



Spring 2007

*Friends of Coal Creek is a joint effort of the Coal Creek Watershed Coalition and the Standard Mine Technical Advisory group. See page 4 for more details.*

## Editors

Anthony Poponi

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## By the Numbers...

Approximate annual operating costs for waste water treatment facility at the Lucky Jack mine  
\$1,000,000

The State of Colorado's Standard for Dissolved Zinc in Segment 11 of Coal Creek  
92 ug/L

Measured Zinc Discharged from the Standard Mine Adit on June 15, 2005  
22,800 ug/L

Gallons of Drinking Water Produced by the Town of Crested Butte in 2006  
145,000,000

## **Standard Mine Cleanup — Season 2** *Submitted by the SMTAG*

The Environmental Protection Agency (EPA) has released several documents since last summer's work season at the Standard Mine Superfund Site. Phase II of the Engineering Evaluation/Cost Analysis (EE/CA) for the Repository site will be released in early May and discussed at the Standard Mine Advisory Group (SMTAG) meeting scheduled for May 29th at 1:30 PM in Crested Butte Town Hall. In this case a repository refers to a permanent storage location for waste materials originating from the Standard Mine.

Phase I of the EE/CA presented information on several sites meeting the initial criteria for possible site selection. Of the sites presented in

Phase I—two were considered the best candidates. Phase II will present preliminary designs for these two sites including estimated costs, environmental considerations, and general design elements. On June 6th the Ecological and Human Health Risk Assessments will be discussed. These documents will characterize the risks to both humans and wildlife caused by contaminants from the Standard Mine.

If this seems like a lot of information to digest you're correct. Fortunately the a community group called the Standard Mine Technical Advisory Group (SMTAG) has been formed to help educate the public about the significance of these documents and actions at the site. The

SMTAG will rely heavily on in-house expertise as well as feedback from Technical Advisors (see article below) to thoroughly evaluate these documents. The EPA and SMTAG welcome public attendance at their meetings.



*Above: Removing the trestle and ore bins were a small part of the overall cleanup at the Standard Mine site. Courtesy of the EPA.*

## **Meet Your Technical Advisors** – Submitted by the SMTAG

In November of 2006 the SMTAG was awarded a Technical Assistance Grant by the Environmental Protection Agency. Funds from the grant have been used to hire a Grant Administrator and two groups will serve as Technical Advisors (TAs). The Grant Administrator will help coordinate public outreach for the organization and will handle reporting responsibilities related to the grant. The duties of the TAs

were split into two parts - Engineering and Risk Assessments. Frontier Environmental Services out of Wheat ridge, Colorado was chosen to evaluate engineering aspects of the cleanup of the Standard Mine site. Frontier has extensive experience in evaluating engineering elements relevant to mine site remediation. Their first duty was to review and provide comments on Phase I of the EE/CA for the SMTAG. They will

be involved in reviewing Phase II of the EE/CA for the repository site. We're pleased to have their expertise to rely on. For more information on Frontier visit their website: [www.frontierenvironmental.net](http://www.frontierenvironmental.net) Next issue we'll talk more about the Risk Assessment team hired by the SMTAG: Dr. Ryan and Dr. Rutenber from the University of Colorado.



*Above: Coal Creek at the confluence with Elk Creek in August of 2006.*

VISTA, which stands for Volunteers in Service to America, is coming to Crested Butte through the Western Hardrock Mining Team.



