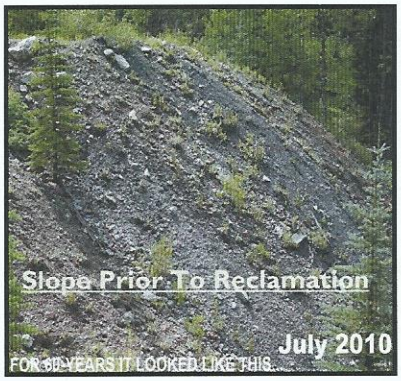
WHITE RIVER NATIONAL FOREST

HOPE MINE RECLAMATION PROJECT

- The Hope Mine Reclamation Project is a joint venture between the Aspen Center for Environmental Studies, Biochar Solutions, and the White River National Forest.
- Metals mining operations of the early 1900's left steep eroding waste piles of rock and coarse soils low in organic matter.
- Slopes are being stabilized to prevent additional erosion along Castle Creek, the primary drinking water source for the city of Aspen.



- Topsoil was created by applying a 3 inch layer of compost and biochar using a conveyor belt.
- After hydroseeding with a mixture of native grasses, geotextile material and erosion control structures were installed.
- Adequate rainfall contributed to establishment of a dense vegetative cover. As root systems of the native grasses develop, they will help hold the slope and prevent further erosion.

Project Participants: Aspen Center for Environmental Studies; John Bennett and Kate Holstein, Biochar Solutions Inc.; Morgan Williams and Andrew Harley, Heartland Environmental Services/Pitkin County Landfill (compost source); Colorado Department of Reclamation and Mine Safety; White River National Forest: Scott Snelson, Mark Lacy, Olivia Garcia, Justin Anderson, Jim McBreen, Larry Auguston, and Brian McMullen.

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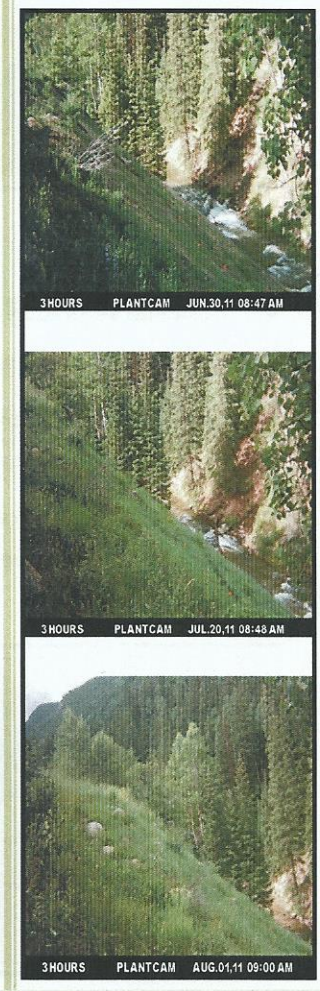
Hope Mine Project

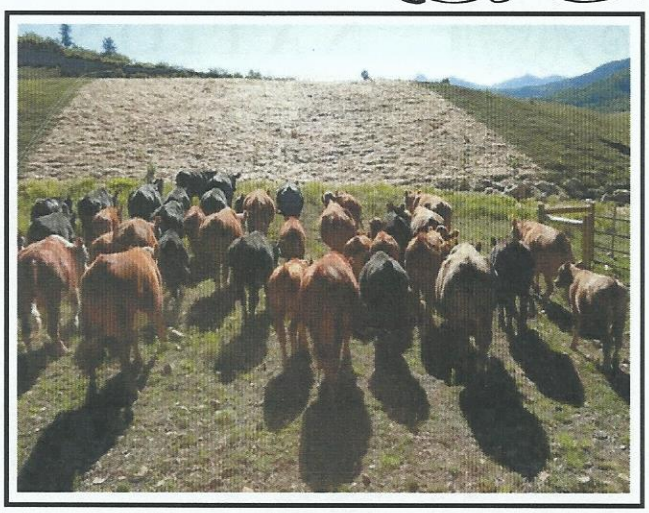
Coal Basin Project

The Hope Mine and Coal Basin Projects are within the Aspen - Sopris Ranger District. The local contact office is located at 620 Main Street, Carbondale, CO. (970) 963-2266.

