

THE CALIFORNIA STATE MINING AND GEOLOGY BOARD: REGULATION OF MINE RECLAMATION IN CALIFORNIA¹

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Abstract. The California State Mining and Geology Board (Board), established in 1885, serves as a regulatory, policy and appeals body representing the state's interest in geology, geologic and seismologic hazards, conservation of mineral resources and reclamation of lands following surface mining activities. California is the only state in the US in which mine reclamation is regulated through 109 city, county and state lead agencies. Regulation is required pursuant to California's Surface Mining and Reclamation Act of 1975 (SMARA). When a lead agency fails to administer SMARA in an appropriate manner, the Board can consider assumption of the SMARA lead agency authority. Since 2002, the Board has exercised its assumption of lead agency authority for two counties, 10 cities, and 11 marine dredging operations. The Board performed a review of overall SMARA lead agency performance. This evaluation assessed the lead agency's performance of periodic mine inspections, adjustment of annual financial assurances and enforcement of the preparation of Interim Management Plans should a surface mine site be characterized as idle for a period exceeding one year. Based on this review, the overall performance of SMARA lead agencies throughout California varies significantly. For the most part, overall performance is poor reflecting a number of factors including primarily financial constraints, and limited or absence of technical expertise. While the Board has not yet exercised its assumption authority following this statewide evaluation, lead agencies are taking notice and looking more closely at their SMARA programs.

Additional Key Words: Surface Mining and Reclamation Act of 1975, mine reclamation policy, lead agency performance

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Introduction

California is the only state in the US where surface mine reclamation is not regulated at the state level. Most states also maintain permitting authority when it comes to mining regulation. Under the California Surface Mining and Reclamation Act of 1975 (SMARA), however, there are currently 109 lead agencies: 57 counties, 50 cities, the California Department of Water Resources and the California State Mining and Geology Board (Board). The 57 counties that serve as lead agencies range in size from 4 to 117 mine sites within their jurisdiction, and average 27.3 mine sites per county. The 50 cities that serve as lead agencies range from 1 to 35 mine sites within their jurisdiction, and average 3.3 mine sites per city. As a lead agency, the Board has assumed authority two counties (El Dorado County and Yuba County), 10 cities that have not adopted mining ordinances, and 10 Bay Conservation and Development Commission (BCDC) sites.

A review of the current status of the lead agencies' effectiveness and state of compliance in implementing the intent of the SMARA was completed in 2006. This review evaluated the lead agencies' performance in conducting 1) required mine inspections, and 2) annual evaluation and adjustment of the financial assurance amount, pursuant to California Public Resources Code (PRC) Sections 2774(b) and 2773(a)(3), respectively, and in accordance with SMARA. In addition, a cursory review was made of the efforts of the lead agencies to enforce SMARA via implementation of Interim Management Plans (IMP) when a surface mine site has been deemed idle for a period exceeding one year pursuant to PRC 2727.1 and 2770(h)(6). A synopsis of this review is presented.

This initial review consisted of an analysis of certain information contained in the SMARA database maintained by the Department of Conservation Office of Mine Reclamation (OMR), and certain files maintained by the OMR and the Board. It should be understood that the accuracy of data contained in the OMR SMARA database may be uncertain for any specific mine, and may not presently be reliable enough to develop site-specific actionable conclusions. In addition, OMR also understands these potential problems and efforts are currently underway to verify and improve data quality. In spite of this issue, the OMR SMARA database is believed to be accurate enough in selected areas to reveal broad-brush statewide trends in lead agency performance. This review emphasized lead agency performance in three categories:

1. Performance of mine inspections within their jurisdictions at least once each calendar year;
2. Performance of review and adjustment of financial assurances for each surface mine site within their jurisdictions; and
3. Enforcement of SMARA in regards to implementation of IMPs should a surface mine site be characterized as idle (or closed with no intent to resume and reclamation not certified as complete) for a period exceeding one year.

