



# **COST OF REGULATING ACTIVE LANDFILLS FOR WATER QUALITY**

**STATE WATER RESOURCES CONTROL BOARD  
REPORT TO THE LEGISLATURE**

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**LIST OF ACRONYMS AND ABBREVIATIONS**

<i>CPLX</i>	<i>Complexity</i>
<i>IWMA</i>	<i>Integrated Waste Management Account</i>
<i>MRP</i>	<i>Monitoring and Reporting Program</i>
<i>Needs Analysis</i>	<i>Core Regulatory Programs' Needs Analysis, 2000</i>
<i>ORPP</i>	<i>Office of Resource Planning and Performance</i>
<i>Regional Board</i>	<i>Regional Water Quality Control Board</i>
<i>ROWD</i>	<i>Report of Waste Discharge</i>
<i>State Water Board</i>	<i>State Water Resources Control Board</i>
<i>TTWQ</i>	<i>Threat to Water Quality</i>
<i>Title 27</i>	<i>California Code of Regulations, title 27</i>
<i>WDPF</i>	<i>Waste Discharge Permit Fund</i>
<i>WDRs</i>	<i>Waste Discharge Requirements</i>

## EXECUTIVE SUMMARY

This report to the legislature was prepared pursuant to Chapter 718, Statutes of 2010 (SB 855, Committee on Budget and Fiscal Review), which requires the State Water Resources Control Board (State Water Board) to submit to the budget committees in each house of the legislature a report on the costs of regulating water quality at active landfills. The State Water Board and Regional Water Quality Control Boards (Regional Boards, collectively, the Water Boards) analyzed the cost of resources required to implement State and Federal statutes, regulations, and policies at these facilities. This report provides an overview of the Water Boards' Land Disposal Program, followed by a cost analysis.

The Water Boards' Land Disposal Program provides regulatory oversight to 439 active landfills and 235 other waste management facilities in the State. Active landfills are all landfills that still pose a threat to the environment, even if they have stopped accepting waste. Active landfills are classified as operating or non-operating, with non-operating landfills including proposed, closing, and closed landfills.

There are an estimated 1600 legacy landfills that were not included in the cost analysis for this report. Legacy landfills are waste management units that were closed, abandoned, or inactive prior to the adoption of revised State Water Board regulations in November 1984.

In response to the legislative requirements, the results of this analysis show the cost of regulating the 439 active landfills to be approximately \$18.1 million. The Land Disposal Program also regulates other waste management facilities as an integral part of the program, and tracks these facilities along with active landfills. Based on this analysis, the cost of regulating the 235 other waste management facilities is approximately \$7.6 million. In total, implementation of the Land Disposal Program would cost approximately \$25.7 million (not including legacy landfills).<sup>1</sup> In Fiscal Year 2011-2012, the total expenditures incurred by the Land Disposal Program were approximately \$10.6 million. As this presents an approximately \$15.2 million shortfall in funding, the program prioritizes work based on threat to water quality, complexity, and level of activity at the facility.

Working within existing resource constraints, the Land Disposal Program is currently implementing a series of efficiency measures to improve program effectiveness. A discussion of these efforts concludes this report.

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<sup>1</sup>The State Water Board's Final Report to the Legislature, entitled Core Regulatory Programs' Needs Analysis (2000), estimated 35.2 positions, at an additional cost of \$6.5 million, would be adequate to regulate the legacy landfills.

## 1. INTRODUCTION

This report to the legislature was prepared pursuant to Chapter 718, Statutes of 2010 (SB 855, Committee on Budget and Fiscal Review), which requires the State Water Board to submit to the budget committees in each house of the legislature a report on the costs of regulating water quality at active landfills.

The mission of the State Water Board is to “preserve, enhance and restore the quality of California’s water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.” The Water Boards’ Land Disposal Program accomplishes this mission through the regulation of facilities that discharge wastes to land that may impact surface and ground waters of the state.

Several state and local agencies have separate authority to implement environmental regulations for active landfills and other waste related activities. The primary regulatory agencies include the Water Boards’ Land Disposal Program, the Department of Resource Recovery and Recycling (CalRecycle) and local enforcement agencies associated with CalRecycle, and the Air Resources Board and local air districts.

Regulations for both the Water Boards and CalRecycle are consolidated under separate sections in Title 27 of the California Code of Regulations. The joint regulatory approach is intended to maintain a division of authority, and to avoid overlap, conflict, or duplication. The Water Boards’ Land Disposal Program regulates the water quality of discharges of waste to land for disposal, treatment, or storage at active landfills and other waste management facilities, pursuant to Water Code section 13172, California Code of Regulations title 27 (hereafter Title 27) and 40 Code of Federal Regulations part 258.

The primary objectives in regulating active landfills and other waste management facilities for water quality are containing and preventing waste constituents from contacting surface and ground water. Protection of water quality begins with the appropriate design of containment structures, and continues with regular monitoring and inspections throughout the life of active landfills and other waste management facilities.

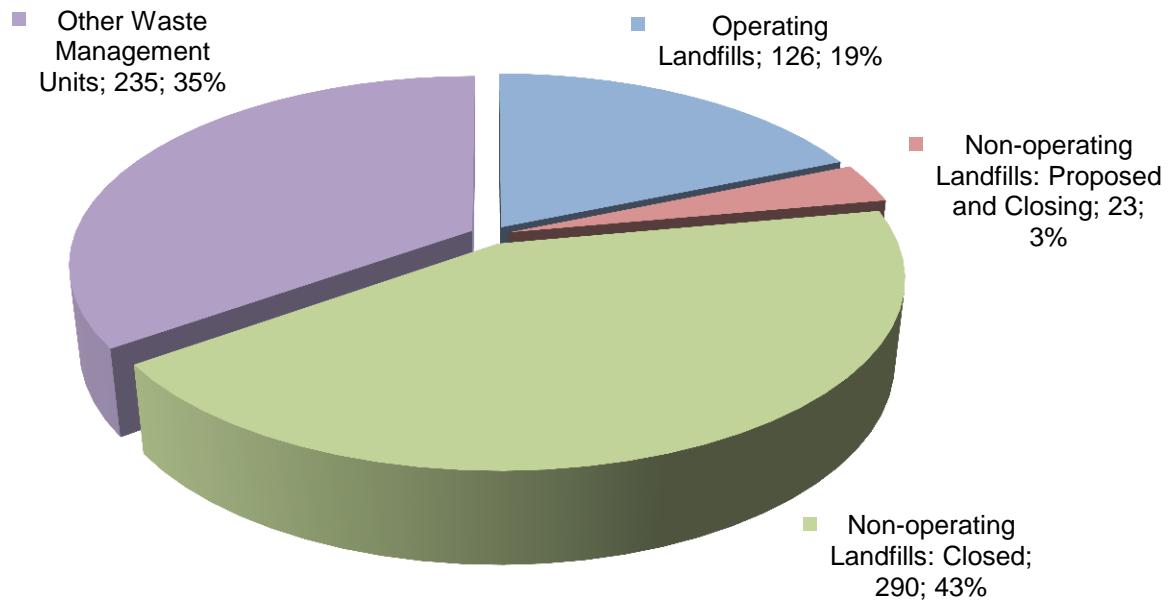
The Land Disposal Program carries out a wide range of regulatory activities, including the issuance of Waste Discharge Requirements (WDRs), technical report reviews, inspections, and facility closures. WDRs are the primary means of implementing regulations for protecting water quality at waste management facilities. WDRs impose limits and restrictions on the quality and quantity of waste, and specify facility-specific provisions, design and construction specifications, and monitoring requirements. Additionally, the Water Boards have enforcement authority over those discharges that affect waters of the state, authority which they exercise through tools such as Cease and Desist or Cleanup and Abatement Orders.

This report includes an overview of the Land Disposal Program, and presents a cost analysis of tasks required to regulate water quality at these facilities. The report concludes with a discussion of results and an overview of efficiency initiatives being implemented in the Land Disposal Program. Appendix A provides a glossary of terms used throughout the document.

## 1.1. FACILITY DESCRIPTIONS

The Water Boards' Land Disposal Program is currently responsible for regulating 439 active landfills and 235 other waste management facilities that are permitted under WDRs. Statewide, there are approximately 1,600 legacy landfills as described in Section 1.1.3. Figure 1 provides a visual representation of the distribution of active landfills and other waste management units in the Land Disposal Program.

**Figure 1. Current Distribution of Active Landfills and Other Waste Management Facilities in the Land Disposal Program**



### 1.1.1. ACTIVE LANDFILLS

Active landfills are defined as waste management facilities that currently accept or have accepted waste in the past for the purposes of disposal, and as a result pose a potential threat to ground and surface water quality. Active landfills are classified according to operational status, either operating or non-operating.

#### **OPERATING LANDFILLS**

Operating landfills are facilities that accept waste for disposal. There are currently 126 operating landfills in the Land Disposal Program. These facilities typically involve complex operations with a high risk of impacting water quality. Operating landfills pose a risk to surface and ground water quality through the generation of leachate and/ or production of landfill gas.

## **NON-OPERATING LANDFILLS**

Non-operating landfills do not currently accept waste for disposal. There are currently over 313 permitted non-operating landfills. These landfills are categorized as proposed, closing, or closed. With the exception of proposed landfills, non-operating landfills may continue to pose the same threat to water quality as operating landfills. Consequently, non-operating landfills are required to be monitored and regulated until the waste within the landfill no longer constitutes a threat to water quality. Non-operating landfill categories are defined as follows:

**Proposed** landfills are new landfill development projects. These active landfills are classified as “non-operating” until they transition to “operating” when they begin to accept waste. It is critical for new and expanding landfills to be designed with systems or structures engineered to prevent releases of waste constituents to water once the landfill begins to accept waste.

**Closing** landfills are those facilities in the process of formally closing under Title 27 for any of the following conditions: a) the landfill is no longer accepting waste; b) the landfill has reached capacity; or c) the landfill is ordered to close under a mandatory closure order. The formal closure process may be completed in a few months or take several years, based on the size and complexity of the landfill.

**Closed** landfills are those facilities that have completed the formal closure process in accordance with applicable statutes, regulations, and local ordinances in effect at the time. Post closure maintenance at closed landfills includes monitoring waste constituents and maintaining the integrity of the landfill cover. Post closure maintenance activities continue for a minimum of 30 years, and until the waste constituents no longer pose a threat to water quality.

### **1.1.2. OTHER WASTE MANAGEMENT FACILITIES**

There are currently 235 other waste management facilities regulated under the Land Disposal Program. Other waste management facilities include waste piles, surface impoundments, land treatment units, and mines. Waste piles consist of non-containerized, bulk dry solid waste which is piled for treatment or storage on an engineered liner system to prevent the waste from contacting the underlying land surface. Surface impoundments are topographic depressions, excavations, or diked areas designated to contain liquid wastes or wastes containing free liquids (e.g. wastewater ponds).

Land treatment units are areas where liquid and solid waste is discharged and incorporated into soil for degradation, transformation, or immobilization within the treatment zone. Land treatment units become disposal units if wastes remain after closure.

Table 1 provides an overview of the various types of active landfills and other waste management facilities in the Land Disposal Program, and the type of order used to regulate facilities in each category.



