

California State Office
Abandoned Mine Land Workplan
Period: FY2006 – FY2013

Summary

Significant mining areas in California are: Sierra Nevada Mountains, Klamath Mountains, Foothill Copper-Lead-Zinc Belt, Coast Range Province, Mojave Desert Region, Colorado River Belt, Inyo-White Mountains, Transverse Range, Tehachapi Mountain Region.

Commodities mined were primarily (gold, silver, mercury, copper, lead, zinc, chrome, antimony, nickel, iron, rare earth, uranium, sulphur, asbestos)

Current estimates regarding the total number of abandoned mines in California is roughly 50,000. An estimated 13,000 abandoned mines exist on BLM-administered public lands, of which 1,000 may impact water quality and over 3,000 contain hazardous mine openings. BLM California currently has an inventory of 520 known abandoned mine sites on BLM-administered public lands. This inventory includes 60 mines that may impact water resources within 17 priority watersheds; over 120 sites likely pose physical safety hazards. To date, 8 impaired water quality sites have been remediated. Approximately 88 sites with physical safety hazards have been remediated, to date.

AML Watershed Projects

There are 520 abandoned mines on BLM-administered public lands in California that have possible impacts on water quality of 17 priority water sheds. These impacts include:

- 1) Elemental and methyl mercury point and non-point discharge from placer gold mine sluice tunnels and tailings in stream channels, as well as discharge from mercury mines and millsites. Also airborne sources of mercury occur at mill tailings waste deposits.
- 2) Acidic mine drainage from mine openings and dumps at massive sulfide orebody-type mines.
- 3) Asbestos mines discharge fibrous mine wastes in stream channels, and airborne erosion of mine wastes are regarded as a serious public health risk.

The 17 highest priority watersheds impacted by abandoned mines on public lands include, in priority order, Sacramento, Salinas, Yuba, Bear, American, Trinity, Russian, Pajaro, Cosumnes, Mokelumne, Tuolumne, Crowley Lake, West Walker, Goose Lake, Indian Wells, Ivanpah Valley, Imperial Reservoir). Work is underway in 11 watersheds, involving 17 priority watershed projects.

The watersheds were prioritized on the basis of assessment undertaken by the State Dept of Water Resources. Prioritization of the water-quality impacted AML sites was accomplished using a combination of data sets including toxic metal concentration in water, sediment, or biota and various types of physical measurement (water PH, conductivity, alkalinity, etc.).

Impaired California watersheds were identified and prioritized by State Dept of Water Resources on the basis of 303(d) impairment listing under the Clean Water Act, and subsequent TMDL program implementation. In addition, BLM AML projects within a given watershed (e.g. Bear-Yuba watershed) were ranked on the basis of estimated contaminant loading and discharge, CWA *point-source* and *non-point source* discharge identification, as well as bioaccumulation, and human health and risk factors.

State Water Board, State AML Unit, Forest Service AML Program, and other agency representatives meet annually to discuss, collaborate, and rank AML water quality sites in priority watersheds. In addition, several public AML workshop events were hosted by the federal, state and local agencies in the Bear-Yuba watersheds during 2000-2003 and the Putah Creek watershed in 2005.

The state-wide distribution of abandoned mines on public lands, shown in relationship to priority watersheds is depicted in Table 1. California watershed maps are shown in Figure 1 and can also be viewed at (<http://www.ca.blm.gov/.htm>). Table 2 shows the key watershed partnerships developed by BLM California over a 7-year period.

The 8 highest priority watersheds impacted by abandoned mines on public lands include, in priority order: Sacramento, American, Bear, Nacimiento, Salinas, Trinity, Yuba, and Russian River watersheds. AML remediation work is either underway or proposed for all 8 of these watersheds (Table 1), involving 8 priority water quality projects.

