SAN MIGUEL WATERSHED CONNECTION-SUMMER 2009, Volume 20

This edition of the Watershed Connection serves as the 2009 update to the San Miguel Watershed Ecological Health Report Card, issued in 2005. It provides information on watershed health in 2008, and upcoming watershed management activities for field season 2009. The updates are arranged according to report card categories: Climate Change, Water, Wildlife, Vegetation, and Soils. Additional information is supplied on open space, resource and recreation management activities, education, and sustainability.

CLIMATE CHANGE

TELLURIDE RENEWED

During May the governments of Telluride, Mountain Village, Norwood, Ophir and San Miguel County each adopted Governor Ritter's challenging Climate Action Goal of a 20% reduction in Greenhouse Gas emissions by 2020. But we, the mayors of Telluride and Mountain Village, believe we can do much more.

We are privileged to live in one of the most beautiful places on Earth. With privilege comes responsibility. As a nation we represent 5% of the world's population, yet we use 30% of the world's energy resources. Telluride and Mountain Village represent approximately 29% of San Miguel Power Association's membership, yet we use 50% of the kilowatt hours they distribute. Our economy depends on availability, reliability, and sufficiency of power. As a community, we're quick to vilify our power suppliers for spewing coal-fired carbon into the atmosphere, yet we still expect power to be there when we flip the switch. It's time to step up to our true responsibility. We believe that the continued growth of CO2 in our atmosphere will have unpredictable and possibly profoundly negative impacts on our local watershed. The problem is of our own making, so we must be part of the solution – NOW.

Therefore, as mayors of Telluride and Mountain Village we are issuing a Mayoral Challenge to our community to have 100% of the electricity used in the Telluride/MV region provided by renewable energy sources by 2020, in addition to our commitment to reduce Greenhouse Gases by 20%. Many businesses and some towns purchase 100% renewable energy through offsets and utility programs. We want to trim our energy appetite AND create NEW renewable generation, not just purchase what already exists.

We are announcing the creation of Telluride Renewed (Telluride/Mountain Village Regional Renewable Energy Initiative) to achieve this goal. All stakeholders are welcome to join us in this initiative. We are confident that win/win, cooperative solutions are achievable. We hope all watershed citizens and our Town Councils will support us in this effort. We invite San Miguel County and other regional governments to join us. We would welcome the San Miguel Power Association and Tri State enerating/Transmission Company to the table. Local businesses, especially Telluride Ski and Golf must be partners. We will also look to Denver and the Governor's Energy Office, Washington, and the global community for help. We know our regional community is capable of great things. Success will require a broad range of tactics and a broad coalition of partners. Local governments will look to The New Community Coalition to provide coordination as we create specific action plans that support the regional process. To be successful, we must make aggressive energy efficiency improvements to residential, commercial and municipal infrastructure. We must identify and develop local renewable energy

generation assets - including hydro, biomass, solar thermal and solar PV. We must look into direct ownership of grid-scale wind and/or concentrating solar generation assets within our region and beyond.
The goal is challenging, but we believe achievable. We will use our effort as a model for other communities seeking to make similar changes. Let us continue the good work we've started. Let's ramp it up. We owe it to ourselves. We owe it to our children. We owe it to the future. Contacts: Stu Fraser-Mayor, Telluride sfraser@roadrunner.com 970-728-0136, Bob Delves-Mayor, Mountain Village rhdelves@aol.com 970-708-4047, Kris Holstrom-Executive Director, TNCC coordinator.tncc@gmail.com , 970-728-1340

COUNTY EFFORTS
SMC has signed on to Colorado Governor Bill Ritter's Clean Energy Initiative whereby we commit that by 2020 we will reduce emissions of greenhouse gases by 20 % below 2005 levels. How to do this is the challenge, but steps are being taken to audit our emissions sources, address efficiency, create infrastructure to make renewable energy sources realistic and to increase conservation efforts. With support from TNCC and local partners, we feel we can meet and surpass this goal. By Joan May, SMC Commissioner

DUSTY SNOW
During the past several winters, and most dramatically in winter/spring 08/09, desert dust blown from the greater Colorado Plateau region of northern New Mexico, northeastern Arizona, and southeastern Utah has been widely observed both in the atmosphere and covering the snowpack surface throughout Colorado. Anecdotal and other physical evidence indicate that dust-on-snow has occurred since settlement of the region yet, until spring 2007, snowmelt forecasting programs and Colorado water managers had neither received data regarding dust in mountain snowpacks nor made any attempt to estimate effects of dust-on-snow on snowmelt timing, intensity, or duration. Recent research at the Senator Beck Basin Study Area at Red Mountain Pass, operated by the Center for Snow and Avalanche Studies of Silverton, has shown that dust in the snowpack has reduced snowcover duration by as much as 3 to 5 weeks and resulted in the snowpack melting one month earlier, given the same weather, than in the absence of dust in the snowpack. Following a statewide dust-on-snow event on 2/15/06, water managers around the State experienced an unusually early and short snowmelt runoff in spring 2006. The research findings helped them understand why, challenging the conventional wisdom that snowmelt is driven, primarily, by warm air temperatures. More recently, the frequency and intensity of western Colorado dust storms during late winter and spring 2008/09 has raised concerns about the extent of these dust-on-snow events, the impacts of dust on local and regional air quality, and on recreation, agriculture, and water supplies.
Chris Landry, Executive Director of the CSAS and program manager for the Colorado Dust-on-Snow program, described important hydrologic findings regarding how altering snowmelt timing is influencing local-scale energy balance and ecology in the western San Juan Mountains, the history of dust deposition in the western San Juans, quantities of dust deposition and how winter 2008/09 set a new benchmark for dust deposition locally and statewide, how dust-influenced snowmelt and spring 2009 runoff has progressed in the San Miguel and Dolores River drainages, and how water managers throughout Colorado are now incorporating dust-on-snow information provided by CODOS into their water

management strategies, at the spring watershed coalition meeting. By Chris Landry, clandry@snowstudies.org

MSI Climate Change Studies

The San Juan Climate Initiative (SJCI) is a grassroots stakeholder and scientist-driven effort to assess existing and potential threats caused by climate change, and develop strategies to prepare for the effects of climate change on ecosystems and society. A premise of the Initiative is that even if greenhouse gas emissions are lowered, a significant amount of climate change will still occur this century. Furthermore, significant warming has already been observed. Currently, the rate of global greenhouse gas emissions is accelerating. Developing adaptation strategies for managing natural resources in a warmer future is prudent. While the focus is preparedness, these efforts also seek to include strategies that incorporate mitigation (i.e., lowering of greenhouse gas emissions or sequestering carbon) into natural resource management. Since MSI's Climate Change and Variability Conference held in October 2006, MSI has been providing information on climate change and preparedness planning. Five scientific investigations fill information gaps, while meetings, workshops, and the forthcoming San Juan Climate Change Report and outreach booklet provide tools for stakeholders to use in climate preparedness planning. The report and outreach booklet will summarize the best information available about observed and projected future changes to climate, natural resources, and public health. By Koren Nydick, MSI

MSI Historical Climate Trends Study

Imtiaz Rangwala explored the question of climate change in the San Juan Mountains to date with an MSI mini-grant. Imtiaz used long-term records from 20 National Weather Service (NWS) stations and more recent records from 26 Natural Resource Conservation Service SNOTEL stations throughout the San Juans. Instead of looking at the trend at any one station, which is more likely to be affected by site-specific variability and error, he brought together multiple station data for a regional assessment. He looked at air temperature, snowfall, snowpack, monsoonal precipitation, and stream flow. One result is that a period of abrupt warming (0.62 degrees C per decade) was observed in the San Juans between 1990 and 2005. However, the Telluride climate station actually showed some cooling over this period. The overall rate of average warming across the San Juan region during this time period was higher than anywhere in the US except Alaska. This abrupt warming is also observed regionally in SNOTEL data for the San Juans, and unlike any other decade since 1900 this warming was ubiquitous at all resolutions: daily average, maximum, minimum and seasonal temperatures. From 1995 to 2005 SNOTEL sites show a more prominent warming during spring and summer while NWS sites show a greater warming during winter. This discrepancy appears to be related to site elevation, which influences timing of snowmelt. The SNOTEL sites are about 2,500' higher than the NWS sites and experience most snowmelt later in the year than the NWS sites. Most stations show some degree of warming and several show temperature increases above average. Imtiaz will publish results soon. By Koren Nydick, MSI

WATER

SNOWPACK STATISTICS

October 1, the first day of the water year, is the official start of winter for water planning purposes In December Telluride's weather recording station (at the sewer plant near Society Turn), posted 3.50" of melted equivalent, greater even than January 2008's 3.09". With a lean first quarter and average April and May, regional winter precipitation was a little less than average, only about 5% less than last year. Telluride's wettest (calendar) year was 1938 with 44" of water; the driest 1925 at 12.38." Another dry year was 1954 at 13.99." The six years ending in 2008 have been about average (21.53")

The big watershed news of the winter was dirt! Dirty storms early in the winter went largely unnoticed, but during March's melt dirt was surfacing, only to be followed by an astounding succession of dust and dirty snow events. In low elevations like Grand Junction and Moab, some rainstorms were brown. The previous winter was dirty as well, and with drought still deeply entrenched in much of the Southwest, land suffering from generations of abuse will send us many more dirty winter storms.

Measuring river flows is an art and a science. Flows are calculated by taking a series of measurements at river Gauging stations, such as on the San Miguel in Telluride and just below Specie Creek (below Placerville). Stations consist of a stream gauge, a vertical ruler to visually measure the state, and a tower. Inside the tower are instruments such as a float gauge to physically record the river stage and transmitters to send reports by satellite available on the web. The stream gage is marked in feet. At varied stages, a technician wades the stream, lowers a flow meter into the water, and records water velocity at 20 points in a profile, seeking a representative sample of stream flow. Larger rivers have a cable car for the tech to ride in rather than wade a deep, swift stream. Their measurements of depth and velocity are laid out on a curve to extract cubic feet per second (CFS) based on river stage.

The dirtier snow pack and warmer temperatures than 2008 resulted in swift and intense snowmelt, moving the San Miguel's peak (as measured near Placerville) earlier than last year's June 20 peak of 1720 CFS to 2145 CFS on 5/18/09.

At the Brooks Bridge gauge, which includes Horsefly Creek, the San Miguel flowed 1813 CFS on April 22 and 1740 CFS on May 16. The Brooks Bridge peak last year was 1715 CFS on May 18. The reported record available on the web starts later at Brooks Bridge, starting in 1995 with the highest reported flow4/24/98 3290 CFS..

For this summer, expect flows to rapidly decrease, with less than 200 CFS most of July and August. Summer showers could push it up over 800 briefly.