**Table 1. Overview of Active Landfills and Other Waste Management Facilities in the Land Disposal Program**

FACILITY TYPE	DESCRIPTION	NUMBER OF FACILITIES	CURRENT REGULATORY ORDERS*
<b>ACTIVE LANDFILLS</b>	<b>Operating Landfills</b>	<b>126</b>	WDRs
	<b>Non-operating Landfills</b>	<b>313</b>	
	• <b>Proposed</b> New or existing landfills undergoing significant modifications	3	WDRs
	• <b>Closing</b> No waste accepted Closure cover not complete	20	WDRs
• <b>Closed</b> Has closure cover, in post-closure status	290	WDRs	
<b>OTHER</b>	<b>Other Waste Management Facilities</b>	<b>235</b>	WDRs
	Includes waste piles, surface impoundments, land treatment units, and mines		Waivers, general WDRs, other enforcement orders

\*Pursuant to Water Code sections 13172, 13226, 13227, 13260, 13263, 13269, 13273, and 13383; Public Resources Code section 48000; and Title 27.

**1.1.3. LEGACY LANDFILLS**

In 1984, the State Water Board’s regulations were revised to include provisions that were more protective of groundwater impacts (i.e. liners, covers, and leachate collection systems) from landfills and other waste management units. The revised regulations applied to facilities that accepted waste on or after November 27, 1984.

Legacy landfills are approximately 1600 waste management units that were closed, abandoned, or inactive prior to November 27, 1984. Legacy landfills include illegal landfills, burn dumps, ranch dumps, and trench fills.

Most of the legacy landfills are not currently permitted by the State Water Board; a few are regulated under waivers, general WDRs, or other enforcement orders. Due to resource constraints and the resulting need to prioritize program tasks, there are limited staff resources to support characterizing, cleaning, or closing these facilities. Consequently, these facilities are currently managed on a case-by-case basis. An investigation is typically initiated by another regulatory agency, encountered as part of a new development, or when it is discovered as a pollutant source. If monitoring data indicates impairment, the Water Boards take regulatory action to protect water quality.

**1.2. THREATS TO WATER QUALITY**

The level of threat from active landfills and other waste management facilities depends on factors such as site conditions, maintenance practices, deterioration of structures, and the type and concentration of contaminants in the waste stream. Regional Water Board staff report that, on average statewide, approximately 40 percent of active landfills and more than 20 percent of

other waste management units are currently in corrective action for releases of waste constituents. The following are examples of incidents and releases that resulted in Regional Board enforcement actions.

In 2003, a series of structural failures at an active, operating landfill in southern California caused the release of thousands of gallons of leachate, and resulted in closure of the facility. The failures were attributed to engineering errors, poor construction practices, and lack of regular maintenance. Regional Board staff worked with facility owners to implement requirements for water testing of nearby wells, develop cleanup and abatement plans, and assign corrective actions. The landfill has since re-opened.

In 2004, waste constituents in landfill gas and leachate migrated into groundwater at an active, operating landfill in northern California, and resulted in closure of the facility. The release was linked to a design flaw that caused several breaches in the landfill liner. Regional Board staff responded by implementing requirements for cleanup and corrective actions. The landfill has since re-opened.

In 2005, leachate overflow at an active operating landfill in southern California released waste constituents into a nearby river tributary. Subsequent leachate buildup caused deformation and seepage through the liner. The Water Board issued notices of violation and worked with the discharger to initiate corrective action. The 2005 failure was attributed to possible design errors, product quality issues, or construction deficiencies. In 2010, several linear cracks were discovered along a 1,000-foot section of the same landfill. The cracks were investigated and repaired before additional damage occurred. Additional monitoring devices and protocols have been initiated to identify future cracking.

In 2012, more than 100,000 cubic yards of waste were removed from low-lying areas of an active, non-operating, unlined landfill in Central California, as part of an effort to mitigate contaminated groundwater that had threatened to impact nearby domestic water wells and the community's municipal well for several years. The waste removal operation was a response to a Regional Board enforcement action. The landfill owners had been cited multiple times for releases of landfill gas and waste constituents including volatile organic compounds, metals, and dissolved solids. The landfill owner attempted to avoid responsibility for the groundwater contamination, and delayed compliance with cleanup orders for several years until the Regional Water Board initiated enforcement and civil liability actions.

Legacy landfills pose a threat to water quality because they are uncharacterized and unlined. Due to existing resource constraints, priority is not given to characterizing legacy landfills.

### **1.3. LAND DISPOSAL PROGRAM FUNDING**

The Land Disposal Program is funded through two special fund accounts: the Integrated Waste Management Account (IWMA) and the Waste Discharge Permit Fund (WDPF). Both funds are supported by fees paid by waste management facility owners or operators who are issued a permit. No funding is provided from the state's General Fund. In Fiscal Year 2011-2012, the total Land Disposal Program expenditures were \$10.6 million.

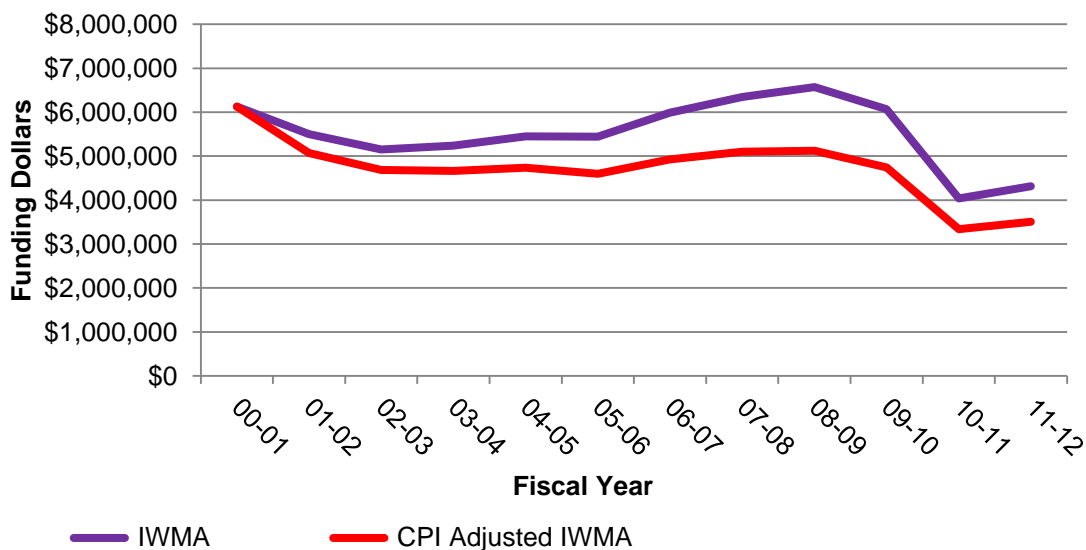
### 1.3.1. INTEGRATED WASTE MANAGEMENT ACCOUNT

The IWMA was created by the California Integrated Waste Management Act of 1989. The act provided that state planning, implementation, and operating costs to regulate solid waste are funded by a fee collected for every ton of waste disposed at operating landfills that receive more than five tons of waste per day. These fees are collected by the State Board of Equalization. Approximately ten percent of the annual fees collected through the IWMA are allocated to the State Water Board to regulate active landfills for water quality.

Since the IWMA allocation is based on the amount of waste disposed at landfills instead of a fixed value, the allocation is subject to fluctuation from diversion and recycling activities, economic conditions, and other external factors. As more waste is recycled or diverted, less waste goes into landfills, resulting in fewer fees collected.

Figure 2 shows how economic conditions have affected the actual value of funding since 2000. During the construction growth of 2006 through 2007, more waste was deposited into landfills. Beginning in 2008, construction began to slow down along with the state economy, which resulted in a decrease of waste disposal. The red line shows the Consumer Price Index (CPI)-adjusted value of allocated funding from the IWMA.<sup>2</sup>

**Figure 2. Land Disposal Program Funding from the Integrated Waste Management Account**



### 1.3.2. WASTE DISCHARGE PERMIT FUND

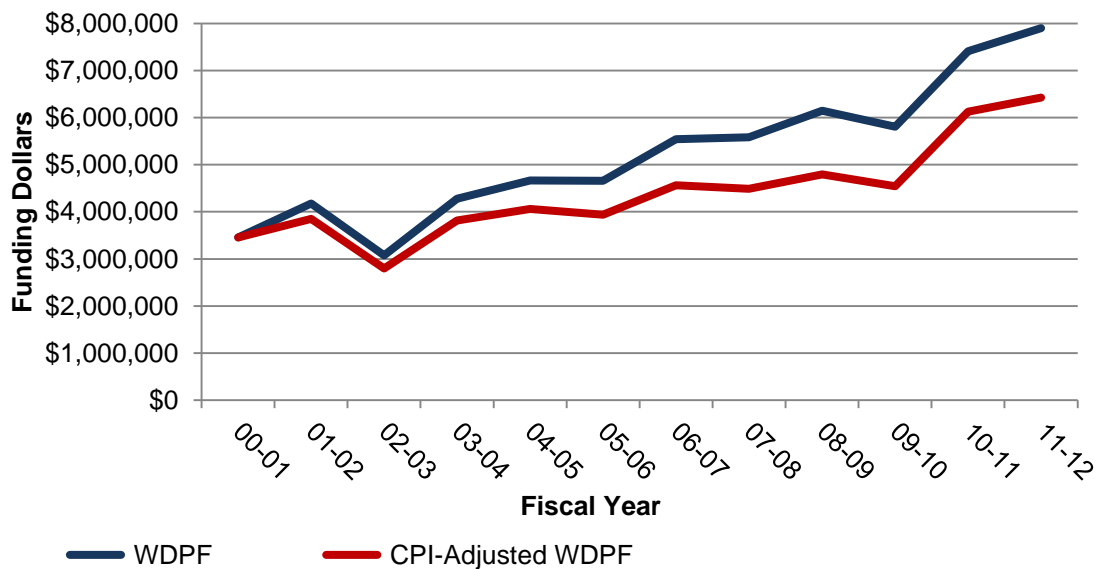
The California Water Code requires each person who discharges waste or proposes to discharge waste that could affect the quality of the waters of the state to file a report of waste discharge (ROWD) with the appropriate Regional Board and to pay an annual fee set by the

<sup>2</sup> CPI Detailed Report Tables, 1998-2010. U.S. Bureau of Labor Statistics. <http://www.bls.gov/cpi/tables.htm>.

State Water Board (Wat. Code, § 13260). This annual fee goes into the WDPF. Statute also states that the total revenue collected from the annual fees must equal the revenue levels set by the Legislature in the annual Budget Act, and requires the State Water Board to adjust the fee schedule so WDPF revenue levels are met. The statute requires the State Water Board to adopt, by emergency regulations, an annual schedule of fees for persons discharging waste to the waters of the state, and states that the adoption of these fees and fee amendments is necessary for the “immediate preservation of the public peace, health, safety, and general welfare” (Wat. Code, § 13260). Landfills and other waste management facilities regulated under WDRs pay annual fees to the WDPF.

WDPF revenue allocated to the Land Disposal Program supports a combination of different types of costs, including direct program, operating equipment, indirect (e.g. administration, personnel, management, and information technology), and other program costs. The fees may also include direct costs recoverable for the issuance, administration, reviewing, monitoring, and enforcement of WDRs or waivers. The fees collected are deposited in the WDPF for use by the State Water Board upon appropriation by the legislature. Figure 3 below shows the trend of Land Disposal Program funding from the WDPF.