Table 1. Priority Watershed Projects

WATERSHED	PROJECTS FUNDED/ PLANNED	BPS #	FY START	FY FINISH	COST
1. Cuddeback Basin	Kelly Mine		FY 06	FY 10	\$12,000,000
2. Sacramento River	Rathburn - Petray	35360	FY 06	FY 10	\$2,900,000
3. Bear River	Poore Hyd Mine	16870	FY 05	FY 11	\$1,200,000
4. American River	Pond Hyd Mine	33202	FY 05	FY 11	\$3,000,000
4. Mokelumne River	Poison Lake Mine		FY 06	FY 11	\$6,000,000
5. American River	Gold Run Mine	30571	FY 04	FY 11	\$3,500,000
6. Nacimiento River	Buena Vista Hg Mine	23074	FY 06	FY 11	\$1,200,000
7. Sacramento River	Oat Hill Ext Mine	28569	FY 04	FY 11	\$930,000
8. Russian River	Contact Mine	23833	FY 04	FY 12	\$650,000
9. Russian River	Sonoma Mine	23833	FY 04	FY 13	\$850,000
10. Yuba River	Davis Mine	23833	FY 04	FY 09	\$960,000
11. Salinas River	Rinconada Mine	16700	FY 04	FY 08	\$850,000
				TOTAL	\$32,4000,000

Table 2.

Watershed	Projects	Partnerships	
		Watershed Stakeholder Groups	Partnership role
Bear	Poore Mine	USGS, USACE CRWQCB (Nevada County Resource Conservation District) Bear River CRMP	Technical
	Boston Mine		Expertise
American	Pond Mine	USGS CRWQCB-Sac Valley Region (Nevada County Resource Conservation District) American River Conservancy	Monitoring
	Gold Run Mine		Community
Yuba	Davis Mine	USGS CRWQCB-Sac Valley Region Friends of Deer Creek (Nevada County Resource Conservation District)	Support
			Characterization
Salinas	Buena Vista	USGS CRWQCB-Sac Valley Region (Nevada County Resource Conservation District)	Technical
	Rinconada		Expertise
Sacramento (Cache Creek)	PetreyRathburn	USGS CRWQCB-Sac Valley Region (Cache Creek CRMP)	Monitoring
			Characterization
Trinity	Hocker Flat	USGS CRWQCB-North Coast Region (BOR-Trinity River Restoration Program)	Technical
			Expertise
			Monitoring
			Characterization

Physical Safety Hazards

Over 120 high-risk mine openings have been identified on BLM managed lands in California. The majority of these sites are within the jurisdiction of 6 BLM field offices. The most significant type of mine hazard feature is open shafts and adits remaining at AML sites in the Rademacher Hills, Spangler Hills, Alabama Hills, Keysville - High Use Recreation Areas). These areas have high use for OHV recreational uses). Approximately \$800,000 will be required to remediate this type of mine hazard.

Remediation at key sites is guided by focused inventory assessments starting with those site clusters in closest proximity to sites with high public exposure. Table 3 shows key physical hazard areas within designated recreation site areas. These areas are also depicted on Figure 2.

Table 3.

Physical Safety Hazard Sites				
Recreation Areas	Field Office	Number of Sites	Fiscal Year	Cost
Kelly Mine Red Mt. Town Area	Ridgecrest	200 +	FY06-7	\$200,000
Rademacher Hills OHV Area	Ridgecrest	400 +	FY06-13	\$400,000
Spangler Hills OHV Area	Ridgecrest	200 +	FY06-13	\$200,000
Randsburg High Use Area	Ridgecrest	100 +	FY06-13	\$100,000
Keyssville Recreation Area	Bakersfield	40 +	FY06-13	\$40,000
(Coarsegold) High Use Area	Bakersfield	5 +	FY06	\$20,000
Alabama Hills Recreation Area	Bishop	40 +	FY06-13	\$50,000
Turtle Mts. Wilderness Area	Needles	20 +	FY06-13	\$10,000
El Mirage Recreation Area	Barstow	30 +	FY06-13	\$30,000
TOTAL				

Table 3. Workload Targets

PE	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
JK	40	570	400	85	70	160	90	90
BH	6	6	6	4	6	6	5	6
HP	5	15	25	30	40	45	50	50
NP	11	6	6	4	6	6	5	6
NQ	4	6	6	4	6	6	5	6

