

Nebraska Surface Water Monitoring Council (NSWMC)

Spring Meeting

Thursday, May 4, 2017, 10:00 AM-12:00 PM

1. In attendance: Dave Rus, Adam Rupe, Brent Dinkel, Tom Heatherly, Jennifer Swanson, Ryan Chapman, Shuhai Zheng, Brenda Densmore, Abbey Hoessel, Tara Sampson, Sam Radford, Laura Johnson, Lindsey Phillips, John Bender, Carla McCullough, Howard P. Isaacs, Elizabeth Esseks, Dave Ihrie, Mike Archer, Craig Romary, Rick Wilson, Katie Pekarek, Katy Klymus
2. Agency updates
 - a. USGS
 - i. Some new national websites have been released that might be of interest
 1. Surface water trends at selected sites:
<https://nawqatrends.wim.usgs.gov/swtrends/>
 2. Groundwater trends in selected aquifers:
<https://nawqatrends.wim.usgs.gov/Decadal/>
 3. Other national summaries: <https://cida.usgs.gov/quality/rivers/home>
 - ii. Continuous water quality:
<https://waterwatch.usgs.gov/wqwatch/map?state=ne&pcode=00010>
 - iii. Ongoing sampling (NAWQA; Missouri River in the Omaha area; maybe on the MNRR;
 - iv. Invasive species council update: More public interest
 - b. JEO – Watershed management plans ongoing; Using data to support those plans and proposing new monitoring in those plans.
 - c. USACE –
 - i. Starting lake sampling
 - ii. Zebra mussel sampling
 - iii. Cylindrospermopsin sampling
 - iv. Getting data into STORET is in progress. For the time being, contact the USACE for water quality data
 - d. NDEQ
 - i. Surface Water sampling: Standard ambient and basin rotation sampling, plus some extra support work on the South Loup and Wahoo Creek
 - ii. Fairbury and Auburn doing some conjunctive modeling as part of their Wellhead Protection Area
 - iii. NRCS meeting coming up on Bazile Creek to discuss getting more involvement
 - iv. State Revolving Fund: There are loans available for watershed projects
 - v. Triennial WQ Standards Review and Revision
 1. Selenium: Proposed to go to a fish tissue as the primary over water column data; Based on fish tissue data thus far, this means all of the current Se impairments will go away
 2. Nutrient standards for aquatic life are still in discussion



- vi. 319 programs: Several watershed plans are currently under development, with many of them wrapping up in 2017; a NRCS-NWQI pilot project is underway in the Little Blue NRD to determine how successful BMP adoption would be in Big Sandy watershed; 319 RFP comes out in July and is due on September 5th
- vii. Nutrient outreach group: Working with Aquamart right now to avoid redundancy; Bazile outreach is serving as a pilot; Holding some risk communication training (2 day); Group is comprised of multiple agencies as well as stakeholders with the goal of improving involvement in the management programs and to have a unified message
- viii. Database – New system being implemented that will allow data to more fluidly go in from the labs and into STORET
 - 1. 2010-14 data are now in STORET
- ix. Lakes
 - 1. National Lake Assessment this year (28 lakes intensively sampled) , starting in June
 - 2. Beachwatch: Haven't adopted the microcystin beach criteria of 4 ppb yet; Dropped a Fremont beach but added a 2nd Harlan Co beach; Have a listserve for getting notified about lakes under the alert status. Email Archer if you'd like to be on the listserve.
 - 3. New signage going up to let the public know about health alerts
 - 4. Annual lake sampling: 24 lakes for long term sampling, leaving 3-4 lakes per year for basin rotation
- x. Proposed Niobium mine discharge to the Missouri River; Mine will have to be dewatered, and the water is very salty; Looking at discharging just north of Indian Cave SP on the Missouri; This will raise the overall salinity by 6 mg/L of Chloride; Doing a anti-degradation process; NDEQ and NGPC are involved in the permitting process; Is MRRP involved? It was talked about at the Agency Coordination Team (overseen by the USACE) meeting
- e. NDA: The sun is shining and the wind is blowing, so the neighbors of applicators are calling
- f. NHHS
 - i. Building off the results of the grout study; Decommissioning and rehabilitating some wells based on those results; If you can seal off sections within the screens, you can achieve improvements in NO3 (perhaps also with As and Se)
 - ii. New rule manager on board for nitrates
- g. DNR
 - i. N Platte at Lewellen is near floodstage; NDNR has approved 10 temporary (1-year) permits for utilizing surface water flows to recharge the local aquifer in the N Platte basin and anticipate 5 more.
 - ii. 2 new stream gages on the Little Blue in conjunction w/ the Little Blue NRD: (Rose Creek on Hwy 15 S of Fairbury; Little Blue River near Hebron)
 - iii. Proposed budget cuts might impact equipment buying, perhaps some pass-through funding; Stream-gages aren't being targeted
 - iv. Flow diversion of Turkey Creek discussion; Discussions ongoing