*Above: The adit of the Standard Mine at Level 1 is shown in the background.*

## VISTA Position Available with the Coalition

The U.S. Office of Surface Mining (OSM), the Colorado Division of Reclamation Mining and Safety and the Colorado AmeriCorps VISTA office have combined resources to offer four VISTA positions in rural mining communities in Colorado. The program has been active in the Appalachian coal country for several years (see [www.acwt.org](http://www.acwt.org) for more information) and is now exploring expansion into the western United States. The Coal

Creek Watershed Coalition was awarded funding for one of four positions in the state of Colorado. The position is full-time and offers a monthly living stipend of \$850- \$900, health insurance, paid time-off, interest forbearance on college loans and a \$4700 educational award for each year of service. Duties will include community outreach, volunteer recruitment and coordination, grant writing, and water quality monitoring. Dr. T. Allan Comp,

coordinator of the Western Hardrock Mining Team, also founded and directs the Appalachian OSM/VISTA team which is the winner of numerous national awards. Dr. Comp, a Westerner himself, is excited to bring the energy and commitment of college-graduate VISTAs to work with the challenging environments of rural mining communities the West. For more information on the VISTA position contact Anthony Poponi at: [coordinat@coalcreek.org](mailto:coordinat@coalcreek.org) ◀

## The Coalition Unveils its New Website

The Coal Creek Watershed Coalition is pleased to announce the release of its new and improved website at [www.coalcreek.org](http://www.coalcreek.org). The new site has several features including a virtual tour of the watershed, downloadable files and publications, a calendar of events, and the most recent information on happenings in the wa-

tershed. Anthony Poponi, coordinator for the Coalition, is pleased to finally see the site unveiled. "We're excited to offer a visually stimulating and interactive format for people to get informed about what is going on in the watershed and our actions as an organization," he said. The virtual tour of the watershed offers

interactive trips through some of the major features of the watershed including the Standard Mine Superfund site, a unique wetland called an iron fen, and the Lucky Jack waste water treatment facility.

The CCWC would like to thank the State of Colorado's Non-Point Source Program for

## What 's in a Mine - Submitted by the SMTAG with help from Steve Renner at DRMS

Here 's a few terms commonly used in describing our local mines. To enter the Standard Mine you would likely enter through the **adit** on Level 1 (see photo on the left). An adit (or **portal**) is a type of entrance to an underground mining **shaft**. Adits are usually built into the side of a hill or mountain, and

often occur when an ore body is located inside the mountain but above the adjacent valley floor. A shaft is primary vertical opening starting at the ground surface and is used for ventilation and often for hoisting of personnel or materials. A **raise** is an inclined opening driven upward from a level to connect with the level above, or

to explore the ground for a limited distance. Similar to a raise is a **winze**, which goes vertically downward from a **drift**—neither a raise or a winze will extend to the surface. There are plenty of other terms like **back**, **ribs**, **cross cuts**, and **tipples**—to name a few—but we're out of space! ◀

## River Awareness Week - May 25th—May 30th

High Country Citizens ' Alliance ( HCCA ) is pleased to announce the third annual River Awareness week scheduled for May 25th-30th. River Awareness Week promotes awareness about the important role of rivers in the environment and the economy through a series of activities and events. The Gunnison Valley economy is driven by recreational pursuits such as fishing, rafting, kayaking, and flat-water boating and is also witnessing its own growth for which precious water is

needed. Returning to this year ' s evening events is the Wild and Scenic Environmental Film Festival on Friday, May 25 at the Crested Butte Center for the Arts. Daytime activities include tours of the Roaring Judy Fish Hatchery, the old Keystone Mine Water Treatment Plant on Mt. Emmons, and a hike along Coal Creek as part of a water quality monitoring demonstration. The EPA will also host a tour of the Standard Mine Superfund site to show the progress in the remediation of the

site. The Black Canyon Audubon Society will host a bird watching trip. On Sunday, May 27 the Dutch Oven Cook-off in the Crested Butte Town Park will give local river rats a chance to show off their culinary talents. The public is welcome and encouraged to participate in any and all of River Awareness Week events. For more information, please contact HCCA at (970) 349-7104 or by email at [office@hccaonline.org](mailto:office@hccaonline.org).



Join the CCWC for a demonstration of water quality sampling techniques during River Awareness Week.