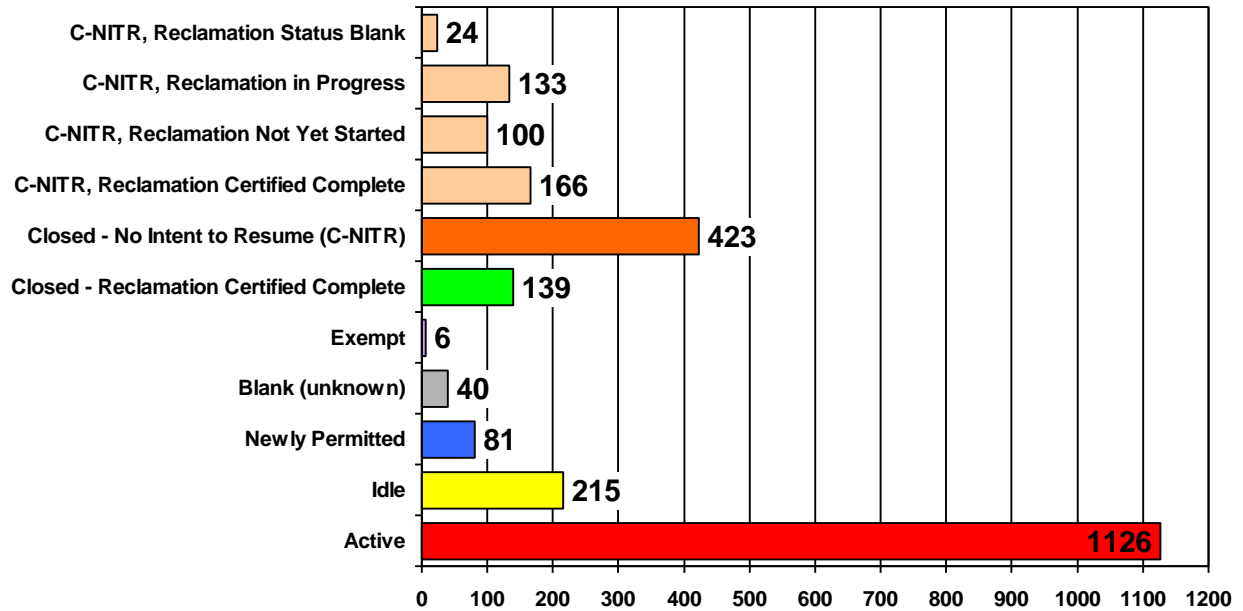


Figure 1. Mine activity categories for a total of 2030 individual mines.

In review of the SMARA database for 2005, the number of actual mines is 2030 (Fig. 1) and includes:

- 1,126 active mines;
- 215 idle mines;
- 81 newly permitted mines;
- 40 mines where their designated field in the SMARA database was left blank;
- 6 mines noted as exempt;
- 423 mines noted as closed with no intent to resume; and
- 139 mines where reclamation has been certified as complete by the lead agency.

Of the 423 mines noted as closed with no intent to resume:

- 166 out of the 423 are noted as “Reclamation certified complete by the lead agency”, and are not required to be inspected by their lead agency;
- 133 are noted as “reclamation in progress”;
- 100 are listed as “reclamation not started”; and
- 24 mines where their designated field in the SMARA database was left blank.

Regulatory Authority

SMARA provides a mechanism for the Board to consider lead agency assumption should a lead agency fail to perform and implement its responsibilities and obligations under SMARA. Specifically, PRC Section 2774.4(a) provides for SMGB action if it determines that a lead agency failed to carry out the provisions of SMARA. Pursuant to PRC Section 2774.4(a)

“If the board finds that a lead agency either has (1) approved reclamation plans or financial assurances which are not consistent with this chapter, (2) failed to inspect or cause the inspection of surface mining operations as required by this chapter, (3) failed to seek forfeiture of financial assurances and to carry out reclamation of surface mining operations as required by this chapter, (4) failed to take appropriate enforcement actions as required by this chapter, (5) intentionally misrepresented the results of inspections required under this chapter, or (6) failed to submit information to the department as required by this chapter, the board shall exercise any of the powers of that lead agency under this chapter, except for permitting authority.”