**Figure 3. Land Disposal Program Funding from the Waste Discharge Permit Fund**



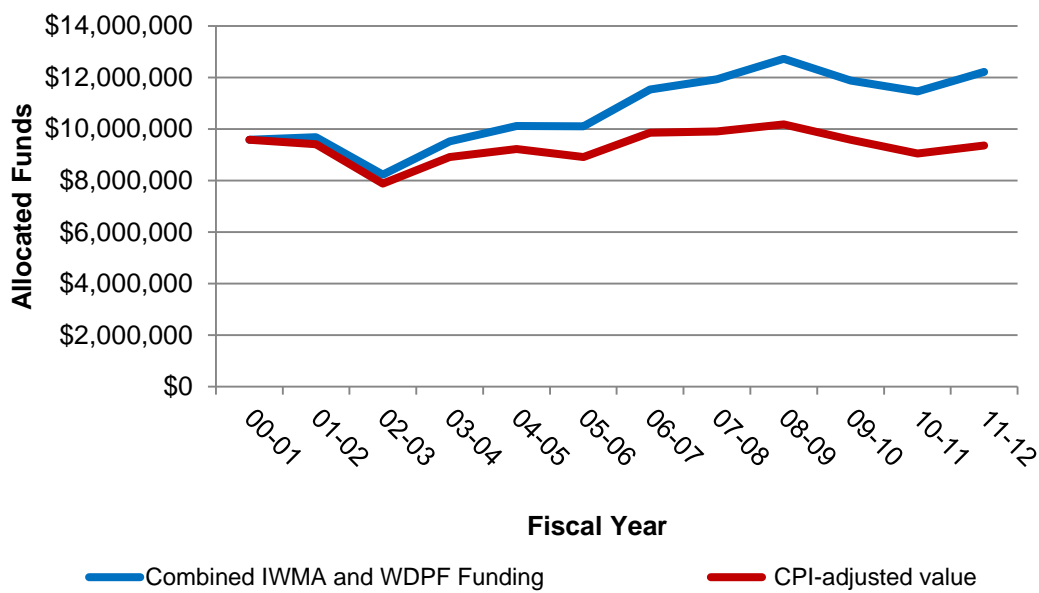
**1.3.3. CHANGES IN IWMA AND WDPF ALLOCATION**

Prior to 2010, the State Water Board allowed annual WDPF fees to be waived for operating landfills that accepted over five tons of waste per day and paid fees into the IWMA (Wat. Code, § 13260(d)(3)). The statute contained the condition that the annual fee may only be waived so long as the amount provided from the IWMA was sufficient to fund the Water Boards’ programs.

Beginning in 2008, there was an approximately \$2 million decrease in funding from the IWMA to the Land Disposal program due to a combination of economic conditions and increased diversion of waste from landfills to recycling facilities. In 2010, the legislature responded to the shortfall by authorizing a \$2 million increase in funds allocated from the WDPF to the Land Disposal Program, and discontinued the waiver of annual WDPF fees for landfills paying IWMA fees.

Although Figure 3 above appears to represent a significant increase in WDPF funding for the program, Figure 4 shows that the increase in WDPF funding offset the decrease provided from the IWMA account.

**Figure 4. Land Disposal Program Funding – IWMA and WDPF Combined**



## **2. COST ANALYSIS**

The Land Disposal Program staff performed a cost analysis to estimate the cost of regulating active landfills for water quality. Because the Land Disposal Program also regulates other types of waste management facilities, the analysis was extended to evaluate the costs of regulating active landfills and other waste management facilities.

The cost analysis was limited to the 674 facilities (439 active landfills and 235 other waste management facilities) that are currently permitted under WDRs.

### **2.1. METHODOLOGY**

The cost analysis was conducted utilizing the methodology outlined below. This methodology, along with the values and parameters used in the cost analysis, were developed in consultation with the Land Disposal Program managers.

- Identifying core regulatory tasks the Water Boards are required to perform based on statute, regulation, and policies;
- Categorizing facilities according to established threat to water quality (TTWQ) ratings;
- Developing unit cost factors (the average amount of time it takes to perform each task);
- Establishing an annual task frequency;
- Projecting the annual number of actions (occurrences of each task)
- Determining the annual workload (the total number of hours needed to perform each task); and
- Calculating the cost of core regulatory tasks.

#### **2.1.1. IDENTIFYING CORE REGULATORY TASKS**

The Land Disposal Program's regulatory tasks are grouped into seven categories: permitting, inspections, report reviews, closure, investigations/complaints/ enforcement, case management, and program management/support. The analysis was based on tasks that are tracked by the State Water Board to evaluate program performance.

Detailed descriptions of the core regulatory tasks associated with each of the above categories are provided in Tables 2 through 8 on the following pages.

**Permitting:** The State Water Board issues WDRs for any new facility or when there is a change to an existing facility’s discharge. WDRs list findings, specifications, and provisions related to activities at disposal facilities, and may include a Monitoring and Reporting Program (MRP) component that lists waste constituents and specifies requirements for sampling locations and intervals.

**Table 2. Permitting**

Permitting Tasks	ACTIVE LANDFILLS			OTHER
	Operating	Non-Operating		
		Closing	Closed	
<input type="checkbox"/> Review, comment and approve ROWD, pertinent regulatory documents, monitoring reports, and other technical reports as required in Title 27.	X	X	X	X
<input type="checkbox"/> CEQA and Environmental Impact Report documents for expansions, changes in facility operations, changes in waste acceptance criteria, closure, and changes to monitoring programs.	X	X	X	X
<input type="checkbox"/> Engineered alternative proposals such as liner and cover system designs, daily cover materials, geosynthetic materials, and gas to energy options.	X	X	X	X
<input type="checkbox"/> Seismic hazard analysis and design reports, stability analyses, facility geology and soil conditions, groundwater characterization, and characterization methods.	X	X	X	X
<input type="checkbox"/> Emergency response plans, such as flood control plans, drainage and erosion control plans.	X	X	X	X
<input type="checkbox"/> Facility structural and operational features including leachate collection, transport and treatment systems, landfill gas systems, groundwater monitoring program, and geotechnical monitoring program.	X	X	X	X
<input type="checkbox"/> Construction-related issues , technical specifications and Construction Quality Assurance reports.	X	X	X	X
<input type="checkbox"/> Review pertinent regulations for facility-specific application and inclusion in the WDRs or Waiver.	X	X	X	X
<input type="checkbox"/> Review, comment, and approve Closure and Post-Closure Plans and proposals for Post-Closure land use.	X	X	X	X
<input type="checkbox"/> Review, comment, and approve Corrective Action, Closure, and Post-Closure Financial Assurance estimates.	X	X	X	X
<input type="checkbox"/> Review pertinent regulations for facility-specific conditions under which WDR is not required.	X	X	X	X
<input type="checkbox"/> Review and evaluate periodic Monitoring Reports and any proposed monitoring changes and revise WDR or MRP	X	X	X	X
<input type="checkbox"/> Coordinate, prepare for, and attend meetings.	X	X	X	X
<input type="checkbox"/> Meet with consultants, dischargers, lead agencies, and other agencies for coordination and technical meetings. Coordinate presentations and comments for public meetings.	X	X	X	
<input type="checkbox"/> Present WDRs or Waivers for adoption by the Regional Board at a public meeting.	X	X	X	X
<input type="checkbox"/> Maintain electronic and paper copies of entire facility records.	X	X	X	X
<input type="checkbox"/> Compile and submit the administrative record to the State Water Board if the WDRs or Waivers are appealed (petition).	X	X	X	

**Inspections:** Regional Board staff conducts routine inspections to observe facility conditions and confirm compliance with regulatory orders. The Administrative Procedures Manual describes the level and minimum frequency of inspections depending on each facility’s complexity category.

**Table 3. Inspections**

Inspection Tasks	LANDFILLS			OTHER
	Operating	Non-Operating		
		Closing	Closed	
<input type="checkbox"/> Review the WDRs, MRP, and pertinent technical documents or regulations prior to inspection visits.	X	X	X	X
<input type="checkbox"/> Perform scheduled compliance inspections:				
<input type="checkbox"/> Typically 2 to 3 compliance inspections per year for operating facilities.	X	X		X
<input type="checkbox"/> Typically 1 compliance inspection per year for closed facilities.			X	X
<input type="checkbox"/> Inspection may include sampling soil and/or groundwater and laboratory analysis.	X	X	X	X
<input type="checkbox"/> Address non-compliance issues:				
<input type="checkbox"/> Meet with discharger and senior staff if necessary.	X	X	X	X
<input type="checkbox"/> Re-inspect following and during resolution of non-compliance issues.	X	X	X	X
<input type="checkbox"/> Inspect facilities prior to facility development and several times during construction (liner, leachate system, grading, etc.) for expansion. Final inspection is required before waste is placed on new liner.	X	X		X
<input type="checkbox"/> Inspect facilities before, during, and after repairs.	X	X	X	X
<input type="checkbox"/> Inspect facilities for pre- and post-rainy season conditions.	X	X		X
<input type="checkbox"/> Inspect facilities prior to and during closure, and during and after final cover construction.	X	X	X	X
<input type="checkbox"/> Inspect facilities during post-closure (waste consolidation, cover deterioration or erosion, etc.) at least once per year.			X	X
<input type="checkbox"/> Inspect facility in response to complaints or request.	X	X	X	X
<input type="checkbox"/> Upload inspection reports, notices, compliance letters, etc.; enter pertinent data in databases.	X	X	X	X

**Report Reviews:** To verify compliance with the WDRs, Regional Board staff review a wide range of reports that include routine water quality monitoring reports, landfill settlement reports, monitoring reports, engineering feasibility studies, corrective action plans, design reports, and operations plans. Water quality monitoring reports present the results of monitoring as prescribed in the facilities’ WDRs. Data from monitoring is compiled and analyzed as specified in the WDRs.

**Table 4. Report Reviews**

Report Review Tasks	LANDFILLS			OTHER
	Operating	Non-Operating		
		Closing	Closed	
<input type="checkbox"/> Review groundwater monitoring reports. Includes evaluation of statistical analysis methods and results to confirm compliance with WDRs. Typically groundwater monitoring reports are reviewed quarterly or semi-annually, and annually.	X	X	X	X
<input type="checkbox"/> Review and approve design plans and reports (see permitting section) for proposed changes in facility operations or containment structures.	X	X		X
<input type="checkbox"/> Review other technical construction-related reports, including liner specifications, monitoring well design plans, slope monitoring plans, grading plans, and reports.	X	X	X	X
<input type="checkbox"/> Review facility non-groundwater Monitoring Reports, including drainage and erosion control system reports, spill notification reports and responses, subsurface fire reports, post-rain reports, non-permitted waste disposal reports and follow-up, and landfill gas monitoring reports.	X	X	X	X
<input type="checkbox"/> Review and respond to proposals for non-standard waste disposal such as petroleum-contaminated soil, paint filter disposal, dead animal disposal, etc.	X	X	X	X
<input type="checkbox"/> Review corrective action system reports to track water quality improvements or WDR compliance.	X	X	X	X
<input type="checkbox"/> Review and update Financial Assurance documents.	X	X	X	X



**Closure:** The Regional Board staff develops closure WDRs that set forth requirements for monitoring and maintenance at closed landfills until the landfill no longer poses a threat to water quality. Regional Board involvement continues in accordance to threat and complexity as described in the Permitting section above.

