



California Environmental Protection Agency
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

TREATED WOOD WASTE MANAGEMENT IN CALIFORNIA

AB 1353 IMPLEMENTATION REPORT, JUNE 2011

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

The Mission of the Department of Toxic Substances Control is to provide the highest level of safety, and to protect public health and the environment from toxic harm.

Trina Gonzalez
Deputy Director
Office of Pollution Prevention
and Green Technology

Xiaoying Zhou
Hazardous Substances Engineer

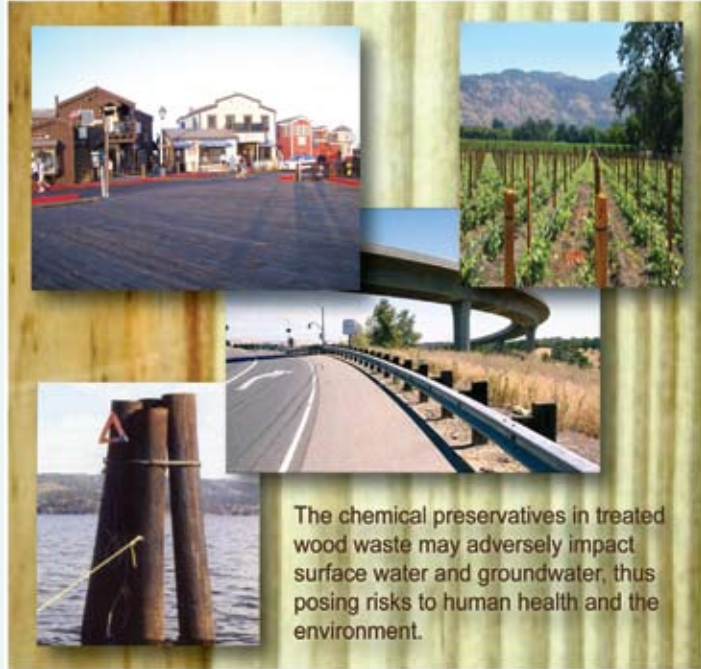
Andre Algazi
Supervising Hazardous
Substances Scientist



TREATED WOOD WASTE MANAGEMENT IN CALIFORNIA

AB 1353 Implementation Report, June 2011

Assembly Bill (AB) 1353 (Stats. 2004, ch. 597), which took effect on January 1, 2005, was enacted to address “the unique circumstances associated with the generation and management of treated wood waste” (TWW), a high-volume, relatively low-risk hazardous waste. The law provides relaxed management requirements and expanded disposal options for TWW while ensuring that TWW is managed in a way that is protective of public health and the environment. Under AB 1353, TWW may be disposed of either in a hazardous waste landfill or in a composite-lined portion of a solid waste landfill approved to accept it by the appropriate Regional Water Quality Control Board (RWQCB).



AB 1353 requires the Department of Toxic Substances Control (DTSC) to “prepare and post on its Web site a report that makes a determination regarding the successful compliance with, and implementation of” the law. DTSC has prepared this report to satisfy this requirement.

INTRODUCTION AND BACKGROUND

Wood treated with a chemical preservative for protection against pests and environmental conditions is called treated wood. Typically, treated wood is used where ground or water contact is likely. Examples include fence posts, sill plates, landscape timbers, pilings, guardrails and decking. The intended use of a particular treated wood product is a key factor in determining the type of chemical preservatives to be used for wood treatment. The preservative can include one or more of the following constituents: arsenic, chromium, copper, pentachlorophenol, or creosote.

When the treated wood has reached the end of its usefulness, it is regarded as treated wood waste or TWW. If TWW is not properly disposed of, the chemicals it contains can contaminate surface water and groundwater. This poses a risk to human health and the environment.

However, California's hazardous waste facilities lack the capacity to accommodate the volume of TWW generated in the state each year. To address the limited capacity of hazardous waste facilities, California allows alternative disposal of some TWW at composite-lined solid waste landfills.

While not all wood that has been treated and discarded is hazardous waste, it is the responsibility of the waste generator to make the determination. If the waste generator concludes the wood is hazardous waste, the material is classified as TWW and must be managed under full hazardous waste management requirements or under the Alternative Management Standards (AMS) adopted by DTSC in regulations. This report addresses only the management of TWW classified as hazardous waste.

IMPLEMENTATION OF AB 1353

Alternative Management Standards for TWW



Figure 1. DTSC's TWW Outreach Activities Timeline (Click to enlarge)

To implement AB 1353 and facilitate the safe and economical disposal of TWW, DTSC adopted the AMS regulations for TWW. The regulations, which are found in chapter 34 of title 22 of the California Code of Regulations, became effective on July 1, 2007. Their storage, accumulation, shipment, and disposal requirements are tailored to the unique risks posed during the handling, transportation, and disposal of TWW. For example, the AMS regulations provide alternative transportation and record-keeping requirements that do not entail the use of a uniform hazardous waste manifest and a registered hazardous waste hauler.

