

2009 Oregon Material Recovery and Waste Generation Rates Report



State of Oregon
Department of
Environmental
Quality

**By: Land Quality Division
Solid Waste Policy and Program Development
Oregon Department of Environmental Quality**

September 2010



This report prepared by:

Oregon Department of Environmental Quality
811 SW 6th Avenue
Portland, OR 97204
1-800-452-4011
www.oregon.gov/deq

Contact:
DEQ Mary Lou Perry
(503) 229-5731

Acknowledgments

The Department of Environmental Quality's (DEQ) Solid Waste Policy and Program Development Section conducted the 17th annual Oregon Material Recovery Survey for calendar year 2009. DEQ extends its appreciation to industry representatives, collection service providers, and landfill administrators and staff for providing recovery and disposal data for 2009 and to the Metro staff for their work on the survey. Survey staff also thanks DEQ personnel who contributed to the accuracy and integrity of the information contained in this report:

Mary Lou Perry, Michelle Shepperd, Mary Fritzmann, Peter Spendelow, and David Allaway Solid Waste Policy and Program Development, DEQ Headquarters

Land Quality Support Team Business Systems Development, DEQ Headquarters

Cathie Rhoades and Craig Filip Solid Waste Reduction Technical Assistance, DEQ Western Region

Susan Christensen, Shari Harris-Dunning, Bruce Lumper, and Larry Brown Solid Waste Reduction Technical Assistance, DEQ Eastern Region

Leslie Kochan Solid Waste Reduction Technical Assistance, DEQ Northwest Region

Brian White Office of Communications and Outreach, DEQ Headquarters

For additional copies or additional information about this report, please call 503-229-5409 or toll-free in Oregon at 1-800 452-4011, x5409

Table of Contents



Executive Summary	1
Energy Savings and Greenhouse Gas Reduction.....	1
2009 Statewide Recovery, Disposal and Generation.....	1
Individual Wastesheds	1
Materials Recovered	2
Introduction and Purpose	3
Requirement to Report.....	3
Materials Included in the Analysis	4
Energy Savings and Greenhouse Gas Reduction	5
Energy.....	5
Greenhouse Gases	5
Recovery Rates	7
2009 Statewide Recovery Rate.....	7
How the Statewide Recovery Rate Is Calculated	7
Individual Wastesheds	8
Materials Recovered	10
Waste Generation.....	12
2009 Disposition of Total Waste Generated.....	12
Conclusion	14
Adjustments to Reports from Previous Years.....	15
2009 Survey Report Tables.....	16
Appendix I: Methodology	26
Data Sources	26
Data Collection and Management	26
Quality of Data	26
Double Counting of Materials	26
Commingled Collection.....	27
Disposal Data.....	27
Appendix II: Respondents to the 2009 Material Recovery Survey.....	28

Executive Summary

This is the Oregon Department of Environmental Quality’s (DEQ) eighteenth annual report on post-consumer material recovery and waste generation in Oregon. DEQ analyzes detailed survey and disposal reports for 2009 to compute recovery and waste reduction amounts. DEQ also estimates energy savings and greenhouse gas benefits from waste recovery.

Energy Savings and Greenhouse Gas Reduction

When materials are recovered, industry can create new products with significantly less energy and lower greenhouse gas emissions.

Energy savings for 2009 from recycling -

Approximately 27 trillion BTU – the equivalent of 216,000,000 gallons of gasoline, or roughly 2.4 percent of total energy used (2009) by all sectors of the economy in Oregon.

Greenhouse gas reductions in 2009 from recycling, composting and energy recovery -

Approximately 2.8 million metric tons of carbon dioxide equivalents – the equivalent of tailpipe emissions from 570,000 "average" passenger cars, or roughly 3.9 percent of all greenhouse gas emissions statewide (2009).

The amount of greenhouse gas reductions from recovery is significant. Recycling, in particular, is an important tool to reduce greenhouse gas emissions. Recycling cardboard produces the greatest benefit with nearly 1.13 million ton of CO2 equivalent, followed by paper with a little more than 592,000 tons, scrap metal with 516,000 tons and aluminum with 409,000 tons.

2009 Statewide Recovery, Disposal and Generation

Oregon recovered 2,088,265 tons, or 48.4 percent of the municipal post-consumer waste¹ stream in 2009. (To see the individual wasteshed rates, please go to Survey Report Table 1.) This is a tiny increase over the 2008 rate of 48.3 percent. Generation is the sum of all discards that are either disposed or recovered. Total disposal in 2009 equals 2,583,579 tons, and that added with total tons recovered equals 4,671,845 tons of waste generated. This is a 10.5 percent decrease in generation since 2008.

2009 waste generation equates to 2,444 pounds per person per year, compared to 2,753 pounds per person per year in 2008. This shows that for three years in a row, Oregon is meeting its per capita waste generation goal of no annual increase over the 2005 amount. This decrease is 11.2 percent less than 2008.

This continued decrease in total generation correlates to the current economic situation. In hard times, people tend to buy (and discard) less material. Both parts of the equation, recovery and disposal tonnages, fell in 2009, meaning that the recovery rate virtually stayed the same. This mirrors the state’s goals, which call for increasing recovery rates and decreasing waste generation.

Individual Wastesheds

There are 35 individual wastesheds, each with its own recovery rate and goal. Twenty-four of these showed decreased recovery rates from 2008 to 2009. However, twenty-five wastesheds did meet their 2009 recovery rate goals. In 2008, many wastesheds’ rates were higher than their goal, so that the decreases still did not drop their rates below the goals.

¹ Municipal post-consumer waste includes residential and business recycled, composed, burned for energy recovery and disposed materials. It excludes industrial materials.

$\frac{\textit{Total Recovered}}{\textit{Total Generated}} = \textit{Recovery Rate}$	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> <p style="text-align: center;">2009 OR Rate 48.4%</p> </div>
--	--

Materials Recovered

Materials recovered in 2009 include:

Paper (includes cardboard) – 30 percent
Yard Debris 23 percent
Metals – 18 percent
Wood Waste – 15 percent

Other – 6 percent
Glass – 5 percent
Plastics – 2 percent
Electronics – 1 percent

Conclusion

The energy savings and greenhouse gas reductions benefits of composting, energy recovery and recycling are sizable. Reducing these upstream impacts, through waste prevention, can lead to even greater benefits, given the large natural resource and environmental impacts associated with production of many manufactured goods.

Oregon neared its 2009 recovery rate goal of 50 percent with its rate of 48.4 percent, a slight increase from 48.3 percent in 2008. This ‘stalling out’ of the recovery rate shows effort is still needed - increasing food waste composting and diverting more organics from disposal are two areas that show promise for large gains.

Total waste generation in 2009 dropped below 5 million tons after topping that figure for five straight years, with per capita waste generation declining 11.23 percent, to 2,444 pounds per person.

Introduction and Purpose

This report describes the results and methodology of Oregon’s 2009 Material Recovery and Waste Generation Survey. Each year, the Department of Environmental Quality compiles data on post-consumer waste recovery. A survey is sent to all collection service providers and private recycling companies who handle materials for recycling, composting and energy recovery. This survey data are combined with data gathered from disposal sites from quarterly or annual reporting forms. Together, recovery and disposal numbers make up the amount of waste generated by Oregonians each year.

Recovery information allows DEQ to determine energy savings and greenhouse gas reductions, two important environmental benefits. DEQ also calculates a recovery rate: The percentage of the total waste generated that is recovered in recycling, composting or energy recovery. Recovery, disposal, and generation data, as well as recovery rates, are calculated both on a statewide basis and for each of 35 individual wastesheds.

<p>Total Recovered 2,088,265 tons</p>	= Recovery Rate
<p>Total Generated (=Total Recovered + Total Disposed) 4,671,845</p>	<p>2009 OR Rate 48.4%</p>

This is the eighteenth year that DEQ sent the survey out and gathered this data. The 1991 Oregon Legislature enacted requirements for this annual survey and set goals for the recycling rate. The state goal is 50 percent recovery by 2009. Individual wastesheds have recovery goals for 2009 ranging from 10 percent for Lake County to 64 percent for Metro. In addition, the 2001 Oregon Legislature established waste generation goals for the State. These waste generation goals are:

- For the calendar year 2005 and subsequent years, no annual increase in **per capita** municipal solid waste generation; and
- For the calendar year 2009 and subsequent years, no annual increase in **total** municipal solid waste generation.

Requirement to Report

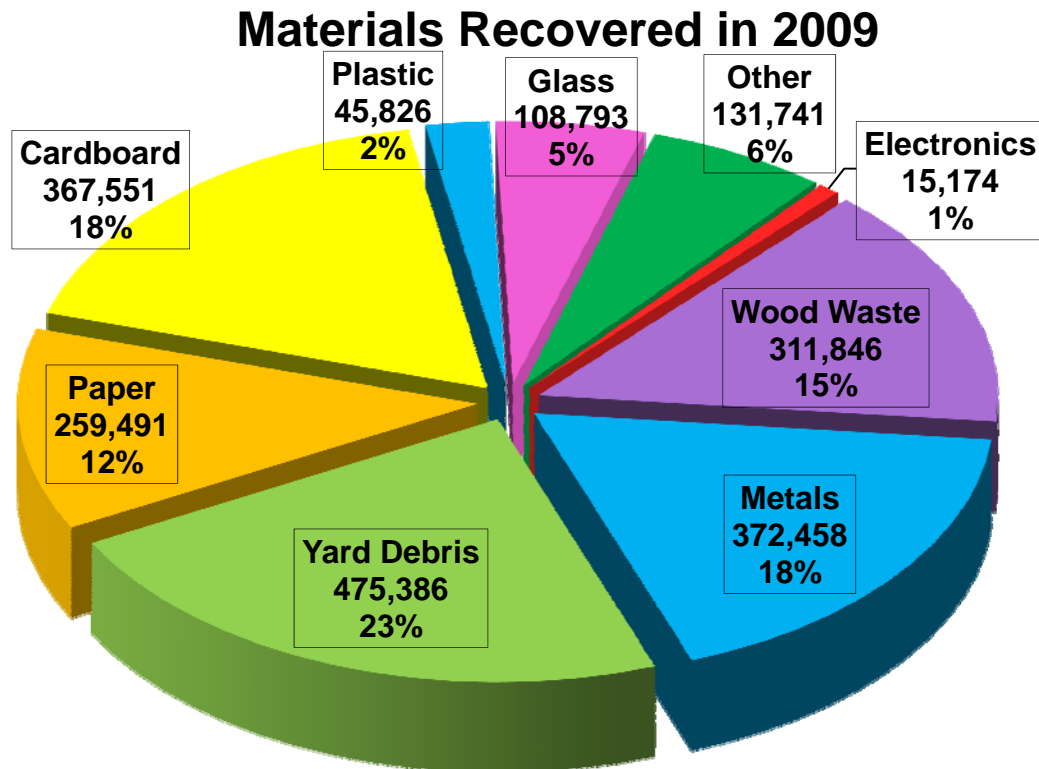
Oregon law requires that all publicly and privately operated recycling and material recovery operations complete a Material Recovery Survey form. This includes landfills, local recycling collectors, private recycling collection companies and depots, transfer stations, material recovery facilities, local governments and any other operation that handles post-consumer recyclable materials. Because of the difficulty of separating post-consumer scrap metal from commercial and industrial scrap metal, those companies handling scrap metal are not required to report on privately obtained post-consumer scrap metal, but many do report on a voluntary basis.

The survey requires that companies report all the recyclable materials they handle, including the amount collected, the county of origin, the company they received any transfers from, and where the materials are marketed.

Oregon law further requires DEQ to keep confidential that information reported by private recyclers. This includes customer lists or specific amounts and types of materials collected or marketed by individual companies. Only aggregated information may be released to the public.

Materials Included in the Analysis

Oregon's analysis of the environmental benefits from material recovery and the recovery rates includes only Oregon post-consumer materials collected for recycling, composting, or energy recovery. Waste from manufacturing and industrial processes (pre-consumer materials), reconditioned and reused materials, inert materials such as brick and concrete, and waste originating out-of-state (but handled in Oregon) are excluded. Some scrap metals, including discarded vehicles or parts of vehicles and metal derived from major demolition activities handled by scrap metal dealers, are also excluded. Scrap metal collected at disposal sites, by collection service providers, at community recycling depots, or through municipally sponsored collections events counts as recovered material.



