

2009/2010 Disposal Status Report

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11-LQ-003



State of Oregon
Department of
Environmental
Quality



2009/2010 Disposal Status, State of Oregon

This report includes disposal facility information through December 2010 and disposal tonnage data through 2009. Disposal tonnage data were not yet available for all of 2010 when this report was written.

Key Findings:

- After years of continuing increases in disposal, waste disposed in all categories decreased sharply in 2008 and continued to decline in 2009. The total tons of disposed waste from all Oregon sources declined to levels not seen since 1995, and on a per-capita basis, disposed waste in 2009 was substantially lower than it has been since full compilation of disposal data began in 1992.
- The amount of out-of-state waste disposed in Oregon also declined sharply on a tonnage basis, but remained about the same on a percentage basis at about 39% of total wastes disposed in 2009.
- The amount of waste disposed at industrial facilities continues to decline, and is now only a very small portion of the total waste disposed in Oregon.
- Two facilities burn municipal solid waste for disposal. The Brooks Energy Facility in Marion County uses the energy from burning waste to generate electricity, while the Beaver Hill Incinerator in Coos County burns waste for disposal. Between them they burn 6.3% of Oregon's disposed municipal waste.
- At the end of 2010, Oregon had 32 open municipal and demolition landfills and 39 closed sites with active permits. Many of the closed landfills were small landfills that accepted less than 1,000 tons of waste per year when they were open. Federal law requires that closed landfills be monitored and maintained for at least 30 years after closure.

Operating Disposal Facilities

The number of landfills in Oregon declined sharply in the 1990s, but since then the number has been fairly stable. At the beginning of 1997, Oregon had 53 operating municipal and demolition solid waste landfills. By the end of 2010, 26 municipal landfills and 6 demolition landfills were still in operation. No new municipal landfills have been established in Oregon since 1993. Since 1994, only two industrial landfills have opened (the most recent in May 2000), but several small solid waste treatment facilities have opened since 2000 and a tire pyrolysis facility opened in 2008 in Morrow County.

Table 1 shows the number of solid waste disposal sites as recorded in DEQ's database as of the end of 2010. Closed sites with active permits are generally still being monitored by DEQ, while sites with terminated permits have been determined not to pose an environmental threat and thus are not generally monitored.

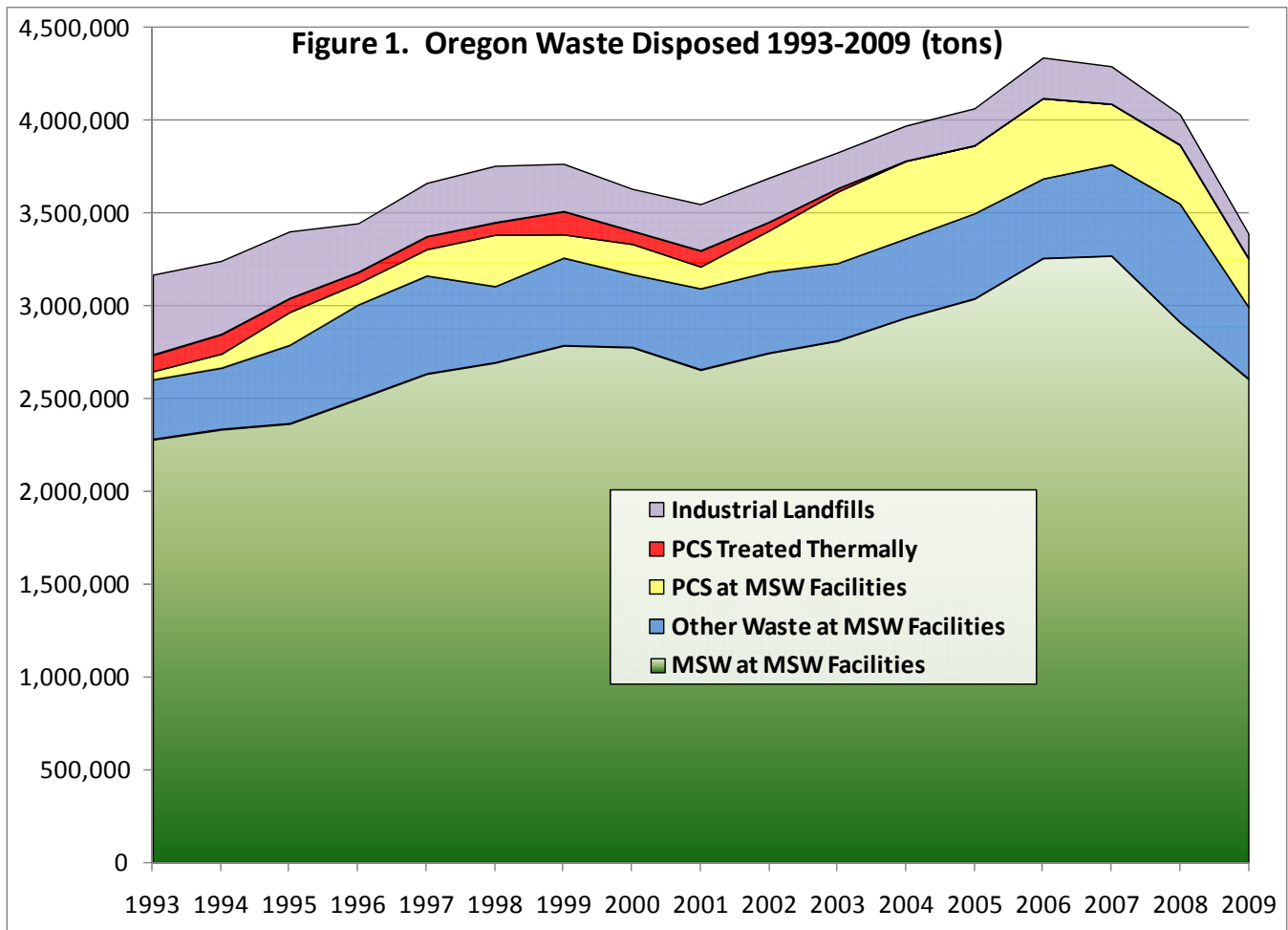
Table 1. Open and Closed Disposal Sites in Oregon as of December 31, 2010

