

# 2007/2008 Disposal Status Report

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State of Oregon  
Department of  
Environmental  
Quality



## 2007/2008 Disposal Status, State of Oregon

### Key Findings:

- This report includes disposal tonnage data through 2007 and other information through December 2008. Disposal tonnage data were not yet available for 2008 when this report was written.
- The amount of waste disposed increased fairly regularly from 1990 through 2007 but “counting” waste<sup>1</sup> increased only slightly in 2007. The amount of out-of-state waste disposed in Oregon rose to more than 37% of total wastes disposed in 2007.
- The amount of industrial waste disposed remains about the same as two years ago but is about half of the amounts disposed of in the 1990s.
- 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 6.4% of Oregon’s disposed municipal waste.
- At the end of 2008, Oregon had 26 open municipal landfills and 35 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.
- The number of other facilities monitored by DEQ increased slightly in 2008. Many closed landfills have been replaced by permitted transfer stations. DEQ also issues permits for mixed solid waste processing facilities and commercial composting facilities (not including on-site agricultural or institutional composting operations).

### 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 solid waste landfills. By the end of 2008, 26 municipal 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 large 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 2008. 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, 2008**

|   | Open Sites<br>- Active<br>Permits | Closed<br>Sites -<br>Active or<br>Closure<br>Permits | Closed<br>Sites -<br>Terminated<br>Permits | Total Sites<br>by Type |
|---|-----------------------------------|--|--|------------------------|
| Municipal Landfills                     | 26                                | 35   | 56   | 117                    |
| Municipal Burner/Incinerators           | 2                                 | 0  | 2  | 4                      |
| Demolition Landfills                    | 7                                 | 4  | 2  | 13                     |
| Industrial Landfills & Tire Landfill    | 36                                | 33   | 78   | 147                    |
| Exporters                               | 6                                 | 0  | 2  | 8                      |
| Sludge Lagoon/Spreading, Transfer Sites | 5                                 | 0  | 18   | 23                     |
| MSW Transfer Stations                   | 122                               | 1  | 17   | 140                    |
| MSW Processing Facilities               | 14                                | 1  | 10   | 25                     |
| Composting Facilities                   | 46                                | 1  | 13   | 60                     |
| Tire Storage / Beneficial Use           | 19                                | 0  | 18   | 37                     |
| <b>Total Disposal Sites</b>             | <b>283</b>                        | <b>75</b>  | <b>216</b>                                 | <b>574</b>             |

<sup>1</sup> “Counting” waste is the amount of municipal solid waste generated in Oregon that is used for purposes of calculating the state’s recovery rates. “Counting” waste includes municipal solid waste, waste tires, construction and demolition debris, animal waste and grease, and some inerts such as gypsum. (See Legislative Report 2008 executive summary for more information.)

## Amount of Waste Disposed

Most waste disposed of in Oregon is landfilled in municipal solid waste landfills or burned at two facilities. In fact, the seven largest landfills account for 5,871,685 tons of disposed materials in 2007 – about 84% 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 disposal facilities, and Table 3 shows the waste received by the seven largest landfills.

**Table 2. Oregon Waste Disposal for 2007 (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*                                   | 3,236,387                          | 60,840                | 3,257,797                 | 1,895,988                                |
| Alternative Daily Cover**                          | 103,554                            |                       | 103,554                   | 53,602                                   |
| Asbestos   | 7,879                              |                       | 7,879                     | 15,094                                   |
| Contaminated Soils**                               | 358,022                            |                       | 358,022                   | 498,898                                  |
| Tires & Tire Residue                               | 93,750                             | 4                     | 93,754                    | 19,388                                   |
| Inerts - Other Soil, Ash                           | 76,361                             | 159                   | 76,520                    | 0  |
| Septage Sludge                                     | 10,339                             |                       | 10,339                    | 15,221                                   |
| Industrial & Other Wastes                          | 493,988                            |                       | 493,988                   | 88,584                                   |
| <b>Total</b>                                       | <b>4,380,280</b>                   | <b>61,003</b>         | <b>4,441,283</b>          | <b>2,586,775</b>                         |
| <b>Total Disposed in Oregon</b>                    | <b>6,967,055</b>                   |                       |                           |  |
| <b>Total Oregon Disposed &amp; Exported Wastes</b> | <b>7,028,058</b>                   |                       |                           |  |

