

2008 SPRING EDITION SMWC NEWSLETTER

This edition of the Watershed Connection serves as the 2007 update to the San Miguel Watershed Ecological Health Report Card, issued in 2005. It provides information on watershed health in 2007, as well as upcoming watershed management activities for field season 2008. The updates are arranged according to report card categories: Climate, Water, Aquatic Life, Wildlife, Vegetation, and Soils. Additional information is supplied on open space, resource and recreation management activities, education and a new section on sustainability..

CLIMATE

BIG RUNOFF?

What happened to our big runoff? How much snow is left from our record winter? Snowfall from November to March, based on Telluride's official recorded precipitation, was 43% ahead of last year. However, the current water year, beginning in October, is only 18% ahead, and the Snotel stations, a major basis for predicting runoff, show water year precipitation to date near average, with Lizard head pass at 96% of normal and Lone Cone 96% (the only Snotel station actually in our watershed). Lizard Head still has 106% of average snow pack but Lone Cone is melted out. The story is similar in other regions of the state, though the Upper Colorado and North Platte basins still show snow pack a third above normal.

The strongest San Miguel flows, as of 5/16, occurred in mid April, reaching a stage of about 5 feet (2000 cfs) at the Brooks Bridge gauging station, where bankful is estimated at about 6.8'. The Placerville station, below Specie Creek, peaked on 4/19 at 3.7', about 740 cfs. Flood stage is 6', bankful 5'. The Colorado Basin Forecast Center called for a peak over 810 cfs (stage 3.8) on 5/2, and flows dropping below 200 by late July. My call is a peak of about 1200 on 6/7, with good flows (over 300 cfs) continuing most of the summer.

Climate change seemed to have less effect on our snowpack this year. Greenhouse warming would be expected to result in warmer night temperatures, but we had many sub zero nights throughout December and January. However, climate change is not just about greenhouse gases. Growing desertification in many parts of the world is resulting in more dust being transported through the atmosphere. While the effect on temperatures is mixed, blocking solar gain as well as heat loss by radiation to space, the effect on our snow pack is quite evident. A generation ago, it seemed that dirty snow happened some years, and we believed it came from Southwest deserts. Traveling through the Navajo reservation we observe growing areas of barren dunes. Now we know that our dirty snow can be the result of dust from as far away as China and Mongolia, caused in part by overgrazing by Kashmir goats and other animals. Our early May snowpack, laden with winter's airborne dirt, has diminished quickly.

As measured by the Placerville gauging station, the biggest flows on the San Miguel have been 2400 cfs on 5/15/84. 1984 holds many of May's daily peak records. A flow of 2740 cfs happened on 6/21/83. 1983 holds many of June's record daily peaks. Another unusual peak flow was 1540 cfs on 10/11/1911, the record for October. The highest San Miguel River flow, and perhaps the only real flood on the mainstem, was 9/5/1909, when Trout Lake dam failed catastrophically. By Jerry Green, local forecaster

WEATHER STATISTICS

In the US a water year is the 12 month period from 10/1 through the following 9/30. The end of the 2008 Water Year is 9/30/08. The dates for the water year were selected by USGS as a best fit for the hydrologic cycle in our portion of the northern hemisphere (i.e. how water accumulates and is used over time on the earth's surface). The water supply and soil moisture for next year's growing season best fits the accumulated moisture during the water year. Cumulative water for water year 2007 was 104% of normal. The average temperature for the 07 water year was .8 degrees warmer than normal. A scientific forecast from the 2008 Farmer's Almanac predicted that 2008 will be the warmest in a century. The Almanac says that years ending in 8 are known for meteorological mischief, with extreme events such as supersize hurricanes, heat waves, floods and droughts occurring nationally. So far in 2008, March temperatures averaged 1.9 degrees below normal and precipitation was 46% of normal. Cumulative precipitation so far in the 08 water year dropped from 131% in February to 114% in March. The water content in the San Miguel and Dolores basins dropped to 71% of normal as of 5/09/08. The NOAA national forecast for May, June, and July calls for warmer and drier than normal conditions. By Dennis Murphy, BLM Hydrologist

WATER

AMES FERC RE-LICENSING PROJECT

The Ames Project was the first hydroelectric project in the world to generate, transmit, and provide alternating current (AC) power for industrial use. It involved the work of pioneers in the design and transmission of electricity generation including Nikola Tesla and L.L. Nunn (L.L. Nunn was the owner of the Gold King Mine and funded the project. His brother eventually started the first AC electrical engineering school in Telluride). The powerhouse is the original building constructed for the project.

The Ames Project obtains its water supply from two separate sources: the Lake Fork and Howard Fork of the San Miguel River. The Lake Fork is the primary water source. Spring snowmelt runoff is stored in Lake Hope and Trout Lake. In late fall and winter, Lake Hope storage is released into the Lake Fork natural channel and flows to Trout Lake. Water is released from Trout Lake into a steel pipeline (penstock) that roughly parallels the Lake Fork and extends to the Ames powerhouse. The secondary water source is the Howard Fork. The Howard Fork diversion dam, located below the town of Ophir, conveys water into a penstock that extends to the Ames powerhouse.

Its Federal license expires 06/30/10. Public Service of Co. has elected to seek a new operating license using FERC's Integrated Licensing Process (ILP), which integrates the applicant's pre-filing consultation with FERC's scoping requirements under the National Environmental Policy Act (NEPA).

The Ames hydroelectric plant is considered a fairly small energy producer, capable of generating 3.6 megawatts of electricity, compared to 86.4 megawatts generated at Blue Mesa Dam on the Gunnison River.

Resource working groups (RWG) comprised of the company, its consultants, interested citizens and agency representatives were formed in 2004. One group focused on aquatic related issues. The USFS inter-regional hydropower team from Salt Lake has provided advice and assistance throughout the process.

The Lake Fork is de-watered over a length of 12,528' (2.4 miles) by the penstock which takes water from Trout Lake to the Ames powerhouse. The upper 11,175' of the bypassed reach is significantly dewatered (up to 95% when the penstock is full). Wilson Creek is a major unregulated tributary that enters 1,353' above the confluence with the Howard Fork and substantially augments flow. However, the stream reach below Wilson Creek represents less than 10% of the total fish habitat in the bypass reach. Additionally, a large portion of the reach below Wilson Creek is comprised of large waterfalls and cascades that do not provide suitable trout habitat. USFS, BLM and CDOW share concerns about impaired stream flows that have greatly limited fish habitat and severely reduced or eliminated the potential for a self-sustaining cold-water fishery. There appear to be no other significant limiting factors beyond flow depletions, although there is a natural passage barrier near the Howard Fork confluence.

The CWCB has a 5 cfs instream flow right on the Lake Fork from the confluence with Howard Fork upstream to Minnie Gulch (outflow from Priest Lake). This right is junior to Excel Energy's rights and does not appear to be a useful tool in providing minimum stream flow protection for fish in this section.

The Howard Fork is also substantially dewatered by a separate penstock that delivers water to the same powerhouse. Due to heavy metals contamination and numerous passage barriers the potential to support a viable fishery does not currently exist in the Howard Fork.

A second significant issue relates to the effects of plant operations on the South Fork below a point where water is returned to the stream. Peaking operations, which have only begun in the recent past, raise and lower the river dramatically. Data provided by the company indicates that flow in a reach below the powerhouse varied from 8 cfs to 55 cfs within a 24 hour period during July 2007. The effects of peaking are dependant upon time of year. During winter operations there is concern that river icing and periodic ice flows may be linked. Ice flows are capable of scouring the channel and associated habitat, damaging riparian communities and represent some risk to life and property. Ice movement and peaking operations during spawning and incubation periods are likely affecting the recruitment and available over-wintering habitat for brown and rainbow trout populations in the river. CDOW believes that Ames plant operations may influence failure of this section of the river to meet CDOW fishery objectives.

Most studies were initiated in 2006 with final reports published in 12/07. Comments were due to FERC by 3/08. The USFS identified several shortcomings and concerns with the proposal and study results. A meeting of the RWG was held 4/23/08. The agenda discussed findings of winter operation effects on the river from this past winter and addressed plans for monitoring 2008/2009. The company has not offered any mitigation for project effects, at least in part because they do not acknowledge or recognize those effects.

Future timeline includes: 6/30/08-Public Service files license application; 11/30/08-USFS identifies conditions for attachment to the license; winter of 2008/2009 – FERC prepares EA; 30–60 days

after issuance of NEPA document public and agency comments are due to FERC; Modification of conditions, if warranted; 6/30/10 – FERC issues new Federal license By John Almy, USFS Hydrologist

Ames Power Plant Relicensing Update

The Ames Power Plant is progressing mostly on schedule through the Federal Energy Regulatory Commission's (FERC), Integrated Licensing Process (ILP), to secure an operational license for the next 30 years. The license will include conditions on the power plant operations and facilities that are derived from the findings of the various issues that were identified in earlier phases of the ILP process. (see above story) One important issue is river icing and ice flows on the South Fork and San Miguel Rivers. For the last 3 or 4 years, Xcel Energy and interested stakeholders have designed experimental power plant operations and an extensive monitoring plan during icing season in an attempt to determine the power plants' influence on icing impacts. Preliminary findings are that this effort is helping. For the last two winter seasons the experiment included vertically mixing Trout Lake with underwater fans to release heat that stores at the lake bottom, and appears to be, at least in part, the root cause of the excessive river icing. Additionally, the power plant altered its normal winter flow regime in an attempt to allow the downstream river reaches to develop a stable ice cover. This was accomplished by releasing a relatively large flow rate from the power plant during the first subfreezing period of the year, to develop an ice layer over the river at a high river bank elevation. Subsequently, flows were reduced and power peaking (changing the flow rate daily to produce more power during times of higher power demand) continued but at lower peaks than the ice forming flow. After two years of running this experiment, the preliminary conclusion from Michael Ferrick with the Army Corps of Engineers, Cold Regions Research and Engineering Laboratory is that the experimental operation has had a positive effect on the river icing issue. The data also suggest that some river ice flows, especially during river freeze up periods, would occur regardless of power plant operations. In summary, I expect the final operational license for the power plant will include some operational constraints, and a requirement to continue mixing Trout Lake, while allowing power generation from the 117 year old power plant to continue for another 30 years. By Dennis Murphy, BLM Hydrologist,

No. 2 Diesel Fuel Release - Peaks Resort

On 4/06/08, Number 2 Diesel Fuel was discovered in Prospect Creek drainage in Mountain Village. Investigation by Telluride Fire District staff traced the fuel source to the Peaks Resort where a 2000-gallon Underground Storage Tank (UST) supplying an emergency generator had developed a leak in its gravity fed supply line. The Peaks Resort was notified of the leak and arrangements were made to pump the remaining fuel from the UST, which was completed on 4/06/08. Based on the volume of fuel that was pumped out of the UST, and previous tank levels, it was estimated that approximately 1300 gallons were released. Environmental response companies were onsite for mitigation at approximately 1200 hours on 4/07/08 (Envirotech, Farmington, NM) and 1400 hours on 4/08/08 (Environmental Management Group, Phoenix, AZ). Released product flowed in a stormwater drain line for approximately 550' where the stormwater drain daylights and flows over the ground for approximately 75' where it reaches the Hole 18 pond on the Telluride Golf Course. The pond and adjacent/downstream wetlands are part of the Telluride Ski & Golf Company's (TSG) wetland mitigation projects in the Mountain Village, and ultimately Prospect Creek discharges on the valley floor to an additional 20 acres of wetland restoration completed by TSG.

As the snow pack dissipated, more of the area around the Pond/Wetland and Gorrone Creek became visible. Daily surveys of Gorrone Creek to Prospect Creek to the San Miguel River were, and will continue to be conducted to assess impacts from the diesel fuel release. The water level in the Pond/Wetland continues to be regulated via a pump providing maximum sunlight exposure to the banks and aerators have been installed to help treat the water in the Pond/Wetland by bubbling in air to drive off the volatile organic compounds present in the water column. A portable water treatment system was installed and operating by 4/30/08. The treatment system consists of sedimentation/storage tank (21,000 gallons) and high-flow filters (2x100 gallons per minute). The system allows for treatment of water prior to discharge downstream into Gorrone Creek or allows for cycling back into the Pond/Wetland. Intensive monitoring and visual assessment including water quality monitoring and sediment sampling continues on two sites on Gorrone Creek below Pond/Wetland, two sites on Prospect Creek (including one in valley floor area), and two sites on the San Miguel River below confluence with Prospect Creek. Sample parameters include Methods 8021, 8015B & 8310 for all water quality monitoring locations. Clean-up/monitoring has and will rely on continued intensified stream water quality sampling and oil absorbent boom monitoring & replacement in Gorrone Creek and Prospect Creek. Daily water quality

sampling continues but with the water treatment system online, less frequent monitoring may be implemented in the near term. Envirotech will continue with the UST site characterization report field activities. Scheduling is being coordinated for camera inspection of 6" perimeter drain line and 18" stormwater drain line at Peaks Resort UST location to the Golf Course Pond/Wetland. Camera inspection will attempt to document the condition of pipe joints, any pipe breaks, and overall condition of 6" perforated pipe perimeter drain. This will be an important aspect of site characterization for continued 'bleeding' of any diesel fuel along the pipe. The condition of the stormwater drain pipe is also important for assessing any impacts along the pipeline if the integrity of pipe is questionable. A pond/wetland damage/reclamation assessment report will be prepared for EPA review and approval. A wetlands assessment report will include areas from the Pond/Wetland to the San Miguel River – assessing areas for impacts related to diesel fuel release, if any. Additionally, a Surface Water Impact and Monitoring Report will be prepared which will include all monitoring data, as part of a Site Characterization Report for submittal to CDPHE and the EPA. By Chris Hazen

Mercury in Precipitation and Lakes

The San Juan Mountains are perceived as having crystal clean air due to remoteness from large urban centers. However, these mountains are in close proximity to Four Corners, a center for coal-fired energy production and methane production and processing facilities. San Juan County in northwestern New Mexico, just south of the San Juan Mountains, is the 5th largest emitter of mercury among all counties nationwide. Three additional power plants and about 12,000 natural gas wells are proposed for the Four Corners region.