	Open Sites - Active Permits	Closed Sites - Active or Closure Permits	Closed Sites - Terminated Permits	Total Sites by Type
Municipal Landfills	26	34	55	115
Municipal Burner/Incinerators	2	0	2	4
Demolition Landfills	6	5	1	12
Industrial Landfills & Tire Landfill	36	33	78	147
Industrial Treatment	5	0	10	15
Exporters	6	0	2	8
Sludge Lagoon/Spreading, Transfer Sites	4	0	19	23
MSW Transfer Stations	118	0	21	139
MSW Processing Facilities	20	1	11	32
Industrial Transfer / Processing / Energy	3	0	2	5
Composting Facilities	46	0	20	66
Tire Storage / Beneficial Use	12	0	6	18
Total Disposal Sites	268	69	218	555

Amount of Waste Disposed

Solid waste disposal of all kinds fell dramatically in 2008 and 2009, as can be seen in Figure 1 below. The tonnage of municipal or "counting" waste had risen fairly regularly over the last two decades, peaking in 2007. By 2009, however, the disposed municipal waste was at its lowest tonnage since 1996, and disposal of total waste, including municipal, industrial, and contaminated soils was at its lowest since 1994. On a per capita basis, the decline is even more dramatic. As reported in the 2009 Oregon Material Recovery Report, disposal of "counting" waste fell to 1,351 pounds per person per year in 2009 - a figure that is 10 percent lower than when Oregon began comprehensively recording disposal data in 1992. Septage waste and imported waste are not included in Figure 1.

The category "Municipal Solid Waste" (MSW) includes construction and demolition wastes as well as wastes from commercial businesses, residences, and institutions. It excludes industrial and agricultural process waste, landfill alternative daily cover, petroleum-contaminated soils (PCS), inert materials such as dirt or concrete, and special wastes such as sludges and asbestos. This definition of MSW is used for "counting waste" in the Oregon Material Recovery Survey, as specified in Oregon law for determining recovery rates (ORS 459A.010). Care should be taken when comparing these tonnages to tonnages reported nationally or by other states, as the Environmental Protection Agency and many others do not include construction and demolition wastes in their municipal solid waste totals. "MSW Facilities" include municipal and demolition landfills as well as a solid waste energy recovery facility and a solid waste incinerator.



Most waste disposed of in Oregon is landfilled in a few municipal solid waste landfills or burned at two facilities. The nine largest facilities account for 4,867,232 tons of disposed materials in 2009 – about 91% of all solid waste landfilled or incinerated in Oregon, including industrial waste and imports and excluding exports. Table 2 shows a

breakdown of wastes disposed of in Oregon municipal disposal facilities, and Table 3 shows the waste received by the nine largest facilities.

