

**AGENDA**  
**MONTANA WETLAND COUNCIL MEETING**  
**Wednesday May 23, 2007**  
**1:00 pm – 4:30 pm**  
**Room 172, Montana State Capitol**

**9:00 am Wetland and Watershed Awards and Luncheon**

Old Supreme Court Chambers & Rotunda. All are welcome to attend.

**1:00 pm Council Meeting Welcome and Introductions.**

*Lynda Saul, Wetland Program Manager, MT Dept of Environmental Quality.*

Round-robin self-introductions and review meeting focus on survey of some of eastern Montana wetland management and protection issues.

**1:05 pm Prairie Wetlands of Eastern Montana.**

*Dave Mushet, US Geological Survey, Northern Prairie Wildlife Research Center, Jamestown, ND*

Bio

Wildlife Biologist with the USGS Northern Prairie Wildlife Research Center  
Expertise: Wetland Ecology, Aquatic Invertebrate Sampling and Monitoring, Floristic Quality Assessment.

Current Projects:

- The Cottonwood Lake Study Area: Long-term Monitoring of the Dynamics in Hydrology, Chemistry, and Biology of a Prairie Wetland Complex
- Secondary Production in Wetlands of the La Creek National Wildlife Refuge
- Development of a Protocol for Implementing Floristic Quality Assessments of Plant Communities in the Sheyenne National Grassland of North Dakota
- Assisting the Spirit Lake Nation in Implementing a Wetland Monitoring Program on Tribal Lands

Education: B.S., *Wildlife Biology*, Humboldt State University, Arcata, CA (1991)

Abstract

Prairie wetlands of eastern Montana are situated at the north western extreme of the Prairie Pothole Region (PPR) of the United States where high rates of evapotranspiration exert considerable influence on wetland ecology. In this area of negative water balances where mean water loss as evapotranspiration exceeds precipitation, wetlands may go dry more frequently than in other less arid areas of the PPR. These conditions define the unique ecological setting of prairie wetlands in eastern Montana that must be considered when implementing management actions. This presentation will focus on the hydrologic, chemical, and biologic characteristics of prairie wetlands and discuss land-use impacts and management options specific to eastern Montana.

## **1:50 pm Impacts of Oil Exploration and Production to Wetlands in Northeast Montana's Glaciated Terrains.**

*Jon Reiten, MT Bureau of Mines and Geology, Billings MT*

### Bio

Currently Research Professor/Hydrogeologist w/ MBMG in Billings. Has been w/ MBMG since 1985. Did his BS and MS in Geology from University of North Dakota. Jon is currently vice president of the Montana Chapter American Water Resources Association which focused it's 2006 conference on wetlands.

### Abstract

**Jon C. Reiten**, Montana Bureau of Mines and Geology, Billings, MT

[jreiten@mtech.edu](mailto:jreiten@mtech.edu) 406 657 2630

**Karen J. Nelson**, U.S. Fish and Wildlife Service, 585 Shepard Way, Helena, MT 59601

E-mail [karen\\_nelson@fws.gov](mailto:karen_nelson@fws.gov) Phone 406 449 5225 ext. 210 Fax 406 449 5339

**Mike Rabenberg**, U.S. Fish and Wildlife Service, Medicine Lake, MT

[michael\\_rabenberg@fws.gov](mailto:michael_rabenberg@fws.gov) 406 789 2305

The Sheridan County Conservation District (SCCD) and the US Fish and Wildlife Service have sponsored projects evaluating impacts of oil exploration on wetlands and other water resources.

Oil and gas exploration and production has impacted numerous wetlands in northeast Montana located in the continuation of the prairie pothole region of the Dakotas, as well as the Williston Oil Basin, Montana's top oil producing area. The dominant waste product from the oil production process is produced water, and this basin contains some of the most saline in the United States, often exceeding 300,000  $\mu\text{s}/\text{cm}$  specific conductance. Disposal of drilling wastes and produced waters occurred in unlined reserve pits until the late 1970's when liners were required. Based on the average pit size and conservative chloride concentrations, an estimated 260 tons of sodium chloride salts are present in each pit. Saltwater plumes migrating out of reserve pits were delineated using an EM-31 soil conductivity meter and a Trimble GeoXT and mapped using ArcGis. Monitoring wells installed within the mapped plumes to determine water quality revealed that sodium chloride brines and to a lesser extent, trace elements and hydrocarbons were migrating out of the reserve pits, and some of these contaminants have migrated to nearby wetlands. Offsite migration of salt contamination has been documented at nearly all oilfield sites investigated in the past 20 years. Produced water impacts were documented in half of the 80 wetlands sampled on 23 WPAs. Severe impacts have been documented at a few locations. Water quality in a formerly freshwater wetland has been severely impacted by salt water seeps and sedimentation caused by gully formation. Saltwater seeps are currently flowing into Big Muddy Creek near Redstone. Resampling at a large area of coalesced plumes in the Goose Lake Field indicate significant dilution from 1989-2006. New techniques developed by the oil and gas industry include pitless drilling which holds promise for limiting future impacts.