PRC Section 2774(b) provides for lead agencies to conduct mine inspections and notify the Department of Conservation of the results of those inspections. Pursuant to PRC Section 2774(b):

“The lead agency shall conduct an inspection of a surface mining operation within six months of receipt by that lead agency of the surface mining operation’s report submitted pursuant to Section 2207, solely to determine whether the surface mining operation is in compliance with this chapter. In no event shall a lead agency inspect a surface mining operation less than once in any calendar year.”

California Code of Regulations (CCR) Section 3504.5(a) reiterates this responsibility:

“Inspection of a surface mining operation shall be conducted not less than once each calendar year to determine if the operation is in compliance with the requirements of Public Resources Code Chapter 9, commencing with Section 2710.”

CCR Section 3504(a) provides that each lead agency shall monitor mine site activities within its jurisdiction and maintain an organized record-keeping of mining activities. Pursuant to CCR Section 3504(a):

“The lead agency shall establish and maintain in-house measures and procedures to ensure organized record-keeping and monitoring of surface mining reclamation under its jurisdiction.”

Lead agencies are required to review financial assurances on an annual basis unless the site has been certified as reclaimed by the lead agency. Pursuant to PRC Section 2773(a)(3):

“The amount of financial assurances required of a surface mining operation for any one year shall be adjusted annually to account for new lands disturbed by surface mining operations, inflation, and reclamation of lands accomplished in accordance with the approved reclamation plan.”

One measure of a lead agency’s enforcement efforts is determination as to whether mines that have been idle for over one year have either had IMPs implemented, or been deemed abandoned with reclamation commencing promptly, or allowed to remain idle. Pursuant to PRC Section 2770(h)(6):

“Unless review of an interim management plan is pending before the lead agency, or an appeal is pending before the lead agency’s governing body, a surface mining operation which remains idle for over one year after becoming idle as defined in Section 2727.1 without obtaining approval of an interim management plan shall be considered

abandoned and the operator shall commence and complete reclamation in accordance with the approved reclamation plan.”

Analysis

SMARA Mine Inspections

Mine inspections by lead agencies are a key element of SMARA. SMARA requires all mines that have not been closed and had their reclamation certified as complete by the lead agency to undergo an inspection at least once each calendar year. It is not felt likely that a mine operator would mistakenly report that no inspection occurred if one actually did.

Statewide, the total number of mines requiring inspection is 1,719, which includes:

- 1126 active mines;
- 215 idle mines;
- 100 mines that are “closed with no intent to resume and reclamation has not yet started;
- 133 mines that are “closed with no intent to resume”, and where reclamation is in progress;
- 81 newly permitted mines;
- 40 mines where the data field for inspection was left blank; and
- 24 mines that are “closed with no intent to resume”, and where the status of reclamation is unknown.

Counties. Of 57 counties, the average county has 27.3 mines that should have been inspected in 2005. In 2005, an average of 17.9 mines were inspected, 7.2 mines were not inspected and 2.2 mines were undetermined. Overall, the inspection rate is somewhere between 66% and 74% for the 57 counties in 2005 (Fig. 2).

Cities. Of 50 cities, 22 or 44% have an inspection rate of 100%. The average city has 3.3 mines that should have been inspected. In 2005, 2.4 mines were inspected, 0.8 mines were not inspected, and 0.1 mines were undetermined. Overall, the inspection rate is somewhere between 71% and 75% for the 50 cities in 2005 (Fig. 3).

Lead agencies that have inspected 50% or fewer of their mines in 2005 include 12 counties, 25 cities and two “other”. Poor inspection performance in previous years for certain lead agencies is similar to that for 2005.