The first Material Recovery Survey for the 1992 calendar year included 24 types of materials; the 2009 survey contains 33 materials.

The major materials included in 2009 are:

- **Paper** – Paper fiber (combined high-grade paper, newsprint, and mixed waste paper).
- **Cardboard**
- **Plastic** – Rigid plastic containers (#1, PET, #2 HDPE milk jugs and #2 HDPE other), plastic film (#4 LDPE), other plastics (#5 polypropylene and #6 polystyrene) and composite plastic (including carpet pad).
- **Glass** – Container glass and other glass such as windowpanes and ceramics.
- **Other** – Tires, used motor oil, batteries of all types, gypsum, asphalt roofing materials, food waste, animal waste & grease, textiles and paint/solvents
- **Electronics**
- **Wood Waste**
- **Metals** – Tinned Cans, aluminum, and other scrap metals
- **Yard Debris**

Energy Savings and Greenhouse Gas Reduction

DEQ uses the results of the Material Recovery Survey to estimate the energy savings resulting from recycling, as well as reductions in greenhouse gasses associated with recycling, composting, and counting energy recovery.

Energy

When recycled materials replace virgin feedstock in manufacturing, energy savings are significant. Making aluminum from old beverage containers uses 93 percent less energy than making aluminum from bauxite. Newsprint made from old newspapers requires 46 percent less energy than making newsprint from wood. While the energy conservation benefits of recycling have long been recognized, quantifying these estimates can be difficult. The US Environmental Protection Agency (EPA) developed a model using methodology to estimate the amount of per ton energy savings for recycling for a wide variety of materials.²

DEQ applies these estimates to the results of the 2009 survey for only those tons recycled (energy recovery and composting are not included.) Material categories from Oregon's survey do not perfectly align with EPA's material categories, so some assumptions were made in classifying materials. Additionally, EPA's model is based on national averages, which may not be representative of Oregon's recycling markets. Nonetheless, the use of EPA's model allows for a **rough** estimate of the energy saved from materials recycled by Oregonians. DEQ estimates that recycling by Oregon households and businesses in 2009 (counting only wastes generated in Oregon, not those generated elsewhere and shipped to Oregon for recycling) led to energy savings of approximately 27 trillion British thermal units (BTUs).

To put the energy savings number into context, total energy use in Oregon across all sectors (transportation, electricity, heating, industry) in 2008 was 292 million BTUs per capita. If per capita use remained constant through 2009, then the energy savings from recycling alone equates to a 2.4 percent offset of total energy use. This can also be expressed as equivalent to 216 million gallons of gasoline saved in 2009. These comparisons are not perfect. Many of Oregon's recyclable materials are exported to other states or countries, so the energy conservation benefits occur elsewhere. The actual energy saved by recycling includes a mix of not only gasoline and other liquid fossil fuels, but also coal, hydroelectric, nuclear, and wood. Nonetheless, the energy savings from recycling in Oregon is significant.

Greenhouse Gases

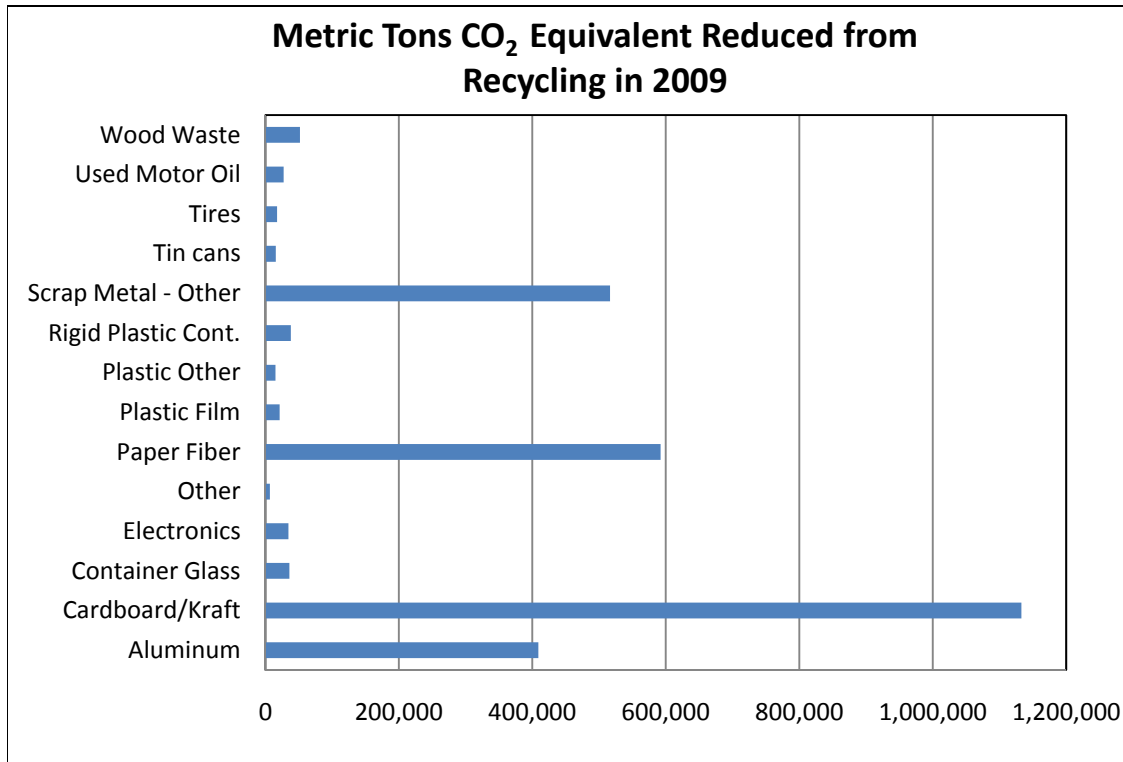
The US EPA also publishes greenhouse emission factors allowing for the estimation of the greenhouse gas benefits due to recycling, composting and "counting" energy recovery. These calculations are relatively involved and utilize emissions inventory work started in 2004 on behalf of the Governor's Advisory Group on Global Warming, and updated periodically. The greenhouse gas benefits include a variety of emissions, carbon sinks, and emission offsets, which vary by material, management method, and the likely disposal site if the materials were not recovered. Major categories of sinks and offsets include increased carbon storage in forests when recycled paper displaces wood fiber, reductions in fossil fuel use due to the energy savings of recycling, and reductions in methane emissions at landfills.

Net greenhouse gas reductions associated with materials recycled, composted, and burned for energy in 2009 are estimated at 2.8 million metric tons of carbon dioxide equivalents. This includes only materials that are counted in the Material Recovery Survey and excludes any materials that are generated in other states and shipped to Oregon for handling. An interesting effect of using EPA's published emission factors and Oregon landfill data for comparison is that composting yard debris is shown to add, rather than reduce, greenhouse gas emissions. This is a small amount, and other benefits of composting outweigh this shortfall.

² The methodology for obtaining these estimates changed since 2005. Comparisons should not be made between the results for 2009 and the years before 2006.

Further, EPA’s emission factors for yard debris composting vs. landfilling are believed to contain significant uncertainty, and are the topic of considerable discussion and research

The net greenhouse gas emissions for Oregon in 2009 (based on an estimate of 2005 emissions and projections for 2015), using conventional accounting principles, are projected at 72.4 million metric tons of carbon dioxide equivalents. Thus, recycling, composting, and **counting** energy recovery provide a greenhouse gas offset or “credit” corresponding to 3.9 percent of net statewide emissions (from all sources). Most of the benefit is a result of recycling activities, as opposed to composting or energy recovery.



Comparing recovery-related greenhouse gas reductions (2.8 million metric tons) with statewide emissions (72.4 million metric tons) is potentially misleading because the emission reductions from materials recycled and composted in 2009 occur over multiple years, while the estimated emissions of 72.4 tons are “same-year” (2009) emissions. The reductions are spread over multiple years because they include avoided methane emissions from slow decay in landfills, as well as an increase in long-term carbon sequestration in forest and agricultural soils treated with compost. However, just as some of the greenhouse gas benefit from recycling and composting in 2009 will actually occur in subsequent years, some of the greenhouse gas benefit counted for previous years actually occurred in 2009.

Another way to look at the greenhouse gas reductions is to express emission reductions in terms of **average cars**. Using data from the EPA, Oregon Department of Transportation, and Oregon Department of Energy, DEQ estimates that 2.8 million metric tons of carbon dioxide equivalents is comparable to the greenhouse gas benefit of removing approximately 570,000 “average” passenger cars from the state’s stock of 3.2 million registered passenger vehicles. As with energy savings, the greenhouse gas benefit of recycling, composting, and energy recovery is significant. Not generating waste in the first place likely produces even greater greenhouse gas and energy benefits; but they are not estimated here.

Recovery Rates

DEQ uses total recovered tons as a percentage of total waste generation to determine a recovery rate. This is determined for the state as a whole and for each of the 35 individual wastesheds in the state. The 2001 Legislature set state and wasteshed recovery rate goals for 2009. (See Survey Report Table 1, P 15.) The state 2009 recovery rate goal (including credits) is 50 percent.

2009 Statewide Recovery Rate

The state of Oregon recovered 2,088,265 tons of material or 48.4 percent of the municipal post-consumer waste stream in 2009. This rate is nearly the same as the 48.3 percent rate of 2008. All three components of the recovery rate calculation, recovered tons, disposed tons and generated tons (the sum of recovered tons plus disposed tons) decreased since 2008. Total disposed was 2,583,579 tons in 2009 and that added with total recovered equals 4,671,845 tons of total waste generated in 2009.

Both recovery and disposal tonnages fell in 2009. Since disposal decreased a bit more than recovery, the recovery rate increased while total waste generation decreased.

How the Statewide Recovery Rate Is Calculated

Information about the quantities of material collected from privately-operated recycling and material recovery facilities is combined with recovery information from collection service providers and disposal site collections. This determines the total weight of material recovered.

Next, the total weight of material recovered is added to the total weight of material disposed obtained from disposal site reports. This determines the total weight of material generated. The total weight of material recovered is divided by the total weight generated. This results in the **calculated recovery rate**.

The method of calculating the **total recovery rate** for the state was changed by the 2001 Legislature to include the 2 percent reuse and residential composting credits earned by wastesheds. This statutory change requires a more complex series of calculations to determine the total recovery rate.

The statewide total recovery rate is derived by first estimating what is called “adjusted recovery” for each wasteshed. The calculation of adjusted recovery involves calculating the tonnage that would be recovered if the 2 percent credits earned for reuse and residential composting were included in each wasteshed’s calculated recovery rate, holding disposal tonnage as a constant. For wastesheds where no 2 percent credits were obtained, adjusted recovery is equal to calculated recovery. For wastesheds with recovery credits, adjusted recovery is higher than calculated recovery because adjusted recovery includes the tonnage attributed to reuse and residential backyard composting.

Oregon Recovered Tons and Recovery Rates

Year	Tons	Calculated Rate	Total Rate*
1992	839,679	27.1	-
1993	974,685	29.9	-
1994	1,118,912	32.6	-
1995	1,257,204	34.7	-
1996	1,338,259	34.9	-
1997	1,462,114	35.7	-
1998	1,604,985	37.3	-
1999	1,626,271	36.8	-
2000	1,765,817	38.9	-
2001	1,999,085	43.1	46.8
2002	2,029,261	42.7	46.3
2003	2,116,880	43.1	46.8
2004	2,317,064 ¹	44.2	48.0
2005	2,523,367 ¹	45.5	49.2
2006	2,494,050 ¹	43.5	47.3
2007	2,437,569 ¹	42.9	46.6
2008	2,327,554 ¹	44.6	48.3
2009	2,088,265	44.7	48.4

* These rates are including the addition of any two percent credit allowances enacted by the 2001 Legislature

¹- These tonnage figures are corrected from the published values – see P.11

To obtain the statewide total recovery rate, the adjusted recoveries for all wastesheds are summed together to equal a statewide adjusted recovery amount. This is then added to the actual statewide disposal tonnage to get a new estimate of waste generation (adjusted generation). The statewide total recovery rate is then calculated by dividing the adjusted recovery by the adjusted generation.

