

An Uneven Shield

The Record of Enforcement and Violations Under California's Environmental, Health, and Workplace Safety Laws

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Executive Summary

California leads the nation in setting standards to protect the health of families, communities, and the environment. Yet too little is publicly known about how effectively these standards are enforced, or how officials respond when violations occur. To assess the state of enforcement of California’s environmental and public health laws, NRDC examined data on known violations and law enforcement responses under six critical pollution, health, and workplace safety programs. We found that, during the multi-year period analyzed for this report, noncompliance with and enforcement of environmental and health laws varied widely across the state and among the different government authorities responsible for enforcing these laws. We also found that, in some areas, violations were not routinely followed by enforcement actions, and that unlawful conduct was often not penalized.

Enforcement responsibility for key California environmental, health and safety laws is decentralized. Responsibility for programs that regulate water pollution, hazardous waste management, drinking water safety, air quality, agricultural pesticide use, and workplace health and safety resides in an array of local, regional, and/or state government authorities.¹ Our analysis relies on data provided or reported by these many different authorities and explores both the limits and implications of those data.

Careful review of available data reveals the following:

- **The decentralized nature of California’s enforcement authority has led to inconsistent enforcement of, and compliance with, key environmental, health, and workplace safety laws.** The various authorities involved prioritize enforcement differently and have used different strategies.

These interagency differences likely contribute to wide variations found in the rates of violations and enforcement among programs and regions.

- **Noncompliance varied widely.** Violation rates were reported to be far higher in some programs and in some geographic areas than in others. The available data were too limited to discern whether the areas with higher reported violation rates actually had more violations—were “hot spots” of unlawful conduct—or instead reflected more vigilant detection efforts.
- **Enforcement rates varied widely.** The frequency and vigor with which state, regional, and local authorities conducted inspections and responded to known violations varied widely by program and ju-

Table ES 1. Violations Identified at Regulated Facilities (Multiyear Analysis)^a

California Regulatory Program	% Regulated Facilities Violating the Law (annual average)	% Change in Proportion of Facilities Identified as Violating Law ^b	% Inspections Identifying a Violation (annual average)	% Change in Inspections Finding Violation
Water Pollution	8%	-9%	-	-
Hazardous Waste Management	5%	+187%	-	-
Drinking Water	11%	+16%	-	-
Air Pollution	15%	-4%	-	-
Agricultural Pesticide Use	- ^c	-	19%	+4%
Workplace Safety and Health	-	-	55%	-9%

a. For all programs except Agricultural Pesticide Use, the calculation period was the most recent five-year period for which consistent multiyear data were available at the time of analysis. For Agricultural Pesticide Use, only three years of data were available. See Table 1.

b. For the water pollution, hazardous waste management, drinking water, and air pollution programs, the “% Change in Proportion of Facilities Identified as Violating Law” assumes no material change in the number of regulated facilities statewide during the analysis period. The facilities at issue are generally large industrial facilities. Changes in numbers of such facilities are likely not material.

c. Data unavailable due to differences in reporting and recordkeeping practices among authorities.

Table ES 2. Enforcement Response to Known Violations (2004)

California Regulatory Program Area	Violating Facilities	Inspections Identifying Violations	% Violating Facilities Without Enforcement	% Inspections Identifying Violations Without Enforcement
Water Pollution	3,799	-	22.98%	-
Hazardous Waste Management	362	-	5.52%	-
Drinking Water	1,527	-	2.36%	-
Air Pollution	220	-	13.18% ^a	-
Agricultural Pesticide Use ^b	- ^c	2,165	-	57.54% ^d
Workplace Safety and Health	-	3,399	-	3.77%

a. This figure excludes informal enforcement actions, such as notices of violation.

b. Agricultural Pesticide Use data is presented for fiscal year 2004 rather than calendar year 2004.

c. Data unavailable due to differences in reporting and recordkeeping practices among authorities.

d. This figure excludes informal enforcement actions, as noted *infra*, at 11 & n. 17.

risdiction. The probability that a violator would be inspected—and, if found, sanctioned—depended on where the violator was located and what law enforcement authority was responsible.

- **Reliable long-term data on enforcement and compliance are lacking.** Data on enforcement and compliance were difficult to obtain and often inconsistent or incomplete. Resulting data gaps impair law enforcers' ability to allocate their resources efficiently, undermine the public's understanding of how well enforcement is working, and limit policy-makers' capacity to assess if reforms are needed.

Comprehensively addressing these concerns would likely require broad and deep reforms. Some important, targeted reforms have already begun. For example, in 2004, the California Environmental Protection Agency (Cal/EPA) launched an initiative to improve enforcement by the boards, departments and offices within its jurisdiction. That initiative is supported by the Governor's FY 2008-2009 budget proposal, which recommended a number of new enforcement positions.² Cal/EPA is also presently working to develop better baseline enforcement data from authorities that act within Cal/EPA's area of jurisdiction, with results expected to be announced later this year. However, given Cal/EPA's limited jurisdiction—and the constraints of existing law and budgets—this Enforcement Initiative is not expected to resolve the full range of concerns identified in this report.

RECOMMENDATIONS

Laws are only words if not obeyed, and laws are unlikely to be regularly obeyed without strong enforcement. A speed limit that can be ignored with impunity does little to deter speeding. Similarly, a polluter that stands little risk of serious punishment for violating the law may see that risk as just another "cost of doing business." Firm, fair, and consistent enforcement is essential to environmental, health, and workplace safety protection.

The findings of this report—including that violation rates and enforcement responses vary widely among state, local and regional authorities and programs—suggest that significant reform may be needed to restore the promise of environmental, health, and workplace safety for all Californians. Some of our recommendations for tightening enforcement build on strategies already envisioned by Cal/EPA. Others are new.

- Provide adequate funding for enforcement at all levels of government. Ensure that responsible authorities have the staff and resources they need to detect, correct and deter unlawful conduct.
- Allow the people most directly harmed by pollution—the people who live and work downwind and downstream of pollution—to enforce the law where, for whatever reason, government bureaucracies do not.
- Require enforcement authorities at all appropriate levels of government to report complete, accurate, and timely data on violations and enforcement so that hotspots can be identified and corrected.
- Remove institutional barriers to timely and effective enforcement so that enforcement becomes more certain, predictable, and efficient.
- Increase penalty assessments to deter unlawful conduct and to prevent violators from profiting from their misconduct.
- Set clear enforcement standards—and measure all enforcement authorities' results.

1. Introduction and Overview

To evaluate enforcement of California’s environmental, health, and workplace safety laws, NRDC collected and assessed data from state, regional and local authorities on rates of violation, frequency of inspections, enforcement responses, and the imposition of penalties. We considered data from six programs that regulate water pollution to California’s rivers, lakes, and ocean; control air pollution from major stationary sources like refineries and factories; ensure the safety of drinking water supplies; prohibit mismanagement of hazardous waste; regulate use of agricultural pesticides; and provide for workplace safety.³

The rates of violations, and of enforcement responses, among these programs varied widely. The chance that a violation would be detected, and if detected, sanctioned, depended in considerable part on where the violator was located and what government authority was charged with oversight. Variation in compliance rates and enforcement responses may in part reflect the diverse array of state, regional, and local authorities charged with ensuring compliance, as not all of these authorities prioritize enforcement equally. These disparities also raise a concern that not all Californians are receiving equal and sufficient protection under our environmental, health, and safety laws.

RATES OF REPORTED VIOLATIONS

The reported rate of violation for the laws we examined varied among programs and, within each program, among regional or local authorities charged with enforcement. Available data from federal, state, regional and local authorities revealed statewide violation rates that ranged from as low as five percent for the hazardous waste program to double that (or more) for some other programs. On an average annual basis:

- one in 20 California facilities that managed hazardous waste violated at least one hazardous waste law;
- almost one in 10 facilities with permits to discharge “waste”⁴ to water violated one or more water pollution control laws;

- about one in 10 drinking water suppliers violated at least one drinking water program requirement;
- one in seven major stationary sources of air pollution committed at least one high priority violation;
- about one in five agricultural pesticide use inspections uncovered unlawful conduct; and
- more than half of workplace safety inspections identified a violation.

These inter-program variations were relatively small, however, compared to the significant variation in reported violation rates among some regional or local enforcement authorities. For example:

- Widely different levels of known noncompliance with agricultural pesticide use laws were found among different California counties, where county agricultural commissioners have primary enforcement responsibility. For example, during FY 2004–2006, 16 percent of agricultural pesticide use inspections in Ventura County found a violation. During that same period, 76 percent of inspections in Madera County reportedly found a violation.
- The State Water Boards reported to the Legislature that, in 2005, wastewater facilities that violated

Table 1. Data Sources and Scope of Investigation

Regulatory Program	Responsible State and Local Authorities	Data Source ^a	Scope of Data Analysis	Years of Data Analyzed
Water Pollution	Regional Water Quality Control Boards, State Water Resources Control Board	SWIM, CIWQS, Enforcement Reports	Facilities Subject to Water Quality Control Programs	2000–2004 (2000–2006) ^b
Hazardous Waste Management	Dept. of Toxic Substances Control, Certified Unified Program Agencies ^c	RCRAInfo System (USEPA IDEA) ^d	Hazardous Waste Handlers	2000–2004
Drinking Water	Dept. of Public Health, Local Districts, Local Primacy Agencies	PICME	Public Drinking Water Systems	2001–2005
Air Pollution	Local Air Pollution Control Districts, Air Resources Board	AFS ^e	Active Major Stationary Sources	2001–2005
Agricultural Pesticide Use	County Agricultural Commissioners, Dept. of Pesticide Regulation	Inspection Tracking and Enforcement Databases	Agricultural Pesticide Applications	FY 2004–2006 ^f
Workplace Safety and Health	Dept. of Indus. Relations, Occ. Safety & Health Division; CalOSHA enforcement units	OSHA IMIS	Workplaces Subject to CalOSHA Inspections	2001–2005

a. CIWQS, PICME, and the CDPR Inspection Tracking and Enforcement Databases are maintained by the state authorities with relevant responsibility. RCRAInfo and AFS are maintained by U.S. EPA, based on data reported to it by state and local authorities. Our analysis relied on these two U.S. EPA databases where the relevant state or local enforcement authorities did not provide access to electronic data necessary to our analysis. One authority, the Department of Industrial Relations, responded to NRDC’s information request by providing NRDC with data from a federal OSHA database (IMIS).

b. Unless otherwise specified, this report assesses water pollution program data for 2000–2004. Because the California Water Boards switched to a new data management system in 2005, consistent multiyear data for all of the metrics we assessed were unavailable beyond 2004. However, the Water Boards reported some additional data for 2005 and 2006 in their annual Enforcement Reports to the Legislature, filed pursuant to California Water Code § 13385(o), and have posted more recent data through a Web interface.

c. Due to inconsistent data, we were unable to compare enforcement activity among local Certified Unified Program Agencies (CUPAs). In addition, it is possible that not all CUPA violation and enforcement data are captured in the RCRAInfo system.

d. NRDC requested access to electronic data recorded in DTSC’s database. DTSC was unable to provide electronic access to the underlying data, and the printed reports DTSC made available contained insufficient information for NRDC’s analysis. Accordingly, NRDC relied on hazardous waste program data reported by state and/or local authorities directly to U.S. EPA.

e. NRDC requested access to data maintained by individual air districts. Due to a number of air districts’ inability or unwillingness to provide ready access to such data, NRDC was forced to rely instead on data reported by these air districts to U.S. EPA and maintained in the federal AFS database. One air pollution control district noted that “[w]e do not track” data or statistics on enforcement activities. Letter from Great Basin Unified Air Pollution Control District to Natural Resources Defense Council (Dec. 1, 2005). Another air district provided no information on violations or inspections, but reported that enforcement actions had not been taken and were “not necessary” because the district’s staff were (instead) “involved in permitting, inspecting, and education.” Letter from Mariposa County Air Pollution Control Officer to Natural Resources Defense Council (Feb. 7, 2006). Still other air districts reported that they had “not compiled any enforcement statistics,” see Letter from Kern County Air Pollution Control District to Natural Resources Defense Council (Dec. 14, 2005), or that “[n]o such data or statistics [on inspections and fines] are in existence,” see Letter from Legal Counsel, Lassen County Air Pollution Control District, to Natural Resources Defense Council (Dec. 6, 2005). Three districts indicated that NRDC’s information request was “too broad” to answer. See, e.g., letter from Mojave Desert Air Quality Management District to Natural Resources Defense Council (Dec. 5, 2005); letter from Deputy County Counsel, County of San Luis Obispo, to Natural Resources Defense Council (Dec. 14, 2005); letter from Antelope Valley Air Quality Management District to Natural Resources Defense Council (Dec. 5, 2005). Although several air districts have recently asserted that discrepancies exist between their own data and that maintained in the U.S. EPA database, NRDC is not in a position to resolve such reported discrepancies.

f. Most agricultural pesticide use enforcement is conducted by county agricultural commissioners, under the oversight of the California Department of Pesticide Regulation (CDPR). CDPR informed NRDC that it began regularly tracking inspection activity in a database in 2003. The CDPR database to which NRDC was given access tracks field worker safety inspections, pesticide use monitoring inspections, commodity fumigation use inspections, and field fumigation use monitoring inspections but does not track pre-application inspections. Only three years of data (FY04–FY06) were available in this database at the time of analysis.

their permits committed, on average, about nine violations. That average varied widely among regions, however, from less than three violations per non-complying facility in many areas to more than 40 violations per non-complying facility within the jurisdiction of the Sacramento office of the Central Valley Regional Water Quality Control Board.

Whether higher reported violations rates in some regions reflected more unlawful conduct in those regions, or more diligent detection by enforcement authorities, was unclear. Either possibility would raise concerns about the adequacy and consistency of enforcement in California's decentralized regulatory environment.

LAW ENFORCEMENT RESPONSES TO KNOWN VIOLATIONS

Significant differences were also found in the rates at which state, regional, and local enforcement authorities conducted inspections, responded to known violations, and penalized violators. Our findings with respect to each of these different metrics of enforcement activity are summarized below.

Inspections. Data on inspections were limited in some program areas. Total reported inspection activity declined during the period considered for the agricultural pesticide use and workplace safety programs, but data on inspection frequencies were not available. In other program areas, the proportion of regulated facilities inspected each year varied from fewer than one out of every 10 (for facilities with permits to discharge waste to water) to seven out of every 10 or more (for major stationary sources of air pollution).⁵ It is not immediately obvious why water polluters should be inspected far less frequently than air polluters yet this is what the data show. These data call into question whether inspections under all programs were conducted often enough to detect and deter unlawful activity.