Inspections (57 Counties)

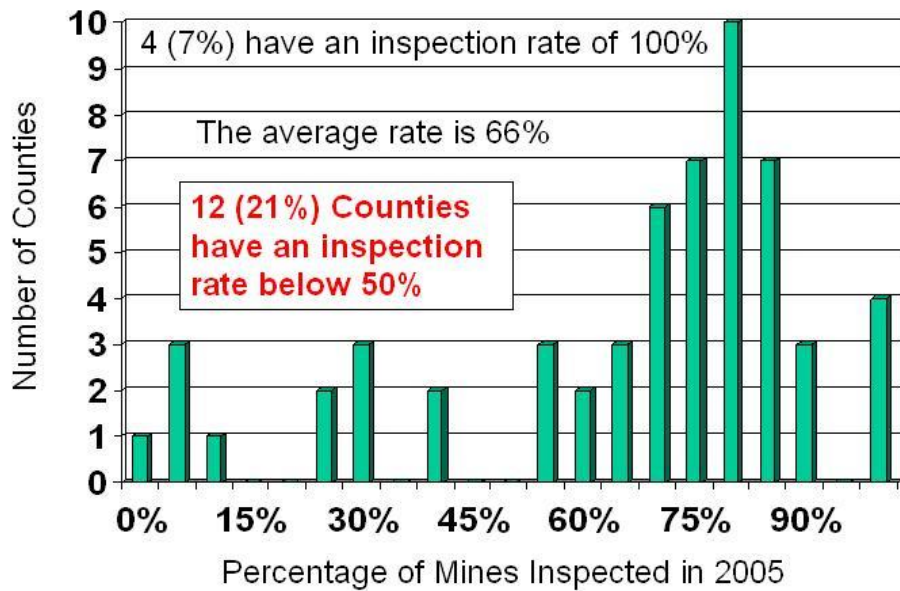


Figure 2. Percentage of mines inspected in 2005 for the 57 counties serving as a SMARA lead agency.

Inspections (50 Cities)

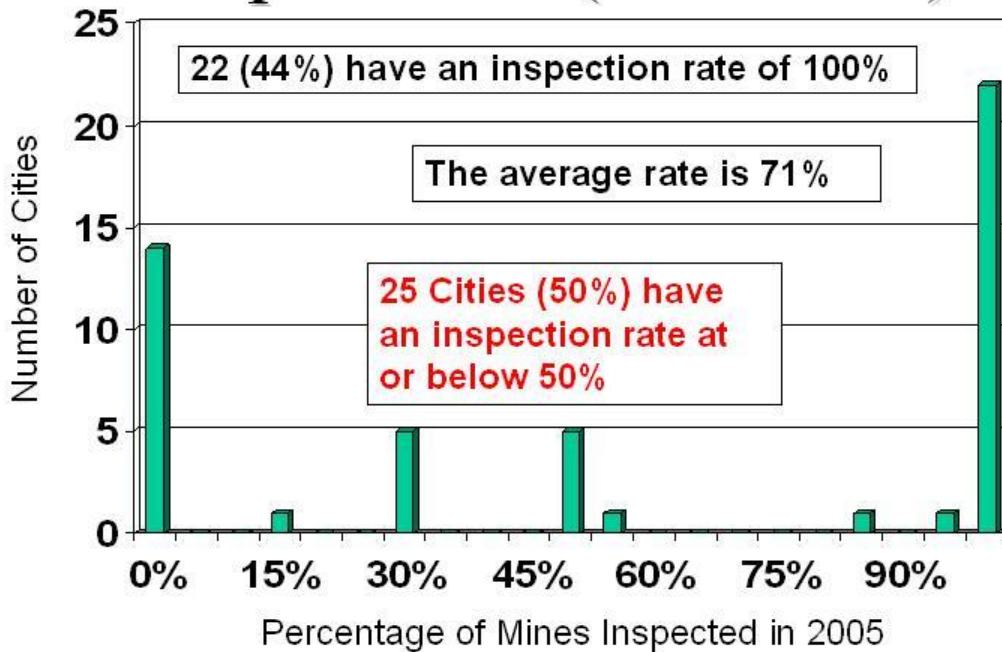


Figure 3. Percentage of mines inspected in 2005 for the 50 cities serving as a SMARA lead agency.