Health and Safety Code section 25150.7, which directed DTSC to adopt the AMS regulations, will sunset on June 1, 2012. However, pursuant to the law, the AMS regulations will remain operative after that date. Since the regulations restate the statutory requirements for managing TWW, these requirements will remain in effect. However, absent new legislative action, the requirement for wholesalers and retailers of treated wood products to post specified precautions for customers will sunset with the TWW statute.

Outreach and Education

Given the scope and broad applicability of the TWW law and AMS regulations, DTSC launched an ongoing outreach and education effort (Figure 1) that includes:

- A web site specific to TWW regulatory requirements, including a statewide TWW landfill list;
- An email Listserv and telephone hotline;
- Fact Sheets and training videos for TWW generators and handlers;
- Training classes and public workshops targeted at various TWW stakeholder audiences;
- Newsletter articles;
- Presentations at major conferences;
- Education of generators and facility operators in proper TWW management in the course of compliance inspections;
- A treated wood sampling study; and
- Periodic surveys of solid waste landfills approved to accept TWW on their willingness to receive TWW.

TRACKING DISPOSAL AND GENERATION OF TWW

The AMS regulations require TWW facilities, including approved TWW landfills and transfer stations, to electronically submit semi-annual reports to DTSC. The reports are due January 30 and July 30 of each year. On July 1, 2007, DTSC launched the Treated Wood Waste Tracking System (TWWTS) to receive and analyze the reports. The TWWTS database allows DTSC to evaluate the amount of TWW received by approved facilities throughout California, and to target its outreach efforts to improve compliance.

TWW Disposal has Remained Constant Since Tracking Began

Figure 2 summarizes the tonnage of TWW disposed by businesses, households, and load-check programs that manage TWW under the AMS regulations. Consistently, the annual amount of TWW disposed

of in California has fluctuated around 20,000 tons. A relatively minor share of this amount is reported by load-check programs (about 5 percent of total), indicating that deliberate commingling or dumping of TWW with other municipal solid waste prior to disposal is a relatively uncommon occurrence. The actual quantities of TWW disposed in California vary depending on estimates from different sources and assumptions. It is difficult to validate the quality of the data in the TWWTS at this early stage of reporting and tracking.

Tracking TWW disposal in California diverted from hazardous waste landfill disposal and out of state disposal

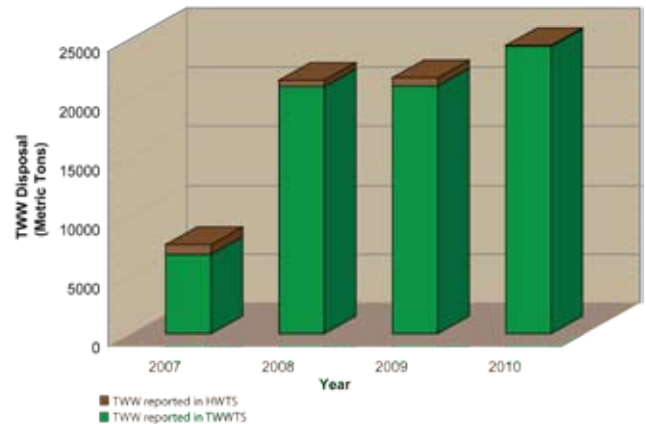


Figure 3. Comparison of TWW disposal at hazardous waste landfill and out-ofstate facilities to non-hazrous solid waste landfills (Click to enlarge)

Approved TWW Landfills are Well Distributed Throughout the State; no Reports of Releases

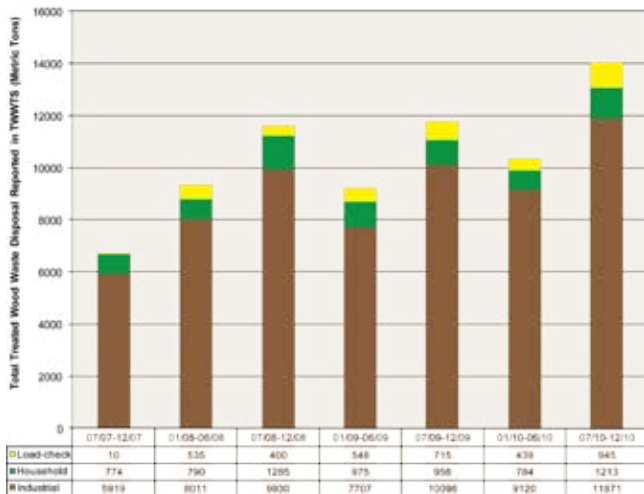


Figure 2. Reported Volume of TWW Disposed in California to TWWTS (Click to enlarge)

Most TWW is Managed under the AMS Regulations

TWW managed according to the AMS regulations, and disposed of in approved solid waste landfills, accounts for more than 95 percent of California’s annual tracked TWW disposal (Figure 3). The data show that TWW generators are choosing to manage TWW under the streamlined AMS regulations rather than under full hazardous waste management requirements. Since DTSC began tracking the disposition of TWW in mid-2007, only a small fraction of the State’s TWW has been shipped to a hazardous waste landfill or to an out-of-state facility for disposal.



