

**Montana Wetland Council**  
**September 27, 2011**  
**Meeting Summary**

**Round Robin Announcements from Participants and Wetland Council Working Group updates.**

All present introduced themselves, please see last page for sign-in sheet.

Steve Carpenedo, DEQ, reported on the **Council's Professional Development and Education Working Group**. Wetland Regulation Training in Bozeman is Oct 12-13. This training is part of new EPA Wetland Program Development Grant. <http://watercenter.montana.edu/training/wetlands/> Registration was capped at 50 individuals and is closed. DEQ will offer this course again and we are also developing other wetland professional development courses - all of which can be applied toward requirements for Professional Wetland Scientist certification.

Tom Hinz, Montana Wetlands Legacy Partnership, reported on the **Council's Restoration Working Group**. Working in Big Hole watershed to integrate wetlands into TMDL watershed restoration plans. Also working to develop a statewide in-lieu fee aquatic mitigation program for Montana. The COE has posted a public notice on the ILF program <http://www.nwo.usace.army.mil/html/od-rmt/pn/pn.html>

Cat McIntyre, MTNHP, reported on the **Council's Mapping, Monitoring and Assessment Working Group**. MTNHP sampled 24 sites as part of EPA nationwide wetland condition assessment project. Completing third phase of rotating basin for statewide wetland assessment, DVD's for six southwest Montana watershed assessments are available to interested individuals. GIS based process that describes wetland profiles, hope to complete for each watershed in Montana. Mapping for the upper Musselshell and Missoula County should be complete by end of summer. Received funding to map wetlands and riparian areas in NW part of the state. Rocky Mountain chapter of the Society of Wetland Scientist meeting in Bozeman Oct 12 6:00 pm at the Pour House. <http://www.sws.org/regional/rockymountain/events.html>

Lynda Saul, DEQ, reported on the **Council's Local Government and Public Policy Working Group**. Related to today's topic, DEQ, DNRC, and others along with contract assistance from the Association of State Floodplain Managers completed a year-long review and recommendations for Montana's floodplain program. The new report is titled "Montana Floodplain Management Assessment: Strengthening Policies and Programs that Reduce Flood Risk and Protect Floodplains" <http://deq.mt.gov/wqinfo/wetlands/default.mcp.x>. The COE Silver Jackets program is taking the organizational lead on implementation, anyone interested in getting involved, please contact Saul. The other major project involves strengthening the state's 401 certification program which certifies that a federal permit (such as CWA 404) meets state water quality standards.

Other announcements:

- Andrea Silverman, Prickly Pear Land Trust, new 270 acre easement in the Birdseye area of the Helena includes wetlands and streams.
- Jake Kandelin, DEQ, Roundup public water supply and the well field in Shelby damaged due to flooding.
- Linnaea Schroeer, FWP, coordinating efforts with DNRC and Dept of Ag. on aquatic and invasive species.
- Beau Downing, FWP, working with the Yellowstone oil spill and Musselshell flood effects.
- Karen LaClair, Trek Inc. Bozeman, ground water and surface water delineation.
- Catherine Seibert, Trek Inc., vegetation monitoring on site outside Anaconda.
- Sammy Gundlach, DEQ coal mine division working to reconstruct wetlands after mining.
- Traci Sears, DNRC Floodplain Coordinator, flood insurance, mitigation grants.
- Scott Owen, new to Montana, background in ground water remediation and wetland consultant.
- Pat Cole, NRCS, conservation initiative for flooded areas initially targeted to the Musselshell watershed. Short, medium, and long term programs available for affected landowners. <http://www.mt.nrcs.usda.gov/news/releases/floodrecovery9-13-11.html>
- Mike McGrath, USFWS, working on aquatic permits for transportation projects.
- Nikki Sandve, MT Watercourse, introduced herself as the new Montana Watercourse Director.
- Janet Bender-Keigley, MT Watercourse. Education outreach storm water training scheduled for April 10-12 in Kalispell. Working on adopt a wetland program in high schools. Webinar on floodplains September 28, can sign up through the Water Center or view online after Sept 28: <http://watercenter.montana.edu/training/decisions/default.htm>
- Kate Cassidy, Flathead County Environmental Health, septic program to protect floodplain.
- Ann Schwend, DNRC, the Montana Watershed Coordination Council created the Big Sky Watershed Corps and is recruiting members/ college graduates, see MWCC website <http://mtwatersheds.org/> for more information. Three year grant, next July looking for more host sites. Cost share grants fund a Watershed Corps member for 11 months to work in your watershed.