## **2:10 pm An Overview of Coal Bed Natural Gas Development in Montana: Issues and Potential Impacts to Wetlands and Aquatics.**

*Andy Bobst, Hydrologist, Bureau of Land Management, Miles City Field Office*

### Bio

Andy Bobst is the Hydrologist for the BLM's Miles City Field Office. Andy has been in this position for six years. In this position Andy deals with most water related issues for BLM surface, and federal subsurface estate in approximately the eastern third of Montana. A major focus of his work has related to analysis of CBNG development in the Powder River Basin. He was closely involved in the preparation of the 2003 statewide CBNG EIS, and is now involved in the preparation of the supplemental EIS for federal CBNG development. Andy reviews, analyzes, and recommends modifications, for all applications for CBNG development on federal minerals in the Montana portion of the Powder River Basin. Andy also serves as the chair of the Powder River Basin Interagency Hydrology Task Group, which works to coordinate monitoring, clarify jurisdictional issues, and analyze emerging hydrology issues associated with CBNG. Prior to working in Miles City Andy worked for the IT Corporation near Philadelphia, Pennsylvania, where he was involved in the investigation and clean up of hazardous materials sites ranging from gas stations, to train wrecks, to Superfund sites. Andy received a MA in Geology from Binghamton University in upstate New York, and a BA in Geology with a minor in Chemistry from the University of Minnesota – Morris.

#### Abstract

CBNG development is occurring in the Powder River Basin in southeastern Montana. Development has occurred on fee, state, and federal minerals; however Applications for Permits to Drill (APDs) are not being issued for the Federal minerals at this time. It is anticipated that once the BLM completes its Supplemental Environmental Impact Statement (SEIS) substantial development on Federal leases will occur. The comment period on the Draft SEIS closed on 5/2/07 and comments are being evaluated.

CBNG wells in Montana are being installed at 80-acre spacing, and there is typically no well pad construction needed. Initial CBNG production in Montana was at 40-acre spacing; however this was found to be inefficient. There have also been attempts to produce CBNG at 160-acre spacing; however this did not adequately recover the natural gas resource. The spacing is determined by the geology of the unit being developed; thus comparisons to the spacing used in a different geologic setting have limited validity.

Impacts to wetlands and aquatic communities may result from the mobilization of sediment, and the direct loss of wetlands. Permits from the Corps of Engineers are required prior to direct disturbance of wetlands or streams. Under the Preferred Alternative of the SEIS sediment related impacts would be mitigated through the use of Best Management Practices (BMPs). Corridors would be required for the placement of roads, pipelines and utility lines in a common area of disturbance whenever possible. 2-tracks and existing roads would be used wherever possible. Low voltage distribution power lines would be buried in corridors. Interim reclamation and revegetation, and sediment control devices, would be used to reduce erosion.

When CBNG is produced groundwater is brought to the surface. This water must then be managed. Water management practices currently in use in Montana include direct discharge to surface waters, treated discharge to surface waters, infiltration ponds, lined evaporation ponds, industrial uses (dust suppression and drilling), and livestock watering.

A project to test the feasibility of shallow injection has been permitted in Montana, but it is not yet in use. Additional methods used in the Wyoming portion of the Powder River Basin include deep injection, injection for secondary recovery, managed irrigation, and public water supplies. Potential impacts are dependent on the type of water management being used.

In rare cases raw CBNG water may exceed the acute or chronic criteria for metals. In evaporation ponds, which evaporatively concentrate dissolved constituents, concentrations are further increased (Ramirez, 2005). In lab tests Na-HCO<sub>3</sub>, the primary salt in CBNG water, has been shown to lower hatch and survival rates for fathead minnows (Davis et al., 2006).

