

Snake River Watershed Task Force
May 29, 2013
Meeting Summary

This meeting was open to the public

Participants

Please see Appendix 1 for a list of meeting participants.

Meeting Purpose:

Update the Task Force and public on recent investigations and upcoming activities at the Pennsylvania Mine on Peru Creek, as well as on other research and restoration activities on Peru Creek and in the Snake River Watershed.

Presentations

Please refer to presentation slides and handouts for additional details (contact Julie Shapiro, jshapiro@keystone.org, or go to the Snake River Taskforce website: www.snakerivertaskforce.org)

Snake River Watershed Task Force: Background and History

Brian Lorch of Summit County provided an [overview of the Task Force history](#).

- Prior to the formation of the Task Force, attempts to mitigate water quality issues at the Pennsylvania Mine failed due to liability and legal concerns.
- The US Forest Service initiated the Task Force in 2000, with the following mission: “Improve water quality in the Snake River watershed. The Task Force will focus in particular on identifying, evaluation, and implementing opportunities to reduce heavy metal concentrations of concern.”
- The Task Force is collaborative effort comprised of private, NGO, and government (County, State, and Federal) stakeholder groups. A smaller technical Core Group focuses on scientific questions.
- The Task Force has looked broadly at water quality concerns for the Snake River watershed, and more recently has come “full circle” to focus, in particular, on the Pennsylvania Mine on Peru Creek.

Recent Scientific Investigations

➤ **Pennsylvania Mine Activities – Overview**

Jeff Graves of the Colorado Division of Reclamation, Mining and Safety, provided an [overview of the Rehabilitation and Investigation of the Pennsylvania Mine](#).

- In 2011, drilling and surveying took place at the Pennsylvania Mine in the F and C portals that included a sonar survey, a borehole camera inspection and two alluvial sampling wells. Based on the outcome from this survey, the decision was made to do an open cut excavation in 2012.
- In 2012 the F and C portals were investigated in order to measure the extent of the accessible workings.
 - The open cut excavation of both F and C portals included water treatment during excavation, the installation of 11 foot diameter culverts while backfilling, and reclaiming excavations.

- Data was collected that included inflow locations, the quantity of the flow and the chemistry (metals, isotopes).
- Data was also collected to determine areas that required rehabilitation while investigating possible bulkhead locations.

Paul Peronard, U.S. Environmental Protection Agency (EPA), described the [Pennsylvania Mine Removal Strategy](#) and intended future work to mitigate water quality impacts at the Pennsylvania Mine (see also the EPA handout, "[EPA Region 8 Planned Removal Action Memo](#)").

- Future work:
 - Phase 1: Site preparation (2013-2014):
 - Drainage capital improvements on Peru Creek Road.
 - Phase 2: Underground rehabilitation and reconstruction work during the summer of 2013.
 - Phase 3: F-level Bulkhead 2014 #1, bulkhead #2 likely in 2015.
 - Phase 4: Waste rock and tailings Consolidation (2014-1015):
 - Re-stabilize environment
 - Optional phases (2014):
 - Seal off C Level surface water pathways, install bulkhead #2 (F-Level), install passive treatment system and post-removal site control.
 - Next Steps:
 - Finalize Action Memo (May 2013), Determine partnership roles and responsibilities (Feb-May 2013), Draft any necessary agreements (2013), Start Phase 1 (weather permitting, June/July 2013).

Q&A:

- *Could you share the size design of the proposed bulkheads?* It is difficult to say; perhaps 15ft thick. It would depend on the location it is installed in. There will be additional study before bringing engineers into design them.
- *What monitoring network do you have in place or planned and how will you know if what you're doing is effective?* There has been monitoring for the last 15-20 years. USGS and EPA have settled on a fixed number of locations. Review the [Technical Memorandum](#) that Ryan Dunham (EPA) put together. We are currently drafting a long-term monitoring plan that is pre-imposed.
- *Has there been any changes regarding who has title over these properties?* There is a restrictive covenant, Summit County has worked with the owner, and the owner is on board to allow entities to do this work. Nobody is in the position to buy this property because they would take on this huge liability. The adits themselves are located on private land. Only about 10% is owned by the USFS. It won't only be affecting the Pennsylvania mine as they'll also have to work with other property owners, i.e., there was drainage on one property onto the road.
- *Does the USFS own this property?* Most of what we're dealing with is on private land.
- *Do you intend to make road improvements on Peru Creek Road right at site?* Yes, EPA would like to make a split to divert the discharge from how it currently flows over the road. At the creek crossing, EPA would like to avoid building a bridge.
- *Is there any chance or concern that the bulkheads will raise ground water?* It's either going to go somewhere you didn't intend, or ground level water will rise. It's unlikely to raise enough to saturate piles and move to the east. It will depend on final flow path. We will not know this until it the work is done.
- *Did you do your flow studies in the fall? Was this the best time to do the flow studies?* Yes, the studies last summer were done in the fall. There is a seasonality of flow rates. There is a