**Meeting Focus: Montana's 2011 Floods - Effects on Floodplains, Wetlands, Riparian Areas**

Lynda Saul introduced the meeting focus by acknowledging the tremendous impact the 2011 flooding caused in Montana; homes destroyed, property damaged, crop lands silted in or washed away, damage to public infrastructure such as roads and bridges and also to irrigation structures, potential spread of environmental toxins and water borne illnesses. Flood impacts cost the nation billions in disaster assistance and approximately \$60 million so far in Montana for 2011. However, the meeting focus for the Wetland Council is the effects of the 2011 floods on floodplains, wetlands, riparian

areas and stream channels. Regarding the agenda, MDT is unable to present their information at this time and I will ask if they can plan for the next Council meeting.

Saul reminded participants that in May, the Council's Wetland and Watershed Stewardship Award ceremony included recognizing the Flathead River to Lake (R2L) Partnership. The Flathead Land Trust recently compiled the collective accomplishments for the R2L focus area which includes the 100-year floodplain of the Flathead River from the confluence with the South Fork to Flathead Lake and the north shore Flathead Lake between Somers and Big Fork south of Hwy 82. Collectively,

- 41% of the 100-year floodplain in the focus areas is now protected
- More than half of the wetlands in the R2L focus areas are now protected
- More than half of the protected acres have been protected with private land conservation (most of the private land conservation has been in the last 10 years)

The R2L conservation accomplishments are connected to the 2011 flooding in that natural floodplains and wetlands provide flood water storage and hence reduce flood peaks. In addition, natural floodplain storage can desynchronize flood flows and buffer some of the downstream effects from flooding. Lynda again congratulated the Flathead River to Lake Partnership and the other wetland and watershed stewardship award winners from 2011.

Saul pointed out that it's not just hypothetical or anecdotal that development is taking place in floodplains. Nationally, many communities continue to place buildings and other infrastructure in harm's way. ASFPM Associate Director Chad Berginnis provide written testimony to the July 2011 US House Transportation and Infrastructure Committee hearing on FEMA Reauthorization. He wrote that in the 15 years following the 1993 floods in the mid-west, 28,000 homes and 6,630 acres of commercial and industrial development were added to land that was underwater in 1993.

The riparian zone is a very dynamic part of the landscape as this year's floods demonstrated. Record high waters in Montana and the long duration of high flows changed many channels, islands, other aspects of the stream morphology and also affected weed infestations, sediment transport, erosion, and irrigation infrastructure. It's in our best financial and ecologic interest to understand the 2011 floods and the effects on floodplains, wetlands, riparian areas, and stream channels and continue to advance the protection of the natural and beneficial function of floodplains and reduce flood risk.

## **Presentations**

### **U.S. Geological Survey: Gaging Montana Floods**

Scott Whiteman, USGS hydrologist, presented information about gaging Montana's streams and rivers: surface water, peak stream flows and crest-stage gages. The USGS web site <http://mt.water.usgs.gov> provides real time data, historical data, flood frequency information and recent studies. Thirty one cooperating partners participate with USGS in Montana to provide the flow information needed for management and decision making. The [PowerPoint presentation](#) showed graphs of stations with flood frequency exceedences, streamflow timing and runoff volume in 2011 and compared to

historic data for several stations. Whiteman also presented methods for indirectly estimating discharges of recent floods at ungaged locations.