Individual Wastesheds

The total weight of material recovered is broken down by wasteshed of origin. Direct collectors of materials are the primary and best source of information for the collected materials' wasteshed of origin. When information from direct collectors is not available, or when a survey respondent does not know the wasteshed of origin for the collected materials, the markets' and end users' estimates are the secondary method used to allocate material back to wastesheds. In rare cases, material is allocated back to wastesheds using population when survey respondents and market information cannot accurately estimate wasteshed of origin.

The total weight of material disposed is also broken down by wasteshed enabling a determination of individual wasteshed waste generation amounts. The total weight of material recovered is divided by the total weight generated. For each wasteshed, this results in an individual **calculated recovery rate**.

Recovery credits for waste prevention, reuse, and residential composting are then added to the **calculated recovery rate** in order to obtain the **total recovery rate**. The total recovery rate is used for determining whether wastesheds are achieving their recovery goals. Each wasteshed must apply for these credits as part of their annual Opportunity to Recycle Report submitted to DEQ Technical Assistance staff. The applications are reviewed against statutory standards for each of the three types of credits and a determination is made. A wasteshed may warrant zero to three recovery credits for an additional 0-6 percent added to the calculated recovery rate.

Marion County Adjustment.

As home to the state's only municipal waste-to-energy incinerator, Marion County's recovery and disposal tonnages are revised each year to include certain wastes burned for energy as recovered, as directed by the 2001 Legislature. In 2009, 18,663 tons of waste burned for energy in the county's waste-to-energy incinerator were counted as recovered instead of disposed. This result was obtained by multiplying the quantity of non-industrial, in-county, **counting** solid waste processed at the facility by waste composition percentages³. The six materials that may be counted towards the recovery rate when burned for energy are: Wood, yard waste, tires, used motor oil, fuels, and oil-based paint.

Recovery Credits.

Since 1997, wastesheds have been eligible to add 2 percent credits toward their recovery rates if they certify that they implemented programs in waste prevention, residential composting, or reuse (one 2 percent credit for each program, for a potential total of 6 percent).

Seventeen wastesheds received at least one 2 percent credit in 2009.

Baker	2%	Jackson	6%	Metro	6%
Benton	6%	Josephine	4%	Sherman	2%
Curry	4%	Lane	6%	Union	2%
Deschutes	6%	Lincoln	2%	Wasco	6%
Douglas	6%	Linn	6%	Yamhill	6%
Hood River	6%	Marion	6%		

Wasteshed Recovery Rates.

³ The percentages are from the 2007 Marion County waste composition study.

Twenty-four of the 35 wastesheds have total recovery rates in 2009 that are less than their 2008 rates as compared to twenty-seven wastesheds having total recovery rates in 2008 that were equal to or greater than their 2007 rates. This reversal points up the dropping recovery tonnages throughout the state. Disposal tonnages also decreased, but not as much as recovery.

To measure progress toward the statewide recovery goals, each wasteshed set 2005 and 2009 goals, which were incorporated into Oregon Revised Statute 459A.010. (Wasteshed recovery rates existed in statute for 1995, but were replaced by the 2001 Legislature with the goals for 2005 and 2009.) Twenty-five wastesheds met their 2009 recovery rate goals. In 2008, many wastesheds' rates were higher than their goal, so much so that even with many showing a decline in their 2009 recovery rates, their 2009 goals were still met.

Survey Report [Table 1](#) shows a breakdown of 2009 recovery rates by wasteshed, and Survey Report [Table 2](#) gives the amount of materials recovered in 2009 by wasteshed. Survey Report [Table 3](#) shows the amount of solid waste disposed by wasteshed in 2009. For a historical look at recovery, disposal, and generation data in Oregon, Survey Report [Tables 4, 5, 6, and 7](#) give the recovery rates, recovered material amounts, disposal tonnages, and amounts of solid waste generated in the previous years since the Material Recovery Survey began in 1992.

Materials Recovered

2009 recovery includes materials recycled, burned for energy (including tires, fuels, oil-based paint, used oil, wood waste, and some yard debris), and composted (including yard debris, food waste, and some wood waste). By category, 61.0 percent of the material recovered in Oregon was recycled, 22.1 percent was burned for energy, and 16.9 percent was composted.

Metals. The total amount of recovered metals, after staying steady last year, dropped 6 percentage points. Most areas of the state saw noticeable drops in scrap metal collections.

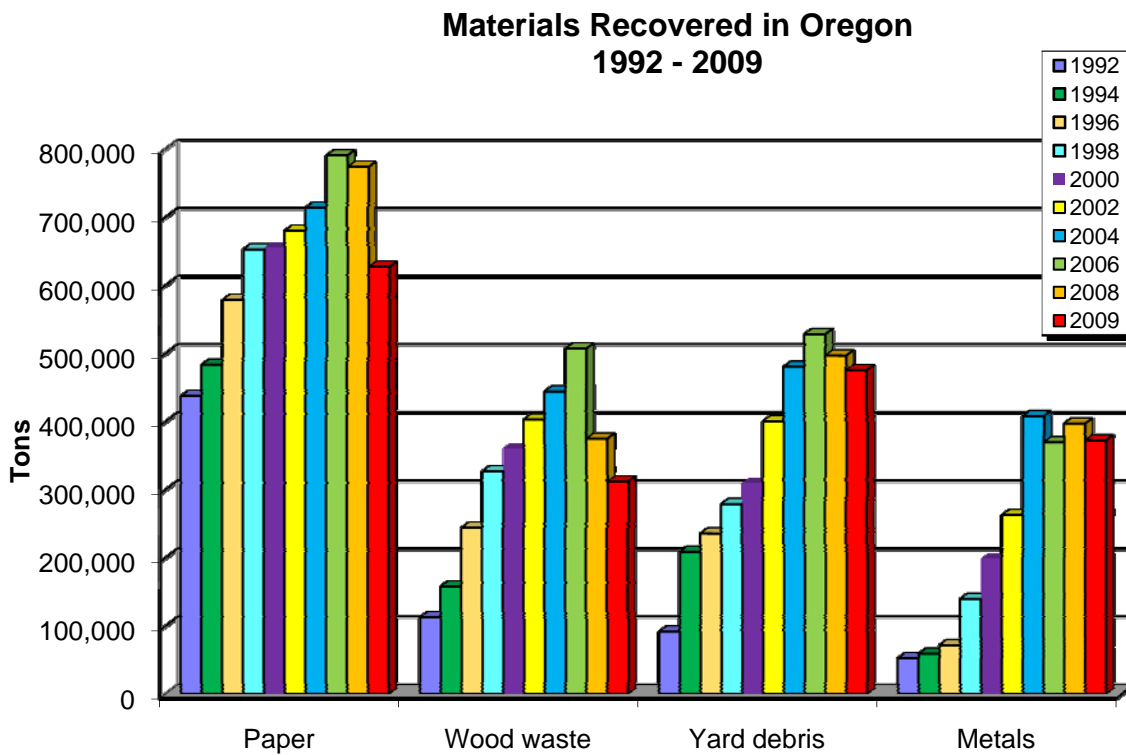
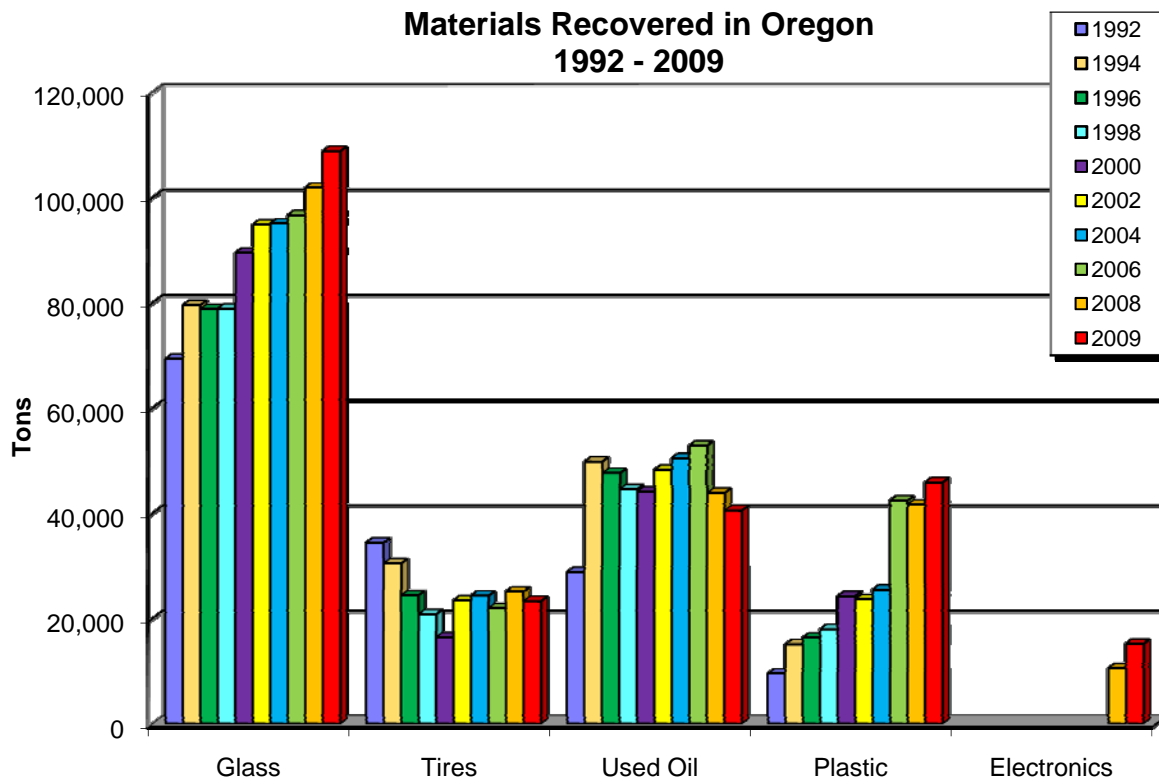
Paper (including cardboard). After staying at nearly the same level for three years, paper fiber recovery dropped nearly 25 percent and cardboard dropped 14.5 percent. This drop in all paper fibers correlates to the steep fall in recycling markets that occurred in late 2008 and into the first part of 2009.

Plastic. Total plastics recycling increased slightly over 10 percent. Rigid plastic containers showed the largest increase of 18 percent. This likely shows the effect of including water bottles in the Bottle Bill materials – those containers that have a return deposit assigned to them.

Glass. Glass recovery rose 7 percent, larger than the 4 from last year. This may be due to increased accuracy in reported numbers.

Electronics. This material showed 44 percent increase. The increase is due to the Oregon E-Cycles program, which began in 2009.

Organics. The amount of recovered organic material (food, yard and wood wastes) decreased 9 percent in 2009. The largest decrease was for wood waste at 16 percent. Collection of these materials is down, a likely effect of the economic downturn.