Table 2. Oregon Waste Disposal for 2009 (tons)

	Oregon Waste Disposed of in Oregon	Exported Out-Of-State	Waste Generated in Oregon	Out-of-State Waste Disposed of in Oregon
Municipal Waste*	2,520,382	54,115	2,574,497	1,517,113
Alternative Daily Cover**	249,377	0	249,377	426,650
Asbestos	10,792	5	10,797	11,214
Contaminated Soils**	12,001	306	12,307	17,284
Tires & Tire Residue	31,687	1,983	33,670	54,555
Inerts - Other Soil, Ash	13,351	0	13,351	0
Septage Sludge	20,825	0	20,825	0
Industrial & Other Wastes***	363,847	662	364,509	35,240
Total	3,222,263	57,071	3,279,333	2,062,057
Total Disposed in Oregon	5,284,319			
Total Oregon Disposed & Exported Wastes	5,341,390			

* Municipal waste includes construction and demolition wastes.

** Contaminated soils used as alternate daily cover are included in the "contaminated soils" category.

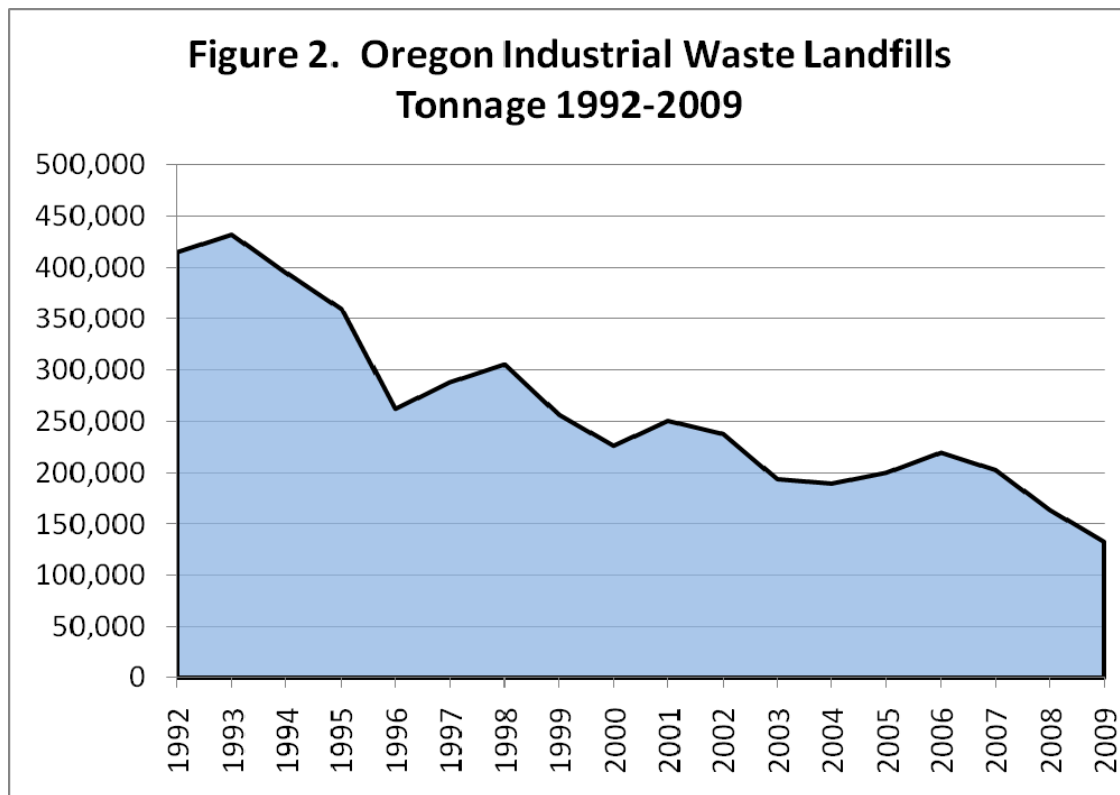
***This table does not include 132,848 tons of industrial waste that are landfilled in industrial waste landfills that serve a single company.