Annual Financial Assurances Review and Adjustment

Annual financial assurances reviews and adjustment are also a key component of SMARA and assures that appropriate and sufficient dollar amounts are set aside for reclamation. Lead agencies are required to review financial assurances on an annual basis unless the site has been certified closed and reclaimed by the lead agency. For purposes of this analysis, it was assumed that no annual adjustment in the financial assurance amount meant that no financial assurance review occurred. It is understood that this may not be a valid assumption and that some lead agencies may have reviewed the financial assurance cost estimates and decided revisions were not necessary. This could reflect a situation where ongoing reclamation efforts covered more acreage than was newly disturbed by mining, or where the financial assurance adjustments were too small to justify the acquisition of a new mechanism. However, because adjustments for inflation should apply equally to all mines, no adjustment was considered to imply that no review had taken place.

Statewide, the total number of mines requiring annual review of financial assurances and adjustment, as deemed necessary is 1,719, which includes:

- 1126 active mines;
- 215 idle mines;
- 100 mines that are “closed with no intent to resume and reclamation has not yet started”;
- 133 mines that are “closed with no intent to resume”, and where reclamation is in progress;
- 81 newly permitted mines;
- 40 mines where the data field for inspection was left blank; and
- 24 mines that are “closed with no intent to resume”, and where the status of reclamation is unknown.

Counties. The average county has 27.3 mines that should have had their financial assurance adjusted in 2005. In 2005, 7.3 mines had their financial assurances adjusted, and 20.0 mines did not have their financial assurances updated. The financial assurances adjustment rate is a very poor 27% for the 57 counties in 2005 (Fig. 4).

Cities. The average city has 3.4 mines that should have had their financial assurances reviewed and adjusted in 2005. 0.7 mines had their financial assurances adjusted, whereas, 2.7 mines did not have their financial assurances adjusted. Overall, there is a financial assurance adjustment rate of 20% for the 50 cities in 2005 (Fig. 5).

Financial Assurance Updates 57 Counties

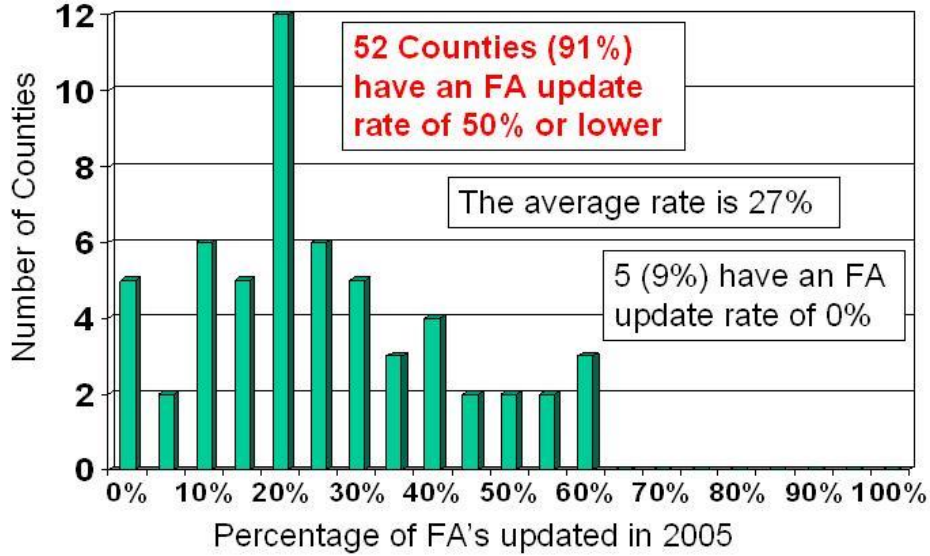


Figure 4. Percentage of financial assurances (FA) updated in 2005 for the 57 counties serving as a SMARA lead agency.