Rate of Response to Known Violations. Law enforcers reported responding to violations they identified at very different rates, depending on the state, regional or local enforcement authority involved. For example:

- The vast majority—94 percent—of identified hazardous waste program violations resulted in some type of enforcement action in 2004 (the last year of available data from the statewide hazardous waste database to which NRDC was granted access).
- Fewer than half of identified agricultural pesticide use violations in FY2004 received a formal enforcement response. For the three-year period FY2004–FY2006, fewer than 40 percent of identified agricultural pesticide use violations received formal enforcement. Informal enforcement responses were not tracked and reported.
- As of January 2008, the State Water Boards reported that no enforcement action had yet been taken in response to between one-third and over one-half of wastewater violations committed in each year between 2002 and 2006. The proportion of violations not associated with an enforcement action increased in later years, possibly due in part to the time lag inherent in completing enforcement actions.

Severity of Enforcement Response to Known

Violations. Very little data exist that would allow a systematic comparison of the strength and appropriateness of enforcement responses across different authorities and programs. Even when enforcement actions are conducted, the “action” taken may range from a verbal warning with no penalty to a formal enforcement proceeding with a sometimes-significant monetary penalty. Unfortunately, enforcement authorities have not kept data on enforcement responses in a sufficiently systematic and consistent manner to allow comparisons across programs.

There are some indications, however, that the response of particular state, regional, or local authorities to known misconduct may not be vigorous enough to deter future misconduct. In many instances, enforcement authorities appear to have imposed no sanction for known violations. For example, more than half of the districts responsible for ensuring compliance with drinking water health standards by large drinking water systems did not report imposing a single monetary fine during the five-year period 2001 to 2005. Even more surprisingly, the California Water Boards reported that, during the six-year period 2000 to 2005, no fine had been imposed for 59 percent of the violations deemed by state law to be sufficiently serious to *require* a fine.⁶

Determining whether these statistics reveal pervasive problems or isolated issues will require better datakeeping by the law enforcement authorities themselves. Right now, such data does not appear to exist. Better data collection and reporting are essential to understanding where under-enforcement occurs and how it can best be addressed.

DATA QUALITY AND LIMITATIONS

Consistent and reliable long-term enforcement and violations data were not available from many state, regional, and local authorities. Notwithstanding a multiyear data collection effort—which may have been the most comprehensive investigation of this issue yet conducted for California environmental, health, and workplace safety enforcement—significant data gaps remain that limit the scope of our analysis.

- We assessed programs through the most recent year for which comprehensive data were available at the time we conducted our analysis. Due to delays in authority reporting, obstacles to public access to some authority databases, and the time necessary to analyze complex authority data sets, the last year for which data was available ranged from 2004 to 2006, depending on the program. Trends beyond these dates are not reflected in this report. (More recent data may become available from Cal/EPA later this year, but if those data are based on new information-collection efforts, then they are unlikely to be useful for trends analysis against the earlier data analyzed in this report.)
- This report did not assess the seriousness of violations, which is an inherently subjective concept. We instead employed the definition of violation used in the state and federal data sets. In some instances, those violations may have resulted in demonstrable increases in pollution or health or safety risks, while in others, the violations may not be linked to any direct harm. All of the violations, however, represent identified violations of the law.
- Our report evaluates six important environmental, public health, and workplace safety programs but could not address every program. For example, we considered pollution from major stationary sources, but not from cars.
- Much of the data analyzed in this report was obtained by NRDC via formal Public Records Act and Freedom of Information Act requests. In some instances, a state or regional enforcement authority did not provide timely access to the data we sought. In those instances, NRDC instead relied

on state or local enforcement authority data that had been reported to and maintained by the U.S. Environmental Protection Agency (U.S. EPA).

- Enforcement and violations databases maintained by federal, state, or local enforcement authorities often contained mistakes, and in some instances, those mistakes may have been significant. One authority reported conflicting or incomplete data to NRDC on different occasions. Another group of authorities told NRDC that some data they had reported to U.S. EPA was wrong. NRDC is not in a position to resolve these errors in enforcement authority recordkeeping. This report necessarily relies on the electronic data to which NRDC was granted access.
- Criminal and judicial enforcement actions taken by the attorney general or district attorneys are not recorded in many of the enforcement authority databases we assessed and thus not reflected in our analysis. Because criminal and judicial enforcement actions are generally brought against only a small number of the most serious violators, inclusion of those actions would not likely have significantly affected the raw enforcement numbers reported here.
- Data from some local authorities (such as some fire departments with hazardous waste enforcement authority) may not have been consistently included in the statewide or national databases to which we were given access. Inclusion of that data would likely have shown higher absolute levels of both violations and enforcement.

These data limitations and data quality issues represent holes in the information available to the public, policymakers, and enforcement authorities themselves. The lack of accurate and complete information obscures how many violations occur in California, undermines law enforcers' ability to allocate resources wisely, and impairs the public's and policymakers' understanding of how well California's system of enforcing environmental, health, and workplace safety laws works—and what reforms may be needed.

2. Known Violations

During a two-year investigation, NRDC obtained and analyzed data on violations and enforcement activity from federal, state, regional and local authorities charged with enforcing California’s environmental, health, and workplace safety laws (Table 1).⁷ These data revealed that the extent of known violations varied widely, depending on which program, authority, or jurisdiction was involved. Reported violation rates were far higher in some areas than others, but data were too limited to discern whether higher reported violation rates reflected more actual violations (that is, “hot spots” of unlawful conduct) or instead reflected better detection of violations. Either explanation would raise concerns regarding the consistency of compliance across California’s highly decentralized environmental, health, and safety enforcement system.

STATEWIDE VIOLATION RATES

The data analyzed revealed significant numbers of facilities that committed one or more violations each year, with significant inter-program variation (and far wider discrepancies across the various state, regional and local authorities charged with enforcement). The multiyear statewide averages for each program are stated in Table 2.

Analysis of a single year’s data revealed a pattern that was generally similar to these multiyear averages. For example, in 2004, the most recent year for which relatively reliable data were available for all programs analyzed:⁸

- **Water Quality.** California Water Board data indicate that, statewide, about one of every 12 regulated facilities was known to have violated one or more requirements of the water pollution laws. As discussed below, this figure varied widely from Regional Board to Regional Board.
- **Hazardous Waste.** About one in 10 businesses that manage hazardous waste was found to have violated at least one hazardous waste law. Data were insuf-

ficient to compare violation rates across the different local authorities charged with overseeing compliance.

- **Drinking Water.** Approximately 10 percent of drinking water suppliers statewide were found to be violating drinking water standards. As discussed below, significant differences occurred across regions.
- **Air Quality.** Almost one in five major stationary sources of air pollution was reported to have violated at least one air pollution program requirement. The rate of known violations varied significantly by industry.
- **Pesticides and Workplace Safety.** One out of every five agricultural pesticide use inspections and more than half of workplace safety inspections uncovered unlawful conduct. Again, the proportion of inspections finding a violation depended in part on which local or regional authority was principally charged with investigating and preventing misconduct.

Table 2. Violations Identified at Regulated Facilities (Multiyear Analysis)^a

California Regulatory Program	Proportion of Regulated Facilities Identified as Violating the Law (annual average)	Percent Change in Proportion of Facilities Identified as Violating Law ^b	Proportion of Inspections Identifying a Violation (annual average)	Percent Change in Inspections Finding Violation
Water Pollution	8%	-9%	-	-
Hazardous Waste Management	5%	+187%	-	-
Drinking Water	11%	+16%	-	-
Air Pollution	15%	-4%	-	-
Agricultural Pesticide Use	- ^c	-	19%	+4%
Workplace Safety and Health	-	-	55%	-9%

a. For all programs except Agricultural Pesticide Use, the calculation period was the most recent five-year period for which consistent multiyear data were available at the time of analysis. That time period ran through 2004 for the Hazardous Waste Management programs and through 2005 for the Drinking Water, Air Pollution, and Workplace Health and Safety programs. For the Water Pollution program, certain data were available through 2004, and other data were available through 2006. For the Agricultural Pesticide Use program, only three years of data (FY04–FY06) were available at the time of analysis.

b. For the water pollution, hazardous waste management, drinking water, and air pollution programs, the calculation of “percent change in identified violating activity” assumes no material change in the total number of regulated facilities statewide during the period of analysis. Because the facilities at issue are generally large industrial facilities, significant changes in the number of regulated facilities statewide were not expected.

c. Data unavailable due to differences in reporting and recordkeeping practices among authorities.

A few notes about these data are in order. First, given the decentralized nature of California’s enforcement apparatus, statewide figures tell us little about how often laws are violated within a particular jurisdiction. This issue is discussed at greater length below.

Second, higher reported rates of violation may reflect either more unlawful conduct or more vigilant detection. Although either explanation would raise a concern about the consistency and adequacy of enforcement, the remedies could be quite different. Existing data do not permit us to determine which explanation applies. Further exploration of this issue will be important to ensuring more effective enforcement in the future.

Third, data concerning the number of facilities that committed a violation do not indicate how many violations each facility committed. Many non-complying facilities have committed only one or a small number of detected violations during a year. Others committed dozens of violations. For example, in 2005 an average of nine unlawful acts were committed statewide for each wastewater permit in violation—but while in many regional areas

the number of unlawful acts per non-complying facility was less than three, for another regional area the number of unlawful acts per non-complying facility exceeded 40.⁹

VARIATION IN KNOWN VIOLATION RATES

The aggregate statewide violation rates, discussed above, obscure the fact that very different rates of unlawful conduct were often reported for different regions of the state. This may not be surprising, given the decentralized nature of California’s environmental, health, and safety apparatus, but it does complicate the task of evaluating how the state is doing and where reforms may be necessary. By way of illustration:

- **Water Pollution.** In 2005 just three percent of permitted wastewater facilities within the jurisdiction of the Santa Ana Regional Water Quality Control Board were reported to have violated their water pollution discharge permits.

That same year, 39 percent of such facilities within the Colorado River Basin Regional Water Quality Control Board (a 13 times higher rate) were reported to have committed such violations.¹⁰

- **Drinking Water.** During the period 2001 to 2005, recorded violations of drinking water protection laws varied from zero to 62 percent among districts that oversee large drinking water systems. The highest rate of violation occurred in the Monterey District, where more than three out of every five large drinking water systems were found to have violated drinking water laws. Drinking water suppliers in San Joaquin, San Mateo, and San Diego counties also exhibited high rates of violation, with more than half of small drinking water systems reportedly violating the law.
- **Pesticides.** Within the 10 California counties with the highest usage of agricultural pesticides,¹¹ there were widely different levels of known noncompliance. From fiscal year 2004 to 2006, for example, the proportion of inspections that resulted in a finding of violation was just 16 percent in Ventura County but 76 percent in Madera County.
- **Air Pollution.** In 2005, 29 percent of California petroleum refining facilities were identified as having committed at least one high-priority violation¹²—a rate more than twice that of all major stationary sources of air pollution. During the five-year period 2001–2005, 88 percent of petroleum refining facilities committed at least one high-priority violation. The higher rate of such violations at refineries may reflect the larger number of potential pollution sources and control points at these facilities; those same factors may also reflect higher health risks.

- **Hazardous Waste.** Between 2000 and 2004, some types of businesses committed more hazardous waste violations than other types of businesses. Violations were found at 79 percent of the permitted hazardous waste treatment facilities, 71 percent of businesses permitted to collect hazardous waste, and 58 percent of inspected petroleum refineries. The higher identified violation rates in these industries may result from the size or complexity of the businesses' operations, heightened attention by regulators, inattention by company officials—or some combination of these factors.
- **Workplace Safety.** The percentage of workplace safety inspections that identified a violation during the period 2001 to 2005 varied widely among regions. In the Van Nuys District Office of the Mining and Tunneling Unit, 14 percent of inspections identified a violation. In the Santa Ana District Office of the Process Safety Management Unit, that figure was 76 percent.

A better understanding of how and when violations are detected would contribute to long-term improvements in California's decentralized enforcement structure.

3. California Authorities' Enforcement Record

The data we examined revealed that a violator's chance of being inspected and sanctioned depended in considerable part on where the violator was located and what state or local authority was charged with enforcement. California has a decentralized environmental enforcement program, under which a sometimes confusing array of authorities share responsibility for ensuring compliance with environmental, health and safety laws. These authorities often prioritize enforcement differently.

In the following section, we examine three metrics for evaluating authorities' level of enforcement activity: rates of inspections, rates of response to known violations, and the extent to which enforcement responses include a monetary penalty. Due to the ways in which different authorities maintain enforcement data, cross-programmatic comparisons were not equally possible for all three metrics.

FREQUENCY OF INSPECTIONS

Law enforcers cannot punish violations they have not found. When inspections are infrequent or ineffective, those entities that are willing to break the law find it easier and more profitable to do so. As one California air pollution control district report recently stated, "Fewer inspections mean that our children and the public at large will be subject to greater emissions that can adversely affect their health and well-being."¹³ This

makes inspections—a key means by which enforcement authorities uncover egregious illegal conduct—critical to ensuring compliance.

A strong relationship exists between how many inspections are conducted and how many violations are found. This relationship was reflected, for example, in data involving inspections of and violations at hazardous waste management facilities (Figure 1).

A statistically significant relationship between the number of inspections conducted and the number of violations identified was also found under the water pollution control program, which requires dischargers to self-report violations (Figure 2). This is important because some programs—particularly the water pollution control program—rely heavily on self-reporting of violations by the violators themselves, to detect unlawful conduct. The data we examined suggest that reliance on self-reporting, in lieu of inspections, may not be enough to identify unlawful conduct.