As measured by the Placerville gauging station, the biggest flow on the San Miguel was 3830 CFS on 6/24/83, with the exception of 9/5/1909, when the Trout Lake dam failed catastrophically. References: NRCS Snotel reports ftp://ftp.wcc.nrcs.usda.gov/data/snow/update/co.txt How streamflow is measured http://ga.water.usgs.gov/edu/measureflow.html Colorado Real Time Data http://waterdata.usgs.gov/co/nwis/current/?type=flow By Jerry Greene

COLORADO WATER TRUST UPDATE

The 2009 Legislative session closed 5/7/09 with unexpected and notable achievements for instream flows and Colorado waterways. Two bills passed that represent significant steps to build on achievements of the 2008 legislative session, and provide more tools for restoring and protecting Colorado streamflows. House Bill 1067 provides a tax credit

similar to that available for land conservation transactions, specifying that CWCB will issue credit certificates to owners of water rights who donate those rights to CWCB for use as instream flow rights. The maximum value of the credit is limited to equal to or less than one half of the value of the water right. The aggregate sum of the credits allocated annually will be limited to $2 million. Colorado Water Trust provided support for this bill and is pleased it passed. Additional legislation provides funding for important wildlife habitat protection through grant programs at CDOW, and an allocation for additional funding to CWCB for acquisition of instream flows. From Co.Water Trust e-newsletter

STATUS OF AMES HYDDROELECTRIC FERC LICENSE

The USFS, BLM, CDOW, San Juan Citizens Alliance and Southwest Water District continue to work in a collaborative fashion with Public Service company of Co., the license holder, with the intent of coming to an agreement on future operations for the more than 100 year old hydroelectric generation facility located in the South Fork of the San Miguel watershed. On 6/26/08, Public Service filed a license application to continue to operate the 3.5 megawatt Ames hydro plant located in San Miguel County, about 6 miles south of Telluride. The Ames Project currently occupies 99 acres of the Uncompahgre National Forest. The Federal Energy Regulatory commission (FERC) issued its draft Environmental Analysis for decisions relative to the re-issuance of a federal license on 5/1/09. Comments on the EA were due within 45 days of 5/1/2009. Operational affects to stream flows in the bypass reach of the Lake Fork and on the South Fork of the San Miguel below the powerhouse, along with winter icing effects to both the South Fork San Miguel and San Miguel River are the resource issues getting the most attention. The USFS filed preliminary 4(e) conditions with FERC in December 2008, addressing the icing and stream flow issues. Final 4 (e) conditions are scheduled to be filed by the USFS in August 2009. These conditions may be modified based upon new information or may be identical to those previously submitted. Stakeholders are continuing to meet with the licensee to explore opportunities for agreement on future operations. FERC's final environmental analysis for this project is scheduled for release in October 2009. According to the current schedule the Federal Hydropower license will be issued in June 2010. By John Almy, Forest Hydrologist, GMUG NF

EXPANDED COOPERATION FOR HOWARD FORK CLEANUP

The EPA has selected the Howard Fork in Ophir Valley as one of a handful of "mixed ownership" sites in Colorado to receive technical assistance and funding through the EPA's "federal facilities" program. In 2009 this program will provide: Funding and technical assistance to the USFS to evaluate cleanup alternatives for the Carribeau adit, downstream and west of Ophir; Funding and technical assistance to Colorado Division of Reclamation, Mining and Safety (DRMS) and CDPHE to cooperate with private landowners to evaluate mining-related problems on privately owned sites; Funding and technical assistance to remove mill tailings and reclaim the North Star Millsite, located on private property; Technical assistance, lab costs, and assistance from USGS to sample water quality from the Howard Fork and key tributaries, and from selected groundwater wells; and funding through the USFS to TLR to continue to facilitate local stakeholder involvement, landowner outreach, and community education.

In addition to the USFS funding noted above, TLR also received funding from the Town of Ophir, the Telluride Foundation and San Miguel County as match to allow TLR to enter into a participating agreement with USFS to hire and manage sub-contractors performing work at the above-mentioned Carribeau adit, and to hire SMWC's Leigh Sullivan to periodically sample several problem sites within the basin.

Funding to help analyze and cleanup abandoned mines in the Howard Fork drainage fits EPA's federal facilities program well as most of the problem sites are "mixed ownership" sites, meaning portions of the sites are privately-owned, patented mining claims, surrounded by public lands administered by the USFS.

One such mixed-ownership site is known as the Carbonero Tailings, just east of the Town of Ophir, adjacent to the Howard Fork. Between 1924 and 1930, mill tailings from the Carbonero Mine and the North Star Mill were deposited here. Most of the site is now on USFS land, but some of the tailings spill onto the Ferric Oxide Placer Claim, a 21-acre patented inholding. The Town of Ophir purchased the Ferric Oxide in 2006 to preserve its open space values, and help expedite the cleanup of the Carbonero Tailings by the USFS, who continues to make progress toward the consolidation and cleanup of the site. In 2006, USFS secured $600,000, went to bid and hired Millennial Science and Engineering (MSE) consultants based in Salt Lake City to design and build the site reclamation. MSE began its first comprehensive site evaluation in 2007, and installed groundwater-monitoring wells in 2008. MSE is finalizing the design, and expects to begin moving dirt during the 2009 field season. Linda Lanham of the USFS GMUG Supervisors Office is working with Norwood District Ranger Judy Schutza to oversee the USFS effort along the Howard Fork. Jean Mackenzie and Mike Wireman are leading the EPA effort. Camille Price and Bruce Stover are representing DRMS. Mark Rudolph represents CDPHE, Leigh Sullivan represents SMWC, and Pat Willits represents TLR.

Improving water quality by cleaning and reclaiming abandoned mines in the Howard Fork was one of five top priority recommendations of the 2001 *San Miguel River Restoration Assessment*. This assessment was funded by a grant to San Miguel County by EPA, and was a cooperative effort of SMWC, TNC, San Miguel County, TLR, and USGS. The goals of this assessment were to: Identify elements of biodiversity, their condition, and the ecological and hydrological processes that sustain them; and Identify and prioritize restoration reaches and activities that will help restore and maintain those elements and processes. The *San Miguel River Restoration Assessment* is available at Telluride's Wilkinson Library, and the Norwood and Naturita libraries. A text-only version is available on-line at www.restorationtrust.org/Rest-Assess_summ.pdf.

Shortly after release of the *San Miguel River Restoration Assessment,* the San Miguel Watershed Coalition and TLR hosted the *Howard Fork Roundtable*, a meeting of landowners, community members, local government, state and federal agencies. The roundtable ultimately recognized three sites as the highest priorities for cleanup and reclamation to improve overall water quality in the Howard Fork: The Carribeau Mine and Millsite, a mixed-ownership site, west of Ophir; The Carbonero Mine, on private property, two miles northeast of Ophir; and The Carbonero Tailings, the mixed-ownership site mentioned above, just east of Ophir. For more information about cleanup and reclamation of abandoned mines in general, or in Ophir Valley in particular, contact TLR in Ridgway at 970-626-3236, or at www.restorationtrust.org. By Pat Willits, TLR

SOUTHWESTERN WATER CONSERVATION DISTRICT

The Southwestern Water Conservation District, SWCD was created by the State of Colorado legislature on 4/16/1941 to: "Survey existing water resources and basin rivers, take actions necessary to secure and insure an adequate supply of water, present and future, construct water reservoirs, enter into contracts with other water agencies, organize special assessment districts, (water conservancy districts), and provide for instream flows for fisheries."

The SWCD Board of Directors is appointed by county commissioners from nine SW Colorado counties in the San Juan and Dolores river basins, including San Miguel and Dolores and serve three year terms. The District is funded through a mill levy, $2 for every $100 of assessed value throughout the entire district on real property.

SWCD works collaboratively with the Colorado River Water Conservation District (CRWCD), municipalities, counties and other conservancy districts. SWCD and CRWCD are currently working together on a water banking concept to protect senior Colorado water rights in case of a call on the river by lower basin states. SWCD continues its support of the Animas Stakeholders Group, which in 2007 received a "Regional Partnership of the Year" award from the Regional Forester. They actively support the Animas River Nutrient Working Group and the Rio Blanco Restoration Project. SWCD staff is assisting with the Uravan water rights discussion, and Mr. John Porter, SWCD President, is very involved with the Dolores River Dialogue (a group attempting to gain consensus on what is needed to enhance the Dolores River below McPhee Dam). SWCD has long participated in a cost share agreement with USGS for local stream gauges, and supports an ongoing weather modification program. In response to continuing drought, SWCD entered into an agreement with the Lower Basin States to extend the cloud seeding period in SW Colorado, in order to help satisfy the Secretary of the Interior's wish that more active water conservation programs be initiated in the Colorado River Basin. The District participates in the San Juan Basin Recovery Implementation Program that works to ensure protection of endangered fish species. A new steering committee, the River Protection Workgroup, a collaboration of governmental and public entities including SWCD, is working with the public to research and identify applicable uses and values for many of the streams/rivers in the District to determine an appropriate protection designation and still allow future water development.

SWCD also makes loans and grants to ensure that water is best put to beneficial use. In 2008/09, SWCD financially supported San Miguel Watershed Coalition water quality monitoring, the Center for Snow & Avalanche Studies' Dust on Snow Research, the Dolores Conservation District's Tamarisk Control, Lake Durango Water Company, and the Mancos Conservation District's Watershed Improvement.

Every year, SWCD sponsors a water seminar in early April and the annual Children's Water Festival, an ongoing educational experience for area fifth graders. SWCD is the primary sponsor of the Water Information Program (WIP), which serves the entire District in distributing important and current water conservation materials via an on-line newsletter. In addition, SWCD staff and directors participate on a statewide level with all water-related conferences and workshops. Bruce Whitehead, Executive Director, serves on the statewide Colorado Water Conservation Board, representing southwestern Colorado and was recently appointed as an Engineer Advisor to the Upper Colorado River Commission, which deals with Colorado River Compact issues. Bruce Whitehead,

Executive Director and Jane Maxson, Office Manager, can be reached at (970) 247-1302. By April Montgomery, SWCD Director, SMC

IDARADO TELLURIDE REMEDIATION PROJECT UPDATE

Success of the Idarado mine remediation in the San Miguel Watershed is determined by a 50% reduction in zinc concentrations in the San Miguel River, and adequate vegetative cover on the tailings piles. Idarado's revegetation of the Telluride Tailings piles, and remediation work in Marshall, Savage and Black Bear basins, and at the Meldrum and Mill Level tunnels, has resulted in reaching the Idarado Consent Decree's performance objective of a 50% reduction of total zinc concentrations in the San Miguel River. In 2008, the 52-week annual average total zinc concentration in the San Miguel was 0.34 mg/l, whereas in 2007 it was 0.305 mg/l, just above the water quality performance objective of 0.336 mg/l.

Irrigation of the Telluride Tailings piles occurred in June 2008 due to dry conditions. Vegetative cover is measured annually, and in 2008 exceeded the requirements specified in the Consent Decree. Sampling of the Telluride tailings piles during the 9th and 10 growing seasons following cessation of irrigation and fertilization will determine if Idarado has been successful in meeting the performance objectives specified in the Consent Decree. Idarado will fertilize the tailings during summer 2009. Irrigation will occur if precipitation is below average from March through September. A weed management plan will be implemented to control weeds found on the property. Areas with low vegetative cover will have 12-18" of soil added and then revegetated with the seed mix specified in the RAP.

Society Turn Tailings pile number 1, included in the purchase of the Valley Floor by the Town of Telluride, will be remediated by Idarado, and overseen by CDPHE, according to the plan specified in the RAP: tailings will be amended with limestone, covered with 12" of soil and revegetated. Preliminary site inspections, site access determination and administrative requirements will be addressed in 2009, with remediation to occur in a subsequent year. By Camille Price, CDPHE

Risk Study of Debris Flows & Flooding on Cornet Creek

The Town of Telluride rests on the alluvial fan of Cornet Creek. The creek's watershed is approximately 2.4 square miles in high mountainous terrain. The upper portion of the watershed can contribute heavily to rock and mud flows during intensive precipitation. The lower portion below Cornet Creek Falls also has a substantial amount of loose material available for transport. Since Telluride was established, two of the most destructive mud and debris flows occurred during the floods of 7/27/1914 and 8/1/1969. Both events were caused by heavy rainfall preceded by a period of wet weather. Old mudflow debris along the Cornet Creek channel indicates that much larger floods occurred before Telluride was built. Due to this significant hazard, 13 studies of Cornet Creek have been completed.

In October 2007, Dr. Mike Harvey (Mussetter Engineering) met with Telluride Town Council to discuss conclusions of the *Cornet Creek Drainage Maintenance and Flood Mitigation Stud, which* provided specific instruction to Town Staff about creek channel cleaning and preliminary information about state-of-the-art flood warning systems.

Objectives of the 2008 follow-up study—the *Cornet Creek Watershed and Alluvial Fan Debris-flow Analysis*—were to: estimate the magnitude of potential debris-flow events originating from the Cornet Creek watershed; delineate the approximate extent of the debris-flow hazard area, and potential deposition depths and velocities along the Cornet Creek alluvial fan within the Town; provide more detail about potential debris-flow mitigation measures and installation of early-warning systems.

The 2008 study found that most of the Town of Telluride is at risk from a major debris flow, depending on the magnitude and specific dynamic circumstances of the event. MEI evaluated hazard management techniques successful in mitigating debris flow threats globally and their possible application in Telluride. MEI found that an early-warning decision support system that uses available information, accumulation of debris source material, and meteorological monitoring to provide community hazard watches or warnings may reduce the risk to public safety. They also found that flexible structural measures might mitigate the impact of moderate but not large-sized debris flows.