Table 3. Tons Disposed in Oregon's Nine Largest Disposal Facilities, 2009

Landfill	Tons
Columbia Ridge Landfill, Gilliam County	1,867,477
Riverbend Landfill, Yamhill County	598,080
Finley Buttes Landfill, Morrow County	538,225
Coffin Butte Landfill, Benton County	496,042
Wasco County Landfill, Wasco County	422,397
Dry Creek Landfill, Jackson County	282,956
Hillsboro Landfill, Washington County	258,226
Short Mountain Landfill, Lane County	218,060
Energy Recovery Facility, Marion County	185,770

Although the total waste disposed in municipal landfills continued to climb regularly until 2007 before declining in 2008 and 2009, the waste disposed of in industrial landfills has decreased regularly since the mid-1990s. This can be seen in the top segment of Figure 1, but is more evident in Figure 2, which shows just the wastes disposed of in industrial landfills. There are a few reasons why industrial wastes have declined:

- Most industrial waste facilities are wood waste and paper mill disposal sites that serve a single mill. These mills have found ways to use or divert much of these wastes, such as burning them for energy recovery, composting them, or selling them for mulch.
- Some mills have closed due to economic reasons or reduced timber availability. Others remain open, but have closed their landfills to avoid liabilities and potential monitoring costs.
- Some industries have decided to use regular municipal facilities to dispose of their wastes, rather than open or maintain an industrial waste landfill.



Through 2006, petroleum-contaminated soil (PCS) was an increasing but highly variable portion of solid waste disposed as the number of cleanups of leaking underground storage tanks and spill sites increased. Since 2006, however, the amount of contaminated soil disposed has been declining. In the early 1990s, much of this soil went to a couple of thermal treatment sites, where the hydrocarbons were removed from the soil and burned. However, treatment by this method is fairly expensive. Many landfills applied for and received permission to accept and landfill petroleum-contaminated soils that contain moderate to low amounts of petroleum. The landfills used this material as daily cover, reducing the need to obtain soil for cover. The landfills could accept contaminated soil at a lower price than the treatment facilities had to charge in order to be profitable. As a result, the percentage of contaminated soil that was landfilled increased during the decade. All three of Oregon's thermal treatment facilities closed between 2001 and 2003, even though the amount of petroleum-contaminated soil being treated off-site rose during this period. Figure 1 shows the amount of PCS going to landfill versus thermal treatment sites since 1993.

Waste Imports

Prior to 1990, relatively little out-of-state waste was imported into Oregon for disposal. Imports rose quickly in the early 1990s and continued to rise through 2007. Two factors fueled that rise - an increase in the number of jurisdictions sending waste to Oregon, and an increase in the amount of waste sent by each jurisdiction. However, import tonnage also fell in 2008 and 2009, mirroring the decline in disposal from Oregon sources. This decline was due to a decrease in waste produced by each jurisdiction sending waste to Oregon, rather than changes in the number of jurisdictions sending waste to Oregon. As such, the percentage of waste disposed of in Oregon that was imported from out-of-state remained fairly constant at close to 39% in 2009.

Most of the waste imported into Oregon comes from Washington. The largest of these jurisdictions sending waste to Oregon include Seattle, Clark County, the City of Vancouver, and the Tri-Cities area. Twelve municipal landfills and the Marion County Energy Recovery Facility reported receiving out-of-state wastes in 2009. The Columbia Ridge Landfill accepts most of the out-of-state waste, taking in 1,289,367 tons in 2009. Other larger landfills include Finley Buttes and Wasco County landfills in Eastern Oregon and the Dry Creek Landfill near Medford, which took in 46,992 tons from northern California. No industrial landfills in Oregon report receiving any out-of-state wastes.