Figure 1. Relationship Between Inspections Conducted and Identified Violations for Hazardous Waste Management Facilities in Ten Industrial Sectors with Most Violations (2000-2004)

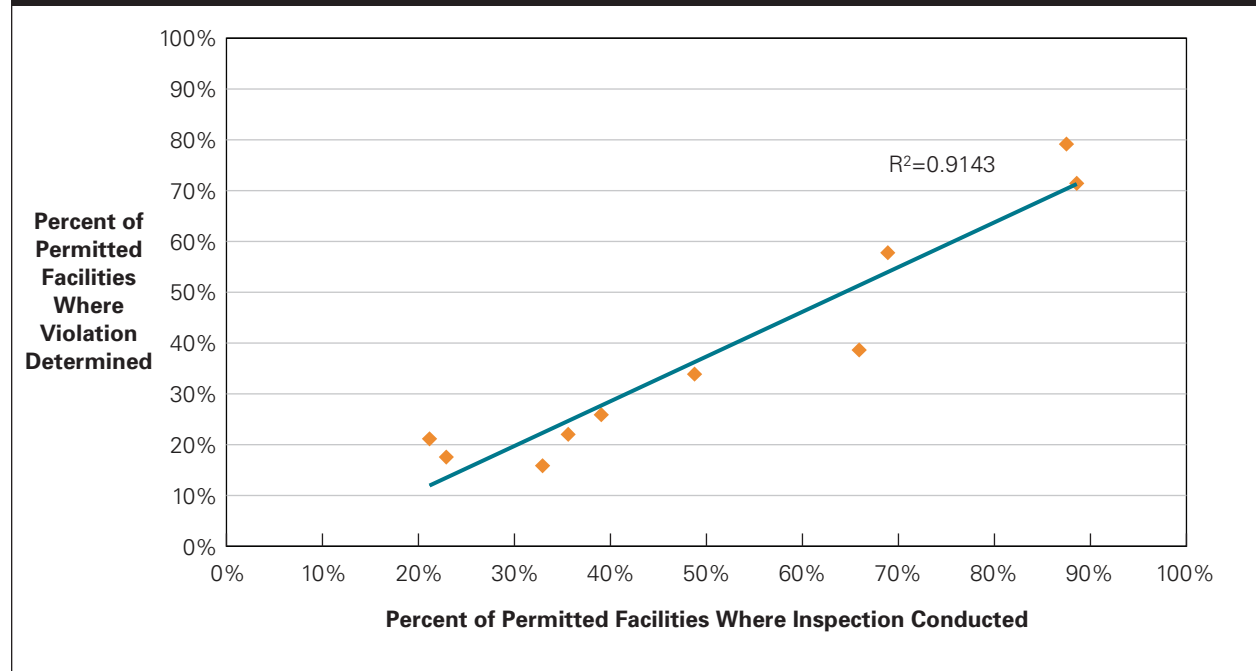


Figure 2. Inspections and Violations: Relationship for Water Pollution Facilities

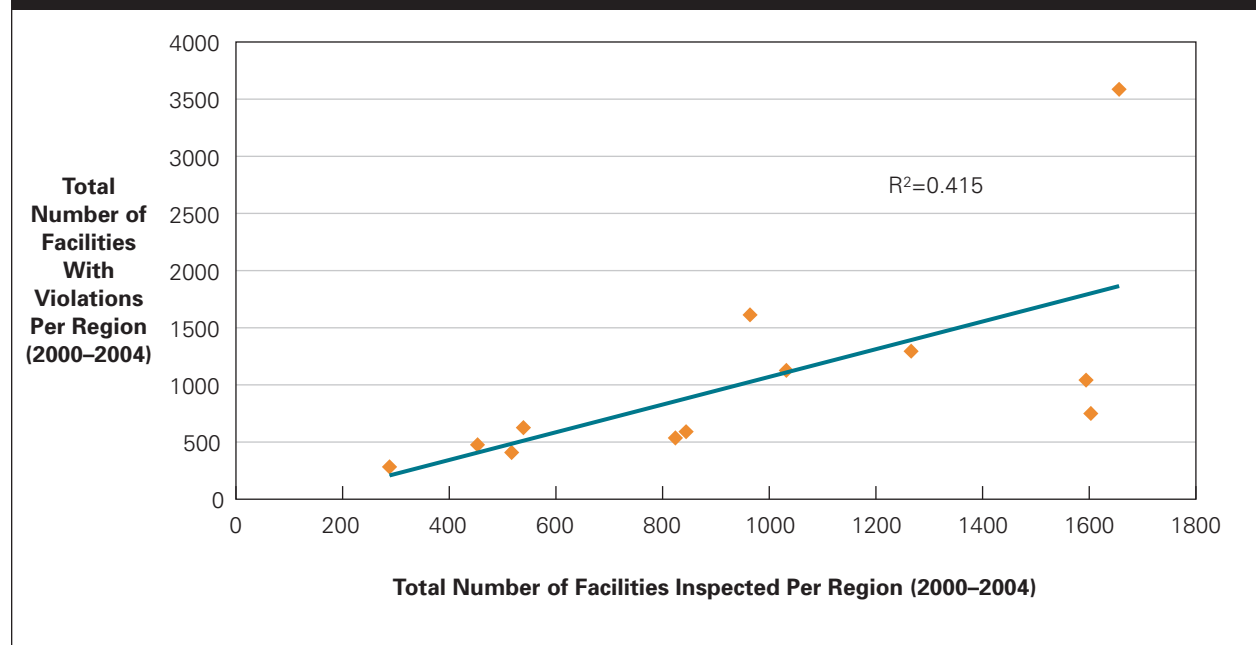


Table 3. Inspections of Regulated Facilities^{a,b}

California Regulatory Program	Percent of Regulated Facilities Reported to Have Been Inspected (annual average)	Number of Facilities Inspected or Inspections Conducted (annual average)	Percent Change in Inspection Activity During Analysis Period
Water Pollution	8%	4,092	-29%
Hazardous Waste Management	9%	373	+240%
Drinking Water	20%	2,858	-11%
Air Pollution	70% ^c	832	+26%
Agricultural Pesticide Use ^d	-	11,671	-16%
Workplace Safety and Health	-	7,230	-14%

a. For several of the programs analyzed—water pollution, hazardous waste management, drinking water, and air pollution—the calculation of the multiyear average “percent of regulated facilities reported to have been inspected” and the “percent change in inspection activity during analysis period” assumed no material change in the total number of regulated facilities statewide during the period of analysis.

b. The calculation period was the most recent multiyear period for which consistent data were available at the time of analysis. For half of the programs this was 2001–2005. For hazardous waste management and surface water pollution, the calculation period was 2000 to 2004. For agricultural pesticide use, data were available only for FY 2004 to 2006 at the time of analysis.

c. See n. 15.

d. C DPR’s inspection tracking database excluded “Preapplication Inspections”; this category of inspections likewise is excluded from this analysis.

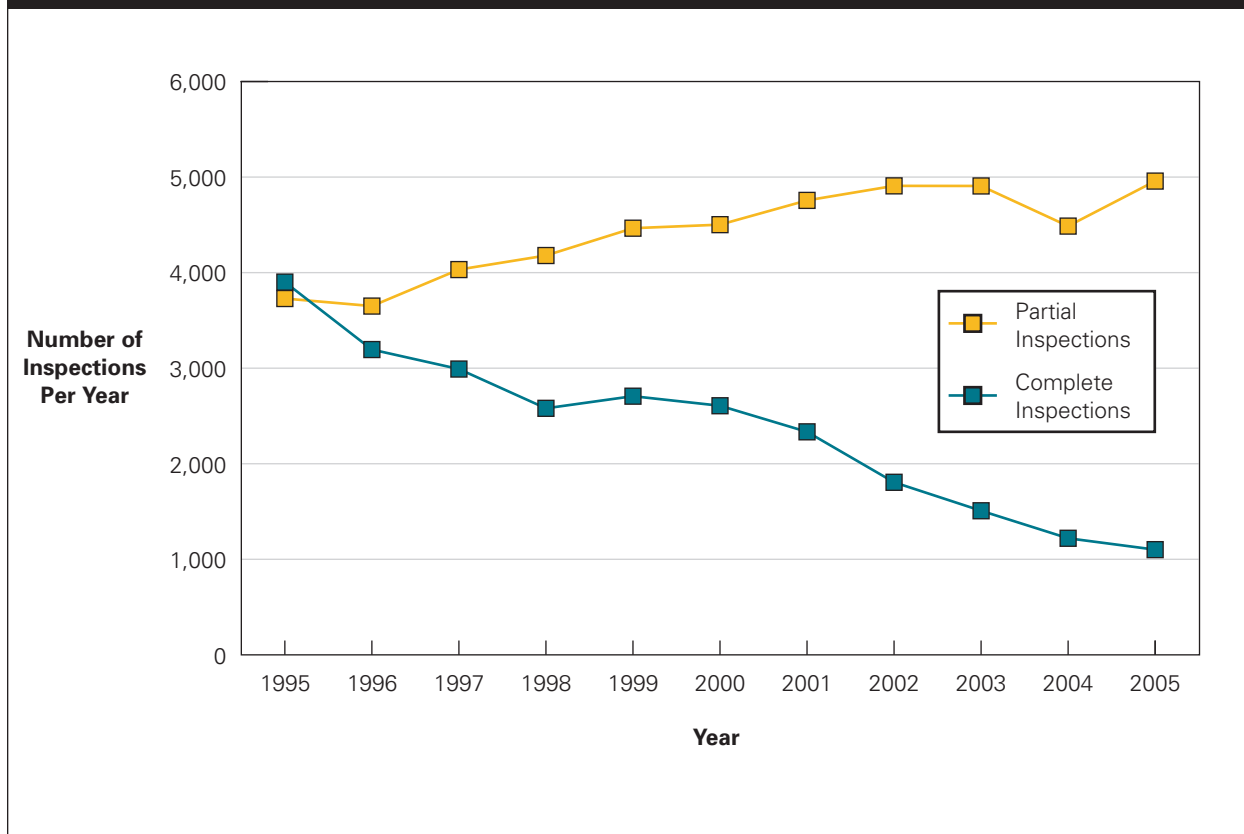
Notwithstanding the critical role that inspections play in detecting violations, inspectors are sometimes spread thin. Available data suggest that, under many programs, businesses may go years between inspections (Table 3).

Major sources of air pollution had the highest reported rate of annual inspection. However, U.S. EPA data indicated that, over the five-year period 2001 to 2005, more than a quarter (29 percent) of California air districts did not report conducting inspections with sufficient frequency to meet U.S. EPA’s inspection guidelines for all the major sources.¹⁴ Whether these data are accurate is far less clear; some of these air districts told NRDC that they had met the U.S. EPA inspection criteria, but did not report all inspections to EPA.¹⁵ (Some facilities may also have been inspected more than once per year or may be equipped with continuous emissions monitors for certain pollutants.) Publicly available data, however, did not provide confidence that all major stationary sources of air pollution were inspected annually.¹⁶

Facilities permitted to discharge pollutants under the federal Clean Water Act were inspected almost an order of magnitude less frequently than major stationary sources of air pollution. According to State Water Board data, fewer than one in 10 of these facilities was inspected annually. The low rate of inspections raises a possibility that the comparatively strong compliance statistics reported by the water pollution control program (Table 2) may reflect a failure to detect violations that are occurring rather than high actual rates of compliance. However, data were inadequate to evaluate this hypothesis.

During the period analyzed, the number of inspections increased under the hazardous waste and stationary source air pollution programs. For all other programs assessed (water pollution, agricultural pesticide use, drinking water, and workplace safety) reported inspection activity fell during the period analyzed (Table 3). Workplace safety inspections reportedly became less complete (Figure 3). Data were too sparse to evaluate the reasons for these changes or their impacts.

Figure 3. CalOSHA Types of Inspections, 1995–2005



ENFORCEMENT AUTHORITY RESPONSES TO UNLAWFUL CONDUCT

In the context of California's decentralized enforcement structure, whether and how law enforcement authorities sanctioned violations depended on where in the state violators were located and which authority was principally charged with enforcement. While some of the enforcement programs we examined responded in some manner to the vast majority of known violations, others seemingly did not. These discrepancies suggest that, in at least some regions or programs, enforcement authorities may not consistently and firmly sanction businesses and other regulated entities that break environmental, health, or workplace safety laws. Such gaps in the enforcement umbrella raise a concern that Californians living or working in those communities do not receive the protection that our laws promise.

1. ENFORCEMENT RESPONSE RATES

In 2004, 98 percent of drinking water systems reported to be in violation and 94 percent of hazardous waste handlers reported to be in violation were targeted for some enforcement action, ranging from a warning to a fine. A somewhat lower proportion—87 percent—of major stationary sources of air pollution identified as being in violation were subject to some enforcement. Fewer than half (42 percent) of agricultural pesticide use violations received a fine or other formal enforcement response in fiscal year 2004; although some of the remainder may have received a warning or other less formal enforcement response, data on such responses were not publicly available (Table 4).¹⁷

To evaluate whether the discrepancy between known violations and associated enforcement actions reflected the time necessary to complete an enforcement action,

Table 4. Enforcement Response to Known Violations (2004)^a

California Regulatory Program Area	Violating Facilities	Inspections Identifying Violations	% Violating Facilities Without Enforcement	Percent of Inspections Identifying Violations Without Enforcement
Hazardous Waste Management	362	-	5.52%	-
Water Pollution	3,799	-	22.98%	-
Air Pollution	220	-	13.18% ^b	-
Drinking Water	1,527	-	2.36%	-
Agricultural Pesticide Use ^c	- ^d	2,165		57.54% ^e
Workplace Safety and Health	-	3,399		3.77%

a. For Hazardous Waste Management, Water Pollution, Air Pollution, and Drinking Water, this table presents the numbers of facilities where a violation and an enforcement action were recorded. For Agricultural Pesticide Use and Workplace Safety and Health, business-specific information was unavailable. The actual numbers of inspections resulting in a finding of violation and the number of formal enforcement actions are reported for Agricultural Pesticide Use. Total violations and enforcement actions are presented for Workplace Safety and Health.

b. This figure excludes informal enforcement actions, such as notices of violation.

c. Agricultural Pesticide Use data is presented for fiscal year 2004 rather than calendar year 2004.

d. Data unavailable due to differences in reporting and recordkeeping practices among authorities.

e. This figure excludes informal enforcement actions, as noted *infra*, n. 17.

rather than a failure timely to enforce, we conducted two separate analyses on enforcement by the California Water Boards. We first analyzed data, provided by the California Water Boards in 2006, on violations that had occurred two years earlier, in 2004. That analysis showed that the number of facilities found to be in violation of water pol-

lution laws exceeded the number of facilities at which an enforcement action was recorded by 23 percent.¹⁸

We then analyzed more recent Water Board data from January 2008.¹⁹ That data did not indicate the total number of facilities at which no enforcement action had been taken (i.e., the metric used in our first analysis). However,

Table 5. Enforcement Response to Known Wastewater Violations (2002–2006)^a

Year	Known Wastewater Violations	Percent Total Violations Without Enforcement	Known “Priority” Wastewater Violations	Percent “Priority” Violations Without Enforcement Action as of 1/2008
2002	5,017	33.4%	1,023	3.3%
2003	6,354	37.6%	1,485	6.3%
2004	7,318	47.5%	2,509	16.4%
2005	5,951	47.5%	1,979	12.3%
2006	5,631	55.9%	1,683	14.4%

a. CIWQS Interactive Enforcement Report, available at <http://ciwqs.waterboards.ca.gov/ciwqs/readOnly/ciwqsReportEnforcementCriteria.jsp?command=resetCriteria&placeType=REGION>. Violations shown are those under the National Pollutant Discharge Elimination System (NPDES).

the new data did show that more than 46 percent of all 2004 violations still were not associated with any reported enforcement action as of January 2008.²⁰ More generally, this data showed that no enforcement action had yet been recorded against between one-third and over one-half of all National Pollutant Discharge Elimination System (NPDES) wastewater violations committed in each year dating back to 2002 (Table 5). In other words, a significant number of violations still were not associated with any enforcement action more than five years after the violation occurred.

