically defensible recommendation. The work plan framework is available on website. http://www.epa.illinois.gov/Assets/iepa/water-quality/watershed-management/nlrs/il_nsac_workplan_9june2016.pdf

<p>If any substantial changes are made to the work plan, they will let PWG know. USEPA is providing funding for TetraTech to analyze datasets. NSAC will use this analysis and possibly other analyses to provide recommendations to Illinois EPA. The recommendations might include a single state-wide recommendation or might include recommendations specific to selected geographic regions or selected river classes. Data will be the guide. The available dataset is 2006-2014. If they use data outside of Illinois, it would share ecoregions. NSAC hasn't settled the question of low nutrient rivers yet.</p>
<p>Plan for 2017</p> <ul style="list-style-type: none"> • Process and timeline for 1st Biennial Report (Warren Goetsch and Anjanette Riley) <ul style="list-style-type: none"> ○ The Biennial Report will cover 2011 and 2015. Goal is for release by the end of June 2017. Submittals need to be received by the end of January 2017. The Biennial Report will contain summary tables and summary of science results. • Work plan for next year (Amy Walkenbach) <ul style="list-style-type: none"> ○ Proposal comments due by September 15, 2016. ○ End of year conference could be a place to present the Biennial Report.
<p>Future meeting topics (Brian Miller)</p> <ul style="list-style-type: none"> ➤ Next topics: <ul style="list-style-type: none"> ○ Potential spring topics: <ul style="list-style-type: none"> ▪ Biennial Report release could tell a story to the general public/elected leaders (legislators) that this effort is underway. Do we need a publicity plan? ▪ Other states update (IA especially) and innovative approaches from all states and lessons learned. ▪ Gulf Hypoxia Task Force update ○ Potential workshop topics: <ul style="list-style-type: none"> ▪ Set up structure for post standard implementation. ▪ Steps to Adaptive Management ▪ Do we invite elected officials?

In attendance (members and visitors): Rick Manner, Urbana Champaign Sanitary District; Kay Anderson, American Bottoms Regional Wastewater Treatment Facility; Nick Menninga, Downers Grove Sanitary District; Thomas Granato, MWRDGC; Randy Stein, Bloomington Normal Water Reclamation District; Alec Davis, Illinois Environmental Regulatory Group; Lauren Lurkins, Illinois Farm Bureau; Jean Payne, Illinois Fertilizer and Chemical Association; Rodney Weinzierl, Illinois Corn Growers Association; Dick Lyons, Illinois Association of Drainage Districts; Kelly Thompson, Association of Illinois Soil and Water Conservation Districts; Kevin Culver, Aqua America; George Czapar, UIUC Extension; Laura Christianson, UIUC Extension; Mark David, UIUC NRES; Paul Davidson, UIUC ABE; Albert Ettinger, Mississippi River Collaborative/Sierra Club; Carol Hays, Prairie Rivers Network; Cindy Skrukrud, Sierra Club; Amy Walkenbach, Illinois EPA; Warren Goetsch, Illinois Department of Agriculture; Gene Barickman, USDA-NRCS; Candice Bauer, NSAC; Todd Royer, NSAC; Paul Terrio, NSAC; Brian Miller, IWRC; Lisa Merrifield, IWRC; Eliana Brown, IWRC; Katie Hollenbeck, IWRC; Trevor Sample, Illinois EPA; Kim Knowles, Prairie Rivers Network; Kelly Warner, Illinois Nutrient Monitoring Council; Daniel Perkins, Waterborne Environmental Consulting; Farrah Abi-Akar, Waterborne Environmental Consulting; Amy Roady, Illinois

Soybean Association; Anne Marshall, UIUC Sociology Department; Rebecca Osland, Illinois Stewardship Alliance; Steve Stierwalt, AISWCD; Mike Baise, American Farmland Trust

Brian Miller: There is lots of activity and we are going to talk about things moving forward. There are members of NSAC in the room today so you will have the opportunity to interact with them. Sectors have been reappointed and there have been slight adjustments, so first let's go around the table for introductions.

Introductions

Eliana Brown: Does anybody need agenda and sign in sheet?