**2:30 pm Eastern Montana Wetland Issues on Agriculture Lands.**

*Carrie Mosley, Acting State Conservationist NRCS, Bozeman MT*

Bio

Carrie Mosley is currently serving as Acting State Conservationist for Montana Natural Resources Conservation Service. She has been the Assistant State Conservationist for Programs in Montana since 2003 and worked in Montana NRCS for 10 years. Prior to that she has worked for SCS/NRCS in Idaho and Arizona. Most recently she has spent a number of weeks in Washington DC assisting the NRCS Programs Division on strategies for the 2007 Farm Bill which is currently under development with Congress.

Abstract

Most interest in wetland work on agricultural lands has occurred in the western portion of Montana. In Eastern Montana, interest in wetlands on farms and ranches is growing. The Natural Resources Conservation Service currently offers a number of conservation programs to farmers and ranchers that enable agricultural producers to create, restore or enhance wetlands on their property. Wetland issues, challenges and accomplishments on agricultural lands in eastern Montana are considerably different than in other portions of the state.

**2:50 pm Discussion.**

*Wetland Council attendees identify and discuss other issues and areas of interest in Eastern Montana Related to Wetlands and Aquatic Resources.*

### **3:35pm Update on development of Montana's 10-year Strategic Framework for Wetland Protection and Restoration** *Lynda Saul*

- 1997 1<sup>st</sup> Conservation Strategy – needed to evaluate – chart new strategic direction
- Jan 9 – last Council meeting – S. Planning Team focused on this – 6 topic areas:
  - voluntary and incentive based restoration and protection,
  - education, outreach, training
  - assessment, monitoring, evaluation
  - data collection and information management,
  - regulation, enforcement, mitigation
  - policy, planning, coordination
  - breakout to provide input – 75 attended
- E-mail survey open for 1 month –
  - Sent to 10 e-mail distribution lists: MWC, MWCC, Floodplain Administrators, Assoc of Planners, MACD, SW Building Industry, Board of Prof. Engineers, Project WET and envio education, indiv realtors attended
  - Ads in 4 ag papers: Prairie Star, AgriNews, Traders Dispatch, AgWeek
  - 360 responded - fairly even geographic spread based on population %,
  - Largest category - local govt – all govt (inc Tribal) nearly 60%
  - Several open-ended Q – got lots of input
  - Greatest impacts/ threats next 10-15 yrs
    - Urban sprawl and unregulated residential growth
    - Inc demands on GW and SW from agriculture
  - Most imp strategies
    - Restrict development in/adjacent to WL
    - Addit incentives – ag friendly WL conservation programs
- Phone survey by SPT to 29 external stakeholders – ex. county commissioners, mosquito control, farmer/rancher, Real Estate Broker, MT Building Industry, MT Contractors Assoc, MT Assoc of Realtors, MT Assoc of Planners
  - Top challenges/barriers
    - Rapid growth and development & lack of awareness
  - Top opportunities
    - Landowner incentives, county planning/zoning, state/local policy, increased awareness
- 1.5 day planning retreat early May – 30 leaders in WL conservation. Purpose:
  1. draft 10-year strategic framework for the MWC
  2. identify and plan the areas of work where the Council will take leadership
  - From evaluations - seemed to meet the Retreat objectives – we have 7 strategic directions to flesh out (though rough & overlap, need lots of work) look at Council structure, new mission statement. Several would have liked more time for small group discussion. Challenging to take all the outreach input into account during retreat.
  - Observations: desire to focus Council from talk to action, consider shorten Strategic Framework to 5-years, scope: just wetlands or riparian, ephemeral, intermittent???

Sept 1 - draft Strategic Framework to Council

Sept 13 - Council meeting to discuss

End of Year - Strategic Framework finalized, marketed, annual work plans

**3:45pm Wetland Updates and Coordination Reports.**

Brief round-robin reports from State, Federal, Tribal, Universities, non-governmental organizations, consultants, Watershed Coordination Council and others on ongoing and upcoming wetland issues and activities. Please bring written copy for Council summary.

**4:30pm Next Wetland Council Meeting September 13.**

**Adjourn.**

The Montana Wetland Council meets three times a year in Helena and is an informational forum for wetland protection and management. Everyone is welcome to attend. For additional information please contact Lynda Saul, Montana DEQ, (406) 444-6652 or [lsaul@mt.gov](mailto:lsaul@mt.gov)