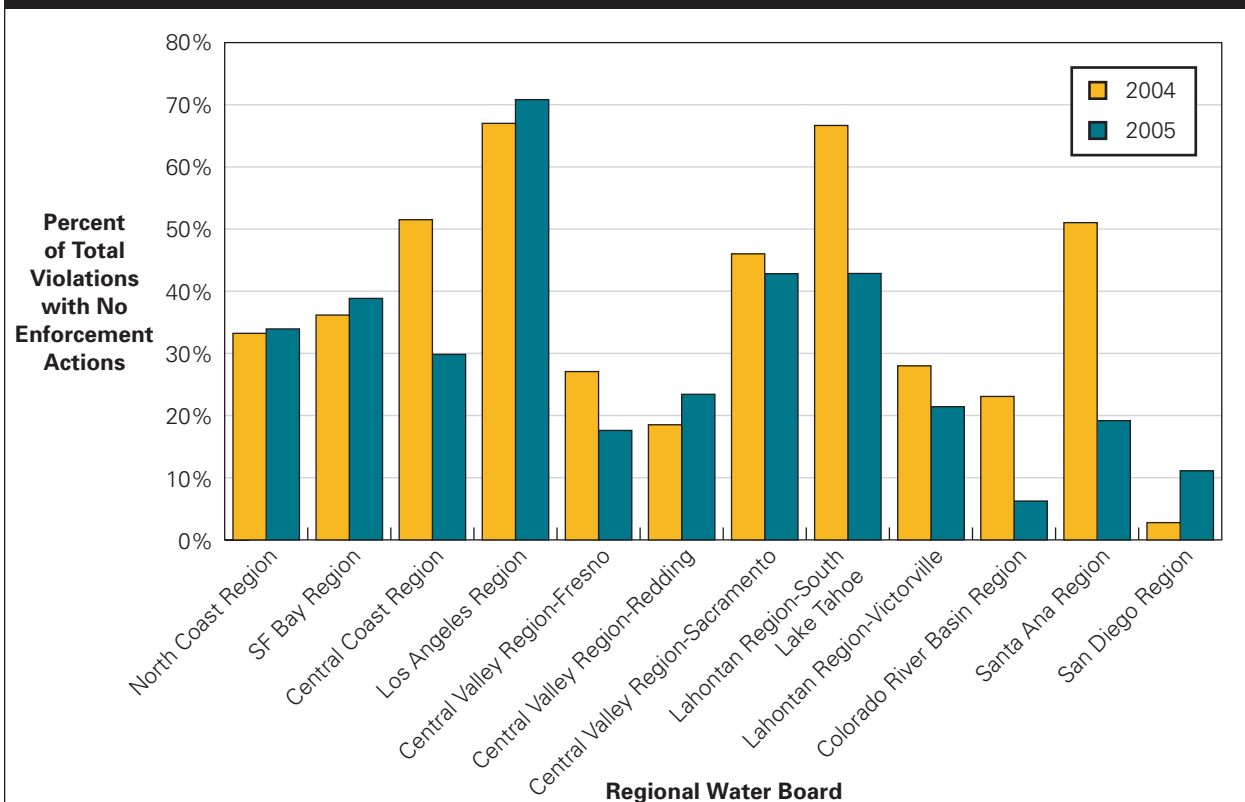
Once again, statewide enforcement figures obscured dissimilar levels of regional enforcement. For example:

- The California Water Boards reported that, for 2005, the San Diego Regional Water Quality Control Board took formal enforcement action against 60 percent of known wastewater violations within its jurisdiction. During that same

period, the North Coast and Santa Ana Regional Water Quality Control Boards (as well as some offices within the Central Valley and Lahontan Regional Water Quality Control Boards) took formal enforcement action against one percent or fewer wastewater violations in their jurisdictions. Enforcement rates also varied among Regions when *both* formal and informal enforcement actions were taken into account (Figure 4).

- Stanislaus County reported 20 times more agricultural pesticide use violations than it reported formal enforcement actions during the period FY 2004–2006. This suggests that only about five percent of violations were met with a formal enforcement response. Primary responsibility for enforcement for these violations rests with County agricultural commissioners.

Figure 4. Regional Variation in Wastewater Violations Without Formal or Informal Enforcement (2004–2005)^a



a. CIWQS Interactive Enforcement Report, available at <http://ciwqs.waterboards.ca.gov/ciwqs/readOnly/ciwqsReportEnforcementCriteria.jsp?command=resetCriteria&placeType=REGION>. Violations shown are those under the National Pollutant Discharge Elimination System (NPDES).

- While 98 percent of reported drinking water violators statewide were targeted for some enforcement in 2004, in San Joaquin County only four percent of reported violations were met with a reported enforcement action by the authority charged with ensuring compliance with drinking water laws.

These types of geographic disparities in enforcement suggest that the array of state, local, and regional authorities charged with enforcing California’s environmental and health laws prioritize compliance and enforcement quite differently. In at least some areas, the data raise a concern that standards designed to protect our health, our communities, and our way of life are not being consistently, firmly, and equally enforced. More complete data would be necessary to evaluate the extent of under-enforcement by particular authorities.

2. ADEQUACY OF SANCTIONS

Not all enforcement actions—which can range from verbal warnings to significant monetary penalties—are equally effective at deterring wrongdoing. Some may amount to less than a slap on the wrist; others strip a violator of ill-gotten profits from noncompliance and strongly discourage future violations.

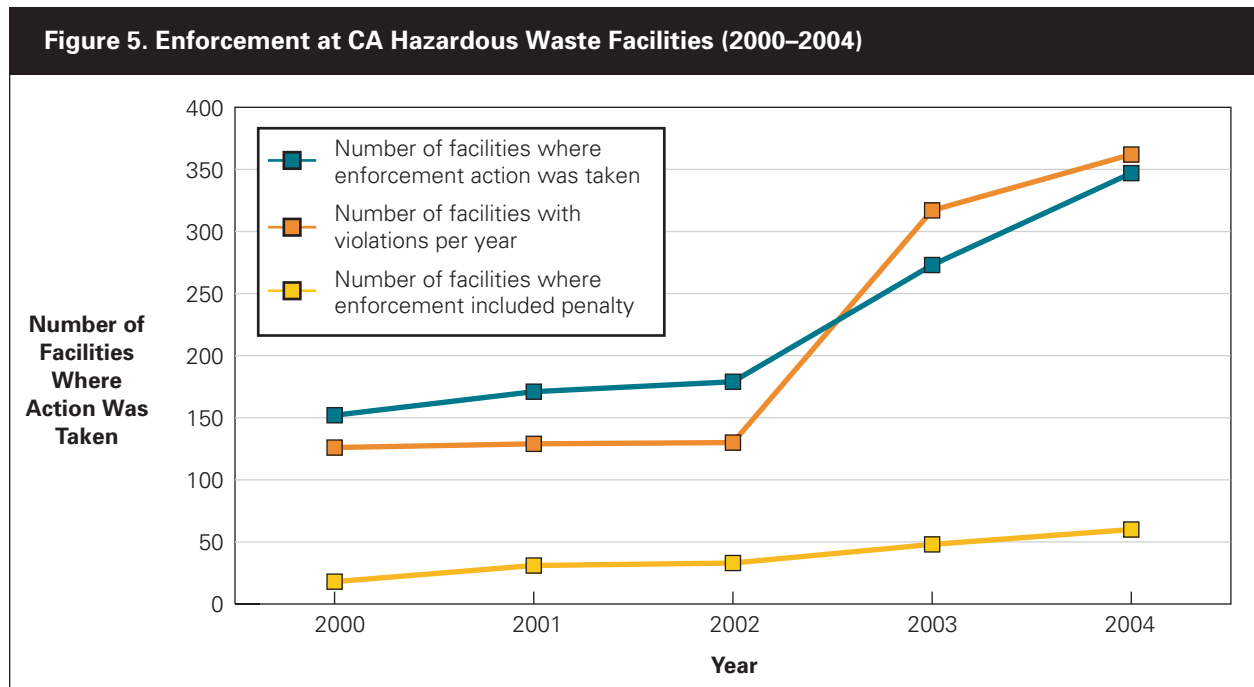
Reliable data on penalty assessments are not available from many enforcement authorities. Data that are

available, however, indicate that “enforcement actions” reported by some authorities often did not result in the exaction of any monetary penalty whatsoever. For example, more than half of the regional authorities responsible for drinking water safety did not record a single monetary penalty between 2001 and 2005. Similarly, the California Water Boards reported to the Legislature in 2006 that, even for the violations so serious that state law required a monetary penalty, no fine had been imposed for 59 percent of violations.²¹

For its part, the Department of Toxic Substances Control reported imposing fines on a lower proportion of violators in the last two years of our analysis than in the earlier three years, even though recorded violation rates increased sharply. The increase in reported violations was so steep that it may in part have reflected better detection or a change in recordkeeping, rather than an unanswered increase in unlawful conduct. Unfortunately, publicly available data were not sufficient to assess this possibility (Figure 5).²²

Once again, aggregate statewide data obscure significant variation among the state, regional and local authorities involved, as well as across some industries. For example:

- The San Diego and Central Coast Regional Water Boards exceeded the statewide average in imposing legally mandated minimum penalties for 2004 vio-



lations, according to the California Water Boards’ report to the Legislature. By contrast, during 2004, the North Coast Regional Water Board reported imposing no penalty at all on about eight out of every nine violations for which state law required that a penalty be imposed.²³

- Fifty-three percent of hazardous waste treatment businesses found to have acted unlawfully between 2000 and 2004 received a monetary fine. Fines were imposed far less frequently in a number of other industries, however. Just eight percent of aircraft parts manufacturers found in violation, 10 percent of circuit board manufacturers found in violation, and 14 percent of electroplating and similar facilities found in violation were fined (Table 6).²⁴

These types of discrepancies raise concern that not all violators are met with equal treatment and a firm response. Such variations in enforcement responses are not now generally reported or explained to the public. This makes it almost impossible for the public to understand where and why such variations occur or what, if any, reforms might be appropriate.

Data were inadequate to compare penalty amounts across programs. Anecdotal evidence, however, suggests that a fuller investigation of whether penalties are adequate across all programs should be conducted. The average (mean) penalty assessed by county agricultural commissioners for agricultural pesticide use violations was just \$500 in 2005; that same year, the median penalty was just \$288.²⁵ This is less than the potential fine for littering, even though agricultural pesticides are often extremely dangerous when mishandled. CDPR is now implementing revised enforcement regulations that may increase these penalties over time. However, even under the revised regulations, penalty assessments will likely fall far below the amounts assessed under many other environmental pollution control programs, and can be waived for first-time violators.

Table 6. Rates of Fine Issuance Under Hazardous Waste Program for 10 Industries With Most Facilities Found in Violation (2000–2004)

Industry	Percent of Violating Facilities Where a Fine Was Issued
New Car Dealers	4%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	8%
Bare Printed Circuit Board Manufacturing	10%
Electroplating, Plating, Polishing, Anodizing, and Coloring	14%
Paint and Coating Manufacturing	15%
National Security	18%
Plastics Material and Resin Manufacturing	18%
Hazardous Waste Collection	32%
Petroleum Refineries	42%
Hazardous Waste Treatment	53%

4. Data Limitations

One recurring difficulty with evaluating the record of compliance and enforcement under California’s various environmental, health, and workplace safety laws is that the many state, regional, and local enforcement authorities have not kept consistent, let alone consistently complete and accurate, databases of violations and enforcement actions. Inaccuracies in available data have been documented in a number of government reports over the years,²⁶ were acknowledged by officials in our discussions during the preparation of this report, and were apparent in our own review of data provided to us by some authorities. Inaccuracies in authority data necessarily affect any assessment of compliance and enforcement, including this one. As one senior Cal/EPA official told us in early 2007, “We cannot tell how much enforcement is going on out there.”²⁷

Attempts to evaluate enforcement in California can be confounded by the history of law enforcement authorities keeping and reporting different statistics. These authorities have often kept different statistics than each other (making cross-programmatic comparisons difficult or impossible), and have even kept different statistics through time (making trend analysis for even a single agency difficult or impossible). For example, while the California Water Boards’ report to the Legislature on 2005 enforcement separately discussed both informal (non-penalty) and formal (potential penalty) enforcement actions, the Water Boards’ report on 2006 enforcement did not distinguish formal from informal enforcement. Such year-to-year changes in what is publicly reported make comparisons among years next to impossible, and significantly impede comparisons

among programs and the many authorities charged with ensuring compliance.

While some authorities publish annual enforcement reports, these reports generally present a limited range of summary statistics and often do not provide a sufficient basis to understand the authority’s enforcement challenges and accomplishments over time. To obtain the data analyzed in this report, NRDC was required to file multiple formal requests for information under the California Public Records Act and federal Freedom of Information Act with dozens of authorities. Many of these authorities did not provide NRDC with access to the data we would have needed to prepare a more comprehensive analysis, and the enforcement and violations data that do exist often are maintained in almost impenetrable databases searchable only with proprietary software to which the public lacks access.

Some law enforcement authority personnel have apparently failed to enter known violations into authority databases. While the exact scope of this problem is unclear, evidence of underreporting of violations is extensive. For example:

- Almost two-thirds of the districts that oversee large drinking water systems reported taking more enforcement actions than they reported violations during the period 2001 to 2005. Apparently, numerous violations that were sufficiently serious to merit enforcement were not being reported.
- In August 2006, the California Water Boards reported to the Legislature that “[d]ata quality and completeness present an ongoing challenge,” with spot checks revealing that “data entry is inconsistent between Water Boards and has been delayed by some.” The report announced a planned data audit and the authority’s intention to establish quality control and assurance procedures “to ensure that the quality of data remains high into the future.”²⁸ In April 2008, the Water Boards issued a “Baseline Environmental Report” for FY 2006-2007 that highlights the “significant ongoing data and resource challenges” facing the Water Boards, and makes recommendations for improvement.²⁹
- Cal/EPA and some air district officials observed that U.S. EPA’s database of major stationary source inspections was incomplete, and at least some officials suggested that this may in part result from underreporting by air district staff. A 2005 state audit of the San Joaquin Valley Air Pollution

Control District concluded that the district had failed in 2002 to enter numerous high-priority violations into the Air Facility System database.³⁰ In 2006, when we requested air pollution violations data that local air districts must report to the U.S. EPA, we were told by U.S. EPA staff that the Bay Area Air Quality Management District’s reporting of high-priority violations had for many years been “incomplete.”³¹ Whether or not these data errors have been fixed is unknown. However, in 2008, several air district officials informed us that district reporting of inspections data to U.S. EPA had been incomplete.