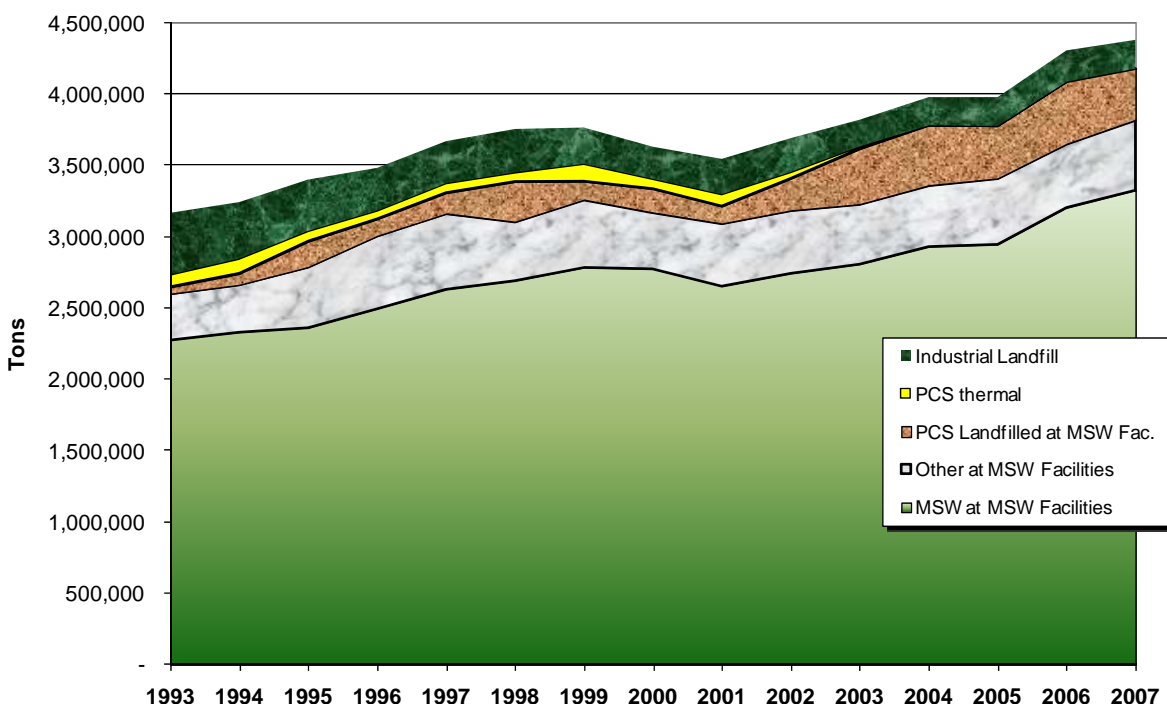
\* Municipal waste includes construction and demolition wastes.

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

**Table 3. Tons Disposed in Oregon's Seven Largest Landfills, 2007**

| Landfill                                | Tons      |
|---|-----------|
| Columbia Ridge Landfill, Gilliam County | 2,602,493 |
| Riverbend Landfill, Yamhill County      | 686,682   |
| Finley Buttes Landfill, Morrow County   | 682,204   |
| Wasco County Landfill, Wasco County     | 648,535   |
| Coffin Butte Landfill, Benton County    | 551,150   |
| Dry Creek Landfill, Jackson County      | 352,488   |
| Hillsboro Landfill, Washington County   | 348,133   |

Municipal waste disposed increased steadily during the 1990s, in spite of additional recycling efforts and greater tonnages of material recycled. In 2000 and 2001, both the per capita and total amount of waste disposed tapered off, then increased steadily until 2006. In 2007, both the per capita and total amount of waste disposed increased only slightly. Figure 1 shows the total tons disposed of Oregon-generated waste for 1993 through 2007 (septage wastes and imported wastes are not included).

**Figure 1. Oregon Waste Disposed in Oregon 1993-2007**

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.

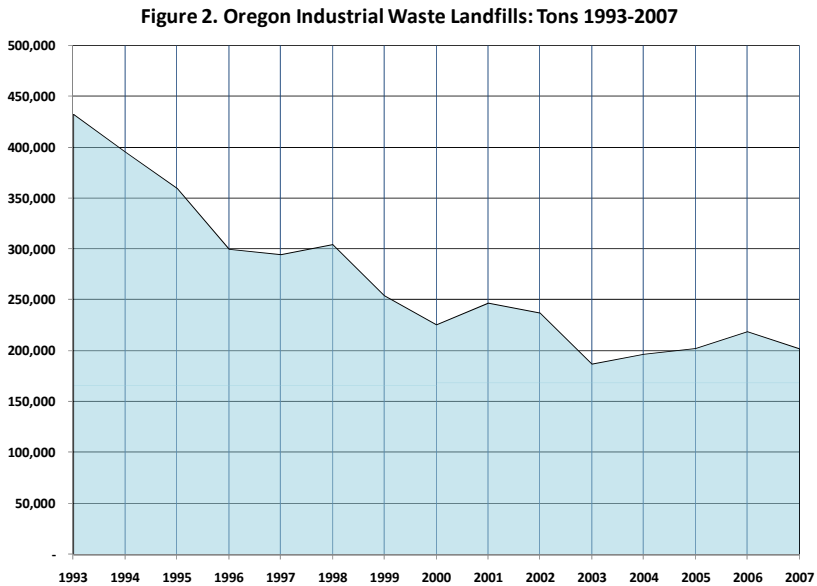
Most Oregon waste is municipal solid waste (including construction and demolition wastes) and is disposed of in MSW facilities. MSW has also contributed the bulk of the growth in disposal over the last 12 years.