## April Tracer Study - Part III

A tracer study aims to identify all of the sources of metals entering Coal Creek. A harmless tracer like sodium bromide is added to the creek and the concentrations of the tracer is measured at intervals along the creek. As the tracer concentration drops it can hopefully be attributed to incoming

water from a nearby tributary. Water samples are also collected from each tributary and analyzed in a laboratory and analyzed for metals - the most significant concern for Coal Creek. The CCWC requested Dr. Ryan ' s services for a third study to identify the sources of these contaminants

during spring conditions. Dr. Ryan and his crew were in Crested Butte from April 6th-9th this year. The CCWC would like to thank Dr. Ryan, his crew of students for their hard work and the Community Outreach Program at the University of Colorado for funding.

" The Gunnison Valley economy, is driven by recreational pursuits such as fishing, rafting, kayaking, and flat-water boating and is also witnessing its own growth for which precious water is needed. "

## Benthic Macroinvertebrates - Biological Indicators

There are many ways to assess the health of a stream or lake. Collecting water quality samples is usually the first step in this process. For years, scientists have also employed an analysis using biological indicators. The prefix " bio " means life and therefore biological indicators are living organisms that can be used to indicate the health of an ecosystem. Fish, insects, and even

algae can be used as biological indicators. Benthic macroinvertebrates ( benthic = bottom, macro = large, invertebrate = animal without a backbone ) are insects often used as biological indicators of watershed health because they live in the water for most, if not all of their lives, stay in areas suitable for their survival, differ in their tolerances for pollutants, live for more than one year, and have

limited mobility. In Coal Creek the EPA and the CCWC have collected information on the benthic macroinvertebrates. The EPA will be releasing the findings of their Ecological Risk Assessment in June of this year with the CCWC data to follow shortly thereafter. For more information visit: [www.epa.gov/bioindicators/html/indicator.html](http://www.epa.gov/bioindicators/html/indicator.html)



Above: Bioindicators like this macroinvertebrate may not be pleasant to look at but can be used by scientists to evaluate the health of a stream or water body.



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**Mission Statement:** The mission of the SMTAG is to assure that Standard Mine clean-up activities and the final outcome of the clean-up process are beneficial to the environment and to affected persons and communities; to assess and protect the quality of water in Elk Creek and Coal Creek; to serve as a hub of communication about abandoned mine cleanup efforts; to help foster positive relationships between citizens and the state and federal government; and to educate the community about environmental and health issues concerning Elk Creek and Coal Creek and the cleanup of abandoned mine sites.

**Mission Statement:** The mission of the Coal Creek Watershed Coalition is to restore and protect the environmental integrity of the watershed to provide high-quality water for wildlife, aquatic life, and human life.

**Goals:**

- Provide high quality water quality data to facilitate cooperative water quality assessment in order to identify and address water quality concerns in a proactive manner.
- Enhance the Coal Creek Watershed by reducing or eliminating existing and potential water quality problems and restoring degraded habitats.
- Communicate water quality and watershed related information that increases public awareness of watershed issues.
- Expand the public's participation in protection of the watershed.
- Develop a strong and diverse funding structure to ensure the long term stability for funding core programs.

## Volunteers Needed

The Coal Creek Watershed Coalition is in need of volunteers for a variety of functions including public outreach, water sampling, grant writing, and general administrative functions. The spring and summer water sampling is set to begin again in June. Volunteers are trained in sampling procedures and will be provided with lunch during sampling events. Come join us for a day of fun in the sun. For more information contact Anthony Poponi at ( 970 ) 596-7496 or [coordinator@coalcreek.org](mailto:coordinator@coalcreek.org) or visit [www.coalcreek.org](http://www.coalcreek.org) and click on our Volunteer page.



## Quotable Quotes:

*" It is good to realize that if love and peace can prevail on earth, and if we can teach our children to honor nature's gifts, the joys and beauties of the outdoors will be here forever. "*

*- President Jimmy Carter*