In 2008, Telluride Public Works spent approximately $1.1 million to improve flood flow capacity within the Cornet Creek channel as designed by MEI's 2007 Study, decreasing the risk of flooding from smaller, frequent high-flow events to adjacent properties. Tasks included removal of over 80 trees encroaching into the corridor, replacement of Dakota Culvert with a Bridge and channel repair/restoration upstream of Dakota, channel clean out downstream of Dakota Bridge to the westward turn, bank repair and debris removal at Townsend Bridge, channel clean out along 500 Block West Galena Ave. to Columbia Ave. Bridge, placement of Streetscape Improvements along the East ½ 500 Block W. Galena Ave, clean out of debris under Columbia Bridge and sediment removal from Columbia Bridge to the footbridge at Davis St., and finally, removal of sediment from the channel and culverts from Colorado Ave. to the San Miguel River confluence.

In 2009, the Town intends to complete channel work immediately upstream and downstream from the new Dakota Bridge; perfect channel work from Townsend St.to Columbia Ave., remove accumulated sediment along the segment from Columbia to Pacific; clean out sediment under the Columbia and Colorado bridges; and conduct future planning at the staff level and with local emergency response organizations.

Long-term legal and planning issues need to be identified, discussed, and analyzed over the next two years to ensure a viable long-term strategy for managing the creek channel and its environs to minimize the risk of flooding and loss of property and life. This strategy will require numerous neighborhood meetings to discuss risks posed to persons and property immediately along the creek and to ascertain potential new approaches acceptable to the affected community. All engineering and social strategies pursued must be coordinated closely with emergency response agencies/organizations to help optimize their capabilities and resources when a flood or mudflow event occurs. Following are the elements of flood risk reduction, from the National Hydrologic Warning Council Conference, 2009: Initial Risk-Insurance-Zoning-Structures-Contingency/response plans-Outreach/education-Residual risk. By Karen Guglielmone, Telluride Public Works

CORNET CREEK RESTORATION EFFORTS

An intensive bank stabilization project is underway on Coronet Creek in Telluride just upstream of Dakota Ave. Bridge. Downstream of the bridge, the stream gradient decreases. Upstream of the bridge, with steeper gradient, a house on the west side of the

channel is subject to stream erosion. This reach experiences significant velocity and is where the culvert plugged during the 2007 flood event. During that flood, an instream feature built in 2006 by Western Stream Works (WSW) protected this house from significant property damage. Now WSW is restoring the entire upstream reach using natural channel design principles to protect the property from excessive erosion. Information gained from work that was successful during the 2007 flood event was applied to the new design. Additionally, a gradient drop was established throughout the reach based on Mussetter Engineering's flood mitigation report for the Town of Telluride. During spring 2009 peak-flow events, the instream work completed thus far functioned as designed. The new channel design increases sinuosity, widens the channel profile and acts to roll the stream's erosive power center-channel away from buildings. The effort to meet the objectives of the Town and to protect property continues, while maintaining Coronet Creek's natural features. By Bill Coughlin, WSW

ADDITIONAL SILVERBELL MINE RECLAMATION

Additional reclamation work was completed during summer 2008 to further improve water quality at the Silverbell Mine Tailings prior to discharge into the Howard Fork of the San Miguel River. A treatment settling pond and wetland were designed by Montgomery-Watson (MWH) and built by Western Stream Works (WSW). These features occur within Limestone Bays to increase iron hydroxide deposition prior to discharge. Erosion Logs and Silt Fence with additional limestone was added down-gradient to further increase retention time. Alluvium from Coronet Creek flood mitigation was utilized to create clean berm material. Cooperation between mitigation projects created a valuable cost savings and a precedent for collaboration and material transfer between environmental projects. An additional treatability study performed by WSW is being analyzed by MWH to see if mixing alkaline pore water and anoxic limestone drain water will reduce dissolved iron concentrations and increase alkalinity. If so discharge entering the treatment wetland will maintain a neutral pH. By Bill Coughlin,WSW

SOUTHWEST BASIN ROUNDTABLE

The Southwest Basin Roundtable, which includes the San Miguel River basin, took a critical step in fulfilling one of the principal mandates of what is known as the IBCC (Interbasin Compact Committee) process. Nine basin roundtables were created by Colorado House Bill 1177 in 2005, to help foster communications between and within the state's water basins. The principal legislative charge to the roundtables was to determine each basin's consumptive and non-consumptive water needs to 2050.

For the first time, non-consumptive needs such as recreation, wildlife and environmental needs were required to be considered alongside traditional consumptive uses such as domestic, municipal, industrial and irrigation uses.

The Southwest Basin Roundtable initiated a public process to provide input into the nonconsumptive needs assessment (NCNA). The word "nonconsumptive" evolves from the fact that fishing, boating, and aquatic organisms need water, but do not consume that water, and leave it for uses further downstream. The NCNA is a legislatively funded and mandated process by which each of the nine roundtables across the state identify where the aquatic dependent environmental and recreational values are in the basin, quantify the amount of water needed to support those values, and determine strategies to support those

values at the levels identified. This third step is to be done in conjunction with consumptive needs.

To accomplish the first stage, identification of values, four meetings were conducted in Pagosa Springs, Telluride, Cortez, and Durango in early February to obtain information on areas of rivers that have important non-consumptive values. The meeting held in Telluride drew the highest attendance of the four meetings and resulted in pages of on-the-ground insight and comments. Overall more than 100 people attended, providing 326 comments. All comments were associated with the twelve maps provided, identifying threatened, endangered, and species of special concern; boating areas; fishing areas; stretches important for waterfowl viewing and hunting. The comments were compiled in a spreadsheet and reviewed by the roundtable subcommittee. Many comments were extremely helpful such as more reaches with important boating or fishing, or the addition of another species such as the Southwestern Willow Flycatcher. The changes to each map were made and presented to the subcommittee for review.

The next step will be to incorporate the comments into GIS mapping layers to highlight important river reaches. After that, the contentious process of quantifying river flows to support these non-consumptive uses will begin. The roundtable will again be looking for input when we begin quantification. The results of any quantification are expected to be included in the Colorado River Water Availability Study, so that tensions between needs and water available on that stretch can be identified. This will inform the strategies that will be considered to meet those needs. All strategies will be tracked along with consumptive (municipal, industrial, agricultural) projects in a shared database. The subcommittee intends to create a database of all public comments so they can be referenced on a map. CWCB would like to thank members of the public, basin roundtables, and various organizations who provided such valuable feedback which improved the mapping. By Jacob Bornstein, CWCB, and Jenny Russell, Member, Southwest Basins Roundtable; Former Member, IBCC; Water Attorney

RIVERBANK STABILIZATION

Late last fall you may have noticed the large boulder pile along the highway 1.5 miles west of Placerville, stockpiled for two years, slowly disappear over a two week period. With constant persistence funding was finally secured to use the rock to stabilize an eroding reach of the San Miguel River. During the late 1970's this reach of the San Miguel River was used as a source of gravel for San Miguel County. This activity destabilized the river channel, causing it to wander aimlessly across the valley bottom. Flowing water finds the path of least resistance to carve its channel. Unfortunately, in this case, the path of least resistance was the alluvial terrace along the highway and the highway fill slope itself. As the river attempted to replace the highway with a river channel, BLM and CDOT joined forces to stabilize the situation. I conducted the initial project survey and design, which included stabilizing the channel along the highway, replacing lost highway fill, ensuring boater navigability, and incorporating fish habitat features into the stabilizing structures as possible.

Project construction started 10/14/08 and was completed 10 days later. The construction contractor, Aqua Hab from Durango, did a great job working to get the most out of limited construction rock. My supervisor visited the site during construction with her parents, and her father actually hooked a nice fish in the upper V weir, while the lower V

weir was under construction. The V weir structures near the upper and lower ends of the project are purposely designed to sustain, low velocity- deep pools, a limited fish habitat on the San Miguel River. To get a feel for the scope of the project, you need to stop, park in the rock lined area, and take a walk along the river, as much of the work is out of sight from the highway. My hope is that the project fulfills its intended purpose of stabilizing the San Miguel River and protecting the highway, while providing scenic and recreational opportunities for many years to come. By Dennis Murphy, BLM Hydrologist Uncompahgre Field Office

SMWC MONITORING

SMWC has supported a tributary flow monitoring program since 1995. It has grown from measuring 15 to more than 30 tributaries. Flow levels are recorded monthly from May through October. During 2004, a monthly water quality monitoring program was initiated, with support from SMWC partners. Sampling for parameters of temperature, conductivity, ph, and dissolved oxygen are performed with a YSI water quality meter. In addition, SMWC is currently funding a Riverwatch program. The CDOW and the Co. Watershed Network support metals and nutrient sampling by schools and watershed groups statewide. Locally, SMWC monitors six stations on the Howard Fork monthly year-round to establish baseline data on metals impacting Howard Fork water quality. During summer 2008, a new alpine water quality monitoring program was initiated, with funding from SWCD. Water quality data was collected at approximately 100 high alpine locations, documenting the status of headwater tributaries. Data from these projects will be included in the new USGS website coming on line this summer, and on the SMWC website at sanmiguelwatershed.org. These projects are funded by many watershed partners, including USFS, BLM, Towns of Telluride, Mountain Village, and Ophir, San Miguel County, Telluride Foundation, SWCD. By Leigh Sullivan, River Ranger, 728-3204, lsullivan@mindspring.com

MSI MERCURY MONITORING :

In 2007, Mountain Studies Institute began studying mercury in rain and snow, lakes, and forest soils. Mercury is an emerging environmental health concern in the Four Corners area. It is a neurotoxin to humans and wildlife and becomes more concentrated as it is passed up the food web from plants to herbivores to predators. Mercury is a naturally occurring element in rocks and soil, but is emitted into the air by burning mercury-containing coal and waste products. Precipitation falling in Mesa Verde National Park has some of the highest mercury concentrations measured in the US. Many reservoirs in SW Colorado and NW New Mexico have fish consumption advisories due to bioaccumulation of mercury in game fish. One objective of the study was to determine the amount and concentration of mercury in precipitation falling at high altitude in SW Co. Findings of elevated concentrations of mercury in rain collected at Molas Pass convinced San Juan National Forest to install a long-term precipitation collector on Molas Pass to track mercury deposition in future years. MSI also measured mercury in zooplankton from 28 lakes and reservoirs. Zooplankton are small invertebrate animals that eat microscopic algae (aquatic plants) and serve as food for fish. Mercury in zooplankton varied a lot by lake. Seven lakes in the study, including Silver Lake and Woods Lake, recorded methyl mercury concentrations in zooplankton similar to or above

those recorded in Vallecito and Narraguinnep Reservoirs, which have fish consumption advisories. Zooplankton from three lakes near Molas Pass had methyl mercury concentrations above the level of concern for fish-eating mammals. The variability among lakes was not surprising because bioaccumulation of mercury depends on many factors in addition to the amount of airborne mercury deposition. However, it was surprising how high mercury concentrations were in some lakes. Additional study lakes in or near the San Miguel Watershed included Upper and Lower Blue Lakes (Sneffels), Blue Lake (Bridal Veil), Hope Lake, and Merimonte Reservoir.
MSI plans to use water quality and watershed measurements to identify what makes lakes and reservoirs in our region more or less susceptible to bioaccumulation of mercury. Lake sediments record a history of mercury accumulation as material is deposited on the lake bottom over time. MSI collected sediment cores from four mountain lakes and Vallecito Reservoir. The cores show that mercury input increased since pre-industrial times, peaked between 1960 and 1990, and then decreased or remained constant in the past two decades. The peak (in mercury input) is pretty consistent with when many coal-fired power plants came online in the western US. Recent declines are probably due to regulations enacted in the 1990's on mercury emissions from waste incinerators. Coal-fired power plants are the largest source of human-caused mercury emissions in the US, according to EPA. In 2009 MSI will begin a pilot study of mercury in wetland-dependent songbirds and fish in Mesa Verde NP and Molas Pass and also conduct "back trajectory" meteorological modeling to better understand where mercury comes from. Funding is from EPA, USFS, NPS, San Miguel County and Telluride Institute. For more info: http://www.mountainstudies.org/Research/Mercury.html. By Koren Nydick, MSI

MINING

OIL AND GAS LEASING/URANIUM MILL PROPOSAL

Nation-wide, BLM administers the leasing of minerals (including oil and gas) found beneath the 258 million acres of lands managed by BLM, and another 385 million acres whose surface is managed by other Federal agencies, including the USFS. Where oil and gas activities include USFS lands, the BLM and USFS share management responsibility. The Mineral Leasing Act of 1920, and the Mining and Minerals Policy Act of 1970 state that the Federal Government's policy for minerals resource management is to "foster and encourage private enterprise in the development of economically sound and stable industries, and in the orderly and economic development of domestic resources to help assure satisfaction of industrial, security, and environmental needs." There are numerous other laws and agency-specific regulations that guide the management of mineral resources, including oil and gas.
Development of onshore Federal oil and natural gas resources happens in five phases: Land Use Planning, Parcel Nominations and Lease Sales, Well Permitting and Development , Operations and Production, and Plugging and Reclamation
Each agency is required to identify lands that are open or available for oil and gas leasing in their respective land management plans: the BLM Uncompahgre Field Office's Resource Management Plan, and the GMUG National Forest Oil and Gas Leasing EIS and Record of Decision that amended the forest's Land and Resource Management Plan

in 1993. Identification of available lands considers geology, surface resources and overall management goals.