Figure 4. Locations of approved TWW solid waste landfills and tonnage reported to TWWTS, July 1, 2007–December 31, 2010 (Click to enlarge)

¹ Load-check program: Municipal landfill and transfer stations are required to conduct the load-check program to identify and separate hazardous waste from a load of municipal wastes to prevent the acceptance of hazardous waste at a non-approved facility.

Figure 4 identifies the locations of landfills approved to receive TWW and their respective TWW disposal volumes, from July 1, 2007 to December 31, 2010. There are currently [forty-four \(44\) approved composite-lined solid waste landfills](#) in the State that accept TWW for disposal.² Since solid waste disposal of TWW began in 2005, DTSC has not received report of releases to the environment (verified by monitoring data from landfills) from solid waste landfills approved to accept TWW.

TWW GENERATION TRENDS

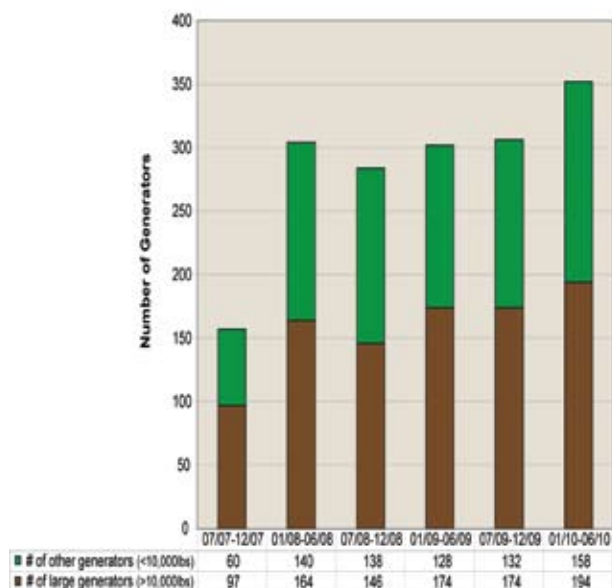


Figure 5. The number of non-household TWW generators by volume of TWW disposed (Click to enlarge)

DTSC has identified a number of trends in the generation of TWW using TWWTS data. On average, about 300 unique non-household TWW generators are identified in semi-annual reports submitted by TWW receiving facilities (Figure 5). More than half of these generators produced more than 10,000 pounds (approximately 5 tons) of TWW during a particular reporting period.

TWW Generation by Industry

Figure 6 illustrates that TWW is generated by a wide range of businesses, both small and large, as well as by government agencies and homeowners. The agriculture and construction sectors are among the largest generators of TWW on a regular basis. This TWW generation industry breakdown ratio is comparable with national and regional treated wood industry statistics.

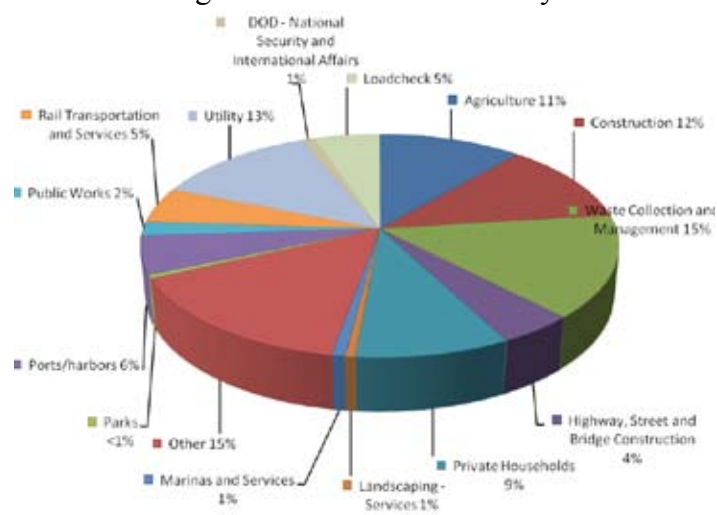


Figure 6. Aggregated TWW generation trend by sector, July 1, 2007–December 31, 2010 (Click to enlarge)

TWW Generation by County

Aggregated TWWTS data show the total tonnage of TWW generated by businesses in each of California’s 58 counties since 2007 (Figure 7). The data show that around 80 percent of TWW disposed of in California since 2007 was generated within twelve counties. These counties include both highly populated industrial areas (e.g. Los Angeles) and areas where agriculture is the prevailing commerce. Rural counties where TWW generation is highest include grape-growing regions; large quantities of out-of-service grape stakes are generated by vineyards. The locations of California’s TWW landfills (illustrated in Figure 4) appear adequate and convenient to accommodate the current demand for TWW disposal in counties.