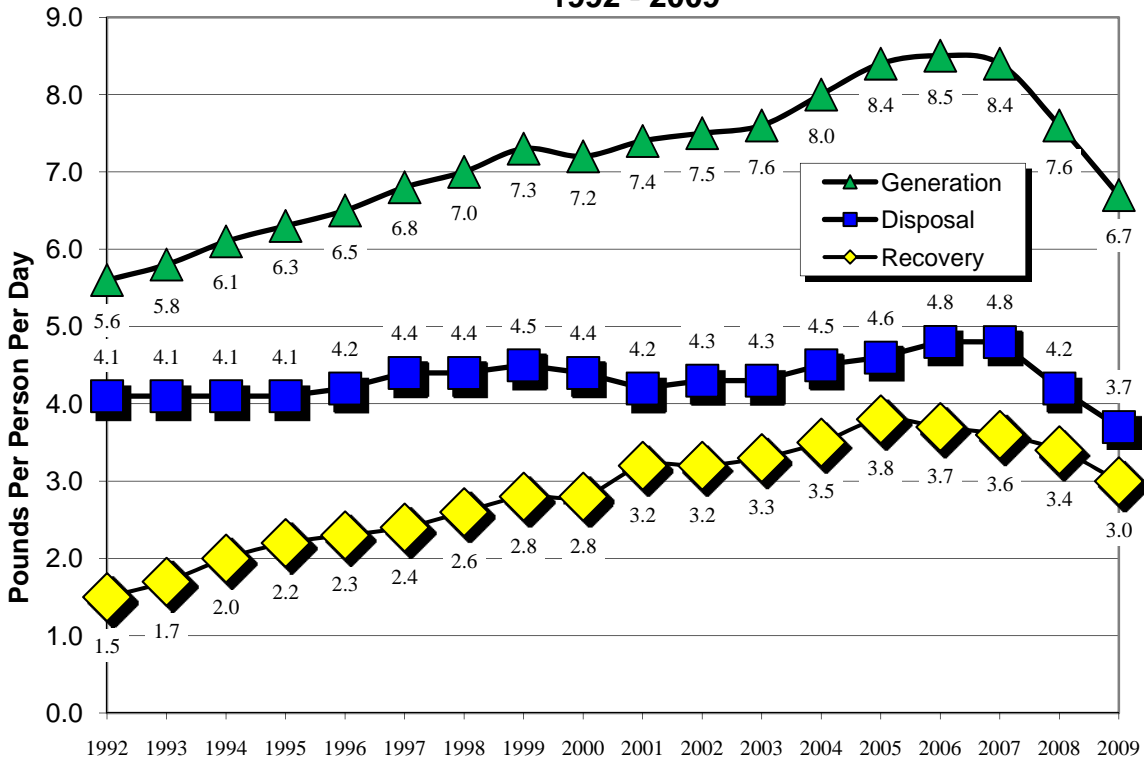


Waste Generation

Survey results show that the total amount of municipal solid waste generated (materials recovered plus waste disposed) in Oregon decreased in 2009 for the third year in a row. 2009 total waste generation shows a decrease of 10.5 percent from the previous year. This decrease correlates to the current economic situation. In hard times, people tend to buy and discard less material. This is the smallest amount of waste generated in the state since 2003. The state thus met its 2009 waste generation goal of “no increase in total waste generation in 2009 and subsequent year”.

Total waste generation for 2009 equates to 2,444 pounds per person per year (6.7 pounds per day), compared to 2,753 pounds per person per year (7.54 pounds per day) in 2008, an unprecedented decrease of 11.23 percent on top of the 9.3 percent from 2007 to 2008. The state’s 2005 waste generation goal states that there should be no annual increase in per capita municipal solid waste generation in 2005 and subsequent years. As is shown in the chart below, Oregon had been meeting that goal since 2007.

**Oregon Generation, Disposal and Recovery Per Capita
1992 - 2009**



Environmentally, the decline in both total and per capita waste generation is a positive development. Generation is a crude measure of consumption, and for many materials, the environmental impacts of production (the corollary of consumption) are many times higher than the impacts of disposal. For example, recent analysis by the US EPA suggests that roughly 40 percent of the country’s greenhouse gas emissions are associated with the production and transportation of goods. The leveling off of waste generation in 2007 and then the decline in 2008 and 2009 likely indicates a reduction in consumption. This could indicate reductions of emissions in greenhouse gases associated with all stages of the life cycle of materials. Many other environmental impacts associated with materials have likely also decreased.

2009 Disposition of Total Waste Generated

Disposed*	55.3 percent
Recycled	27.9 percent
Composted	8.5 percent

Recovered for Energy* 8.3 percent

*For the Marion County waste-to-energy incinerator, "Recovered for Energy" includes the portion of waste that counts toward the county's and state's recovery rates (see discussion above). Other wastes are counted as "Disposed".

Conclusion

The energy savings and greenhouse gas reductions from materials recovered in 2009 are significant and compare to nearly 216 million gallons of gasoline or nearly three percent of Oregon's total 2009 energy use. The greenhouse gas reductions from material recovery in 2009 were 2.8 million metric tons of CO₂ equivalents. Composting, energy recovery and recycling contribute to the benefits, but even larger benefits come from reducing the generation of waste in the first place. Greater greenhouse gas reductions and energy savings come from reducing the upstream impacts with increased waste prevention. The benefits from using less virgin materials, using less energy for manufacturing and transportation and preventing end of life disposal costs are large. These benefits contribute even more to helping the environment, but estimates of what is not generated due to waste prevention are hard to calculate and cannot be included in this report.

Oregon neared its 2009 recovery rate goal of 50 percent with its rate of 48.4 percent, a tiny increase from 48.3 percent in 2008. While there are many hard working people and successful programs in the Oregon materials recovery area, this 'stalling out' of the recovery rate shows the "early" recovery has been gained and that added effort is needed to increase recovery of more and different materials. Food waste composting and diverting other organics from disposal are ripe opportunities.

Total waste generation in 2009 dropped below 5 million tons after topping that figure for five straight years, with per capita waste generation declining 11.23 percent, to 2,444 pounds per person. As a rough proxy for consumption, this drop in per capita waste generation suggests that Oregonians are buying and consuming less. While some of this continued decline is due to the sluggish economy, individuals and businesses are also making changes that may help to keep waste generation on lower levels even after the economy improves. Given the large natural resource and environmental impacts associated with production of many manufactured goods, continued effort is needed to help Oregonians do a better job in reducing, reusing, and recycling.

Oregon solid waste disposal and recycling companies and DEQ work together to provide this annual recovery rate calculation to provide a reliable estimate of the generation, recovery, and disposal of solid waste in Oregon in 2009. This is one of the most complete and accurate collections of disposal and recycling data in the country.

Adjustments to Reports from Previous Years

DEQ continues to review and use survey data even after publishing the final report each year. Occasionally, we encounter and correct errors in previously reported results. Thus, tonnages published in this report for previous years may not match the tonnages originally reported for that year. DEQ corrected that data in previous years, for the following reasons:

- An error in reporting was discovered by one of the recycling processors; a large amount of newspaper was double counted in the previously published 2004 results. The paper was counted both at the processing facility and at the paper mill.
- An enforcement action carried out by Metro showed that most of the brick reported as being recycled by one facility was falsely reported. DEQ subsequently decided that brick more closely resembled other inert materials such as cement and asphalt. Since these are not counted toward the recovery rate, brick was removed from all previous recovery tonnages.
- New information showed that corrections needed to be made to tonnages for roofing and non-container glass in 2003 and 2004, as well as other minor adjustments in other categories.
- Field visits showed that some plastic for 2005 had been reported as 'Plastic Other' and that this material was actually 'Rigid Plastic Containers'. The 2005 numbers have been adjusted for this change, along with a few other minor adjustments.
- Field visits and continued investigation showed that previously reported 'Wood Waste' collections for 2006 were actually collected in three years – 2004, 2005 and 2006. These years are now correct.
- The 2006 and 2007 plastics numbers were adjusted between grades of "Rigid Plastic Containers", "Plastic Other", and "Plastic Film". This may have led to small changes in the recovered tonnages for these materials.
- Investigation of the disposal numbers at two landfills led to deductions in the amount of SW disposed – these were really Industrial Waste, non-counting for the purposes of this survey.
- Some changes were made in 2006 and 2007 to disposition of materials. Changes were made to composted, burned for energy recovery and disposed amounts.
- Adjustments were made to the 2007 collection amounts, correctly identifying the wasteshed of origin.
- For 2006 and 2007, some non-counting slaughterhouse material was deleted from the recovered tonnage.
- Sawdust material from manufacturing was deleted for 2006 and 2007.
- Beginning with 2006, material previously identified as "CD – Construction and Demolition" was separated out into individual materials.
- Textiles previously counted were determined to be re-used, which does not count for recovery. 2006 and 2007 recovered tonnage was decreased.
- Some gypsum sent for disposal was included in the 2006 and 2007 tonnage – this was removed.

DEQ made the following adjustments for the 2009 report:

- Bottle bill materials, container glass and aluminum, had better reporting for 2009, and some adjustments were made to those materials for 2008.
- Municipal solid wastes from another landfill were determined to be industrial and were deleted from the 2007 and 2008 counting tonnages.
- Minor disposal adjustments were made to two wastesheds for 2006 data with incorrectly reported county of origin.

2009 Survey Report Tables

Table 1: Wasteshed Recovery Rates, 2009

Wasteshed	Tons Disposed	Tons Recovered	Tons Generated	Calculated Recovery Rate ¹	Recovery Credits ²			Total Recovery Rate	HB 3744 Goal ⁵ 2009
					Prevention	Reuse	Residential Composting		
Baker	11,390.6	4,066.8	15,457.4	26.3%			2%	28.3%	25%
Benton	51,470.2	31,440.7	82,910.9	37.9%	2%	2%	2%	43.9%	50%
Clatsop	31,315.8	17,584.3	48,900.1	36.0%				36.0%	25%
Columbia	25,364.9	12,017.4	37,382.3	32.1%				32.1%	32%
Coos	39,372.2	12,666.9	52,039.2	24.3%				24.3%	30%
Crook	13,565.5	6,273.4	19,838.9	31.6%				31.6%	20%
Curry	17,093.4	4,223.4	21,316.8	19.8%	2%	2%		23.8%	30%
Deschutes	117,291.9	75,364.6	192,656.5	39.1%	2%	2%	2%	45.1%	45%
Douglas	76,578.2	30,847.3	107,425.6	28.7%	2%	2%	2%	34.7%	40%
Gilliam	2,074.3	767.7	2,842.0	27.0%				27.0%	20%
Grant	3,798.3	1,098.6	4,896.9	22.4%				22.4%	19%
Harney	3,058.3	944.1	4,002.3	23.6%				23.6%	40%
Hood River	17,972.0	7,456.2	25,428.2	29.3%	2%	2%	2%	35.3%	25%
Jackson	143,483.9	79,277.6	222,761.5	35.6%	2%	2%	2%	41.6%	40%
Jefferson	10,118.3	4,475.1	14,593.4	30.7%				30.7%	25%
Josephine	49,053.8	29,511.6	78,565.4	37.6%		2%	2%	41.6%	38%
Klamath	53,651.8	26,256.6	79,908.5	32.9%				32.9%	20%
Lake	5,244.1	1,753.6	6,997.7	25.1%				25.1%	10%
Lane	223,095.0	190,879.4	413,974.4	46.1%	2%	2%	2%	52.1%	54%
Lincoln	40,800.5	17,010.3	57,810.8	29.4%				31.4%	20%
Linn	82,520.1	56,126.6	138,646.7	40.5%	2%	2%	2%	46.5%	40%
Malheur	21,134.4	4,909.4	26,043.8	18.9%				18.9%	22%
Marion ⁴	200,419.8	218,792.5	419,212.2	52.2%	2%	2%	2%	58.2%	54%
Metro	1,088,281.8	1,112,048.3	2,200,330.1	50.5%	2%	2%	2%	56.5%	64%
Milton-Freewater	4,321.0	2,319.5	6,640.4	34.9%				34.9%	25%
Morrow	11,776.8	3,548.1	15,324.9	23.2%				23.2%	20%
Polk	37,985.3	32,201.6	70,186.9	45.9%				45.9%	35%
Sherman	1,221.6	202.6	1,424.1	14.2%	2%			16.2%	20%
Tillamook	22,599.6	9,271.0	31,870.5	29.1%				29.1%	30%
Umatilla	65,259.5	30,306.2	95,565.7	31.7%				31.7%	20%
Union	17,207.4	7,119.4	24,326.8	29.3%			2%	31.3%	25%
Wallowa	3,953.1	1,055.2	5,008.3	21.1%				21.1%	20%
Wasco	19,033.4	9,224.1	28,257.5	32.6%	2%	2%	2%	38.6%	35%
Wheeler	409.5	102.1	511.6	20.0%				20.0%	20%
Yamhill	71,663.1	47,123.4	118,786.5	39.7%	2%	2%	2%	45.7%	45%
OR Totals³	2,583,579	2,088,265	4,671,845	44.7%				48.4%	

¹ The recovery rate is calculated using the following formula:

1) Tons Disposed + Tons Recovered = Total Tons Generated

2) Tons Recovered / Total Generated = Calculated Recovery Rate

3) Calculated Recovery Rate + Recovery Credits = Total Recovery Rate

² Legislation enacted in 1997 allows each wasteshed to apply for 2% credits toward the recovery rate for certified programs in waste prevention, home composting, and reuse. A 2001 amendment allows for greater than 2% for residential composting if quantitatively verified.

³ The total recovery rate for Oregon includes recovery credits for reuse and residential composting weighted by the recovery and generation of those wastesheds receiving credits (ORS 459A.010(4)(i)).

⁴ The Marion County disposal and recovery rates reflect 18,663 tons of recyclable materials burned for energy in 2009 (per ORS 459A.010(3)(f)(B)).

