Nutrient Monitoring Council (NMC) 9th Meeting

September 6, 2017

350B Edward R. Madigan Lab, 1201 West Gregory Drive, Urbana

Minutes

In attendance: Gregg Good, Kelly Warner, Paul Davidson, Jong Lee, Chuck Theiling, Rick Cobb, Laura Gentry, Laura Keefer, Nick Kollias, Kevin Culver, Elizabeth Murphy, Paul Terrio, Jonathon Manuel, Greg McIsaac, Eliana Brown, Katrina Widholm

NMC Member Updates –

Andy Casper and Chuck Theiling are leaving the council due to their respective position changes. Replacements are being sought.

Gregg asked each member of the committee to report any "exciting or boring news." Nick said that his group was working on taking phosphorus out of the water for fertilizer use. Greg McIsaac reported that a team at the U of IL was in initial work phase of a research project on the technology and economics of recovering phosphorus from ethanol production facilities and wastewater treatment plants in comparison to changes in agricultural production practices. Chuck reported that his group was trying to reclaim dredged soils near the Mackinaw River using a new model. Paul Davidson and his wife are expecting a child. Laura Gentry said that she and her organization were working with many agricultural groups including farmers on precision conservation. Kelly Warner, U.S. Geological Survey, reported that her organization is looking for a new Illinois/Iowa Water Center Director. Her group is creating a new video that will be available online which is a story map of the Mississippi River. Kelly will send a link to Gregg to share with us when it is complete. Chuck reported that the COE is creating a video as well for the Red Rock River. Trever told us that they released the Biennial Report at the Farm Progress Show and that several media stories resulted. There is a pdf of the report online. Eliana passed out bookmarks with the URL. Rick Cobb, Illinois Environmental Protection Agency, said they were working with the U.S. Geological Survey as a network of committees to report about pesticide/herbicide degradation. The Governor's Council is involved. Gregg Good is going to be a new grandpa and today is his birthday!

Next meeting dates(s) – Gregg Good

Will not have a December meeting, but will meet during NLRS Workshop.
Will have a meeting in spring 2018. Gregg will send out proposed dates to members.

Eliana reminded us that the NLRS workshop is in Springfield at Northfield on November 28 – 30th. Eliana will share the agenda when it is set.

Havana Lowlands Groundwater Study Update – Rick Cobb, IEPA and Bill Morrow, USGS

Since March 2017 have been collecting data at Havana. Nitrate in groundwater has been running 19-22 mg/L as N. Preliminary Conclusions: nitrate correlated with pH, SC, and DO. Possible causes: nitrate application timing, nitrate in root zone or groundwater, precipitation and/or irrigation. Full year of data needed to tease out possible causes/factors.

Implementing the Nutrient Loss Reduction Strategy in Champaign County – Jonathon Manuel, Champaign County Soil and Water Conservation District

In July 2015, the Illinois EPA awarded the CCSWCD a 319 Grant to work on water quality in the Salt Fork Watershed.

They have a program called Saving Tomorrow's Agriculture Resources (STAR). It looks at individual fields and provides a score relative to the amount of conservation, or BMPs, that have been applied to the landscape. Most farmers are scored for all their fields. The program includes a sign that shows the number of stars a field has scored. Farmers lead farmers. Farmers are not resistant to these ideas, they want to score high on the survey and receive a five-star rating. If their neighbors rank higher than they do they want to improve? The first year they asked farmers to participate they had 116 out of 325 farmers and landowners turn in their survey. They made changes the following year and the survey was put in a form in folders given to them and 320 out of 325 farmers and land owners responded.

Nutrient Survey was done by 246 farmers.

Future: Upper Salt Fork Watershed at St Joseph. Have baseline USGS data. 13,000 acres of cover crops (cereal rye) being implemented. Looking for partners to fund.

Past Efforts: 70% of Champaign County is protected by CRP Filter Strip. Had 319 Grant to bring Strip-Till to CC. Results showed savings in P application. Learned that it was too expensive for farmers to buy new tillage equipment on their own just to try a new system, to the equipment was made available through the CCSWCD.

Updates - USGS and MWRDGC Super Gage Network, and IEPA Illinois River *Pools*

Kelly reported that using the eight superstations we needed to use the highest and lowest flows to know how well the instruments were working. Elizabeth said that the ninth superstation was to be installed in Joliet in October.

Nutrient and Sediment Loading Discussions

Nutrient and Sediment Export from Illinois – Preliminary Summary Report for Approximately the First Year of Super Gage Network Data Collection and Analysis - Paul Terrio, USGS

They are collecting nitrate concentration, phosphate concentration, turbidity concentration, stream discharge and physiochemical parameters. Continuous and discrete samples are correlating well. They are continuing to refine. Highest nitrate load is coming from NW. Highest phosphate load is coming from SE. Highest suspended sediment is coming from SE. How do we know what's coming to the Gulf? Need to look at downstream stations on Miss R.

The Danville station has physical stream conditions and equipment infrastructural constraints to deal with. Accumulation of sand and silt has been and silt which has been problematic for P concentration. Gage has been rebuilt with a new pumping station during the summer 2017. There are plans to install a different P analyzer in October 2017.

Monitoring of Nitrate-N Loads in the Illinois River at Valley City and Florence – How do Different Estimation Methods Compare? – Greg McIsaac, University of Illinois

For the NLRS Science Assessment, a linear interpolation method was used to estimate nitrate concentrations between sampling events. Comparing these data to those collected by new USGS continuous monitoring methods, probe measurements are approximately 8-9% greater than discrete sampling. Seventeen year average reduces the number of variables. Less of a story to tell with water flow. (See Greg's summary for more information.)

Gulf Hypoxia Update – August 2, 2017, NOAA Report of Largest Ever Gulf Hypoxic Zone – Gregg Good

Gregg Good reported that NOAA both estimated then confirmed that the Gulf experienced the largest hypoxic zone in 2017 than ever before. USGS spring nitrogen runoff data are used to help NOAA make those projections.

Nutrient Science Advisory Committee Update - Paul Terrio, USGS

NSAC convened in 2015 and plan to conclude in 2018. Notes are on the NLRS website. They have developed models of biological response. TetraTech is analyzing data from different ecoregions. Hope to get report out by late 2018. Will have outside expert review.

Jong Lee asked if each group present was putting their data together in one data sheet. Responses: Paul – No, Katie – maybe, Chuck – we are making a plan to do this. Jong asked if all of us could work together to do this. Jong will email Gregg who will send out an email.