Peter McCarthy, USGS hydrologist, presented flood frequency analysis (FFA) information. Take a look at the [PowerPoint presentation](#) to find out: What are flood frequency analyses and where does the data come from? Why are flood frequency analyses important? Why do we use 1% instead of 100-year? Why do the 1% flood values change? Where (and why) are flood data more important to gather? Why are gages discontinued? Why is 2011 so important to flood frequency analyses? Many stations in Montana had peaks of record for 2011. Of interest is how valuable it is to have gage data for a long period of record to refine and develop better flood frequency analysis predictions. McCarthy showed how including data from the 2011 floods changed the FFA in some instances. Discussion pointed out why that matters for many applications such as engineering culvert and bridge flow design.

Kathy Chase, USGS hydrologist, PE, presented channel morphology assessment and monitoring during and after flood events. The [PowerPoint presentation](#) showed some recent and current channel morphology studies. She described how long-term monitoring and assessment is important for design verification or critique, as a basis for mitigation, and input for future design improvement and showed some cross section and photo comparisons. Chase also touched on paleohydrology methods for indirectly estimating discharges of ancient floods at ungaged locations.

### **Yellowstone Oil Spill – Initial Observations of the Effects on Floodplains, Wetlands, Riparian Areas and Wildlife and Plans for Long Term Monitoring.**

Mike Trombetta, Bureau Chief Hazardous Waste Site Cleanup Bureau, DEQ, provided an update on the Silvertip Pipeline Spill on the Yellowstone River, Montana that occurred on July 1, 2011. The [PowerPoint presentation](#) includes site photos. Due to the high flows, cleanup operations were initially limited to areas that could be accessed without the use of a boat in the open channel. When water levels dropped, cleanup was performed throughout the river bottom, including islands and backwaters. Oil pooled over the normal river banks in backwaters and floodplain lands due to the high flows. Shoreline Cleanup Assessment Technique (SCAT) teams surveyed all the land for 56 miles below the point of release and ExxonMobil focused cleanup on moderate and heavily oiled areas, including transferable oil and oil that would have potential to affect wildlife. Most cleanup involved clipping of oiled vegetation, removal of oiled debris, and wiping of the “bath tub ring” of stain on rocks and large trees. The bathtub ring may persist for the next decade marking where the high water mark deposited the oil. The lead on oversight has transferred from EPA to DEQ, and DEQ will continue to evaluate contaminated media including surface water, soil, sediment, and groundwater, along with the potential for CWA and WQA violations next year if next year’s high flows contribute to “resheening” of oil. Large amounts of solid waste were generated as a result of the cleanup.

Trevor Selch, Fisheries Pollution Control Biologist, DFWP, provided a wildlife and fisheries perspective to the spill and cleanup efforts. DFWP biologists and International

Bird Rescue members assessed aquatic and wildlife injury and evaluated ecological damages in wetland and riparian habitats. He noted that oiled sediment could be buried due to flood recession deposition. Selch discussed the process of assessing the potential effects of the ExxonMobil oil spill on the Yellowstone River fish assemblage including short and long term monitoring for wildlife and fisheries. His [PowerPoint presentation](#) provided information on wildlife impacts to date and fish tissue sampling.

### **Effects of the 2011 floods on the Milltown channel and floodplain restoration of the Clark Fork River.**

Doug Martin, Milltown Restoration Project Manager, Natural Resource Damage Program, Department of Justice presented information on the Milltown dam removal on the Clark Fork River near Missoula and affects the high flows had on the reconstructed channel and floodplains and on the project goals. Aerial photos from his [PowerPoint presentation](#) were courtesy of Gary Matson, a local pilot. The project goal, to restore the Clark Fork and Blackfoot rivers near the Milltown dam to be naturally functioning and self-maintaining, included that the channel is appropriate for valley setting, transports sediment, and is connected to the floodplain. The project included nearly 17,000 feet of channel restoration and approximately 300 acres of floodplain restoration. Martin showed the as-built design (designed for a 15-year flood event), photos of the newly reconstructed channel and floodplain from April, and photos from several dates and reaches during and post 2011 high flow events, estimated to be a 35 year flood. Of note, the long duration flood passed over the newly constructed floodplain comprised of little or no vegetation. The high flows contributed to channel avulsion in several places. Martin discussed the Milltown maintenance process which will include identifying maintenance alternatives and priorities. Council discussion questioned whether a single channel or braided channel river system is appropriate for that section of the river.

