



Your Home Watershed

Update

A semi-annual newsletter for Gallatin Watershed residents

Promoting conservation and enhancement of our water resources while supporting the traditions of community, agriculture and recreation.

Spring 2011

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SAVE A TREE

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Gallatin Stream Teams

By Sharlyn Izurieta

The Greater Gallatin Watershed Council's (GGWC) and the Gallatin Local Water Quality District's (GLWQD) volunteer stream monitoring program is entering its fourth year! Volunteers have been collecting high quality data from four streams in the Gallatin watershed, Bozeman (Sourdough), Bridger, Mandeville and Hyalite Creeks.

The program was developed to address the health of several of our local streams with the purpose to collect long-term water quality data, help build a base for localized long-term trend analysis, and to provide an educational opportunity to landowners and residents of the Gallatin watershed. Volunteers receive hands-on training and learn how to use field equipment, collect water samples for laboratory analysis, and collect aquatic insects. Stream Teams collect samples once per month beginning in July and concluding in September. The information collected is available to the public and is also being used to assist in water quality and land use decisions as well as helping to identify specific problems that may require further study.

The Gallatin Stream Teams were highlighted in 2010 in a Montana State University (MSU) Extension Water Quality Program video, produced by Adam Sigler,



Photo Courtesy GGWC

MSU Water Quality Associate Specialist and Mandeville Creek Stream Team Member, and David Keto, Echo of Place Productions. The video can be viewed at <http://waterquality.montana.edu/docs/videos.shtml>.

GGWC and the GLWQD would like to thank Montana Import Group, Gallatin Conservation District, Montana Department of Environmental Quality, Montana Watercourse and MSU Extension Water Quality Program for the support of the program

Interested in volunteering or learning how you can help? Contact GGWC's coordinator at 219-3739 or info@greatergallatin.org.

Rain Garden Initiative

By Sharlyn Izurieta

The Greater Gallatin Watershed Council's (GGWC) Rain Garden Initiative is in its second year and we are pleased to announce the installation of two rain gardens in the Gallatin Watershed! The rain gardens will be installed at Sacajawea Middle School and Ophir School, Big Sky. GGWC is collaborating with the Bozeman School District and Arrowleaf Landscape Design to install the rain garden at Sacajawea Middle School while Blue Water Task Force is working with Ophir School. Both locations were selected due to the

opportunity to provide a hands-on educational opportunity to students. The Bozeman School

District students are participating in a three week summer program, STReAM (Summer Tutoring for Reading and Math). The rain garden project is being incorporated into the summer program curriculum to teach the students about water quality and stormwater runoff in the Gallatin watershed.

For more information or how you can help with the rain garden projects, please contact Sharlyn Izurieta at 219-3739 or info@greatergallatin.org.



Letter from the GGWC Chair



Dear Gallatin River Watershed Residents and Visitors, Our spring newsletter is a time for reflection as we compile data from last year's water quality monitoring, and a time of anticipation of the snowmelt that provides our water for irrigation, recreation, fishing, drinking, and for instream values. I want to congratulate our volunteer water quality monitoring program for their years of dedication and professionalism - the data collected are being used by state and local water resource agencies to determine priorities and management strategies for area streams.

By now most of you are aware that the City of Bozeman is anticipating that demand for treated water will eventually exceed current supply. As the City of Bozeman and surrounding communities consider alternatives for meeting that demand, the Greater Gallatin Watershed Council is filling the critical need of providing current and relevant information about supply alternatives to City engineers

and the City Council. At GGWC's annual meeting in January, our invited panel of experts highlighted opportunities and considered costs associated with water conservation. The consensus of that dialogue, based on experience and research conducted in other mountain states communities, was that water conservation offers very real potential to meet much or all of anticipated future demand at favorable costs for municipal, agricultural, ecological, and individual uses. GGWC will continue to work with the City and Council members this year on evaluating supply alternatives that are in the best interests of valley residents as well as our water resources.

Last year GGWC benefitted from tremendous support from community businesses, individuals and volunteers. We are always appreciative and in need of your contributions and volunteers and hope you will continue to support GGWC by participating in our spring and summer events or making a donation. If you would like any further information, contact us at info@greatergallatin.org.