² Five other solid waste landfills are approved by their respective Regional Water Quality Control Boards to accept TWW but have opted not to do so for the time being.



Figure 7. The aggregated industrial generation of TWW by county, July 1, 2007 – Dec 31, 2010
(Click to enlarge)

Compliance with the AMS Regulations

To obtain baseline information about compliance with AB 1353 and the AMS regulations, DTSC’s Enforcement and Emergency Response Program has inspected a number of TWW generators and facilities. This initial survey reveals that the rate of compliance by TWW facilities is generally high. Generators of TWW appear to have more compliance issues, however.

TWW Facilities’ Compliance

DTSC’s initial round of inspections found that TWW facilities are generally in compliance with most AMS regulatory requirements for storage and disposal of TWW, as well as with reporting requirements. Most commonly violated by TWW facilities was the requirement to provide specific occupational safety and health training to employees who handle TWW.

TWW Generators’ Compliance

Based on a very limited number of inspections, TWW generators inspected by DTSC were found to have more—and more serious—violations, some of which posed potential threats to the environment and/or public health. Examples include: resizing TWW in a manner that may cause a release to the environment; failure to store TWW properly to protect against run-on and run-off; commingling TWW with non-TWW; failure to submit a notification to DTSC (required for generators of > 10,000 pounds of TWW in a calendar year); and failure to provide required staff training. In the course of these initial inspections, DTSC has taken the opportunity to educate handlers and facility operators in proper TWW management practices. Where serious violations have been observed, DTSC has initiated formal enforcement.

CONCLUSIONS

Since the AMS took effect on July 1, 2007, there has been a notable increase in the volume of TWW received by approved TWW landfills, and in the total amount of TWW handled. Both the capacities and locations of California’s TWW landfills appear adequate to meet the current demand for TWW disposal. Together, these data suggest the rate of compliance with the TWW law and AMS regulations is relatively high and continues to increase.

DTSC’s data collection and compliance inspections have shown that the TWW Alternative Management Program is on track and the regulated community has improved compliance with AMS to manage TWW properly and effectively. DTSC will continue working with the regulated community and other stakeholders to improve compliance with the AMS regulations for TWW.

