

## North Dakota State Water Quality Monitoring Council

December 16, 2009

Welcome by Mike Ell, Roxanne Johnson, Dennis Fewless and Gregg Wiche

Jodi Bruns, NDSU Extension agent in Ellendale is the facilitator for this meeting.

Kris Jensen, US EPA Region 8, Denver – How and why state wide monitoring councils developed.

Mike Ell –North Dakota’s strategy (approved for 10 years) is available on the NDDH website. Requested other organizations review and comment on the plan.

- Resources: How to effectively project additional resource needs.
- Programs:
  1. Ambient water quality monitoring
  2. Biological monitoring and assessment on rivers and streams
  3. Ecoregion reference station network
  4. Lake water quality assessment program
  5. Missouri River main-stem river monitoring program; a significant resource in the state but virtually unmonitored
  6. Fish tissue contaminant surveillance
  7. Emerging contaminants
  8. Wetland monitoring and assessment program
  9. Impaired water monitoring and TMDL development
  10. Nonpoint source program monitoring – both assessment work and effectiveness monitoring
  11. Complaint investigations

Tracy Hancock – National Water Quality Monitoring Council .

Links to her power points are available on the NDDH website -

[http://www.ndhealth.gov/WQ/sw/Z6\\_WQ\\_Standards/WQMonitoring\\_Council/B\\_WQ\\_MonitoringCouncil.htm](http://www.ndhealth.gov/WQ/sw/Z6_WQ_Standards/WQMonitoring_Council/B_WQ_MonitoringCouncil.htm)

- April 25-29 7<sup>th</sup> Monitoring Conference in Denver, CO – State and Regional Water Monitoring Councils, Partnerships and Alliances - review of speakers, oral sessions, posters, workshops.
- Ways to get involved = participate in the national conferences, workshops and special sessions, tours.
- Webinars on water quality monitoring councils. Ask to be added to email distribution list to get notice of upcoming calls. Past webinars are on website.
- Mike will forward ND address list

Barb Horn – Colorado Water Quality Monitoring Council ( I have placed her power point on the National Water Monitoring Conference under Of Interest on the home page of [www.ndsu.edu/waterquality](http://www.ndsu.edu/waterquality))

- Core group has maintained continuity of the council
- Focused on core set of needs
- Broad representation on council (not much activity from BOR or BLM)
  - Started with place-based issues
  - Tribal interaction: 2 tribes; one with their own wq stds. Both have offered to put data on the CO website.
- Twenty years ago began to standardize methods which became metadata in electronic formats
- Organized data swaps on HUCs
- Built a data-sharing network (now 2.5 years)
  - Database targeting unmanaged datasets
  - A map with links/info to all data, targeted at anyone generating data on water
  - Data swaps around the state, with a resulting fact sheet
  - Have not proactively invited other states, but has interacted with others
- Funding
  - Costs \$80-90K annually. 1/3<sup>rd</sup> budget for website and part-time coordinator, 2/3<sup>rd</sup> is in-kind cost-share.
- Other comments
  - Be inclusive
  - Don't reinvent the wheel...use existing products
  - Hire a part-time coordinator to provide assistance
  - Structured with a charter
  - Goal is to become a non-profit or be housed in another agency
  - Only 9 entities that upload data to STORET
  - Colorado uses a map that tells where all the data is located. Must go to the original researcher to download data, but this way changes/clean-up can be accomplished
    - Annual nag call to keep it current
  - Open source/single format software would be a next step in CO current approach
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Participant discussion of on-going projects:

Shawn DeKeyser - NDSU- development of biological assessment criteria of wetlands – prairie pot holes – from Fritz's 95 project – vegetation – anthropogenic disturbances. Landscape methods.

Mariusus Otte – NDSU –Multi-element analysis to id/track water sediments, biota. Using geological elements to fingerprint sources of sediments. Souris River project.....looking at downstream contribution from upstream sites. Wet Ecosystem Research Group.

Kasha Hansen - Mercer Co Watershed Coordinator – 319 – Nine township watershed project. BMP's to reduce livestock impacts to streams. Spring Creek watershed.....assessment completed and working on reducing cattle fed on creek. Riparian work.