**Table 5. Closure**

Closure Tasks	LANDFILLS			OTHER
	Operating	Non-Operating		
		Closing	Closed	
<b>Permitting</b>				
<input type="checkbox"/> Review, evaluate, comment, and approve or reject Final Closure Plan.	X	X	X	X
<input type="checkbox"/> Review, evaluate, comment, and approve design plans, and proposed monitoring program.		X	X	X
<input type="checkbox"/> Review, evaluate, and respond to alternate closure proposals, and engineered alternatives (evapotranspiration covers, solar-cell covers, turf covers, etc.).		X	X	X
<input type="checkbox"/> Prepare Closure WDRs and present to Regional Board for adoption in public meeting.	X	X	X	X
<b>Report Reviews</b>				
<input type="checkbox"/> Review and approve deed restrictions.		X	X	X
<input type="checkbox"/> Review and approve proposed post-closure land-use changes (sports fields, commercial structures, airfields, etc.).		X	X	X
<input type="checkbox"/> Review and approve groundwater, leachate, and landfill gas monitoring plans.		X	X	X
<input type="checkbox"/> Review and approve closure and post-closure financial assurance estimates and plans.	X	X	X	X
<b>Inspections</b>				
<input type="checkbox"/> Inspect the facility prior to closure, during closure construction, throughout the closure process, and after the installation of the final cover.	X	X	X	X
<input type="checkbox"/> Attend construction field meetings and inspections; review daily construction reports.		X	X	X
<input type="checkbox"/> Review and respond to Closure Construction / final construction/as-built documents.		X	X	X
<input type="checkbox"/> Address development-related construction issues (irrigation systems, landscaping, building foundations); waste consolidation, debris, traffic issues, and more extensive closure requirements.		X	X	X
<b>Investigation / Complaints / Enforcement</b>				
<input type="checkbox"/> Issue Notices of Violation, 13267 Orders, and Corrective Action Orders for non-compliance and releases.		X	X	X
<b>Case Management</b>				
<input type="checkbox"/> Enter, maintain, retrieve, and evaluate data; download pertinent documents (databases).		X	X	X
<input type="checkbox"/> Coordinate and prepare for public participation, comment and review.		X		X
<input type="checkbox"/> Respond to public or agency questions and comments about land use.		X	X	X
<input type="checkbox"/> Maintain project files (the administrative record).	X	X	X	X
<input type="checkbox"/> Submit the entire administrative record to the State Water Board for review if the proposed closure project is appealed.	X	X		X

**Investigations/Complaints/Enforcement:** Investigations may be initiated by citizen complaints, system failures, observed release events, monitoring results that indicate a release, reports not filed, or other evidence of non-compliance. All facilities are subject to investigation to ensure compliance with regulations.

**Table 6. Investigations/Complaints/Enforcement**

Investigations / Complaints / Enforcement Tasks	LANDFILLS			OTHER
	Operating	Non-Operating		
		Closing	Closed	
<input type="checkbox"/> Record and prepare complaint (releases, illegal disposal, odor and dust control, etc.).	X	X	X	X
<input type="checkbox"/> Conduct complaint investigation (phone calls, file review, facility inspection and reports, etc.).	X	X	X	X
<input type="checkbox"/> Review facility investigation / remediation plans.	X	X	X	X
<input type="checkbox"/> Conduct non-compliance follow-up facility inspections; prepare inspection reports and letters.	X	X	X	X
<input type="checkbox"/> Coordinate with Office of Enforcement and outside enforcement agencies.	X	X	X	X
<input type="checkbox"/> Initiate informal enforcement (conversation, staff enforcement letters, etc.).	X	X	X	X
<input type="checkbox"/> Prepare formal notice enforcement letter or field Notice of Violation.	X	X	X	X
<input type="checkbox"/> Prepare formal Enforcement Orders to be issued by Executive Officer or Regional Board.	X	X	X	X
<input type="checkbox"/> Review reports and correspondence related to enforcement orders.	X	X	X	X
<input type="checkbox"/> Issue formal Order with time schedule for compliance.	X	X	X	X
<input type="checkbox"/> Work with other agencies to support enforcement actions (District Attorney, Attorney General, etc.).	X	X	X	X
<input type="checkbox"/> Provide information or take action related to third party lawsuits.	X	X	X	X

**Case Management:** Regional Board staff provides case management by assisting dischargers with all aspects of facility development, expansion, and closure. Staff also works with dischargers to resolve facility compliance issues and address appeals and litigation.

**Table 7. Case Management**

Case Management Tasks	LANDFILLS			OTHER
	Operating	Non-Operating		
		Closing	Closed	
<input type="checkbox"/> Assist dischargers with all aspects of facility development/expansion/closure including location, permitting, operation parameters, defining acceptable waste, closure requirements, etc.	X	X	X	X
<input type="checkbox"/> Attend regular coordination meetings with landfill owners/operators for case updates.	X	X	X	X
<input type="checkbox"/> Review and approve soil acceptance criteria.	X	X	X	X
<input type="checkbox"/> Respond to facility-specific or general public/discharger/regulator inquiries and requests for information.	X	X	X	X
<input type="checkbox"/> Resolve facility compliance issues (gas condensate spill, leachate seeps, slope stability, drainage and erosion control, cover repair, etc.).	X	X	X	X
<input type="checkbox"/> Maintain project files (electronic and paper copies).	X	X	X	X
<input type="checkbox"/> Enter, maintain, confirm, and retrieve project data (databases).	X	X	X	X
<b>Appeals and Litigation:</b>				
<input type="checkbox"/> Prepare written response to petitioner.	X	X	X	X
<input type="checkbox"/> Compile and submit copies of administrative record for State Water Board review.	X	X	X	X
<input type="checkbox"/> Review and evaluate administrative record and prepare written response to petitioner's contentions.	X	X	X	X
<input type="checkbox"/> Provide response and recommendations for State Water Board action.	X	X	X	X

**Program Management and Support:** Program management refers to tasks related to administration and support of the Land Disposal Program, and is not specific to an individual waste management unit or facility.

**Table 8. Program Management and Support**

Program Management and Support Tasks	LANDFILLS			OTHER
	Operating	Non-Operating		
		Closing	Closed	
<input type="checkbox"/> Review and develop budgets and staffing needs; track project time.	X	X	X	X
<input type="checkbox"/> Maintain databases: enter and update pertinent data, confirm accurate data, and download documents.	X	X	X	X
<input type="checkbox"/> Prepare, coordinate, and attend meetings. Some regularly scheduled meetings include technical and business meetings (Round Table meetings), public workshop meetings, management meetings, inter-agency meetings, and staff meetings.	X	X	X	X
<input type="checkbox"/> Perform other administrative tasks as needed (response to queries, communication, file management, developing and confirming work plans and project priorities, etc.).	X	X	X	X
<input type="checkbox"/> Analyze bills related to land disposal issues. Prepare reports to Legislature	X	X	X	X
<input type="checkbox"/> Consult with other Regional Boards about program issues or facility-specific issues.	X	X	X	X
<input type="checkbox"/> Prioritize workload; develop and track performance measures.	X	X	X	X
<input type="checkbox"/> Training	X	X	X	X

**2.1.2. CATEGORIZING FACILITIES**

Each of the facilities evaluated for the cost analysis has been assigned a threat to water quality (TTWQ) and complexity (CPLX) rating by the Regional Water Boards. The three levels of TTWQ are Category 1 for facilities with a high threat rating, Category 2 for a moderate threat rating, and Category 3 for a low threat rating.

The cost analysis categorized facilities according to established TTWQ ratings to obtain a reasonable estimate of both site-specific and overall effort required for the program. Appendix B provides descriptions of TTWQ and CPLX, and shows the distribution of active landfills and other waste management facilities by TTWQ category.

**2.1.3. DEVELOPING UNIT COST FACTORS**

A unit cost factor is the average amount of time in hours it takes to perform a specific task. The level of effort for each task depends on the type of work, operational status, amount and type of information to review, and compliance status. Land Disposal Program managers developed three levels of unit cost factors to represent the number of hours needed to complete a single occurrence of a task: high, medium, and low.

The unit cost factors were correlated to TTWQ categories under the assumption that facilities that pose the greatest threat also require the greatest level of effort to regulate. Thus, a high unit cost factor was applied to TTWQ Category 1 facilities; a medium unit cost factor was applied to TTWQ Category 2 facilities; and a low unit cost factor was applied to TTWQ Category 3 facilities. Appendix C lists unit cost factors for each core regulatory task used in the analysis.

#### **2.1.4. ESTABLISHING ANNUAL TASK FREQUENCY**

Task frequency is generally based on specified state and federal mandates. In many cases, however, the mandate simply directs the Water Boards to reasonably protect beneficial uses (Wat. Code, § 13050(h)). In these instances, the Water Boards have established minimum standards for critical tasks to meet the mandate of protecting water quality. The State Water Board *Administrative Procedures Manual* contains recommended levels or frequencies and TTWQ categories for some tasks.

Where no guidance exists or where the guidance is not reflective of current water quality needs, the cost analysis used historical data, past work plan records, or recommendations from Regional Board staff to determine task frequency. For example, enforcement actions are performed on an “as needed” basis; therefore, the cost analysis used records of past enforcement actions to estimate an annual frequency of enforcement tasks.

#### **2.1.5. PROJECTING THE ANNUAL NUMBER OF ACTIONS**

The number of actions for each task was projected, based on the total number of facilities and the frequency with which each task should be performed.

Where the annual task frequency was a numeric value, the cost analysis projected a workload for each TTWQ category based on calculated numeric values. For those tasks with narrative parameters such as “variable or “as needed” task frequency, the number of actions was established through a combination of reviewing regulatory requirements, consulting with program managers, and reviewing database records of past actions. The number of actions was distributed proportionally according to the number of facilities in the analysis.

Appendix D lists assumptions and data sources used to estimate annual frequency and number of actions for each core regulatory task.

#### **2.1.6. DETERMINING THE ANNUAL WORKLOAD**

The annual workload in hours for each TTWQ category was calculated by multiplying the corresponding number of facilities by the unit cost factor, the annual task frequency, and the number of actions.

The three spreadsheets provided in Appendix E show the parameters and values used to calculate the total annual workload for core regulatory tasks at active landfills, at other waste management units, and at active landfills and other waste management units altogether.