Figure 3. Percentage of Out-Of-State Waste at Oregon Disposal Sites 1993-2009

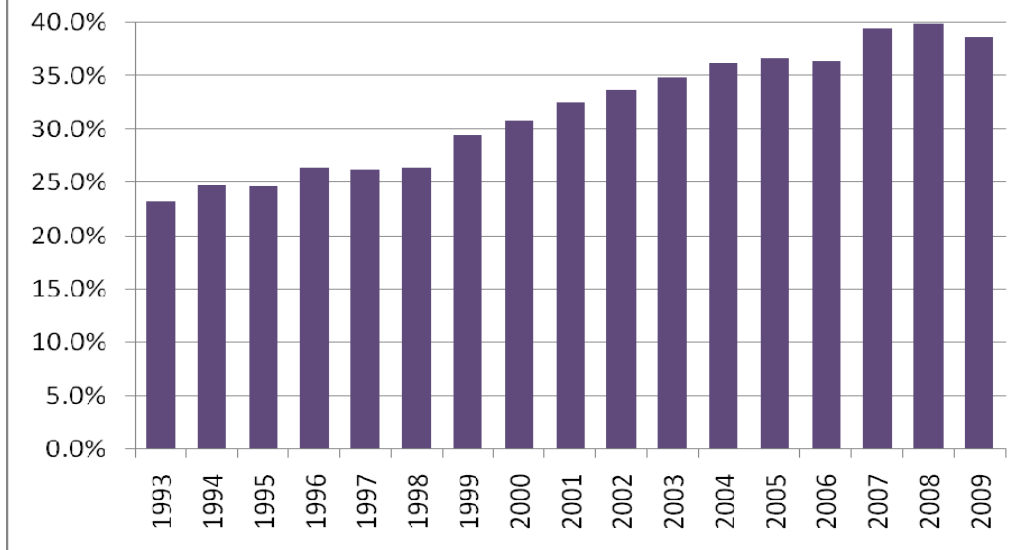
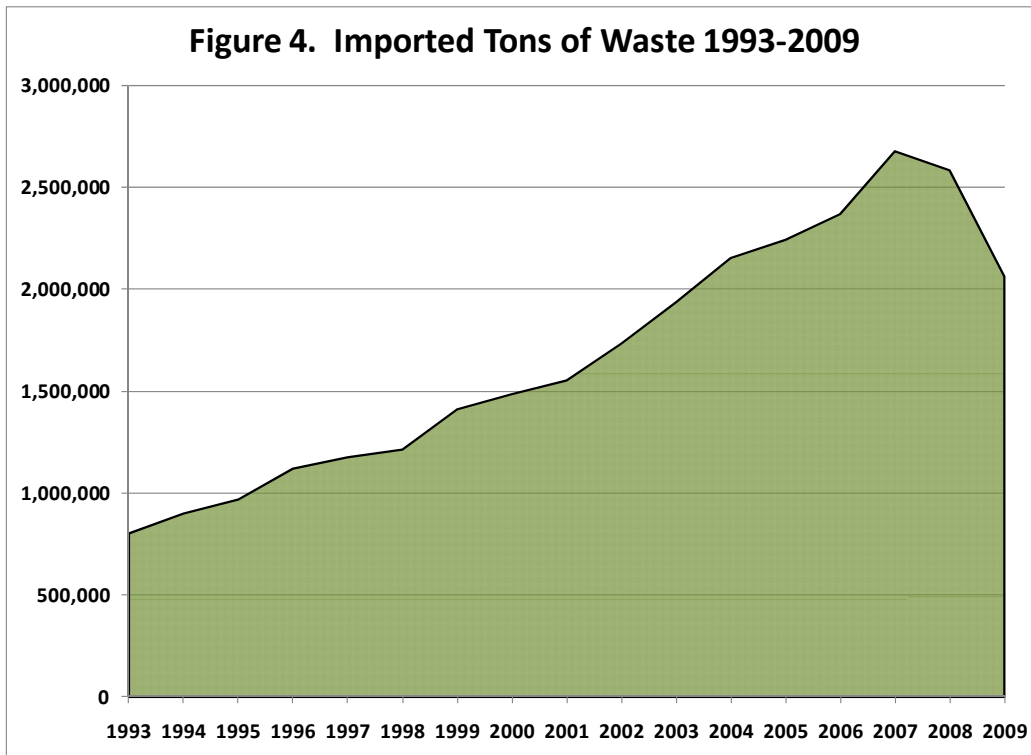


Figure 4. Imported Tons of Waste 1993-2009



Waste Exports

In contrast to imports, very little Oregon waste is exported to other states for disposal. Beginning in 2004, Klamath County began shipping all its municipal waste north to the Roosevelt Landfill in Klickitat County, Washington. That landfill also receives small amounts of tires and other waste, mainly from the Portland Metro area. It occasionally receives contaminated dredgings from Oregon. An Idaho landfill receives municipal solid wastes from Malheur and Harney counties. Also, an industrial landfill operated by Weyerhaeuser in Cowlitz County, Washington, receives some industrial waste and a small amount of demolition waste - primarily from Weyerhaeuser's Oregon facilities. Since the Weyerhaeuser Landfill does not accept domestic solid waste, exporters to that landfill are exempt from reporting and fee payment to DEQ. The landfill does report the waste it receives from Oregon to the Washington Department of Ecology (WDOE) though, and the tonnage is published in a database maintained by WDOE.

The total waste exported from Oregon for disposal and reported to DEQ in 2009 (excluding the Weyerhaeuser landfill) was 57,070 tons, of which 54,115 tons were municipal wastes, 1,983 tons were tires, 306 tons were contaminated soils, 662 ton were industrial waste, and 5 tons were asbestos. This total is about 1.7% of the total waste from Oregon that is disposed of each year.