

Online Methodology to the NRDC Report *An Uneven Shield: The Record of Enforcement and Violations Under California's Environmental, Health, and Workplace Safety Laws*

To learn more about how California is enforcing its environmental health and safety standards, please read the full NRDC report at <http://www.nrdc.org/legislation/shield/contents.asp>.

SCOPE OF PROJECT

This project was designed to investigate the record of the enforcement of environmental and health laws in California. To accomplish this we sought out data from agencies and departments of the California Environmental Protection Agency (CalEPA), California Department of Public Health (CDPH), US Environmental Protection Agency (USEPA), and California Department of Industrial Relations (CDIR) that described investigations, determinations of violations, enforcement actions, and monetary penalties assessed for each sector. Online data sources were accessed where available and state specific databases were provided by agency representatives (see Table 1). Agencies were chosen for inclusion in this investigation to represent the major environmental and health regulatory programs in the state where adequate data were available.

DATA SOURCES

Hazardous Waste Management

The online database access portal to the USEPA Integrated Data for Enforcement Analysis (IDEA)¹ provided data files from the RCRAInfo System. The RCRAInfo System includes information on the following types of hazardous waste handlers: treatment, storage, and disposal facilities, large quantity generators, small quantity generators and transporters. The data files are populated by the states and USEPA regions. The following data files were analyzed: Facility Information, SIC Codes, Enforcement, Evaluations, and Events.

Drinking Water

In August 2006 a CDPH drinking water program representative provided comma delineated files containing data from the Permits, Inspections, Compliance, Monitoring and Enforcement (PICME) database. The PICME da-

tabase is maintained by the Drinking Water Program of the California Department of Public Health and contains information related to the regulation of public drinking water systems subject to the federal and California Safe Drinking Water Acts. The following data files were analyzed for this report: District Info, Enforcement, Inspections, Systems Info, and Violations.

Worker Safety and Health

Queries of the OSHA database, Integrated Management Information System (IMIS) performed by a Cal/OSHA representative in August of 2006 provided text files containing information on enforcement activities taken in California. The IMIS database is a federal database that is populated by states and contains information pertaining to workplace inspections, citations issued, penalties assessed and paid, accidents and injuries, standards cited, complaints received and investigated.² Data files describing workplace inspections and resulting actions by state officials were analyzed for this report.

Air Pollution

In June 2006, a USEPA Region 9 representative provided text files containing data files from the federal AIRS (Aerometric Information Retrieval System) Facility Subsystem (AFS) database. The AFS database is maintained by USEPA and populated by the individual Air Districts in California. It contains information related to the regulation of stationary sources of air pollution. The following data files were analyzed for this report: description of regulated facilities, inspections, compliance evaluations, High Priority Violation (HPV) designation, notices of violation, administrative orders, significant violation "resolved".

Pesticides

In February of 2006, the California Department of Pesticide Regulation (CDPR) provided copies of the fol-

lowing MS Access databases to NRDC in response to a public records act request: Compliance Database and Enforcement Database. The compliance database was not inclusive of all actions taken in the state and was not utilized for this analysis. The enforcement database includes information related to actions taken in response to pesticide use violations including, agricultural civil penalties, structural civil penalties, county registration suspended or revoked, restricted materials permit revoked, case submitted to DA/circuit prosecutor, and notice to appear. In October of 2007, CDPR provided summary tables of inspections and compliance information for fiscal years 2004-2006 taken from the Inspection Tracking database and a summary of the agricultural civil penalties issued in the second half of fiscal year 2006 from the Enforcement Tracking database.

Water Pollution

Multiple sources describing enforcement activity at facilities regulated under federal and state water pollution laws were utilized in this analysis. In March of 2006 and in response to a public records act request, the California State Water Resources Control Board (SWRCB) provided a listing of inspections, violations, and enforcement actions at facilities regulated by the State and Regional Water Boards pulled from the System for Water Information Management database (SWIM). Quantification of the total number of facilities regulated by the Water Boards was conducted using the online search capabilities of the California Integrated Water Quality System (CIWQS) database.³ In addition, reports of enforcement activity at facilities with a wastewater discharge permit (under the Nation Pollution Discharge Elimination System (NPDES))⁴ in 2005 and 2006 were collected from the 2006 and 2007 California Water Boards report to the Legislature.⁵

Industry Type

Industry classification was determined through comparison to US Census Bureau NAICS and SIC Codes tables.⁶ The remaining codes were determined through the online OSHA SIC search engines.⁷