3. NSWMC items

- a. Anyone tune into the ACWI seminars <https://acwi.gov/monitoring/webinars/> that might vouch for them?
 - i. NRCS also has a webinar series (Romary to send info)
 - ii. They might be a good use of lunch hour
 - iii. Neonics summary – The USGS lab is working on analyzing all of the primary neonics; Ted LaGrange at NGPC might have some involvement
- b. NRCS webinar series has some Neonicotinoid webinars:
 - i. Neonicotinoid Insecticides: Efficacy, Non-target Effects, and Best Management Practices, <http://www.conservationwebinars.net/webinars/neonicotinoid-insecticides-efficacy-and-best-management-practices>
 - ii. Mitigating Potential Impacts of Neonicotinoid Insecticides on Wetland Ecosystems, <http://www.conservationwebinars.net/webinars/mitigating-potential-impacts-of-neonicotinoid-insecticides-on-wetland-ecosystems>
 - iii. They have a slower turnaround on posting the actual webinar and slides, but I think they will eventually be posted here.
- c. Nebraska Chapter SWCS will have its annual conference in Beatrice at the Holiday Inn. Final agenda is yet to come. Two topics potentially of interest to this group:
 - i. Sam Radford, NDEQ – Statewide Nitrate Outreach Campaign (confirmed)
 - ii. NioCorp – Johnson County mining of niobium (unconfirmed)
- d. 4H has a program this fall that emphasizes hydrodynamics; They might want agency presentations; NDEQ, NDNR, and UNL are working to coordinate a response (Other agencies interested in being involved should probably contact Katie Pekarek)
- e. Status of Legislative Resolution 4 (Interim study on the need for nutrient management plans) – See attached
 - i. No one knew if this had gone anywhere this session
- f. Synopsis of the Costco Chicken meeting of late January
 - i. Some concern over the direct plant effluent (flood inundation risk), but the real concern from that meeting was the destination of all of the poultry litter that would be more dispersed across the area
 - ii. Some discussion of who has the regulatory authority over dry litter
- g. A Des Moines Water Works lawsuit was dismissed, and that decision won't be appealed;
 - i. More information should be researched here
 - ii. Defining a tile drain as a NPDES discharge could have some ramifications
 - iii. Regardless of the outcome, the issue has raised awareness with stakeholders, in some cases made them more participatory in management, but maybe also more reluctant to collect monitoring data
- h. Chairing this group: I'm entering the 6th year of my 2 year term. Interested?
 - i. Meeting notes at <http://deq.ne.gov/GroundW.nsf/pages/GWSWMC>
 - j. Recent publications of interest:

Contrasting Nitrogen Fate in Watersheds Using Agricultural and Water Quality Information; Essaid and others, 2016: JEQ vol. 45 p. 1616-1626

Seasonality, floods and droughts structure larval fish assemblages in prairie rivers; Garcia and others, 2017, Ecology of Freshwater Fish, DOI: 10.1111/eff.12354

Sources and ages of fine-grained sediment to streams using fallout radionuclides in the Midwestern United States; Gellis and others, 2016, Journal of Env. Management, <http://dx.doi.org/10.1016/j.jenvman.2016.06.018>

Enhancing mud supply from the Lower Missouri River to the Mississippi River Delta USA: Dam bypassing and coastal restoration; Kemp and others, 2016, Estuarine, Coastal and Shelf Science 183 p. 304 – 313

Factors affecting post-control reinvasion by seed of an invasive species, *Phragmites australis*, in the central Platte River, Nebraska; Galatowitsch and others, 2016, Biol Invasions (2016) 18:2505–2516