Brian Miller: Amy, would you like to give an Illinois EPA update?

Amy Walkenbach: I have a quick update. Illinois is shifting sands. I am sitting in the seat vacated by Marcia Willhite, as far as developing the nutrient loss reduction strategy. Alec Messina is the new Director. He is trying to get his feet wet in all programs. He was supposed to attend today but he is in New York City selling revolving bonds for our state. Sanjay Sofat was named the new Bureau Chief. Are there any questions?

Brian Miller: Mark David is going to present the update on nutrient findings in state.

Mark David: We volunteered to provide an update from 2015. This is our own interpretation of how things change through time. We used 8 major rivers to estimate total phosphorus. We have from 9-25 water quality measurements each year and daily flow from USGS. We used a weighted regression technique. The big picture is flow, which is the dominant factor. So, I'll start with the bad news: water is leaving the state and we had some big years in here. This is a trend fitting. Over the long time period there was an increase in flow. Phosphorus is an even bigger increase. These figures were in the strategy. You can divide the load by the flow. Average is about 3.2 mg of phosphorus leaving state. The news isn't all that great. Phosphorus increased about 17% in the past 5 years. That's not the trend we wanted to see. When you look at loads, these are the 8 rivers. Not all rivers are the same. On the left are the flows and on the right are the phosphorus loads. But flow is one of the primary reasons. Here is the relationship between flow and phosphorus. Total phosphorus for that state is up. Flow weighted total P increased. Why the increase? We don't know for sure. One is flow for sure. More flow and more people are most likely the primary factors. Why the decrease? Perhaps it is less erosion. The last thing we did use: MWRDGC looked at total effluent total P.

The good news is nitrate. The total load doesn't look like there's that much of a change. Total nitrate is clearly trending down. Nitrate shows about a 10% decrease over the years. Phosphorus is going up and nitrate is going down. Nitrate really varies throughout the state. If anything, none of these are showing an increase in trend; most are showing a decrease in trend. The one that has confounded us is the Rock River. Each river is different; some rivers have increase in load, but in a really small concentration. A lot of that is due to more flow. Flow is the dominant factor. Loads are somewhat variable. We think we

understand why flow is going down. We did this analysis for the Illinois River. We think it is the row crop in, harvest out. The harvest removal has the same amount of nitrate fertilizer. The long term balance is a long term force for pushing nitrate out. The change in flow is a factor. Loads vary in the southern part of state. The total phosphorus has gone up and nitrate is decreasing likely due to better agricultural practices. Extending the record will tell you. One year of data doesn't tell you anything. Doing the annual load and trend analysis is what matters.

Brian Miller: Any questions?

Jean Payne: Is there an erosion issue?

Mark David: I don't think the erosion issue has gone up. I don't know that erosion gotten worse. Maybe point source has gone up in that time period.

Lauren Lurkins: I would like to complement you on that. It is nice to see you all in one place. But it is only one part of the story. When are slides going to be available? Our farmers can look at long term data.

Mark David: We are fine with anyone using it. It is in the Journal of Environmental Quality. It is an open access published paper.

Todd Royer: What about capping into the soil for nitrogen?

Mark David: There is greater nitrogen use efficiency. Grain concentration has gone down, about 20%-25%. Farmers are still harvesting much more corn and putting less fertilizer on.

Rick Manner: We didn't have that factor at all in the strategy. It seems like it is substantial number of pounds.

Mark David: As long as we don't add more fertilizer, it is clearly around 10%

Warren Goetsch: A portion of that is increased efficiency, rates, timing, application, etc.

Mark David: We do more fall applications now than we did then. I don't think there is anything like that that you can point to.

Carol Hays: What are other practices that would help?

Mark David: The thing we like the best are cover crops, bioreactors, splitting, etc. It seems like a good thing is that you can maintain yields and still do those things. I've worked on every practice and I like cover crops best. They may not work every year. The strategy had this whole list of things. There are things that work. Nitrate can respond fairly quickly. Nitrate, tile drainage, and other things respond quickly.

Brian Miller: Okay, Jean Payne will talk next.

