

Water for the New Millennium

AWRA/MONTANA WATER CENTER CONFERENCE DRAFT (8/25)

October 4st & 5nd, 1999

Lewis & Clark Interpretive Center - Great Falls, Montana

S - Student Presentation

MWC - Montana Water Center Research Project

Monday October 4th

11:00 Registration - Lewis & Clark
Interpretive Center Lobby

Posters - resource room all day

12:00-12:20 **Opening Remarks**

SESSION A: SURFACE WATER /GROUNDWATER ISSUES

Moderator: **TBA**

12:20-12:40 **Irrigation Return Flows in the
Big Hole River Basin, SW
Montana**

Richard K. Marvin, Assistant Research
Hydrogeologist

Terry L. Voeller, Civil Eng. Dam Safety
Program

Montana Bureau of Mines and Geology

12:40-1:00 **Water Quality of Irrigation
Return Flows, Big Hole River
Basin, SW Montana**

Chris Gammons, Asst. Research Professor

Abbie Phillip -- **S**

Dept. of Geological Engineering

Montana Tech of University of Montana

1:00-1:20 **Off-Stream Water
Development to Alleviate
Dewatering of the Big Hole
River**

Randy Gazda, and Jim Magee

U.S. Fish and Wildlife Service, Dillon MT.

1:20-1:40 **Modeling Ground Water --
Surface Water Interaction in the
Lower Flint Creek Valley**

Martha Kauffman -- **S** M.S.

Dept. of Earth Sciences

Montana State University

1:40-2:00 **A Hydrologic Approach to Wetland
Delineation**

Richard A. Producers - Plant Ecologist,
Bighorn Environmental Sciences

GINETTE ABDO, Research Hydrogeologist

MT Bureau of Mines and Geology

2:00-2:20 **Stream Restoration on a Small
Scale**

MWC Dave Breck, M.S. -- **S**

Joel Cahoon

Department of Civil Engineering

Montana State University

2:20-2:40 **Hydrologic Data Collection for the
Upper Yellowstone Cumulative
Effects Investigation**

Chris Nelson -- **S**

USGS/Water Center Intern

Chuck Parrett

U.S. Geological Survey - Montana WRD

2:40-3:00 **BREAK**

**SESSION B:
WATER QUALITY ISSUES**

Moderator:TBA

3:00-3:20 **Evaluation of Non-Point
Source Pollution in the Red
River Watershed, Glacier and
Toole Counties, Montana**

Peter Norbeck, Hydrogeologist
Kate Miller
Montana Bureau of Mines and Geology

3:20-3:40 **Pesticides in Ground Water
on the Greenfields Bench,
North-Central Montana:
Non-Point Source
Agrichemical Pollution in
Public and Domestic Water
Supplies**

Catherine McDonald, Research
Specialist and Kathleen Miller
Montana Bureau of Mines and Geology
Donna M. Rise
Montana Department of Agriculture

3:40-4:00 **Distinguishing Acid Mine
Drainage from Acid Rock
Drainage using Trace Elements
in Ferricrete**

MWC George Furniss Ph.D. **S**
Geology Department
University of Montana

4:00-4:20 **Evaluation of Ferric Oxide for
Adsorption of Arsenic Leaching
from a Mine Waste Repository**

Gregory S. Vandeberg, Reclamation
Specialist, Douglas J. Dollhopf, John D.
Goering, and Dennis R. Neuman
Reclamation Research Unit, Land
Resources and Environmental Sciences
Montana State University

4:20-4:40 **Solid Phase Control of Dissolved
Arsenic in Constructed Wetlands**

Heiko Langner, Postdoctoral Research
Associate, W.C. Allen, P.B. Hook, O.R. Stein,
and W.P. Inskeep
Land Resources and Environmental Sciences
Montana State University

4:40-5:00 **Bozeman Solvent Site**

Michael Nicklin, PH.D. P.E.
Nicklin Earth and Water Inc.

5:00-5:20 **Tri-State Implementation Council
-- Clark Fork-Pend Oreille
Water Quality Monitoring
Network**

Bruce Anderson
Land & Water Consulting, Inc.

EVENING FESTIVITIES

6:00 -7:00

Social Hour (Beer, wine, and pop
outside on deck... weather permitting)

7:00

Dinner at the Interpretive Center
Native American Buffalo Stew,
Fry Bread, and more....

