

Agenda & Notes

Nebraska Ground Water Monitoring Council

Spring 2019 Meeting

10 AM – 12 PM, April 23, 2019

NDEQ Van Dorn Facility (the old place)

2717 South 8th Street, Suite 4

Introductions

Updates, News, Announcements, etc.

- NDEQ – Marty Link, Dave Miesbach, Amanda Jones, Mike Myers, Carla McCullough. Lots of flood activities. PCS Nitrogen at the confluence of Platte and Missouri, will see how it fared (Mike M) in the flood. HHS Water Well Program at NDEQ managed by Dave Miesbach. New UIC Class I (deep) injection well at Culbertson (Amanda). 319 Nonpoint source updates from Carla: UBBNRD joint meetings for VIMP + Water Quality Mgt Plan, Bazile- decommission wells, LBNRD Vadose sampling, Drinking Water Mgt Plans (Source Water Protection Sam Radford, not present), 10% of new Farm Bill NRCS money dedicated to Source Water Protection. NRCS- National Water Quality Initiative (NWQI) at Wahoo Cr, Bazile, Big Sandy, Turkey Cr+Wilbur pilot.
- LLNRD, Jason Moudry– redoing Rules & Regs, upcoming public meetings and 4/25 hearing. For Nitrate contamination, can go to higher phase in smaller areas, based on townships, rather than whole subareas (28 subareas in district). Field Days at Ord, early June. \$10 lunch fee, CEUs offered. Check with Lower Loup NRD for more info.
- USGS, Dave Rus - 2018 Clearinghouse data for PMRNRD being worked on. 3 Lincoln wellfield monitoring wells destroyed in March flood on Platte. Focus on Ag Contaminants and Pesticides in new work. Last year's work sampled 24 Muni wells, analyzed for LOTS of parameters.
- UNL – Clearinghouse – Colleen Steele – see summary on other sheet. Summary: ~495,000 analytical results from over 28,500 wells. ~129,800 nitrate results.
- LPSNRD, Dick Ehrman – Flood activities, help with getting wells analyzed for bacteria, ~400 wells. Branched Oak Res increased about the same volume as the reported annual ground water pumping in the LPSNRD. Wellhead Protection activities in Waverly, Emerald, Greenwood, and Ashland.
- UNL – Dan Snow – Hastings ground water work, data available. Know Your Well: 8 western Nebr. High schools sample ~20 wells each. <https://knowyourwell.unl.edu/>
- UNL Extension – Crystal Powers – Bazile GWMA, new extension educator, work on farm demo and share info with UNL – Nitrogen team and statewide.
- LPSNRD-ENWRA – Katie Cameron – working on deep test holes, data and working with Nebr. GeoCloud, Age Dating water with USGS
- NG&PC, Rick Holland & Michelle Koch – Fisheries, Fremont State Lakes, outdoor recreation, Rivers and Streams Program, Invasive Species distribution, impact of water transfer on Threatened and Endangered Species, headwater work. Cleaning up flood damage at state parks and rec areas.

Presentations: (see slides, other document)

Dana Divine, University of Nebraska School of Natural Resources

1. Representing Nebraska in the National Ground-Water Monitoring Network
and
2. Aquifer framework and nitrate distribution on the down-gradient side of the Phelps County Canal groundwater mound

Wrap up and Lunch off-site

Recent publications from the USGS

Laura M. Bexfield, Patricia L. Toccalino, Kenneth Belitz, William T. Foreman, and Edward T. Furlong, 2019, Hormones and Pharmaceuticals in Groundwater Used As a Source of Drinking Water Across the United States: Environmental Science & Technology Article ASAP, DOI: <https://doi.org/10.1021/acs.est.8b05592>

Civiello, A. P., Gosch, N. J., Gemeinhardt, T. R., Miller, M. L., Bonneau, J. L., Chojnacki, K. A., DeLonay, A. J. and Long, J. M. (2018), Diet and Condition of Age-0 Scaphirhynchus Sturgeon: Implications for Shallow-Water Habitat Restoration. North Am J Fish Manage. <https://doi.org/10.1002/nafm.10236>

Matteo D'Alessio, Bruce Dvorak, and Chittaranjan Ray, 2018, Riverbank Filtration Impacts on Post Disinfection Water Quality in Small Systems—A Case Study from Auburn and Nebraska City, Nebraska: Water, vol. 10(12), 1865, <https://doi.org/10.3390/w10121865>

Dere Ashlee L, and others, 2019, Solute Fluxes Through Restored Prairie and Intensively Managed Critical Zones in Nebraska and Iowa: Frontiers in Earth Science, v. 7, p. 24, <https://doi.org/10.3389/feart.2019.00024>

Jennifer Murphy, Lori Sprague, 2019, Water-quality trends in US rivers: Exploring effects from streamflow trends and changes in watershed management: Science of The Total Environment, Volume 656, Pages 645-658, <https://doi.org/10.1016/j.scitotenv.2018.11.255>.

National Water Quality Monitoring Council Newsletter for Fall 2018, <https://acwi.gov/monitoring/newsletter/index.html>

New-Aaron, Moses; Meza, Jane L.; Shea, Patrick J.; and Rhoades, Martha, "Birth outcomes and water: A multidisciplinary study" (2018). Posters and Presentations: College of Public Health. 11. https://digitalcommons.unmc.edu/coph_pres/11

Pedati C, Koirala S, Safranek T, Buss BF, Carlson AV. Campylobacteriosis Outbreak Associated with Contaminated Municipal Water Supply — Nebraska, 2017. MMWR Morb Mortal Wkly Rep 2019;68:169–173. DOI: <http://dx.doi.org/10.15585/mmwr.mm6807a1>

Rus, D.L., Hall, B.M., and Thomas, S.A., 2018, Relating cyanobacteria and physicochemical water-quality properties in Willow Creek Lake, Nebraska, 2012–14: U.S. Geological Survey Scientific Investigations Report 2018–5121, 43 p, <https://doi.org/10.3133/sir20185121>.

Schmidt, T.S., Van Metre, P.C., and Carlisle, D.M., 2018, Linking the agricultural landscape of the Midwest to stream health with structural equation modeling: Environmental Science and Technology, <http://dx.doi.org/10.1021/acs.est.8b04381>.

R.F. Spalding, A.J. Hirsh, M.E. Exner, N.A. Little, K.L. Kloppenborg, 2019, Applicability of the dual isotopes $\delta^{15}\text{N}$ and $\delta^{18}\text{O}$ to identify nitrate in groundwater beneath irrigated cropland: Journal of Contaminant Hydrology, v. 220, p. 128-135, <https://doi.org/10.1016/j.jconhyd.2018.12.004>

Mark R. Sweeney, Ben Fischer, Karen Wermers, Tim Cowman, 2019, Eolian and fluvial modification of Missouri River sandbars deposited by the 2011 flood, USA: Geomorphology, Volume 327, p. 111-125, <https://doi.org/10.1016/j.geomorph.2018.10.018>.

Uerling CC, Hamel MJ, Pegg MA. Fish community response to habitat variables in two restored side channels of the lower Platte River, Nebraska. River Res Applic. 2018;1–10. <https://doi.org/10.1002/rra.3390>