Financial Assurance Updates 50 Cities

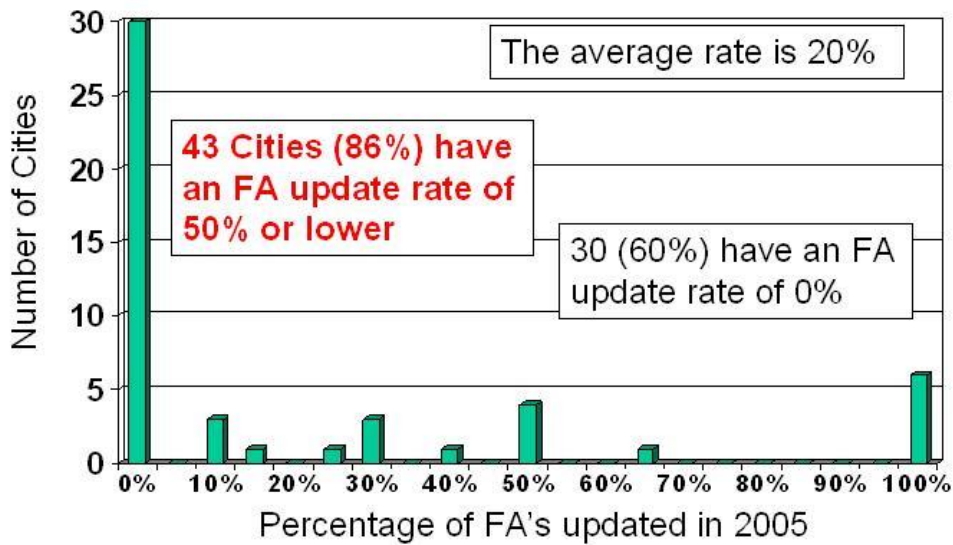


Figure 5. Percentage of financial assurances (FA) updated in 2005 for the 50 cities serving as a SMARA lead agency.

Enforcement of SMARA

One measure of a lead agency's enforcement efforts is to determine whether mines that have been idle for over one year have either had IMPs implemented, or been deemed abandoned with reclamation commencing promptly, or allowed to remain idle.

There are 215 mines listed as "idle" for 2005 in the SMARA database. Only 12 of these were identified as "active" in 2004. 93 were listed as "idle" in 2004. All of these should have had IMPs. Only one of the 93 had an IMP (pending) in 2005. Anecdotally, only about two dozen IMPs might be in the OMR files. These are not identifiable using the SMARA database. It may be possible that the remaining 109 mines also required IMPs, but the SMARA database was ambiguous about their 2004 status. It is possible that all 257 of the mines identified as "Closed – No intent to Resume" for more than one year should also have current IMPs in place—at least until reclamation is certified as complete.

Summary of Findings

In review of the SMARA database, the overall performance of SMARA lead agencies can be evaluated and ranked in terms of whether annual inspections have been performed and financial assurances annually reviewed, whether or not implementation and enforcement of IMPs has taken place, and evaluation of the established overall cost per acre for reclamation of disturbed lands compared to the statewide average. Such evaluation and ranking will assist in setting priorities in encouraging more favorable performance of SMARA lead agencies. The overall quality of lead agency performance in these areas varies significantly from fairly good in limited areas to very poor, and is further summarized below.

Conduct of mine inspection

Inspection rates are relatively high for the state as a whole. Counties inspect an average of 66-74% of their mines annually. Cities inspect an average of 71-75% of their mines annually. Inspections are bimodal, that is, individual lead agencies performance in the conduct of inspections is by cities is generally either fairly good or very poor. The SMARA database indicates whether or not a mine inspection was performed in 2005 (or earlier years), but provides no indication as to the completeness or the quality of the inspection. The quality is inferred to be generally poor based on limited file reviews and spot checks performed by the Executive Officer of the Board.