#### **2.1.7. CALCULATING TOTAL COSTS PER TASK**

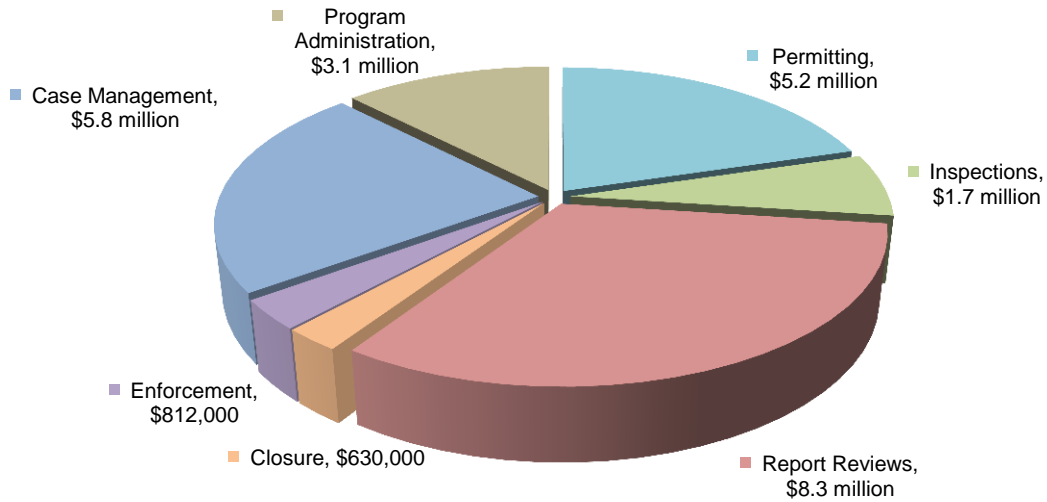
Based on Fiscal Year 2011-2012 actuals, average salary plus benefits per position was \$99,000 and average indirect costs per position were \$86,000, providing a total position cost of \$185,000.

Position cost was divided by 1,776 hours per position, which equals a cost per hour of \$104. The annual workload (hours) per task was multiplied by the position cost per hour to determine the cost of the program. Appendix E provides the cost analysis calculations.

## 2.2. RESULTS

Figure 4 shows the results of the cost analysis, presented as the estimated cost of each task category to implement the full program. Actual cost of any given facility may depend on current prioritization; changes to facility structures, operations, or monitoring programs; or corrective action status.

**Figure 5. Distribution of Required Regulatory Tasks by Cost**



### 3. CONCLUSIONS

At the current staffing levels, the Water Boards' Land Disposal Program prioritizes the work to be done, while also working through a significant backlog of permits, inspections, and report reviews. Each Regional Board prioritizes work based on threat to water quality, complexity, and level of activity at the facility.

Based on the results of this analysis, the cost of regulating the 439 active landfills would be approximately \$18.1 million. The other waste management facilities are an integral part of the Land Disposal Program, with the cost of regulating those facilities being approximately \$7.6 million. In total, the cost of regulating the 674 facilities currently permitted would be \$25.7 million. This would allow the Program to perform all the tasks required by statute, regulations, or policies.

In lieu of additional resources, Land Disposal Program staff continually seeks ways to streamline implementation of the regulatory requirements. For example, the following efficiency measures are currently being developed or are already in place:

- Expanding the requirement to submit compliance data, monitoring reports, correspondence, and engineering reports electronically, for increased accessibility, information sharing, and use in evaluations;
- Developing general WDRs to streamline permitting for those waste management facilities with similar characteristics or operations, e.g. composting facilities;
- Revising existing regulations and policies to streamline Water Board requirements, e.g. simplifying permit procedures for implementing corrective actions and adoption of WDRs;
- Conducting an internal program review to identify opportunities for increased efficiency, including an evaluation of the cost factors outlined in this report; and
- Monitoring performance as tracked by State Water Board and making programmatic adjustments as necessary.

## **APPENDICES**

Appendix A – Glossary of Terms

Appendix B – Threat to Water Quality and Complexity

Appendix C – Unit Cost Factors for Projecting Workload

Appendix D – Workload Estimates per Task

Appendix E – Cost Analysis Spreadsheets

## APPENDIX A – GLOSSARY OF TERMS

**Active Landfill** – includes any landfill that has the potential to impact surface water or groundwater quality.

**Administrative Procedures Manual** – a list of policies and procedures for the Water Boards. The Water Quality and Administrative chapters contain specific language that pertains to the Land Disposal Program.

**Annual Fees** – fees assessed to a person discharging or proposing to discharge waste that could affect the quality of the waters of the state, other than into a community sewer system. (Wat. Code, § 13260)

**Beneficial Uses** - potential uses of waters of the state to be protected against quality degradation. Beneficial uses include but are not limited to domestic, municipal, agricultural and industrial supply, power generation, recreation, aesthetic enjoyment, navigation, and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. (Wat. Code, § 13050)

**California Environmental Quality Act** – a statutory requirement that an agency must consider potential and significant environmental impacts of an activity. (<http://ceres.ca.gov/ceqa/more/faq.html>)

**Closed Abandoned and Inactive (CAI) Units** – waste management units that were closed, abandoned, or inactive prior to November 27, 1984. (Cal. Code Regs., tit. 27, § 20164)

**Closure** – the process during which a waste management unit, or portion thereof, that is no longer receiving waste is undergoing all operations necessary to prepare the unit for post-closure maintenance in accordance with an approved plan for closure, or partial final closure as appropriate. (Cal. Code Regs., tit. 27, § 20164)

**Cover Material** – soils/earthen materials or alternative materials used in covering compacted solid wastes in a disposal site. (Cal. Code Regs., tit. 27, § 20164)

**Core Regulatory Program** – Water Board programs whose activities support the functions of the Water Boards, including National Pollutant Discharge Elimination System (NPDES)-wastewater, NPDES-storm water, WDRs program, 401 Water Quality Certification, Underground Storage Tanks, and Site Cleanup programs. (Office of Resource Planning and Performance (ORPP) 2012 Resource Alignment report, page 33)

**Core Regulatory Tasks** – activities performed as part of the Water Boards' core business functions. Core regulatory tasks in the Land Disposal Program include permitting, inspections, report review, and enforcement. (ORPP 2012 Resource Alignment report, page 34; State Water Board's Final Report to the Legislature, entitled Core Regulatory Programs' Needs Analysis (2000), page 23)

**Discharger** – any person who discharges waste that could affect the quality of waters of the state, and includes any person who owns a waste management unit or who is responsible for the operation of a unit. (Cal. Code Regs., tit. 27, § 20164)

**Financial Assurance** – a fund established by a discharger for closure, post-closure maintenance, and corrective action to ensure closure and post closure maintenance or



corrective action of each classified unit in accordance with an approved plan. (Cal. Code Regs., tit. 27, § 20950)

**Fee Schedule** –the basis for annual fees for the Water Boards. The fee schedule is updated each fiscal year. (Cal. Code Regs. tit. 23, § 2200)

**General WDRs** – a regulatory order that pertains to a group of waste management units that employ similar operations, waste types, and treatment standards. (Wat. Code, § 13263, subd. (i))

**GeoTracker** – an internet-accessible database system used by the Water Boards and local agencies to track and archive compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from underground storage tanks. GeoTracker consists of a relational database, on-line compliance reporting features, a geographical information system (GIS) interface, and other features utilized to input, manage, or access compliance and regulatory tracking data. (Cal. Code Regs., tit. 23, §§ 3891–3895)

**Groundwater** – water below the land surface that is at or above atmospheric pressure. (Cal. Code Regs., tit. 27, § 20164)

**Landfill** – a waste management unit at which waste is discharged in or on land for disposal. (Cal. Code Regs., tit. 27, § 20164)

**Landfill Facility** – a waste management facility that contains one or more waste management units, including landfill cells, surface impoundment, waste pile, land treatment unit, injection well, or soil amendments. (Cal. Code Regs., tit. 27, § 20164)

**Land Treatment Unit** – a waste management unit at which liquid and solid waste is discharged to or incorporated into soil for degradation, transformation, or immobilization within the treatment zone. Such units are disposal units if the waste will remain after closure. (Cal. Code Regs., tit. 27, § 20164)

**Leachate** – any liquid formed by drainage of liquids from waste or the percolation of liquid through waste, including any dissolved or suspended constituents extracted from waste. (Cal. Code Regs., tit. 27, § 20164)

**Legacy Landfills** – waste management units that were closed, abandoned, or inactive prior to November 27, 1984. (see CAI Units). (Cal. Code Regs., tit. 27, § 20080, subd. (g); § 20164)

**Liner** – a continuous layer of natural or artificial material, a continuous membrane of flexible artificial material, or a continuous composite layer consisting of a membrane of flexible artificial material directly overlying a layer of engineered natural material. The liner is installed beneath or on the sides of a waste management unit and acts as a barrier to both vertical or lateral fluid movement (Cal. Code Regs., tit. 27, § 20164)

**Municipal Solid Waste Landfill** – a discrete area of land or an excavation that receives household waste and that is not a land application unit, surface impoundment, injection well, or waste pile. A landfill unit may also receive other types of Resource Conservation and Recovery Act Subtitle D wastes, such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. A landfill unit may be publicly or privately owned, and may be a new unit, an existing unit, or a lateral expansion. A construction and demolition landfill that receives residential lead-based paint waste and does

not receive any other household waste is not a municipal solid waste landfill unit. (40 C.F.R., § 258 (1996))

**Operator** – the person(s) responsible for the overall operation of a facility or part of a facility. (40 C.F.R., § 258 (1996))

**Owner** – the person(s) who owns a facility or part of a facility. (40 C.F.R. § 258 (1996))

**Performance Report** – an annual report that describes the performance of the Water Boards in implementing its programs. To protect water resources, the Water Boards set water quality standards in plans and policies, monitor and assess the state's waters, regulate pollutant sources, enforce compliance with regulatory requirements, provide funding for water quality protection projects, and allocate water. (ORPP Performance Report Fact Sheet, Fiscal Year 2011-2012)

**Post Closure Maintenance** – all activities undertaken at a closed waste management unit to maintain the integrity of containment features and to monitor compliance with applicable performance standards. (Cal. Code Regs., tit. 27, § 20164)

**Post Closure Maintenance Period** – the period after closure of a waste management unit during which the waste in the unit could have an adverse effect on the quality of the waters of the state. (Cal. Code Regs., tit. 27, § 20164)

**Report of Waste Discharge** – a document filed with the Regional Board containing information relative to any material change or proposed change in character, location, or volume of a discharge. (Wat. Code, § 13260)

**Surface Impoundment** – a waste management unit that is a natural topographic depression, excavation, or diked area, which is designed to contain liquid wastes or wastes containing free liquids, and which is not an injection well. (Cal. Code Regs., tit. 27, § 20164)

**Solid Waste Assessment Test** – a requirement in the Water Code for evaluation of all solid waste disposal sites based on the threat they pose to water quality. (Wat. Code, § 13273)

**Threat to Water Quality (TTWQ)** – a rating used to determine the relative threat of discharges of waste that could cause the degradation, impairment, or long-term loss of a designated beneficial use of the receiving water. (Cal. Code Regs., tit. 23, § 2200)

**Waiver** – a regulatory order that may be issued in lieu of WDRs to a disposal site that is in compliance with its Basin Plan. Requirements for WDRs may be waived by the Regional Board if it determines that the waiver is consistent with any applicable water quality control plan and is in the public interest. (Wat. Code, § 13269)

**Waste Discharge Requirements (WDRs)** – a formal set of requirements prescribed and adopted by the Regional Boards as to the nature of the proposed discharge, existing discharge, or material change in an existing discharge, with relation to conditions existing in the disposal area or receiving waters up, or into which, the discharge is proposed. The requirements implement any relevant water quality control plans that have been adopted, and take into consideration the beneficial uses. (Wat. Code, § 13263; Cal. Code Regs., tit. 27, § 21720).

**Waste Management Facility** – the entire parcel of property at which waste discharge operations are conducted. Such a facility may include one or more waste management units (Cal. Code Regs., tit. 27, § 20164).