### **Musselshell Watershed Flood Photos and Plans for the Musselshell Flood Restoration Project.**

Chris Boyer, Owner, Kestrel Aerial Services, Inc. showed his aerial [photographs](#) of the 2011 floods on the Musselshell River. Estimated flood exceedences ranged from 50 years to 500+ years depending on location. Boyer noted that the post flood Musselshell will be adjusting for a long time and that it appears the river lost some of its length as a result of the flood. Avulsions, headcutting, sediment deposition are some of the river and channel impacts dramatically visible in his photos.

Bill Milton, Musselshell Watershed Coalition Coordinator

Told of the history of the Musselshell River; a river's history that is intertwined with the lives and livelihoods of the 10,000 residents living in the 10,000 square mile basin. He told of the Milwaukee Railroad which cut off 140 meanders of the river in laying of the tracks in 1907 and postulated how that and the subsequent highway right of way has changed how the river responds to both high and low water. The Musselshell River was declared chronically dewatered by the state in 1994 which helped to galvanize a more coordinated approach to river management. Mosby experienced 7 ice jam related floods in the winter of 2010/2011 prior to the 2011 rain and snowmelt driven floods. Musselshell residents experienced historic flood events in the spring of 2011 that will

have profound and lasting implications on how local rancher-farmer irrigators, local governments and federal and state agencies approach future management of the Musselshell River. Milton mentioned his frustration with trying to get a small planning grant to help residents assess the impacts to their river diversions, fields, irrigation infrastructure, and other impacts and pointed out that no assistance programs exist for their situation. And he announced that after 4+ weeks, they were awarded a DNRC planning grant to put together a rapid assistance technical team to assess impacts including high priority restoration opportunities for both water management/irrigation infrastructure and river channel/natural floodplain storage. Based on the information from the previous presentations, he rhetorically asked where is the Musselshell's \$40 million to help with clean up and restoration after this historic disaster? Several additional challenges they will be addressing include how to provide options to support floodplain protection and restoration, how to get water out of the river and onto irrigator's fields, and how to adjust water rights such as changes in points of diversion because the river's course has changed, without opening up the existing water rights to objections.

### **Flood Effects at Montana Department of Transportation Wetland and Stream Mitigation Sites.**

**Canceled. Have asked to reschedule for a future Council meeting.**

Larry Urban, Wetland Mitigation Specialist, Montana Department of Transportation. MDT has constructed more than 50 wetland and stream mitigation sites in the last 15 years and continues to monitor 17 sites to determine COE mitigation credit according to set performance standards. Many of the sites experienced heavy rains and high flows in 2011. MDT will discuss how several sites performed including sediment deposition and scour, new flood created overflow channels and pools, and cottonwood regeneration.

### **Floodplain Protection Resources and Discussion.**

Montana specific public domain information to assist with floodplain protection include a new short film: Falling for the Creek. Janet Ellis, Montana Audubon, Executive Producer. In this new 4-minute film,

learn what one Montana resident discovered when he built his home too close to a stream in the Bitterroot Valley. Participants discussed possible uses for the film. It's available for distribution through Montana Audubon

<http://mtaudubon.org/issues/wetlands/planning6.html#1> or Conservation Media <http://conservationmedia.com/>

Riparian Buffer Education Campaign. Lynda Saul, DEQ showed a Public Service Announcement and radio clip from an extensive riparian buffer education campaign, WaterSmart Montana, <http://www.watersmartmt.com/> that was developed in response to water resource impact concerns from the rapid development rates occurring along waterways in western Montana. These resources were developed from a 319 grant and are public domain. The tag lines can be changed to fit your organization. MWCC is working on a link to share these and other education and outreach resources.