In an era of tight budgets, poor data quality has deprived enforcement authorities of information on how to most effectively target and address unlawful conduct. Data gaps associated with poor recordkeeping also undercut the transparency and accountability with which the public has a right to expect its government enforcement authorities to operate. If authority law enforcement officials themselves do not know how much enforcement is going on, the public certainly does not know either.

Cal/EPA has launched an effort to acquire better, baseline data on enforcement by authorities that act within Cal/EPA’s area of jurisdiction. This effort is promising, and could allow for better analysis of enforcement efforts and violation trends in the future. However, because this data collection effort is new, it will be unlikely to allow accurate comparisons with past compliance and enforcement trends, which are analyzed in this report. The results have not yet been made public and cannot yet be fully evaluated.

5. Cal/EPA's Enforcement Initiative

Because California's environmental, health and workplace safety enforcement programs are highly decentralized, reforms will be difficult. However, in 2004, Cal/EPA—a cabinet-level agency charged with protecting human health and the environment and coordinating the deployment of state resources—launched an Enforcement Initiative to strengthen enforcement in the departments for which it has responsibility.

While Cal/EPA's Initiative is a step in the right direction, it can only affect those authorities over which it has jurisdiction. Cal/EPA does not have direct jurisdiction over the many local authorities charged with environmental enforcement, such as County Agricultural Commissioners. Nor does Cal/EPA's jurisdiction encompass the drinking water and workplace safety programs, which are overseen, at the state level, by the California Department of Public Health and the Department of Industrial Relations.³²

As to the areas clearly within Cal/EPA's jurisdiction, the extent to which the Enforcement Initiative will improve on-the-ground enforcement effectiveness has yet to be shown. The Enforcement Initiative initially sought improvements that could be achieved without new legislation or funding.³³ Thus, for example, the Initiative focused on better law enforcement training, better use of information, and improved planning. Cal/EPA's most recent public reports suggest that positive steps have been taken to improve enforcement efficiency under the Initiative. These reports also suggest that much remains to be done.

- **Information management.** The Enforcement Initiative launched six efforts designed to ensure better use and management of violation and enforcement data. One concrete outcome of this effort seems to be a new way for community members to file complaints of unlawful activity on the Internet sites of Cal/EPA boards, departments, and offices. However, Cal/EPA staff have said that they do not track what response is taken to complaints.³⁴ There is therefore little publicly available information on whether this new effort has made any real-world difference. The information management elements of the Enforcement Initiative also include development of a library of informational resources for enforcement staff;³⁵ and promulgation of a standardized dictionary of enforcement terminology, so that boards, departments, and offices can start using common enforcement language.³⁶ Such building blocks are essential to long-term improvements in efficiency and data exchange, and should be diligently pursued. However, they are unlikely to bring near-term enforcement results, and even the longer term gains will be lost if these efforts are not extended into future years.

- **Model enforcement operational plans.** The Enforcement Initiative proposed development of a model enforcement program operations plan to be used by all Cal/EPA boards, departments, and offices to guide and evaluate their work.³⁷ In April 2007, Cal/EPA identified “creation and implementation of an Enforcement Operations Program Model” as a “future activit[y].”³⁸ In November 2007, Cal/EPA announced the creation of an Enforcement Program Operational Plan Steering Committee, charged with “continued development of the Enforcement Operations Program Model.”³⁹ In August 2008, Cal/EPA informed NRDC that an enforcement program operations plan would not be finalized until more data had been collected to establish a clearer baseline for what the various enforcement programs presently are doing.⁴⁰
- **New enforcement policies.** Some Cal/EPA boards, departments, and offices have recently taken other steps, beyond those originally envisioned by the Enforcement Initiative. For example, the California Department of Pesticide Regulation and the State Water Resources Control Board have adopted new enforcement policies or regulations. These policies may increase enforcement consistency, but too little time has passed to assess their actual on-the-ground impact. In addition, while the CDPR regulations mark an improvement over past practice, these regulations were criticized—by NRDC, among others—for setting monetary penalties as low as \$700 for violators that caused an actual health hazard and for giving a free pass, with no penalty at all, to many first-time violators (including even those whose misconduct posed a “reasonable possibility” of creating an adverse environmental or health impact).⁴¹
- **Enforcement staffing.** Some additional staff have, in recent years, been added or shifted to enforcement work in authorities that report to Cal/EPA. (Notably, the governor’s budget proposal for FY 2008–2009 includes recommendations for additional enforcement positions within two Cal/EPA

authorities, although legislative status of this proposal was uncertain as this report went to press.) However, because of the lack of clearly delineated enforcement budgets for most state, regional, and local enforcement authorities, and because of cuts in funding of other enforcement programs, it is difficult to discern precisely how total resources for environmental enforcement have changed statewide, and how any such increases affected total enforcement staffing. It is also unclear whether additional enforcement resources have been targeted to areas of deficiency indicated by this report.

- **Enforcement training.** Enforcement training has long been provided to local, regional, and state enforcement staff by a variety of authorities. Nonetheless, in 2004, Cal/EPA formally recognized the need for “a standard, consistent and high level of professional training” and for “more regularized and more frequent and short trainings on a weekly or monthly basis.”⁴² Two years later, in 2006, 92 enforcement officials attended a four-day “basic inspector” training program, 90 took a three-day “introduction to environmental enforcement” course, 59 attended a separate enforcement symposium, and 46 attended a three-day “introduction to environmental criminal investigation.” There are, however, thousands of personnel in state and local governments who share environmental enforcement responsibility. Continuing and more extensive training for all personnel should be a priority.

Until several years’ worth of new data become available, it is not possible to know the extent to which these reforms have provided more complete and accurate information on compliance, increased the consistency of enforcement, and, most importantly, brought violation rates down. In view of the state’s decentralized system of enforcement, Cal/EPA’s limited jurisdiction, and the constraints of existing law and budgets, the Enforcement Initiative takes steps in the right direction, but leaves much more to be done.

6. Conclusions and Recommendations

Firm and consistent enforcement by all levels of government responsible for environmental, health, and workplace protection is essential to ensuring that the promise of California’s landmark laws is fulfilled. As Governor Schwarzenegger explained in his Action Plan for the Environment, “Strict law enforcement is vital to assure environmental protection.” Yet the available data indicate that this objective has not consistently been met. Rates of violations and of enforcement responses varied significantly across authorities and among regions and programs. California’s sprawling and decentralized enforcement apparatus has a considerable distance to travel and, although Cal/EPA’s Enforcement Initiative marked a step in the right direction, broader and deeper reforms are warranted.

We cannot quantify the precise effect on our families and communities of noncompliance with environmental, health, and workplace safety laws, because the extent of such noncompliance is too poorly understood. What we do know is that, despite the progress California has made in recent decades, unhealthful air and water quality conditions continue to exist in many parts of the state, as do other environmental, health, and workplace hazards. Violations of our laws undoubtedly contribute to those conditions.

Californians have a right to expect that their environmental, health, and safety laws will be consistently obeyed, violations consistently detected, and unlawful conduct consistently sanctioned, no matter where in the state we live or what type of facility we live near. Accordingly, we make the following recommendations for the State of California:

- 1. Provide adequate funding for enforcement authorities at all levels of government to ensure they have the staff and resources needed to promptly detect and vigorously deter unlawful conduct.**

Many of the concerns identified in this report—violation hot spots, irregular and infrequent inspections, and inconsistent enforcement responses to known violations—likely reflect the inadequacy of existing staffing and resources. Budgets are perpetually tight, and enforcement authorities face competing responsibilities. These observations, however, cannot change the stubborn fact that much of the other work these authorities do—setting standards, writing regulations, issuing permits—matters little if regulated entities do not comply.

The level of staffing and other resources that authorities presently dedicate to enforcement is often impossible to ascertain. While a few authorities do have staff who specialize in enforcement, many enforcement staff have other regulatory compliance duties as well. For this reason, many authorities lack a clear, comprehensive enforcement budget. This makes it difficult to determine how much money authorities are spending on enforcement activities and whether (and how much) more funding may be needed. Establishing transparent budgets for enforcement work might require more staff to specialize in enforcement, but would improve accountability and encourage the development of professional staff that placed a high priority on ensuring compliance with the law.

Although recent years have seen some increases in certain areas of enforcement staffing, the overall impact of these increases is uncertain. Each Cal/EPA board and department has established a position for an enforcement chief, for example.⁴³ The water boards have increased the number of dedicated enforcement staff in recent years,⁴⁴ and other authorities may have done so as well. This year, the governor's budget proposal called for a welcome increase in air pollution and water pollution enforcement positions, although as this report went to press, the final legislative status of these proposals was unclear.

Enforcement budgets have not uniformly increased, however. For example, last year, the attorney general's environmental budget was reportedly slashed by more than \$2 million, and this may well have affected judicial enforcement actions.⁴⁵ Staff of the Environmental Circuit Prosecutor Project, which provides environmental prosecution assistance to more than 30 rural counties that lack resources to prosecute such crimes themselves, were also reportedly cut.⁴⁶ Without a comprehensive state-level enforcement budget, the adequacy of the enforcement staffing changes that have been made is difficult to assess. Moreover, changes in state staffing levels may not address the regional disparities in enforcement activity discussed in this report, many of which are associated with local enforcement authorities, and local budget decisions. Data on such local budgets, and their trajectories, is even more difficult to access.

Policy makers should consider new ways to fund improved enforcement. Although the investigation and prosecution of violators places a fiscal burden on taxpayers, the public need not bear these costs alone. Those who break the law can and should be required not only to clean up their mess but also to pay the government's investigatory, legal, and other enforcement costs.

Recoupment of enforcement costs is already allowed in some circumstances; where that is so, such costs should routinely be recovered. Where the law does not presently authorize recovery of enforcement costs, changes in the law would be necessary to ensure that these costs are borne by wrongdoers rather than the public.

2. Allow the people harmed by pollution and health and safety violations to protect themselves and their communities by enforcing the law where government bureaucracies do not take firm and effective enforcement action.

California law often does not allow the individuals and communities most affected by environmental, health, or workplace safety violations—the people who live or work downwind or downstream, for example—to protect their communities and families by enforcing the law when enforcement authorities fail to do so. This is an area on which California policymakers should be taking the lead to empower citizens and communities rather than lagging behind.

The U.S. Congress recognized long ago that the government will never have sufficient resources to vigorously enforce against every serious violation of federal environmental law. As one of the senatorial sponsors of the federal Clean Air Act explained, "It is too much to presume that, however well staffed or well intentioned these enforcement authorities, they will be able to monitor the potential violations of all the requirements contained in the implementation plans that will be filed under this act, all the other requirements of the act, and the responses of the enforcement officers to their duties."⁴⁷

For these reasons, virtually every major federal environmental statute—including the Clean Water Act; the Clean Air Act; the Safe Drinking Water Act; the Resource Conservation and Recovery Act; the Emergency Planning and Community Right to Know Act; and the Comprehensive Environmental Response, Compensation, and Recovery Act—authorizes private persons injured by unlawful conduct to seek relief in the courts when the government does not do so. These statutes generally allow "private attorneys general" to obtain a court order compelling a violator to obey the law and to pay a monetary penalty to the government. In some situations, violators may also be required to fund environmental restoration. Such federal "citizen suits" have a well-established track record of successfully addressing major environmental problems that the government has not been able to tackle.

Despite California's leadership in other spheres of environmental protection, the state has not yet adopted citizen suit authority like that found in federal law. Given tight budgets, California authorities are unlikely ever to be able to respond to all unlawful conduct. When law enforcement authorities fail to respond adequately to violations of state environmental, health, and workplace safety laws, the people most affected should be able to protect themselves and their communities by seeking judicial redress.

3. Require enforcement authorities at all appropriate levels of government to report accurate and timely data on violations and enforcement.

Each state, local, and regional authority with regulatory law enforcement authority and responsibility should accurately track and promptly report to the public a set of comprehensive and consistent annual statistics on violations and enforcement. These statistics should be sufficient to allow the public and policymakers to 1) identify geographic or industry-specific hot spots of noncompliance, 2) see whether some jurisdictions are doing a better job of detecting violations than others, 3) ascertain what specific enforcement responses have been taken for each violation and in each region, and 4) evaluate how effective different types of enforcement have been. The underlying data should be made publicly available, except when disclosure would interfere with an ongoing investigation or enforcement action.

The Cal/EPA Enforcement Initiative is intended, among other things, to address the need for better data for Cal/EPA authorities. Unfortunately, significant changes require heavy lifting, and the originally announced targets (development and implementation of all program elements by May 2005)⁴⁸ were not immediately met. Some new data have become available, such as the interactive CIWQS data on the California Water Boards' Web site, but concerns about the accuracy and completeness of that data remain. Little information is available on what other recordkeeping and reporting improvements, if any, have been implemented by other enforcement authorities at various levels of government.

In view of the history of inaccurate enforcement and violations recordkeeping by at least some authorities, there is legitimate concern that the Cal/EPA's Enforcement Initiative will not be able to fully address this problem. Recordkeeping and reporting protocols should be devel-

oped in an open and transparent process, and—at least unless public confidence in authority data keeping is restored—implementation of those protocols should be evaluated through annual audits conducted by an independent authority (the California Air Resources Board now sometimes audits local air districts, for example) or independent inspectors general.

4. Remove institutional barriers to timely enforcement.

While professional staff in some authorities have the power to issue administrative enforcement orders and to make criminal and civil law enforcement referrals to state and county prosecutors, staff in other authorities do not. For example, every enforcement action undertaken by the Water Boards must be approved at a full hearing of the relevant Water Board itself.⁴⁹ This unnecessary step encumbers and significantly slows enforcement of water pollution laws and may partially explain some Water Boards' track record of failing to bring enforcement action against known violators. The experience of authorities such as CARB and DTSC, which have delegated substantial law enforcement authority to professional staff, suggests that full Water Board review may be posing an obstacle to fair, firm, and efficient implementation of state water pollution control laws.