**Waste Management Unit** – an area of land, or a portion of a waste management facility, at which waste is discharged. The term includes containment features and ancillary features for precipitation and drainage control and for monitoring (Cal. Code Regs., tit. 27, § 20164).

**Waste Pile** - a waste management unit at which non-containerized, bulk, dry solid waste is discharged and piled for treatment or storage on an engineered liner system that prevents the waste from contacting the underlying land surface. The term does not include a unit of similar construction used for waste disposal (such a unit would be a landfill) (Cal. Code Regs., tit. 27, § 20164).

**Wastes** – includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal (Wat. Code, § 13050).

**Waters of the State** – any surface water or groundwater, including saline waters, within the boundaries of the state (Wat. Code, § 13050).

**Waste Discharge Permit Fund** – a fund created under Water Code section 13260 to receive and hold fees paid by a person or persons who files a report of waste discharge (Wat. Code, § 13260).

**APPENDIX B – THREAT TO WATER QUALITY AND COMPLEXITY**

**THREAT TO WATER QUALITY**

Category “1” – Those discharges of waste that could cause the long-term loss of a designated beneficial use of the receiving water. Examples of long-term loss of a beneficial use include the loss of drinking water supply, the closure of an area used for water contact recreation, or the posting of an area used for spawning or growth of aquatic resources, including shellfish and migratory fish.

Category “2” – Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance.

Category “3” – Those discharges of waste that could degrade water quality without violating water quality objectives, or could cause a minor impairment of designated beneficial uses as compared with Category 1 and Category 2.

**COMPLEXITY**

Category “A” – Any discharge of toxic wastes, any small volume discharge containing toxic waste or having numerous discharge points or groundwater monitoring, or any Class 1 waste management unit.

Category “B” – Any discharger not included in Category A that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal), or any Class 2 or Class 3 waste management units.

Category “C” – Any discharger for which waste discharge requirements have been prescribed pursuant to section 13263 of the Water Code not included in Category A or Category B as described above. Included are dischargers having no waste treatment systems or that must comply with best management practices, dischargers having passive treatment and disposal systems, or dischargers having waste storage systems with land disposal.

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<sup>6</sup> In assigning a category for TTWQ, a regional board should consider duration, frequency, seasonality, and other factors that might limit the impact of the discharge.

**Distribution of Active Landfills & Waste Management Facilities by TTWQ Rating**

FACILITY TYPE	TTWQ Category			TOTAL
	1	2	3	
<b>Operating</b>	51	58	17	<b>126</b>
<b>Non-operating</b>				
Closing	4	12	4	<b>20</b>
Closed	58	91	141	<b>290</b>
Proposed	3			<b>3</b>
<b>TOTAL ACTIVE LANDFILLS</b>	<b>116</b>	<b>161</b>	<b>162</b>	<b>439</b>
<b>Other Waste Management Facilities (non-landfill)</b>	27	93	115	<b>235</b>
<b>TOTAL FACILITIES</b>	<b>143</b>	<b>254</b>	<b>277</b>	<b>674</b>

**APPENDIX C – UNIT COST FACTORS FOR PROJECTING WORKLOAD**

CORE REGULATORY TASK	UNIT COST FACTORS (hours per occurrence)		
	HIGH	MEDIUM	LOW
<b>PERMITTING</b>			
New Permits or significant changes to existing permits	1000	800	600
Permit reviews requiring revision	800	440	280
Permit reviews requiring no revision	15	15	15
Waiver / Rescission	120	80	40
General Order / Waiver Enrollment	36	24	12
Monitoring and Reporting Program Revision	80	40	20
<b>INSPECTIONS</b>			
Prepare/perform Level A Compliance Inspection	30	30	30
Prepare/perform Level B Compliance Inspection	15	15	15
Follow-up Inspection	15	15	15
Complaint Inspection	30	30	30
<b>REPORT REVIEWS</b>			
Monitoring Report Review	80	20	10
Technical Reports - Complex	210	140	80
Miscellaneous Reports - Basic	20	15	3
Corrective Action Financial Assurance Estimate Annual Update/Review	40	20	10
<b>CLOSURE</b>			
Final Closure and Post Closure Maintenance Plan Review	200	120	50
Preliminary Closure and Post Closure Maintenance Plan Review	90	60	30
<b>ENFORCEMENT</b>			
Oral communication, includes follow-up	12	12	12
Staff Enforcement letter	40	24	12
Notice to Comply	7	7	7
Notice of Violation	40	24	12
Prepare Cleanup Abatement Order, includes follow-up	120	120	120
Prepare Cease and Desist Order, includes follow-up	120	120	120
Prepare Administrative Civil Liability (basic)	80	48	24
Prepare Administrative Civil Liability (complex)	120	120	120
Prepare 13267 Letter, includes follow-up	40	24	12
Follow-up: Informal Enf. Action (Oral or Notice to Comply)	40	24	12
Follow-up: Formal Action (enforcement orders)	240	160	80
Time Schedule Order, incl follow-up	240	160	80
Facility Investigation	120	87	47
Compliance Project Development	160	120	80
Enforcement - Expedited Payment letter	120	80	40
Referral to Attorney General/District Attorney, incl follow-up	240	160	80
Third Party actions, incl follow-up	120	80	40
<b>CASE MANAGEMENT</b>			
Case Handling (miscellaneous tasks)	120	80	40
Non-Enforcement Appeals and Litigation	240	160	80
Enforcement-related Appeals and Litigation	240	160	80
Response to dischargers or public	10	10	10
<b>PROGRAM MANAGEMENT AND SUPPORT</b>			
Program administration	40	20	10
Database Entry	0.8 hours per unit per week		
Training	40 hours per unit per year		
Unit Staff Meeting	48 hours per unit per year		
Program Manager Meetings	96 per unit per year		

**APPENDIX D – WORKLOAD ESTIMATES PER TASK**

CORE REGULATORY TASK	Required Annual Task Frequency <sup>1</sup>	ANNUAL NUMBER OF ACTIONS (Weighted Distribution)				TASK SOURCE	UNIT COST FACTOR SOURCE
		All Facilities*	Active Landfills	Other WMUs	Indirect Tasks		
		674	439	235			
<b>PERMITTING</b>							
New Permits or significant changes to existing permits	As needed	13.0	8.5	4.5		Needs Analysis	Regional Board Input
Permit reviews requiring revision (90% of sites)	5, 10, 15-yrs	65.2	45.1	20.1		APM Chp 3	Regional Board Input
Permit reviews requiring no revision (10% of sites)	5, 10, 15-yrs	7.2	5.0	2.2		APM Chp 3	Regional Board Input
Waiver / Rescission	As needed	30.0	19.5	10.5		Needs Analysis	Regional Board Input
General Order / Waiver Enrollment	As needed	107.0	69.7	37.3		Needs Analysis	Regional Board Input
Monitoring and Reporting Program Revision	As needed	15.0	9.8	5.2		Needs Analysis	Regional Board Input
<b>INSPECTIONS</b>							
Prepare/perform Level A Compliance Inspection	1	143.0	116.0	27.0		APM Chp 4	Regional Board Input
Prepare/perform Level B Compliance Inspection (high)	2	286.0	232.0	54.0		APM Chp 4	Regional Board Input
Prepare/perform Level B Compliance Inspection (med-low)	1	531.0	323.0	208.0		APM Chp 4	Regional Board Input
Follow -up Inspection	As needed					APM Chp 4 and Chp 5	Regional Board Input
Complaint Inspection	As needed					APM Chp 5	Regional Board Input
<b>REPORT REVIEWS</b>							
Monitoring Report Review	2	1348.0	878.0	470.0		Title 27	Regional Board Input
Technical Reports - Complex	As needed	26.0	16.9	9.1		Assume 2/region/yr	Regional Board Input
Miscellaneous Reports - Basic	As needed	2200.0	1432.9	767.1		Needs Analysis	Regional Board Input
Corrective Action Financial Assurance Estimate Annual Update	1	674.0	439.0	235.0		Title 27	Regional Board Input
<b>CLOSURE</b>							
Final Closure and Post Closure Maintenance Plan Review	At closing	13.0	8.5	4.5		Assume 1/region/yr	Regional Board Input
Preliminary Closure/Post-Closure Maintenance Plan Review	5, 10, 15-yrs	72.5	50.1	22.4		Same as permit review	Regional Board input
<b>ENFORCEMENT (tasks from actual records)</b>							
Oral communication, includes follow-up	As needed	17.0	11.1	5.9		Enforcement Policy	
Staff Enforcement letter	As needed	24.0	15.6	8.4		CIWQS database	Regional Board Input
Notice to Comply (NTC)	As needed	40.0	26.1	13.9		CIWQS database	Regional Board Input
Notice of Violation (NOV)	As needed	36.0	23.4	12.6		CIWQS database	Regional Board Input
Prepare CAO, includes follow-up	As needed	3.0	2.0	1.0		CIWQS database	Regional Board Input
Prepare CDO, includes follow-up	As needed	2.0	1.3	0.7		CIWQS database	Regional Board Input
Prepare ACL order, (simple)	As needed	1.0	0.7	0.3		CIWQS database	Regional Board Input
Prepare ACL order, (complex)	As needed	1.0	0.7	0.3		CIWQS database	Regional Board Input
Prepare 13267 Letter, includes follow-up	As needed	1.0	0.7	0.3		CIWQS database	Regional Board Input
Follow-up: Informal Enf. Action (Oral or NTC)	As needed	19.0	12.4	6.6		CIWQS database	Regional Board Input
Follow-up: Formal Action (NOV, CAO, CDO, ACL)	As needed					Needs Analysis	Regional Board Input
Time Schedule Order, incl follow-up	As needed					Needs Analysis	Regional Board Input
Facility Investigation	As needed	40.0	26.1	13.9		APM	Average
Compliance Project Development	As needed					Needs Analysis	Regional Board Input
Enforcement - Expedited Payment letter	As needed					Needs Analysis	Regional Board Input
Referral to AG/DA, other agency, incl follow-up	As needed	2.0	1.3	0.7		Needs Analysis	Regional Board Input
Third Party actions, incl follow-up	As needed	19.0	12.4	6.6		Needs Analysis	Regional Board Input
<b>CASE MANAGEMENT</b>							
Case Handling (miscellaneous tasks)	As needed	674.0	439.0	235.0		APM various sections	Regional Board Input
Non-Enforcement Appeals and Litigation	As needed	3.0	2.0	1.0		Needs Analysis	Regional Board Input
Enforcement-related Appeals and Litigation	As needed	2.0	1.3	0.7		Needs Analysis	Regional Board Input
Response to dischargers or public	As needed	674.0	439.0	235.0		APM 5	Regional Board Input
<b>PROGRAM MANAGEMENT AND SUPPORT</b>							
Program administration		40.0	20.0	10.0		APM various sections	Needs Analysis
Database Entry	0.8 hr/units/w k				120.7	Title 23/Needs Analysis	Regional Board input
Training	40 hr/units/yr				129.7	APM Chp 1	Regional Board input
Unit Staff Meetings	48 hr/units/yr				120.7	Monthly meetings at 4 hours each	
Program Manager (PM) Meetings (unit, roundtables)	96 hr/units/yr				9.0	One program manager per Region: Monthly unit meetings at 4 hours each; two in-person roundtable at 16 hours each; two teleconference roundtables at 8 hours each	

<sup>1</sup>Number and frequency of tasks are minimum values derived from statutes, regulations, policies, and database records; <sup>2</sup>5, 10, 15 year tasks calculated to the number of actions performed in a given year; <sup>3</sup>Estimated Number of Actions with "as needed" frequency are based on input by program managers (e.g., one action / regional office / year, or minimum of one action / facility / year, etc.); <sup>4</sup>Number of Actions are distributed proportionally according to frequency and number of facilities per category; <sup>5</sup>Enforcement tasks are based on database records, and distributed proportionally; <sup>6</sup>Tasks not dependent on site-specific parameters.