Industry nominates parcels of land it wants made available for sale. The agencies, by law, are required to respond to these nominations. Nominations are made to the BLM, Colorado State Office, who in turn distributes descriptions of the nominated lands (called oil and gas lease parcels) to the applicable BLM field office or USFS office. Teams of resource specialists, including wildlife biologists, mineral specialists, and archaeologists review the parcels for consistency with the land management plan and resource conditions, and attach stipulations to the lease for protection of surface resources. These are sent back to the BLM State Office to be included on a specific oil and gas lease sale. If the lease parcel includes national forest lands, the BLM cannot lease those lands over the objection of the USFS. Certain lease parcels may be deferred from sale for specific reasons, usually those requiring further review.

The BLM Co. State Office controls the oil and gas sale process, holding lease sales quarterly. Interested parties attend the sale and bid on specific lease parcels, with the lease going to the highest bidder.

Issuance of a lease does not authorize the leaseholder to start drilling activities. A lessee or designated operator must first submit an "Application for Permit to Drill" (APD) to the BLM for any exploration or production drilling. The APD has two parts, the drilling plan and the surface use plan of operations, or SUPO. BLM has the responsibility to approve the APD package as a whole; however if an APD involves USFS lands, the Forest Service is responsible for the SUPO. Processing an APD includes a required on-the-ground site inspection, review by various resource specialists, and disclosing the environmental effects of drilling in a document consistent with the National Environmental Policy Act (NEPA). During the review and NEPA process, agencies will identify protections or operating conditions called Conditions of Approval to attach to the APD when approved. A lessee or operator may also propose exploration or production operations in a Master Development Plan.

Once an APD is approved, a lessee/operator may conduct drilling operations. These may or may not result in a well capable of producing oil or gas. If a well is a producer, equipment may be placed on the well site that will lift the oil or gas from underground, collect produced water or other products, and transport the oil or gas to a place where it is sold, treated and sent for end use. All parts of the drilling and production operations are monitored by BLM, and by USFS if the well is on their land. The agencies are required to monitor the various operations for environmental compliance, production reporting and other factors. The agencies have the authority to require corrective actions if needed, and can levy fines. At the end of a well's life, the lessee or operator is required to plug the wellbore according to specific standards set by the State of Co. and BLM, and reclaim the land surface according to agency specifications. Most often, surface reclamation results in the land being re-contoured to match local topography and revegetated to comply with long term land management goals. A drill site might be reclaimed to be a trailhead, parking area or other use.

Numerous opportunities for public involvement during land use planning and during environmental review of APDs help ensure that development is both efficient and environmentally responsible. The BLM Uncompahgre Field Office currently has 131,715 acres of oil and gas leases and 4 active natural gas wells in the San Miguel watershed.

The GMUG NFs currently have 47,600 acres under lease, and no existing wells in the San Miguel watershed. By Teresa Pfifer and Liane Matson, BLM

SHEEP MOUNTAIN ALLIANCE UPDATE

Sheep Mountain Alliance continues to actively preserve and protect the San Miguel River and its watershed. Last January, in the final days of the Bush administration, nearly 60,000 acres of USFS lands in San Miguel County were posted in the February lease sale. These lands included potential wilderness, roadless areas, sage grouse habitat, Norwood municipal watershed, and lands within ¼ mile of the San Miguel River. After a concentrated effort by SMA, the County and Congressman Salazar, all San Miguel County leases were deferred for further analysis. We are working with our conservation partners to map the remaining leases available in the county and provide land management agencies with updated habitat and sensitive areas information. We intend to encourage stronger levels of protection and mineral withdrawal (removing them from the lease inventory) for these areas. We continue to monitor the quarterly lease sales.

SMA is also following the proposal by Redwine Resources to fully develop the 32,000-acre South Nucla Gas Field, immediately adjacent to San Miguel Canyon 6 miles east of Nucla. Concerns expressed to BLM have included potential impacts to the sensitive and threatened Colorado River Fish in the San Miguel including the roundtail chub, flannelmouth sucker, and bluehead sucker as well as to imperiled or rare plant species along the lower San Miguel including New Mexico Privet riparian shrubland and Skunkbrush riparian shrubland as well as the Narrowleaf and Fremont Cottonwood Communities. We also expressed concerns about instream flow and water quality impacts to spring boating recreation in the area.

The San Miguel and Dolores Rivers are both adjacent to the Uravan Mineral Belt, the largest remaining uranium deposit in the US. While the low price of Uranium has slowed development for the past several years, the increased discussion of nuclear power has stirred the interest of speculators. The Sunday Mine complex located in the northwestern section of the county was recently granted approval from both BLM and the county for a proposed expansion. Concerned with increasing speculation and the recent DOE leasing program within the Uravan Mineral Belt, SMA with Western Mining Action Project submitted a request to BLM for a State Director Review of the expansion approval. Our request was granted and we await the Director's review. We have several concerns with the actual approval and a desire to see a cumulative impact analysis for all mining operations in this area. Although we prefer not to see nuclear as part of new domestic energy production, we must be prepared to address impacts of increased nuclear energy on the land, species and people. Energy Fuels Inc. is currently seeking local permits for the Piñon Ridge Uranium Mill located in the Paradox Valley of Montrose County. SMA is calling for a look at the potential impacts of the mining resurgence in general for this area. We have many concerns about the mill proposal including impacts to water quality in the Dolores watershed as well as water quantity in the San Miguel. The mill as currently proposed will require 300 gallons of water PER MINUTE to process uranium and vanadium. Paradox Valley is an arid area and if wells do not produce enough water, the company has stated it will seek water from the San Miguel. We have multiple concerns about the mill proposal, yet we recognize the desperate need of west end residents for some sort of economic stimulus. As we continue to oppose this mill

proposal, we are actively promoting the tremendous renewable energy opportunities in the west end, especially solar. By Hilary White, SMA

URANIUM SPECULATION DECLINES

Uranium activity in Western Co., including the San Miguel Watershed area, has decreased substantially over the last 18 months. The spot price of uranium has fallen from a high of $135 per pound to $50 per pound. The decline in the price started about eighteen months ago and as a result many uranium speculators withdrew from the area. Each September a mineral claims holder must pay a fee to BLM in order to continue to hold the mining claim for the next 12 months. At least 2,000 claims in Western Co. were dropped because the holder could not or would not pay the annual fee. As with any commodity boom, speculators will play the market on the upswing and exit as prices fall.

The uranium boom that started 5 years ago has cooled somewhat to the extent that most speculators have left the area. Only the real mining companies remain. The speculators are not good for the industry nor are the promises of instant riches. Mining is a long-term investment that results in reasonable economic returns over a sustained period of time. I believe the demand for uranium, both in the US (50 million plus pounds annually) and worldwide (in excess of 175 million pounds annually) will result in a viable mining industry with a small number of mines in Western Co. The area will not see anywhere near the number of mines that operated during the boom of the 1970's and early 1980's. By **George E. Glasier,** President,CEO, Energy Fuels

SAN MIGUEL COUNTY UPDATE

County road crews completed a project to improve the intersection of Ilium Rd. and Highway 145 near Keystone Hill. The clean up of the Vanadium Mill site near Silverpick Rd. and Hwy 145 has begun. The work is expected to conclude in one season. Weekly ads in the paper provide updated construction information. Access to the river trail will be closed during construction season. Call 866-465-3989 or visit www.newmiresite.com for more information.

San Miguel County is scaling back our budgets. While property taxes remain steady, they are projected to drop in the next valuation cycle. Sales, lodging and use taxes are much lower than projected. The County is focusing budget cuts on efficiency measures and hopes to maintain all public services currently provided to our citizens.

A uranium mill is currently in the permitting process in Montrose County. San Miguel and Montrose County have a memorandum of understanding, in which both counties are invited to comment on developments that might impact each other. SMC has commented, reflecting the concerns of our citizens, who would like full environmental assessments of the impacts completed before issuing a special use permit. Montrose is considering one of many local, state and federal permits needed for approval of the facility. Concerns of citizens include the vast water use of the potential mill, consideration of toxic particles carried downwind from the mill site to San Miguel County and the socio-economic impacts to the region that could result from ranching, farming and home values being damaged by a uranium mill.

It felt like an exciting victory when we learned that all parcels San Miguel County, protested in a November 2008 oil and gas lease sale were deferred by BLM. The six parcels were in Norwood's Source Water Protection Area, sensitive Gunnison Sage

Grouse habitat, within the Wild and Scenic River Corridor and/or had split estates, where private surface owners had not been adequately contacted.
Colorado's Oil and Gas Conservation Commission spent hundreds of hours over the last year drafting new regulations for the industry that would protect the environment and health of Colorado and its citizens. SMC supports the efforts of the commission, emphasizing that SMC's more protective oil and gas regulations should always supercede less stringent statewide standards. The regulations have been halted in legal battles and have not yet been implemented.
A Tri-State 115-kV power transmission line upgrade, in the works since approximately 1998, is nearing construction. The project will upgrade an old, existing line. Tri State has recently finalized agreements with landowners along the power line corridor, securing approximately 30 easements. Tri-State intends to go to bid for the project in 2009 with construction beginning in 2010. Completion is expected in 2012.
. The federal census will occur in April 2010. It is important that all residents of SMC be counted, as these numbers are used to allot federal funding and congressional seats. Finally, San Miguel County is very proud to provide a regional food bank, located on the corner of Colorado Ave. and Aspen St.in Telluride. Anyone may obtain food from the bank, and donations are accepted. By Joan May, SMC Commissioner

WILDLIFE

QUIT YER GROUSIN'

Some folks moan about the many threats to the Gunnison sage-grouse and their habitat, but I've found plenty to crow about. In the last year, landowners worked with San Miguel County's Land Heritage Program to help protect three properties containing sage-grouse habitat in the San Miguel Basin. Conservation easements will help preserve a 500-acre and a 400-acre ranch on Hamilton Mesa and an 800-acre ranch on Beaver Mesa.

Thanks to a 2008 Telluride Foundation grant, the Working Group is updating our local grouse conservation plan. The latest draft can be viewed on our website: http://www.freewebs.com/sanmiguelsagegrouse. A 2009 grant from Telluride Foundation is enabling us to start an educational documentary on sage-grouse. We're excited to work with Ute elder Roland McCook to film a traditional grouse dance. We'll also document long-time residents' stories of sage-grouse in the early days. If you have ideas of folks to interview, please contact: LeighRobertson@netscape.com or 970-626-2272.

Habitat improvement efforts in 2008 continued to focus in the Dry Creek Basin sub-population area. On the Dry Creek Basin State Wildlife Area, the DOW transplanted over 5,000 sagebrush seedlings and broadcast sagebrush seed on 80 acres. They also conducted a 30-acre rabbitbrush mow and reseeding project, and implemented a 100-acre pinyon-juniper removal and weed control effort. Sage-grouse avoid areas with too many trees, hence the removal of young pinyons and junipers encroaching into sagebrush parks. On private land near the Desert Lek, an eight person conservation crew spent two weeks hand raking a grass and forb seed mixture into the ephemeral draws within a 600-acre project area. The BLM completed a large pinyon-juniper hydro-mow project on the south side of Dry Creek Basin this summer. The DOW also completed a new fence bordering the recently purchased Elk Creek Tract on Dan Noble State Wildlife Area in the Miramonte sub-population area.

The Working Group coordinated a Sage-grouse Summit in 2008 to share the latest grouse research information and management techniques with groups throughout Colorado and southeastern Utah. Check out the Research and Information tab on our website to view some of the scientific papers.

