

NEVADA

Abandoned Mine Land Workplan

Period: FY2007 – FY2013

Summary

Significant mining areas in Nevada are very widely dispersed statewide, with no areas un-mined. Depending on definition, the number of recognized mining districts numbers in the hundreds. Commodities mined or sought were primarily precious metals, other metals, aggregate materials, and virtually all other metals including mercury and uranium.

BLM Nevada currently has an inventory of 166,000 known abandoned hardrock mines on public lands. This inventory includes 13 mines that may impact water resources within 7 priority watersheds; over 50,000 sites likely pose physical safety hazards. To date, 5 water quality projects (Veta Grande, Atronics, Stewart Mill, Golden Butte, Easy Jr.) have been completed. Several others are scheduled for completion in 2006. About 200 sites with physical safety hazards have been remediated, primarily by backfilling, with some gated and foamed.

AML Watershed Projects

There are at least 13 abandoned mines on BLM in Nevada that have possible impacts on water quality of 7 priority water sheds. These impacts include acidic metal laden drainage from mine openings and dumps, mine wastes in stream channels, cyanide and other chemicals, trash, petrochemicals, and erosion of mine wastes into waterways. The 7 highest priority watersheds impacted by abandoned mines on public lands include, in priority order, the Meadow Valley Wash, Humboldt River, Colorado River, Reese River, and various interior basins. Work is underway in all of these watersheds, involving 7 of priority watershed projects.

The watersheds were prioritized on the basis of assessment undertaken by the Nevada Abandoned Mined Lands Environmental Task Force, consisting of representatives from BLM, U.S. Forest Service, U.S. Fish and Wildlife Service, The Army Corps of Engineers, the Bureau of Reclamation, the University of Nevada, the Desert Research Institute, The Nevada Division of Minerals, Nevada Department of Environmental Protection, Nevada Department of Wildlife, U.S. Geological Survey, and Nevada Bureau of Mines and Geology. Prioritization of the water-quality impacted AML sites was accomplished using the following criteria, in order of consideration: site ownership, involvement of other agencies (e.g. Superfund), surface and/or groundwater contamination or potential, feasibility, cost, public health and safety issues, proximity to human habitation or areas of high public use, threatened water wells, threatened protected species, environmental sensitivity, toxicity (zone and type of contamination, geologic setting and background, and available information. Other criteria, not in any particular order, included public perception, proximity to intermittent streams, NEPA requirements, the possibility that some sites may be better left alone (such as mercury contamination in the Carson river), the possibility of re-mining or reprocessing wastes on site, and the short and long term effectiveness of reclamation/mitigation.

Table 1.

WATERSHED	Priority Watershed Projects						KEY PARTNERS
	PROJECTS FUNDED/ PLANNED	# AMM Sites	FY START	FY FINISH	EST TOTAL COST	EST BLM PORTION	
1. Carson	Veta Grande Mine/Mill	1	1999	2005			CHF, EPA, RAMS, BOR
2. Upper Humboldt	Rip van Winkle Mine/Mill	1	2003	2006	1,000,000	1,000,000	CHF, RAMS, Trout Unlimited
3. Reese River	Monarch Mill Site	1	2004	2006	500,000	500,000	
4. Meadow Valley Wash	Johnston Mine/Mill	1	2004	2007	1,500,000	500,000	RAMS
5. Central Nevada	Ward Mine	1	2006	2008	350,000	200,000	RAMS
6. Central Nevada	Norse Windfall Mine/Mill	1	2003	2009	1,500,000	1,500,000	CHF
7. Central Nevada	Argentum Mine/Mill	1	2006	2009	400,000	400,000	
8. Reese River	Elder Creek Mine	1	2005	2006	700,000	350,000	RAMS
9. Hot Creek RR Valley	Tybo Tails	1	2003	2010	1,200,000	1,200,000	CHF
10. Meadow Valley Wash	Caselton Tailings	1	2003	2010	5,000,000	5,000,000	CHF
11. Hualapai	Leadville Tailings	1	2007	2011	5,000,000	5,000,000	
12. Upper Humboldt	Dean Mine	4	2008	2009			
13. Truckee River	Perry Canyon	2	2006	2008	70,000	35,000	RAMS, EPA, Pyramid Lake Paiute Tribe