5. Increase penalty caps and assessments to deter unlawful conduct.

The existing level of noncompliance with environmental, health, and workplace safety laws suggests that, in at least some areas, current penalty assessments may not be adequate to deter unlawful conduct. Reinforcing this concern, some state penalty caps are significantly lower than the parallel federal penalty caps for the same misconduct (and, unlike federal counterparts, have not been updated for inflation). For instance, maximum federal administrative penalties for drinking water violations range from \$6,000 to \$27,500, while maximum state administrative penalties for similar misconduct are generally capped at \$200 to \$1,000.⁵⁰ Penalty caps must be high enough to deter illegal activity.

Some enforcement authorities may have high enough penalty caps, but may not be using that authority to impose penalties sufficient to strip violators of the economic benefit of their misconduct. For example, some Water Boards appear to be assessing only the mandatory

minimum penalty—or assessing no penalty at all—even for serious violations. Clear standards for penalty assessment and collection should be established where they are now missing, including standards requiring that penalty amounts strip the violator of any profits obtained from the noncompliance, and that penalties be increased for repeat or serious violations. Such standards should be enforced where they are not now consistently followed.

6. Set clear enforcement standards and measure results.

Each enforcement authority at all appropriate levels of government should be required to develop an enforcement operations plan that sets specific metrics for performance. (A similar concept has been proposed as part of Cal/EPA's Enforcement Initiative, although not yet fully implemented.) The plan should, at a minimum:

- Establish a separate, publicly identifiable budget for enforcement, which may be tracked independently;
- Define basic training requirements for all inspectors and enforcement personnel;
- Integrate the state employees responsible for enforcing regulations and permits into the process of drafting those documents, so that permits and regulations are written in a manner that is clear and easily enforceable;
- Identify necessary investigatory requirements (such as minimum numbers of inspectors; frequency of and criteria for inspections; essential investigatory capacities in forensic accounting, economics, fraud detection, data analysis, and criminal case development; and equipment needs);
- Establish clear policies for penalty assessment and penalty collection that require, among other things, that penalties generally recoup any profits or economic benefit that violators have reaped from their misconduct; and
- Set clear metrics and timetables against which enforcement success can be measured.

Appendix 1: Case Studies

CASE STUDY #1: FALCON FOAM—FAILURE TO ENFORCE AIR QUALITY VIOLATIONS

The air quality in Los Angeles County is consistently listed as the worst in the country. Until it shut down in 2006, Falcon Foam was a major source of harmful air contaminants in that county. The facility was located in South Los Angeles in a community of approximately 4,000 households. Ninety-eight percent of the community residents are people of color. Many are children or elderly residents, who are considered particularly vulnerable to the health impacts of air pollution. Within a one-mile radius of Falcon Foam there were 11 schools, including two within 500 feet.⁵¹

Falcon Foam released volatile organic compounds (VOCs), which mix with other chemicals and sunlight to make smog. Smog is known to contribute to respiratory diseases, worsen asthma, decrease lung function, and cause premature death. The facility also released pollutants that have been associated with cancer, such as benzene, formaldehyde, and polyaromatic hydrocarbons (PAHs).⁵² Local residents complained that the facility produced clouds of smoke and strong odors, and they reported finding a white chemical film on their cars, in their backyards, and even inside their homes. Some reported finding pieces of raw and finished foam in their yards. Residents and schoolchildren complained of difficulty breathing and other respiratory problems, nausea, eye irritation, and unexplained illnesses.⁵³

In October 2003 and again in January 2004, the South Coast Air Quality Management District (SCAQMD) notified the facility that it was breaking the law by releasing unacceptable amounts of VOC pollution into the air. In March 2004, the U.S. EPA also found the facility to be in violation for failing to install the correct equipment to reduce the amount of VOC emissions. Yet the pollution continued without penalty. Instead, the facility was issued a variance—permission to exceed otherwise applicable

pollution limits—and that variance was then repeatedly renewed for several years.⁵⁴

After the government failed to enforce these persistent air quality violations, the community group Community Coalition for Change, with help from the Natural Resources Defense Council, sued Falcon Foam. The company then negotiated with the U.S. EPA to pay \$369,000 for pollution violations and to shut down.⁵⁵

CASE STUDY #2: FAILURE TO ENFORCE GROUNDWATER PROTECTION LAWS

“Environmental Injustice: Plant Saved Millions by Breaking Rules” ran the headline of the Sacramento Bee exposé of unchecked pollution at the world’s largest cheese factory. The newspaper’s three-month investigation suggested that the Hilmar Cheese Co. had violated the law almost daily for the 16 years it had been in operation. The newspaper reported that approximately 4,000 violations had been recorded between 2000 and 2004 and described impacts to the surrounding community that included extensive groundwater contamination, offensive odors, flies, and the contamination of drinking water wells.⁵⁶ Following this newspaper coverage, the Central Valley Regional Water Board finally reached a \$3 million settlement with Hilmar in 2006.⁵⁷

Hilmar Cheese is not the only food processing plant regularly breaking the rules, polluting communities, and getting away with it. According to a 2005 Central Valley Regional Water Quality Control Board report, of the 25 food processing companies permitted by the Regional Water Board in Tulare County, 92 percent (23 facilities) were found to have violated the law. None of these facilities had been issued fines or had formal enforcement actions taken against them, however. Nor had they been required to investigate and clean up any contamination. In Tulare County, virtually none had been required to actually test the groundwater for pollution.⁵⁸

Each day, food processing plants can generate thousands of gallons of wastewater containing salts, nitrogenous waste (nitrate), and other chemicals. This water is sometimes disposed of in unlined pits or spread out on the ground next to the facility. As more and more contaminated water is disposed of in this manner, these areas emanate odors and attract flies, and the pollutants move into groundwater. The Regional Water Board has determined that food processing facilities are likely to contaminate groundwater, and in Tulare County, groundwater contamination is suspected at over half of all permitted food processing facilities. As recently as 2005, these violations and instances of groundwater contamination had not been adequately addressed.⁵⁹

Tulare County is home to 420,000 people, many of whom depend on groundwater as a source of drinking water. In 2005, more than 20 percent of the community drinking water systems in the county had ongoing drinking water violations, with nitrate contamination posing a particular concern.⁶⁰ The levels of nitrates exceeded legal limits in 40 percent of the private wells sampled⁶¹ and in 20 percent of the small public water systems.⁶² Nitrate is a contaminant that can cause stillbirth, birth defects, infant death, and neurological damage in babies; it has also been linked to cancer in adults.

In the case of Hilmar Cheese, the Regional Board did not crack down by imposing penalties until after the Sacramento Bee prominently publicized the violations. In many Central Valley communities polluters do not receive such high profile public attention and the pollution continues.

CASE STUDY #3: FAILURE TO ENFORCE PESTICIDE SAFETY LAWS

Juan and Raul⁶³ worked in the strawberry fields of Monterey, California. Their job was to go into a field after it had been treated with methyl bromide and remove the plastic tarp used to keep the pesticide in the soil. Methyl bromide is a fumigant gas that is used to sterilize the soil. It is known to cause cancer and reproductive harm and is also toxic to the brain and nervous system. California state laws recognize how dangerous this job can be and require a 24-hour aeration period after the plastic is cut into strips by another worker to reduce the amount of methyl bromide the workers breathe while they are removing the plastic. However, Juan and Raul's supervisor reportedly often ordered them to remove the plastic tarps before the

24 hours had elapsed.⁶⁴ After several years of this work, Juan and Raul began to report persistent dizziness, headaches, blurred vision, and memory impairments.⁶⁵

The California Department of Pesticide Regulation and the County Agricultural Commissioners (CACs) are charged with regulating pesticide use to prevent this type of harm, with the County-level officials taking primary responsibility for enforcement. However, not until the workers filed a lawsuit did the County Agricultural Commission appear to become aware of multiple violations that routinely put workers at risk.⁶⁶

Agricultural workers are not the only ones endangered by the unsafe use of pesticides; businesses may be harmed as well. In nearby Santa Cruz County, an application of chlorpyrifos and diazinon pesticides to brussels sprouts was found to have contaminated a downwind organic farm due to the movement of the pesticides with the wind.⁶⁷ High levels of pesticides on the organic crops were found, resulting in huge monetary losses for the organic farmer.⁶⁸ Individuals or communities downwind could also have been placed at risk. Chlorpyrifos and diazinon are both known to affect the human nervous system and are also suspected of harming brain development in infants and young children.

In this case, the organic grower submitted a complaint to the CAC that resulted in an investigation. California law provides clearly that the "use of any pesticide by any person shall be in such a manner as to prevent substantial drift to nontarget areas."⁶⁹ Although the investigation confirmed pesticide contamination, no fines or penalties were issued to the pesticide applicators because the CAC concluded that no laws or regulations had been violated during the application.⁷⁰

CASE STUDY #4: FAILURE TO ENFORCE WATER QUALITY LAWS

Consumption of certain fish caught in the San Francisco Bay can pose significant health risks due to contamination with dioxins, a class of chemicals that cause cancer and reproductive toxicity, and other chemicals.⁷¹ The California Office of Environmental Health Hazard Assessment warns adults to limit their intake of San Francisco Bay-caught fish and warns pregnant women and children not to consume certain Bay-caught fish at all.⁷²

In 1993 the San Francisco Bay Regional Water Quality Control Board issued a permit that limited dioxin discharges by the Avon Refinery, located in Martinez,

California, on the shore of the San Francisco Bay. The Regional Water Board reaffirmed that permit limit in 1995 and again in 1999. This facility violated the dioxin permit limit repeatedly for years, but the Regional Board declined to impose any fine. Instead, the Board merely directed the refinery to find a way to lower its discharges to meet the limit, which the refinery never did.^{73,74}

In January 2000, frustrated by the Regional Board's inaction, Communities for a Better Environment and San Francisco Baykeeper filed suit to enforce the dioxin permit limit for the Avon Refinery.⁷⁵ Although the Board had reaffirmed the discharge limit just a few months earlier,⁷⁶ it did not support the community members' lawsuit. Instead, it revised the Avon Refinery's permit to allow it to discharge more dioxin than had previously been legal.⁷⁷

Appendix 2: Data Report

Table 7. Enforcement Activities at Local Drinking Water Districts, 2001–2005 (A-P)

Local Primacy Agencies (LPAs) are local county agencies authorized to regulate small water systems (<200 connections).

District	Number of Water Systems	Number of Systems Inspected	Percent of Systems Inspected	Number of Systems with Violations	Percent of Systems with Violations	Number of Systems with Enforcement Actions	Percent of Systems with Enforcement Actions	Number of Systems Issued a Penalty	Percent of Systems with Violations Issued a Penalty
Alameda County	3	0	0%	0	0%	0	0%	0	N/A
Alpine County LPA	50	0	0%	14	28%	6	12%	0	0%
Amador County LPA	74	35	47%	34	46%	34	46%	0	0%
Butte County LPA	104	79	76%	8	8%	4	4%	0	0%
Calaveras County LPA	74	37	50%	34	46%	35	47%	1	3%
Central District	60	57	95%	10	17%	60	100%	0	0%
Colusa County LPA	8	0	0%	0	0%	0	0%	0	N/A
Contra Costa County LPA	151	99	66%	55	36%	54	36%	10	18%
Del Norte County	4	0	0%	0	0%	0	0%	0	N/A
El Dorado County LPA	218	96	44%	99	45%	97	44%	20	20%
Fresno County LPA	562	312	56%	50	9%	66	12%	0	0%
Glenn County	1	0	0%	0	0%	0	0%	0	N/A
Hollywood District	72	52	72%	8	11%	62	86%	0	0%
Humboldt County	3	0	0%	0	0%	0	0%	0	N/A
Imperial County LPA	72	48	67%	0	0%	1	1%	0	N/A
Inyo County LPA	142	90	63%	36	25%	30	21%	0	0%
Kern County LPA	82	0	0%	0	0%	0	0%	0	N/A
Kings County LPA	79	42	53%	16	20%	18	23%	0	0%
Klamath District	461	194	42%	110	24%	2	0%	1	1%
Lake County	11	0	0%	0	0%	0	0%	0	N/A
Lassen County	1	0	0%	0	0%	0	0%	0	N/A
Lassen District	469	193	41%	107	23%	84	18%	0	0%
Los Angeles County LPA	308	165	54%	143	46%	142	46%	1	1%
Madera County LPA	307	162	53%	43	14%	32	10%	0	0%
Marin County LPA	38	11	29%	13	34%	11	29%	0	0%
Mendocino County	17	0	0%	0	0%	0	0%	0	N/A
Mendocino District	498	185	37%	116	23%	113	23%	3	3%
Merced County LPA	164	45	27%	0	0%	0	0%	0	N/A
Merced District	244	84	34%	102	42%	125	51%	0	0%
Metropolitan District	93	27	29%	8	9%	59	63%	0	0%
Mono County LPA	152	29	19%	52	34%	17	11%	0	0%
Monterey County LPA	722	279	39%	256	35%	248	34%	4	2%
Monterey District	180	125	69%	111	62%	110	61%	2	2%
Napa County LPA	221	146	66%	89	40%	89	40%	0	0%
Nevada County LPA	92	72	78%	45	49%	42	46%	0	0%
Orange County	1	1	100%	0	0%	1	100%	0	N/A
Placer County LPA	161	73	45%	29	18%	23	14%	0	0%
Plumas County	211	95	45%	64	30%	64	30%	0	0%

Table 7. Enforcement Activities at Local Drinking Water Districts, 2001–2005 (R-Z)

Local Primacy Agencies (LPAs) are local county agencies authorized to regulate small water systems (<200 connections).