Sincerely, Peter Skidmore, Chair

Montana Import Group & GGWC

By Columbine Culberg

So far this year Montana Import Group has focused two months of our advertising on the Greater



Gallatin Watershed Council. In January, we ran ads letting the community know about GGWC's annual meeting and in March, ran ads about the Gallatin Stream Team's Mini-Symposium. We hope that by communicating these events through our advertising we are able to rally the community around GGWC and engage them in conservation and protection of our waters. Advertising is just a small piece of Montana Import Group's partnership commitment to GGWC. We look forward to many years driving to support GGWC. To learn more about Montana Import Group's stewardship commitment, go to www.montanaimportgroup.com.

Columbine Culberg is the Director of Environmental & Community Affairs for Montana Import Group.

Cumulative Impacts from Disposal of Treated Wastewater

By Alan English

In 2008 and 2009 the Gallatin Local Water Quality District (GLWQD), in cooperation with the Montana Bureau of Mines and Geology, completed a study to determine the levels of pharmaceuticals and personal care products (PPCP) in ground water and surface water in Gallatin County. This project also included sampling raw and treated wastewater from eight different wastewater treatment plants. The PPCP study was followed by another study in 2009 and 2010, to assess the current status of wastewater treatment and disposal in the County. This wastewater assessment project focused on mapping the locations of all known individual septic systems and public sewage

systems using GIS software, and initial development of a database that includes discharge-volume estimates for each system. Starting in May 2011, the GLWQD will begin a study to determine if cumulative impacts to water resources can be documented using historical water quality data and collecting water quality samples. This study, funded by DEQ 319 grant, will build on the previous studies of wastewater disposal in Gallatin County.

For more information on the previously completed studies, or the upcoming cumulative impacts study, contact the GLWQD at 582-3148.

Alan English is the Manager of the Gallatin Local Water Quality Dept.

Kids Korner



Photo Courtesy of Kristin Gardener

Did you know that North American River Otters live in the Gallatin River?



These two were spotted playing in the river near Yellowstone National Park!

Tom is a Westslope Cutthroat Trout, the only native trout in the Gallatin watershed.

Road Decommissioning in the Gallatin Watershed

By Mark Story

The Gallatin NF Travel Plan, completed in 2006, has resulted in considerable emphasis on road decommissioning. The Travel Plan analysis concluded that many National Forest roads in the Gallatin watershed were not needed for foreseeable resource management or recreation access. Gallatin NF road funds are insufficient to maintain the entire network of NF roads in the Gallatin watershed to proper best management practice (BMP) standards. Most of the excess roads in the Gallatin watershed were constructed in the 1960's to early 1980's when forest harvesting techniques were much more road intensive than current methods. In 2000, the Big Sky Lumber (BSL) land exchange transferred 51 mile² roaded sections of land from private to National Forest ownership. Many of the acquired lands contained a network of roads which had erosion and water quality issues. In addition, in recent years a proliferation of unauthorized user made routes, mostly from ATV's, have added to motorized route density and increased water quality impacts.

Roads are linear landscape features that intercept both surface and shallow groundwater and can accelerate watershed storm water discharge response, increase erosion and sediment delivery to streams, and degrade water quality. The adverse impacts of mountain roads on water quality in forest environments are well established in watershed research literature. Road decommissioning can disconnect roads from stream networks and reduce or eliminate adverse road watershed effects.

The Legacy Roads and Trails program was the primary funding

source for 74 miles of road decommissioning in the Gallatin watershed in the Hyalite, Big Bear/Little Bear, Storm Castle, Moose, and Portal Creek drainages in 2010. In 2011 about 40 miles of roads in the Bridger range will be decommissioned many of which are in the NE part of the Gallatin watershed. In addition to the Gallatin watershed, major areas of road decommissioning on the Gallatin NF include the upper Shields River drainage in 2009 and 2010 (23 miles), Bangtail range (63 miles 2006-2008), Hegben basin (36 miles 2009), Mill Creek south of Livingston in 2011 (26 miles), and in 2011 about 30 miles in the east side of the Gallatin range in the Yellowstone River drainage.