Figure 1. DTSC's TWW Outreach Activities Timeline

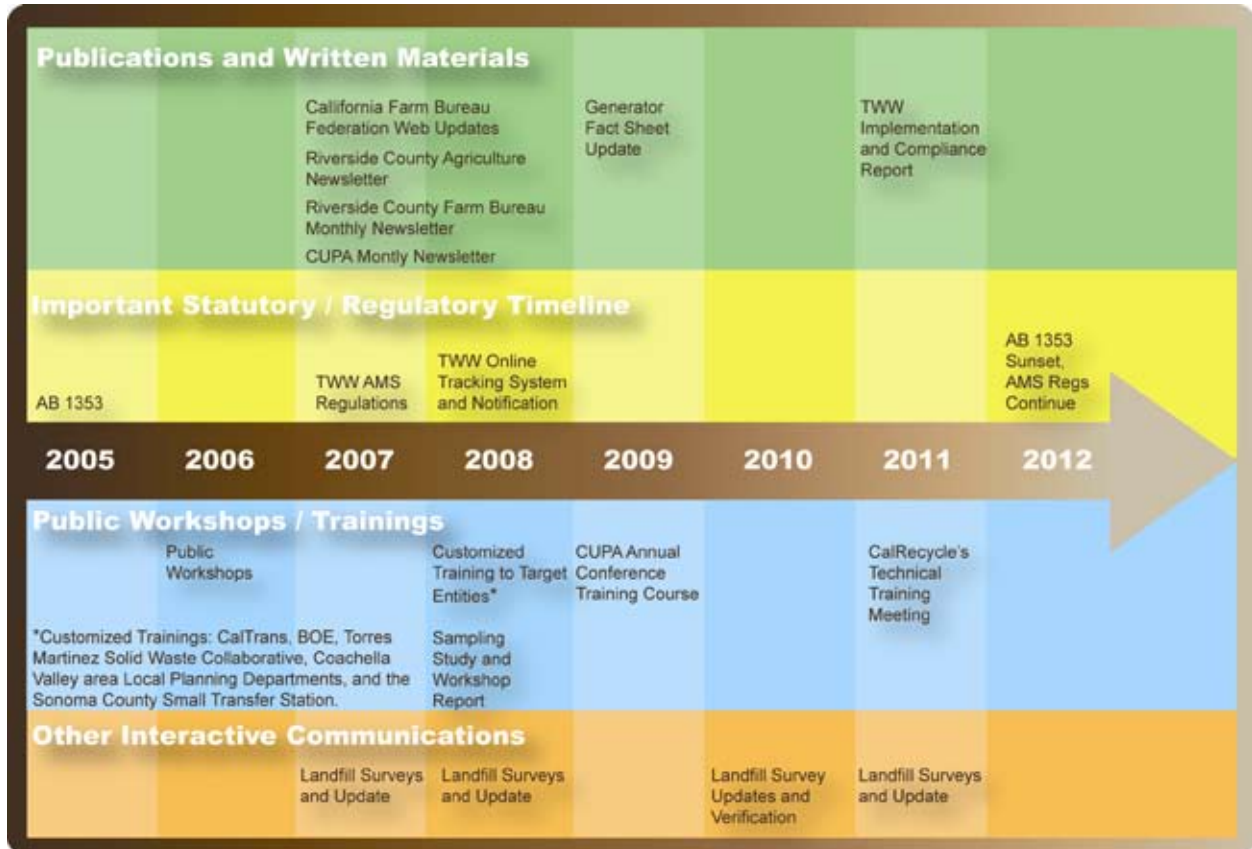