Grasslands, wetlands, and agriculture: the fate of land expiring from the Conservation Reserve Program in the Midwestern United States; 2016, Morefield and others, Environ. Res. Lett. 11 (2016) 094005

Assessing Nebraska playa wetland inundation status during 1985–2015 using Landsat data and Google Earth Engine; Tang and others, 2016, Environ Monit Assess (2016) 188:654

Complex mixtures of Pesticides in Midwest U.S. streams indicated by POCIS time-integrating samplers; Van Metre and others, 2016, Environmental Pollution, <http://dx.doi.org/10.1016/j.envpol.2016.09.085>

High Nitrate Concentrations in Some Midwest United States Streams in 2013 after the 2012 Drought; Van Metre and others, 2016: JEQ vol. 45 p. 1696-1704

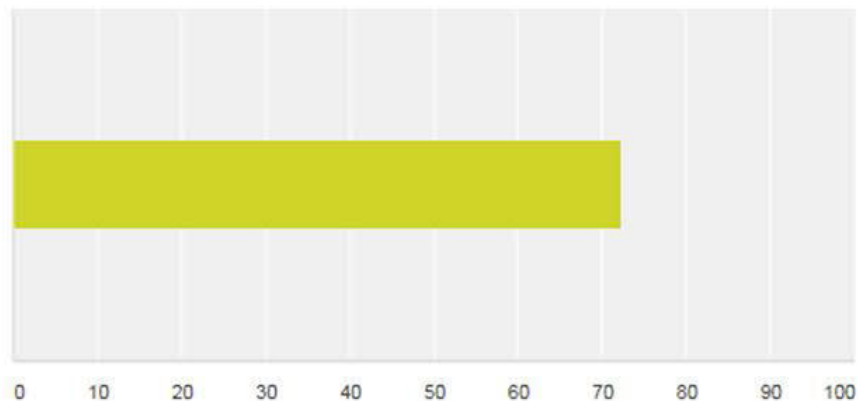
Development of Non-Collinear Arrays for Use Near Wastewater Holding Ponds; Woodbury and others, 2016, Journal of Environmental and Engineering Geophysics, December 2016, Volume 21, Issue 4, pp. 231–236

Effects of climate change and anthropogenic modification on a disturbance-dependent species in a large riverine system; Zeigler and others, 2017, Ecosphere, Vol 8(1) Article e01653

- k. 4 question survey: Thoughts on the importance of water quality in Nebraska, <https://www.surveymonkey.com/r/V6V2PXF> with 9 responses so far:

If given \$100 to spend on either water quantity or water quality issues in Nebraska, how much would you devote to water quality?

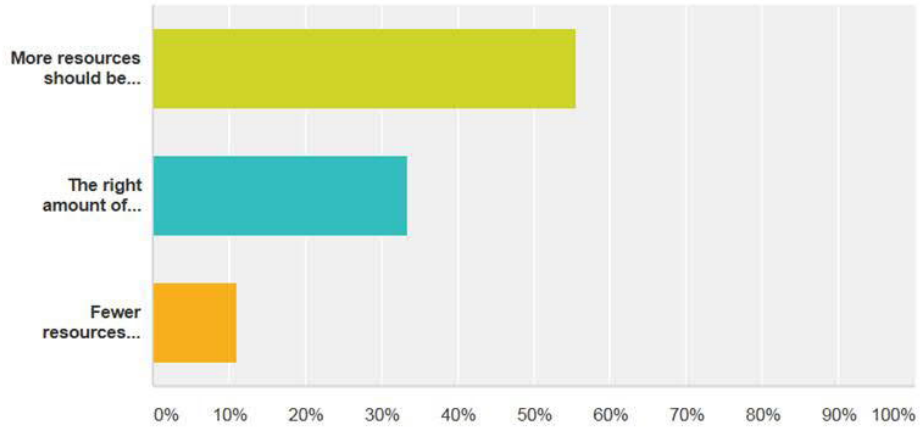
Answered: 9 Skipped: 0



i.

How do you think your decision-makers view the amount of resources devoted to water quality issues in Nebraska?