Jean Payne: There are some interesting things going on. The research and education will improve and make a reliable nitrogen rate. Our goal was to improve nutrient utilization. Some rate trials, as you can

see, yields responses. We are doing N-Watch this year. We are tracking movement of nitrogen through the soil. To give you an idea, you can see the nitrogen applications, and track nitrate levels in the soil. Uptake by crops really all end up back in the same place. It gives you a window. Do we have issues with water supplies? Lots of rain causes concern in fertilizer industry. We noticed this year that the corn crop was really green. The soil is going to produce some nitrogen. Our message to this grower is that you have more out there that you think due to mineralization. In addition to what you apply, there are other sources out there, concerning levels in surface water supplies. For nitrate in winter, let the crop see what it was going to do. These are the success stories to share with growers. My last finishing comment is 1.2 lbs per bushel produced isn't 1.2 lbs anymore. The industry is always looking for better ways to maximize nitrogen.

Brian Miller: Any questions?

Cindy Skrukrud: In the lake data, is there nitrogen being taken up by algae and aquatic plants? All we use it for is for seeing if issues are out there. Springfield is an agricultural watershed. Decatur and Vermilion have other things going on. In trying to keep trend, we have seen that the trends are lower.

Jean Payne: Prior to 2010, some didn't pay any attention to crop production vs. nitrate worries.

Mark David: All reservoirs and water concentrations are low this time of year. Due to denitrification, we would expect to see low levels.

Dick Lyons: Some natural things are occurring in a natural system.

Mark David: In a natural system there would be a perennial taking up nitrate. Corn is done using it. If we generate tile flow, nitrate going to go up.

Lauren Lurkins: How many N-Watch sites are there?

Jean Payne: There are 100 N-Watch sites this year. This year we added 30-40 additional sites.

Rick Manner: Results are consistent enough to develop a plan.

Jean Payne: For nitrogen rate trials, yes. They crunch the data and develop numbers.

Dick Lyons: We sell our own rate trails. This was done here, 5-10 miles away at the max in the hybrid vs. tillage method.

Jean Payne: They don't make enough triple super phosphate.

Brian Miller: So let's move on to Thomas Granato and the efforts to remove phosphates.

Thomas Granato: I just wanted to give update on MWRD. There are 4 areas. The 1st is source control and resource recovery. We are hoping this week to have ordinance passed by the board of commissioner for resource recovery. There is a pull out process flow, besides the source control. The 2nd area is looking at phosphorus removal. It is occurring at many of our treatment plants. We have been operating full scale enhanced biological phosphorus. Projects plan to further improve sustainably that feeds that process.

The biggest step is a phosphorus recovery system. We remove phosphorus and ammonium from the plant. Currently the nutrients are released. Bugs are still being worked out. Currently we are achieving a 1.0 average monthly. In some months, September, October, November, it is difficult to meet 1.0. It is difficult to meet and we are hoping to meet with recovery system. The next major step, the 3rd step is for reducing load. Something that is of interest is assessing using algal remediation processes. We have been testing a process, exploring a process that is a more tightly engineered process. We can venture along with them and are hopeful that we can still pilot that. We are still going on in phosphorus removal. In terms of nitrate, we can think on the agriculture side, nitrify and denitrify. We have extended and it doesn't affect a large removal. Processes work ammonium to nitrate and then cut and reintroduce combination to anoxic environment. Nitrate and ammonium then go to nitrogen gas. We are hopeful of reducing about 65% of total N. It is a sustainable energy step. We have a process built out at the plant and hoping that by January the bacteria can treat the Egan plant. They are treating 100 million gallons a day. Then will implement in other areas. We should see significant reduction leaving the plants. Also they are undertaking BMPs to test and monitor.

Mark David: For high strength waste, how do you do it?

Thomas Granato: It is trucked in.

Brian Miller: There is lots of hard work being done. Also we are collecting the data to see where we are with the 7 committees. Progress is being made with the workgroups. The first up is the report from Agricultural Water Quality Partnership Forum.

