

2009 Annual Conference

Waters that Cross Divides



A joint conference of the
Montana Section of the American Water Resources Association
and the **University of Montana Center for Riverine Science**

September 30 - October 2, 2009
Holiday Inn Downtown at the Park - Missoula, Montana

PRELIMINARY AGENDA

Sponsors



WEDNESDAY, SEPTEMBER 30, 2009

REGISTRATION

10:00 am – 7:00 pm REGISTRATION
Preconference registration available at water.montana.edu/awra/registration/

FIELD TRIP

1:00 pm – 5:00 pm **Milltown Dam Removal Site**
Free to all but pre-registration required
For more details and to register visit water.montana.edu/awra/registration/

THURSDAY, OCTOBER 1, 2009

REGISTRATION

7:30 am REGISTRATION
Preconference registration available at water.montana.edu/awra/registration/

OPENING SINGLE SESSION

8:30 am WELCOME & INTRODUCTIONS *Garden City Ballroom A & B*
Cam Carstarphen, AWRA Montana Section President
Andrew Wilcox, River Center Director.
Gretchen Rupp, Montana Water Center Director
Gerald Sehlke, National AWRA President

LOGISTICS & ANNOUNCEMENTS
Kirk Waren, Montana Section AWRA Vice President

9:00 KEYNOTE SPEAKER
Jon Major, USGS, Cascades Volcano Observatory

10:15 KEYNOTE SPEAKER
Steve Running, University of Montana

11:15 BREAK for lunch

TECHNICAL SESSIONS

SESSION 1 (Concurrent). *Garden City Ballroom A* RIVER RESTORATION

Moderator: Andrew Wilcox, River Center

12:45 pm Blasch, *Environmental Controls On Drainage Behavior Of An Ephemeral Stream: Implications For Stream Restoration.*

1:05 Daniels, *Restoration Of The Clark Fork River After Removal Of Milltown Dam.*

SESSION 2 (Concurrent). *Garden City Ballroom B* CLIMATE

Moderator: Don Potts, University of Montana

12:45 pm Harper, *Timing Of Present And Future Snowmelt From High Elevations In Northwest Montana.*

1:05 Reardon, *Summer And Winter Surface Water Balances At Sperry Glacier, Glacier National Park, Montana.*

TECHNICAL SESSIONS continued

1:25 pm	Parker, <i>Vegetation Response On Historical Floodplain Surface At Milltown Dam.</i>	1:25 pm	Anderson, <i>Global Warming, Restoration, And The Rocky Mountain Front.</i>
1:45	Anderson, <i>Mattie V Creek: A Collaborative Restoration Approach Between A Conservation Organization, Local And Federal Agencies, Academia, And Professional Consultants</i>	1:45	Chase, <i>Watershed Scale Response To Climate Change: South Fork Flathead River, Montana.</i>
2:05	Skidmore, <i>Principles Of Successful River Restoration.</i>	2:05	Farnes, <i>Montana Precipitation Map</i>
2:25	Vander Meer, <i>Lessons Learned From Revegetation Projects: The Story Of The Lower Clark Fork Revegetation Manual Analyzing The Steps To Successful Riparian Restoration.</i>	2:25	Patton, <i>Wells And Climate: Can We Find El Niño?</i>
2:45	BREAK	2:45	BREAK

SESSION 3 (Concurrent). Garden City Ballroom A RIVER & WATERSHED PROCESSES

Moderator: Traci Sylte, US Forest Service

3:05 pm	Dalby, <i>Comparison Of Reconnaissance-Level And Detailed Methods Of Channel Migration Zone Delineation For The Upper Yellowstone River, Park County, Montana.</i>
3:25	McCarthy, <i>Determination Of Travel Times And Dispersion Rates In The Yellowstone River In Montana.</i>
3:45	Holnbeck, <i>Monitoring Hydraulic Conditions And Scour At I-90 Bridges On Blackfoot River Following Removal Of Milltown Dam Near Bonner, Montana, Spring 2009.</i>
4:05	Jencso, <i>Hillslope Water Table Connectivity Controls Groundwater Turnover Rates In The Near Stream Riparian Zone: Implications Of Catchment Structure For Source Water Contributions In The Tenderfoot Creek Experimental Forest, MT.</i>
4:25	Marshall, <i>Predictive Modeling Of Snowmelt And Runoff Dynamics: Thresholds And The Hydrologic Regime Of The Tenderfoot Creek Experimental Forest, Montana</i>