Measurements of mercury are scarce in the region, but existing data show very high mercury concentrations in precipitation at Mesa Verde National Park and mercury fish advisories for local reservoirs, which are partly due to air pollution.

Mercury is a naturally occurring element found in air, water and soil. Mercury exists in several forms: elemental mercury and inorganic and organic mercury compounds. When coal is burned, mercury is released into the environment. Coal-burning power plants are the largest human-caused source of mercury emissions to the air in the US. Mercury in the air eventually settles to the ground, where it can be washed into aquatic ecosystems. Once deposited, certain microorganisms can change it into methylmercury, a highly toxic form that builds up in fish, shellfish and animals that eat fish. Fish and shellfish are the main sources of methylmercury exposure for humans. Mercury exposure at high levels can harm human organs. Most people's fish consumption does not cause a major mercury health concern, but high levels of methylmercury may damage developing nervous systems in unborn babies and young children. High levels of methylmercury exposure to aquatic birds, mammals, and fish result in reduced reproduction, slower growth and development, abnormal behavior, and death.

MSI initiated a study of mercury in the environment in 2007. The three study components included measuring mercury in precipitation, lake zooplankton, and lake sediment cores. The study is ongoing and the results presented here are preliminary. MSI collected weekly precipitation samples from a bulk deposition collector on Molas Pass from 4/10/07 to 10/23/07. Preliminary results show a range of annual mercury deposition on the high side for sites in the western US and comparable to sites in the Midwest, Atlantic, and New England regions. Mercury deposition results from 2007 are not yet available for Mesa Verde National Park for comparison.

MSI also collected zooplankton samples from 28 high-elevation lakes (including Trout and Woods Lake) and analyzed them for methylmercury. Zooplankton are small invertebrates that feed on algae and in turn are eaten by fish. Preliminary results show methylmercury values similar to lakes in coastal and Midwest locations affected by elevated mercury deposition. Water quality and GIS-derived watershed measurements were collected with matching funds and will be analyzed to determine environmental predictors of zooplankton mercury concentrations in lakes of this region.

Sediment cores were collected from four lakes. Preliminary data show mercury flux increased from pre-industrial levels beginning ~1870 and peaked from 1970-1990 before declining to mid-levels after 1990. The peak and modern fluxes were 3.7-4.8 and 2.0-2.3 times higher than pre-industrial, respectively. These results are similar to sediment cores from Midwest and New England lakes, but they do not show as strong of a post-1970 increase (attributed to local power plants) as cores from Narriguennip Reservoir collected as part of another study. Funding was provided by EPA, San Juan and GMUG National Forests, San Miguel County, and TI by Koren Nydick, MSI

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, as well as adequate vegetative cover on 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 Idarado reaching the Consent Decree's performance objective of a 50% reduction of total zinc concentrations in the San Miguel River. In 2007, the 52-week annual average total zinc concentration in the San Miguel River was 0.305mg/l, in 2006 it was 0.31 mg/l, both below the water quality performance objective of 0.336 mg/l.

Irrigation and fertilization of the Telluride Tailings piles occurred in 2007. Vegetative cover is measured annually, and in 2007 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. By Camille Price, CDPHE

USFS RECLAMATION OF THE CARBONERO TAILINGS SITE

The Norwood Ranger District and the GMUG Forest Supervisors Office, in cooperation with the Town of Ophir, are proceeding with plans to reclaim the Carbonero Tailings site, just east of Ophir. Last year the USFS announced that Millennium Science & Engineering, Inc. (MSE) had been hired to design/build an on-site encapsulation of the mill tailings under the Forest Service's Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authority. The reclamation efforts implemented will meet removal objectives for this site, which include reduction of risk to human health and environment by minimizing the potential for migration of contaminants from tailings to surrounding soil, surface water, groundwater and air.

Analysis by consultants working with Trust for Land Restoration estimated the volume of mill tailings at the site to be approximately 15,000 cubic yards. The majority of tailings at the site are situated on Forest Service administered land, but a portion of the tailings are located on a patented mining claim known as the Ferric Oxide Placer, owned by the Town of Ophir. The USFS plan will clean up the Ferric Oxide and the portion of the site that sits on Public Land. In return for cleaning up the Ferric Oxide, last fall the Ophir Town Assembly agreed to the concept of subdividing and donating to the USFS, a one-acre portion of the Ferric Oxide, to be used to include a portion of the on-site tailings encapsulation. This past winter, Leigh Sullivan collected field data from monitoring wells to help determine ground water levels on the west end of the site.

Former Town-Attorney Eric Heil has been hired by Ophir to prepare annexation and subdivision plans for the Ferric Oxide, and is expected to bring them to the Town Assembly at its June meeting for approval. The USFS anticipates MSE will complete site prep and materials staging this year, so site reclamation can be completed in 2009.

The Carbonero Tailings site is one of three mining-related cleanup priorities for the Howard Fork, as identified in 2001 by a working group sponsored by SMWC. The other two priorities are the Carbonero Mine adit and Carribeau Mine. The USFS and TLR are beginning their 7th field season of cooperation to investigate and characterize abandoned mining sites and acid rock drainage (ARD) in the Howard Fork valley. ARD is water contaminated by heavy metals that emanates from mine openings, from the toe of waste rock and tailings piles, and, sometimes from natural occurring springs and seeps. ARD in the Howard Fork severely impacts aquatic insect reproduction and aquatic fish species, but is not considered a threat to human health. By Pat Willits, TLR

FORMER NEWMIRE VANADIUM MILL SITE REMEDIATION PROJECT

A Voluntary Clean up Program (VCUP) action will be conducted by Cyprus Amax Minerals Co. under guidance of CDPHE. The former Newmire Vanadium Mill Site is located about two miles east of Sawpit, Colorado, along Highway 145 west of the confluence of Big Bear Creek and the San Miguel River. Historically, the former Newmire Vanadium Mill Site was used to process vanadium ore extracted from nearby mines. During mill operation, tailings were generated and disposed of near the mill. The site encompasses approximately 15 acres and consists of the former mill area, tailing disposal area and support facilities. The site is currently owned by Chemetall Foote Corp. In a letter dated 5/2/06 to CDPHE, Chemetall Foote authorized Cyprus Amax to perform remedial activities at the site.

At present, the former Newmire Vanadium Mill Site consists of a graded lower topographic bench and an upper debris slope of semi-capped tailings and loose rock and gravel, a few scattered concrete foundations, and a remnant ore-haul road that switchbacks across the debris slope. Best management practices have been implemented to prevent migration of impacted materials from the site. Periodic inspections are conducted to verify stability. Public access to the upper bench is restricted by a chain link fence along Highway 145. The fence continues for a short distance upslope on the east and west boundaries of the mill site. "No Trespassing" signs are posted. Access is uncontrolled to the lower bench along the San Miguel River. A storm water discharge permit for the site has been issued by CDPHE. Inspections, random radiation surveys and analytical sampling conducted by CDPHE and EPA determined that mill tailing, unprocessed ore, and associated contaminated soil at the site contained naturally occurring radioactive material (NORM). From October to November 2002, site characterization activities were conducted by Cyprus Amax. On 7/31/03, the Final Characterization Survey Report was issued to CDPHE. The objective of this report was to identify areas and estimate concentrations of radioactive materials exceeding background levels that would result in a radioactive dose to a member of the public greater than 25 microrem-per-year total effective dose equivalent, based on reasonable site usage. The characterization survey demonstrated that subsurface residual radioactivity existed at the site on both sides of Highway 145. From historical photographs, it appears that Highway 145 was constructed through the mill site. Cyprus Amax is developing the voluntary remedial action plan to restore the site to recreational use. The remedial action plan involves removal (excavation) of radioactive tailing material from the site. Current estimates indicate that approximately 15,000 cubic yards of material will be removed to an off-site disposal/reprocessing facility. Development of the remedial action plan includes preparing the excavation and final grading plans and selecting a qualified contractor to conduct excavation and removal activities. After receiving notice of CDPHE approval of its cleanup proposal, Cyprus Amax filed its plan with San Miguel County and CDOT along with the required permit applications for project completion. Cyprus Amax welcomes community interest in the project. Cyprus Amax intends to work closely with CDPHE under the VCUP on the remediation of the former Newmire Vanadium Mill Site. Cyprus Amax will communicate with the Town of Telluride, the San Miguel County Commission, and the Intergovernmental Committee to keep residents informed of site progress. Cyprus Amax is also preparing to host open house forums. Upon completion of the remedial action plan, copies will be deposited with CDPHE and the Telluride Public Library. For more information regarding the former Newmire Vanadium Mill Site and Cyprus Amax's activities at the site, contact Phil Stoffey (Project Manager, Radiation Control Program, Hazardous Materials and Waste Management Division, CDPHE, 4300 Cherry Creek Drive, Denver, Colorado 80246-1530; Phil.Stoffey@state.co.us , (303) 692-3452) or Jim Telle (Manager, Corporate Communications, FMI, One North Central Avenue, Phoenix, Arizona, 85004; james_telle@fmi.com or 602-366-7963).

SILVERBELLE TAILINGS RECLAMATION

Additional reclamation activities were completed by PacifiCorp in 2007 at the Silver Bell Tailing Impoundment, located 1.5 miles west of Ophir along Highway 145. The reclamation is being conducted under the Voluntary Cleanup Program directed by the CDPHE. Historically, PacifiCorp and its predecessor companies owned the property. In the late 1990s the impoundment began to deteriorate. At that time, PacifiCorp and the current owner contacted CDPHE to initiate remedial action to stabilize the impoundment.

The major activity in 2007 was construction of a micro-pile shoring and mechanically stabilized earth wall on the east slope of the reclaimed tailings facility bordering Howard Fork (See Photo). The micro-pile wall involved drilling 4" holes on 18" centers along the rim of the east bench and filling them with reinforced concrete. This method stabilized the wall during construction of the mechanically stabilized earth wall. The wall improves the stability and appearance of the tailings slope. Tailings were removed from along the bank of the Howard Fork and placed in the impoundment as part of wall construction. A limestone drain was constructed at the base of the wall to consolidate and treat any possible seepage emanating from the base of the east slope. The wall and associated work on the east slope of the impoundment eliminated direct contact of storm water with tailings during high flow periods and runoff from rain and snowmelt.

Additional construction made improvements to the overall site storm water management systems and to the wetland area, which passively treats the small seepage from the north toe of the impoundment. Snow covered the site before the disturbed areas on the top of the impoundment could be re-vegetated. All disturbed areas will be planted in spring 2008. In addition, some minor improvements to the passive

treatment system will be installed in 2008. Once these steps are finished, the active remedial items at the site are complete. The site will then be monitored for three years to verify that vegetation has been established on disturbed areas.

Photo caption: View of the mechanically stabilized earth wall on the east slope of the reclaimed tailings facility bordering Howard Fork, which will stabilize the tailings slope. A limestone drain was constructed at the base of the wall to consolidate and treat any possible seepage emanating from the base of the east slope.

SOUTHWESTERN WATER CONSERVATION DISTRICT

The Southwestern Water Conservation District ("SWCD") was created by the Colorado legislature on 4/16/1941. The purpose of the district includes: "Surveying existing water resources and basin rivers, taking actions necessary to secure and insure an adequate supply of water - present and future, constructing water reservoirs, entering into contracts with other water agencies, organizing special assessment districts (known as water conservancy districts), providing for instream flows for fisheries and other legal responsibilities needed by the district to fulfill its purposes."

The SWCD Board of Directors is appointed by county commissioners from each of the nine southwestern Colorado counties in the San Juan and Dolores river basins (La Plata, Montezuma, Archuleta, San Juan, San Miguel, Dolores, and parts of Montrose, Hinsdale and Mineral counties.) and serves three-year terms. The District is funded by a mill levy (\$2 for every \$100 of assessed value) throughout the entire district on real property. The budget is approved in an annual public meeting held by district directors.