AML Physical Safety Sites

Over 1,100 high-risk mine openings have been identified on BLM managed lands in Nevada. These sites are widely distributed within the jurisdiction of all BLM field offices. The most significant types of mine hazard feature are shafts and adits remaining at AML sites in or within 1 mile of population centers, campgrounds, backcountry byways, other recreation areas, historic sites, off road vehicle use areas, and others. The most significant is the entire area of Clark County, where Las Vegas continues to lead the nation in population expansion and where outdoor recreation on public lands is intense. This area has high use for hiking, off-road racing and recreation, rock-hounding, rock-climbing, exploration, prospecting, and other dispersed and concentrated recreation. About 3.0 million dollars has been obtained from non-1010 sources to address this, but this is limited to sites with potential for significant wildlife habitat. Remaining remediation costs will depend on whether the current AML safety partnership continues, or whether work will be

contracted commercially. In the latter case, it is difficult to estimate final costs for Clark County, but perhaps \$8 million or more will be required to remediate this type of mine hazard. These mines also have significant disturbed surface areas and mine wastes that require regrading, capping and revegetation.

Remediation at key sites is guided by focused inventory assessments starting with those site clusters in closest proximity to sites with high public exposure. A comprehensive GIS analysis was conducted several years ago with extensive input from all stakeholders to identify all areas of high public use in Nevada regardless of type and all known inventories of abandoned mines in Nevada. Sites are ranked for hazard during inventory, and are fenced (mitigated) as quickly as possible. The number of sites fenced and posted in Nevada on public lands recently exceeded 10,000. An innovative backfill coalition in Nevada has begun addressing permanent remediation of high priority hazards. This includes Cashman heavy equipment dealership, Paul DeLong heavy haul trucking companies, the BLM, the Nevada Division of Minerals, the Nevada Mining Association, the Nevada Natural Heritage program, the Nevada Department of Wildlife, individual mines, University Professors and graduate students, volunteer archeologists, GEOTEMPS, and many others. When this partnership began backfilling hazards, the only cost to BLM was our own salaries and the cost of archeological/cultural and biological clearances. In the last 3 projects, we have begun doing these clearances in house with the aid of non-BLM volunteers from the partnership, and the cost to BLM has been only the cost of salaries for employees and minor travel expenses. This partnership requires intense participation from the BLM 1010 program lead which may not be sustainable given other assignments and priorities.

Table 2

Priority Physical Safety Hazard Sites					
RECREATION AND HIGH USE AREAS	# OF AMM SITES	FY START	FY FINISH	EST BLM COST	KEY PARTNERS
Las Vegas Round one	7	2001	2001	Salary only- contracted bat/cultural paid by Nevada Mining Assn.	See narrative above
Las Vegas Round Two	29	2002	2002	Salary only- contracted bat/cultural paid by Nevada Mining Assn.	See narrative above
Searchlight	41	2005	2005	25000 bat survey + salary	See narrative above
≈≈Rhyolite/Beatty	40	2006	2006	Salary only	See narrative above
Reno/Pyramid lake- Perry Canyon	25	2006	2006	Salary only	See narrative above
Spruce Mountain OHV area- Elko	40+	2005	2007?	Depends on fate of partnership	See narrative above
Virginia City	unknown	2006	2008?	Depends on fate of partnership	See narrative above

Priority Physical Safety Hazard Sites					
RECREATION AND HIGH USE AREAS	# OF AMM SITES	FY START	FY FINISH	EST BLM COST	KEY PARTNERS
Tonopah	55	2006	2006	Salary only	See narrative above
Clark County SNPLMA	270	2005	2008	\$1,700,000 but in hand from SNPLMA grant	See narrative above
Clark County backfills	200 est.	2007	2010	Funded by SNPLMA round 6 (\$450,000)	
Goodsprings Gates	Ca.25	2004	2007	Funded by SNPLMA round 4	

Table 3. Workload Targets

PE	FY07	FY08	FY09	FY10	FY11	FY12	FY1)	Total
BH	500	400	300	200	100			1500
HP	120	100	100	100	40			460
JK	121	330	161	114				726
NP								
NQ								

* BH=Inventory/Assessment, HP=Physical Hazard, JK=Environmental Hazard, MG=Monitoring, NP=Evaluate Cost Avoidance/Cost Recovery, NQ=Process Hazmat Cost Avoidance/Cost Recovery Cases

For specific details on planned, ongoing and completed projects, go to the following websites:

BLM Nevada AML web site at: <http://www.nv.blm.gov/AML/>

Army Corps of Engineers website at: <http://www.nwo.usace.army.mil/html/rams/rams.html>

Montana State University Ecosystem Restoration website at:

<http://ecorestoration.montana.edu/default.htm>

BLM NSTC website at: <http://www.blm.gov/nstc/resourcenotes/rn73.html>

Nevada Division of Minerals website at: <http://minerals.state.nv.us/programs/aml.htm>

Southern Nevada Public Lands Management Act website at: <http://www.nv.blm.gov/snplma/>

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