Warren Goetsch: Here is the list of meetings in the past 2 years. Both groups were very active. The biggest focus was implementing this model to develop indicators to show that we are making progress. Ultimately, we are seeing the fruits of the labors in the water quality. We are looking at strategy to see what sector, what units, and how we might be able to fill in those numbers. 2011 +/- 2 years is the baseline year and what's been done in the past couple years. We relied heavily on FSA, DNR, and USDA NASS. We wanted to publically thank all of the stakeholders. We should be well positioned here. Approximately in July, 1900 surveys were mailed out, we follow up telephone calls, and we have been disappointed in returns. As of mailing, 450/1900 surveys were returned, and with phoning, an additional 200 surveys were returned. We have 600 usable reports, for a 32% return rate. We stepped up with monies for additional phone calls. By the end of September, should have information to start working on a biannual report. Much of the numbers will come from the NASS survey. It is very important to get that information. AWQPF meets end of September and the Tech Subgroup will meet in December.

Mark David: Who will compile and look at it?

Warren Goetsch: It is coming to Illinois EPA and the Department of Agriculture.

Brian Miller: The Urban Stormwater Working Groups has gotten traction, well, all 3 of the groups. The question is how to collect data.

Eliana Brown: Amy's role has changed, and I am giving the recap. We are doing 1 face-to-face meeting a year. We have had a number of calls and the subgroup has had calls. For education on stormwater, we did a gap analysis, and found no obvious gaps, so we may ask a different question. We may ask MS4 coordinators what they need. MS4s need to give information regarding climate change. We need to have evaluations done annually. Education for decision makers could be a series of events that would be a luncheon for elected officials and in the afternoon, it can be a 3-topic time for professional staff. IDNR has coastal programs in Cook County. Tracking is different than agriculture and different from point source. There will be a whole different way of how tracking will happen, as we are developing a template for MS4s. It is an easier thing for those numbers to be provided.

Albert Ettinger: Who's on your committee?

Eliana Brown: We do have 3 MS4s and DuPage County which represents 40 MS4s. Carol Hays, Cindy Skrukruud, representatives from the City of Peoria, Urbana, and Champaign, are all on the committee.

Alec Davis: Are you putting those educational materials together?

Eliana Brown: If you reduce the overall load, one thing we would like to integrate into materials is the Lawn to Lake Program from Illinois-Indiana Sea Grant. It does need to be integrated into general stormwater.

Brian Miller: Next we will hear from the Performance Benchmark Committee.

Cindy Skrukruud: Our group discusses how we can meet interim and final nutrient reduction targets. The first step is how to track progress. Earlier in August, the Performance Benchmark Committee's Albert Cox put together a chart to track that came out of the discussion. Under the facilities measures there are a lot in flux here and may already be doing a lot for all the things we hope to gather together information on. At the same time, we are thinking about tracking.

Rick Manner: There are lots of conversations about tracking in a variety of ways. The baseline spreadsheet was a list of major biological removal facilities. DNR treatment plants like the idea and maybe can be encouraged to remove more further. The reality is that 50% more. All facilities are tracking. We really want influent and effluent. The quality of data is important. 1980 and 1996 are baseline years. 2015 is the last year. Lastly, where do you predict where you are going, or what are the expectations of changes? We are asking people to classify themselves. We are still interested in data. We didn't do anything intentional. We didn't use one year of data. We are asking people to critique their own data and actually hoping for a lot of data in quality.

Cindy Skrukruud: This is a summary slide, dates for the next call, and a doodle poll to hear back from IEPA with what data they can provide.

Brian Miller: The last group we are going to hear from is Nutrient Monitoring Council's Kelly Warner.