Currently, SWCD is involved in many projects, including the triennial review of water quality data on the San Miguel, Dolores, Animas, Florida, Piedra, and Pine rivers, and their tributaries. The District continues to support the Animas Stakeholders Group, which in 2007 received a "Regional Partnership of the Year" award from the Regional Forester. SWCD staff is assisting with the Uraivan water rights discussion, and John Porter, district President, is very involved with the Dolores River Dialogue (a group attempting to gain consensus on how to enhance the Dolores River below McPhee Dam). SWCD also supports the Dolores D-Tag Group in their efforts to eradicate tamarisk or salt cedar from the McPhee Reservoir area. For many years, SWCD has participated in a cost sharing agreement with USGS for local stream gauges, and supports an ongoing weather modification program. In response to continuing drought, SWCD has recently entered into an agreement with Lower Basin States to extend the cloud seeding period in southwestern Colorado. This agreement also helps satisfy the Secretary of the Interior's wish for initiation of more active water conservation programs 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 is a collaboration of various governmental and public entities including SWCD that works with the public to research and identify all applicable uses and values for many of the streams/rivers in the District to determine an appropriate protection designation while still allowing some future water development.

SWCD also makes loans and grants to smaller water users to ensure water is best put to beneficial use. To date in 2008, SWCD has financially supported Ft. Lewis College in development and publication of a book entitled, "My Water Comes from the San Juan Mountains" to be distributed to local third-grade students. Every year, SWCD sponsors a water seminar in early April and the annual Children's Water Festival, an 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, has recently been appointed to the statewide Colorado Water Conservation Board, representing the southwestern area of the state. Bruce Whitehead, Executive Director and Jane Maxson, Office Manager can be reached at (970) 247-1302. By April Montgomery, SWCD Director, San Miguel County

CORNET CREEK RISK MITIGATION?

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, which is loose volcanic rock, can contribute heavily to rock and mud flows during intensive precipitation. The

lower portion of the watershed 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 wet weather. The flood potential described in the FEMA Floodplain Report on Cornet Creek indicates a 100-year storm would result in a flow of 590 cfs with an increase to 1,500 cfs considering sediment or mudflow transport. However, this mudflow could carry large boulders and trees, which would block drainage structures in the flow path. Old mudflow debris found along the Cornet Creek channel indicates that much larger floods occurred before Telluride was built. Therefore, historic mudflow floods were probably not unusual or even particularly large when compared to floods which have occurred during the recent geologic past.

As a result of this significant hazard, Cornet Creek has been the subject of 12 studies. In 2007, the Town embarked on study number 13. On 6/05/2007, Mussetter Engineering, Inc. (MEI) was selected from among five prominent firms to conduct the Cornet Creek Drainage Maintenance and Flood Mitigation Study. The intent was to provide specific instruction to Town Staff regarding the appropriate level of clean out of the channel and to provide information about state-of-the-art flood warning systems. A significant portion of the work was intended to provide an engineering analysis that could be built on for future, more detailed studies and designs.

The information provided in previous studies provided recommendations, but nothing useful from a working on-the-ground perspective. Public Works staff needed more detailed information prior to making a decision about excavating deposited sediment from the creek bottom. The public was asking a lot of questions about Cornet Creek: about accuracy of the FEMA 100-year flood plain, about adequacy of previous sediment removal efforts, about current early warning technologies that are feasible and might be useful.

Study Findings and Recommendations

1. Annual snowmelt flows, because of their relatively long duration, are capable of transporting available in-channel sediment from the basin to the alluvial fan, but the magnitudes of both the flows and the sediment transport are relatively low. The highest peak flows are generated by high-intensity rainstorms in mid-to-late summer.
2. Significant supplies of sediment are available for transport both upstream and downstream of Cornet Creek Falls. This finding has two implications: (a) The amount of sediment available for debris flows is not diminishing over time. (b) Early warning systems located in the upper portion of the basin will not always provide advance notice of a debris-flow event prior to its arrival at the top of Aspen Street.
3. Hydrologic modeling with HEC-HMS, a state-of-the-science Army Corps sanctioned model, resulted in peak flow estimates for Cornet Creek up to 3 times greater than peak flows estimated in the 1992 Flood Insurance Study by FEMA. This means that flooding along Cornet Creek is likely to occur more frequently than originally assumed.
4. The project scope included the length of Cornet Creek through town: The upstream boundary was just downstream of the Jud Weibe Footbridge above Aspen Street. The downstream boundary was at the Creek's confluence with the San Miguel River. This length of creek was divided into 10 subreaches.
 - a. Ten bridges and culverts form the primary hydraulic control of how the creek flows through town and behaves.
 - b. The relatively steep channel gradient causes sediment to move at relatively low flows (less than 10 cfs, the average winter low flow of the San Miguel River), allowing the creek to move large amounts of sediment over time.
 - c. Sediment tends to settle out in most of the subreaches in Town, causing the creek bed to rise. This decreases volume available in the creek channel for carrying water to the river.
 - d. Maintaining a minimum available volume in the creek channel requires regular channel maintenance—excavating and hauling approximately 300 cubic yards of sediment on average annually.
 - e. Due to development and controls along the Creek, the largest flood flow capacity that is possible for Cornet Creek is the 5-year flood event, which has a 20% chance of occurrence any given year.
 - f. To achieve the necessary volume in the creek for the 5-year flood event, approximately 3,800 cubic yards (380 dump trucks) of material must be excavated and hauled away. In

some locations, it may be necessary to lower utilities. It may also be necessary to engineer and install bank stabilization where encroachments require a steep bank slope. This means a fairly uniform channel with a 4' wide bottom and 2-to-1 bank slopes.

5. With the existing constraints and encroachments, it would not be possible to construct a channel that would safely convey a 14,000-cfs debris flow across the Cornet Creek fan as recommended by Mears et al. in 1974, so therefore, damages are likely to be high on the fan.
6. Ideally, managing the risk posed by debris flows and general flooding requires a multi-tiered approach that includes land use planning, installing preventive measures, stabilizing slopes, implementing early warning systems, installing protective structures, and developing procedures to restore normal conditions after an event. Since it is not possible to convey the debris flow across the alluvial fan in a constructed channel (e.g., the debris conveyance flumes in Ouray), the only other measures available are to reduce the volume of the debris flow by trapping a portion of it upstream of the fan, or to provide an early-warning system that would reduce the risk to persons, but not reduce damages to structures.

The best flood mitigation within the Cornet Creek channel is to excavate so that it can carry a 5-year flow. Current hydrologic modeling techniques indicate this volume is approximately 498 cfs. When the next debris flow occurs, the best the Town can do is ensure an efficient clean up effort—it cannot be prevented.

This knowledge has spurred the Town and private landowners along the creek to work cooperatively to better coordinate clean out of deposited sediment along the creek bottom. The first effort began this spring prior to snowmelt runoff and involved removing trees encroaching in the active channel and completing a quick excavation effort where flood-flow capacity of the stream is obviously low. The second effort will take place after runoff has receded, and include excavating the channel to the 5-year elevation, lowering utilities that will be exposed as a result of the excavation, creating a detailed map of all utility crossings, obtaining Army Corps of Engineers Permits, and retaining banks that are at less than a 2H:1V slope. A bridge is currently being engineered to replace an undersized culvert at the upstream end of Town at Dakota Avenue by the end of fall 2008. A second bridge will be engineered to replace two undersized half-culverts at the downstream end of Town at Pacific Avenue in 2009.

These projects are just one aspect of a broader 2-year Work Plan that focuses on (1) Public Information & Outreach, (2) Legal Obligations & Agreements, (3) Planning & Building Codes, and (4) Science & Engineering. For the latest detailed information about Cornet Creek, download the final Mussetter Engineering report from Telluride's website at www.telluride-co.gov. By Karen Guglielmono, Telluride Public Works

CARRIBEAU MILL SITE

With the help of Wildlife Habitat & Natural Resource Specialist, Rick Sherman, the cumbersome permit process for restoration of a beaver pond and wetlands, stabilization of the Howard Fork River, amendment of soils, and vegetation of mill tailings has been completed. Rick is a delight to work with; thank you to Dave Schneck for the introduction.

Starting in June, the work will transform the slimy pond and the yellow cake prairie into a grassland habitat for fish and passing ducks. We will pull back tailings from the Howard Fork, stabilize and vegetate the bank and be ready for the Watershed Coalition BBQ and bonfire this summer. By Harley Brooke-Hitching

SAN MIGUEL WATERSHED COALITION MONITORING WORK

SMWC has supported a tributary flow monitoring program since 1995. It has grown from measuring 15 to 30 tributaries. Flow levels are recorded monthly from May through September. During 2004, a monthly summer water quality monitoring program was initiated, with support from SMWC partners. Sampling for parameters of temperature, conductivity, ph, and dissolved oxygen are performed.

In addition SMWC is currently funding a Riverwatch program. The CDOW and the Colorado Watershed Network support metals and nutrient sampling by schools and watershed groups statewide. Locally, SMWC monitors four stations on the Howard Fork and the Gamebird adit in Waterall Canyon monthly year-round to try to determine the origin of metals impacting Howard Fork water quality. This project is funded by watershed partners including USFS, Town of Ophir, and Telluride Foundation. By Leigh Sullivan, River Ranger

AQUATIC LIFE

Fishing the San Miguel River Basin in 2008

Fishing opportunities this year in the San Miguel basin should be excellent with area waters recovering from several years of drought with an above average snow pack. The high snow pack (estimated at 130% of average snow water equivalent on April 1st) will likely produce a large runoff that could make fishing in streams and rivers difficult until mid summer. Lakes and ponds might be good bets for early season fishing.

The Colorado Division of Wildlife will stock over 130,000 catchable and fingerling trout in area waters for anglers to pursue. The San Miguel River between Placerville and Pinon Bridge will receive 20,000 fingerling brown trout, 10,000 fingerling rainbow trout and 7,000 catchable sized rainbow trout. An exciting new management change for 2008 is that rainbow trout fingerlings stocked in the San Miguel will be the new whirling disease resistant strain. This will hopefully improve survival of the fingerlings and help return wild rainbow trout reproduction to the river. The San Miguel above Placerville, including the South Fork will be stocked with 10,000 fingerling brown trout and 5,000 catchable rainbow trout.

For those who prefer flat water fishing, Miramonte Reservoir was stocked with 60,000 fingerling rainbow trout in early May and 10,000 fingerling brown trout in June. Recent surveys indicate fishing should be good at Miramonte in 2008 for rainbow trout in the 14-16" range and a few brown trout up to 18". After several years of low recruitment of rainbow fingerlings, numbers are back up and fishing should be good for the next several years. Trout Lake should live up to its name with 7,000 rainbows being stocked in June, July, and August. Alta Lakes will be stocked with 3,000 catchable rainbow trout in June and July. Applebaugh pond near Placerville will be open to fishing and was stocked with rainbow trout in May.

Many high mountain lakes and streams will be stocked with Colorado River cutthroat trout in ongoing efforts to restore the West Slope's native trout to area waters. Efforts continue on developing a brood stock of native Colorado River cutthroats from the San Miguel basin to be used in future restoration efforts. Projects at Priest Lake and Woods Lake are also proceeding to return the native trout to historical habitat there. Public input is currently being welcomed on a plan to reclaim Woods Lake and return native Colorado River cutthroat trout. This project could occur in late summer of 2009 and would consist of isolating the lake from downstream tributaries with fish barriers and removing all non-native trout with a chemical treatment. Native Colorado River cutthroats would then be re-stocked in the lake to create a wild population. Please contact CDOW with comments and questions at: Dan Kowalski, 2300 S. Townsend Ave, Montrose, CO, 81401. (970)252-6017.

CDOW is also working on water quality issues that affect fish populations in the San Miguel River basin including heavy metal contamination, winter icing issues, and water quantity and flow patterns. The South Fork and Upper San Miguel continue to have poor winter habitat conditions due to unnatural flow patterns in the South Fork. The Ames power plant is currently being re-licensed by the Federal Energy Regulatory Commission (FERC) and interested parties are encouraged to submit comment on the effects of the power plant operations on the surrounding environment. For more information visit the website: <http://www.tacoma-ames.com/ames/default.htm>. Feel free to contact DOW for information about the process and wildlife concerns. Written comments on the license proposal by Public Service Company of Co. are due to FERC 11/30/08 and comments on the environmental assessment by FERC are due 9/14/09.

Anglers should have good opportunities to enjoy the great aquatic resources of the San Miguel basin and are encouraged to be aware of and follow all fishing regulations. The daily bag limit for trout is 4 fish with a possession limit of 8. In addition, anglers may take 10 brook trout daily less than 8". The flies and lures only restriction on Woods Lake has been temporarily lifted to allow for bait fishing and increased harvest of brook trout. Special regulations may apply to specific waters. Please consult the 2008 Colorado Fishing brochure for more information or contact the DOW area aquatic biologist Dan Kowalski at (970) 252-6017. More information including the 2008 Southwest Region fishing forecast is available at <http://wildlife.state.co.us/Fishing>.