⁵ ORS 459A.010(6).

Table 2: Amount Recovered in 2009 by Wasteshed

Wasteshed	2009 Tons Recovered	2009 Pounds Per Capita	2009 Wasteshed Population
Baker	4,067	494	16,450
Benton	31,441	789	79,662
Clatsop	17,584	929	37,840
Columbia	12,017	496	48,410
Coos	12,667	402	63,065
Crook	6,273	462	27,185
Curry	4,223	396	21,340
Deschutes	75,365	883	170,705
Douglas	30,847	585	105,395
Gilliam	768	815	1,885
Grant	1,099	292	7,525
Harney	944	245	7,715
Hood River	7,456	686	21,725
Jackson	79,278	766	207,010
Jefferson	4,475	394	22,715
Josephine	29,512	705	83,665
Klamath	26,257	791	66,350
Lake	1,754	461	7,600
Lane	190,879	1,098	347,690
Lincoln	17,010	761	44,700
Linn	56,127	950	118,123
Malheur	4,909	310	31,720
Marion*	218,792	1,376	317,975
Metro	1,112,048	1,363	1,631,665
Milton-Freewater	2,319	640	7,243
Morrow	3,548	566	12,540
Polk	32,202	946	68,065
Sherman	203	221	1,830
Tillamook	9,271	710	26,130
Umatilla	30,306	930	65,187
Union	7,119	559	25,470
Wallowa	1,055	297	7,100
Wasco	9,224	761	24,230
Wheeler	102	129	1,585
Yamhill	47,123	982	95,970
OREGON TOTALS	2,088,265	1,092	3,823,465

Source for population data is the Center for Population Research and Census, Portland State University, published April 5, 2010. Westesheds populations are not the same as County populations for the Wastesheds of Benton, Linn, Marion, Metro, Milton-Freewater, Polk, Umatilla, and Yamhill (see OAR 340-090-0050).

*Includes certain Marion County recyclable materials burned for energy (per ORS 459A.010(3)(f)(B)).

Table 3: Solid Waste Disposed in 2009 by Wasteshed

Wasteshed	2009 Tons Disposed	2009 Pounds Per Capita	2009 Wasteshed Population
Baker	11,391	1,385	16,450
Benton	51,470	1,292	79,662
Clatsop	31,316	1,655	37,840
Columbia	25,365	1,048	48,410
Coos	39,372	1,249	63,065
Crook	13,566	998	27,185
Curry	17,093	1,602	21,340
Deschutes	117,292	1,374	170,705
Douglas	76,578	1,453	105,395
Gilliam	2,074	2,201	1,885
Grant	3,798	1,010	7,525
Harney	3,058	793	7,715
Hood River	17,972	1,655	21,725
Jackson	143,484	1,386	207,010
Jefferson	10,118	891	22,715
Josephine	49,054	1,173	83,665
Klamath	53,652	1,617	66,350
Lake	5,244	1,380	7,600
Lane	223,095	1,283	347,690
Lincoln	40,801	1,826	44,700
Linn	82,520	1,397	118,123
Malheur	21,134	1,333	31,720
Marion*	200,420	1,261	317,975
Metro	1,088,282	1,334	1,631,665
Milton-Freewater	4,321	1,193	7,243
Morrow	11,777	1,878	12,540
Polk	37,985	1,116	68,065
Sherman	1,222	1,335	1,830
Tillamook	22,600	1,730	26,130
Umatilla	65,260	2,002	65,187
Union	17,207	1,351	25,470
Wallowa	3,953	1,114	7,100
Wasco	19,033	1,571	24,230
Wheeler	409	517	1,585
Yamhill	71,663	1,493	95,970
OREGON TOTALS	2,583,579	1,351	3,823,465

Source for population data is the Center for Population Research and Census, Portland State University, published April 5, 2010. Westesheds populations are not the same as County populations for the Wastesheds of Benton, Linn, Marion, Metro, Milton-Freewater, Polk, Umatilla, and Yamhill (see OAR 340-090-0050).

*Excludes certain Marion County recyclable materials burned for energy recovery (per ORS 459A.010(3)(f)(B)).

Table 4: Oregon Calculated Recovery Rates by Wasteshed, 1992-2009

Wasteshed	1992 Rate	1993 Rate	1994 Rate	1995 Rate	1996 Rate	1997 Calc. Rate*	1998 Calc. Rate*	1999 Calc. Rate*	2000 Calc. Rate*	2001 Calc. Rate*	2002 Calc. Rate*	2003 Calc. Rate*	2004 Calc. Rate*	2005 Calc. Rate*	2006 Calc. Rate*	2007 Calc. Rate*	2008 Calc. Rate*
Baker	10%	14%	17%	22%	25%	19%	19%	18%	18%	24%	21%	22%	20%	23%	17%	22%	21%
Benton	27%	30%	36%	35%	37%	41%	41%	35%	35%	41%	41%	39%	43%	40%	36%	39%	41%
Clatsop	19%	22%	20%	19%	20%	23%	22%	24%	25%	28%	25%	29%	31%	39%	34%	34%	36%
Columbia	34%	28%	22%	27%	22%	28%	29%	25%	31%	38%	34%	38%	31%	32%	30%	28%	30%
Coos	21%	20%	23%	28%	29%	28%	27%	22%	23%	23%	26%	21%	21%	23%	21%	20%	22%
Crook	16%	23%	19%	30%	23%	15%	14%	23%	27%	37%	27%	14%	21%	21%	26%	25%	33%
Curry	21%	25%	27%	31%	35%	33%	29%	27%	41%	39%	36%	25%	25%	15%	18%	24%	21%
Deschutes	15%	18%	24%	22%	23%	25%	32%	25%	31%	29%	27%	28%	27%	28%	27%	30%	31%
Douglas	26%	23%	23%	24%	26%	29%	30%	26%	26%	30%	29%	29%	31%	25%	24%	26%	34%
Gilliam	17%	6%	15%	20%	19%	21%	18%	15%	14%	13%	20%	10%	11%	7%	8%	13%	14%
Grant	18%	14%	16%	19%	16%	15%	16%	18%	19%	19%	18%	16%	19%	28%	21%	24%	25%
Harney	18%	21%	20%	34%	24%	21%	34%	34%	20%	27%	28%	27%	21%	27%	28%	25%	34%
Hood River	16%	24%	26%	16%	17%	17%	17%	19%	18%	30%	34%	35%	37%	36%	33%	30%	28%
Jackson	15%	19%	35%	33%	34%	34%	34%	29%	28%	32%	36%	32%	31%	32%	34%	30%	32%
Jefferson	21%	16%	18%	22%	24%	33%	33%	21%	27%	27%	21%	23%	34%	33%	28%	36%	34%
Josephine	14%	19%	27%	34%	38%	37%	41%	42%	33%	34%	37%	35%	37%	37%	39%	34%	39%
Klamath	13%	12%	17%	18%	15%	16%	17%	15%	18%	31%	30%	23%	31%	37%	34%	35%	45%
Lake	6%	6%	9%	8%	7%	6%	8%	11%	8%	11%	11%	25%	25%	15%	19%	22%	35%
Lane	19%	28%	32%	32%	39%	39%	40%	41%	46%	46%	44%	46%	45%	48%	47%	46%	46%
Lincoln	20%	20%	21%	19%	16%	19%	20%	19%	23%	28%	27%	28%	29%	33%	26%	28%	31%
Linn	15%	27%	29%	30%	32%	33%	31%	33%	29%	34%	38%	34%	44%	43%	41%	37%	41%
Malheur	19%	15%	12%	15%	20%	19%	22%	24%	25%	26%	27%	26%	27%	25%	23%	23%	22%
Marion	26%	27%	27%	29%	28%	28%	30%	32%	38%	**50%	**51%	**47%	**47%	**50%	**52%	**50%	**52%
Metro	35%	37%	39%	42%	41%	42%	43%	43%	45%	49%	47%	50%	51%	53%	50%	49%	50%
Milton-Freewater	16%	13%	13%	22%	21%	20%	19%	18%	21%	21%	24%	25%	24%	30%	33%	31%	43%
Morrow	11%	16%	13%	12%	13%	17%	17%	20%	15%	16%	16%	20%	20%	14%	21%	26%	25%
Polk	20%	25%	24%	23%	19%	24%	26%	29%	33%	39%	38%	43%	44%	50%	48%	46%	47%
Sherman	24%	17%	20%	20%	21%	11%	16%	24%	17%	15%	14%	16%	26%	16%	19%	16%	15%
Tillamook	31%	27%	28%	27%	26%	26%	26%	28%	26%	28%	28%	27%	39%	37%	33%	31%	32%
Umatilla	14%	15%	15%	19%	20%	25%	24%	25%	26%	28%	35%	33%	36%	36%	35%	36%	38%
Union	16%	19%	21%	30%	26%	29%	27%	24%	22%	22%	28%	26%	27%	27%	34%	32%	30%
Wallowa	6%	8%	11%	18%	11%	16%	16%	19%	21%	19%	19%	16%	18%	19%	22%	27%	24%
Wasco	25%	23%	26%	29%	30%	29%	31%	34%	34%	26%	28%	31%	25%	24%	19%	23%	23%
Wheeler	7%	8%	11%	24%	20%	20%	25%	18%	14%	13%	25%	27%	16%	34%	24%	27%	27%
Yamhill	19%	22%	25%	30%	35%	25%	31%	36%	44%	49%	54%	42%	50%	45%	39%	36%	36%
OREGON TOTALS	27.1%	29.9%	32.6%	34.7%	34.9%	35.7%	37.3%	36.8%	38.9%	43.1%	42.7%	43.1%	44.2%	45.5%	43.5%	42.9%	44.6%