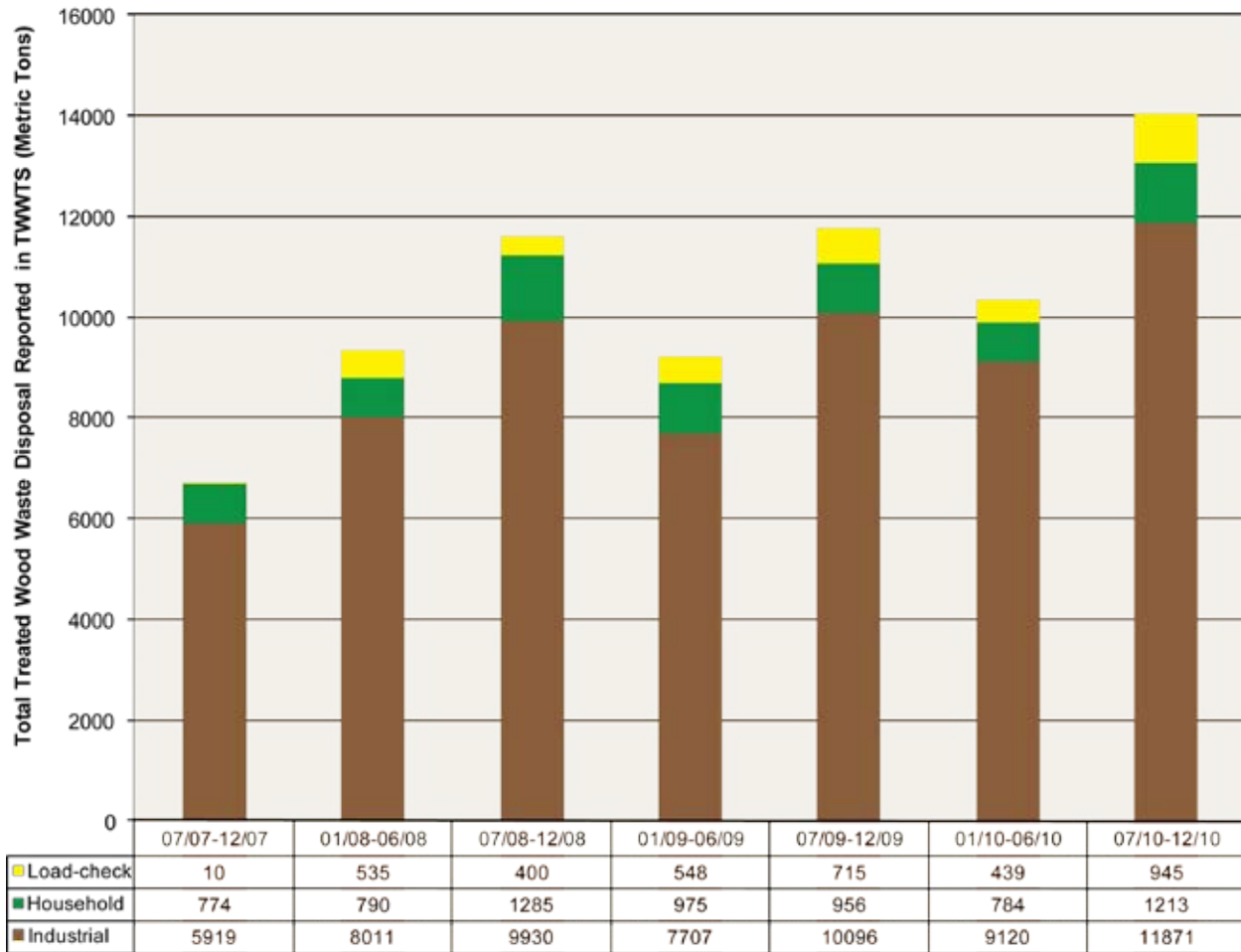
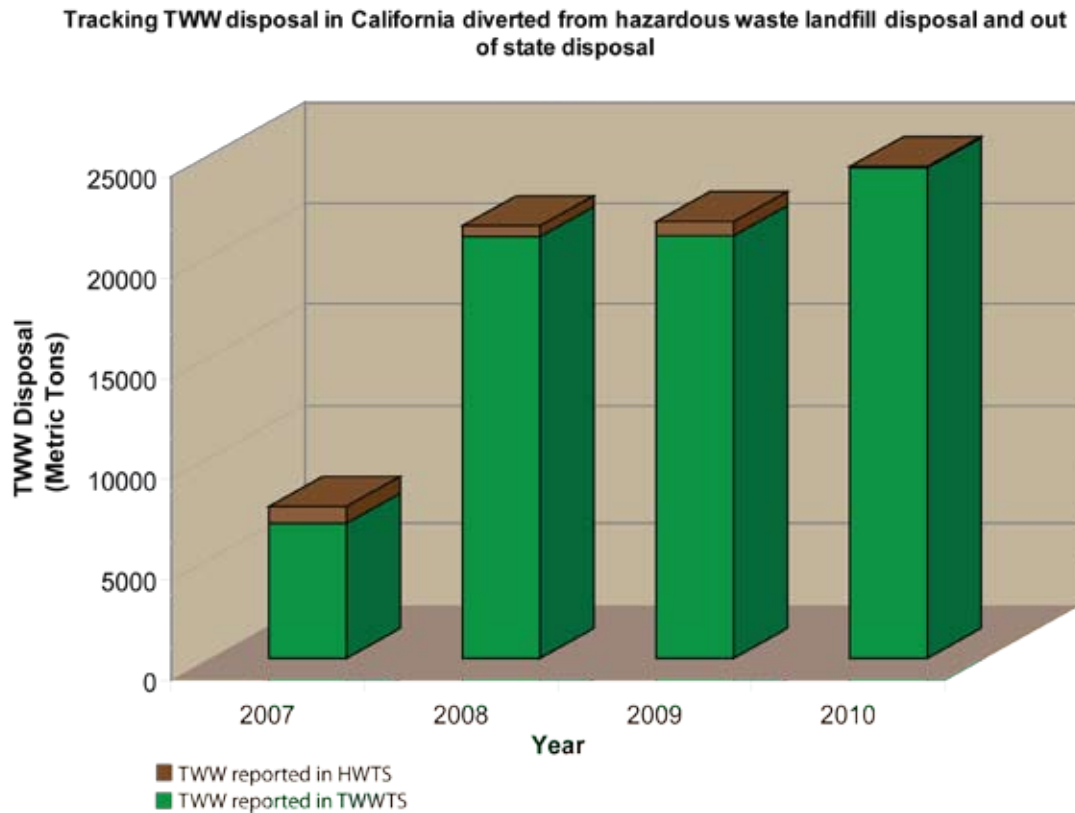