WILDLIFE

USFS WILDLIFE PROJECTS

National Forest lands within the San Miguel watershed are located on the Norwood Ranger District of the Uncompahgre National Forest. Activities in the District wildlife program this year will include a variety of habitat and species surveys, and several habitat improvement projects.

During April and May we continued to survey and monitor Abert's squirrel populations on the south end of the Uncompahgre Plateau. This squirrel is highly associated with mature and old growth stands of ponderosa pine, and is sensitive to structural habitat modifications that can result from timber or fuels management projects. The USFS is interested in locating Abert's squirrel populations and monitoring the response of these animals to those management activities. Information from these surveys will be used to provide input into design of a large-scale fuels management project proposed for south of Horsefly Creek canyon.

In May and June we are conducting breeding bird surveys for the 12th year, in various habitat types. That information is entered into State Natural Heritage Program databases, State Breeding Bird Atlas surveys, and shared with organizations such as the Rocky Mountain Bird Observatory.

During June and July we will also complete surveys for northern goshawk within certain District project areas. These surveys are necessary to determine if there are nesting pairs or territories of this sensitive species within proposed project areas so that we can provide input on protection and conservation. Another long term monitoring project we will continue is our forest owl nest box project. We have placed 400 nest boxes in suitable habitat within the watershed to attract cavity-nesting owls. So far we have been successful in documenting the occurrence of boreal owl, flammulated owl, and saw-whet owl in our watershed. Each year we band between 10 and 30 adult and juvenile birds. Anyone interested in observing banding of owls can call me to arrange to do so. The banding process usually occurs in late June through end of July.

We will spend much of the summer preparing habitat improvement projects for big game. We have focused on projects to improve winter range habitat in this area for several years. Thanks to partners such as the Mule Deer Foundation, the Rocky Mountain Elk Foundation, and the Habitat Partnership Program we will be able to roller chop and seed another 800 acres of winter range habitat on the Plateau east of Nucla. We will also conduct an 850 acre prescribed burn in the fall on the Uncompahgre Plateau near Columbine Pass. The Rocky Mountain Elk Foundation has also provided generous support to implement our travel management plan on the District. Reducing open road densities and motorized trails has a significant benefit to big game habitat effectiveness, and is a key element in encouraging big game to utilize local public lands. The two main projects this year are located in the Red Canyon and Spruce Mountain areas of the Uncompahgre Plateau. By Craig Grother, USFS Wildlife Biologist

HELPING THE GUNNISON SAGE-GROUSE

In 2007, a number of habitat protection projects were completed to benefit the rare Gunnison sage grouse. In July, CDOW purchased the 350-acre Elk Creek Land Company parcel near Miramonte Reservoir. This critical habitat will become part of the Dan Noble State Wildlife Area. This purchase was the culmination of efforts by TNC, the San Miguel Basin Gunnison Sage-grouse Working Group and other partners.

Landowners helped to protect more grouse habitat through conservation easements in 2007. Thanks to Chris Baker, TLR and CDOW there is now a total of 1100 acres of habitat protected on Iron Springs Mesa. Howard Hughes, San Miguel County Land Heritage Program and Colorado Cattlemen's Agricultural Land Trust (CCALT) worked to protect 640 acres of habitat on Beaver Mesa. San Miguel County's Land Heritage Program and CCALT also closed on an easement on 400 acres of Robert Bray's property on Hamilton Mesa.

Our partners also completed habitat improvement projects to help the grouse. Raymond Snyder allowed staff from CDOW to case old wells on his property and add solar pumps to bring water to the surface to create wet meadow habitat needed by sage-grouse hens and chicks. This project was made possible through funding by Black Canyon Audubon Society, Fish and Wildlife Service, EnCana Oil and Gas, and CDOW.

Other projects included thinning trees that were encroaching into sagebrush parks on Monogram Mesa by BLM and on Iron Springs Mesa by USFS. Folks from Uncompahgre Plateau Project helped volunteers collect sagebrush seed in November. Some seed was aerially applied to areas in Dry Creek Basin, and the rest of the seed sent to a nursery for propagation. Sagebrush seedlings were planted this spring.

Last spring's lek counts (counts of male birds on courtship grounds) were slightly below those of 2006. In 2007, a total of 66 males were counted on leks in San Miguel County (leading to an estimate of 324 sage-grouse in the San Miguel Basin). In 2006, a total of 77 males were counted. This year, deep snow

made it difficult to reach higher elevation leks early in spring. 2008 data should be available in June. Please see our website <http://www.freewebs.com/sanmiguelssagegrouse> for details.

CDOW, TNC, and Utah State University (with in-kind donations by the San Miguel Basin Gunnison Sage-Grouse Working Group, the Gunnison Basin Working Group, and Western State University) held a Gunnison Sage-grouse Summit on May 14 – 15, 2008. Thank go to our sponsors: Telluride Foundation, EnCana Oil and Gas, Black Canyon Audubon Society, TNC, San Miguel County, CDOW, and BLM. For more information, please contact 970-626-2272 or LeighRobertson@netscape.com.

HABITAT IMPROVEMENTS

The Dolores Public Lands Office started implementing habitat improvement projects in Dry Creek Basin for Gunnison sage grouse and big game. We implemented one project on Monogram Mesa in 2007 and are planning two more projects 2008. These projects are being done in cooperation with the San Miguel Gunnison Sage Grouse Working Group and CDOW. Our office wrote a programmatic environmental assessment in 2006 to establish strategies and priorities, and project design standards for grouse, deer, elk, and desert bighorn sheep on BLM lands managed by this office. We also implemented a vegetation monitoring project for the Monogram project under the GUSG Rangewide Plan. By Kathy Nickell, Wildlife Biologist, BLM/FS (970) 882-6835

COUNTY WILDLIFE EFFORTS

Efforts are still underway to protect habitat of the Gunnison Sage Grouse that reside in western San Miguel county by partnering with the sage grouse working group, and working to have the bird listed as threatened or endangered. The State Land Board will be here on 7/24-25 to join county officials for a site visit of habitat at Miramonte Meadows and a discussion of how they might assist efforts to protect sage grouse habitat.

The Fish and Wildlife Service is considering discontinuing the reintroduction program of Canada Lynx in the Lizard Head region. The county is arguing to continue the program citing strong evidence that lynx are making a comeback in our region. By Joan May, County Commissioner

GOLF COURSE AS WILDLIFE HABITAT

Golf courses can get a bad rap for harming the environment, but here in Telluride we work to ensure a sustainable operation. More visually appealing than a paved parking lot or shopping mall, a golf course can play a significant role in enhancing wildlife habitat and protecting natural resources. The Telluride Golf Club has been designated an Audubon Cooperative Sanctuary by Audubon International, an organization that provides conservation assistance to communities and golf courses worldwide.

Proving to be a “green” course requires managing the property with wildlife in mind and committing to a high standard of environmental planning that ranges from water quality and conservation to environmental education and outreach programs for the community. Guests and employees enjoy the benefits of abundant wildlife and scenic settings while appreciating the efforts taken to preserve nature.

Certification in the acclaimed Audubon program requires a commitment to applying sustainable management practices to several categories of golf course operations: Environmental Planning, Wildlife and Habitat Management, Chemical Use Reduction and Safety, Water Conservation, Water Quality Management, and Outreach and Education. By Deanna Drew, TSG

VEGETATION

TNC 2008 PROJECTS

The Save The Natives project is nearing completion. In 2001 the notion that tamarisk could be cut, killed and make way for native vegetation in an entire watershed seemed very ambitious and half misguided. Yet the San Miguel proved to be an ideal watershed to tackle an invasive problem that had run unchecked for half a century. With the help of San Miguel County Weed Coordinator, Shelia Grother, support from BLM, and cooperation from private landowners, the Save the Natives campaign is nearing completion of treating over 120 miles of infestation on the San Miguel and its tributaries. TNC recently learned that its grant application to the National Fish and Wildlife Foundation for riparian restoration was completely funded. Matching funds from Marathon Oil Corporation helped achieve the success of this grant application. These public/ private partnerships and innumerable private donations illustrate the

importance of our watershed and Colorado's commitment to restoring watershed health statewide. We will celebrate project completion in November 2008.

As part of our ongoing effort to restore watershed health, in early June TNC, BLM and the Palisade Insectory released beetles in several locations along the San Miguel and Dry Creek. Beetles have kept tamarisk in check in their native Asia for centuries. Beetles have been released and successfully diminished tamarisk proliferation on the Colorado River near Moab.

The CCC Ditch is a water diversion structure near Naturita that has helped irrigate fields for a century. In low water months it has proved to be an insurmountable block for fish looking for cooler, deeper waters. Our efforts to build a fish ladder that abuts the structure continue to make progress. In late April 2008 BLM engineers did another site visit to the structure to make any needed design changes. The fish ladder will be on BLM property so they are diligently working to insure the structure is built to desired specifications. Construction will probably begin fall of 2009.

Last summer the lower bridge that provided public access to Keystone Gorge collapsed. TNC hopes to rebuild a pedestrian bridge on or near the existing site to restore public access to the spectacular gorge before it conveys the river corridor to the county. If you have interest in helping fund this project, or would like to help in constructing a new bridge, please call 970-728-5291. By Peter Mueller, TNC

USFS WEED WORK

The Norwood and Ouray Ranger Districts will continue to work on noxious weed treatments on the Uncompahgre Plateau in 2008. Much of the funding is from a grant through the State of Colorado's Natural Resource Damage Fund (NRD), specifically to treat spotted knapweed and houndstongue on the Plateau. Additional partnerships with Western Area Power Administration, Kinder-Morgan, and Tri-State have also been implemented, and will result in increased weed treatments along utility rights-of-way on the Uncompahgre Plateau and Naturita Division. The noxious weed treatments funded by NRD will continue for an additional 3 years; the treatment on the Western powerline right-of-way is currently in its 9th year. By Kelley Listson, USFS Range

BLM PARTNERSHIPS

The San Miguel River is one of the few unregulated rivers in Colorado. Due to this unique status the BLM and TNC started a partnership in 2002 to inventory and suppress tamarisk and other noxious weeds in the San Miguel Watershed. Since 2002 the BLM, TNC and other partners have cooperated to treat tamarisk and noxious weeds along approximately 60 miles of the San Miguel River within BLM boundaries. These treatments have utilized Integrated Pest Management techniques and have included mechanical, manual, biological, and herbicide applications. In the future the BLM will continue to work with partners and volunteers to manage our public lands. By Lynae Rogers, BLM Range

GMUG NATIONAL FOREST FEN INVENTORY

The GMUG National Forest has numerous fens located on public lands; however, some areas have not been inventoried and additional information is needed in other areas to determine the types, numbers and frequency of fen wetlands that exist.

The Forest has started the initial phases of a fen inventory. A technical, interdisciplinary, comprised of experts in botany, hydrology, soils, hydrogeology, range, and fisheries, has been formed to accomplish the work. The goal of the team is to:

- > gain a better understanding of this unique wetland resource.
- > to determine what landscapes are more likely to have fens associated with them.
- > to systematically inventory the location and condition of these fen/wetlands.

The information and data collected will then be used to help develop management best practices and guidelines to help protect these resources and to guide future project implementation and development.

This will be a multi-year, multi-phased effort utilizing current information, photo interpretation with an air photo survey, data collection and field checks, followed by condition evaluations. Coordination is ongoing with Dr. Cooper of CSU, Joanna Lemly of Colorado Natural Heritage Program, the San Juan National Forest, and other Forests in the Rocky Mountain Region involved in Fen inventories and research. For further information contact Terry Hughes, USFS Soil Scientist (970-874-6661) or Carmine Lockwood, USFS Soil and Water (970-874-6677).

INVADERS KEEP COUNTY WEED CONTROL BUSY

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One of the most important jobs facing any weed control program- whether on public or private land- is the search for new invaders. The ability to recognize a new plant based on a photograph seen in a publication or presentation is key to early detection and the ability to respond rapidly- this is known as EDRR for Early Detection/Rapid Response. The idea is to find new species before they become widespread and to work towards total eradication of a small number of plants at a limited number of locations rather than control of a large number of widespread plants.

Last June a new noxious weed was identified in the Thunder Road area of San Miguel County. Sulfur cinquefoil (*Potentilla recta*) was previously unknown in this part of Colorado, and has never before been found in such a large infestation anywhere in the state. It is likely that it arrived on equipment during the Burn Canyon fire in 2002.

Sulfur cinquefoil is a perennial plant that may be 1-1.5' tall with green, deeply divided leaves (palmate) that may have 5-7 leaflets that are hairy. Flowers are light yellow. While closely related to shrubby potentilla and other natives it can be readily identified by its green rather than silver backed leaves. This highly competitive and non-palatable plant has proven itself capable of excluding all other vegetation, out competing native and desirable plants quite easily. It will be very competitive in irrigated fields if not stopped before it spreads further.