Saul posed several questions to elicit discussion: How to leverage 2011 flooding into increased floodplain protection and restoration? What are the opportunities to reconnect rivers to their natural floodplain for their flood storage properties? How to reduce liability and cost associated with floodplain development? What ideas will to mitigate losses of aquatic and terrestrial habitat, and what is being done to restore river ecosystems? What research, regulation and outreach is needed? Discussion, resources, and observations from Council participants included:

- 150 Historic Montana flood photos courtesy of Helena I.R.  
[http://helenair.com/news/state-and-regional/montana/gallery-montana-s-flooded-past/collection\\_79a04a49-93ba-5010-8787-3d722a19219d.html#0](http://helenair.com/news/state-and-regional/montana/gallery-montana-s-flooded-past/collection_79a04a49-93ba-5010-8787-3d722a19219d.html#0)
- The Yellowstone River Corridor Resource Clearinghouse  
<http://nris.mt.gov/yellowstone/> shows maps and layers that have been added the last few years including riparian areas and channel migration.
- The Governor's Task Force for Riparian Protection  
<http://water.montana.edu/riparian/> has several resources available about rivers needing room to roam, including a PowerPoint presentation others can use. And a report "Taking the Pulse of Riparian Protection in Montana"  
<http://www.macdnet.org/Riparian%20Protection%20In%20Montana.pdf>
- DNRC, has a rolling rivers trailer. Contact Dave Martin who can do presentations demonstrating riparian and floodplain processes.
- DNRC's floodplain website [http://dnrc.mt.gov/wrd/water\\_op/floodplain/](http://dnrc.mt.gov/wrd/water_op/floodplain/) has flood photos that could be used for reference material and as planning resources. They are not geo referenced at this time. Lots of other flood related information is available on the website.
- Chris Boyer with Kestrel Aerial <http://www.kestrelaerial.com/> took pictures of other floods during 2011 around that state.
- Regarding the challenge of how to reclaim natural flood storage ability of rivers that have been disconnected from their floodplain or other landscape changes that prevent natural flood storage, the NRCS Wetland Reserve Program is a potential option for willing landowners. For instance, the 140 meanders that were disconnected from the Musselshell River due to the 1908 railroad construction could be eligible for the WRP program. <http://www.mt.nrcs.usda.gov/programs/wrp/>
- USDA agencies are providing flood recovery assistance to Montana farmers and ranchers <http://www.mt.nrcs.usda.gov/news/factsheets/floodrecoveryfs.html> Sign-up cutoff dates are 11/11/11 and 6/1/12.
- A suggestion was made to get involved in the planning stages for highway and other road construction particular related to rivers and streams such as encourage bridges to span the full channel meander and floodplain width. Best time to get involved w/ MDT is when they are doing a corridor planning study,
- On a national level, flooding continues to be the number one disaster cost. The National Flood Insurance Program is undergoing reform  
[http://www.fema.gov/business/nfip/nfip\\_reform.shtm](http://www.fema.gov/business/nfip/nfip_reform.shtm)
- Local government land use decisions can increase or decrease the tax burden and disaster recovery costs. Local government needs resources, maps and help supporting protective land use decisions that minimize public tax burden and protect the natural functions of floodplains.

- Realtors could play a role in discouraging building in floodplain areas. Isn't there disclosure?
- Montana's floodplain management act, allows for regulation in floodplains. If the area is mapped and maps adopted there are restrictions to building codes. However, few funds are available for floodplain mapping. Without maps, can't impose regulations. If you're in the floodplain, then need insurance if your home is backed by a federal mortgage.
- Suggestion to pilot economic studies on the cost of flooding to bring issue to the public.
- Upcoming workshop sponsored by Future West "After the Flood Waters Recede" Nov 3, 1-5 pm. Also available via webinar. Contact <mailto:Jennifer@future-west.org>
- Reminded folks to get involved in the implementation of the recommendations from the new report titled "Montana Floodplain Management Assessment: Strengthening Policies and Programs that Reduce Flood Risk and Protect Floodplains" <http://deq.mt.gov/wqinfo/wetlands/default.mcpx>

Next meeting January 24, 2012. Meeting adjourned at 4:10 pm.