*does not include 2% credits

**does include certain Marion County recyclable materials burned for energy

Table 5: Oregon Amount Recovered by Wasteshed, 1992-2008

Wasteshed	1992 Rvd (tons)	Per Capita (lbs.)	1994 Rvd (tons)	Per Capita (lbs.)	1996 Rvd (tons)	Per Capita (lbs.)	1998 Rvd (tons)	Per Capita (lbs.)	2000 Rvd (tons)	Per Capita (lbs.)	2001 Rvd (tons)	Per Capita (lbs.)	2002 Rvd (tons)	Per Capita (lbs.)	2003 Rvd (tons)	Per Capita (lbs.)	2004 Rvd (tons)	Per Capita (lbs.)	2005 Rvd (tons)	Per Capita (lbs.)	2006 Rvd (tons)	Per Capita (lbs.)	2007 Rvd (tons)	Per Capita (lbs.)	2008 Rvd (tons)	Per Capita (lbs.)	2009 Rvd (tons)	Per Capita (lbs.)	Change in Per Capita 2009-08
Baker	982	124	1,659	202	3,644	438	2,934	349	2,849	340	3,488	418	3,375	404	3,533	428	3,016	364	3,756	455	2,782	338	3,565	434	3,366	409	4,067	494	20.88%
Benton	21,480	626	24,054	676	30,352	830	31,957	865	28,488	779	35,609	966	36,427	978	34,366	923	42,092	1,115	38,852	1,017	35,728	921	36,292	922	38,210	966	31,441	789	-18.26%
Clatsop	5,148	300	7,125	405	7,118	403	8,512	478	10,586	593	11,999	669	11,370	630	13,425	740	14,739	810	22,706	1,239	19,576	1,057	19,029	1,017	20,984	1,113	17,584	929	-16.52%
Columbia	7,894	407	5,233	262	6,258	302	9,252	433	10,361	474	14,050	634	11,831	531	14,758	656	11,360	498	13,209	572	12,940	551	13,647	574	12,969	539	12,017	496	-7.94%
Coos	10,035	323	11,522	364	14,972	472	13,905	440	11,754	374	11,075	352	13,825	441	11,614	369	12,446	397	13,826	441	13,364	425	12,162	386	13,529	428	12,667	402	-6.16%
Crook	1,581	206	1,554	189	3,156	363	2,267	247	5,215	540	7,040	709	6,175	611	2,829	279	4,617	447	4,817	423	7,075	577	7,004	541	7,871	586	6,273	462	-21.29%
Curry	2,863	288	4,212	407	6,011	572	4,905	466	10,387	980	9,464	878	10,099	951	6,838	648	7,003	662	3,992	377	4,830	452	6,632	618	5,161	480	4,223	396	-17.52%
Deschutes	12,858	305	30,411	663	30,222	602	48,309	898	49,993	858	49,459	810	46,857	741	53,550	821	55,395	818	62,503	871	69,443	910	75,346	937	64,270	770	75,365	883	14.73%
Douglas	29,467	614	27,418	562	30,945	621	37,476	746	31,390	625	38,983	770	35,009	691	36,007	707	42,007	821	33,960	660	31,980	616	36,158	691	44,082	838	30,847	585	-30.13%
Gilliam	177	205	199	222	284	306	295	314	266	280	252	265	370	389	272	287	266	280	159	168	225	239	301	319	370	393	768	815	107.38%
Grant	911	232	872	219	687	171	610	150	791	199	897	230	947	244	731	191	954	246	1,665	433	1,055	277	1,342	354	1,325	352	1,099	292	-17.02%
Harney	600	171	648	179	678	188	921	248	806	212	1,076	283	1,099	289	1,034	283	820	214	1,149	300	1,165	304	1,203	313	1,573	408	944	245	-40.08%
Hood River	1,855	212	3,308	360	3,333	345	3,112	313	3,403	332	6,517	633	7,986	781	8,842	863	9,961	946	9,775	923	9,200	862	8,365	779	7,478	692	7,456	686	-0.75%
Jackson	17,134	221	57,705	706	60,292	707	71,544	810	63,872	701	71,666	776	88,855	947	83,585	884	83,826	877	85,192	876	92,807	935	80,422	795	76,331	744	79,278	766	3.00%
Jefferson	1,269	170	1,838	225	2,667	307	4,339	472	3,661	382	3,963	409	3,061	308	3,075	309	6,404	632	6,772	657	5,506	514	8,132	738	6,217	554	4,475	394	-28.85%
Josephine	7,826	239	12,462	359	21,688	600	28,020	753	26,534	698	25,556	665	32,644	841	31,345	800	36,526	929	36,554	918	42,005	1,036	32,943	800	35,957	863	29,512	705	-18.30%
Klamath	8,827	301	11,950	394	11,171	360	13,111	415	14,070	440	21,617	673	25,246	782	17,636	546	27,328	843	38,476	1,183	36,650	1,120	34,502	1,048	48,817	1,475	26,257	791	-46.35%
Lake	269	74	597	160	601	161	553	150	369	99	643	171	585	157	1,650	446	1,629	434	1,020	272	1,360	361	1,691	447	2,950	778	1,754	461	-40.66%
Lane	72,072	493	118,788	788	153,843	992	171,708	1,077	216,532	1,337	206,010	1,264	202,262	1,233	218,368	1,326	213,033	1,278	243,261	1,448	248,599	1,463	237,578	1,385	217,538	1,258	190,879	1,098	-12.71%
Lincoln	6,886	338	8,665	404	7,823	352	10,416	465	12,192	547	15,128	678	15,162	678	15,799	702	17,785	801	22,974	1,035	18,030	810	20,035	898	21,355	955	17,010	761	-20.32%
Linn	17,232	352	25,213	500	33,201	634	34,631	647	33,830	623	36,510	670	44,739	817	38,884	700	57,999	1,029	62,504	1,099	60,754	1,057	51,543	888	54,220	924	56,127	950	2.85%
Malheur	3,283	237	2,142	149	4,808	319	5,662	364	7,212	454	7,204	450	8,138	509	7,297	456	7,886	495	7,492	471	6,862	433	7,045	446	6,437	406	4,909	310	-23.83%
Marion	55,834	462	72,009	566	85,731	645	104,053	752	134,032	937	191,817	1,331	205,041	1,410	187,275	1,267	203,346	1,364	238,914	1,582	264,168	1,724	251,673	1,619	239,442	1,522	218,792	1,376	-9.57%
Metro	514,747	825	635,869	976	752,470	1,106	912,018	1,294	970,850	1,338	1,097,409	1,496	1,053,618	1,420	1,188,457	1,580	1,283,273	1,686	1,402,299	1,817	1,337,848	1,705	1,325,112	1,663	1,235,593	1,531	1,112,048	1,363	-10.95%
Milton-Freew.	908	323	744	254	1,186	392	1,310	403	1,317	406	1,344	410	1,641	509	1,771	545	1,879	578	2,167	663	2,612	793	2,351	718	3,598	994	2,319	640	-35.59%
Morrow	930	227	822	188	842	181	1,227	242	1,428	257	1,364	245	1,608	286	1,941	330	2,245	382	1,477	247	2,874	474	3,967	643	3,868	620	3,548	566	-8.69%
Polk	4,873	187	7,604	276	6,787	237	13,195	438	18,000	581	22,550	717	23,785	758	28,009	885	32,517	1,012	40,116	1,235	38,074	1,155	33,838	1,013	34,828	1,032	32,202	946	-8.29%
Sherman	270	278	202	207	264	275	210	219	217	223	234	246	243	263	239	251	432	455	182	194	232	249	239	258	256	278	203	221	-20.32%
Tillamook	4,518	406	5,157	447	5,246	438	5,372	446	6,174	508	7,113	578	7,052	573	7,087	569	13,202	1,058	12,551	996	12,554	983	11,435	885	11,994	921	9,271	710	-22.91%
Umatilla	6,641	236	8,537	292	12,454	414	16,949	549	20,115	625	23,097	718	33,428	1,036	31,496	975	36,467	1,109	33,083	1,005	35,495	1,082	38,402	1,169	40,616	1,247	30,306	930	-25.44%
Union	2,525	210	4,329	348	5,203	419	5,848	474	5,062	412	5,578	454	7,253	590	6,779	550	7,504	604	7,328	587	7,518	599	9,180	727	8,102	639	7,119	559	-12.50%
Wallowa	433	119	841	225	503	135	847	231	1,219	336	1,045	294	1,325	371	1,005	281	1,160	324	1,287	361	1,431	401	1,767	496	1,339	376	1,055	297	-21.03%
Wasco	5,443	485	5,751	504	7,519	648	8,154	697	9,194	771	6,240	517	7,249	610	8,046	683	6,180	517	6,785	567	5,131	426	6,650	551	6,544	541	9,224	761	40.61%
Wheeler	59	82	98	124	185	226	119	152	100	129	67	86	167	216	187	242	109	141	236	305	161	206	204	260	166	211	102	129	-38.79%
Yamhill	11,850	338	19,374	524	26,116	663	31,244	752	53,548	1,242	63,021	1,447	80,791	1,832	49,150	1,106	71,656	1,594	62,327	1,370	64,017	1,386	57,816	1,233	50,200	1,056	47,123	982	-7.04%
OR. TOTALS	839,679	562	1,118,912	717	1,338,259	825	1,604,985	958	1,765,817	1,028	1,999,085	1,152	2,029,261	1,158	2,116,880	1,195	2,317,064	1,294	2,523,367	1,390	2,494,050	1,352	2,437,569	1,302	2,327,554	1,228	2,088,265	1,092	-11.04%

change in total from previous year 14.80% 6.45% 9.77% 8.58% 13.21% 1.51% 4.32% 9.46% 8.9% -1.16% -2.26% -3.70% -4.51% -10.28%

change in per capita from previous year 12.56% 4.40% 8.20% 7.25% 12.06% 0.52% 3.23% 8.20% 7.4% -2.74% -3.70% -5.66% -11.04%

Data from 1993, 1995, 1997 and 1999 is not shown due to page formatting. Please contact DEQ directly for data from these years.

Certain recoverable materials in mixed waste burned at the waste-to-energy facility in Brooks are excluded from Marion County and Statewide recovery in years prior to 2001 but included in 2001 and subsequent years (per ORS 459A.010(3)(f)(B)).