It currently occupies several hundred acres of USFS land and has spread onto private land nearby. The well used access road is currently closed to motorized traffic in order to prevent seeds from spreading. Control work resumed in late May with total eradication over the next five years the goal of both agencies.

On the other end of the spectrum is the very common weed whitetop or hoary cress (*cardaria draba*). Whitetop, a member of the brassicaceae or mustard family, is very common in Western Colorado and appears to have found its ideal home on Wright's Mesa in San Miguel and West Montrose counties where it has spread dramatically.

The damage being caused to hay and pasture producers and gardeners and small landowners by whitetop warrants special consideration and increased attention. A Cooperative Weed Management Area is being formed to assist area landowners in efforts to work collaboratively towards funding a comprehensive control project on this invader.

Responding to noxious weed infestations is more than just spraying weeds. It involves recognition of the plant and the problem it represents. It involves education of landowners and research to determine potential impacts and control options. If it had been possible to respond to the first whitetop as we are responding to the first sulfur cinquefoil the problem before us would be more manageable. For further information please contact the San Miguel County Weed Control Program at 327-0399. By Sheila Grother, SMC Weed Program

BLM RANGE PROJECTS

The Uncompahgre Field Office of the BLM will begin work this summer on the West Paradox Area Landscape Health Assessment (LHA), which will cover BLM administered lands surrounding Bedrock and Paradox to the Utah state line. Resource conditions will be assessed during field visits conducted by interdisciplinary teams, grazing permittees and interested public. Information gathered will be used to determine land status relative to BLM Rangeland Health Standards. The West Paradox area involves approximately 65,000 acres of BLM administered land. Where Standards are not being met, the LHA will attempt to identify causative factors and make recommendations to address problems. There are 7 grazing permits and 15 allotments in the West Paradox area. The 10 year term permits for those allotments will be considered for renewal in early 2009. The LHA will serve as supporting documentation for terms and conditions associated with the new grazing authorizations. By Dean Stindt, BLM Range

UP PROJECT UPDATE

Ecosystems function as a whole irrespective of administrative or land ownership boundaries. The Uncompahgre Plateau (UP) Project was initiated in 2001 to develop coordinated watershed restoration and rehabilitation projects across jurisdictional boundaries. Using best available science and community input, the UP Project works to improve ecosystem health of the Uncompahgre Plateau, comprising over 1.5 million acres of private, state and federal lands. UP partners include: the Public Lands Partnership (PLP), BLM, CDOW, USFS, Western Area Power Administration (WAPA) and Tri State Generation. The main UP programs include: Landscape-Scale Project Planning, Invasive Species Management, a Native Plant Program, On the ground Treatments, and Education and Technology Transfer.

This year, the UP has been actively engaged in all program areas. We are currently focusing on three separate landscapes (totaling over 250,000 acres) on the Plateau for comprehensive Landscape-Scale Project Planning. Through the Invasive Species Management program, we have almost 500,000 acres of public and private land designated in Weed Management Areas (WMA) to facilitate coordinated mapping, monitoring, control, and prevention of noxious weeds. The Native Plant Program is actively studying and propagating 44 native plant species for use in future restoration projects. For more information visit: www.upproject.org. By Pam Motley, UPP

FEN RESTORATION PROJECT

The Norwood Ranger District is proposing a project to restore the ground-water hydrology and native vegetation of a fen above Trout Lake. Fens are unique peat-forming wetland ecosystems that have perennially saturated soils produced by nearly constant ground water inflow and stable site conditions. The proposed action is a cooperative effort between the USFS and CSU. It is part of a broader partnership focused on fen identification, restoration, and protection for the San Juan Mountains

The purpose of this project is to restore the ground-water hydrology and native vegetation on the Lateral Moraine fen above Trout Lake, which has been altered by gully development and water table lowering. The Lateral Moraine Fen is roughly 1.7 hectares in size and is located approximately 1.6 km above Trout Lake. Each gully to be treated ranges from 60 to 75 meters in length and 30 to 50 cm deep. The need for this project is to develop techniques for successful restoration of high elevation fens.

A series of 4 to 7 small structures (25 – 35 cm) will be hand placed in each of 3 gullies in order to eliminate down cutting and impede flows to raise and re-establish the water table. Three methods will be tested and evaluated to slow the flow: (1) plywood/sheet metal dams alone, (2) plywood/sheet metal dams with soil backfill, or (3) blocking with certified weed free straw. Approximately 27 1 x 1 meter plots will be established to evaluate re-establishment of the native vegetation using plant material of the dominant peat forming sedge collected locally and then re-planted by hand.

Post treatment monitoring will include measurement of gully cross sections and adjacent plant cover composition along transects perpendicular to the gullies. In addition, piezometers will be installed to track seasonal water table levels.

The project area is accessible from FSR 627. No road construction or re-construction will be necessary to implement the project. All treatments should be completed within a 5 to 10 day period during summer 2008. This project is consistent with Forest Plan direction, standards and guidelines for Aquatic/Riparian ecosystems. If you have questions, please contact Warren Young at (970) 240-5411.

FIRE UPDATE

Learn more on the Wildland Fire Outlook by going to www.nifc.gov. View a map of our dispatch area by going to http://gacc.nifc.gov/rmcc/dispatch_centers/r2mtc/.

The National Interagency Fire Center (NIFC) expects the West Slope to be within normal range with no significant risk for wildfires through July 2008. The Montrose Interagency Fire Management Unit (FMU), will likely have a slow start to their fire season because of this year's significant snow pack at higher elevations. However, the additional moisture southwest Colorado has received will create fine fuel loading at lower elevations. The outlook is for temperatures in the Four Corners region to be above normal during May, June and July, with June typically the hottest month. As expected, the healthy populations of fine fuels, or grasses, will dry out with hotter temperatures and increase the fire risk. Historically, most fires in our region are lightning caused and occur in June-July during the onslaught of the monsoonal flows. A combination of human activities and hot, dry temperatures add to that risk. The Montrose Interagency FMU is dispatched to roughly 150 fires per year averaging about 5,000 acres.

In the past, the Montrose Interagency FMU has infrequently had to implement fire restrictions. Stage I fire restrictions are normally ordered when Energy Release Components, ERCs, of fuels reach a certain level, in combination with weather trends and forecasts, and the potential for human-caused fires indicate the need to do so. We recommend you contact the local BLM or USFS office when you travel, because restrictions can vary from area to area.

It's important to be take precautions as we head into the 2008 wildfire season. Those who live in forested areas need to create defensible space around your homes and have well thought-out evacuation plans that include pets and livestock. To not plan for this endangers not only your family but the lives of firefighters. Avoiding any human-caused wildfires decreases the demands on our wildland firefighting resources. Place cigarette butts in ash trays and make sure your vehicle is in good working order. Be careful with setting

reflective materials directly in the sun. Teach children not to play with matches or lighters, and be careful where you park—tall, dry grass and a hot muffler or catalytic converter can spell disaster. Please consider enjoying your local community's fireworks rather than buying your own. Many areas ban fireworks year-round. Enjoy your public lands, with care! By Mel Lloyd, FS/BLM fire CONTACT: Dan Huisjen, 970-240-5339; Steve Ellis, 970-240-5353; Mel Lloyd, 970-244-3097; Lee Ann Loupe, 970- 874-6717

SOILS

BLM SOIL AND FIRE MITIGATION EFFORTS

Over the past several months, the BLM has been involved in a variety of activities affecting the San Miguel Watershed. A plan to limit travel on Public Lands to existing routes is midway through the planning and analysis process. This is an effort to control damage to natural resources, particularly soil, from off road travel, which is increasing as populations grow and off road technology improves.

Natural gas activities continue in the watershed, with drilling and pipeline development occurring near the historic town of Pinon. In the permitting process for Public Land drilling, the BLM includes mitigation to protect soil, vegetation, water, cultural and biological values. New surface reclamation and natural resource protection specialists have recently joined the Uncompahgre Field Office staff to help ensure that mitigation measures are carried out.

During fall 2007, monitoring occurred to determine the success of BLM's fire rehab efforts for the 1,300 acre Campbell Fire and the 600 acre Craig Draw Fire on the southwestern face of the Uncompahgre Plateau. The BLM flew seed mixes of primarily native species onto both of these burns in the winters following the fires. In both cases, the seedlings appeared to be fairly successful in establishing plant cover to protect the soil, establishing a desirable native community to compete with weeds, and establishing sagebrush, which is extremely important for wintering deer.

Late this past winter the fire which burned near Redvale last summer was aerially seeded. In addition, a trial to investigate the effectiveness of "seeding" the fire with cyanobacteria was established. Cyanobacteria is a key component to biological soil crust, which is very effective at preventing soil erosion. Data will be collected on this trial over the summer to see if this should become part of our standard fire rehab practices along with aerial seeding. By Amanda Clements, BLM ecologist

RESOURCE CONSERVATION

The United States Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS), continues to promote sustainable agricultural production and resource conservation. The specific mission of NRCS is to provide technical and financial assistance to private landowners, and promote conservation on private lands. Many of our programs, such as the Environmental Quality Incentives Program (EQIP), target agricultural producers. Projects that improve irrigation water use, crop production, and livestock grazing of pastures and rangeland are common.

Water in the west is a limited and very valuable resource. Much of our work addresses improvements to farm irrigation systems. Irrigation ditches are replaced with pipelines, and sprinklers are installed on fields to improve irrigation efficiencies and promote water conservation. Proper livestock grazing is also a priority. Livestock grazing has a direct impact on the health and stability of pastures and rangelands. NRCS supports practices that facilitate prescribed, rotational grazing systems that properly utilize the forage resource without degradation. Practices such as cross-fencing, stock-water development, and vegetation management are applied as appropriate. Weed control, pasture and rangeland seeding, and brush management are examples of vegetation practices that may be used to reclaim or improve grazing resources.

NRCS also has programs that benefit wildlife species such as the Wildlife Habitat Improvement Program (WHIP) and the Wetlands Reserve Program (WRP). These programs are not exclusive to agricultural producers, and their emphasis is on the needs of targeted wildlife species and improvement or protection of their habitats.

Finally, NRCS can assist with conservation easements on private lands through our Wetlands Reserve Program (WRP), Grassland Reserve Program (GRP), and Farm and Ranch Land Protection Program (FRPP).

The NRCS field office in Norwood, Colorado is the service point for San Miguel County and West Montrose County. For more information contact Jim Boyd, (970) 327-4245. Our agency slogan and commitment is: "The Natural Resources Conservation Service – Helping people help the land."

SAN MIGUEL COUNTY UPDATE

A West Wide Energy Corridor proposed by the Federal Department of Energy (DOE) has been mapped through western States, crossing through part of central San Miguel County (SMC). The corridor is mapped to be 3500 to 6000' wide. SMC submitted several comment letters to DOE expressing our concerns. We also joined Wilderness Society comments addressing shortcomings of the programmatic EIS and proposed utility corridor. These comments included concerns that the process is not adequate to meet National Environmental Policy Act (NEPA) requirements, it lacks an analysis of other energy alternatives and it doesn't address what could be significant impacts to private lands. The County also expressed issues with the potential visual impact of overhead transmission lines being placed in this energy corridor approximately two miles west of Naturita Canyon extending to the south near Lone Cone saddle.

We have requested that the "No Action " alternative be adopted, suggesting that the various federal public land management agencies should continue to rely on their resource management planning process. In a subsequent comment letter, the County indicated that if there has to be an energy corridor designated it should follow the existing Trans-Colorado pipeline in our County and that any new lines be buried underground. The comment period is closed but County planning staff continues to discuss our concerns with DOE representatives and local federal land managers.

In 2006 Colorado voters passed several laws regarding oil and gas development in the state, including reform of the Colorado Oil and Gas Conservation Commission to include a better balance of members. The commission had previously been dominated by the oil and gas industry. Voters also passed House Bills 1298 and 1341, which direct the Commission to rewrite rules that oversee oil and gas production to protect wildlife and public health. After a lengthy and comprehensive public process the rules have been written and released. Public hearings are scheduled in June for those who have requested party status, about 80 entities including other San Miguel and other counties, oil and gas industry representatives and environmental groups. SMC is very supportive of the rules as written, which strike a delicate balance between protecting the economic advantages to Colorado of the industry and following the voter mandate to protect environment and public health. Our statements to the Commission emphasize that local County oil and gas regulations should supersede State regulations in cases where County regulations are more restrictive or protective of the environment. We estimate that over 60% of public lands in our county have been leased for oil and gas exploration and approximately 100 active gas wells are currently within the county, mostly on public land.