In contrast, the waste disposed of in industrial landfills has decreased since the mid-1990s. This can be seen in 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.

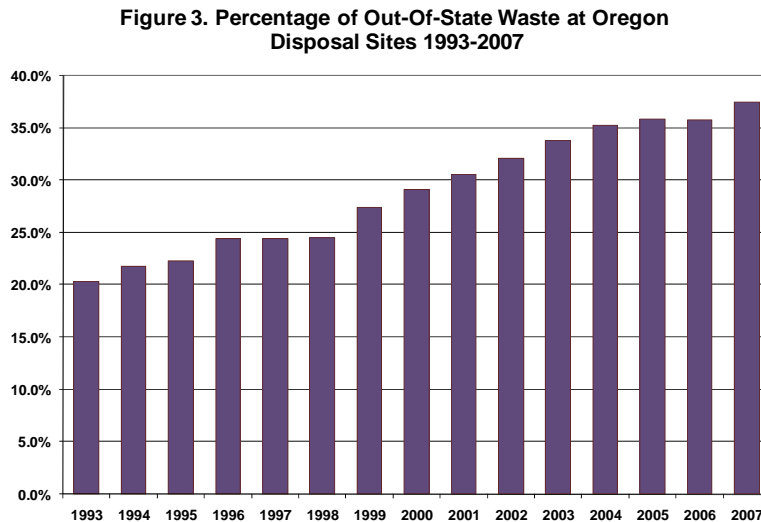
Petroleum-contaminated soil (PCS) has become an increasing but highly variable portion of solid waste disposed as the number of cleanups of leaking underground storage tanks and spill sites has increased. In the early 1990s, much of this soil went to a couple of thermal treatment sites, where the hydrocarbons 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, and so 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 continue to rise. In 2007, imported waste made up 37.1% of all waste disposed of in Oregon. A number of Washington jurisdictions send substantial amounts of solid waste to Oregon landfills, and some waste also enters Oregon for disposal from northern California. The largest of these jurisdictions include Seattle, Clark County, the City of Vancouver, and the Tri-Cities area. The Columbia Ridge Landfill accepts most of the out-of-state waste, taking in 1,801,615 tons in 2007. Thirteen other municipal landfills reported receiving out-of-state wastes in 2007, including Finley Buttes and Wasco County landfills in Eastern Oregon and the Dry Creek Landfill near Medford, which took in 40.347 tons from northern California. No industrial landfills in Oregon report receiving any out-of-state wastes.



### 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, and 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 in 2007 was 61,003 tons, of which 60,840 tons were municipal wastes, 159 tons were inert wastes, and 4 tons were tires. This total is about 1.4% of the total waste from Oregon that is disposed of each year.

## Environmental Monitoring

The primary environmental concerns at solid waste landfills are the potential for contamination of groundwater by leachate and the production and release of landfill gases, primarily methane. A number of Oregon's landfills now monitor for these concerns. However, few of the landfill cells constructed before the mid-1980s had liners or leachate collection systems or landfill gas monitoring systems. Not surprisingly, groundwater contamination often occurred in the past. The DEQ Solid Waste Program has continued to put more effort into working with landfills to mitigate or prevent further groundwater contamination.

As of 2008, 74 disposal sites in Oregon have active groundwater monitoring systems. In addition, 33 landfills have active landfill gas monitoring systems. Table 4 shows a breakdown of these sites by facility type:

**Table 4. Landfills with Environmental Monitoring, 12/31/2008**

| Type of Facility                   | Has Active Groundwater Monitoring | Has Active Lined Cells | Has Active Landfill Gas Monitoring |
|------------------------------------|-----------------------------------|------------------------|------------------------------------|
| Municipal Landfills (includes C&D) | 46                                | 13                     | 33                                 |
| Incinerator                        | 1                                 | 1                      | 0                                  |
| Industrial Landfills               | 26                                | 4                      | 0                                  |
| Sludge Sites                       | 1                                 | 1                      | 0                                  |
| <b>Total</b>                       | <b>74</b>                         | <b>19</b>              | <b>33</b>                          |