Table 6: Oregon Solid Waste Disposed by Wasteshed, 1992-2009

Wasteshed	1992 Disposed (tons)	Per Capita (lbs.)	1994 Disposed (tons)	Per Capita (lbs.)	1996 Disposed (tons)	Per Capita (lbs.)	1998 Disposed (tons)	Per Capita (lbs.)	2000 Disposed (tons)	Per Capita (lbs.)	2001 Disposed (tons)	Per Capita (lbs.)	2002 Disposed (tons)	Per Capita (lbs.)	2003 Disposed (tons)	Per Capita (lbs.)	2004 Disposed (tons)	Per Capita (lbs.)	2005 Disposed (tons)	Per Capita (lbs.)	2006 Disposed (tons)	Per Capita (lbs.)	2007 Disposed (tons)	Per Capita (lbs.)	2008 Disposed (tons)	Per Capita (lbs.)	2009 Disposed (tons)	Per Capita (lbs.)	Change in Per Capita 2009-08		
Baker	8,419	1,062	8,253	1,005	10,897	1,310	12,376	1,472	12,617	1,507	11,317	1,355	13,047	1,563	12,590	1,526	12,122	1,465	12,734	1,543	13,770	1,672	12,730	1,549	12,973	1,577	11,391	1,385	-12.16%		
Benton	58,761	1,713	43,586	1,224	50,840	1,390	45,551	1,234	53,835	1,472	51,577	1,399	52,377	1,406	53,861	1,447	55,849	1,479	58,322	1,527	62,940	1,622	57,109	1,451	54,675	1,382	51,470	1,292	-6.48%		
Clatsop	22,263	1,299	27,939	1,587	28,671	1,623	30,716	1,726	31,489	1,764	31,318	1,747	33,745	1,870	33,400	1,840	33,492	1,840	35,717	1,950	38,125	2,058	36,874	1,970	36,529	1,938	31,316	1,655	-14.60%		
Columbia	15,131	780	18,314	918	22,650	1,095	23,004	1,078	23,201	1,062	23,197	1,047	23,130	1,037	24,133	1,073	25,420	1,114	28,082	1,215	29,541	1,258	34,317	1,443	30,412	1,265	25,365	1,048	-17.14%		
Coos	37,596	1,211	39,014	1,234	36,436	1,148	37,434	1,184	39,329	1,253	37,711	1,198	40,349	1,288	43,520	1,382	46,378	1,479	46,433	1,481	50,868	1,617	49,459	1,569	47,266	1,496	39,372	1,249	-16.51%		
Crook	8,378	1,091	6,621	805	10,646	1,224	14,232	1,552	13,841	1,434	11,872	1,196	16,907	1,674	16,877	1,663	16,920	1,639	18,638	1,637	20,566	1,677	20,956	1,619	15,827	1,179	13,566	998	-15.36%		
Curry	10,555	1,062	11,278	1,089	11,121	1,059	12,264	1,166	14,644	1,382	14,996	1,392	17,986	1,693	20,372	1,931	20,791	1,966	22,582	2,131	21,834	2,044	21,404	1,993	19,470	1,810	17,093	1,602	-11.50%		
Deschutes	72,529	1,720	98,801	2,155	103,397	2,070	101,313	1,884	111,013	1,904	120,334	1,972	129,607	2,049	135,235	2,073	151,494	2,237	160,708	2,240	188,146	2,466	177,593	2,209	142,400	1,705	117,292	1,374	-19.41%		
Douglas	85,040	1,772	93,566	1,917	87,325	1,751	86,369	1,718	89,451	1,780	90,379	1,786	85,648	1,691	87,899	1,727	92,684	1,811	103,833	2,018	103,061	1,985	103,772	1,983	84,164	1,599	76,578	1,453	-9.15%		
Gilliam	872	1,008	1,128	1,254	1,176	1,271	1,320	1,405	1,663	1,751	1,622	1,707	1,508	1,587	2,357	2,481	2,082	2,192	2,217	2,346	2,429	2,577	2,026	2,150	2,197	2,333	2,074	2,201	-5.64%		
Grant	4,178	1,063	4,629	1,165	3,492	869	3,174	782	3,441	866	3,790	972	4,301	1,110	3,939	1,030	3,987	1,029	4,233	1,102	3,918	1,027	4,211	1,111	3,949	1,049	3,798	1,010	-3.78%		
Harney	2,650	756	2,579	713	2,126	591	1,794	484	2,160	832	2,892	761	2,889	760	2,748	753	3,039	794	3,139	819	2,999	782	3,578	932	3,080	799	3,058	793	-0.83%		
Hood River	9,959	1,139	9,509	1,035	16,016	1,659	14,931	1,502	15,741	1,536	15,397	1,495	15,710	1,536	16,229	1,583	16,780	1,594	17,332	1,637	18,620	1,745	19,965	1,860	19,035	1,760	17,972	1,655	-6.02%		
Jackson	98,002	1,265	108,813	1,331	115,011	1,348	136,337	1,544	165,129	1,813	152,562	1,652	155,293	1,856	176,162	1,863	184,353	1,928	183,543	1,887	182,404	1,837	184,062	1,820	159,636	1,555	143,484	1,386	-10.86%		
Jefferson	4,813	645	8,380	1,026	8,380	965	8,709	947	9,889	1,033	10,929	1,127	11,744	1,183	10,358	1,041	12,436	1,228	13,680	1,328	14,385	1,344	14,348	1,303	12,243	1,091	10,118	891	-18.32%		
Josephine	47,687	1,457	34,399	991	35,873	992	40,518	1,089	54,033	1,421	50,436	1,313	56,070	1,444	58,593	1,496	61,211	1,558	62,774	1,576	66,105	1,630	63,004	1,529	56,445	1,355	49,054	1,173	-13.49%		
Klamath	57,247	1,950	59,498	1,964	66,874	2,153	62,603	1,980	64,619	2,023	48,182	1,501	57,802	1,791	58,897	1,823	60,699	1,873	64,739	1,990	72,315	2,210	64,641	1,964	58,740	1,775	53,652	1,617	-8.90%		
Lake	4,364	1,196	5,859	1,575	7,468	2,002	6,361	1,724	4,057	1,089	5,120	1,365	4,833	1,297	4,925	1,331	4,891	1,304	5,932	1,581	5,651	1,499	6,051	1,600	5,599	1,476	5,244	1,380	-6.53%		
Lane	302,695	2,072	251,328	1,668	239,310	1,542	261,958	1,644	256,205	1,582	240,984	1,479	258,470	1,575	256,204	1,556	260,859	1,565	266,729	1,587	281,347	1,656	275,032	1,603	251,260	1,453	223,095	1,283	-11.67%		
Lincoln	27,601	1,355	32,766	1,526	42,443	1,908	41,127	1,834	40,406	1,812	38,835	1,740	40,675	1,820	40,555	1,802	43,263	1,949	46,014	2,072	50,537	2,270	52,580	2,356	47,876	2,141	40,801	1,826	-14.75%		
Linn	94,644	1,931	63,079	1,251	69,506	1,328	75,807	1,417	83,701	1,540	70,471	1,294	71,571	1,307	75,185	1,353	73,780	1,309	81,764	1,437	89,163	1,551	86,370	1,488	76,961	1,312	82,520	1,397	6.53%		
Malheur	13,815	996	15,948	1,109	18,776	1,246	20,052	1,288	21,338	1,344	20,995	1,312	22,079	1,380	21,007	1,313	21,656	1,360	22,734	1,430	23,292	1,468	24,152	1,528	23,008	1,453	21,134	1,333	-8.27%		
Marion	158,109	1,307	195,990	1,540	219,182	1,648	237,166	1,714	222,098	1,552	194,190	1,347	197,699	1,360	211,510	1,430	225,430	1,512	242,809	1,608	245,214	1,600	247,331	1,591	217,172	1,380	200,420	1,261	-8.67%		
Metro	945,634	1,516	977,730	1,501	1,097,246	1,613	1,196,486	1,697	1,207,348	1,663	1,151,339	1,569	1,165,762	1,571	1,185,743	1,577	1,234,687	1,622	1,263,721	1,637	1,356,955	1,730	1,385,946	1,740	1,223,760	1,516	1,088,282	1,334	-12.01%		
Milton-Freew.	4,642	1,649	5,070	1,729	4,332	1,431	5,586	1,719	5,029	1,549	5,024	1,532	5,235	1,623	5,280	1,625	5,888	1,812	5,168	1,580	5,349	1,625	5,280	1,612	4,770	1,318	4,321	1,193	-9.48%		
Morrow	7,221	1,763	5,685	1,298	5,883	1,264	5,893	1,164	8,253	1,487	7,394	1,326	8,620	1,532	7,893	1,344	9,152	1,558	9,053	1,516	10,506	1,733	11,041	1,790	11,763	1,885	11,777	1,878	-0.33%		
Polk	19,036	729	24,190	877	28,655	1,000	36,790	1,221	37,322	1,204	34,914	1,110	38,102	1,215	37,402	1,182	41,300	1,286	39,969	1,231	41,453	1,257	39,129	1,172	39,340	1,165	37,985	1,116	-4.22%		
Sherman	876	903	804	825	987	1,028	1,092	1,138	1,031	1,057	1,306	1,375	1,552	1,677	1,243	1,308	1,244	1,310	961	1,022	1,021	1,095	1,219	1,314	1,478	1,604	1,222	1,335	-16.78%		
Tillamook	9,940	893	13,488	1,168	15,212	1,271	15,063	1,249	17,807	1,466	18,324	1,490	18,405	1,496	19,538	1,569	20,813	1,668	21,437	1,701	24,988	1,958	25,952	2,008	26,046	1,999	22,600	1,730	-13.47%		
Umatilla	41,059	1,461	47,273	1,616	51,388	1,709	52,484	1,700	57,952	1,801	59,854	1,861	61,143	1,894	62,530	1,936	64,978	1,977	57,622	1,750	65,980	2,011	66,860	2,035	66,679	2,047	65,260	2,002	-2.20%		
Union	12,866	1,069	16,010	1,287	14,676	1,181	15,610	1,266	18,311	1,492	20,051	1,633	19,065	1,550	19,509	1,583	19,900	1,602	19,401	1,555	14,801	1,179	19,923	1,578	19,055	1,503	17,207	1,351	-10.08%		
Wallowa	6,801	1,876	7,104	1,905	4,024	1,076	4,526	1,233	4,655	1,284	4,393	1,237	5,542	1,550	5,456	1,526	5,134	1,436	5,323	1,493	5,009	1,403	4,692	1,316	4,221	1,187	3,953	1,114	-6.17%		
Wasco	16,760	1,494	16,145	1,415	17,480	1,508	17,997	1,538	18,118	1,519	17,884	1,481	18,387	1,548	18,120	1,539	18,983	1,589	21,354	1,784	22,089	1,835	22,250	1,845	21,387	1,770	19,033	1,571	-11.23%		
Wheeler	758	1,053	763	972	763	930	359	458	596	769	461	595	497	641	509	657	583	752	453	584	512	655	555	707	446	469	517	403	517	-8.83%	
Yamhill	52,199	1,490	57,130	1,546	48,909	1,241	68,901	1,659	67,141	1,558	65,022	1,493	67,617	1,533	67,010	1,508	71,183	1,583	77,313	1,699	99,934	2,163	104,150	2,221	90,790	1,910	71,663	1,493	-21.83%		
Rounding adj.																															
OR. TOTALS	2,263,099	1,513	2,312,669	1,483	2,497,170	1,539	2,695,903	1,609	2,778,463	1,617	2,635,072	1,518	2,723,365	1,554	2,796,787	1,579	2,923,462	1,632	3,026,457	1,667	3,235,828	1,754	3,248,562	1,735	2,890,653	1,525	2,583,579	1,351	-11.38%		
change in total from previous year			1.41%		5.72%		2.39%		-0.37%		-5.16%		3.35%		2.70%		4.53%		3.52%		6.92%		0.39%		-11.02%		-10.62%				
change in per capita from previous year			-0.57%		3.6																										