Figure 2. Reported Volume of TWW Disposed in California to TWWTS



Industrial: TWW generated from regular business activity, e.g., highway guardrails, agricultural.
Household: TWW generated from household source, e.g. landscape timbers.
Load-check: TWW separated from hazardous waste load-check program.

Figure 3. Comparison of TWW Disposal at Hazardous Waste Landfills and Out-of-State Landfills versus Non-Hazardous Waste Landfills



HWTS: Hazardous Waste Tracking System (a database used to track the volume and type of hazardous waste managed in California, including that of TWW shipped to hazardous waste landfill and out-of-state landfill utilizing the traditional hazardous waste laws and regulations).

TWWTs: Treated Wood Waste Tracking System.

Figure 4. Locations of Approved TWW Solid Waste Landfills and Tonnage Reported to TWWTS, July 1, 2007 – December 31, 2010

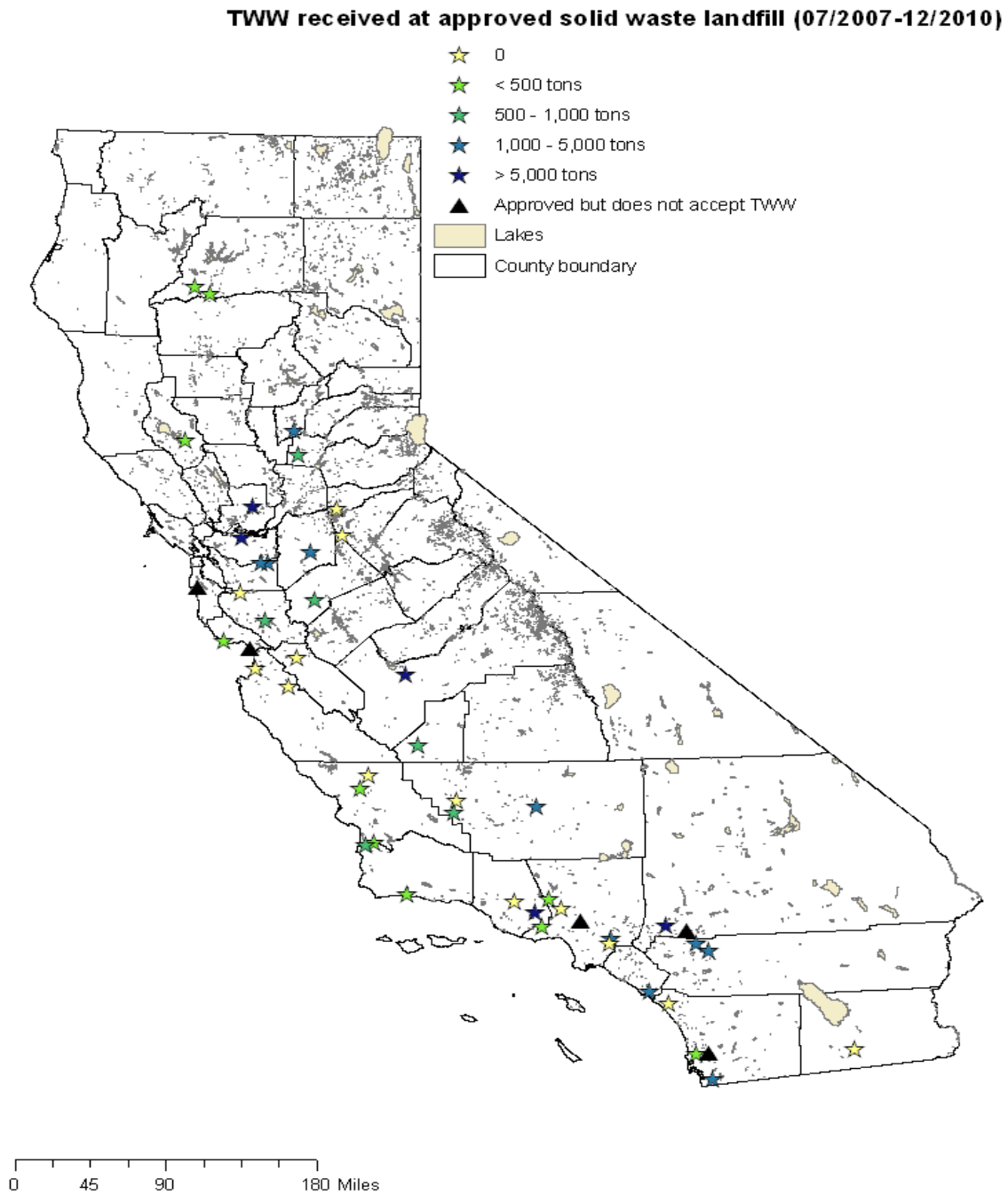


Figure 5. The Number of Non-household TWW Generators by Volume of TWW Disposed

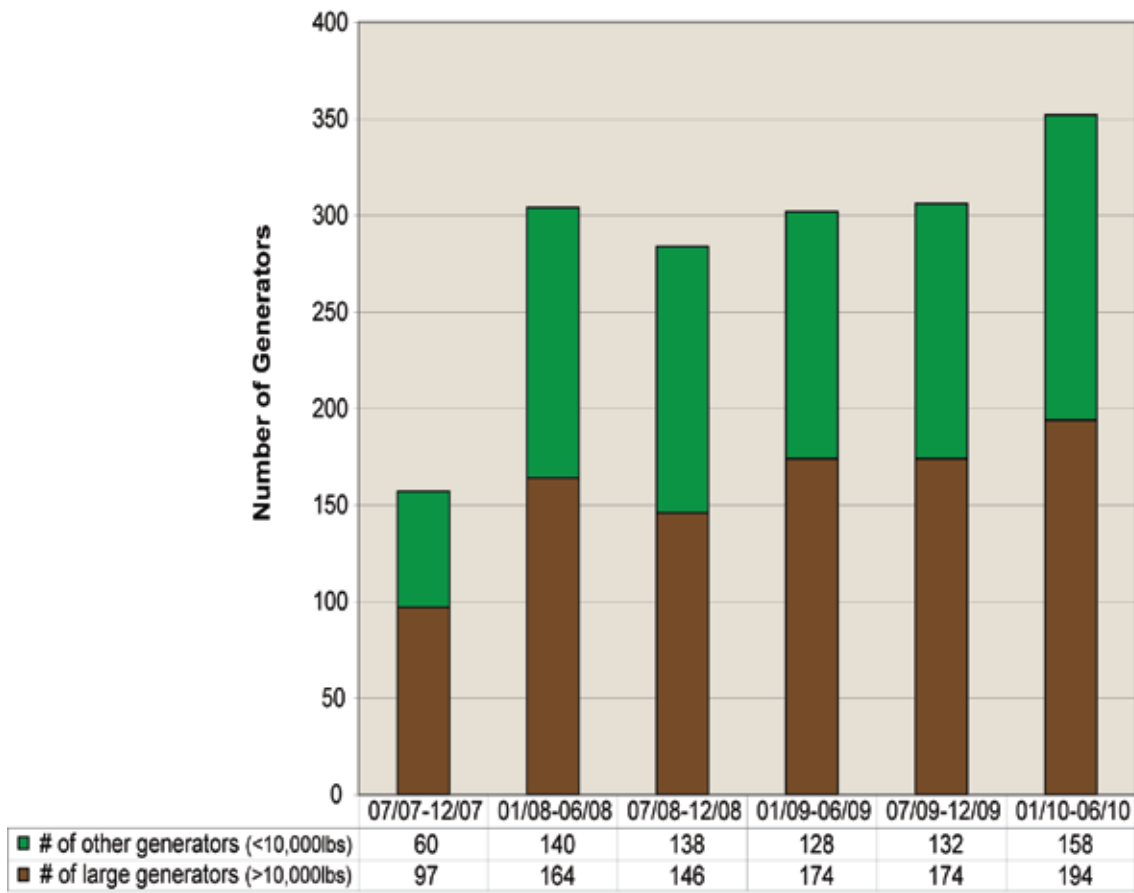
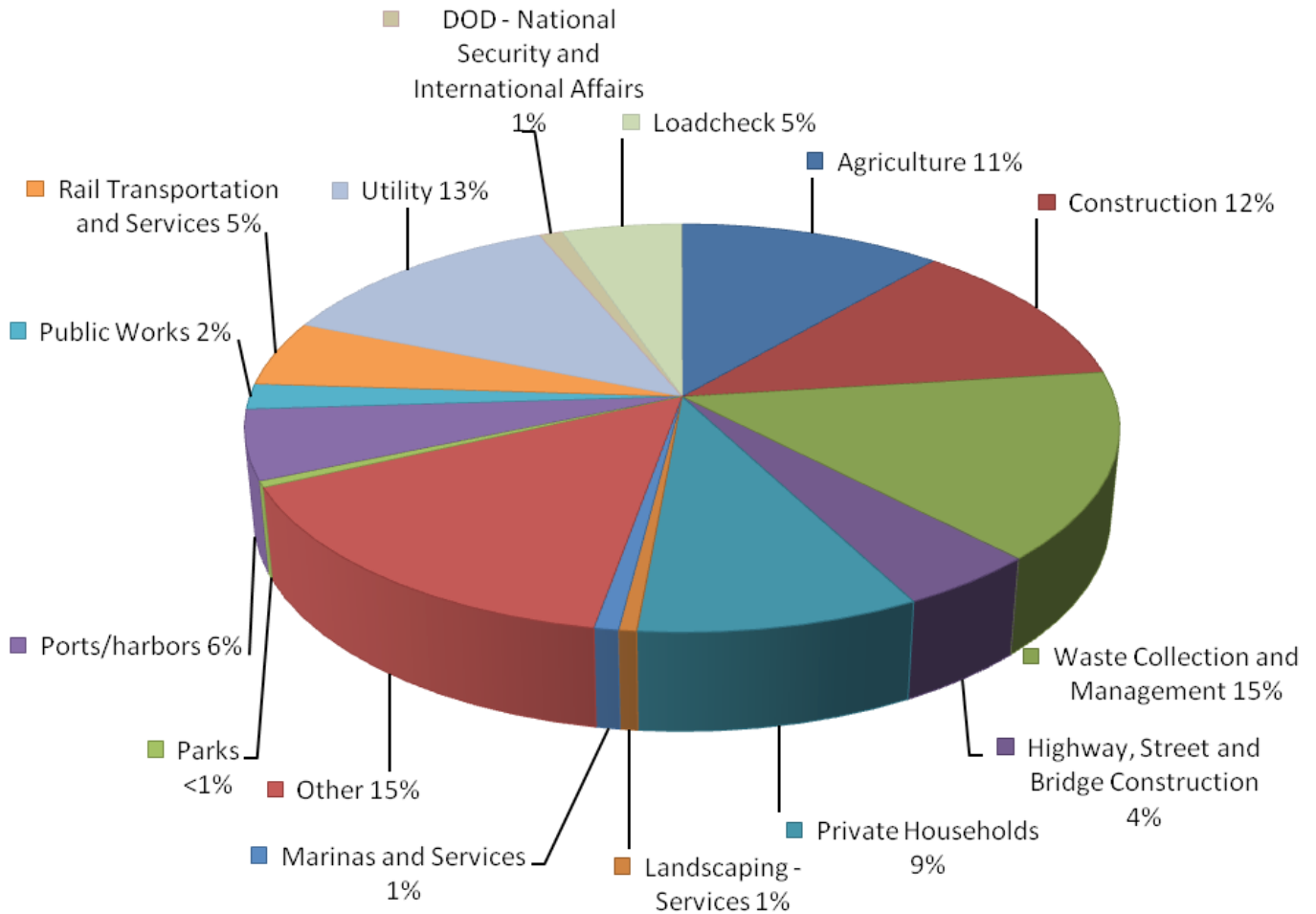


Figure 6. Aggregated TWW Generation Trend by Sector, July 1, 2007 – December 31, 2010



Although TWW from utility service use is exempted from the AMS, some landfills still track and report the volume received for the utility sector)