Chuck Fritz – International Water Institute. Mined data and saw where there are gaps. River Watch...mostly MN but looking at ND. Has a database. Spends a lot of time on data quality issues.

Janeen Stenso -Red River Basin Commission – Videoing BMP on US side such as ag waste systems on the Sheyenne River in Barnes County.

Christine Laney – River Keepers – 3 sites on Red River and one on the Wild Rice. Total of 60 sites.

Kathleen Rowland –USGS – Discovery Farms with Ron Wiederholt. Collecting edge of feedlot and field. Monitoring 3 sites: Emden, Daisy, and Underwood. Also work on water quality projects with the health department.

Ron Wiederholt –NDSU - Discovery Farms – grassroots/farmer driven. Edge of field edge of feedlot...nutrients. 3 sites, Dasey, Underwood, Embden. Feedlot and tile drains. How it responds to surface practices. Now looking at snow melt. Producers very helpful. Project began in Wisconsin and is now in, AK, MN, and ND. Producer comes up with BMPs. Multi- state meeting in St Cloud in March 2010. Working with soil conservation district watershed coordinators. On sites 5-7 years. Extensive multi-agency cooperation.

Joel Galloway – USGS- working with many cooperators at all levels. High flow/low flow, 82 sites. Ambient water quality in NE ND, Bureau of Rec projects, chain of lakes Lake Alice, Devils Lake, Corp of Engineers. Data analysis from high/low and ambient and others compiled into report and understand where gaps are. What is working and what is not. Extended into trends, loading, and others. Look at the big picture. Available in March 2010.

Mike Ell – works with many of these folks.....

Andre DeLorme – VCSC – Focus on aquatic macroinverts. Work with 319 funding on atrazine levels in Sheyenne/Souris River and developing the Prairie Waters Education and Research Center. Will work to bring River Watch to North Dakota.

Micah Reuber – USFWS – Focus on conservation of listed species.. Here for 3 months so has been reviewing past work of department. Range-wide characterization of contaminants of concern in palid sturgeon. Looking at future research. Working with NDSU on contaminants in Lake Alice from upstream agriculture and pharmaceutical impacts to the Souris River.

Fred Ryckman – NDG& F – Fishery advisory – Lake water quality assessment – palid sturgeon at confluence.....pesticides at confluence, impacts to palid sturgeon and it's endangered species

designation. Fish-flesh analysis for methyl mercury. Practical need for good water quality information. Restoration projects, sailor lakes, private lands and improving riparian areas, downstream issues.

Lorraine Manz- USGS-Support and regulates water quality projects. Also oil and gas division. Making sure activities associated with drilling doesn't contaminate surface water or aquifers. USGS regulatory agency to assure drilling/excavation of ground heat sources don't contaminate. Evaluate siting of landfills and wastewater management ponds. Works closely with NDDH and NDSWC.

Kendall Hanson –Burke County SCD Watershed Coordinator – Background of mapping, surveys, DNA surveys. Monitoring after catastrophic events, forest fires, Katrina. Northgate Dam and Short Creek Watershed water quality improvement projects to reduce P and N loading. One hundred sixty one sections in the 2 watersheds.

Gregg Wiche – USGS - Discovery Farms –Stream gauges on watershed of 100-500 acres. This gives us insight into small areas (field scale vs. basin scale). Headwater analysis. Concerns of low flows.

Dave Jensen – Corp of Engineers– 4 project, Garrison, Oahe, Pipestem and Bowman Haley. Extensive monitoring in order to use inQual2 model used in 2002-2007 data. Good correlation after calibration. Will re-calibrate with 2008-2009 data. Trying to develop a useful model for different conditions in reservoirs and releases. Want to objectively understand what impacts certain policies have.

Jessica Johnson – ND Dept of Ag – Does some monitoring, but it occurs through NDDH for pesticide analyses for the Agro-Chemical Division. Sampling for 2 years. Expanded all ambient sites to pesticides. Working w MT Dept of Ag. EPA regional lab doing pesticide analysis. Monitored a few lakes in central ND for pesticides. She has 2008 report available. Used for risk assessment and regulation....for EPA regs. Advisory committee meets a few times a year.

