



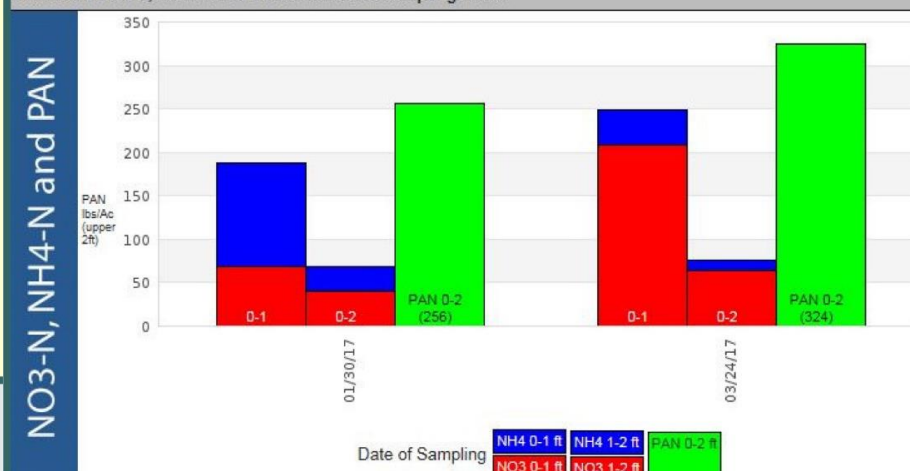
## UPDATE LAKE VERMILION WATERSHED PROJECT *April 2017*



**N-WATCH**, a soil sampling protocol that samples the upper 2 feet of the soil profile to determine ammonium and nitrate levels, has continued to be used throughout the state as a tool to evaluate N concentration in the soil profile. The table below displays an estimate of Nitrate-N, Ammonium-N as well as Plant Available Nitrogen for a site located within the Vermilion watershed. This location had 100 lbs of anhydrous ammonia applied with N-Serve on 11/15/16. For the site shown in the table, there will be at least an additional two samples pulled; one during early corn growth and another near or post harvest. These sites are being used to look more closely at rates of nitrogen, cover crops, as well as the efficacy of nitrification inhibitors.

The N-WATCH sites give a better understanding of what is happening with nitrogen application, utilization and mineralization throughout the growing season in the Lake Vermilion watershed.

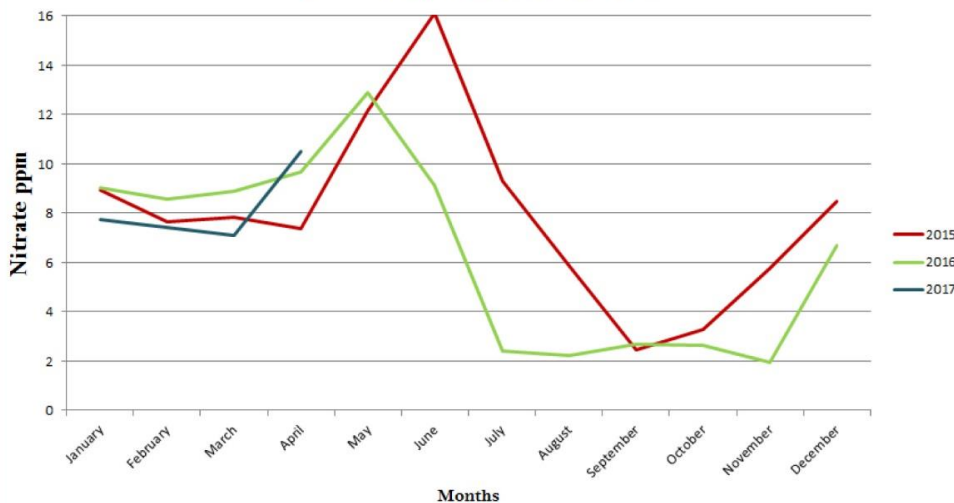
Estimated NO<sub>3</sub>-N, NH<sub>4</sub>-N and PAN at Different Sampling Dates



### NITROGEN RATE TRIALS

There are currently four on-farm N-Rate trials within the Lake Vermilion watershed. The two trials shown on the map to the left (which also can be viewed at [www.ifca.com](http://www.ifca.com)) are going into their fifth year of participation. We have also established two new N-rate trials near Hoopeston this year, thanks to the retailers who identified interested farmers. The importance of applying different rates of N to fields over a few years within the watershed is extremely valuable. These trials not only give growers confidence to know they are not over or under-applying their N, but also improve the nitrogen recommendation system for regions in the state by helping feed the MRTN Calculator. Following the calculator and supporting participation in N-Rate trials within the watershed are great steps to help ensure improved nitrogen management. Access the Nitrogen Rate Calculator at <http://cnrc.agron.iastate.edu/>

Lake Vermilion Nitrate Levels



This graph shows the levels of nitrate-n in Lake Vermilion, dating back to 2015. This data is provided by Aqua Illinois. The USEPA Drinking Water Standard for nitrate is 10 ppm.

The graph shows that Aqua Illinois has had to treat the

water in Lake Vermilion for the past three years to remove excess nitrate. There was improvement in nitrate levels in 2016 compared to 2015, but the nitrate levels still totaled a few ppm above the USEPA standard. Currently, in April 2017, levels in the lake have topped over the 10 ppm standard once again. Tracking these levels and working on understanding why the levels are where they are is a major goal of this partnership. One of the biggest variables is of course weather, which we have no control over. But it is our goal to keep everyone informed on the challenge of helping keep nitrates out of the water and be responsive with best management practices for nitrogen to reduce nitrogen losses to the Lake.

An example of how N-Rate trials have had an impact on overall nitrogen recommendations for the state can be seen by looking at the new MRTN created for the Lake Springfield Watershed.

The Illinois Council on Best Management Practices recently concluded a three year project, partnering with Springfield City, Water Light & Power and the Sangamon County SWCD. N-Rate trials performed by IFCA were a major focus within the project and the data gathered from the trials within and near the watershed helped create the N rate guidelines displayed to the right. As you can see, the recommendations for the watershed do not differ greatly from recommendations for other sections of the state, (specifically the central IL region) where the watershed resides. But for corn following soybeans the new MRTN for Lake Springfield did lower nitrogen rates slightly. This can make a difference in a watershed especially if the majority of farmers adopt these new recommendations.

**Our goal is to create a MRTN for the Lake Vermilion watershed next!**

### March 2017 MRTN N rate guidelines from the N rate calculator

- Based on N price = \$0.375/lb and corn price = \$3.75/bu

IL region	Soy-corn	Corn-corn
North	154 <sup>(81)</sup>	200 <sup>(83)</sup>
Central	172 <sup>(245)</sup>	200 <sup>(152)</sup>
LSW	166 <sup>(22)</sup>	202 <sup>(10)</sup>
South	179 <sup>(116)</sup>	189 <sup>(48)</sup>