Kelly Warner: We just had a meeting where we talked about 5 topics. One thing we are doing for monitoring is the 106(b) grant funded. The support is looking at nitrate in groundwater. There is

continuous monitoring of groundwater in-situ in Havana, which is some of the fastest groundwater flows. We also had a talk about phosphorus as a commodity, not as a waste. This led us in to some of our monitoring needs that we still have. There are 2 sample areas, pulled in data from Fox River Basin and then taken from Illinois EPA Storet data. One of the tools to look at aggregate and display data. The subcommittee is looking at what are the parameters of data. First we looked at what are some of the parameters that we need. We need locational information, some basic needs. We talked about biological monitoring data parameters. What are data parameters and goals? The networks that we currently have are the 8 supergages. All of these are currently implemented. We have almost a year of data. Vermilion has phosphorous problems and sediment problems and there is a question if we keep turbidity running in Danville. Do we have adequate network for monitoring? Do we need to monitor what's coming in from other states? Kankakee and Indiana put in a gage and we will get that data. The priority may be a supergage to monitor urban changes. As a preview, we are recommending a USGS gage at Joliet, at Route 53. We've been looking at continuous turbidity sensors, with the same method.

Brian Miller: We have a report from NSAC. This is the 3rd interaction since last spring's meeting. Todd will give the report.

Todd Royer: The Nutrient Science Advisory Committee (NSAC) was convened in November. We were given 18-24 months to complete our work. We are supposed to recommend a water quality standard for phosphorus and nitrogen to Illinois EPA. Illinois EPA then will act on our recommendation. We have met monthly, at present, and will complete work around the end of 2017. We are committed to having it wrapped up. We all agreed we wanted a data driven process that provides a scientifically defensible recommendation to IEPA. We developed a work plan based on principles of ecological risk assessment. We want to determine risk assessment, while minimizing eutrophication. If we make significant changes to the work plan, we will let you know. What have we been doing? We are relying heavily on Illinois EPA data, from 2006 to 2014. A big thanks to Roy Smogor, who is providing relevant data including nutrient concentrations, macroinvertebrate data, riparian cover, etc. We want datasets that have full datasets. TetraTech analyzed IEPA data in the past. We have 6 years of additional data, as it was last looked at in 2008. Our committee has been in contact with TetraTech. Frankly without this, we don't have the key to getting work done. Right now we expect results from TetraTech in 2017. The committee will take that analysis from other datasets, scientifically defensibly, regarding numeric standards for total phosphorus, ecological reasons, as analyzing together might be better than analyzing alone. It could include a single statewide set. The recommendation may be specific to local geographic regions.

Dick Lyons: We should look at more than just one statewide recommendation. There are different geographical areas and different watersheds. For myself to make statewide recommendation, I'd rather work with watershed local recommendation.

Todd Royer: There are options: it could be statewide, and then broken down by ecoregion, and then by river class, which is size. We are well aware. At this point, we are not choosing one of those options.

Lauren Lurkins: What other states have used TetraTech?

Candice Bauer: It is the main company that USEPA has used in various ways, nutrient monitoring criteria, analysis, etc. Every state is different.

Kay Anderson: TetraTech that did breakpoint?

Todd Royer: Nutrient and biological data is sloppy. When you have noisy data and you want to identify where is the response variable and where is it changing, the breakpoint analysis is one statistical technique for identifying where that change is happening. We don't plan to do a conditional probability. The breakpoint analysis is still used and is a well-accepted statistical method.

Kay Anderson: Initial ecoregion assessment?

Candice Bauer: The EPA started back in the 2000s. Since that time the states have been doing work to develop their own nutrient criteria.

Kelly Warner: Has all the data been collected already?

Todd Royer: We will give them the data once Roy Smogor from Illinois EPA has all of the data collected. If we want to include other datasets, that is yet to be determined. We are looking at Illinois EPA datasets from 2006 through 2014.

Albert Ettinger: One concern is that there are not that many Illinois waters identified that had low levels of nutrients. Do we have enough data or want to look at data from other states?

Todd Royer: If you believe in ecoregions, then state lines don't matter. The land use and concentrations don't matter. I'm not sure the committee has settled this question yet. We are looking at other states. We are also looking at scientific literature. Will use all of that information.

Carol Hays: You mentioned biological data?

Todd Royer: It is EPA data.

Brian Miller: They will report on what they have done and measure responses in the water. Iowa figured out how to modify things that are really important. We heard reports from 3 input groups, talked about land measures, point source activities, etc. Next we are going to have Anjanette Riley talk to us about what we've got so far and where we want this to go to put together a biannual report.