Counts of male grouse on courtship grounds known as leks in the San Miguel Basin in 2008 were down 33% from 2007. This decline was most likely due to the severe winter weather of '07-'08. However, we did see an increase in lek attendance within the Dry Creek Basin sub-population. The count on the Desert Lek doubled from two to four males and a male was observed strutting in the Nelson Creek area for the first time in three years. These are still critically low numbers, but the best since 2004. The lek count data for 2009 should be available in June. Please see our website for details.

By the time you read this, it's likely that the Fish and Wildlife Service will have stated they will perform a new 12-month review to determine if the Gunnison sage-grouse should be listed as threatened or endangered. To receive emails with updates on sage grouse topics, please contact Leigh. I would like to extend a special thanks to everyone who helped the Working Group in 2008 including: The Telluride Foundation, EnCana Oil and Gas, Black Canyon Audubon Society, TNC, San Miguel County, CDOW, BLM, and Sisk-a-dee. By Leigh Robertson, Coordinator, 970-626-2272

SMC SAGE GROUSE EFFORTS

San Miguel County has a two-prong approach to protecting the Gunnison Sage Grouse in our region. We are active partners in the local working group that works to protect habitat, and we are co-plaintiffs in a law suit intended to get much needed endangered species listing for this dwindling population. By Joan May, SMC commissioner

FISH LADDER EFFORTS

Progress continues to be made toward building a fish ladder/boat bypass downstream of the current diversion structure for the CCC-Ditch near Nucla and Naturita. Because the initial design required too much rock, the BLM, CDOW, Colorado Water Trust and TNC are working with two river restoration specialists to develop a less invasive way to provide effective fish passage and reduce recreational risks to boaters. We hope that construction will begin late this year. By Peter Mueller, TNC N. San Juans Project Director, 970-728-5291 office, (970) 708-1368 cell, pmueller@tnc.org

VEGETATION

BLM FIRE AND WEED EFFORTS

Over the past year BLM has been working with a mycologist to test cyanobacteria as a tool to improve rehabilitation of burned lands. Cyanobacteria is one component of the cryptogamic crust found on soils in the Colorado Plateau Ecoregion. It is important for stabilizing soil particles and improving soil fertility. The Section 28 Fire burned just north of Redvale in summer 2007, and cyanobacteria test plots were established in spring 2008 in one part of the fire. Plots were reviewed in 2008 and again in May 2009 to determine effectiveness at stabilizing the soil, improving vegetation reestablishment, and increasing levels of soil nutrients. Initial data show some encouraging results. We

were able to reestablish cyanobacteria onto the burned soils by applying a dried, powdered form of the cyanobacteria in combination with a restoration seed mix. We also found heightened levels of soil fertility and photosynthetic activity in areas receiving the the mix application. We hope this trend continues to the point of increasing soil stability and improving revegetation of burned areas.

BLM has been working over the past year to control weeds, in partnership with San Miguel and Montrose Counties. Two troublesome species are oxeye daisy and yellow toadflax. These escaped ornamentals have attractive flowers, but are extremely aggressive and take over native vegetation. Leopard Creek and the San Miguel River have infestations of these invasive species that are spreading and are very difficult to control because of constant disturbance from flooding, seed transport by the river, and infested adjacent private lands. A long-term, coordinated weed control effort will be required to keep these species from dominating riparian areas. By Amanda Clements, BLM ecologist

LANDSCAPE HEALTH

BLM's Uncompahgre Field Office has recently completed the West Paradox Area Landscape Health Assessment (LHA). The West Paradox LHA covers approximately 65.000 acres of BLM administered lands surrounding Bedrock and Paradox to the Utah state line. Resource conditions were assessed during field visits conducted last year by interdisciplinary teams, grazing permittees and other interested public. The LHA identifies land units that meet BLM Rangeland Health Standards, do not meet Standards, or meet Standards with problems. Where Standards are not being met, the LHA identifies causative factors and makes recommendations to address problems.

There are 7 livestock grazing permits and 15 allotments in the West Paradox area. An effort is currently underway to renew the 10 year term permits for those allotments. The LHA will serve as supporting documentation for terms and conditions associated with the new grazing authorizations. By Dean Stindt, BLM Range

USFS RANGE PROGRAM

The Norwood Ranger District/GMUG NF range program was very successful in 2008. Invasive species are of great concern and in 2007 Sulfur Cinquefoil (*Potentilla recta*) was discovered along the rim of Naturita Canyon. The District partnered with San Miguel County to treat over 3200 acres of this invasive species in 2008. Treatments were to date 95% successful. The overall goal is to eradicate this plant entirely as it harms wildlife habitat, native populations of plants, and if allowed to spread onto private land can cause significant damage and loss of crop yield. In 2008,treatments of many other exotic invasive plant populations occurred throughout the San Miguel watershed from the headwaters along the Uncompahgre Plateau and near Lone Cone.

Livestock production continues to be a primary agricultural use of public lands. In 2008, about 7500 cattle and 1000 sheep grazed on USFS land within San Miguel watershed. Over 5 miles of old un-used fence was removed and recycled. About 400 acres of a wildfire was seeded with desirable native species in hopes of preventing the spread of cheatgrass and other exotics and re-establishing desirable wildlife habitat. Finally, about 50 acres of Gunnison's Sagegrouse habitat was reclaimed through removal of Pinyon

juniper, which was encroaching onto meadow areas where they raise their young. By Brian Hoefling, Range Norwood RD

Finding Funding for Weed Control Projects

It costs money to control noxious weeds on both public and private lands, on roadsides, rangelands, open space, hay fields, pastures and backyards. There is a cost and a responsibility to do the necessary work to keep weeds from spreading to new locations. It costs more to control a lot of plants than a few and it costs more if you own a lot of land than if you own less. It costs more if you wait to do the work until the problem is large. Finding money to do weed control work on public lands has been an uphill battle that, with much effort, many public land managers are winning. The local, federal, and state agencies (BLM, USFS, CDOT, CDOW), and Montrose and San Miguel Counties, have increased budgets for weed control from minimal amounts to a level that is beginning to meet the need and responsibility. Slowly conditions are improving. However, it is important that private landowners participate in this process to increase the value of our efforts. It's time to focus energy, education, effort and funding on private land throughout the watershed to reduce the presence and spread of noxious weeds.

Both counties have cost share programs that will pay a significant portion of the costs of weed control on private land. In 2009 the counties started an effort to control the most common noxious weed on Wright's Mesa- whitetop or hoary cress. Other weeds and other parts of the counties are also eligible for the cost share funding. Grants were received to assist the counties in their efforts on private lands. Over $25,000 is available directly through the counties for weed control on private land in 2009. Additional money is available through the NRCS beginning this year for agricultural producers.

Working together public and private landowners can halt and prevent the spread of invasive plants across our boundaries. Together we can achieve the goal of more productive land for agriculture, recreation, wildlife and other values we all enjoy and appreciate. For more information please contact San Miguel County 970 327-0399 or sheilag@sanmiguelcounty.org or Montrose County at 970 249-5216 or email at lmingen@co.montrose.co.us . By Sheila Grother, SMC Weed Control

UP PROJECT EFFORTS

This summer a major milestone will be reached by the Uncompahgre Plateau (UP) Project –the commercial production of a local source of a key native grass. In 2002, when the UP Project began to implement large scale ecosystem enhancement projects on the Uncompahgre Plateau, the need for native seed sources that originate locally became clear. Unfortunately, seed from these "local ecotypes" was either unavailable or the supply limited and extremely expensive. The UP Project initiated its Native Plant Program to address this issue. Over forty different species of native grasses, forbs and shrubs were collected on and around the Uncompahgre Plateau. Species were studied to learn more about growth characteristics, cultivation and production methods. Once adequate information was collected and sufficient amounts of seed produced in increaser fields, seed was made available to commercial growers. To date, 16 native species are ready for commercial production.

Currently, 60 acres of Sandberg Bluegrass, a native perennial bunchgrass, is being grown for commercial use. It is estimated that over 10,000 pounds will be ready for purchase by

land management agencies by summer 2009. Sandberg bluegrass is a cool season grass, grows at wide range of elevations (4,000 to 12,000'), occurs on a wide range of soils, produces excellent forage for livestock and wildlife, performs well in seed mixes, and competes well with cheatgrass. The UP Project will assist agencies in purchasing this grass for use in restoration and rehabilitation efforts. For more information contact: upproject@upproject.org.

The UP Project**, w**ith Montrose County, USFS and BLM, have successfully inventoried and developed integrated weed management strategies for almost 500,000 acres in the west end of Montrose County, within the San Miguel Watershed. Coordinated Weed Management Area (WMA) Plans bring land managers and private landowners together for mapping, monitoring, control, and prevention of noxious weeds. Ownership boundaries have been replaced with natural boundaries that better facilitate weed management and control. Additional advantages include: the establishment of priority weed species, the ability to secure and pool funds for weed programs, and increased public awareness of the seriousness of invasive species. Coordinated treatment of the "West Montrose County WMAs" was initiated in 2006 by the partners and will continue through 2011. Efforts will focus on the highest priority noxious weed species.

The partners have designed Best Management Practices for public land users. The outreach program, entitled Spread the Word –Not the Weeds! educates the public about how to prevent the spread of noxious weeds by incorporating the following practices into their visits to our public lands: Learn how to identify high priority weed species; Inspect high risk areas such as roads, stream banks, trailheads, parking areas, and campgrounds; report new infestations to County Weed Depts. (Montrose 249-5216, San Miguel 327-0399) or the BLM/USFS Office (240-5300); Use weed free forage for horses and livestock; Clean all vehicles, trailers and equipment before entering public lands; Avoid transporting weed seeds on clothing, pets, horses, and vehicles by not traveling through areas that are highly infested; and restrict travel to established roads and trails.

This coordinated effort was made possible by a 2005 Uravan Mill Natural Resources Damage Fund Grant awarded to Montrose County, the USFS, TNC, and BLM. The UP Project received additional grant money from the National Fish and Wildlife Foundation, National Forest Foundation, EnCana, the Center for Invasive Plant Management, Habitat Partnership Program, Natural Resources Conservation Service, and BASF Corporation.

The UP Project has also assisted Montrose County in initiating a Cost Share and an Early Detection Award Program. The Cost Share Program compensates landowners for treating weeds on their private property. The Early Detection Reward Program awards individuals $100 for identification of new infestations of yellow starthistle, leafy spurge, yellow toadflax, diffuse knapweed or dalmatian toadflax in West Montrose County. To learn more: upproject@upproject.org or Montrose County at (970) 249-5216. By Pam Motley and Jim Free, UPP

SPRUCE BUDWORM IN MV

In summer 2008, the western spruce budworm (Choristoneura occidentalis) was detected in Mountain Village and surrounding areas. This insect is a serious defoliator of Douglas-firs, spruces, and true firs in western North America. In summer 2009, area Douglas-firs will likely be most impacted by the budworm.

Western spruce budworm adults are moths, about 1" across, with orange-brown forewings and light tan hind wings. Over winter the young larvae live under bark scales of host trees where they remain dormant. In late April or May, they emerge and enter developing buds. As the new needles lengthen, the growing larvae continue to feed on this foliage. Budworm larvae web the new foliage together causing serious damage while they feed inside the web. The webs, visible on the tips of branches, allow some protection from predators. During the last larval stages, larvae budworms are about 1" long with dark heads, two white spots on each segment, and an olive-brown body. The complete feeding cycle takes about 40 days, usually ending late in June. About a week later, the adult budworm, a moth, emerges from the web and lives from late June to early August. Heavy feeding can cause complete defoliation of new growth and deformed shoots. Cones and seeds may be damaged or destroyed. A single defoliation will not kill a tree; however, multiple defoliations will weaken a tree and may kill their tops or the entire tree. Trees weakened by budworms may be predisposed to bark beetle infestation. Budworm outbreaks occur in cycles lasting 3-10 years. Complete control of the western spruce budworm is not possible, desirable or necessary. This insect has many natural enemies that help control populations, including parasitic wasp and flies and predators like birds and spiders. Outbreak severity can be reduced over time with forest management practices that favor young, vigorous, even-aged stands and thinning to reduce stand density. For homeowners with high value trees on their property, try decreasing competition around prized trees, watering around the drip line (out at the edge of the canopy), and using insecticides. Registered insecticides for control of western spruce budworm are Bacillus thuringiensis, Sevin, Dursban, and Tempo 2. Insecticides are applied during spring, as buds open. Timing depends on temperature and elevation. The western spruce budworm is one of many insects and issues impacting our forests now and in the future. Mountain Village is at a crossroads relative to forest management. Through education and dialog, we hope Mountain Village residents will take a more proactive stance on the health of our forest. By Mountain Village staff

ENVIRONMENTALLY SENSITIVE AREAS IN MV

The Mountain Village Town Council contracted with The Terra Firm, Inc. to work with staff to develop a strategic plan for preservation and protection of environmentally sensitive areas in the Mountain Village including wetlands and waterways. Work includes analysis of hydrologic/sediment transport conditions adjacent to roadways and within open space, identification of potentially vulnerable sensitive areas, establishment of an employee education program to address sensitive area protection, compilation of *Standard Operating Procedures* for the treatment/protection of sensitive areas, and development of literature for homeowners/developers to help achieve sensitive area preservation and protection.