A broad range of road decommissioning techniques have been used in the Gallatin watershed to manage motorized use while reducing soil erosion and sediment delivery to streams. Many road segments have simply been closed with tree slash on 100-500' lengths. In other areas rock barricades or buck and pole fences have been effective. Where erosion is significant, roads are ripped with asphalt dozer rippers, culverts removed, water barred, seeded, and slashed. The most intensive decommissioning treatment restores hillslope topography and drainage patterns, effectively erasing roads from the landscape. To achieve this, an excavator pulls road fill slopes back up against road cut slopes. Additional recontouring procedures include culvert removal with heavy seeding and mulching or slashing to accelerate vegetative and visual recovery. Road decommissioning in the Gallatin watershed have been accompanied with waterbar and culvert cleaning on open roads.

Road decommissioning is inherently complex and often controversial. Road access needs for cross country skiing, hiking, horse riding, and range allotments still need to be provided. Future access needs for weed



Recontoured road and stream crossing in the Leverich Creek drainage. Work completed 2008, photo USFS (2009).

treatments, fuel projects, timber sales, and wildfire suppression, reforestation, and multiple other road needs are also considered prior to decommissioning.

The Gallatin NF has collaborated with Forest Service Research programs in Boise, MSU Land Resources and Environmental Sciences Department, Montana DEQ, conservation groups, and conducted project implementation monitoring reviews. The general consensus has been that recent road decommissioning treatments have produced substantial water quality benefits. Incremental erosion and sedimentation from decommissioning treatments has been minimal. The overall benefits of the road decommissioning to Gallatin River watershed water quality are substantial. Sediment modeling of completed Gallatin watershed road decommissioning estimates an approximate reduction of 22 tons of sediment/year at the Forest boundary.

The Gallatin NF is nearing the completion of large scale road decommissioning projects. Future work will focus decommissioning maintenance, new trailhead and ATV route construction, and BMP improvements on open roads.

Mark Story is a hydrologist for the Gallatin National Forest, Bozeman, MT

Quotable Quotes

"Water is the driver of nature."

- Leonardo Da Vinci

Gallatin Conservation District News

By Marcie Murnion

This year the Gallatin CD entered into an agreement for \$47,000 with the Extension Service to sponsor small acreage assistance for Gallatin County landowners. Michelle Passmore was hired by Extension to provide this service in 2011. Michelle is able to assist landowners with a variety of topics and on a watershed basis includes irrigation efficiency, riparian vegetation and weeds, and overall water conservation. Michelle can be reached at 209-2180.

Another project funded by the CD in the amount of \$15,650 is through the Northern Rocky Mountain RC&D, who will contract the services of the Gallatin/Big Sky Noxious Weed Committee. The Committee hired Jennifer Mohler as their coordinator and Jen will assist landowners with weed management along the Gallatin corridor. Noxious weeds have a tremendous

negative impact on our watershed and the Committee has been working several years to manage weeds from Four Corners to Big Sky. Jennifer can be reached at 209-0905.

The GGWC is also a recipient of \$10,000 for educational and watershed efforts for 2011. The CD looks forward to some great projects with GGWC this year.

The CD has been busy with many small in-house projects and educational outreach programs. We hope to host a weed pull this spring and are always sourcing volunteers.

If you are interested in volunteering or have ideas for collaborative projects, please contact the office at 522-4011. For additional information on the Gallatin CD please visit: www.gallatincd.mt.nacdn.net

Marcie Murnion, is the District Administrator for the Gallatin Conservation District, Bozeman, MT.

Mark your
Calendar!

5k or 10k
May 28, 2011



www.runfortherivers.com

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Montana Import Group
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Poetic Water Reflections

An Exhibit Celebrating
Water in the Gallatin
Watershed

by Loretta Domaszewki
May-June, 2011
Atrium Gallery,
Bozeman Public Library
www.LorettaFineArts.com



Greater Gallatin Watershed Council
PO Box 751
Bozeman, MT 59771-0751

We Need Your Support! For more information on how you can donate to help us enhance the Gallatin Watershed, please contact the GGWC Coordinator, info@greatergallatin.org!