DATA CLASSIFICATION

Hazardous Waste Management

Inspections were classified as all those types of compliance evaluations containing the word “inspection”. Facilities were determined to have a violation if there was an associated record of the area of violation in the database and a

date of determination. Enforcement actions were all those records in the Enforcement datafile assigned an “action date”. The types of industry represented by the RCRA facilities was determined by linking the NAICS codes or SIC codes assigned in RCRAInfo with the text description available in the US Census Bureau database or OSHA online SIC search engine. Not all facilities in the RCRAInfo database were assigned NAICS or SIC codes. Industry Type Comparison analysis was conducted with 4010 out of the total 5512 facilities in the RCRAInfo download (73%). The remaining facilities were excluded from the Industry specific analysis. Only actions where the responsible agency was listed as the “State” or “State Contractor” were included in this analysis.

Drinking Water

Inspections and Violations were determined using PICME designations. The following “compliance actions” were counted as enforcement actions.

ENF_CODE	ENF_DESC
F&	Criminal case referred to DA or AG
FH	Boil Water Order Issued
FJ	Formal Notice of violation “Not reported as formal to EPA”
FK	Compliance agreement
FL	Compliance Order or Citation without fines
FM	Citation with fine
FN	Show Cause Hearing / Health Officer Hearing
FQ	Civil case filed
IA	Violation notice / Reminder letter
IB	Compliance meeting
SA	State Action (NOT reported to EPA)

Worker Safety and Health

Due to the structure and format of the data supplied for this report, all enforcement activities were tabulated according to the inspection with which they were associated

in the database. Information was not available to determine the enforcement activities per workplace. In addition, the total number of workplaces subject to CalOSHA jurisdiction was not determined. Inspections were defined as all those containing a unique inspection number in the database. An inspection was classified as resulting in the determination of violation if there was a count of at least one serious, willful, and or repeat violations cited, unclassified violations cited or other violations cited. Detailed information related to the scope of enforcement activities was unavailable. Therefore inspections were classified according to whether penalties were issued as an indicator of enforcement activity.

Air Pollution

Inspections were defined to include all of the following: Partial onsite compliance evaluations, District Level 2 Inspections, Full compliance evaluations onsite, and District Level 4 inspections. High Priority Violations (HPVs)⁸ were defined as those given a “Day 0” in the database as recommended by EPA Region 9 representative. Administrative Orders were considered formal enforcement actions. Administrative Orders included Local MS Hearing, Local Letter Order, and District Abatement. Enforcement actions that included monetary penalties were defined to include those administrative orders where a dollar amount was indicated. Dollar amounts that were associated with other enforcement activities (Notices of Violations, Determinations of HPV, HPV resolution determination) were excluded and considered data entry mistakes as suggested by EPA Region 9 AFS contact.

Pesticides

CDPR provided summaries of the inspection and compliance determination actions per fiscal year and per county. This included tallies of the total number of inspections, inspections resulting in the determination of a violation, and total number of violations. The inspection tracking database includes the following types of inspections: Field Worker Safety Inspection, Pesticide Use Monitoring Inspection—Application Inspection, Pesticide Use Monitoring Inspection—Mix Load Inspection, Commodity Fumigation Use Monitoring Inspection, and Field Fumigation Use Monitoring Inspection. It does not include PreApplication Inspections. Enforcement actions were identified as those records in the Enforcement Database where there is a “Date of Action”. Although judicial actions are included in the database they made up a very small fraction (.06%) of the enforcement actions.

The majority of actions involve the administration of civil penalties.

Water Pollution

The total number of regulated facilities was defined as all those reported as having an active permit status under all programs, all regions, and all agencies in the regulated facilities report form of the online search engine of the CIWQS database. Similarly, the total number of regulated facilities was calculated for each Regional Board.

Inspections in the download of files from the SWIM database were defined as all those actions contained in the inspections data file containing a data of inspection. Violations were defined as all the records contained in the violations data file containing a violation sequence number. Enforcement actions were defined as all those records contained in the enforcement data file containing an enforcement order ID number.

ANALYSIS

Hazardous Waste

Files were downloaded from web-based sources in text format and were processed using MS Excel and MS Access to isolate CA state facilities and activities, link files together using RCRAID numbers, NAICS or SIC codes, and evaluate trends. Adequate data were available for the years 2000-2004 and were included in the analysis. The following indicators of enforcement activity were calculated and compared among years and industrial classifications: number and fraction of facilities where an inspection was conducted, number and fraction of facilities where a violation was determined, number and fraction of facilities where an enforcement action was taken, fraction of enforcement actions where a monetary penalty was assessed, and average penalty assessed. Comparison among industrial classifications was focused on the ten industry types with the most need for enforcement activities based on the number facilities where violations had been determined in recent years (2000-2004).