Approximately 22 miles of roadways and associated bar ditches, culverts and cut banks in need of revegetation were reviewed over twelve weeks during fall 2008. Additionally, non-ROW open space owned by Mountain Village was analyzed for sediment source or deposition conditions. During fieldwork *invasive species* and *impacts from snow storage* were also noted. Each identified site was assigned a roadway station if applicable, GPS coordinate, and where possible, local address and/or lot number. Qualitative review standards for locations having less than satisfactory conditions were established, and each

site was given a quantitative rating based on functional values and impact potential. Field recommendations were noted as a suggested course of remediation to minimize future impacts. Photos were collected for baseline conditions. All field data was entered into a database for query and output. Of 273 sites analyzed, 46 were rated as *High priority, with* one or more of the following conditions: Excessive sediment deposition, Poor vegetative cover, Significant erosion potential, Poor culvert or bar-ditch functional capacity, High densities of invasive species. 38% of all sites reviewed were rated as low priority, not requiring any active maintenance or repairs.

Sensitive areas in Mountain Village consist of wetlands, stream corridors and areas of unique ecological value, whose maintenance, enhancement and protection from further degradation is necessary to maintain ecological integrity. During fall 2008, all sensitive areas were identified, reviewed, and documented. A GPS location and a Base Map ID were designated for all sites and then qualified by a series of parameters including: vegetation community profile, dominant plant species present, invasive species present, protection found adjacent to the sensitive area (silt fences and culverts), and impact potential based on surrounding conditions, including upslope threats (construction, sedimentation, roadways). Summary results were collected and entered into the database. Of the 65 sites analyzed in the Sensitive Area Assessment, 38 were rated as having *High priorty, with p*oor protection surrounding the site, or high densities of invasive species, or significant impact potential given the surroundings. 58% of all sites reviewed were determined to be high priority, many requiring active maintenance or repairs. The education component is on-going and will continue to be refined in 2009. The database of individual sites will be used by MV staff to direct annual maintenance projects and identify areas needing protection prior to winter snow removal season. By Chris Hazen, Terra Firm, Inc.

MSI FEN STUDIES

Fens are fragile “old-growth” wetlands that depend on high water tables fed by groundwater. Slow decomposition in saturated conditions promotes the accumulation of vast amounts of peat (organic soil) over thousands of years. These wetlands harbor rare plants and provide wildlife habitat. Ditches and erosion gullies lower the water table and cause fens to dry out. Eventually, peat will decompose and vegetation change to upland species. Other disturbances, such as off-road vehicles and over-grazing, can destroy vegetation and lead to erosion. The EPA awarded a grant to CSU and its partners Michigan Tech University and Mountain Studies Institute (MSI) to develop methods for restoring damaged fen wetlands and to provide training in conservation and restoration strategies. The EPA award is the third in a series of fen project grants to Drs. David Cooper (CSU), Rod Chimner (MTU) and Koren Nydick (MSI). The first two grants focused on assessing the ecological condition of fens in the San Juans. Researchers found that approximately 20% of the over 200 fens surveyed were in fair to poor condition as a result of disturbances, including off-road vehicles, ditches, roads, and mining. A detailed fen database, three training workshops, and a wetlands outreach booklet were delivered during this phase. The third grant goes to develop methods to restore fens from hydrological and vegetation damage. Several wetlands, including Chattanooga, Ophir, Lateral Moraine, Pirate Ship, North Mosca, and Eggelston Fens, are receiving “face-lifts” to restore natural processes. Work began in 2008. The Fen Team is preparing a manual to

assist land managers, local governments, and private landowners with fen protection and restoration. Training workshops will be held in 2010. Funding and in-kind support comes from USFS, BLM, San Miguel County, Telluride, Mountain Village, and Durango Mountain Resort. For more info: http://www.mountainstudies.org/Research/fenProject.htm. By Koren Nydick, MSI

SOILS

NCRS UPDATE

The United States Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS), continues to promote sustainable agricultural production and resource conservation on private lands. The specific mission of NRCS is to provide technical/financial assistance to private landowners to address natural resource concerns. During 2008, the NRCS Norwood field office assisted with weed control projects, specifically oxeye daisy, spotted knapweed, and sulfur cinquefoil treatment on agricultural lands. In 2010, cost-share funding will be available to target whitetop and Russian knapweed on Wrights Mesa. We have also completed two forest improvement projects in the pinon-juniper woodland type, to improve forest health, create more diverse wildlife habitat, and reduce fire danger. The treatments included tree thinning and mulching, range seeding, and weed control.

Rangeland improvement projects continue on Hamilton Mesa and in East Paradox Valley. Implementation includes fencing, brush management, range seeding, stockwater development, and prescribed grazing. These practices facilitate better livestock management, benefiting the agricultural producer and the condition of the rangeland resource. The public benefits from a healthier rangeland that sequesters more carbon and water, and provides improved wildlife habitat.

Several farm irrigation projects are underway. The goal of these projects is to improve irrigation efficiencies by replacing dirt ditches with pipelines and installing sprinklers or gated pipe on the land surface. Improved irrigation systems benefit the agricultural producer by reducing labor to irrigate, increasing crop production, and conserving a precious resource, irrigation water.

The NRCS monitors snowpack throughout winter and the 2009 snowpack in San Miguel and West Montrose Counties was near average for most of the snow accumulation season. Frequent dust storms throughout winter created dust layers in the snowpack, which increased the rate of snow melt in spring and caused an early and high runoff. The NRCS field office in Norwood, Colorado serves San Miguel and West Montrose Counties. Contact Jim Boyd at (970) 327-4245 for more information. Our agency commitment is: "The Natural Resources Conservation Service – Helping people help the land." By Jim Boyd, NRCS Resource Conservationist

RECREATION

Early Season River Hazard Removal

The dynamic nature of the San Miguel River often creates potential hazards for boaters. The river gradually erodes the outsides of its meandering bends, causing trees along the bank to fall into the river every year, creating "strainers" that can become boating

hazards. This spring, river rangers from the BLM Uncompahgre Field Office coordinated with local rafting guides to get some early-season work done in recurring problem areas from above Sawpit Rapid downstream to Specie Creek. Low April flows under 200 cfs provided ideal conditions to work to make the upcoming river season safer. Their combined work removed numerous snags that would otherwise be hazardous to boaters. Even so, boaters should remain alert for changing river conditions, as new hazards may emerge throughout the season. Warm May temperatures caused runoff flows approaching 2000 cfs at the Placerville stream gauge, eroding banks, and moving much sediment and natural debris through the river channel. Expect new obstacles, particularly as the snowmelt wanes and the river drops. Please keep in mind that all river hazards can not be removed. Boater safety results from sound judgment, knowledge of the river, and knowledge of personal skill levels. By Edd Franz, BLM Recreation Planner

BLM Commercial Recreation Update

As recommended in the San Miguel Watershed Plan, BLM is currently preparing an environmental assessment of commercial recreation permitting in the San Miguel River corridor. Work began last fall, and will continue this summer to determine how to continue management of existing operations, and how to respond to requests for permits from new applicants. Opportunities for formal public input will be forthcoming. Public notices will be published and posted. For more information contact Edd Franz, BLM Outdoor Recreation Planner, at 2465 S Townsend Ave, Montrose, CO 81401 or Edd_Franz@blm.gov

USFS-ROCK OF AGES TRAIL

This summer the USFS, Norwood Ranger District will work to restore public access to the summit of Wilson Peak. The Rock of Ages Trail Project will officially open a new hiking trail to provide legal access to the 14,000' peak through Silver Pick Basin to the Rock of Ages Saddle. Silver Pick Trail was closed to the public in 2003 due to private land concerns. Three main project components include upgrading Elk Creek Rd., developing a new trailhead, and rerouting and connecting segments of new trail.
Elk Creek Rd. is currently in poor condition and needs to be improved for better access to the new Rock of Ages Trailhead. Roadside trees will be removed to widen the corridor so that it is passable to full-sized vehicles. Heavy roadbed maintenance will improve drainage, repair rutted areas and resurface the tread. Scheduled maintenance will help stabilize the roadbed and reduce erosion. The Elk Creek Rd. will be tentatively closed from June until the end of September. The 2.5 mile road segment extends from the intersection with the Silver Pick Rd. to the Rock of Ages Trailhead.

The new trailhead will provide adequate parking for hikers and other users, accommodating about 15 vehicles and offering dispersed camping in the meadow north of the parking area. Fire rings will designate individual campsites. A kiosk will be installed with trail information and area maps. A second parking area adjacent to the road will be constructed about 300 yards west of Big Bear Creek to accommodate vehicles towing trailers and provide additional dispersed camping. Improving camping and parking opportunities will enhance the experience for visitors using the new trail.
The new Rock of Ages Trail will use portions of four existing trails and roads. There will be roughly a half mile of new trail to connect existing sections and reroute portions of the

trail away from private property. Trail decommissioning and rehabilitation work will be conducted on the portions of the trail that are being closed. The Colorado Mountain Club will be funding the purchase of new trail signs to help guide hikers. The USFS hopes to complete work by the end of summer and have the trail open by fall. In the meantime, trail users can still access Wilson Peak via existing trails including: Navajo Trail, Lizard Head Trail (Bilk, Lizard Head Pass or Cross Mountain trailheads), Kilpacker Trail, and Woods Lake Trail. By Scott Spielman, USFS Recreation

Lawson Hill Bicycle/Pedestrian Underpass

Construction is underway on the bicycle/pedestrian underpass at the intersection of Colorado Highway 145 and Society Drive three miles west of Telluride and will continue through the summer. The underpass should be complete by mid- October. This underpass is a critical connection between the Galloping Goose Trail (25 miles), the Mountain Village Trail system (10 miles) and the Telluride Trail System (110 miles). It will connect the paved bike path that parallels the highway into Telluride and the Lawson Hill Subdivision which houses 10% of the County's population. The project consists of a concrete culvert underpass and 1/4 mile of asphalt trail. San Miguel County has received funding from CDOT, Colorado Great Outdoors, the Department of Local Affairs and the Town of Telluride for the project. The Lawson Hill property owners company will contruct the path from the underpass into Lawson Hill subdivision. The overall plan to connect the Galloping Goose trail to regional trail systems is the result of an effort beginning in 1991 by SMC Trails Council, the USFS-Norwood Ranger District, the BLM, and the NPS. By Kari Distefano, SMC

KEYSTONE GORGE BRIDGES FACELIFT

A few years ago The Nature Conservancy worked with San Miguel County and the Lawson Hill Property Owners to purchase a thin slice of the San Miguel River that drops precipitously from Telluride's Valley Floor to Ilium 1.5 miles below. This purchase helped insure that the San Miguel will continue to be a dramatic free flowing river that sustains some of the best riparian habitat in the southwest. The Gorge had been considered for hydroelectric power development, but TNC's purchase of the property and their plans to convey ownership to San Miguel County this summer will alleviate that threat. Although hydroelectric is a sustainable source of energy, placing river water into a penstock would have compromised the Gorge's natural beauty and hurt aquatic life in and below the Gorge.

The last phase of the project is to insure safe public access so that all can enjoy the gorge. Work began on the bridges in May and will conclude in late June when Volunteers for Outdoor Colorado come to Telluride to take part in a trail building weekend, to work on repairing the existing trail where erosion has compromised some of the tread, June 27 and 28. To volunteer for this weekend or support this project in any way, please contact The Nature Conservancy's office at 728-5291 or pmueller@tnc.org.

