

Nebraska Ground Water Monitoring Advisory Committee (NGWMAC)
& Nebraska Surface Water Monitoring Council (NSWMC)

Annual Joint Meeting

Tuesday, November 13, 2018, 10:00 AM-12:00 PM
Lower Platte South NRD, 3125 Portia St, Lincoln, NE

Meeting notes

1. Welcome
 - a. Present: NDEQ (Inman, Jones, Johnson, Heatherly, Archer, Schumacher, Prenosil, Michl, Ihrie, McCullough, Radford); USGS (Rus, McGuire, Schaepe, Densmore); Olsson (Anderson); LPSNRD (Ehrman, Schulz); Groundwater Foundation (Griffin); NEWF (Cunningham); LLCHD (Hanisch, Schroeder, Chess); NGPC (Koch); ENWRA/CSD (Cameron); USACE (Dinkel); NDA (Romary); UNL (Steele; Messer); LPNNRD (Andersen)
2. Agency updates
 - a. Olsson
 - i. Working on the drinking water plan for the City of Springfield
 - b. NDEQ
 - i. Microcystin monitoring
 1. PWS synoptic test showed no detections
 2. Stream synoptic test for microcystin showed some detections at Elkhorn
 3. Beach limit currently proposed for microcystins at 8 ug/L
 - ii. Republican, Big and Little Blue basins in 2018; Ambient stream and lake network basically unchanged;
 1. 139 fish consumption advisories in 2018
 2. Where PCB's are still being analyzed, the numbers seem to be going down;
 - iii. Special sampling of S. Loup and upper Niobrara/White Rivers
 - iv. Stream nutrient project: Doing algal community and DO monitoring at 8 sites to look for a connection between nutrients and algal community
 - v. Biological (Ambient, basin rotation, and NRSA in 2018)
 1. Found Bullhead Minnows and Shoal Chubs to expand their range
 - vi. Database
 1. New system seems to be working well; 2010-15 are loaded into [Water Quality Exchange - Portal](#); 2016-17 coming soon; <2009 data still getting worked on when time allows;
 2. Legacy data requests still come to Dave Ihrie (dave.ihrie@nebraska.gov) if needed
 - vii. New injection well permit
 - viii. Annual GW Quality report in progress
 - ix. 319 program
 1. Shell Creek got delisted for atrazine

- 2. Antelope Creek got delisted for bacteria
- 3. More info in the upcoming presentation
- c. UNL
 - i. Tiffany Messer's group is focusing on emerging contaminants as well as nutrients
 - ii. UNL Water Center has posted some of the talks from their recent 2018 NIWR Regional Symposium "Water Resources of the U.S. Great Plains Region: Status and Future" under the videos section of <https://watercenter.unl.edu/2018-water-symposium>
 - iii. Dec. 3 Water Sciences Laboratory Lunch and Learn to find out about the services and methods offered at the lab; If interested, contact Tania Biswas, Research Lab Manager by 11/27 at sbiswas1.unl@gmail.com
- d. LPNNRD
 - i. 3 deep Dakota wells got drilled and sampled
- e. NGPC
 - i. Several retirements at the agency
 - ii. Looking at more biological monitoring in streams and trying to find out what everyone else is doing, contact Michelle Koch if your agency is doing some.
 - iii. Instream flow rights on Long Pine Creek submitted for renewal
 - iv. Keeping track of the Platte basin diversion – Agency is opposed to the potential for invasive species transfer – Approval will be a long process
 - 1. Role of monitoring in the process? TBD
 - v. Mussel-friendly reintroduction of native mussel species going on
 - vi. T&E fish species listing going through public meeting process (5 species)
- f. ENWRA
 - i. 78 monitoring wells (most in nests of shallow/med/deep) in 3 glaciated sections of the state; 56 water level transducers in 8 or 1 hour increments;
 - ii. All water level data available on ENWRA website and sample data on the Ag Clearinghouse
- g. USACE
 - i. 4 lakes sites and several Missouri River sites
 - ii. Cunningham Lake being drawn down for zebra mussel and Asian carp control
- h. Neb Dept of Ag
 - i. Pesticide label oversight
 - ii. Try to do an annual assessment of the various pesticide data in the state
 - iii. If you have pesticide data not presently in the commonly-used online databases, please let Craig know
 - iv. Administration of the Buffer Strip program
 - v. Dicamba – EPA recently renewed its temporary application with permits
- i. Groundwater Foundation
 - i. Merged with National Groundwater Association this year.