SESSION 4 (Concurrent). Garden City Ballroom B GROUNDWATER

Moderator: Bill Woessner, University of Montana

3:05 pm	Chandler, <i>A Comparison Of Shallow Aquifer Diurnal Water-level Fluctuations At Different Vegetation Sites In Hay Creek, Whitetail Basin, Montana.</i>
3:25	Donohue, <i>Historic Perspective, Assessment and Proposed Rehabilitation of a Flowing Artesian Well in North Central Montana.</i>
3:45	Osborne, <i>Probing The Plumbing Of The Landusky Mine Site.</i>
4:05	Weight, <i>Evaluating The Hydraulic Properties of Shallow First -order Alluvial Systems: An Analysis in Hay Creek, Whitehall Basin, Montana.</i>
4:25	Smith, <i>Tracing Dissolved Oxygen Dynamics In The Nyack Aquifer</i>

5:00 - 7:00 pm AWRA 2009 POSTER PRESENTATIONS

1. John Babcock. *Diel Variability Of Stable Isotopes Of Ammonia, Nitrate, And Dissolved Oxygen In Silver Bow Creek.*
2. Zara Berg. *Monitoring Brine Water Seepage In The Poplar River.*
3. Douglas Brinkerhoff. *Downstream Response To Shifts In Point Bar Morphology Associated With Dam Removal.*
4. Joel Brown. *Irrigators' Vulnerability to Drought in the Flathead River Basin, Montana.*
5. Victoria Bunn. *The Influence Of Riparian Grazing Exclosures On Adjacent Riverine Ecosystems.*
6. Rod Caldwell. *Heat As A Tool To Trace Groundwater/ Surface-Water Interactions In The Smith River Watershed, Meagher County, Montana.*
7. Matthew Corsi. *Management Of Anthropogenically Derived Hybrid Trout Populations: Explicit Recognition Of Assumptions.*
8. Kelly Crispen. *Ecology Of Salmonid Fishes In The Umpqua River, Oregon: History Of Anadromous Runs, Current Condition And Restoration Potential.*
9. Tammy Crone. *Assessment And Distribution Of Pharmaceuticals, Personal Care Products, And Endocrine Disrupting Compounds In Surface Waters In The Gallatin Valley, Gallatin County, Montana.*
10. Ellie Davis. *Nutrient Concentrations and Bacterial Biomass in Streams Located in the West Fork Watershed in Big Sky, MT.*
11. Lorri Eberle. *A Conceptual Foundation For The Klamath River.*
12. Alaina Garcia. *Mechanical Analysis Of A Tesla Turbine To Produce A More Efficient Microhydro Turbine System.*
13. Timothy Gilbert. *Examining The Avulsion History And The Causes Of Anastomosis Of The Kelly Island Reach Of The Clark Fork River Downstream Of The Milltown Dam.*
14. Gary Icopini. *Assessment Of Pharmaceuticals And Endocrine Disrupting Chemicals In The Groundwater Of Gallatin County, Montana.*
15. James Johnsen. *Sediment Transport Of The Clark Fork River's Milltown Dam Removal.*
16. Rick Mulder. *Stream Sampling For Hydrophilic Pesticides In Montana Using Polar Organic Chemical Integrative Samplers (POCIS).*
17. Ivan Orsic. *Downstream Deposition Of Contaminated Sediment Following The Removal Of Milltown Dam, Montana.*
18. Todd Preston. *20 Years Later: Reexamining Oilfield Brine Contamination In The Prairie Pothole Region Of Sheridan County, Montana.*
19. Donna Smith. *Arsenic Speciation In Groundwater Related To The Clark Fork River, The Floodplain And Organic Rich Substrates..*
20. Molly Staats. *Mercury In Sediments Of The Upper Clark Fork River And Tributaries.*
21. David Stagliano. *Stream Ecological Classification, Ecosystem Diversity And Crucial Watershed Areas In Montana's Columbia River Basin.*
22. Sean Sullivan. *Using Bioassessment Methodologies To Assess Recovery Of Silver Bow Creek, MT.*
23. Joanna Thamke. *Geophysical Studies Of Brine Contamination in And Near The East Poplar Oil Field, Northeastern Montana, 2009.*
24. Kirk Waren. *Potentiometric Surface Map Of Basin Fill And Selected Bedrock Aquifers, Deer Lodge, Granite, Powell, And Silver Bow Counties.*
25. Randy Overton. *Protocol For Estimating Water Supplied To Wells From Confining Unit Storage And The Associated Zone Of Influence.*
26. Abror Gadaev. *The Water Well Screen And Its Clogging Issue.*
27. Alan English. *Waste-water pharmaceuticals.*