Thanks go to county road crews, who showed Herculean effort this past winter in keeping county roads clear of snow, dealing with multiple road closures and helping CDOT to keep State highways open. By Joan May, San Miguel County Commissioner

RECREATION

USFS RECREATION AND TRAILS PROGRAM

This summer the Norwood Ranger District will focus on completing the Telluride Trails project and conducting trail maintenance in the Telluride area. The USFS will continue to partner with TSG to finish the trails project. The purpose for development of the Telluride Trails is to enhance hiking and mountain biking opportunities at the ski area. The project is in the final stages of construction with three of four trails currently finished. The Nature Trail will be constructed this summer and once completed, will be a universally accessible interpretative trail originating at the St. Sophia gondola station. The trail will offer visitors an opportunity to learn about local wildlife and history. Maps and signage will continue to be improved to help hikers and bikers navigate the trail system. A new summer trail map is being developed and will look very similar to the winter trail map produced by the ski area. Providing accurate maps and appropriate signing should encourage users to stay on designated trails.

The Norwood Trail Crew will focus on providing needed maintenance of designated non-motorized trails located in the east end of the district, near Telluride. This project will stabilize trail tread and improve drainage helping to minimize erosion. Trail signage will be inventoried and replaced as needed. The following trails will be maintained this summer: Deep Creek, Galloping Goose, Hope Lake, Jud Wiebe and Sneffels Highline. By Scott Spielman, USFS Recreation Manager

BLM

It's spring runoff season. Current 2008 snow pack conditions are relatively high at around 120% of normal. Plan for a longer boating season on the San Miguel, with high volumes of water during periods of rapid snowmelt. BLM advises boaters to be aware of constantly changing flows and potentially

hazardous river conditions such as fallen trees, log jams, large boulders, and other debris. BLM river rangers and local boaters work together to remove hazards, and keep safe channels open for boating. This work is dangerous, especially during high flows, and many obstacles may be impossible to remove safely. Historically there have been trees down across the river just upstream from the Specie Creek Bridge, requiring a portage. Please call BLM (970-240-5300) with locations of river obstacles so that warnings may be posted and users made aware. Boaters need to scout potentially hazardous runs, and be prepared to portage around obstacles. Wear protective gear like helmets, shoes, and wet suits, carry emergency and rescue equipment, and know how to use it. Boat at your skill level!

Find information on Colorado river flows at waterdata.usgs.gov/nwis/rt. Check out river info at www.blm.gov/co/st/en/fo/ufo.html or the River Management Society website www.river-management.org.

BLM plans to conduct analysis of commercial use of the San Miguel River in 2008-2009. Data will be used to make decisions on adjusting existing commercial use, and whether to issue future commercial permits.

Boaters in Norwood Canyon should be aware of a water diversion downstream of Horsefly Creek. At most flows the diversion can be run on the left, or portaged on either the private land on right (east) side or BLM land on the left (west) side of the river. Look for the warning sign (on river right) above the diversion.

Public access for river users is provided on BLM lands from immediately downstream of Deep Creek to the confluence with the Dolores River near Uravan. There are developed boat launches at Caddis Flats, Specie Creek, Upper Beaver Creek and Lower Beaver Creek with gravel ramps, picnic tables, and restrooms. Please use these areas to avoid creation of impacts in sensitive riparian areas. Boaters using the Caddis Flats, Specie Creek, Upper Beaver Creek, Lower Beaver Creek, Deep Creek, or Placerville access sites are required to sign river registers.

Please avoid any use of private lands near Silver Pick Bridge, Placerville, in Norwood Canyon, Pinon Bridge, and along the lower San Miguel from Nucla to Naturita. There is no public take-out at Pinon Bridge. BLM continues to work with private landowners to acquire additional access when opportunities arise. Public take-outs are available upstream of Pinon Bridge at both Ledges sites (Cottonwood and Rock House).

All camping on BLM lands in the river corridor between Placerville and Pinon Bridge must be in signed, designated campsites, marked with fiberglass posts with tent symbols, to help decrease impacts to fragile riparian zones. Historically, unregulated use resulted in severe damage to native vegetation, erosion, invasive weed problems, rutting of roads, and sanitation problems. Narrow brown fiberglass signposts with no camping symbols (a tent with a slash through it) and/or obstacles such as logs and boulders identify closed campsites. Over the past few years, BLM completed construction of several recreation sites and campgrounds along the river. They include the Caddis Flats campground and boat ramp located downstream of Placerville, the Beaver Creek campground just downstream of the Beaver Creek boat ramp, the Cottonwood Ledges campground and boat ramp located off Highway 90 approximately 1 mile upstream of the Pinon Bridge and the Rock House campground and boat ramp located just upstream of the Cottonwood Ledges site. Campsites are free and available on a first-come, first-served basis. The campgrounds have fire grates, picnic tables, cabanas, information kiosks, vault restrooms, and boat ramps.

Overnight boaters in Norwood Canyon wishing to stay in undeveloped sites must camp in designated primitive sites marked with fiberglass or wooden posts. Designation of the sites is intended to protect critical riparian areas from overuse and delineate public lands. Overnight boaters are also required to use fire pans or stoves and portable toilets. Boaters may also use the developed campgrounds mentioned above.

Non-regulated use in the river corridor eventually degrades resources and negatively impacts recreation experiences. Please help protect the river by following use regulations. Visitors may camp for 7 days only at BLM and USFS sites within San Miguel County and 14 days outside the county. The seven-day limit applies to all sites along the river corridor within BLM's Special Recreation Management Area and Area of Critical Environmental Concern (ACEC), which extends from Deep Creek to Pinon. By Edd Franz, BLM Recreation Planner

LAWSON UNDERPASS

The San Miguel County Open Space and Recreation Program is intending to add a bicycle/pedestrian underpass to the existing Galloping Goose Trail under Colorado Highway 145 at the intersection of the highway and Society Drive. This underpass is a critical connection between the

Galloping Goose Trail (25 miles), Mountain Village Trail system (10 miles) and Telluride Trail System (110 miles). It will connect the paved bike path that parallels the spur into Telluride and the Lawson Hill Subdivision. The project consists of a concrete culvert underpass and 1/2 mile of trail into Lawson Hill.

The project goal is to enhance the recreational experience offered to our visitors and to encourage environmentally friendly forms of transportation by providing a safe passage across Colorado Highway 145 at the intersection of Society Drive. This project would make commuting and recreation for cyclists and pedestrians wishing to access the Galloping Goose Trail to Ilium Valley or to access the Lawson Hill Subdivision safer and more enjoyable. High traffic volume and poor visibility make the intersection of Highway 145 and Society Drive into Lawson Hill Subdivision one of the most dangerous intersections in the county. A 2004 traffic count showed over 9000 vehicles went through this intersection daily. The new underpass could prevent accidents due to high traffic volume, especially at rush hour when commuting cyclists cross.

The county has received a CDOT grant for \$140,000. The Lawson Hill Property Owners Company will contribute. Construction is expected to begin late in September and continue until late November or early December 2008. By Kari Distefano, SMC

SUSTAINABILITY.

THINKING OUTSIDE THE BOX CANYON

In March, the County and other local governments, TNCC, Telski, The Tourism Bureau and TI hosted "Thinking Outside the Box Canyon," a symposium of assessing the present state of our community and economy and visioning the future. Based on turnout, there is a great deal of interest in pursuing solutions. This discussion will continue, with hopes to hire an organizer who will convene discussion, collect data and follow up with a subsequent event in the fall. By Joan May, SMC Commissioner

MOUNTAIN VILLAGE

The Town of Mountain Village had a tragic start to spring runoff with a large spill of diesel fuel from the Peaks Hotel into a pond that feeds Gorrone Creek, ultimately flowing into Prospect Creek and the river. Once identified, the response was quick and professional, but the damage was done. The Town will pursue appropriate penalties.

On a more positive note, Mountain Village again purchased green energy tags to offset carbon emissions associated with all electricity consumed by town government. This includes power for the Gondola that links the towns of Telluride and Mountain Village: the only free transportation system of its kind in the world. Mountain Village also implemented a green building code, modified design regulations to encourage solar panels, and made a significant financial contribution towards implementing solar panels on the roof of Telluride High School. Next will be a reassessment of wetlands in Town boundaries and discussion of improvements we can make in managing the effects of human interaction with the wetlands. I'm pleased to say that our Town Council recognizes the stewardship responsibilities that come with living at the top of the watershed. By Bob Delves, Mayor

NUCLEAR POWER

The recovery of the price for uranium from the depressed condition of the last 25 years has resulted in renewed interest in uranium production in Western Co. Energy Fuels Resources, a company based in Nucla, Co., has acquired several uranium mines and is in the process of bringing these mines back into production.

Western Colorado and especially Montrose, Mesa and San Miguel Counties have substantial resources of uranium, which have once again become viable sources for fuel for the nation's 104 operating nuclear power plants. Energy Fuels has started the process of licensing a site in Western Montrose County to construct a state-of-the-industry uranium/vanadium mill. Construction will start only after all permits are received, which is anticipated for late 2009 or early 2010. Several meetings have been held in the area to review Energy Fuels' plans for the new mill. Additional public meetings will be held during the license process.

George E. Glasier, President of Energy Fuels, and a rancher in the Naturita area believes that the positive economic impact of uranium mining and processing will once again provide employment in the area. A new uranium mill with all of the latest environmental protections incorporated, will be a major asset to the entire area where the uranium resources are located. By George Glasier

ALPINE BANK REMODEL ATTAINS LEED CERTIFICATION

Alpine Bank's Green Team efforts led to LEED certification for its Telluride location remodel. "Green Team objectives include creation of a sustainable and healthy working environment, while minimizing our environmental footprint. "We worked in concert with our internal LEED Accredited Professional, Chad Mapp, and other local caring businesses to meet LEED requirements."

Leadership in Energy and Environmental Design Green Building Rating System™, or LEED, is considered the national benchmark for high performance green buildings. The Rating System is organized into five environmental categories; Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, and Indoor Environmental Quality. It is a performance-oriented system where credits are earned for satisfying each criterion. Different levels of green building certification are awarded based on total credits earned; Certified, Silver, Gold, and Platinum.

Alpine Bank received LEED credits for pedestrian access and proximity to public transportation, energy and water conservation, highly efficient lighting, equipment and appliances. Recycled content materials were used throughout the building. An estimated 50% of demolition and construction waste was diverted from the landfill through donations to charities and recycling efforts.

Alpine Bank of Telluride will target a minimum of 50% of electricity to be provided from renewable sources through a purchase agreement with Renewable Energy Choice. For more information, contact Alpine Bank Telluride President Andrew Karow (970. 369.5399, andrewkarow@alpinebank.com), or LEED Accredited Professional Chad Mapp (970.625-7298 ext. 1344, chadmapp@alpinebank.com).

SUSTAINABILITY EFFORTS

The New Community Coalition has been moving as fast as spring runoff. In 2008 we have received several grants from the Governor's Energy Office. TNCC's application for the Clean Energy Fund's New Energy Economic Development (NEED) Grant program has been selected for funding in the amount of \$25,000!! This grant application was submitted in March by Kurt Johnson for TNCC. Funding partners are TNCC, Towns of Telluride and Mountain Village, and Telluride Energy, LLC. The grant will fund a feasibility assessment for 150kW micro-hydro turbine installation at the Town of Telluride's Cornet Creek Water Plant. The health of the river and any and all affects on the river will be an important part of this assessment. Also funded will be installation of a high-visibility PV solar array at Telluride High School as a tool for community education and integration of renewable energy education into the school curriculum. Also funded will be a report identifying the most economically attractive near-term renewable energy projects in San Miguel County by compiling existing information from all available sources including GEO, the National Renewable Energy Laboratory, San Miguel Power Association, and local renewable energy companies.

We continue the lengthy and complicated process of drafting a comprehensive new Green Building Code for Telluride, Mountain Village and San Miguel County, that will emphasize energy efficiency.

We were pleased to collaborate with TI for Earth Day activities in Telluride in grades k-6. TNCC also worked with Sheep Mountain Alliance on an educational project regarding reusable bags. In collaboration with Telluride Foundation a 2 hour presentation on "Greening Your Non-Profit" was presented in mid May. A new collaborative effort hopes to pull together a Green Business Roundtable to include a lunchtime presentation on "green" topics and open discussion.

TNCC organized a Western Slope HERS energy audit certification course held in Telluride in May. This course was offered in partnership with GEO and Energy Logic, LLC. Steve Byers, Principal at Energy Logic, and a nationally-renowned HERS certifier taught part of the course.