Anjanette Riley: We collected input and humans data from organizations on the Policy Working Group and heard from 17 organizations. About 65 pages will include as attachment in resources Eliana Brown will be sending you. For inputs, we talk about financial and staff resources. From what we've got, what we could say in biannual report is a narrative, such as, "more than 50 staff members, strategy partners invested xx hours..." We can talk about it narratively. Similarly, we can do the same with human activities, talk narratively about things. If you are okay with this or comfortable with this? If not, we might have you have to dig back further.

Brian Miller: Collect it, compile it, and share it. It is not a real heavy data exercise. One input point, another input collection scheduled for January. We have what the agriculture sector did. The question is how far we should go? We can do this again in January and have a full years' worth of data.

Lauren Lurkins: They have that for Iowa. We can delve deeper if we want to.

Anjanette Riley: We can pull out a handful of things covering topics, more narrative, for example.

Brian Miller: Next Warren Goetsch will talk about the proposed timeline.

Warren Goetsch: The strategy will be a living document. We will have in many cases, 2011 and 2015 numbers, and so we will have 2 points on how we will make improvements. The first report is more focused on establishing initial numbers. We should have them by the end of January. A draft will be sent back out to this group, revise the report in 30 days, and have the final report ready for release by June of next year. We do not know if we will propose any major updates on human and inputs.

Brian Miller: 2011 is the baseline year. Warren, you were envisioning it as an agricultural table?

Cindy Skrukruud: Can we do some back envelope? Take stock as soon as we can because it is coming up in less than 10 years, both the good and bad of data that we have. Projecting forward to 2025, there will be some analysis of progress that we are making.

Brian Miller: An additional analysis on top of what Mark presented?

Cindy Skrukruud: Definitely what Mark presented and we can't ask agricultural sector to make an analysis. The agricultural survey data would be summarized. We are talking about actual response. I think beyond that, are we taking the steps we need to take. It doesn't need to be rigorously scientific.

Mark David: You could take acres of cover crops/wetlands and take reduction percentage and calculate of N or P that was. You would need survey data first.

Cindy Skrukruud: That would be great.

Warren Goetsch: I was more concerned about getting the data, getting the data in 2 years, and then if we have time, great, if not, then fine. We should get comfortable with information and then make estimates.

Cindy Skrukruud: I'm just thinking ahead, even if it's a squishy analysis.

Warren Goetsch: Ultimately, the bottom line answer is 1) what is the data showing and 2) what are the impacts.

Brian Miller: We can go ahead with the summary tables and do a summary table of what Mark presented. We are going to go ahead and do some analysis and do some reduction estimates. In addition, we will do some years of nutrient monitoring and go ahead and get an analysis.

Carol Hays: You were thinking to report 2011 and 2015 NASS data anyways?

Warren Goetsch: Yes.

Mark David: Doing those sorts of calculations, NASS will give statewide numbers. We will just have a number for the state?

Warren Goetsch: Yes. It was a financial thing.

Cindy Skrukud: Maybe we can do it anecdotally. It cannot be a big hairy analysis.

Amy Walkenbach: This is our baseline and reporting for things in the future.

Mark David: For measuring nutrient loss.

Warren Goetsch: One question specifically asked was about cover crops on time, etc.

Mark David: All nutrient losses depend on where they are in the state.

Warren Goetsch: For special projects, there have been some noteworthy things, so my vision would be to have a paragraph or two write-up. I would like to ask all of you to think about what should be included in the biannual report. Think about any of these other things that have happened. Give some thought to that as you peruse the strategy.

Lauren Lurkins: Can we make part of the end of year report?

Brian Miller: Great idea. That is a great way. Any other thoughts about timeline? We are working on a workplan development for next year. There is lots of effort collecting data, but what does it look like beyond that?