28. Rya Hawks. *Behavior of Residual heat in Groundwater at an MTBE Site Treated with Electrical Resistance Heating.*

29. Nadia Klif. *Impact Of Anthropogenic Pollution And Agriculture Practices On Soil And Water Quality In Phosphate Mining Basin Of An Arid Region (Moulares-Redayef Aquifer, Southwestern Tunisia).*

BANQUET

Sapphire Room C & D

7:00 pm BANQUET
8:00 SPECIAL SPEAKER
Jack Schmidt, Utah State University
PHOTO CONTEST
Kirk Waren

FRIDAY, OCTOBER 2, 2009 (continued)

7:30 am Morning Coffee

Atrium

SESSION 5 (Concurrent). *Garden City Ballroom A*
AQUATIC ECOSYSTEMS

Moderator: Lisa Eby, University of Montana
8:20 am Vance. *Wetland Landscape Profiling.*
8:40 Dupuis. *Flowering Rush: An invasive Aquatic Macrophyte infesting the Headwaters of the Columbia River System.*
9:00 Feldman. *Describing Sampling Variability Bias to the Macroinvertebrate Biometrics of Stream Condition in Montana.*
9:20 McIntyre. *Predicting Amphibian Occurrence Based On Local And Landscape Level Factors In Montana.*
9:40 Sepulveda. *The Role Of Movement To Stream Salamander X Fish Coexistence: On A Road To Nowhere?*
10:00 Stagliano. *Western Pearlshell (Margaritifera Falcata) Mussel Distribution In Montana Watersheds: A Legacy Of Lost Native Species, Connectivity & Dewatering.*
10:20 BREAK

SESSION 6 (Concurrent). *Garden City Ballroom B*
WATERSHED HYDROLOGY

Moderator: Chuck Dalby, DNRC
8:20 am Ahern. *Modeling Stream Depletion In The Lower Beaverhead River Sub-basin: Results And Lessons Learned.*
8:40 Overton. *Determining When Streams Become Hydraulically Disconnected From Groundwater.*
9:00 Mashamba. *A Discussion Of Results, Insights And Challenges In Assessing Watershed Management Practices Using A Semi-distributed Environment Model.*
9:20 Coover. *Arsenic Mobility In Wetlands Near Anaconda, Montana.*
9:40 Newlon. *A Rotating Basin Wetland Assessment Strategy For Montana.*
10:00 Bryce. *Surface Water Mitigation Using Induced Groundwater Storage.*
10:20 BREAK

SESSION 7 (Concurrent). *Garden City Ballroom A*
WATER QUALITY & QUANTITY

Moderator: Tom Osborne, HydroSolutions, Inc

- 10:50 am Mueller. *The Milltown Dam Water Rights And Water Use In The Upper Clark Fork River Basin.*
- 11:10 Petersen-Perlman. *An Assessment Of Municipal Water Systems And Water Rights In The Clark Fork River Basin.*
- 11:30 Schmidt. *Groundwater And Surface Water Monitoring For Pesticides And Nitrate In The Bitterroot Valley, Montana.*
- 11:50 Stickney. *Exciting Opportunities For Natural Resource Projects In Montana! Two Examples From The Blackfoot River.*
- 12:10 Watson. *10 Years Of Nutrient Reductions On The Clark Fork River.*
- 12:30 Krizek. *Municipal Impacts From The General Permit For Stormwater Discharges Associated With Small Municipal Separate Storm Sewer Systems (MS4s).*

SESSION 8 (Concurrent). *Garden City Ballroom B*
INTERNATIONAL & TRANS-BASIN WATER SCIENCE

Moderator: Clint Muhlfeld, USGS

- 10:50 am Bansak. *The Salmonid Rivers Observatory Network: A Habitat-Based Assessment Of Production Across The Pacific Rim.*
- 11:10 Chilcote. *The Riverscape Analysis Project: A Model for the Integration of Spatial Data and Management Planning of Aquatic Resources.*
- 11:30 Prato. *Adaptive Fuzzy Decision-making For Collaborative Water Management.*
- 11:50 Muhlfeld. *Proposed Coal Mining and Coal-bed Methane Development Threaten Aquatic Resources in the Transboundary Flathead Ecosystem.*
- 12:10 Zhinin. *Local Participation In Managing Water Quality Problems From Artisanal Gold Mining: The Rio Gala Watershed, Ecuador.*

CLOSING PLENARY

Garden City Ballroom A & B

- 1:00 pm CLOSING PLENARY
- 1:45 ANNOUNCEMENTS
Officers, Photo Contest Awards, Student Awards
- 2:00 ADJOURN
- 2:00 MT Ground Water Characterization Committee Meeting