Keystone Gorge Loop Trail

The San Miguel County Open Space and Recreation Program is assisting the Nature Conservancy in the rebuilding and extension of the Keystone Gorge Trail. The Keystone Gorge trail is a fishermen's trail that follows the San Miguel River from the Lawson Hill

subdivision down to Ilium Valley. At one time there were two bridges that connected the trail but the lower bridge collapsed and is no longer safe to use to cross the river. TNC, with the help of San Miguel County, Volunteers for Outdoor Colorado and McMillon Engineering, is rebuilding the lower bridge as a suspension bridge with recycled cable from the old Moab ski lift. This project will include a new portion of trail to connect the lower bridge to the existing Galloping Goose trail. By Kari Distefano, SMC

BRIDAL VEIL ICE CLIMBING

Approximately 200 climbers from around the world signed the register to climb Bridal Veil Falls this past winter. Trust for Public Land negotiated access to the falls for ice climbing as part of the purchase of Kentucky Placer from Idarado Mining Co. TPL assigned access rights under the license agreement to the county who manages climbing access. The license is revocable by Idarado Mining Co., and any abuses to the area or violations of the license agreement could result in a climbing closure to the public. Please respect the few requirements. By Linda Luther, SMC

SUSTAINABILITY

TNCC UPDATE

The New Community Coalition continues to actively pursue a more resilient future for San Miguel County. We focused on energy, education and resource recovery the last six months. San Miguel Power generously matched funds available through the Co.Governor's Energy Office for rebates to residents who installed solar hot water, solar photovoltaics and upgraded home energy efficiency through better insulation. TNCC partnered with SMPA and GEO to facilitate getting checks to homeowners making these investments. We are working on several major grants to continue to help our region become more energy efficient, create new jobs and save people and businesses money.

Mountain Village was first in the region to adopt Zero Waste goals. TNCC helped spread the word about Zero Waste locally, providing initial and ongoing support in creative ways. We ran compost and recycling crews for Mountainfilm 2009 and are happy to report complete success. Two major festival food events created less than one kitchen-sized bag of trash! Everything else was either recycled or composted!

Our Executive Director/Regional Sustainability Coordinator, Kris Holstrom, taught a college level Intro to Sustainability course for UCSM that had 19 students this spring! Several ideas from the class are being implemented including Telluride Townies, a bike check-out program in collaboration with the Wilkinson Public Library. Some students from that class helped Kris teach a high school Sustainability ISP (Intensive Study Period). The class took a field trip to visit landfills, recycling centers, compost facilities, Solar Energy International, alternative schools, and organic farms. They went to the Green Festival in Denver, and heard Governor Ritter, David Orr, Gunter Pauli (ZERI) and Paul Stamets.

Kris and helpers also worked with Colin Hubbard's 6th grade science classes on a sustainability series including food, energy and waste. The kids used the solar kits the school received when Telluride/MV won the first plastic bag challenge with Aspen. They hooked miniature solar panels to fans and wheels and saw first-hand how sun can make energy work for us.

The forest health initiative Colleen Trout of TNCC organized brought scientists, policy makers and local activists together to learn about specific bugs and diseases in our forests and potential ways to address them. This collaborative effort with Yvette Henson from CSU Extension is ongoing with tree tours scheduled throughout summer. TNCC will coordinate Telluride Renewed – a mayors' challenge to Telluride and Mountain Village communities to get 100% of their electricity from renewable sources by 2020. For more information, call 970-728-1340, visit www.newcommunitycoalition.org,or email coordinator.tncc@gmail.com . By Kris Holstrom, TNCC

SMC SUSTAINABILITY EFFORT

Work on the Regional Sustainability Economic Visioning Process continues. TNCC is facilitating development of leadership and planning for a sustainable future regional economy. SMC is pursuing government partnerships to enhance these efforts in uncertain economic times. By Joan May, SMC commisioner

TSG SUSTAINABILITY EFFORT

The Telluride Ski & Golf Resort's environmental work has evolved to cover a broad range of conservation initiatives and educational endeavors. The well-balanced program has won acclaim within the ski industry, including the National Ski Area Association's Golden Eagle Award for Environmental Excellence, the Regional Forester's Caring for the Land Stewardship Award, and certification in Audubon International's acclaimed Cooperative Sanctuary System program for golf courses. TSG collaborates with the USFS, the Telluride and Mountain Village communities, San Miguel County, and local environmental groups to find solutions to sustain the region's economic, cultural and environmental health.

Please visit our website, www.tellurideskiresort.com, for information on our initiatives, including Watershed Protection, Air Quality and Fuel Reduction, Waste Reduction and Recycling, Water Conservation, Energy Conservation, Education and Community Programs and Environmental Awards, and the Nature Center. You may also visit San Sophia Nature Center, open daily in summer. The Nature Center's environmental programs feature native wildlife education, children's nature activities and crafts, and guided interpretive hikes about Telluride's flora and fauna. By *Elizabeth Howe, TSG, 970-728-7521, 970-728-7443 fax, ehowe@tellurideskiresort.com*

TELLURIDE INSTITUTE SUSTAINABILITY EFFORTS

With the launch of its sister institution in the Czech Republic, the Centre for the Future, TI has entered the international dialogue on sustainability. Sustainability requires creating new ways to live and prosper while ensuring an equitable, healthy future for all people and our entire planet, and preserving biodiversity and natural ecosystems, resources and culture for our descendants.

Locally, TI continues to offer programming that reflects its focus on sustainability. (See WEP article). TI's Higher Education coordinator, Mark Rikkers, organized numerous activities concerning global warming and climate change. Dr. Jason Box, a research climatologist, gave two powerful lectures, at the Sheridan Opera House and Mountain School, focused on glaciation and climate change.

TI is partnering with Reel Thing Productions to create an important documentary on plastics. BagIt Documentary http://www.tellurideinstitute.org/page_103>
The TI/Tibet Fund, created by advisory board member Elisabeth Gick in January 2009, has a goal to provide humanitarian aid to Tibetans, and support initiatives to help keep ancient Tibetan culture alive, promote education, and strengthen local economies.

TI rescued the Mushroom Festival in 2006 when its founders retired. Thanks to the work of Kris Holstrom, John Sir Jesse and other locals, the festival continues. This year TI executive board member Art Goodtimes will lead the event. Toronto filmmaker released his full-length documentary, "Know Your Mushrooms", mostly filmed in Telluride and starring Larry Evans of Montana and Gary Lincoff of New York -- with appearances by Sir Jesse and Goodtimes. TI's watershed emphasis includes the ancient hunter/gatherer activity of hunting wild mushrooms in the headwaters of the San Miguel. By Dan Collins, President of the Board of Trustees, TI dan.collins@asu.edu and Art Goodtimes, SMC Commissioner

OPEN SPACE

COUNTY OPEN SPACE PROGRAM

The County's Land Heritage Program helped fund three conservation easements in 2008 protecting a total of 1,728 acres. A total of 50 development rights were retired. Currently, the program has two parcels totaling 1,030 acres expected to close in 2009. To date the program has helped facilitate the protection of 9,490 acres of which 2,324 are critical Gunnison sage-grouse habitat. By Linda Luther, SMC

SAN MIGUEL CONSERVATION FOUNDATION

In October 2008, SMCF finalized conservation easements on two separate parcels of Kentucky Placer, which stretches from the beaver pond in Town Park to the climbing wall at the base of Bridal Veil Falls. The town parcel, 12 acres surrounding the Beaver Pond and running east along the toe of the slope past Firecracker Hill, has been incorporated into the Bear Creek Preserve Conservation Easement. The County parcel is 100 acres, a very narrow strip of land running from the eastern edge of the Town parcel to Bridal Veil Falls. SMCF worked with TPL, Town of Telluride and San Miguel County to ensure this property is forever protected from development and that climbing areas around the falls remain accessible.

In December, SMCF accepted three additional conservation easements. The first is a 500 acre parcel on Hamilton Mesa, an agricultural property that also provides breeding habitat for the Gunnison sage-grouse (a candidate for listing under the U.S. Endangered Species Act), as well as for deer, elk and many other species.

The second is Boomerang Lode, a 10-acre mining claim above Hwy.145 and Boomerang Rd., directly above the Valley Floor. This was an important parcel to protect in its undeveloped state, given its close proximity to the Valley Floor; and to ensure that the hiking / biking trail crossing it will always be available for public use.

The final easement was placed on the Gamebird Lode and Millsite. For more than a decade, this 26 acre parcel, located in Waterfall Canyon, had been at the top of the Ophir community's open space wish list. In addition to its wilderness quality and accessible opportunities for solitude and backcountry recreation, Waterfall Canyon also

contains the historic location of the Town's water intake. This project will help preserve pristine drinking water quality by preventing development..

In 2009, SMCF is working closely with the Town of Telluride, Telluride Open Space Commission and ERC, the town's environmental consultants, to finalize the draft conservation easement for the Valley Floor. ERC's final Environmental Report will provide a comprehensive assessment of the existing natural and physical conditions of the Valley Floor, the scientific foundation for the long-term management of the property. For more information contact Gary Hickcox, Executive Director, SMCF, at (970) 728-1539, ghickcox@rmi.net or visit the SMCF office at 121 N. Pine St., Telluride.

SILVER MOUNTAIN INDUSTRIES LAND CONVEYANCE

Silver Mountain Industries will convey approximately 439 acres to the county as part of their Cluster Development Plan near the Alta Lakes area. This land is located in the Telluride/Ophir High Country Master Plan Area. It includes 140 acres on Turkey Creek Mesa east of Boomerang Road and 307 acres of Gold King Basin mining claims. The High Country Area Master Plan favors preservation and protection of these high country areas for open space, public recreation, and watershed and source water protection over the use of these properties for any development purpose.

The 439 acres will be available for public recreational use. In addition, Silver Mountain Industries agreed to establish easements for public benefit to allow for use of a mountain bike trail through SMI's residential development. By Linda Luther, San Miguel County

OPHIR LAND PRESERVATION EFFORTS

Joint, private-federal efforts to preserve undisturbed lands in the Ophir Valley have been progressing at an encouraging pace. The ultimate objective for the Trust for Public Land, a national, nonprofit, land conservation organization, is to facilitate the reintegration 1,100 acres of mining claims into National Forest lands which surround them. The Pauls Family, owners of most of the high-country claims scattered throughout the Ophir valley, initiated this effort last year when they conveyed 111 acres to TPL, who then relayed the collective claims to the USFS, which was able to purchase the lands for their appraised value in thanks to specific federal appropriations championed by members of Colorado's congressional delegation, especially Rep. John Salazar.

With "Phase I" of the Project successfully completed, TPL is eager to facilitate more transactions in the Valley. With an allocation of nearly $2 million in the USFS combined 2008 and 2009 budgets, TPL is optimistic that another 300 or so acres can be acquired and protected in 2009. TPL suspects that claims along the Town's southern boundary and extending up Waterfall Canyon will be the priority this year, but will work with the Pauls Family to fully define the scope of "Phase II" of the Project.

TPL and the town of Ophir are already looking ahead, having requested that $2.75 million be allocated to the USFS in Fiscal Year 2010 to continue acquisition efforts in the Valley. Co. Senators Mark Udall and Michael Bennet have joined Rep. Salazar in seeking these funds, and should these appropriation requests be funded, it is entirely possible that by the end of 2010, over 750 acres of private mining claims within the Ophir Valley will be reestablished as public lands. By Jason Wells, Ophir Town Manager

SMA PRESERVATION EFFORTS

SMA is actively preparing for BLM's upcoming Resource Management Planning Process (RMP) for the Uncompahgre Field Office, which includes the San Miguel River. The San Miguel is one of the last free flowing rivers in the US, and considered to be one of the few ecologically and hydrologically intact river basins in Colorado. We will work with BLM to ensure that eligible sections of river be recommended for a Wild & Scenic designation, the strongest form of river protection. .