Annual Review of Financial Assurance Amounts

The April-June 2004 issue of SMARA UPDATE published by OMR contained a statistical tabulation of data from the SMARA database that included an average Financial Assurance cost in dollars/acre amount for every lead agency in California (Table 1). This analysis illustrated the overall lack of annual review and adjustment of financial assurances. Furthermore, it was inferred from this analysis and review of select mine files that the majority of financial assurance amounts was found to be universally low. For example, ranges in financial assurance dollar amounts per acre ranged from \$51/acre to \$282/acre for Calaveras and Madera counties, respectively. In 2004, financial assurances amounts were reported to range from \$15/acre to \$273/acre for the cities of Needles and Paso Robles, respectively. It is understood that a better measure of financial assurance adequacy would be financial assurance dollar amount per disturbed acre, rather than per financial assurance dollar amount per permitted acre. That better measure might increase financial assurance amount/acre values by a factor between 2 to 4 times,

but total disturbed acreage values in the database are too unreliable to be used. This database deficiency is important and would be straightforward to correct. However, even with an adjustment of 4 times the amount, the majority of financial assurances would still be well below the \$5,000/acre general estimate used by OMR in its calculations of the overall average cost of reclamation in California.

Table 1. Summary of Financial Assurance Amounts in 2002.

Counties	Cost per Acre	Cities	Cost per Acre
Calaveras	\$51	Needles	\$15
Stanislaus	\$107	Apple Valley	\$32
Tehama	\$111	Lake Elsinore	\$83
Colusa	\$132	Banning	\$97
Merced	\$136	Redding	\$97
Glenn	\$149	Sacramento	\$100.00
Yuba	\$205	Bakersfield	\$131
Amador	\$211	Lompoc	\$147
Butte	\$212	Oroville	\$206
Alpine	\$249	Mt. Shasta	\$216
Tulare	\$280	Paso Robles	\$273
Madera	\$282		

(a) Dollar values reflect permitted acreage, not actual disturbed acreage.

Financial assurance adjustment rates are abysmal for the state as a whole. SMARA requires that all mine financial assurances be reviewed annually and adjusted if necessary, but 91% of the counties have financial assurance adjustment rates at or below 50%. Counties update an average of only 27% of their mine financial assurances annually. 86% of the cities have financial assurance adjustment rates at or below 50%. Cities adjust an average of only 20% of their mine financial assurances annually. Even ignoring the lack of annual financial assurance adjustments, financial assurance dollar amounts were found to be unrealistically low in 2002.

Lead Agency Enforcement of IMPs

The review of the SMARA database also provides insight into the lead agency’s efforts to enforce SMARA. Notably, any mine that has been idle or closed without being reclaimed for more than one year is required pursuant to SMARA to prepare an IMP, or be deemed abandoned with reclamation commencing promptly.

IMPs appear to be almost unknown to lead agencies within California. 359 mines should have IMPs but do not. 54 counties and 20 cities, more than 57% of all lead agencies in California, have mines that require IMPs but do not have them in place. Only one mine in the SMARA database could be identified as having an IMP (pending). If IMPs are deemed reflective of SMARA enforcement efforts by lead agencies, it is almost non-existent (Fig. 6 and 7).