significant spike of flow increase in the springtime. We do recognize that the flow is going to be different. This may change the chemistry. However, we are not comfortable to go underground during the springtime now. We may be able to do this in the spring of 2014 during the preparation work.

Recent Restoration Activities – Overview

Lane Wyatt of the Northwest Colorado Council of Governments gave an update on [restoration activities performed under the Peru Creek 319 Grant](#). This update included restoration activities performed at the Silver Spoon Mine, the Delaware Mine, and the Brittle Silver Mine. Other project goals include: 1) Estimate load reductions and downstream water quality improvement from the proposed project, 2) Evaluate the effectiveness of implemented BMPs, and 3) Keep stakeholders and the public informed on the need for and progress of remediation projects in the watershed.

Jeff Graves of the Northwest Colorado Council of Governments presented the [Saints John Mine Reclamation Project](#); he spoke to the project objectives regarding removal of tailings piles, the project status and a 2013 overview of the Wetland Restoration Project.

Q&A:

- *Is there any intention to save the historic structures in Penn mill site and tram site?* There is no intent to take any structures down.

Information Stations

The presentation session of the meeting adjourned and participants broke from the large group; information stations on various topics were available around the room:

- Peru Creek Road maintenance/access (*USFS and Summit County*)
- Pennsylvania Mine surface work (*EPA*)
- Pennsylvania Mine subsurface work (*Jeff Graves, DRMS*)
- 319 restoration activities on Peru Creek (*Blue River Watershed Group and Lane Wyatt, NWCCOG*)
- Peru creek water quality and biotic research and monitoring (*USGS, et al.*)
- Snake River Watershed Plan Update (*Jim Shaw, Blue River Watershed Group*)

Appendix 1: Meeting Participants, Snake River Watershed Task Force, May 29, 2013, Keystone, CO

First	Last	Organization
James	Bethane	CSM
Char	Bloom	
Rich	Clemens	Keystone
Steve	Corneillier	Keystone
Jim	Curnutte	Summit County
Julie	Curnutte	Pinyon Environmental
Sabre	Duren	CU-Boulder
Olivia	Garcia	USFS, Supervisor's Office, White River NF
Jeff	Graves	Colorado Department of Natural Resources, Division of Reclamation, Mining & Safety
Andrew	Hensler	Keystone Resort
Cindy	Hollenberg	Envirologic INC
Jason	Komes	Keystone Resort
Alec	Lambert	
Diel	Lambert	Blue River Anglers
Brenca	Laughlin	Summit Daily
Bill	LeClair	Keystone
Peggy	Linn	US EPA Region 8
Brian	Lorch	Summit County Open Space and Trails
Zach	Margolis	Town of Silverthorne
Gary	Martinez	Summit County
Dan	Moroz	Copper Mountain Fire
Wendy	Myers	Snake River Planning Commission
Jeanne	Oltman	Snake River Planning Commission
Bonie	Pate	CDPHE-WQCD
Paul	Peronard	EPA
Mike	Price	Blue River Anglers
Jackie	Randell	CSM
Tom	Randolph	
Kenn	Riley	Keystone Owner's Association
Mark	Rudolph	Environmental Protection, CDPHE
Garrett	Rup	INSTAAR
Jim	Shaw	Zeoponix, Inc; Blue River Watershed Group
Steve	Skulski	Lake Dillon Fire
Robert	Small	
Steve	Swanson	Blue River Watershed Group
Andrew	Todd	US Geological Survey, Geophysics and Geochemistry Science Center
Doug	Trieste	FlowTechnologies
Erik	Vermulen	Snake River Planning Commission
Kenneth	Wiggins	Keystone Citizens League
Jason	Willis	Trout Unlimited
Lane	Wyatt	NWCCOG

Keystone Center Staff: Julie Shapiro (Facilitator), Amber Brummer (Note-taker)