* 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

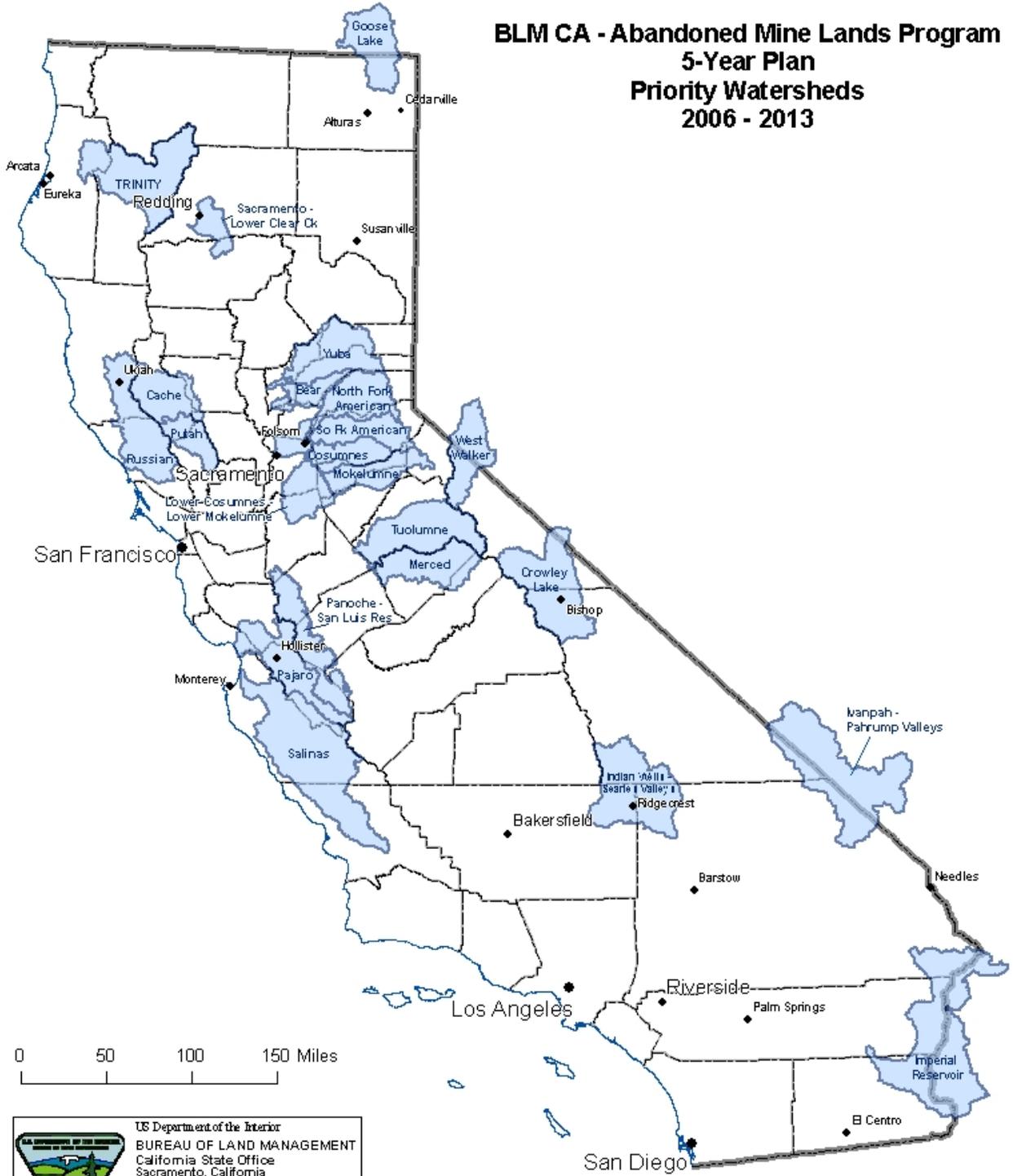
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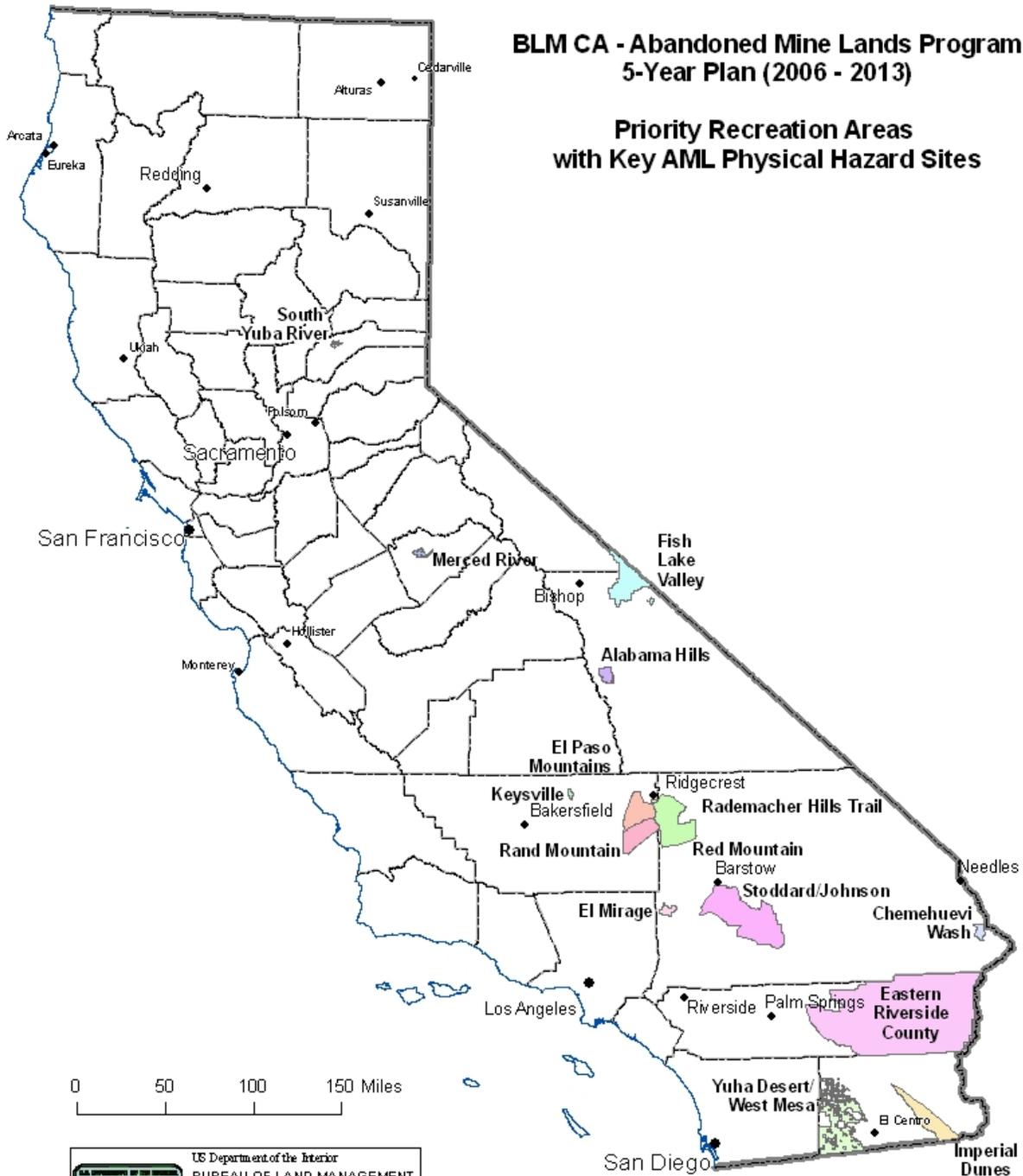
**BLM CA - Abandoned Mine Lands Program
5-Year Plan
Priority Watersheds
2006 - 2013**




US Department of the Interior
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 (916) 978-4400
 www.ca.blm.gov
 Date Prepared: 7/15/2005
 Project: ca5yrplan.mxd

**BLM CA - Abandoned Mine Lands Program
5-Year Plan (2006 - 2013)**

**Priority Recreation Areas
with Key AML Physical Hazard Sites**




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