TNCC, in partnership with GEO, announced the kickoff of the "Insulate Colorado" program in time for Earth Day. The purpose of the program is to assist Colorado homeowners to make energy-efficient improvements to their homes. Insulate Colorado rebate amounts are offered to homeowners at 20% of total job cost, or \$300, whichever amount is less. Residents of San Miguel and Ouray Counties are eligible to apply for the rebate through TNCC. Rebates will be awarded on a first-come, first-served basis until program funding is exhausted. To qualify for the rebate, a homeowner must have used an eligible contractor to install insulation to IECC 2006 recommended R-Values and complete air-sealing measures. For details go to: <http://www.newcommunitycoalition.org/governor.html#InsulateGEO>
TNCC has partnered with San Miguel Power Association (SMPA) and GEO to offer a Residential Solar Rebate Program. The rebate program will be available starting 6/1/08 to residents throughout the SMPA

service territory. Rebates will be distributed equally throughout the region and will be issued throughout 2008 until funding is exhausted. Program details are still being worked out. More information is available at: <http://www.newcommunitycoalition.org/governor.html#PVProgram>
TNCC has partnered with EnCana and the GEO to offer a Residential Solar Hot Water Rebate Program. CoSEIA is administering the program. The rebate program will be available starting 6/1/08 to homeowners in San Miguel County, and the Nucla and Naturita area. Rebates will be distributed equally throughout the region and will be issued throughout 2008 until funding is exhausted. Program details are being worked out. More information is available at: <http://www.newcommunitycoalition.org/governor.html#SolarHotWater> By Kris Holstrom, Sustainability Coordinator, TNCC, Box 1625 Telluride, CO 81435, 728-1340

OPEN SPACE

SAN MIGUEL CONSERVATION FOUNDATION

Over the past six months the SMCF has been busy with several projects. SMCF closed on a Conservation Easement on 384 acres of land on Wilson Mesa generously donated by Dan and Sheryl Tishman this past December. With nearly a mile of its boundary shared by USFS lands, the newly-protected property expands the safe overall range and potential habitat for the federally threatened Canada lynx, as well as summer habitat for mule deer, elk, wild turkey, bear and mountain lion.

It was a very rewarding experience working with the Tishmans to forever protect this spectacular and sensitive Wilson Mesa property. Both Dan and Sheryl have an incredibly strong conservation ethic and desire to see that the land will never be subdivided, ensuring high quality habitat for regional wildlife will never be fragmented.

SMCF is proud to continue working in partnership with other land conservation organizations - local, state and national - to accomplish its mission of preserving land as open space and wildlife sanctuary. The county recently received a grant from GOCO for the second, and final phase of the Hamilton Land Partnership Conservation Easement. This land is located approximately 15 miles west of Norwood and this second phase will add an additional 500 acres to the 535 acres already protected.

SMCF has also been working closely with TPL and the Town of Telluride in the final disposition and protection of the 112-acre Kentucky Placer. The Town will acquire approximately 12 acres of the property (including the land surrounding the Beaver Pond) to be added to the Bear Creek Preserve. San Miguel County will acquire approximately 100 acres at the base of Bridal Veil Falls to be placed under an easement held by SMCF that will not only protect it from any future development, but also ensure perpetual climbing access to that area. For additional information contact Gary Hickey, Executive Director, SMCF, at (970) 728-1539, ghickey@rmi.net or visit the SMCF office at 121 N. Pine St. in Telluride.

COUNTY OPEN SPACE AND HOUSING

The county continues to work on two important projects that include annexation into the Town of Telluride: The Kentucky Placer and the Gold Run Placer. Upon completion of the process, approximately 115 acres of the Kentucky Placer will be designated for parks and recreational use and/or reserved for open space, with only a small portion of the property near Pine Street being developed with three single-family residences. Kentucky Placer Annexation and Planned Unit Development applications are proceeding through the Town review process. The Gold Run project is planned for 15 Employee Housing residential units and a small day-care facility, having gained preliminary approval from both town and county. By Joan May, County Commissioner

COUNTY OPEN SPACE AND RECREATION SPENDING

During summer 2008, a survey will be mailed to county residents to determine County Open Space and Recreation spending priorities. Residents interested in how their tax dollars are spent should take a few minutes to fill out the survey and help guide future spending priorities.

In 2001 taxpayers voted a 1.5 mill levy property tax increase to provide ongoing funding for county open space, parks, trails, historic preservation and the fairgrounds, collectively known as the County Open Space and Recreation Program.

By the end of 2008, the mill levy is expected to have generated \$6,668,000 and leveraged an additional \$5,280,440 in grants and other revenues. Passage of the mill levy helped make the following possible:

- Protection of 8,300 acres of wildlife habitat, agricultural land and open space by purchase of conservation easements and retirement of development rights.
- Development of Down Valley Park, which includes river riparian restoration, pond bank enhancement, revegetation and landscaping, regulation soccer and ball field, bathrooms, and playground.
- Playground improvements at Placerville Park
- Pedestrian bridge and 1 mile of new trail added to the Galloping Goose regional trail system
- Pedestrian/recreation underpass at Society Turn near Telluride, construction to start 2008.
- County fairgrounds improvements including new 4-H building, ball field improvements, playground structures, grandstand improvements.
- Historic renovation of the County Courthouse, stabilization of the Lewis Mill, stabilization of the Trout Lake Trestle
- Participation in numerous non-county projects such as funding the Valley Floor, Kentucky Placer, and stabilization of the historic Collins Barn

By Linda Luther, SMC

SHEEP MOUNTAIN ALLIANCE UPDATE

After years of working on preservation of Telluride's Valley Floor, and the subsequent formation of the Valley Floor Preservation Partners, Sheep Mountain Alliance (SMA) has refocused. The Dolores River Coalition, led by the San Juan Citizens Alliance, has researched potential wilderness areas in the Dolores River Basin. Two areas are within San Miguel County: Dolores River corridor from Bradfield Bridge to Snaggletooth Rapid and the McKenna Peak Wilderness Study area, which includes the Spring Creek Wild Horse Management Area. After considering the political reality of each county, the Coalition decided to focus on San Miguel. They contacted SMA and using recommendations from Mountain to Mesas, the citizen-initiated GMUG forest planning process, the two groups organized a San Miguel County Citizen Wilderness Proposal for Congressman John Salazar.

SMA began an organized campaign in June 2007, and the San Miguel County Commissioners sent a letter of support to Congressman Salazar, endorsing the Snaggletooth, McKenna Peak, Naturita Canyon and Sheep Mountain areas, and several additions to the Lizard Head and Mount Sneffels Wilderness Areas. The support letter stated "together these lands comprise some of the most stunning public lands within San Miguel County and would be important components of the National Wilderness Preservation System."

The Wilderness Act was signed into law by President Lyndon Johnson in 1964. It states "A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain." By definition "it was a place where vehicles would not be allowed, where no permanent camps or structures could be made, where wildlife and its habitat would be kept in as primitive a condition as possible." Since 1964, more than 107 million acres of public land have been designated as Wilderness, less than 5 % of the US landscape. The Wilderness Society estimates that as much as 200 million additional acres of public land are suitable for Wilderness. The 41,193-acre Lizard Head Wilderness and 16,565-acre Mount Sneffels Wilderness and the 19,398-acre McKenna Peak Wilderness Study Area were designated in 1980 by Congress.

After conducting community and stakeholder meetings in both counties, Congressman Salazar's office drafted the Northern San Juan Mountain Wilderness Act. Senator Salazar has committed to introduce the bill in the Senate. SMA hopes that the bill may be introduced in the current session of Congress, though it may be next session before legislative process proceeds.

The areas recommended in the citizen proposal were selected for exceptional wilderness qualities, biological diversity, and importance to the region's ecological health. The Naturita Canyon and Whitehouse areas include a broad range of ecosystems: alpine tundra, Englemann spruce-subalpine fir, aspen forests, montane mixed conifer, Douglas-fir forests, riparian and wetland habitat, sagebrush shrublands, pinyon-juniper woodlands and ponderosa-pine forests. McKenna Peak's eroded adobe badlands, presided over by imposing sandstone cliffs rising 2,000' above the plain, present a remarkable opportunity to add a unique landform to the National Wilderness Preservation System. The Snaggletooth section contains the renowned Ponderosa Gorge, a quick-paced float on a mountain river past cathedral

stands of ancient, yellow-barked ponderosa pines and numerous pre-puebloan features important for archeological research.

The broad range of climate zones represented provide important habitat for several endangered and threatened species, such as Canada lynx, pika, Mexican spotted owl, boreal owl, and Colorado cutthroat trout. These areas are also habitat for black bear, elk, bighorn sheep, yellow-bellied marmot, songbirds, white-tailed ptarmigan, Northern goshawk, American marten, wolverine, mountain lion, mule deer, bobcats, bald eagle, peregrine falcon and river otter.

While the scientific community continues to study climate change, it's logical to attribute several effects we witness today, one of which is northern migration of many species because of the unsuitability of their previous habitat. Today's land-conservation efforts are focused on creating and expanding core habitat areas and corridors, linking them to provide larger habitats for migrating species and afford core habitats larger areas in which to adapt to changing temperatures. Conservation biologists are presenting more evidence of the importance of land conservation in biodiversity hotspots as a significant contribution to reducing global climate change and conserving the earth's biodiversity.

SMA has also joined forces with a statewide coalition campaigning for mining reform. We are pleased to announce the May 2008 passage of two important laws, HB1161 and SB 228, protecting Colorado's groundwater and communities from irresponsible uranium mining. HB 1161 will establish minimum standards to protect Colorado's environment and ground water from unsafe in-situ leach uranium mining and will require all uranium mines in Colorado to meet basic environmental and public health protections as "designated mining operations." SB 228 provides for greater transparency for all mineral exploration. The state previously kept all information about mining exploration secret.

SMA recognizes that there are many problems posed by mining and oil and gas industries. We continue to work toward federal reform of the 1872 Mining Law and on the rulemaking process of the Colorado Oil & Gas Conservation Commission. Both efforts focus on establishing stronger environmental and wildlife protections. We are also organizing a regional educational campaign to raise awareness of impacts of resource extraction on environment and human health.

We must also address the need to reduce our dependence on unsustainable technologies. SMA is partnering with TNCC to explore renewable energy projects suitable for San Miguel County, especially the west end where much of the mining takes place. We understand the economic benefits the mining industry offers and hope to offer renewable energy alternatives, which could have longer-reaching economic benefits.

Finally, SMA is conducting an educational campaign to highlight the negative environmental and social costs of single-use shopping bags and promote the use of reusable shopping bags. The U.S. uses 100 billion plastic shopping bags annually, an average of 600 per person, consuming around 12 million barrels of oil. Please help us reduce the region's carbon footprint by remembering to bring your own bag. To support our efforts, please become a member of SMA. For more information go to www.sheepmountainalliance.org By Hilary White, SMA Executive Director

OPHIR CONSERVATION PROJECT RECEIVES FEDERAL FUNDING

Ophir Valley residents again welcomed news that Congress allocated nearly a million dollars from the Land and Water Conservation Fund for the acquisition of land in the Ophir Valley. The 07 funding went to purchase 111 acres south of Ophir. The contract closed in March 08. The 08 funding will go to purchase additional claims in the Ophir valley. Which claims will be part of phase two will be determined in summer of 08. Most likely an additional 120-150 acres will be purchased from the Pauls Family. The Pauls Family is working diligently with Trust for Public Lands, local elected officials, U.S. Rep. John Salazar and U.S. Senator Ken Salazar to complete a multi-year conservation project. Conservation of the land will protect critical wildlife habitat, maintain recreational access to public lands, protect water quality and help maintain quality of life in the Ophir Valley. A request for an additional 2.5 million has been submitted to Congress for 09 funding for Phase 3 of the project. For more information about the Ophir Valley project go to www.ophirvalley.com or contact Hillary Merritt at TPL's Colorado office at 303-837-1414. By Leigh Sullivan, Ophir Open Space

EDUCATION

6TH SEASON FOR ST. SOPHIA NATURE CENTER

Located at the top of the gondola, the St. Sophia Nature Center offers environmental education and regional trail information to visitors daily. Wildlife displays and to-go nature activities provide

something for every family member. Check the schedule for free children's activities and guided interpretive hikes with knowledgeable local guides. The Nature Center is a program of the Telluride Ski Resort in conjunction with The Town of Mountain Village Owner's Association. Call 728-7360 for more information. By Deanna Drew, TSG

TI ANNOUNCES NEW WEP PROGRAM DIRECTORS

In September 2007 Telluride Institute (TI) selected Eileen Cahalane and Laura Kudo as new co-directors of the very successful Watershed Education Program (WEP). Eileen and Laura have over 25 years of combined experience in education and outdoor curricula. They bring a vision of an enhanced curriculum to serve all watershed schools.

They revised our WEP menu, the course offering directory distributed to teachers and administrators in the Nucla-Naturita, Norwood, Telluride Mountain School and Telluride School Districts. This menu details WEP's place-based educational programs for Preschool through 12th Grade students.

Last winter, Eileen and Laura were successful in scheduling and performing watershed puppet shows for all preschool through first grade students in the watershed and students in Rico and Paradox Valley. The puppet shows introduce basic ecological concepts and stewardship of the natural resources of our bioregion.