Interim Management Plans (IMP) in place when required - 2005

57 Counties

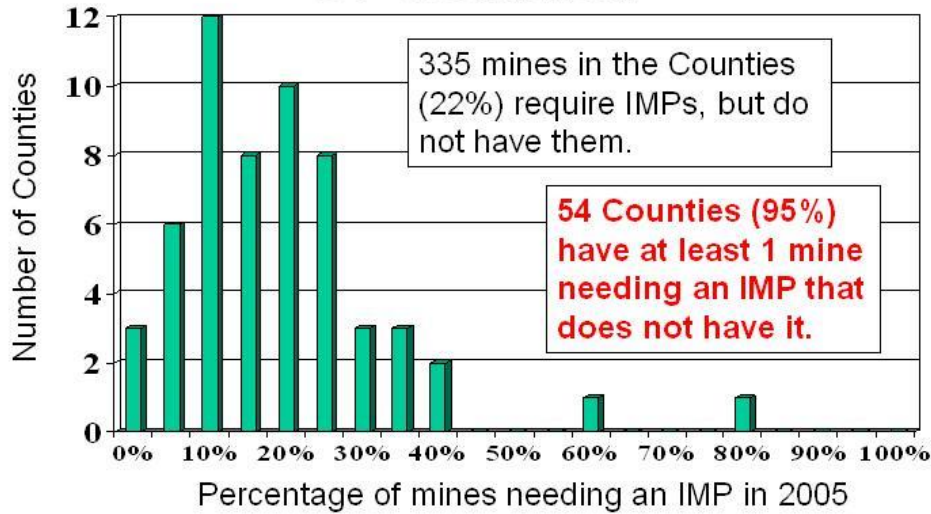


Figure 6. Percentage of mines requiring an Interim Management Plan (IMP) in 2005 for the 57 counties serving as a SMARA lead agency.

Inspections (50 Cities)

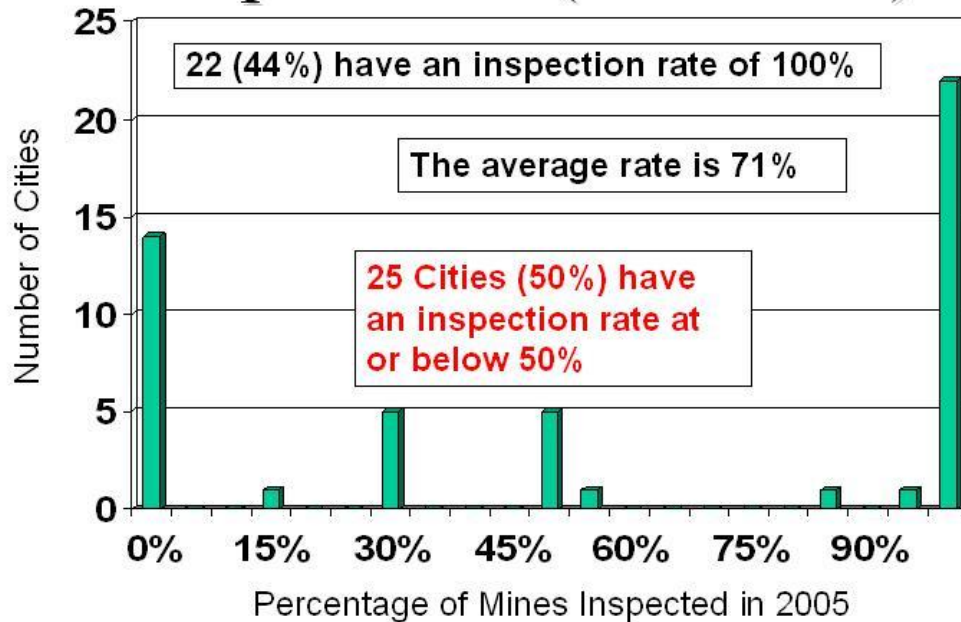


Figure 7. Percentage of mines requiring an Interim Management Plan (IMP) in 2005 for the 50 cities serving as a SMARA lead agency.

Conclusion

For the most part, overall performance of lead agencies implementing SMARA in California is poor. This reflects a number of factors including financial constraints among lead agencies, limited or non-existent in-house technical expertise, and the lower priority this program has in contrast to other programs within the lead agency jurisdiction. Performance rates for the conduct of inspections at least once each calendar year by SMARA lead agencies is moderate, averaging 66-75%, although the quality of such inspections is inferred to be generally poor. The annual review and adjustment of financial assurances by SMARA lead agencies is abysmal for the state as a whole, with 91% of the counties having financial assurance adjustment rates at or below 50%. In addition, financial assurances dollar amounts appear to be unrealistically low as of 2002. In regards to enforcement as it relates to the SMARA lead agency enforcing approval of IMPs, or having the operator to commence reclamation promptly; this aspect of enforcement is almost unknown to lead agencies within California. If IMPs are deemed reflective of SMARA enforcement efforts by lead agencies, then such efforts are almost non-existent. While the Board has not yet exercised its assumption authority following this statewide evaluation, lead agencies are taking notice and looking more closely at their SAMRA programs.

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