District	Number of Water Systems	Number of Systems Inspected	Percent of Systems Inspected	Number of Systems with Violations	Percent of Systems with Violations	Number of Systems with Enforcement Actions	Percent of Systems with Enforcement Actions	Number of Systems Issued a Penalty	Percent of Systems with Violations Issued a Penalty
Riverside County LPA	575	209	36%	195	34%	195	34%	88	45%
Riverside District	115	74	64%	35	30%	36	31%	1	3%
Sacramento County LPA	229	160	70%	57	25%	57	25%	0	0%
Sacramento District	151	80	53%	34	23%	26	17%	3	9%
San Benito County	18	0	0%	0	0%	0	0%	0	N/A
San Bernardino County LPA	382	259	68%	84	22%	76	20%	57	68%
San Bernardino District	178	96	54%	16	9%	142	80%	1	6%
San Diego County LPA	229	98	43%	132	58%	130	57%	2	2%
San Diego District	129	95	74%	54	42%	59	46%	2	4%
San Francisco District Office	229	95	41%	23	10%	22	10%	0	0%
San Joaquin County LPA	547	351	64%	273	50%	65	12%	0	0%
San Luis Obispo County LPA	200	142	71%	73	37%	24	12%	0	0%
San Mateo County LPA	49	37	76%	29	59%	26	53%	0	0%
Santa Ana District	140	67	48%	16	11%	48	34%	0	0%
Santa Barbara County LPA	206	92	45%	60	29%	26	13%	0	0%
Santa Barbara District	229	171	75%	73	32%	77	34%	0	0%
Santa Clara County	89	0	0%	0	0%	0	0%	0	N/A
Santa Clara District	232	72	31%	56	24%	84	36%	0	0%
Santa Cruz County LPA	133	86	65%	53	40%	46	35%	0	0%
Shasta County LPA	237	156	66%	110	46%	105	44%	0	0%
Sierra County	1	0	0%	0	0%	0	0%	0	N/A
Sonoma County	26	0	0%	0	0%	0	0%	0	N/A
Sonoma District	562	358	64%	200	36%	187	33%	0	0%
Stanislaus County LPA	381	216	57%	102	27%	64	17%	0	0%
Stockton District	140	98	70%	57	41%	95	68%	1	2%
Sutter County	11	0	0%	0	0%	0	0%	0	N/A
Tehachapi District	504	325	64%	239	47%	348	69%	1	0%
Tehama County LPA	169	87	51%	47	28%	61	36%	3	6%
Tulare County LPA	479	299	62%	207	43%	198	41%	0	0%
Tuolumne County LPA	149	105	70%	50	34%	47	32%	0	0%
Valley District	373	192	51%	86	23%	100	27%	0	0%
Ventura County	34	0	0%	0	0%	0	0%	0	N/A
Visalia District	162	95	59%	71	44%	83	51%	0	0%
Yolo County LPA	169	98	58%	53	31%	28	17%	0	0%
Yuba County LPA	116	81	70%	48	41%	40	34%	0	0%

Table 8. Agricultural Pesticide Use Enforcement Activities per County, Fiscal Years 2004–2006

Name	Number of Inspections*	Number of Inspections Resulting in Violation Determination	Total Number of Violations	Percent of Inspections Resulting in Violation Determination	Total Number of Penalties Issued	Average Fine per Penalty	Total Fines Assessed
Alameda	836	120	417	14%	22	\$276	\$6,076
Alpine	0	0	0	0%	0	\$0	\$0
Amador	17	8	29	47%	7	\$365	\$2,558
Butte	653	33	99	5%	23	\$273	\$6,277
Calaveras	35	23	71	66%	10	\$235	\$2,352
Colusa	293	50	127	17%	16	\$656	\$10,501
Contra Costa	853	215	716	25%	19	\$403	\$7,659
Del Norte	149	12	12	8%	1	\$500	\$500
El Dorado	96	24	48	25%	2	\$1,325	\$2,650
Fresno	3,504	457	1,076	13%	46	\$794	\$36,530
Glenn	529	93	201	18%	6	\$467	\$2,801
Humboldt	25	0	0	0%	0	\$0	\$0
Imperial	446	59	139	13%	77	\$359	\$27,681
Inyo	0	0	0	0%	0	\$0	\$0
Kern	1,112	201	612	18%	64	\$664	\$42,524
Kings	843	74	214	9%	15	\$297	\$4,450
Lake	115	30	48	26%	8	\$360	\$2,876
Lassen	59	6	8	10%	0	\$0	\$0
Los Angeles	1,274	49	154	4%	109	\$329	\$35,836
Madera	231	175	586	76%	54	\$722	\$38,965
Marin	77	12	34	16%	3	\$1,283	\$3,850
Mariposa	10	3	3	30%	0	\$0	\$0
Mendocino	96	46	81	48%	3	\$318	\$953
Merced	1,477	264	794	18%	20	\$893	\$17,854
Modoc	28	0	0	0%	0	\$0	\$0
Mono	0	0	0	0%	0	\$0	\$0
Monterey	2,883	216	413	7%	39	\$785	\$30,603
Napa	479	184	426	38%	11	\$1,327	\$14,600
Nevada	28	6	17	21%	1	\$802	\$802
Orange	1,120	156	369	14%	137	\$191	\$26,160
Placer	158	74	271	47%	87	\$455	\$39,583
Plumas	6	4	6	67%	0	\$0	\$0
Riverside	1,574	260	852	17%	99	\$273	\$26,983
Sacramento	392	85	220	22%	137	\$230	\$31,455
San Benito	221	28	59	13%	7	\$513	\$3,591
San Bernardino	1,144	280	973	24%	134	\$494	\$66,154
San Diego	1,876	320	821	17%	125	\$479	\$59,907
San Francisco	24	5	20	21%	1	\$800	\$800
San Joaquin	947	238	602	25%	62	\$504	\$31,251
San Luis Obispo	1,092	315	661	29%	67	\$316	\$21,143
San Mateo	748	30	71	4%	17	\$303	\$5,151
Santa Barbara	1,898	846	2139	45%	97	\$351	\$34,011
Santa Clara	392	122	299	31%	16	\$301	\$4,820
Santa Cruz	630	173	300	27%	16	\$468	\$7,490
Shasta	297	35	97	12%	10	\$640	\$6,401
Sierra	241	11	18	5%	1	\$50	\$50
Siskiyou	0	0	0	0%	3	\$809	\$2,426
Solano	249	88	282	35%	8	\$456	\$3,650
Sonoma	546	161	361	29%	25	\$380	\$9,501
Stanislaus	899	275	754	31%	13	\$2,092	\$27,200
Sutter	1,414	125	259	9%	50	\$291	\$14,566
Tehama	179	28	62	16%	7	\$272	\$1,903
Trinity	1	0	0	0%	0	\$0	\$0
Tulare	1,727	187	368	11%	60	\$440	\$26,377
Tuolumne	1,414	125	259	9%	1	\$800	\$800
Ventura	179	28	62	16%	48	\$390	\$18,720
Yolo	1	0	0	0%	31	\$328	\$10,163
Yuba	718	201	546	28%	7	\$421	\$2,950

* As per CDPR inspection tracking system, “Inspections” exclude “Preapplication Inspections”

Table 9. Enforcement Activities per California OSHA Enforcement District Office, 2001–2005

District Name	Number of Inspections	Number of Inspections Resulting in Violation Determination	Number of Inspections Resulting in Penalties Issued	Percent of Inspections Resulting in Violation Determination	Percent of Inspections Resulting in Issuance of Penalties
Chico Field Office	28	16	16	57.14%	57%
Concord District Office	1,065	459	444	43.10%	42%
Foster City District Office	647	425	410	65.69%	63%
Fremont/San Jose District Office	1,548	794	726	51.29%	47%
Fresno District Office	1,660	870	865	52.41%	52%
High Hazard Compliance Unit—Oakland Northern CA District Office	670	399	395	59.55%	59%
High Hazard Compliance Unit—Santa Ana/Anaheim- So CA District Office	1,207	822	816	68.10%	68%
Los Angeles District Office	1,502	1,128	1,103	75.10%	73%
Mining and Tunneling Unit—Sacramento District Office	2,360	837	447	35.47%	19%
Mining and Tunneling Unit—San Bernardino District Office	1,031	205	195	19.88%	19%
Mining and Tunneling Unit—Van Nuys District Office	1,402	196	172	13.98%	12%
Modesto District Office	1,266	547	536	43.21%	42%
Monrovia/Pico Rivera District Office	1,462	1,026	1,010	70.18%	69%
Oakland District Office	1,724	1,154	1,093	66.94%	63%
Process Safety Management Unit—Concord District Office	167	94	92	56.29%	55%
Process Safety Management Unit—Santa Ana District Office	208	159	158	76.44%	76%
Sacramento District Office	4,545	2,164	2,145	47.61%	47%
San Bernardino District Office	1,974	1,389	1,374	70.36%	70%
San Diego District Office	1,781	1,035	1,016	58.11%	57%
San Francisco District Office	1,045	690	677	66.03%	65%
Santa Ana/Anaheim District Office	1,754	1,060	1,023	60.43%	58%
Santa Rosa District Office	1,679	983	971	58.55%	58%
Torrance District Office	1,109	586	578	52.84%	52%
Van Nuys District Office	1,883	1,251	1,231	66.44%	65%
Ventura Field Office	910	558	533	61.32%	59%
West Covina District Office	1,521	1,074	1,045	70.61%	69%

Table 10. Water Pollution Control Enforcement Activities per Regional Water Quality Board, 2000–2004

Description	Number of Facilities	Number of Inspected Facilities	Percent of Facilities Inspected	Facilities with Violations	Percent of Facilities with Violations	Facilities with Enforcement Actions	Percent of Facilities with Enforcement Actions	Facilities Where Inspections Determined Violations	Percent of Inspections Resulting in Violations
North Coast Region	2,682	844	31%	591	22%	584	22%	101	12%
SF Bay Region	6,191	1,603	26%	750	12%	1,085	18%	219	14%
Central Coast Region	2,513	539	21%	626	25%	540	21%	125	23%
Los Angeles Region	9,831	1,656	17%	3,586	36%	3,245	33%	1,634	99%
Central Valley Region-Fresno	4,481	1,594	36%	1,042	23%	1,043	23%	502	31%
Central Valley Region-Redding	2,071	824	40%	536	26%	503	24%	151	18%
Central Valley Region-Sacramento	8,171	1,266	15%	1,295	16%	1,170	14%	378	30%
Lahontan Region-South Lake Tahoe	1,361	517	38%	409	30%	312	23%	129	25%
Lahontan Region-Victorville	1,765	288	16%	283	16%	249	14%	41	14%
Colorado River Basin Region	1,674	453	27%	476	28%	443	26%	185	41%
Santa Ana Region	7,835	964	12%	1,613	21%	1,459	19%	951	99%
San Diego Region	5,746	1,032	18%	1,127	20%	1,071	19%	488	47%

Table 11. Air Pollution Control Enforcement Activities from Major Sources, 2001–2005

Local Air District	Number of Major Facilities Inspected	Number of Facilities Inspected	Percent of Facilities Inspected	Number of Facilities with High-Priority Violations	Percent of Facilities with High-Priority Violations	Number of Facilities with Notice of Violation Issued	Number of Facilities Issued an Admin Order	Percent of Facilities Issued an Admin Order	Number of Facilities Issued a Penalty	Percent of Facilities with High-Priority Violation Issued a Penalty	Average Penalty Assessed	Total Penalties Assessed
Amador County APCD	1	1	100%	0	0%	0	0	0%	0	N/A	\$0	\$0
Antelope Valley AQMD	6	6	100%	1	17%	1	1	17%	0	0%	\$0	\$0
Bay Area AQMD	94	94	100%	32	34%	32	1	1%	1	3%	\$43,400	\$130,200
Butte County APCD	3	3	100%	0	0%	0	0	0%	0	N/A	\$0	\$0
Colusa County APCD	5	4	80%	1	20%	1	1	20%	0	0%	\$0	\$0
El Dorado County APCD	2	2	100%	0	0%	0	0	0%	0	N/A	\$0	\$0
Feather River AQMD	4	4	100%	0	0%	0	0	0%	0	N/A	\$0	\$0
Glenn County APCD	1	1	100%	0	0%	0	0	0%	0	N/A	\$0	\$0
Great Basin Unified APCD	2	2	100%	0	0%	0	0	0%	0	N/A	\$0	\$0
Imperial County APCD	9	9	100%	5	56%	6	4	44%	2	40%	\$24,750	\$123,750
Kern County APCD	6	6	100%	1	17%	1	1	17%	1	100%	\$1,000	\$1,000
Lassen County APCD	3	3	100%	0	0%	0	0	0%	0	N/A	\$0	\$0
Mendocino County APCD	3	3	100%	0	0%	0	0	0%	0	N/A	\$0	\$0
Modoc County APCD	1	1	100%	0	0%	0	0	0%	0	N/A	\$0	\$0
Mojave Desert AQMD	46	46	100%	11	24%	11	9	20%	7	64%	\$38,358	\$728,800
Monterey Bay Unified APCD	16	15	94%	6	38%	5	4	25%	2	33%	\$2,219	\$4,437
North Coast AQMD	9	8	89%	4	44%	4	2	22%	2	50%	\$13,313	\$26,625
Northern Sierra AQMD	3	3	100%	2	67%	2	2	67%	2	100%	\$52,958	\$317,750
Northern Sonoma APCD	17	17	100%	1	6%	1	1	6%	1	100%	\$750	\$750
Placer County APCD	5	5	100%	3	60%	3	1	20%	1	33%	\$2,000	\$2,000
Sacramento Metropolitan AQMD	15	15	100%	10	67%	10	10	67%	10	100%	\$5,079	\$157,460
San Diego County APCD	38	35	92%	6	16%	5	8	21%	8	133%	\$5,686	\$119,400
San Joaquin Valley Unified APCD	189	185	98%	118	62%	118	117	62%	116	98%	\$6,663	\$11,574,278
San Luis Obispo County APCD	4	4	100%	1	25%	1	1	25%	1	100%	\$304,083	\$912,250
Santa Barbara County APCD	72	72	100%	4	6%	4	2	3%	0	0%	\$0	\$0
Shasta County AQMD	12	12	100%	0	0%	0	1	8%	1	N/A	\$620,000	\$1,240,000
Siskiyou County APCD	1	1	100%	0	0%	0	0	0%	0	N/A	\$0	\$0
South Coast AQMD	584	540	92%	321	55%	323	326	56%	307	96%	\$19,871	\$12,876,179
Tuolumne County APCD	2	2	100%	0	0%	0	0	0%	0	N/A	\$0	\$0
Ventura County APCD	28	28	100%	13	46%	13	13	46%	12	92%	\$11,200	\$336,000
Yolo Solano AQMD	16	14	88%	5	31%	5	5	31%	4	80%	\$226,675	\$1,813,400