- ii. Nov 29 is the next wellhead protection meeting at Olsson's, contact jgriffin@groundwater.org
 - 1. <https://www.groundwater.org/action/community/newhp.html>
 - iii. Incorporating GW curriculum into national school curriculum
 - 1. If interested in being a resource to teachers and students, let Jane know
- j. Nebraska Wildlife Federation
 - i. Assisting a local group in the Fremont area to establish some baseline nutrient information
- k. LLCHD
 - i. Any wells within city limit need permits/inspections; Currently at about 500 wells but recent annexations continue to increase the workload
- l. LPSNRD
 - i. GW Quality – Advanced studies for a few wellhead protection areas to model 50-year time of travel zones
 - ii. Lower Salt Creek alluvium nitrate levels have decreased enough that it looks like the phase II management area might get reduced or removed
 - iii. NRD annual meeting the first week in March; Dan Snow to put on a workshop for WQ for some of it
- m. USGS
 - i. Some new national tools and reports recently released
 - 1. Reg. Stream Quality Assessment (RSQA) mapper: <https://webapps.usgs.gov/rsqa#!/results>
 - 2. Water quality summaries updated w/ 2017 data at <https://cida.usgs.gov/quality/rivers/home>
 - ii. Reports nearly complete for Willow Creek HAB study; Mo River E. coli modeling (Load models from upstream to downstream of the Omaha area to see if there are differences); Platte sandbar dynamics;
 - iii. Ongoing: S. Loup bacteria; NAWQA surface sampling (Wide suite of metals and pesticide analytes; higher baseflows in Maple Creek have led to reduced fish counts); NAWQA PWS sampling; Papio sampling (Missouri alluvium in 2018; Platte/Elkhorn alluvium in 2019; emerging contaminants added to some of the cluster wells); LWS wellfield sampling; Continuous WQ (+Nitrate); Sampling downstream of food processing; Missouri River sampling;
 - iv. New local projects: Streamstats that could help w/ low-flow quantification; Platte River eDNA and nutrient monitoring; Using LiDAR for bathymetry on the Niobrara; Camp Ashland geomorphology;
- n. Quality Assessed Ag. Clearinghouse database
 - i. Data for 2017 from 21 NRDs were added to the Quality-Assessed clearinghouse in September. We now have over 495,000 analytical results representing over 28,500 wells. Approximately 129,800 of these results are nitrate results.

- ii. The clearinghouse web site will be updated by December with the newly added Quality-Assessed data. This update will also include non-quality inspected data for 2017 from the Nebraska Department of Agriculture for the ELISA (Enzyme-linked immunosorbent assay) data link, which is accessible from the Quality-Assessed web site. The website address is <https://clearinghouse.nebraska.gov/Clearinghouse.aspx>
 - iii. We are addressing outstanding issues from the 2017 processing with collaborating agencies and receiving data for 2018, as issues are resolved.
 - iv. Database revamping: Holding preliminary meetings to figure out where the database is headed
3. Monitoring council(s)
- a. Cast a wider net for more of Nebraska?
 - i. Let Dan or Dave know if emails should be added to the distribution
 - ii. More NRD's? Have a special meeting at the NARD meetings in Kearney?
 - 1. Talk to Jennifer Swanson about advertising more to the NRD crowd
 - 2. Maybe get short writeups from NRDs related to WQ?
 - iii. Add more EPA folks?
 - b. UNL Water Center has posted some of the talks from their recent 2018 NIWR Regional Symposium "Water Resources of the U.S. Great Plains Region: Status and Future" under the videos section of <https://watercenter.unl.edu/2018-water-symposium>
 - c. Any reports missing from list of recent citations? Let Dave Rus know if you know of some reports to add to the list
 - d. PFASs discussion
 - i. No-one is actively monitoring for PFASs right now in the state
 - ii. NGWA doing a lot of technical training on it;
 - iii. Proposed federal legislation to require WWTPs to test for PFASs
 - iv. This might be a good topic for the next meeting
 - v. Other resources (Added after the meeting)
 - 1. Upcoming EPA webinar on 11/28: 'Methods and Guidance for Sampling and Analyzing for PFAS in Environmental Media' - <https://www.epa.gov/water-research/water-research-program-webinar-series>
 - 2. Draft Toxicity Assessments released 11/14/18: <https://www.epa.gov/pfas/genx-and-pfbs-draft-toxicity-assessments>
 - 3. EPA rule under consideration for PFOAs <https://www.reginfo.gov/public/do/eoDetails?rrid=128444>
 - 4. The Assessment and Regulation of PFASs in New Hampshire's Drinking Water, <https://www.youtube.com/watch?v=Y5XCF5rgl-E>
 - 5. Boone and others, 2019, Per- and polyfluoroalkyl substances in source and treated drinking waters of the United States: Science

of the Total Environment, vol. 653, p. 359-369,
<https://doi.org/10.1016/j.scitotenv.2018.10.245>