Rebecca Phillips – ARS - Mandan – restoration of wetlands. Denitrification in ag landscape. Restoring wetlands to denitrify . Remote sensing to improve water sheds .

Lori Clark- Cass County watershed coordinator – Rush and Maple River 319 projects in the implementation phase 2013/14 assessment phase to evaluate MBPs. Monitoring groundwater on Maple Dam. Work with NDSU on a couple of 319 projects. Groundwater on maple dam monitoring

Heather Duchscherer – NDDH -watershed projects. Helping others with moving forward on projects. Technical advisory with Manitoba. Dr. Lin NDSU and water quality.

Pete Wax –NDDH - surface water program- rivers, lakes. Biological work.

Aaron Larson – NDDH –Biomonitoring Coordinator – Red River Basin biomonitoring project. Reference-site biomonitoring to develop IBI's for region. National Rivers and Stream Assessment data collection.

Greg Sandness – NDDH - management of non point source program. Data collected through health dept to do management/restoration. Educational projects, assessment and restoration projects use this data. Local projects collect data to define management needs and BMPs. Keep collecting!

Grant Newhart –NDDH – TMDL development. Fish insects biological indicators. Reference site screening using GPS....USGS did sampling. Site screening on 4 Red River Basin 4 sites.

Ron Wiederholt added– cooperating farmers are not compensated.

Bill Schuh- North Dakota State Water Commission – water resource development/appropriation/conservation. Strong interest in water chemistry and suitability for use. Maintain a huge database (developed over 30 years) with 33,861 sites, 4000 wells, lots of samples surface and ground water (1500-2000 samples/year). Looking at nitrates, trace elements, P not measured. Well characteristics, water permits, situational monitoring. Cooperation with others. Investigation when concerns arise. Water appropriation. National Guard water quality monitoring program for 20 years. Cooperative work with universities. Seed funding.

Connie Schuly – Grant County SCD- 2 projects in implementation phase. Cannonball (3 sites) water sampling and district tech does BMPs to improve water quality. Fecal, nitrates, and P. Sheep Creek Dam project= small reservoir used for fishing (lots of algae, livestock on creek ) Most difficult part of project is to convince producers that we are not going to close them down. Multi county – Small Creek running into Cannonball.

Dennis Fewless– NDDH - staff has explained very well. Interstate and international issues with developing nutrient problems.

Roxanne Johnson NDSU- Two 319 projects to monitor agricultural tile drain effluent on saline soils in eastern North Dakota.

Shafiqur Rahman - NDSU – 319 project on buffer strips. Are they effective in reducing nutrients? Soil sampling, runoff modeling, optimum buffer species and buffer width. Is interested in collaboration on other projects.

Xinhua Jia – NDSU – hydrology training....water balance. Water availability of different landscapes. To analyze anions/cations. Evapotranspiration issues. WQ in lakes....working with Pete Wax on chemical and physical changes in lake. Teaches 3 classes NRM management, small watershed hydrology, drainage and wetland engineering (in fall). If you need students or would be a guest lecturer let her know.

Kathy Duttonhefner – ND State Parks and Recreation - Lots of advisory. Riparian restoration. House the natural heritage inventories. Do plant ecological surveys in ND and along the Missouri River.

Paul Olson- NDDH –Surface water program. TMDs with SCDs. Ambient water quality program and biological monitoring.

Jim Collins - NDDH –surface water quality, TMDL liaison. NPS I&E....question asked many times “what is my water quality in my lake river stream.” Answers questions to the general public. Working on a location for the public to go to for information and education.

Questions???

How big do we want this to get?

Standardization is not needed. Protocol needs to be defined for your own data. Metadata...that defines who, what, where, when. Mission defines the method.

Are you willing to meet in February? Roxanne will send out a Doodle scheduler to move this forward. Mike Ell asked if anyone would like to be a part of the steering committee.

1. Andre DeLorme
2. Mariunus Otte

Submitted by Roxanne Johnson