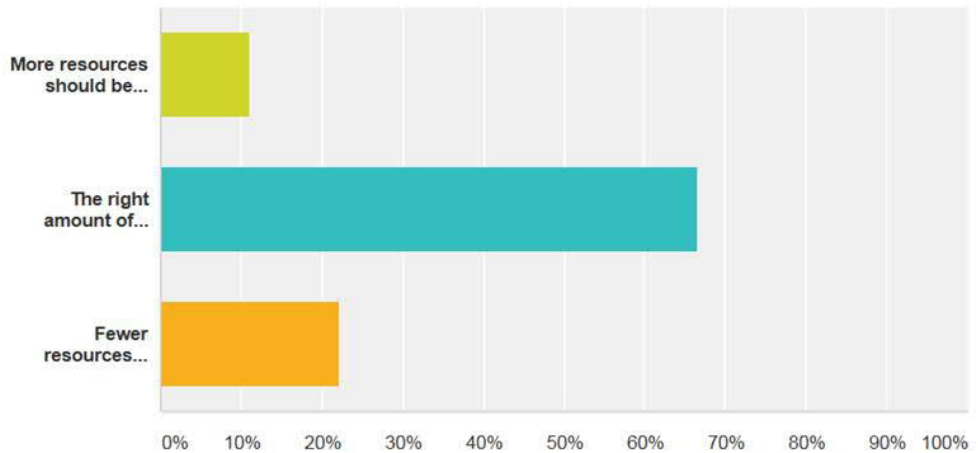
Answered: 9 Skipped: 0



ii.
iii.

How do you think the public views the amount of resources devoted to water quality issues in Nebraska?

Answered: 9 Skipped: 0



- iv. How could water quality outreach be improved?
 1. Promoting the effects that contaminants could have on the public through drinking water
 2. More resources need to be devoted to water quality. A multi-organization should start a coordinated campaign bringing water quality issues to the public. Such an effort has a start, but we need to keep pushing on this.
 3. News articles and stories on what research is being done in Nebraska and why it is important

4. PUBLIC SERVICE MESSAGES ON THE ISSUES RELATED TO NITRATES, URANIUM AND OTHER CONTAMINANTS DESCRIBING THE IMPACTS TO HUMAN HEALTH WOULD BE GREAT!
5. Public/Stakeholders need to be better educated about the threats to water quality from contamination

4. Presentations:

- a. Using Environmental DNA to Derive Nutrient Criteria and Trace E. coli Sources in Nebraska Streams – Tom Heatherly, NDEQ
 - i. See the NSWMC website for the presentation file
- b. From Lab to Field: Comparing Estimates of Asian Carp Abundance Using eDNA, Netting, and Side-scan Sonar Methods – Katy Klymus, USGS Columbia Environmental Research Center
 - i. Contact Dave (dlrus@usgs.gov) if you are interested in the presentation file

ONE HUNDRED FIFTH LEGISLATURE

FIRST SESSION

LEGISLATIVE RESOLUTION 4

Introduced by Blood, 3; Wayne, 13.

PURPOSE: Nitrate-nitrogen in the waterways is an ongoing issue for this state, as nitrates increasingly invade both our public and private water supplies. Human activity continues to introduce nitrates into waterways, with fertilizers, septic systems, animal waste, and nitrogen-bearing minerals in the soil all contributing to the problem. With the growing use of fertilizer, increasing livestock numbers, and expanding use of septic tanks, there is cause to be concerned about the elevated levels of nitrate-nitrogen and other chemicals impacting water quality in the state. Chemicals that are found in the waterways include chromium and chromium compounds and developmental toxins, such as lead and lead compounds, nitrates, phosphorous, and atrazine. Harmful bacteria, including E. coli, have also been detected. As commercial growth compounds the problem, it is important to understand what solutions or options may be available that can provide a cost-effective resolution to help protect Nebraska residents from negative health impacts.

This interim study shall specifically explore if the development of a more comprehensive water quality study is needed and if a nutrient management plan to improve water quality would benefit this state, including an analysis of best grasses for filtration and the best plantings for forests and crops in buffer areas.

NOW, THEREFORE, BE IT RESOLVED BY THE MEMBERS OF THE ONE HUNDRED FIFTH LEGISLATURE OF NEBRASKA, FIRST SESSION:

1. That the Natural Resources Committee of the Legislature shall be designated to conduct an interim study to carry out the purposes of this resolution.

2. That the committee shall upon the conclusion of its study make a report

of its findings, together with its recommendations, to the Legislative Council or Legislature.