Drinking Water

Comma delineated files were made available by DHS drinking water program staff. The files were converted to MS Excel files and imported into an MS Access database to facilitate comparison of activity over time and between geographical regions. MS Excel was used to determine trends and quantify comparisons. Adequate data were available for the years 2001-2005 and were included in

the analysis. The following indicators of enforcement activity were calculated and compared among years and regional districts: number and fraction of facilities where an inspection was conducted, number and fraction of facilities where a violation was determined, number and fraction of facilities where an enforcement action was taken, and fraction of enforcement actions where a monetary penalty were assessed.

Worker Safety and Health

Text files were made available by CalOSHA staff. The files were converted to MS Excel files and imported into an MS Access database to facilitate comparison of activity over time and between geographical regions. MS Excel was used to determine trends and quantify comparisons. Adequate data were available for the years 2001-2005 and were included in the analysis. The following indicators of enforcement activity were calculated and compared among years, regional districts, and industrial classifications: number and type of inspections, number and fraction of inspections resulting in the determination of a violation, number and fraction of inspections resulting in the assessment of a penalty per year.

Air Pollution

Data files were processed using MS Excel and Access in order to facilitate temporal, regional and industry type comparisons. Although data was available to evaluate enforcement activities at both major and synthetic minor facilities, for ease of comparison analyses were restricted to currently active major sources which were the majority of facilities contained in the database (~80%). Adequate data were available for the years 2001-2005 and were included in the analysis. The following indicators of enforcement activity were calculated and compared among years, regional districts, and industrial classifications: number and fraction of facilities where an inspection was conducted, number and fraction of facilities where a high priority violation was determined, number and fraction of facilities where an enforcement action (Notice of Violation and Administrative Order) was taken, fraction of enforcement actions where a monetary penalty were assessed, average

penalty assessed and number and fraction of high priority violations "resolved". Comparison among industrial classifications was focused on the ten industry types with the most need for enforcement activities based on the number facilities where violations had been determined in recent years (2001-2005).⁹

Pesticides

Queries of the DPR enforcement database were performed using MS Access to determine the number of enforcement actions according to: date of the action, county where the action was taken or type of activity. Trends were evaluated through importing the queries into MS Excel. Summary tables provided by CDPR were incorporated into this analysis. Adequate data was not available to evaluate enforcement of violations of laws related to the sale and marketing of pesticides (product violations and mill violations). In addition, due to poor data quality, enforcement activity related to nonagricultural use of pesticides was excluded from this analysis. Adequate data were only available for the fiscal years 2004-2006 and were included in the analysis. The following indicators of enforcement activity were calculated and compared among years and counties: number and type of inspections, number and fraction of inspections resulting in the determination of a violation, number and fraction of inspections resulting in the assessment of a penalty per year, and average penalties assessed.

Water Pollution

Queries of the database provided were performed using MS Access to determine the number of inspections, violations and enforcement per regulated facility in the database. Trends were evaluated through importing the queries into MS Excel. Adequate data were available for the years 2000-2004 and were included in the analysis. The following indicators of enforcement activity were calculated and compared between years and regional districts: number and fraction of facilities where an inspection was conducted, number and fraction of facilities where a violation was determined, number and fraction of inspections resulting in the determination of a violation, and number and fraction of facilities where an enforcement action was taken.

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.

Endnotes

1. www.epa.gov/echo/idea_download.html accessed in January 2006.
2. www.dol.gov/osh/gils/records/000227.htm.
3. <http://ciwqs.waterboards.ca.gov/ciwqs/readOnly/ciwqsReportRegulatedFacilitiesCriteria.jsp?command=resetCriteria> accessed in April and September 2007.
4. For non-federal facilities.
5. Cal. Water Boards, Cal. Envtl. Prot. Agency, *Enforcement Report 13* (Aug. 18, 2006).
6. www.census.gov/epcd/www/naicsstab.htm#download accessed June 7, 2006.
7. www.osha.gov/oshastats/sicser.html accessed June 7, 2006.
8. HPV designation is triggered by violations at large facilities, violations at plants with a large amount of emissions, and large violations.
9. The differing rates of HPVs among the different industry types may be due to actual differences in the amount of violations at each industry type or may be a reflection of the size of the facilities for each industry type. The same violation at a bigger facility is more likely to be classified as a HPV.