Amy Walkenbach: How many people want more meetings? With a good working group, I'm proposing what might be a workable approach. I want everybody to weigh in on the workgroups. For the PWG, we had 2 meetings last year, so we could meet in the spring and have one at the end of year as a success workshop/meeting. That is the biggest take home? Think about if that is a workable 2017. One meeting and workshop at end of year. The NMC had 4 meeting last year. I'm going to recommend the same pace. The NSAC had 6+ meetings, so that's going to be up to you guys. AWQPF had 3 meetings in 2016. We are looking at one meeting during the year and then one meeting during that end of year workshop. So I need the AWQPF to let me know if that will be a schedule that works for them. USWG had 2 calls, so there will be a similar pace next year. The Benchmark Workgroup had 2 meetings, so it will be a similar meeting with end of year participation. Any thoughts you may have now? If not, get comments to me by September 15.

Amy Roady: Would it make sense to discuss that?

Amy Walkenbach: Do people generally like the concept getting together at the end of the year for a "success meeting?"

Albert Ettinger: I like it, assuming we have success.

Lauren Lurkins: The report is great, but people have to read the report, but it is good to give it life.

Amy Walkenbach: Working in our own little box, we are building collaboration without forcing collaboration.

Brian Miller: For future steps, where do we want to go from here? The next Policy Working Group is next spring. The question is, are we at that point? What are big items to start working on to be productive next spring? Do we want outside speakers, to start exploring adaptive managements, etc.? If you have thoughts, this is a good time for discussion.

Albert Ettinger: Balls in the air, I'd like to see them come down before we do too much. We want to start by setting up a structure and implementing that.

Mike Baise: It is remarkable that we have all the different workgroups and diversity. In the media in Ohio and Iowa, I'm not sure the general public is aware on what is going on. I think the general public is aware that this is underway. You want someone to read the report.

Carol Hays: Getting information for key leaders is good so that they appreciate what is going on.

Brian Miller: Maybe that's an agenda item for the spring?

Alec Davis: Can we get an update on what's been going on in other states, to measure and determine what's been happening.

Brian Miller: Do we want to focus on a particular thing from a particular state?

Dick Lyons: Iowa, since we are following the bracket, etc.

Lauren Lurkins: Warren is our representative, among a smattering of others from the Gulf Hypoxia Task Force.

Amy Walkenbach: Candace, could someone from EPA speak for all of the states?

Candice Bauer: I'm not sure.

Brian Miller: Iowa is good example. If we start to get into particular topics, then there are different states with different outcomes.

Alec Davis: I'd like to hear on all of them. Like lessons learned without learning the hard way.

Cindy Skrukrud: The strategy had a number of things that got us to where we are. This is what point sources are doing. In fall, where do we start to go after 2017, where do we start to go?

Kay Anderson: We don't have any feedback on our plan yet. We need feedback first to adapt. Whether or not steps are laid out in strategy, we need to try some stuff to see what works.

Brian Miller: Does anyone know a state?

Warren Goetsch: States are rewriting their strategies. Mississippi and Louisiana had strategies that were so general and now they are going back to rewrite them. I agree with Kay. We still have to go another year or two to know whether we are having an impact on BMP adoption rates.

Cindy Skrukruud: If we can have a conversation about that...

Dick Lyons: Along with involvement with the legislature, they were very much moving forward.

Warren Goetsch: Alec is very well aware. We need to get together and see where we are going. There is awareness in the Governor's Office. We did send copies of strategy to leaders of house and senate leadership.

Dick Lyons: As drainage districts, we were interested in what happens with the strategy. Are we bringing them into the fold? Cover crops are the answer, but \$3 corn and \$45 an acre; certain states are getting assistance through the legislature.

Amy Walkenbach: Our job as a state agency is that the Governor's Office knows what we're working on, why we are working on it, and what's being done. We are not entities that work with legislature. We need everyone around here to educate legislators.

Dick Lyons: Are we sending different messages based on organizations? If you represent the Policy Working Group, then you represent the strategy.

Cindy Skrukruud: What you are asking for should be part of spring meeting publicity.

Lauren Lurkins: When I think about this endeavor, how can we organize it? Showcasing it at the end is a great thing. I had the same thing at the Hypoxia Task Force meeting. We have a good story to tell and we should just keep talking about it.

Brian Miller: Before we conclude, are there any other thoughts? It's 4:00PM, so I want to let you go. Thank you all for attending!