The week of April 21st was filled with WEP Earth Day Activities. Alpine Bank generously sponsored programs, which served 400 Telluride Public School students in grades Kindergarten through 6th. Telluride School staff worked collaboratively with 14 TI instructors to implement educational activity stations covering environmentally-based topics, including seed planting for the community garden and Telluride Elementary School, Green Building Products (implemented by EcoSpaces), environmental games, and earth-oriented creative writing and art activities. TI ran a simultaneous program for the Naturita Elementary School and Paradox Valley Charter school, reaching 212 students. Special thanks goes to Mountainfilm for providing pertinent and entertaining films screened at the Palm Theatre. The partnership with the school and The New Community Coalition made this year's Earth Day celebrations a great success.

WEP also sponsored educational programs involving 65 3rd & 4th graders from Naturita and Telluride. These programs utilized our outdoor watershed classroom, included visits with local water quality experts, and discussed ecology and human interactions of the watershed.

TI executive director, Ashley Boling led a new Artist-in-Residency project with the Paradox Valley Charter School in May, as part of TI's "Up River, Down River" video-based project. Students document the natural and cultural history of their section of the watershed. This is the first school to create material for the project which will be a collaborative documentary piece involving students from every watershed school.

This summer is the 3rd year of TI's Real Science Summer Internship (RSSI). This unique program gives two West End High School students an opportunity to participate in a six-week internship (funding partners include USFS and BLM). Students gain valuable experience working with 6 different environmental professionals in the field throughout the watershed. TI plans to expand this program to 2 students from each watershed school district in future summers.

WEP programs continue to expand, reaching more students each school year. All programs were welcomed and supported by students, teachers, school administrators and parents. This supports our mission to promote environmental stewardship and connection between our watershed and its human inhabitants. For more information visit www.tellurideinstitute.org. By Eileen Cahalane, TI

LOCAL ENVIRONMENT FOCUS OF SUMMER COURSES AT UCSM

UCSM's highly popular Field-based Geology of the San Juans course will be offered this summer, beginning with orientation June 24 and followed by six Tuesday morning field trips to local sites of geologic interest. Austin Zinsser, MS, will again lead this class, which is limited to twelve participants to minimize environmental impact. Undergraduate credits can be earned through UCSM's affiliation with Mesa State College, or the course can be taken as a non-credit lifelong learning adventure. Participants should be prepared for gentle to moderate hiking into off-road sites.

An equally fascinating perspective on the San Juans will be presented in a combined lecture/field trip course entitled Historical Geography of the San Juans. This course will be held at the Mountain Village Firehouse third floor conference room beginning Monday, 7/07 and will include six lectures and

two Saturday field trips. Participants in the geology course will be invited to join Saturday field trips of the Geography course for a nominal additional fee.

Geology instructor Austin Zinsser, MS, holds degrees from Williams College and University of New Mexico and serves as Adjunct Faculty in Geology for Mesa State College. Geography instructor Chris Maschino is a consultant in historic and geographic research through his Telluride-based company, Locus Dynamics, and has taught extensively for Pueblo Community College. UCSM is a community supported non-profit organization dedicated to providing equitable access to higher education and creative lifelong learning opportunities for residents and workers in San Miguel Watershed communities. For more information on UCSM Summer '08 courses go to www.ucsanmiguel.org or phone 970-369-5255. By Sarah Silver

MOUNTAIN STUDIES INSTITUTE 2008 SUMMER EDUCATION SERIES

SEMINARS & FIELD TRIPS, Free, open to the public. More Info at www.mountainstudies.org or 970-387-5161. Locations will be announced prior to events.

June 9, 12-1:30pm Climate Change & the Mountain West, Silverton Town Hall

Henry Diaz (University of Colorado & NOAA), Lisa Graulich (University of Arizona), Connie Woodhouse (University of Arizona), Connie Millar (USFS), Koren Nydick (MSI). This event is part of the 2008 Mountain Climate Conference, 6/9-12 in Silverton.

June 19, 7:30 pm How's the Air Up Here? Update on Air Quality, Dr. Koren Nydick, MSI. Mercury and ozone are emerging air quality issues in the San Juans and nationally. June 26, 7:30 pm Desert Dust to Mountain Soils

Corey Lawrence, CU- Boulder. Recent research shows soils in the San Juan Mountains contain a significant amount of windblown dust. Learn where dust originates and how it impacts mountain ecosystems.

July 4 Join the MSI Float in Silverton's July 4 Parade!

July 10, 7:30 pm Sustainable Landscapes (tentative)

July 17, 7:30 pm Abandoned Mine Clean-Ups

Stephanie Odell, Abandoned Mine Lands Program, San Juan Public Lands (USFS/BLM)

July 26, 9 am Wildflower Hike with Dr. Julie Korb, Biology, Fort Lewis College

July 26, 5-7pm Art Exhibit: Mountain Landscapes - the Work of Judy Graham

Caledonia Boarding House Historic Museum

July 31, 7:30 pm Zooplankton in Mountain Lakes (tentative)

Aug 9, 9 am Field Trip: Discover the Snowden Rock Glacier

Dr. Rob Blair, Fort Lewis College and MSI

Aug 14, 7:30 pm Metals Sources in AMD Streams

Aug 23, 10 am Field Trip: Aquatic Insects of Silverton's Streams

Chester Anderson, BUGS Consulting

WORKSHOPS

- Air Quality Forum, May 29, 8:30am-4:30pm, Durango, CO
- Climate Change Adaptation for Natural Resource Managers, 6/12, 12:30-5pm, Silverton
- Tree-ring Stream Flow Reconstruction for Water Management, 6/13, 9am-12:30, Durango
- Trail Building Workshop, July 11-13, Silverton
- Fen Wetland Workshop: Assessment Results & Restoration Preview, Late July, Silverton

PINHEAD TOWN TALKS

Tuesday evenings, 6 - 7:15 pm, Free admission, cash bar

All Talks held at the Telluride Conference Center in Mountain Village except 8/5 and 9/23, held at the Sheridan Opera House.

June 24 "**Science and the Presidential Election**"

Franz M. Geiger, PhD, Northwestern University Professor

July 1 "**Flood Club: Chasing Down Uncanny Dynamics of Flash Floods**"

Craig Childs, author, naturalist, NPR contributor, and University of Montana Professor

July 8 "**Energy and Nanoscience: A Marriage of Convenience,**"

Mark Ratner, PhD, Northwestern University Professor

July 15 "**HIV/AIDS and Bird Flu: Saving thousands of lives through computer-aided drug discovery**"

J. Andrew McCammon, PhD, University of California, San Diego Professor

July 22 **"The Science of Recreational Drugs"**

Thomas Cheatham III, PhD, University of Utah Professor

July 29 **"Pathogens and Poisons: A Water Crisis of More than a Billion People"** Telluride Conference Center in Mountain Village

Scott Fendorf, PhD, Stanford University Professor

August 5 **"Fire in the Ice: The environmental impact and potential energy resource of methane trapped in naturally occurring ice cages"**

Keith Hester, PhD, Monterey Bay Aquarium Research Institute
and Werner Kuhs, University of Göttingen, Germany

August 12 **"Lightning"**

George Ewing, PhD, Indiana University Professor Emeritus,

August 19 **"Human Embryonic Stem Cell Research: The Ethical Issues"**

Ellen Suckiel, PhD, University of California, Santa Cruz Professor

Sept 23 **"The Relationship between Scent, Emotion, and Memory"**

Rachel Herz, PhD, Brown University Visiting Assistant Professor

Pinhead Punk Science-Chemistry is Cool!, Physics is Phun!, Entomology is Exciting!

Tuesday evenings from 5:00 to 6:00 in the Mountain Village

Kids and parents meet at the climbing rock in front of the Conference Center.

July 8: Rip Roaring Radical Rockets: The Science of Explosions, Dr. John Straub

July 15: Steam, Smoke & Steel: The Science of Trains, Dr. David Coker

July 22: Title TBD, Tom Cheatham

July 29: Title TBD, Susan DeSensi

August 5: Slither, Slime, Squish: Wacky Water Bugs, Chester Anderson

August 12: Super Double Bubble Trouble, Physicist Ed Lyman

This program is made possible in part by a grant from the Telluride Mountain Village

Owners Association & the Just for Kids Foundation. By Sonchia Jilek, Executive Director,

Pinhead Institute, Box 2905, Telluride, CO 81435, 970.708.7441,

www.pinheadinstitute.org, sonchia@pinheadinstitute.org

HISTORY

FLUME WALKERS-Excerpted from Davine Pera's Conversations at 9,000 Feet

In the early 1890s, L.L. Nunn brought alternating current to the Gold King Mine in Alta Basin. He built a hydroelectric plant two and a half miles away at Ames where the Lake and Howard Forks of the San Miguel River converge. In 1906, another hydroelectric plant, Ilium, was constructed downstream. Water for the two plants was routed from Lake Hope and Trout Lake to Ames via wooden flumes, and the water from Ames power plant went to Ilium through a 27,000' long flume built high along the west side of Turkey Creek Mesa. The Western Colorado Power Company eventually became owner of both hydroelectric plants. According to Walter Pera, the flume business was the power company's lifeline. They depended on flumes for the water to turn the generators to make the power. Flume maintenance took a lot of work. The flumes were made of redwood. If the flume got a leak, and washed the foundation out, then the flume settled and the leak kept growing, and soon it washed out the flume. Flume maintenance was critical. The power company hired flume walkers who worked year round, every day, in all kinds of weather, patrolling for leaks. The Ilium flume had two walkers. One lived at Ilium and one lived at Ames. They each patrolled the flume half way, carrying a little sack of oakum and a knife to patch leaks with. The Ilium flume was more difficult to maintain than the Trout Lake flume. It had more trestle, including some high trestles, and two mudslide areas known as Big Black Slide and Little Black Slide. Remnants of the Ilium flume can be viewed from the Sunshine Mesa Road/Galloping Goose Trail.

LIFE AT PINON, THE CCC DITCH CAMP, by Ellen Zatterstrom Peterson.

In 1901 we moved to Pinon, Colorado into a house formerly owned by J.C. Fort. It had four rooms, an attic, and a porch that ran the full length of one side of the house. The house was a short climb above the river and overlooked the bridge over which all through traffic must pass. From our front windows we could see teams pulling the steep, curving hill passing our house. Sometimes in winter the hill would be so icy that the horses, pulling a heavy load, would slip and fall climbing it. The boys, who liked to take the girls coasting down the hill, preferred it that way and were not above pouring water on it,

secretly, of course. Mother, on the side of the horses, did what she could in their behalf by scattering the kitchen ashes on the hill. Across the bridge a similar hill turned sharply to the right and then swung to the left to the small business district. There was a store, the hall, the company office, the boardinghouse, and the post office. These buildings plus a few residential cabins occupied both sides of the only thoroughfare in camp that could be called a street. On the north, the street petered out into open country and on the south merged with the road leading to Naturita and the Paradox country. The rest of the camp consisted of some forty or fifty cabins on both sides of the river.

The post office was a lean-to added to the residence of the postmistress, Julia W. Barnes. The mail was brought in by horseback twice a week, then later three times a week, from Coventry, a rural post office about ten miles below Norwood and about the same distance over a ridge from Pinon.

Our water supply came, of course, from the San Miguel River. In winter, it was carried up the bank by the bucketful. In summer it came via the CCC Ditch, on our side of the river. During spring runoff the stream was usually muddy and gave off an earthy scent that was as much a part of spring in Pinon as the primroses or the budding cottonwoods along the riverbank. Winter and summer the water contained the grayish white silt from the ore mills at Telluride and Ophir. It had to be settled in barrels before it could be used. In summer, when the problem was the worst, settling could be speeded up considerably by the use of cactus. The cactus was singed to remove the spines, then crushed and mixed with a little water. The mixture was then stirred into the barrel of water. In minutes the sticky fluid from the cactus collected the sediment and carried it to the bottom of the barrel, leaving the water as clear as a crystal.

Life in Pinon included plays and musical programs, anniversary banquets followed by various kinds of entertainment, annual meetings when work was suspended for three days and an air of festivity pervaded the camp. There were Saturday night dances which required only the key to the hall, a little advertising, some firewood, and Leonard Zatterstrom's violin. Accompaniment was furnished by any volunteer from the crowd, who could cord by ear on the piano. Furnished by Marie Templeton and the Rimrocker Society

Message from SMWC Board President: SMWC's guiding principle is to enable all watershed stakeholders to communicate, collaborate, and accomplish together what we can't accomplish alone. Our 2008 goals are:

1. Watershed Health Report Card UPDATE– Incorporated into this newsletter.
2. CCC Ditch Diversion – To be constructed fall 2008 or 2009.
3. Howard's Fork – Continued partnership to help clean up remaining mining toxins.
4. River Ranger – Continued sponsorship of River Ranger program, which includes extensive water quality and quantity monitoring work.

These important projects are made possible by your financial support. If you are not yet a member, please join. If you are a member, THANK YOU, and please renew your membership. By Bob Delves
SAN MIGUEL WATERSHED CONNECTION SUPPORTERS INCLUDE: BLM, USFS, Telluride Foundation, San Miguel County, Towns of Telluride and Mountain Village, Art Attack, The Nature Conservancy Change non-profit permit # to 73 for 08