- e. Releasing PWS data
 - i. PWS sampling data may exist but aren't housed on the public-facing databases; Need to reach out to the database managers for USGS or Ag. Clearinghouse if interested.
 - f. Well locations: Dept of Health info vs DNR info – conflicting locations – DEQ generally uses Well ID# and considers the DHHS database more locationally accurate than NDNR (well registration numbers sometimes get re-used); Ag. Clearinghouse locations are generally tailored to the NRD locations.
4. Short presentations:
- a. Nebraska's Nonpoint Source Pollution Program – Integrating Water Quality and Quantity Planning – Carla McCullough, NDEQ
 - i. How to resolve conflicts that might be considered good for water quantity but detrimental to water quality – or vice versa? The fact that this process brings both groups together to talk is a good start
 - b. Agriculture and Water Quality – An overview of two recent national reports – Dave Rus, USGS Nebraska Water Science Center
 - i. Mainly want to point out that there are some good info graphics in both reports that might aid in public meetings, but also gave a synopsis of the findings
 - ii. Nutrient enrichment impacts on stream biota: <https://doi.org/10.3133/cir1437> Some followup discussion about how the report reaffirms the importance of habitat in stream restoration
 - iii. Ag. Chemical transport: <https://doi.org/10.3133/cir1433> Some followup discussion about the accounting of nitrogen inputs and outputs that show quite a bit of excess nitrogen applied in Nebraska as compared to other states. Dave pointed out that it is based on a Maple Creek subwatershed and may not be characteristic of the entire state. More information is available in the report or in the article from which the N accounting was based (Essaid and others, 2016, JEQ v. 45, p. 1616, <https://doi.org/10.2134/jeq2016.02.0071>)

Some upcoming meetings of possible interest:

December 3, 2018; UNL Water Sciences Lab Lunch and Learn
December 4, 2018 Nebraska chapter of AFS Rivers and Streams meeting, Rowe Sanctuary
December 6, 2018 [Nebraska One Health Stakeholder Symposium](#), Mahoney State Park
January 29-30, 2019 NARD legislative conference, Lincoln
March 5-7, 2019 [Missouri River Natural Resources Conference](#), Pierre, SD
March 25-29, 2019; [National Water Quality Monitoring Conference](#), Denver Colorado

Some recent publications of possible interest:

Ali and others, 2018, Response and recovery of fathead minnows (*Pimephales promelas*) following early life exposure to water and sediment found within agricultural runoff from the Elkhorn River, Nebraska, USA;
<https://doi.org/10.1016/j.scitotenv.2017.09.259>

Ali and others, 2018, Comparing the effects of atrazine and an environmentally relevant mixture on estrogen-responsive gene expression in the northern leopard frog and the fathead minnow; <https://doi.org/10.1002/etc.4069>

Capel and others, 2018, Agriculture — A river runs through it — The connections between agriculture and water quality, <https://doi.org/10.3133/cir1433>

Conroy-Ben and Richard, 2018, Disparities in Water Quality in Indian Country, <https://doi.org/10.1111/j.1936-704X.2018.03268.x>

Goto and others, 2018, Spatially dynamic maternal control of migratory fish recruitment pulses triggered by shifting seasonal cues, <https://doi.org/10.1071/MF17082>

Munn and others, 2018, Understanding the influence of nutrients on stream ecosystems in agricultural landscapes, <https://doi.org/10.3133/cir1437>

National Water Monitoring Newsletter, Spring 2018, https://acwi.gov/monitoring/newsletter/national_monitoring_news_spring2018.pdf

Wells and others, 2018, Assessing Decadal Trends of a Nitrate-Contaminated Shallow Aquifer in Western Nebraska Using Groundwater Isotopes, Age-Dating, and Monitoring, <https://doi.org/10.3390/w10081047>