We are eagerly awaiting the upcoming introduction of the San Juan Mountain Wilderness Act. Last fall we presented Congressman Salazar with a proposal for almost 60,000 acres in San Miguel and Ouray Counties to be designated as Wilderness, a Special Management Area and a mineral withdraw for Naturita Canyon. Recently, with the full support of the San Juan County Commissioners, we were able to add nearly 12,000 acres to the Sheep Mountain Special Management Area to include Ice Lake Basin. Several areas included in this bill are headwaters of the San Miguel. This designation will ensure long-term protection for the health of the watershed and its current and future inhabitants. SMA's mission is to provide education for and protection of regional ecosystems, wildlife habitats and watersheds. For more information go to sheepmountainalliance.org. We encourage you to sign up for our email list to receive updates and action alerts. By Hilary White, SMA Executive Director

EDUCATION

WATER INFORMATION PROGRAM

The Water Information Program (WIP) is a public information program established in 1994 to provide information to the community on water topics and issues. It is sponsored by water districts, organizations, and agencies in the Dolores/San Juan/San Miguel river basins. Since 1994, more than 20 brochures have been developed on water-related topics including: irrigation issues, water law, wells, etc. The website (www.waterinfo.org) is the premier, regional on-line source for water-related information. The website contains timely and relevant water-related news, meetings, and events. Please contact us to post your activities, or provide input to the quarterly newsletters we publish. We have two water displays available for loan to help with outreach efforts, and an outreach coordinator to present water-related information at various events. For more information go to www.waterinfo.org or call (970) 247-1302. By Denise Rue-pastin, SWCD

UCSM UPDATE

The University Centers of the San Miguel (UCSM), established in 2005, is a 501c3 non-profit college access program providing convenient and affordable higher education and professional skills classes for residents and employees of the San Miguel River Watershed and neighboring rural communities. Our professional staff provides free academic and college counseling for anyone interested in starting or completing college and/or seeking to improve their career options. UCSM works with several regional colleges to provide accreditation of our local credit courses. We focus on providing access to lower level core academic courses to prepare students to transfer to four year programs. We also provide a full range of academic advising and student support services, develop courses of particular benefit to the continuing education and training

needs of our local workforce, and cater to the interests of lifelong learners, including our many part time residents.

Classes offered this summer include: Intro to Psychology (3 credits), Nutrition (1 credit), Early Childhood Education (3 credits), Spanish 1A & 1C, French for travelers, Microsoft Excel: beginning and intermediate, Intro to Permaculture, Master Student (college preparation), QuickBooks Sessions, and Website Design. For more information or to register go to www.ucsanmiguel.org or registrar@ucsanmiguel.org, or call 369-5525. By Robyn Thiel Wilson, MEd., MA, Executive Director, UCSM

USGS WATER QUALITY DATABASE

The U.S. Geological Survey (USGS) in cooperation with local, state, and federal agency partners, is creating a public web-accessible common data repository. The repository will combine water-quality data from industry, local, State, and Federal sources. Data will be screened and merged from disparate locations into a single uniform format. The quality and completeness of the incoming data will be reviewed and documented. Using the repository, USGS will evaluate all available water-quality data to develop a baseline assessment of the southwestern region's water resources. Results of the baseline assessment will facilitate the development of regional monitoring strategies to fill identified data gaps and minimize redundancies in current and future water-resource monitoring.

The public web-accessible common data repository is near completion. Preliminary results of the baseline assessment should be available late summer 2009. USGS and collaborating partners will provide public outreach with meetings in the SW region to communicate how to use the common data repository and present preliminary results of the baseline assessment. By David Brown, Office Chief USGS, GJ, Co.

WEP UDPATE

The Telluride Institute Watershed Education Program (WEP) continues to provide programming throughout the San Miguel Watershed for Kindergarten to 12th grade students. Examples of our exemplary, hands-on learning experiences follow. In March WEP took ten Norwood Middle School students and two teachers to Farny High Camp near Lizard Head pass. The students snowshoed to the spectacular 11,000' setting at the base of Sheep Mountain. They participated in a snow and avalanche seminar, team-building exercises, reflective writing, sledding, and games. Students, WEP staff and teachers had a rewarding and enriching experience.

Another highlight was K-8th grade Earth Day activities at Telluride Schools. Student awareness was raised through short seminars on bicycle maintenance, planting seeds, art for environment, and endangered species. The students interacted with filmmakers, DOW staff, business owners, animal ecology experts, resident artists and local experts in environment and sustainability.

WEP staff created in-field programming linked to classroom curriculum for 3rd and 4th grade classes, including local mining culture, water cycles and flow, water usage, and environmental impacts on the watershed. This summer WEP will create a watershed program for local preschool camps. The bi-annual Bridal Veil Living Classroom will again be offered to high school students and adults. So will the middle/high school summer river camp on the Gunnison River in conjunction with Explore! from Norwood.

This free programming is providing with generous donations and grants from local entities and individuals. For a full update with photos of our 2008/09 programs, please visit tellurideinstitute.org. By Laura Kudo, WEP

Air Quality Outreach: Forum and Booklet
A goal of MSI's air quality program is to compile and present AQ information in an understandable, usable format for decision makers, managers, and public. In 2008 MSI organized its first San Juan Air Quality Forum, which received excellent reviews. The 2009 event will be on 8/26 at the Durango Public Library. In 2008, over 50 participants, including concerned citizens, representatives of local government, tribes, state and federal agencies, industry, and community groups, gathered to discuss air quality in the Four Corners. Ground-level ozone, visibility impairment, mercury, and nitrogen were the main topics. The "How's the Air Out Here? Air Quality in SW Colorado and NW New Mexico" booklet was released in April 2009 and is available in print and at http://www.mountainstudies.org/Research/airQuality.htm. By Koren Nydick, MSI

Moving Mountains Education Series and Air Quality Forum.
MSI sponsors seminars and field trips by researchers on topics ranging from climate change to historic preservation. They are designed to be low-tech and are free to the public. MSI also sponsors workshops for professional land and water managers, local government officials, and scientists, but also open to the public. Three seminars will be presented in Telluride this fall, on fen wetlands, climate change, and mercury. For more info, see http://www.mountainstudies.org/Education/seminarSeries_09.html.

"My Water Comes from the San Juan Mountains"
MSI, with San Juan Collaboratory partners CU Boulder and Fort Lewis College, is producing a book for 3rd- 5th graders. The book follows the journey of snow falling high in the San Juan Mountains to water in their faucet. It introduces distinctive wildlife, ecosystems, and diverse uses of water from mountains to desert. Local authors include MSI's Koren Nydick and FLC's Gary Gianniny and Mary Ann Goff. The new book highlights watersheds and communities in the western San Juan Mountains. It will be distributed free of cost to classrooms in SW Colorado, including San Miguel Watershed, in fall 2009. Additional copies will be available for purchase. An activity guide, teaching supplies, and training workshop will accompany the book. Book funding comes from CU Boulder's Schoolyard Long-Term Ecological Research Program, and SWCD. Activity guide funding comes from the Coutts and Clark Foundation. MSI thanks Mary Barter, former Durango 9-R Superintendent and MSI board members Rob Blair and Ali Sabeti for their help. By Koren Nydick, MSI

BLM Uncompahgre Field Office Resource Management Plan
The BLM Uncompahgre Field Office is planning a revision of its 1985 Resource Management Plan (RMP). BLM will begin the scoping and public comment period for the RMP in August 2009. The new Uncompahgre RMP will cover 787,640 acres of BLM surface land and 2,344,850 acres of federal mineral estate. About 300,000 acres of the federal mineral estate is split estate, with privately owned surface lands.

The RMP will involve many issues. Identified issues include managing vegetative and water resources, terrestrial and aquatic habitat and special management areas, while sustaining biological diversity and native species populations; managing energy and mineral resources; managing increasing numbers and types of human activities and uses; managing land tenure adjustments, withdrawals and utility/energy corridors; managing and protecting cultural, historical and paleontological resources and Native American Religious Concerns; managing public lands and resources, including authorized and permitted land uses, for a growing population and an expanding urban interface, with consideration for community values and needs. Subsets of these issues include identifying lease stipulations and areas of no surface occupancy for oil and gas drilling, identification of Areas of Critical Environmental Concern, managing wildfire and hazardous fuels in the urban interface, vegetation and wildlife habitat management, and livestock grazing. BLM will consider other issues that arise during the public scoping and comment period. Documents regarding the Uncompahgre RMP will be added to the planning web page as developed. The Uncompahgre planning web page is at: http://www.blm.gov/co/st/en/fo/ufo/uncompahgre_rmp.html. For more informatio, please contact Bruce Krickbaum at 970-240-5384 or bruce_krickbaum@blm.gov.

PINHEAD PUNK SCIENCE SUMMER SCHEDULE

Children learn about atomic reactions, chemistry, and physics in FREE hands-on, kid friendly activities with leading PhD scientists. It is so much fun, they don't even realize they are learning science! Mountain Village, Heritage Plaza, 5-6 PM, Free admission. Free Sweet Life Ice Cream after each program! This program is made possible in part by a grant from Telluride Mountain Village Owners Association & Just for Kids Foundation. Learn more at www.pinheadinstitute.org

July 7:Prehistoric Plants: Fun With Fossils, Bodacious Botanist - Dr. George Weiblen
July 14: Gooey Guts, Outrageous Organs: Science That Really Gets Under Your Skin Dynamite Doctor - Dr. Tim McDonald
July 21: Cool & Crazy Chemistry, Super Scientist - Dr. David Leitner
July 28: Rip, Roaring, Radical Rockets, Hot Shot Scientist - Dr. John Straub
August 4: Mysterious Mixtures & Strange Solutions, Cool Chemist - Dr. Susan DeSensi
August 11: Bubblemania: Bigger, Better Bubbles, Fantastic Physicist - Dr. Ed Lyman
By Sonchia Jilek, Executive Director, Pinhead Institute, 970.708.7441, www.pinheadinstitute.org, sonchia@pinheadinstitute.org,

HISTORY

Dear Altrurian Tabeguache Park 1898

Kindly permit me to employ your columns in my effort to assist a poor but deserving person. To this end I desire to notify the man who got the saltside, coffee, flour, potatoes, sugar, baking powder and molasses which I painfully lugged to my cabin here in a blinding snowstorm, that he overlooked about an ounce of salt in a paper under the bench and at least an inch of candle in the same place. These may be had on application at the printery. I would further suggest that the man shall return and get the battered washdish and the cracked frying pan which he neglected to carry away. They would doubtless be useful to one setting up housekeeping. He is welcome to the knife, pie plate, cup, water bucket and two forks which he borrowed; but I will pay him ten cents cash for the tin

spoon without a handle. The first named articles were too extravagant anyway for a man of my simple tastes; but I value the spoon as an heirloom. It was given to Bert Broman with a can of baking powder which he bought in the early days of the C.C.C. Its peculiar value to me lies in the fact that no one could mistake it for silver while by long practice I could use it to stir coffee without scalding my fingers. As I said, I will pay the man who got it ten cents for its return as I do not think anyone else could be found to steal it unless to extort another reward. I have assumed that the present holder of these commodities is a man, for I know that a woman would have used less than a can of baking powder to raise ten pounds of flour. In conclusion, let it be said I can scarcely express my admiration for such an enterprise as that of my unknown guest; and I would inform him that I saw a Hereford maverick in Tuttle Draw which would doubtless constitute a profitable nucleus for one of push entering the cattle business. Signed, Julian From Marie Templeton

SMWA RIVER CLEANUPS

The San Miguel Whitewater Association is organizing river clean ups on the San Miguel throughout the Summer. In an effort to encourage growth in the sport of kayaking SMWA is sponsoring 4 local kids to learn to kayak for 2 months. Telluride Kayak School instructors and member volunteers will provide this opportunity for 4 local kids to learn to kayak. SMWA is still pursuing possible locations for a whitewater play park and a slalom course for kayakers to practice their skills. Despite many obstacles, we continue to work towards their goals.

By Cari Mackey, SMWA, (970) 728-9307, cell: (970) 596-0662

MESSAGE FROM THE SMWC BOARD

SMWC's guiding principle is to enable all watershed stakeholders to communicate, collaborate, and accomplish together what we can't accomplish alone. Our 2009 goals are: Watershed Health Report Card Update-incorporated into this newsletter; CCC Ditch/Fish Ladder-new engineering underway; River Ranger-Continued sponsorship of River Ranger program, which includes extensive water quality and quantity monitoring work, especially important in light of climate change concerns.

Our ultimate goal is a healthy watershed that provides a sustainable and quality lifestyle. These important projects are made possible by your financial support. Please join us in the effort. If you are a member, THANKYOU, and please renew your membership.