TUESDAY, OCTOBER 5ND

SESSION C: WATER MANAGEMENT

Moderator: TBA

8:00-8:20 **Climate Trends and Land
Management Implications in
Southwest Montana**

John F. Whittingham, Hydrologist
Bureau of Land Management - Dillon Field
Office

8:20-9:00 **Source Water Protection for Public Water Supplies in Montana**

Access to Data Required for Source Water Delineation and Assessment Report (SWDAR) Preparation

Havre Source Water Assessment Demonstration Project

Joe Meek, Russell Levens, and James E. Swierc
Pollution Prevention Bureau
MT Department of Environmental Quality

9:00-9:20 **Limitations for septic system installation and operation in Gallatin County, Montana -**

There is a difference between Most Limiting Surficial Deposit, Most Limiting Soil, and Most Abundant Surficial Deposit
Steve Custer, Professor, and Bill Christner
Dept. of Earth Sciences
Montana State University

9:20-9:40 **Copper in Drinking Water: What's the Fuss?**

Gretchen Rupp, Program Engineer
Drinking Water Assistance Program
Montana Water Center

9:40-10:00 **Developing Spring Operating Guidelines for State-Owned Reservoirs**

Larry Dolan, Hydrologist and Art Taylor
MT Department of Natural Resources and Conservation

10:00-10:20 **BREAK**

SESSION D: GROUNDWATER CHARACTERIZATION

Moderator: TBA

10:20-10:40 **Water Management in a High Yield Aquifer, Northeast Montana**

Jon Reiten, Associate Research Hydrogeologist
Montana Bureau of Mines and Geology

10:40-11:00 **Characterizing the Yellowstone Valley Hydrologic System - Preliminary Results, West Billings Area, Montana**

John Olson, Asst. Research Hydrogeologist
Montana Bureau of Mines and Geology

11:00-11:20 **Hamilton Heights: A Hydrogeologic Model for the East-Side Benches in the Bitterroot Valley, Montana**

Camela Carstarphen, Hydrogeologist
and John LaFave
Montana Bureau of Mines and Geology

11:20-11:40 **Geologic Framework of Aquifers and Confining Units in the Flathead River Watershed, Flathead, Lake, and parts of Sanders and Missoula Counties, Montana.**

Larry Smith, Assistant Research Hydrogeologist
Montana Ground-Water Characterization Program
Montana Bureau of Mines and Geology

11:40-12:00 **A Tale of Two Valleys: Hydrogeology of the Kalispell and Mission Valleys**

John LaFave, Assistant Research Hydrogeologist
Montana Ground-Water Assessment Program
Montana Bureau of Mines and Geology

12:00-12:10 **AWRA BUSINESS
ADJOURN!!!**

POSTER SESSIONS

S - Student Presentation

MWC - Montana Water Center Research Project

Effects of Swine Waste Compost and Cement Kiln Dust on Soil Physical Properties

John Bachman -- (P.E., and M.S. Student)
and Joel Cahoon, Civil Engineering, Montana State University **S**

Central Montana Flowing Artesian Wells

Paula Kohrt, Geologist NRCS / Fergus County Conservation District

Performance Data from Model Constructed Wetlands for Wastewater Treatment

J. A Biederman, P.E., and M.S. Student, Otto Stein, P.B. Hook, and W.C. Allen, Civil Engineering, Montana State University **S**

Influence of Mine Reclamation Amendment on Metal Mobility and Water Pollution Potential

Aimee Vitateau, M.S. Student and Tom Deluca School of Forestry, University of Montana

MWC & S

Interactive Water Resource Applications Over the Internet

Velda Welch, Water Information Specialist, Natural Resources Information System, Montana State Library

National Wetlands Inventory Maps for Montana - The Process and Application

Velda Welch, Water Information Specialist, Natural Resources Information System, Montana State Library

AFTER MEETING FIELD TRIP

Tues. Oct. 5th p.m.

Computational Methods in River Engineering - Dave Breck, M.S. Student and Joel Cahoon, Advisor

Civil Engineering, Montana State University

Site visit to Highwood Creek restoration project near Highwood, MT, ½ hour drive from Great Falls, MT. The main goals of the project are to halt bank erosion and stabilize the channel using geomorphologic principals and bio-engineering concepts. Design concerns include bankfull channel configuration and layout, as well as, vegetative stabilization along banks and rock vein deflectors within meanders. History and future of Highwood Creek will be discussed along with current research efforts.