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**APPENDIX E – COST ANALYSIS SPREADSHEETS**

E1 – Cost to Regulate Active Landfills

E2 – Cost to Regulate Other Waste Management Facilities

E3 – Cost to Regulate Active Landfills and Other Waste Management Facilities

# E1 - COST TO REGULATE ACTIVE LANDFILLS

ACTIVE LANDFILLS			CATEGORY 1			CATEGORY 2			CATEGORY 3			TOTAL ANNUAL WORKLOAD	
			High Complexity			Moderate Complexity			Low Complexity			CONVERTED TO COST	
			Number of Sites	116	Number of Sites	161	Number of Sites	162			TOTAL TASK HOURS	TOTAL COST PER TASK	
CORE REGULATORY TASK	Annual Task Frequency <sup>1,2</sup>	Estimated Annual Workload (number of actions) <sup>3,4</sup>	Annual Number of Actions	Unit Cost Factor High	Annual Workload Hours	Annual Number of Actions	Unit Cost Factor Medium	Annual Workload Hours	Annual Number of Actions	Unit Cost Factor Low	Annual Workload Hours	TOTAL TASK HOURS	TOTAL COST PER TASK
<b>PERMITTING</b>													
New permits or significant changes to permits	as needed	8.5	2.2	1000	2237	3.1	800	2484	3.1	600	1875	6,596	
Permit reviews requiring revision (~90%)	5, 10, 15-yrs	45.1	20.9	800	16704	14.5	440	6376	9.7	280	2722	25,801	
Permit reviews requiring no revision (~10%)	5, 10, 15-yrs	5.0	2.3	15	35	1.6	15	24	1.1	15	16	75	
Waiver / Rescission	as needed	19.5	5.2	120	620	7.2	80	573	7.2	40	288	1,481	
General Order / Waiver Enrollment	as needed	69.7	18.4	36	663	25.6	24	613	25.7	12	309	1,585	
Monitoring and Reporting Program Revision	as needed	9.8	2.6	80	207	3.6	40	143	3.6	20	72	422	
													\$ 3,746,063
<b>INSPECTIONS</b>													
Prepare/perform Level A Compliance Inspection	1	116.0	116.0	30	3480		30			30		3,480	
Prepare/perform Level B Compliance Inspection (high)	2	232.0	232.0	15	3480							3,480	
Prepare/perform Level B Compliance Inspection (med-low)	1	323.0				161.0	15	2415	162.0	15	2430	4,845	
Follow-up Inspection	as needed			20			20			20			
Complaint Inspection	as needed			30			30			30			
													\$ 1,229,727
<b>REPORT REVIEWS</b>													
Monitoring Report Review	2	878.0	232.0	80	18560	322.0	20	6440	324.0	10	3240	28,240	
Technical Reports - Complex	as needed	16.9	4.5	210	940	6.2	140	869	6.2	80	500	2,309	
Miscellaneous Reports - Basic	as needed	1432.9	378.6	20	7573	525.5	15	7883	528.8	3	1586	17,042	
Corrective Action Financial Assurance Estimate Annual Update/Review	1	439.0	116.0	40	4640	161.0	20	3220	162.0	10	1620	9,480	
													\$ 5,945,084
<b>CLOSURE</b>													
Preliminary Closure / Post Closure Plan Review**	5, 10, 15-yrs	50.1	23.2	90	2088	16.1	60	966	10.8	30	324	3,378	
Preliminary Closure / Post Closure Plan Review	at closing	8.5	2.2	200	447	3.1	120	373	3.1	50	156	976	
													\$ 453,593
<b>ENFORCEMENT<sup>5</sup></b>													
Oral communication, includes follow-up	as needed	11.1	2.9	12	35	4.1	12	49	4.1	12	49	133	
Staff Enforcement letter	as needed	15.6	4.1	40	165	5.7	24	138	5.8	12	69	372	
Notice to Comply (NTC)	as needed	26.1	6.9	7	48	9.6	7	67	9.6	7	67	182	
Notice of Violation (NOV)	as needed	23.4	6.2	40	248	8.6	24	206	8.7	12	104	558	
Prepare CAO, includes follow-up	as needed	2.0	0.5	120	62	0.7	120	86	0.7	120	87	234	
Prepare CDO, includes follow-up	as needed	1.3	0.3	120	41	0.5	120	57	0.5	120	58	156	
Prepare ACL order, (simple)	as needed	0.7	0.2	80	14	0.2	48	11	0.2	24	6	31	
Prepare ACL order, (complex)	as needed	0.7	0.2	120	21	0.2	120	29	0.2	120	29	78	
Prepare 13267 Letter, includes follow-up	as needed	0.7	0.2	40	7	0.2	24	6	0.2	12	3	16	
Follow-up: Informal Enf. Action (Oral or NTC)	as needed	12.4	3.3	40	131	4.5	24	109	4.6	12	55	295	
Follow-up: Formal Action (NOV, CAO, CDO, ACL)	as needed			240			160			80			
Time Schedule Order, incl follow-up	as needed			240			160			80			
Facility Investigation	as needed	26.1	6.9	120	826	9.6	87	828	9.6	47	449	2,103	
Compliance Project Development	as needed			160			120			80			
Enforcement - Expedited Payment letter	as needed			120			80			40			
Referral to AG/DA, other agency, incl follow-up	as needed	1.3	0.3	240	83	0.5	160	76	0.5	80	38	198	
Third Party actions, incl follow-up	as needed	12.4	3.3	120	392	4.5	80	363	4.6	40	183	938	
													\$ 551,462
<b>CASE MANAGEMENT</b>													
Case Handling (miscellaneous tasks)	as needed	439.0	116.0	120	13920	161.0	80	12880	162.0	40	6480	33,280	
Non-Enforcement Appeals and Litigation	as needed	2.0	0.5	240	124	0.7	160	115	0.7	80	58	296	
Enforcement-related Appeals and Litigation	as needed	1.3	0.3	240	83	0.5	160	76	0.5	80	38	198	
Response to dischargers or public	as needed	439.0	116.0	10	1160	161.0	10	1610	162.0	10	1620	4,390	
													\$ 3,975,520
<b>PROGRAM MANAGEMENT AND SUPPORT<sup>6</sup></b>													
Program administration	1	439	116.0	40	4640	161.0	20	3220	162.0	10	1620	9,480	
Database Entry (GeoTracker, CIWQS, etc.)	0.8 hr/unit/wk								83.5	0.8	3341	3,341	
Training	40 hr/unit/yr								89.4	40	3575	3,575	
Unit Staff Meetings	48 hr/unit/yr								83.5	48	4009	4,009	
Program Manager Meetings (unit, roundtables)	96 hr/unit/yr								5.9	96	563	563	
													\$ 2,184,278
<b>GRAND TOTAL</b>											<b>170,239</b>	<b>\$ 18,085,725</b>	

Notes: May be variability in numbers displayed due to rounding.

<sup>1</sup>Number and frequency of tasks are minimum values derived from statutes, regulations, policies, and database records; <sup>2</sup>5, 10, 15 year tasks calculated to the number of actions performed in a given year; <sup>3</sup>Estimated Number of Actions with "as needed" frequency are based on input by program managers (e.g., one action / regional office / year, or minimum of one action / facility / year, etc.); <sup>4</sup>Number of Actions are distributed proportionally according to frequency and number of facilities per category; <sup>5</sup>Enforcement tasks are based on database records, and distributed proportionally; <sup>6</sup>Tasks not dependent on site-specific parameters.