Endnotes

1. For consistency, since there are so many different levels of government responsible for enforcement, we use the term *authority* generally to refer to an authority of federal, state, or local government, whether or not it is called an authority, department, board, district, office, or something else. The array of state and local authorities principally charged with enforcing environmental laws is identified at <http://www.calepa.ca.gov/Enforcement/WhoEnforces.htm>. State drinking water laws are, similarly, enforced by both state and local authorities, as described at <http://www.cdph.ca.gov/programs/Pages/DWP.aspx>. Cal/OSHA has lead responsibility for most workplace safety enforcement. See <http://www.dir.ca.gov/dosh/CalOSHA.htm#enforcement>.
2. Final legislative action on the budget was uncertain as this report went to press.
3. NRDC's analysis took into account three to five years of data, depending upon how many years of consistent information were available for the particular program at the time of our analysis (Table 1). For most programs, the most recent year of available data extended through 2005 or 2006; for one program, data were available only through 2004.
4. California's Regional Water Quality Control Boards issue permits to discharge "pollutants," under Section 402 of the federal Clean Water Act, 33 U.S.C. § 1342, under authority delegated by U.S. EPA. State law uses the term "waste," rather than "pollutant," to refer to these discharges. See Cal. Water Code §§ 13260, 13262.
5. See *infra*, n. 15.
6. Cal. Water Boards, Cal/EPA, *Enforcement Report 16* (Aug. 18, 2006) (Table 10).
7. A description of this investigation's methodology is available at <http://www.nrdc.org/legislation/shield/contents.asp>.
8. The single-year period of analysis for the Agricultural Pesticide Use program was fiscal year 2004. For all other programs, the single-year period of analysis was calendar year 2004.
9. Cal. Water Boards, Cal/EPA, *Enforcement Report 8* (Aug. 18, 2006) (Table 3).
10. Calculations based on data reported in Cal. Water Boards, Cal/EPA, *Enforcement Report 8* (Aug. 18, 2006) (Table 3).
11. Department of Pesticide Regulation (2005) (available at <http://calpip.cdpr.ca.gov/cfdocs/calpip/prod/main.cfm>).
12. Different air districts define "high priority" violations somewhat differently. For the purposes of this analysis, NRDC has relied on the air districts' own definitions. Regulators may be more likely to classify a violation as "high priority" if committed by certain types of facilities (such as a petroleum refinery) due to the nature or extent of these facilities' activities. Not all "high priority" violations necessarily pose a health, safety, or environmental hazard.
13. State & Territorial Pollution Program Admins. & Assn. of Local Air Pollution Control Officials, *Impact of Proposed FY 2007 Budget Cuts on State & Local Air Quality Agencies* 11 (March 14, 2006) (quoting submission of Santa Barbara County Air Pollution Control District).
14. U.S. EPA, *Clean Air Act Stationary Source Compliance Monitoring Strategy* (April 2001).
15. This analysis relies on air district data reported to U.S. EPA and maintained in a U.S. EPA database, which NRDC analyzed in consultation with U.S. EPA staff. In January 2008, Cal/EPA informed NRDC that a "quick survey of 29 air districts" showed that nearly 98 percent of facilities in those districts with Clean Air Act Title V permits were inspected at least once per year and that U.S. EPA had approved alternative inspection frequencies for the other facilities in those districts. When NRDC subsequently asked air district officials about this analysis, NRDC was told that some air districts may not be reporting inspection activity to EPA. This is a concern for several reasons, and calls into question whether other information—such as data on violations—have also been underreported. As noted previously (see Table 1, at n. e), NRDC was not provided with air district data that would allow verification of this information. NRDC has therefore had no choice but to rely on the U.S. EPA records to which access was provided. We would welcome broader public access to the underlying air district data in the future.
16. The thoroughness of certain air inspections that were conducted is uncertain. A state audit of one of these districts reported that "resource constraints prevented the District from conducting on-site investigation of breakdowns, witnessing all source tests, and inspecting equipment related to the portable equipment registration program." Cal. Air Resources Bd., Cal/EPA, *Ventura County Air Pollution Control District Program Review: Report of Findings and Recommendations* 4-6 (Sept. 2006); see also *id.* at 9-10 (noting that, where an emissions test is the only means of verifying compliance, the air district requires permitted facilities to conduct such tests, but that the district staff itself are present during the tests only 10 percent of the time). While Cal/EPA staff have reported that this audit prompted the Ventura Air District to correct the specific deficiency identified, that audit was limited to one air district. Similar resource constraints may affect other air districts that have not recently been audited.
17. CDPR staff have stated that, as a blanket matter, every violation found during agricultural pesticide use inspections received an informal enforcement action, such as an on-site list of violations, a verbal warning, or a written notice of violation. However, most of these inspections, and most of the informal enforcement responses, are undertaken not by CDPR but by county agricultural commissioners. CDPR's inspection tracking procedures do not provide sufficient data to evaluate informal enforcement in this context, and such actions were not reflected in the data provided to NRDC by CDPR.
18. Cal. State Water Quality Control Board, SWIM Database (2005).
19. CIWQS Interactive Enforcement Report, available at <http://ciwqs.waterboards.ca.gov/ciwqs/readOnly/ciwqsReportEnforcementCriteria.jsp?command=resetCriteria&placeType=REGION>.
20. *Id.*
21. Cal. Water Boards, Cal/EPA, *Enforcement Report 16* (Aug. 18, 2006).
22. No reliable data are available on how often criminal prosecutions were brought for violations of these laws. An internal Cal/EPA assessment, dated February 2006, suggested that only two of the authorities within Cal/EPA's oversight jurisdiction (the Department of Toxic Substances Control and the local Certified Unified Program Agencies [CUPAs]) conducted criminal enforcement actions in 2005. See Cal/EPA *Status Report on Implementation of the Cross-Agency Enforcement Initiative 27* (Feb. 2006). However, it does not appear that Cal/EPA—or, indeed, any other authority—maintains reliable data on

criminal and civil judicial enforcement action undertaken by district attorneys across the state. The extent of criminal and judicial enforcement is unknown.

23. Cal. Water Boards, Cal/EPA, *Enforcement Report 27-36* (Feb. 23, 2005).

24. SIC codes were used to determine the industry types with the highest percentage of permitted facilities reported to have at least one violation between 2000 and 2004. For each of the 10 industry types with the highest violation rates, we calculated the percentage of facilities reported to have at least one violation between 2000 and 2004 where at least one penalty was assessed during the same time period. Facilities identified as "new car dealers" likely also maintain auto repair operations, which may have been responsible for the hazardous waste at issue.

25. This figure does not include penalties in actions prosecuted criminally or judicially. Although available evidence suggests such prosecutions are rare under many programs, reliable data were unavailable. See Cal. Env. Prot. Agency, *Status Report on Implementation of the Cross-Agency Enforcement Initiative 27* (Feb. 2006).

26. See, e.g., Cal. Water Boards, Cal/EPA, *Enforcement Report 8-9* (Aug. 18, 2006): "The data indicate an uneven distribution...among the different Water Board offices. The reasons for this high variability include differences in...priority assigned to...data entry..."; Cal. Air Resources Bd., Cal. Env'tl. Prot. Agency, *San Joaquin Valley Air Pollution Control District Program Review: Report of Findings and Recommendations 16* (Oct. 2005).

27. Personal communication with Cal/EPA Assistant Secretary for Local Program Coordination (May 8, 2007).

28. Cal. Water Boards, Cal/EPA, *Enforcement Report 6* (Aug. 18, 2006).

29. Cal. Water Boards, Cal/EPA, *Water Boards Baseline Enforcement Report—Fiscal Year 2006-2007*, at 1 (April 30, 2008).

30. See, e.g., Cal. Air Resources Bd., Cal/EPA, *San Joaquin Valley Air Pollution Control District Program Review: Report of Findings and Recommendations 16* (Oct. 2005).

31. Problems with the District's failure to report data accurately to EPA, as required by law, were first reported by EPA's inspector

general some 10 years ago. See Office of Inspector General, U.S. Env. Prot. Agency, *Audit of Region 9's Administration of the California Air Compliance & Enforcement Program*, ch.6 (July 24, 1997), available at <http://www.epa.gov/oig/reports/1997/air9chp6.htm> (last visited Feb. 20, 2007).

According to U.S. Region 9 officials, that problem had not been fully corrected at the time we were collecting data for this analysis.

32. For more information on these programs, see <http://ww2.cdph.ca.gov/programs/Pages/DWP.aspx> (visited July 9, 2008) and <http://www.dir.ca.gov/dosh/dosh1.html> (visited July 9, 2008).

33. Memorandum from Terry Tamminen, Secretary of Cal/EPA, to board chairs, department directors, and executive officers, "Enforcement Initiative" 1-2 (Nov. 30, 2004).

34. Personal communication with Cal/EPA staff (May 8, 2007); Cal/EPA, *Status Report on Implementation of the Cross-Agency Enforcement Initiative 7* (Feb. 2006).

35. Cal/EPA, *Status Report on Implementation of the Cross-Agency Enforcement Initiative 11* (Feb. 2006).

36. See Memo from Linda Adams, Secretary of Env. Prot., to Cal/EPA directors, board chairs, and chief deputies, "Adoption of a Cal/EPA Data Dictionary and Creation of a Data Dictionary Steering Committee" (Aug. 28, 2006).

37. Memorandum from Terry Tamminen, Secretary of Cal/EPA, to board chairs, department directors, and executive officers, "Enforcement Initiative" 3 (Nov. 30, 2004).

38. Letter from Linda S. Adams, Secretary for Environmental Protection, to Hon. Don Perata, Chair, Senate Rules Committee, at 3-4 (Apr. 6, 2007).

39. Cal/EPA Policy Memorandum, "Enforcement Program Operational Plan," No. E-07-05, available at <http://www.calepa.ca.gov/Enforcement/Initiative/ENF07-05.pdf>.

40. E-Mail from Matthew Bogoshian, Cal/EPA, to Michael Wall, NRDC (Aug. 7, 2008).

41. See 3 Cal. Code Reg. §§ 6128(c)(2)(C), 6130(a)(1)(a) & (B).

42. Memorandum from Terry Tamminen, Secretary of Cal/EPA, to board chairs,

department directors, and executive officers, "Enforcement Initiative" 5-7 (Nov. 30, 2004).

43. Letter from Linda S. Adams, Secretary for Environmental Protection, to Hon. Don Perata, Chair, Senate Rules Committee, at 5 (Apr. 6, 2007).

44. Compare Cal/EPA, "A Report on Actions Taken in 2005 to Implement Government Code Section 12812.2," at 7 (2006), with Cal/EPA, "Strengthening Enforcement of Environmental Laws," at slide 15 (April 2005).

45. Jack Schatz, "AG's Environmental Budget Slashed by \$2.2 Million," *Prop 65 News* (Sept. 1, 2007).

46. Gale Filter, Deputy Exec. Director, Calif. Dist. Attorneys Assn., "CDAE Environmental Circuit Prosecutor Project Annual Report 2006" 2-3 (2007).

47. 116 Cong. Rec. 33,104 (1970), quoted in *Natural Resources Defense Council, Inc. v. Train*, 510 F.2d 692, 729 (D.C. Cir. 1974).

48. Memorandum from Terry Tamminen, Secretary of Cal/EPA, to board chairs, department directors, and executive officers, "Enforcement Initiative" 3 (Nov. 30, 2004) (calling for all Initiative components to be developed and implemented by May 2005).

49. See, e.g., Cal. Water Code § 13261(b)(1).

50. 42 U.S.C. § 300g-3(g); 40 C.F.R. § 19.4; Health & Safety Code § 116650.

51. Angela Johnson Meszaros. Transcription of Public Comments before the South Coast Air Quality Management District In Re: the Matter of: Public Hearing: Falcon Foam Proposed Title V Permit. November 6, 2004.

52. Julie Masters, Tim Grabel, Angela Johnson Meszaros. Complaint for Civil Penalties, Declaratory Relief, and Injunctive Relief. United States District Court Central District of California.

53. Public Testimony. Transcription of Public Comments Before the South Coast Air Quality Management District In Re: the Matter of: Public Hearing: Falcon Foam Proposed Title V Permit. November 6, 2004.

54. Findings and Decision for Modification of Order of Abatement Before the South Coast Air Quality Management District In the Matter of South Coast Air Quality District vs. Falcon Foam, a division of Atlas Roofing Corp. July 13, 2005.

55. USEPA Region 9 News Release. "U.S. EPA's enforcement efforts yield nearly \$300 million in environmental improvements in California in 2006." November 15, 2006.
56. Chris Bowman. "Environmental Injustice: Plant saved millions by breaking rules." *Sacramento Bee*. December 12, 2004.
57. California Regional Water Quality Control Board Central Valley Region Press Release. "Hilmar Cheese Pays \$3 Million in Water Quality Settlement Agreement." May 11, 2006.
58. California Regional Water Quality Control Board Central Valley Region Staff Report. Regulation of Food Processing Waste Discharges to Land. 2005.
59. *Id.*
60. CADHS, Drinking Water Program. Annual Compliance Report for California Public Water Systems. Calendar Year 2005.
61. State Water Resources Control Board, GAMA Voluntary Domestic Well Assessment Project, Tulare County (2006), available at http://www.waterboards.ca.gov/gama/docs/table_summary_dec06.pdf.
62. Local Primacy Agency Annual Evaluation Report, County of Tulare, Fiscal Year 2005–2006.
63. Names have been changed to protect privacy.
64. California Department of Pesticide Regulation, Pesticide Enforcement Branch. Pesticide Episode Investigation Report. December 16, 2005.
65. Felicity Barringer. "Pesticide Persisting Beyond Scheduled Elimination Date." *NY Times*, Oct. 8, 2004.
66. California Department of Pesticide Regulation, Pesticide Enforcement Branch. Pesticide Episode Investigation Report. Former Farmer Tarp Removal Co. December 16, 2005.
67. California Department of Pesticide Regulation, Pesticide Enforcement Branch. Pesticide Episode Investigation Report. Jacobs Farm/DelCabo Inc. March 5, 2007.
68. "Organic Produce Grower Larry Jacobs Urges Change to Pesticide Regulations." *Santa Cruz Sentinel*. June 11, 2007.
69. Cal. Food & Ag. Code § 12972.
70. California Department of Pesticide Regulation., Pesticide Enforcement Branch. Pesticide Episode Investigation Report. Jacobs Farm/DelCabo Inc. March 5, 2007.
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72. Cal. Office of Env. Health Hazard Assessment, Summary of Chemicals of Concern Found in Fish: San Francisco Bay Pilot Project, available at http://www.oehha.ca.gov/fish/nor_cal/sfpilot.html; Cal. Office of Env. Health Hazard Assessment, Fish: Safe Eating Guidelines, San Francisco Bay & Delta Region, available at <http://www.oehha.ca.gov/fish/general/sfbaydelta.html>.
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74. Cal. Regional Water Quality Control Bd., San Francisco Bay Region, Order No. 99-046 (June 16, 1999), available at http://www.waterboards.ca.gov/sanfranciscobay/board_info/orders/99-046.doc
75. *Communities for a Better Env. v. Tosco Refining Co.*, Civ. No. C-00-0248 VRW (N.D. Cal.).
76. Cal. Regional Water Quality Control Bd., San Francisco Bay Region, Order No. 00-011-NPDES No. CA0004961 (Feb. 16, 2000).
77. Cal. Regional Water Quality Control Bd., San Francisco Bay Region, Order No. 00-056 (June 21, 2000), available http://www.waterboards.ca.gov/sanfranciscobay/board_info/orders/00-056.doc.