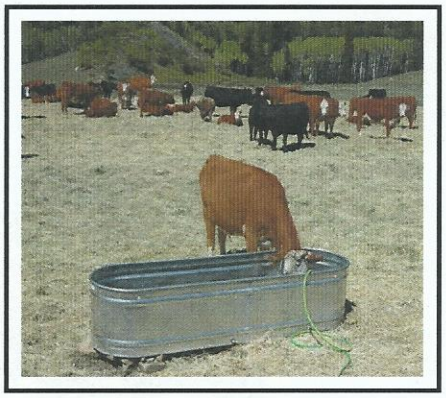


Coal Basin Holistic Grazing Project

Background



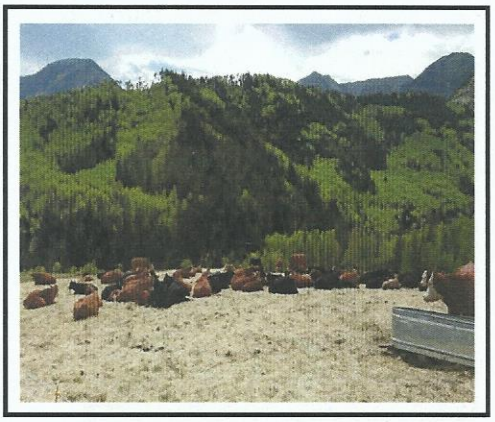
- A one acre cattle enclosure was built in September 2012 to test feasibility of Allan Savory's Holistic Management grazing methods to reclaim the "Sutey" refuse pile at Coal Basin.
- The Savory Grazing Method involves short-duration, high-intensity grazing that mimics patterns of large native herbivores (i.e. American Bison, African savannah)
- Further information can be found at http://www.savoryinstitute.com/



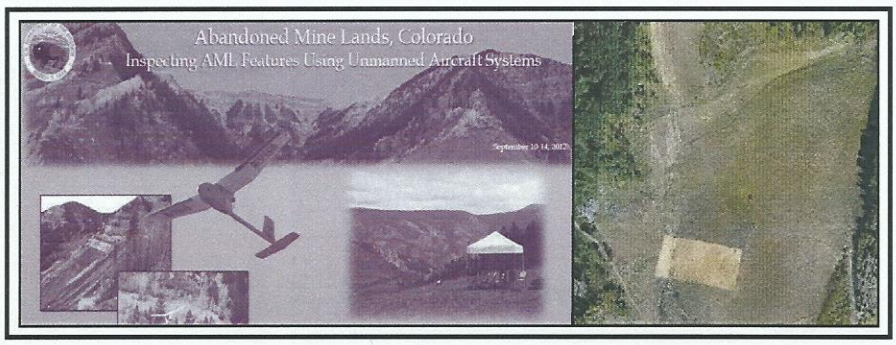
Preliminary Results and Observations

- Native grass (a mix of ecotypic Blue Wild Rye, Slender Wheatgrass, and Mountain Brome) was seeded and mulched with Certified weed free straw and hay. Grass germination occurred in less than 2 weeks, following a period of cool temperatures and adequate precipitation (late September/early October 2012).
- Soil moisture was considerably higher in the grazed area than in the ungrazed control area.

Future Work



- Continue vegetation cover transects and monitoring.
- Install soil moisture probes and data logger.
- Build additional 2 acres of study plots, with one possibly devoted to cattle-incorporated soil amendment (compost/biochar).
- Exclude livestock from demonstration plots until vegetation is well established, then open these areas up to traditional rotational grazing scheme.



- Aerial photos from EcoFlight and the CO AML-sponsored Raven Flights will help track progress on this and other Coal Basin reclamation projects.
- LIDAR and other remotely-sensed images will be important tools in landscape-scale restoration within Coal Basin .