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## E2 - COST TO REGULATE OTHER WASTE MANAGEMENT FACILITIES

OTHER WASTE MANAGEMENT FACILITIES			CATEGORY 1 High Complexity			CATEGORY 2 Moderate Complexity			CATEGORY 3 Low Complexity			TOTAL ANNUAL WORKLOAD	
			Number of Sites	27	Number of Sites	93	Number of Sites	115	CONVERTED TO COST		TOTAL TASK HOURS	TOTAL COST PER TASK	
CORE REGULATORY TASK	Annual Task Frequency <sup>1,2</sup>	Estimated Annual Workload (number of actions) <sup>3,4</sup>	Annual Number of Actions	Unit Cost Factor High	Annual Workload Hours	Annual Number of Actions	Unit Cost Factor Medium	Annual Workload Hours	Annual Number of Actions	Unit Cost Factor Low			Annual Workload Hours
<b>PERMITTING</b>													
New permits or significant changes to permits	as needed	4.5	0.5	1000	521	1.8	800	1435	2.2	600	1331	3,287	
Permit reviews requiring revision (~90%)	5, 10, 15-yrs	20.1	4.9	800	3888	8.4	440	3683	6.9	280	1932	9,503	
Permit reviews requiring no revision (~10%)	5, 10, 15-yrs	2.2	0.5	15	8	0.9	15	14	0.8	15	12	34	
Waiver / Rescission	as needed	10.5	1.2	120	144	4.1	80	331	5.1	40	205	680	
General Order / Waiver Enrollment	as needed	37.3	4.3	36	154	14.8	24	354	18.3	12	219	728	
Monitoring and Reporting Program Revision	as needed	5.2	0.6	80	48	2.1	40	83	2.6	20	51	182	
													\$ 1,501,391
<b>INSPECTIONS</b>													
Prepare/perform Level A Compliance Inspection	1	27.0	27.0	30	810		30			30		810	
Prepare/perform Level B Compliance Inspection (high)	2	54.0	54.0	15	810							810	
Prepare/perform Level B Compliance Inspection (med-low)	1	208.0				93.0	15	1395	115.0	15	1725	3,120	
Follow-up Inspection	as needed			20			20			20			
Complaint Inspection	as needed			30			30			30			
													\$ 493,766
<b>REPORT REVIEWS</b>													
Monitoring Report Review	2	470.0	54.0	80	4320	186.0	20	3720	230.0	10	2300	10,340	
Technical Reports - Complex	as needed	9.1	1.0	210	219	3.6	140	502	4.4	80	355	1,076	
Miscellaneous Reports - Basic	as needed	767.1	88.1	20	1763	303.6	15	4553	375.4	3	1126	7,442	
Corrective Action Financial Assurance Estimate Annual Update/Review	1	235.0	27.0	40	1080	93.0	20	1860	115.0	10	1150	4,090	
													\$ 2,390,494
<b>CLOSURE</b>													
Final Closure and Post Closure Plan Review	at closing	4.5	0.5	200	104	1.8	120	215	2.2	50	111	430	
Preliminary Closure / Post Closure Plan Review	5, 10, 15-yrs	22.4	5.4	90	486	9.3	60	558	7.7	30	230	1,274	
													\$ 177,538
<b>ENFORCEMENT<sup>5</sup></b>													
Oral communication, includes follow-up	as needed	5.9	0.7	12	8	2.3	12	28	2.9	12	35	71	
Staff Enforcement letter	as needed	8.4	1.0	40	38	3.3	24	79	4.1	12	49	167	
Notice to Comply (NTC)	as needed	13.9	1.6	7	11	5.5	7	39	6.8	7	48	98	
Notice of Violation (NOV)	as needed	12.6	1.4	40	58	5.0	24	119	6.1	12	74	251	
Prepare CAO, includes follow-up	as needed	1.0	0.1	120	14	0.4	120	50	0.5	120	61	126	
Prepare CDO, includes follow-up	as needed	0.7	0.1	120	10	0.3	120	33	0.3	120	41	84	
Prepare ACL order, (simple)	as needed	0.3	0.0	80	3	0.1	48	7	0.2	24	4	14	
Prepare ACL order, (complex)	as needed	0.3	0.0	120	5	0.1	120	17	0.2	120	20	42	
Prepare 13267 Letter, includes follow-up	as needed	0.3	0.0	40	2	0.1	24	3	0.2	12	2	7	
Follow-up: Informal Enf. Action (Oral or NTC)	as needed	6.6	0.8	40	30	2.6	24	63	3.2	12	39	132	
Follow-up: Formal Action (NOV, CAO, CDO, ACL)	as needed			240			160			80			
Time Schedule Order, incl follow-up	as needed			240			160			80			
Facility Investigation	as needed	13.9	1.6	120	192	5.5	87	478	6.8	47	318	989	
Compliance Project Development	as needed			160			80			80			
Enforcement - Expedited Payment letter	as needed			120			80			40			
Referral to AG/DA, other agency, incl follow-up	as needed	0.7	0.1	240	19	0.3	160	44	0.3	80	27	91	
Third Party actions, incl follow-up	as needed	6.6	0.8	120	91	2.6	80	210	3.2	40	130	431	
													\$ 260,547
<b>CASE MANAGEMENT</b>													
Case Handling (miscellaneous tasks)	as needed	235.0	27.0	120	3240	93.0	80	7440	115.0	40	4600	15,280	
Non-Enforcement Appeals and Litigation	as needed	1.0	0.1	240	29	0.4	160	66	0.5	80	41	136	
Enforcement-related Appeals and Litigation	as needed	1.0	0.1	240	19	0.3	160	44	0.3	80	27	91	
Response to dischargers or public	as needed	235.0	27.0	10	270	93.0	10	930	115.0	10	1150	2,350	
													\$ 1,860,133
<b>PROGRAM MANAGEMENT AND SUPPORT<sup>6</sup></b>													
Program administration	1	235.0	27.0	40	1080	93.0	20	1860	115.0	10	1150	4,090	
Database Entry (GeoTracker, CIWQS, etc.)	0.8 hr/unit/wk								35.3	0.8	1413	1,413	
Training	40 hr/unit/yr								38.4	40	1537	1,537	
Unit Staff Meetings	48 hr/unit/yr								35.3	48	1696	1,696	
Program Manager Meetings (unit, roundtables)	96 hr/unit/yr								3.1	96	298	298	
													\$ 941,066
<b>GRAND TOTAL</b>												<b>73,197</b>	<b>\$ 7,624,935</b>

Notes: May be variability in numbers displayed due to rounding.

<sup>1</sup>Number and frequency of tasks are minimum values derived from statutes, regulations, policies, and database records; <sup>2</sup>5, 10, 15 year tasks calculated to the number of actions performed in a given year; <sup>3</sup>Estimated Number of Actions with "as needed" frequency are based on input by program managers (e.g., one action / regional office / year, or minimum of one action / facility / year, etc.); <sup>4</sup>Number of Actions are distributed proportionally according to frequency and number of facilities per category; <sup>5</sup>Enforcement tasks are based on database records, and distributed proportionally; <sup>6</sup>Tasks not dependent on site-specific parameters.

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### E3 - COST TO REGULATE ACTIVE LANDFILLS AND OTHER WASTE MANAGEMENT FACILITIES

ACTIVE LANDFILLS AND OTHER WASTE MANAGEMENT UNITS			CATEGORY 1			CATEGORY 2			CATEGORY 3			TOTAL ANNUAL WORKLOAD CONVERTED TO COST	
			High Complexity		143	Moderate Complexity		254	Low Complexity		277	TOTAL TASK WORKLOAD HOURS	TOTAL COST PER TASK
CORE REGULATORY TASK	Annual Task Frequency <sup>1,2</sup>	Estimated Annual Workload (number of actions) <sup>3,4</sup>	Annual Number of Actions	Unit Cost Factor High	Annual Workload Hours	Annual Number of Actions	Unit Cost Factor Medium	Annual Workload Hours	Annual Number of Actions	Unit Cost Factor Low	Annual Workload Hours		
												<b>PERMITTING</b>	
New permits or significant changes to permits	varies	13.0	2.8	1000	2758	4.9	800	3919	5.3	600	3206	9,883	
Permit reviews requiring revision (~90%)	5, 10, 15-yrs	65.2	25.7	800	20592	22.9	440	10058	16.6	280	4654	35,304	
Permit reviews requiring no revision (~10%)	5, 10, 15-yrs	7.2	2.9	15	43	2.5	15	38	1.8	15	28	109	
Waiver / Rescission	varies	30.0	6.4	120	764	11.3	80	904	12.3	40	493	2,161	
General Order / Waiver Enrollment	varies	107.0	22.7	36	817	40.3	24	968	44.0	12	528	2,313	
Monitoring and Reporting Program Revision	varies	15.0	3.2	80	255	5.7	40	226	6.2	20	123	604	
													\$ 5,247,453
<b>INSPECTIONS</b>													
Prepare/perform Level A Compliance Inspection	1	143.0	143.0	30	4290		30			30		4,290	
Prepare/perform Level B Compliance Inspection (high)	2	286.0	286.0	15	4290							4,290	
Prepare/perform Level B Compliance Inspection (med-low)	1	531.0				254.0	15	3810	277.0	15	4155	7,965	
Follow-up Inspection	as needed			20			20			20			
Complaint Inspection	as needed			30			30			30			
													\$ 1,723,493
<b>REPORT REVIEWS</b>													
Monitoring Report Review	2	1348.0	286.0	80	22880	508.0	20	10160	554.0	10	5540	38,580	
Technical Reports - Complex	as needed	26.0	5.5	210	1158	9.8	140	1372	10.7	80	855	3,385	
Miscellaneous Reports - Basic	as needed	2200.0	466.8	20	9335	829.1	15	12436	904.2	3	2712	24,484	
Corrective Action Financial Assurance Annual Update/Review	1	674.0	143.0	40	5720	254.0	20	5080	277.0	10	2770	13,570	
													\$ 8,335,578
<b>CLOSURE</b>													
Final Closure and Post Closure Plan Review	at closing	13.0	2.8	200	552	4.9	120	588	5.3	50	267	1,407	
Preliminary Closure / Post Closure Plan Review	5, 10, 15-yrs	72.5	28.6	90	2574	25.4	60	1524	18.5	30	554	4,652	
													\$ 631,131
<b>ENFORCEMENT<sup>5</sup></b>													
Oral communication, includes follow-up	as needed	17.0	3.6	12	43	6.4	12	77	7.0	12	84	204	
Staff Enforcement letter	as needed	24.0	5.1	40	204	9.0	24	217	9.9	12	118	539	
Notice to Comply (NTC)	as needed	40.0	8.5	7	59	15.1	7	106	16.4	7	115	280	
Notice of Violation (NOV)	as needed	36.0	7.6	40	306	13.6	24	326	14.8	12	178	809	
Prepare CAO, includes follow-up	as needed	3.0	0.6	120	76	1.1	120	136	1.2	120	148	360	
Prepare CDO, includes follow-up	as needed	2.0	0.4	120	51	0.8	120	90	0.8	120	99	240	
Prepare ACL order, (simple)	as needed	1.0	0.2	80	17	0.4	48	18	0.4	24	10	45	
Prepare ACL order, (complex)	as needed	1.0	0.2	120	25	0.4	120	45	0.4	120	49	120	
Prepare 13267 Letter, includes follow-up	as needed	1.0	0.2	40	8	0.4	24	9	0.4	12	5	22	
Follow-up: Informal Enf. Action (Oral or NTC)	as needed	19.0	4.0	40	161	7.2	24	172	7.8	12	94	427	
Follow-up: Formal Action (NOV, CAO, CDO, ACL)	as needed			240			160			80			
Time Schedule Order, incl follow-up	as needed			240			160			80			
Facility Investigation	as needed	40.0	8.5	120	1018	15.1	87	1306	16.4	47	767	3,092	
Compliance Project Development	as needed			160			120			80			
Enforcement - Expedited Payment letter	as needed			120			80			40			
Referral to AG/DA, other agency, incl follow-up	as needed	2.0	0.4	240	102	0.8	160	121	0.8	80	66	288	
Third Party actions, incl follow-up	as needed	19.0	4.0	120	484	7.2	80	573	7.8	40	312	1,369	
													\$ 812,009
<b>CASE MANAGEMENT</b>													
Case Handling (miscellaneous tasks)	as needed	674.0	143.0	120	17160	254.0	80	20320	277.0	40	11080	48,560	
Non-Enforcement Appeals and Litigation	as needed	3.0	0.6	240	153	1.1	160	181	1.2	80	99	432	
Enforcement-related Appeals and Litigation	as needed	2.0	0.4	240	102	0.8	160	121	0.8	80	66	288	
Response to dischargers or public	as needed	674.0	143.0	10	1430	254.0	10	2540	277.0	10	2770	6,740	
													\$ 5,835,653
<b>PROGRAM MANAGEMENT AND SUPPORT<sup>6</sup></b>													
Program administration	1	674.0	143.0	40	5720	254.0	20	5080	277.0	10	2770	13,570	
Database Entry (GeoTracker, CIWQS, etc.)	0.8 hr/unit/w k								118.9	0.8	4754	4,754	
Training	40 hr/unit/yr								127.8	40	5113	5,113	
Unit Staff Meetings	48 hr/unit/yr								118.9	48	5705	5,705	
Program Manager (PM) Meetings (unit, roundtables)	96 hr/unit/yr								9.0	96	860	860	
													\$ 3,125,343
<b>GRAND TOTAL</b>											<b>246,814.4</b>	<b>\$ 25,710,661</b>	

Note: May be variability in numbers displayed due to rounding.

<sup>1</sup>Number and frequency of tasks are minimum values derived from statutes, regulations, policies, and database records; <sup>2</sup>5, 10, 15 year tasks calculated to the number of actions performed in a given year; <sup>3</sup>Estimated Number of Actions with "as needed" frequency are based on input by program managers (e.g., one action / regional office / year, or minimum of one action / facility / year, etc.); <sup>4</sup>Number of Actions are distributed proportionally according to frequency and number of facilities per category; <sup>5</sup>Enforcement tasks are based on database records, and distributed proportionally; <sup>6</sup>Tasks not dependent on site-specific parameters.

ACL - Administrative Civil Liability  
CDO - Cease and Desist Order

APM - Administrative Procedures Manual  
CIWQS - California Integrated Water Quality System

CAO - Cleanup and Abatement Order  
NOV - Notice of Violation