Table 7: Oregon Solid Waste Generated by Wasteshed, 1992-2009

Wasteshed	1992 Generated (tons)	Per Capita (lbs.)	1994 Generated (tons)	Per Capita (lbs.)	1996 Generated (tons)	Per Capita (lbs.)	1998 Generated (tons)	Per Capita (lbs.)	2000 Generated (tons)	Per Capita (lbs.)	2001 Generated (tons)	Per Capita (lbs.)	2002 Generated (tons)	Per Capita (lbs.)	2003 Generated (tons)	Per Capita (lbs.)	2004 Generated (tons)	Per Capita (lbs.)	2005 Generated (tons)	Per Capita (lbs.)	2006 Generated (tons)	Per Capita (lbs.)	2007 Generated (tons)	Per Capita (lbs.)	2008 Generated (tons)	Per Capita (lbs.)	2009 Generated (tons)	Per Capita (lbs.)	Change in Per Capita 2009-08
Baker	9,401	1,186	9,911	1,207	14,540	1,748	15,310	1,820	15,466	1,847	14,805	1,773	16,422	1,967	16,123	1,954	15,138	1,829	16,490	1,999	16,552	2,010	16,295	1,983	16,338	1,986	15,457	1,879	-5.35%
Benton	80,241	2,339	67,640	1,900	81,192	2,220	77,508	2,099	82,323	2,250	87,186	2,365	88,803	2,383	88,227	2,370	97,941	2,593	97,174	2,544	98,668	2,543	93,400	2,374	92,885	2,347	82,911	2,082	-11.32%
Clatsop	27,411	1,600	35,063	1,992	35,789	2,027	39,228	2,204	42,075	2,357	43,317	2,416	45,115	2,499	46,825	2,580	48,230	2,650	58,423	3,189	57,701	3,115	55,903	2,986	57,513	3,051	48,900	2,585	-15.30%
Columbia	23,025	1,187	23,547	1,181	28,908	1,397	32,256	1,511	33,562	1,536	37,247	1,681	34,961	1,568	38,891	1,728	36,779	1,611	41,291	1,787	42,482	1,809	47,964	2,017	43,381	1,804	37,382	1,544	-14.39%
Coos	47,631	1,534	50,536	1,598	51,409	1,620	51,339	1,624	51,083	1,627	48,786	1,550	54,174	1,729	55,133	1,750	58,825	1,876	60,259	1,922	64,232	2,042	61,621	1,955	60,794	1,924	52,039	1,650	-14.20%
Crook	9,959	1,297	8,175	993	13,802	1,586	16,499	1,799	19,056	1,975	18,912	1,905	23,082	2,285	19,705	1,941	21,537	2,086	23,455	2,060	27,642	2,254	27,960	2,160	23,697	1,765	19,839	1,460	-17.33%
Curry	13,418	1,350	15,490	1,496	17,132	1,632	17,169	1,633	25,031	2,361	24,460	2,270	28,086	2,643	27,210	2,579	27,794	2,628	26,574	2,508	26,663	2,496	28,036	2,611	24,631	2,290	21,317	1,998	-12.76%
Deschutes	85,387	2,025	129,210	2,818	133,618	2,676	149,622	2,783	161,006	2,762	169,793	2,782	176,464	2,790	188,785	2,893	206,889	3,055	223,211	3,111	257,589	3,376	252,939	3,146	206,670	2,475	192,657	2,257	-8.79%
Douglas	114,507	2,386	120,984	2,479	118,269	2,372	123,845	2,464	120,841	2,405	129,362	2,556	123,906	2,434	134,691	2,632	137,793	2,678	135,041	2,602	139,929	2,674	128,247	2,437	128,247	2,437	107,426	2,039	-16.36%
Gilliam	1,049	1,213	1,328	1,476	1,459	1,577	1,615	1,718	1,929	2,031	1,874	1,972	1,877	1,976	2,629	2,768	2,348	2,471	2,377	2,515	2,654	2,816	2,327	2,469	2,567	2,725	2,842	3,015	10.64%
Grant	5,089	1,295	5,501	1,384	4,179	1,040	3,784	932	4,232	1,065	4,674	1,202	5,248	1,354	4,670	1,221	4,942	1,275	5,898	1,535	4,973	1,304	5,553	1,465	5,274	1,401	4,897	1,301	-7.11%
Harney	3,249	927	3,227	893	2,804	779	2,715	732	3,966	1,044	3,968	1,044	3,989	1,050	3,782	1,036	3,859	1,009	4,288	1,119	4,163	1,086	4,782	1,245	4,653	1,208	4,002	1,038	-14.10%
Hood River	11,814	1,352	12,817	1,395	19,349	2,004	18,043	1,815	19,144	1,868	21,914	2,128	23,696	2,317	25,071	2,446	26,742	2,541	27,107	2,560	27,820	2,608	28,330	2,639	26,513	2,452	25,428	2,341	-4.54%
Jackson	115,135	1,486	166,517	2,037	175,303	2,054	207,881	2,355	229,001	2,514	224,228	2,428	244,148	2,603	259,747	2,747	268,180	2,805	268,735	2,763	275,210	2,771	264,484	2,615	235,967	2,299	222,761	2,152	-6.37%
Jefferson	6,082	815	10,218	1,251	11,047	1,272	13,048	1,418	13,550	1,415	14,892	1,536	14,804	1,492	13,433	1,350	18,840	1,861	20,451	1,986	19,892	1,858	22,480	2,041	18,460	1,644	14,593	1,285	-21.87%
Josephine	55,513	1,696	46,861	1,351	57,560	1,592	68,538	1,842	80,567	2,119	75,992	1,978	88,715	2,285	89,937	2,296	97,738	2,487	99,328	2,494	108,110	2,665	95,947	2,329	92,402	2,219	78,565	1,878	-15.36%
Klamath	66,074	2,251	71,448	2,358	78,044	2,512	75,714	2,394	78,689	2,463	69,799	2,174	83,048	2,573	76,532	2,369	88,027	2,717	103,214	3,173	108,965	3,329	99,143	3,013	107,557	3,250	79,908	2,409	-25.90%
Lake	4,633	1,269	6,456	1,735	8,069	2,163	6,914	1,874	4,426	1,188	5,763	1,536	5,418	1,454	6,575	1,777	6,520	1,739	6,952	1,853	7,011	1,860	7,742	2,047	8,549	2,254	6,998	1,841	-18.30%
Lane	374,767	2,565	370,116	2,456	393,153	2,534	433,666	2,721	472,737	2,919	446,994	2,743	460,732	2,808	474,573	2,881	473,892	2,843	509,990	3,035	529,946	3,120	512,611	2,988	468,798	2,711	413,974	2,381	-12.15%
Lincoln	34,487	1,693	41,432	1,930	50,266	2,259	51,543	2,299	52,598	2,359	53,963	2,418	55,837	2,498	56,354	2,505	61,048	2,750	68,988	3,107	68,566	3,080	72,615	3,254	69,231	3,097	57,811	2,587	-16.47%
Linn	111,875	2,282	88,292	1,750	102,707	1,962	110,438	2,064	117,531	2,163	106,981	1,964	116,309	2,123	114,069	2,053	131,779	2,338	144,268	2,536	149,917	2,608	137,913	2,375	131,181	2,236	138,647	2,347	5.01%
Malheur	17,098	1,233	18,091	1,258	23,583	1,565	25,714	1,652	28,550	1,798	28,199	1,762	30,217	1,889	28,303	1,769	29,541	1,855	30,226	1,901	30,155	1,901	31,197	1,973	29,445	1,859	26,044	1,642	-11.67%
Marion	213,943	1,768	267,999	2,106	304,913	2,293	341,219	2,466	356,130	2,489	386,007	2,678	402,741	2,770	398,785	2,697	428,776	2,875	481,723	3,191	509,383	3,324	499,004	3,210	456,614	2,902	419,212	2,637	-9.14%
Metro	1,460,380	2,341	1,613,599	2,478	1,849,716	2,719	2,108,504	2,991	2,178,198	3,001	2,248,748	3,065	2,219,380	2,991	2,374,200	3,157	2,517,960	3,308	2,666,020	3,454	2,694,802	3,435	2,711,058	3,403	2,459,353	3,047	2,200,330	2,697	-11.48%
Milton-Freew.	5,551	1,972	5,814	1,983	5,518	1,823	6,896	2,122	6,346	1,954	6,368	1,942	6,876	2,132	7,051	2,170	7,767	2,390	7,335	2,243	7,961	2,418	7,631	2,330	8,368	2,312	6,640	1,834	-20.71%
Morrow	8,151	1,990	6,507	1,486	6,725	1,445	7,120	1,406	9,681	1,744	8,758	1,571	10,229	1,818	9,834	1,674	11,396	1,940	10,530	1,763	13,380	2,207	15,008	2,433	15,632	2,504	15,325	2,444	-2.40%
Polk	23,909	916	31,794	1,153	35,442	1,237	49,985	1,659	55,322	1,785	57,464	1,827	61,886	1,973	65,411	2,067	73,818	2,298	80,085	2,466	79,527	2,412	72,967	2,185	74,168	2,197	70,187	2,062	-6.13%
Sherman	1,146	1,181	1,006	1,032	1,252	1,304	1,302	1,356	1,248	1,280	1,540	1,621	1,795	1,940	1,482	1,560	1,676	1,765	1,143	1,216	1,254	1,344	1,458	1,572	1,734	1,882	1,424	1,556	-17.30%
Tillamook	14,458	1,300	18,645	1,614	20,458	1,709	20,435	1,695	23,981	1,974	25,437	2,068	25,458	2,070	26,625	2,139	34,015	2,727	33,987	2,697	37,542	2,941	37,387	2,893	38,040	2,920	31,871	2,439	-16.45%
Umatilla	47,700	1,698	55,811	1,908	63,843	2,123	69,433	2,249	78,067	2,426	82,951	2,579	94,570	2,930	94,026	2,911	101,445	3,086	90,705	2,755	101,475	3,094	105,262	3,205	107,296	3,294	95,566	2,932	-11.00%
Union	15,391	1,279	20,339	1,635	19,879	1,599	21,458	1,740	23,373	1,904	25,629	2,087	26,318	2,140	26,288	2,133	27,404	2,206	26,729	2,143	22,319	1,778	29,102	2,305	27,157	2,142	24,327	1,910	-10.80%
Wallowa	7,234	1,996	7,945	2,130	4,528	1,211	5,373	1,464	5,874	1,620	5,438	1,531	6,867	1,921	6,461	1,807	6,294	1,760	6,610	1,854	6,440	1,804	6,459	1,812	5,559	1,563	5,008	1,411	-9.74%
Wasco	22,202	1,980	21,897	1,919	24,999	2,156	26,151	2,234	27,312	2,290	24,124	1,998	25,636	2,159	26,166	2,222	25,162	2,106	28,138	2,351	27,220	2,262	28,900	2,396	27,931	2,311	28,257	2,332	0.91%
Wheeler	817	1,135	861	1,097	948	1,156	478	608	696	898	528	681	665	857	696	898	692	893	689	889	673	860	759	967	611	777	512	646	-16.94%
Yamhill	64,049	1,829	76,504	2,070	75,024	1,904	100,144	2,411	120,689	2,800	128,043	2,940	148,408	3,365	116,159	2,614	142,839	3,177	139,640	3,068	163,951	3,549	161,965	3,453	140,989	2,967	118,786	2,475	-16.56%
OR TOTALS	3,102,776	2,075	3,431,581	2,200	3,835,427	2,364	4,300,887	2,568	4,544,280	2,645	4,634,157	2,670	4,752,627	2,712	4,913,666	2,775	5,240,525	2,926	5,549,824	3,057	5,729,878	3,105	5,686,131	3,036	5,218,207	2,753	4,671,845	2,444	-11.23%

change in total from previous year 5.42% 3.36% 5.84% 5.02% 2.93% 1.65% 0.95% 1.57% 2.32% 6.65% 5.43% 5.90% 3.24% -0.76% -2.22% -8.23% -9.33% -10.47% -11.23%

change in per capita from previous year 3.36% 3.81% 3.52% 1.65% 0.95% 1.57% 2.32% 5.43% 4.48% 1.59% -2.22% -9.33% -11.23%

Data from

Table 8: Oregon Materials Recovered, 1992-2009

Material Type	1992 Tons	1994 Tons	1996 Tons	1998 Tons	2000 Tons	2001 Tons	2002 Tons	2003 Tons	2004 Tons	2005 Tons	2006 Tons	2007 Tons	2008 Tons	2009 Tons
Container glass	69,284	73,512	77,231	78,492	87,889	83,240	90,476	89,199	92,204	94,670	95,946	96,926	100,496	108,084
Other glass	41	6,030	1,557	365	1,578	9,530	4,358	4,052	2,827	106	673	901	999	709
Total glass	69,325	79,542	78,788	78,857	89,467	92,770	94,833	93,251	95,030	94,776	96,619	97,827	101,496	108,793
Aluminum	18,245	16,805	17,815	16,734	18,209	20,511	17,428	14,671	17,871	20,453	21,521	26,932	32,888	30,673
Scrap metal	26,927	33,699	45,271	114,084	165,728	223,623	228,723	261,119	375,464	477,513	339,723	361,152	354,908	332,781
Tinned cans/aluminum					14,779	23,387	16,240	11,616	14,575	0	0	0	0	0
Tinned cans	7,400	8,557	8,635	8,745	0	0	0	0	0	8,719	8,399	10,174	9,177	9,003
Aerosol cans	0	0	0	8	0	0	0	0	1	1	1	1	1	1
Total metals	52,572	59,061	71,722	139,570	198,716	267,521	262,390	287,406	407,910	506,686	369,644	398,260	396,975	372,458
Cardboard/kraft paper	204,729	251,559	304,093	321,501	310,776	332,876	381,027	388,427	368,668	392,774	440,813	444,449	429,703	367,551
Paper Fiber ⁶	0	0	0	0	0	0	0	0	0	0	0	348,250	344,119	259,492
High-grade paper ⁶	67,077	35,401	49,298	69,449	54,358	62,185	41,659	57,418	56,307	39,847	47,324	0	0	0
Magazines	11,246	11,911	17,250	26,342	8,375	0	0	0	0	0	0	0	0	0
Phone books ¹	0	1,799	3,103	2,368	2,881	0	0	0	0	0	0	0	0	0
Mixed waste paper ⁵	24,012	38,770	53,771	78,863	91,559	81,418	46,203	51,553	28,820	29,147	39,347	0	0	0
Newspaper ⁶	130,181	143,911	141,412	154,014	187,108	203,021	211,082	235,959	260,151	268,585	263,193	0	0	0
Fiber-based fuel			9,235	0	0	0	0	0	0	0	0	0	0	0
Total papers	437,245	483,352	578,161	652,536	655,057	679,499	679,971	733,357	713,946	730,353	790,677	792,699	773,822	627,042
#1 PET beverage	3,329	4,392	5,803	5,142	0	0	0	0	0	0	0	0	0	0
#1 other	58	0	0	0	0	0	0	0	0	0	0	0	0	0
#2 milk jugs	1,940	4,289	3,049	2,361	0	0	0	0	0	0	0	0	0	0
#2 other	1,841	976	1,331	572	0	0	0	0	0	0	0	0	0	0
#3 PVC	25	5	144	1	0	0	0	0	0	0	0	0	0	0
#4 LDPE	1,196	3,843	2,501	988	0	0	0	0	0	0	0	0	0	0
#5	360	157	283	51	0	0	0	0	0	0	0	0	0	0
#6	471	292	430	280	0	102	0	0	0	0	0	0	0	0
Composite plastic	0	497	1,077	2,364	863	1,095	723	745	272	370	2,004	1,539	1,784	1,823
Mixed plastic	300	584	1,708	6,173	0	0	0	0	0	0	0	0	0	0
Other plastic (P7)	0	13	12	1	0	0	0	0	0	0	0	0	0	0
Plastic bottles ²					0	0	0	0	0	0	0	0	0	0
Plastic film					3,969	4,825	6,724	6,927	6,581	11,297	11,594	9,625	10,739	11,327
Plastic other					3,718	2,005	3,771	3,365	4,287	8,193	9,426	9,500	9,302	9,299
Rigid plastic containers					15,672	16,352	12,430	15,211	14,297	16,047	19,439	21,990	19,790	23,377
Total plastic	9,520	15,049	16,338	17,933	24,222	24,380	23,647	26,248	25,437	35,907	42,463	42,655	41,615	45,826
Antifreeze	5	11	52	188	424	1,864	2,181	1,387	2,307	2,871	3,085	2,683	2,720	2,515
C & D -- roofing ⁷				5,914	25,162	28,904	19,846	20,159	9,770	11,852	10,072	5,980	4,094	8,708
Carpeting -- used				304	919	1,064	540	355	696	784	0	645	300	515
Diesel							20	0	9	16	151	156	152	145
Electronics					617	1,640	2,216	2,023	3,350	3,790	6,345	9,813	10,513	15,174
Fluorescent lamps	0	15	7	91	21	267	263	312	232	374	453	514	451	400
Gypsum wallboard	3,695	6,726	9,419	8,501	5,300	13,164	3,781	5,209	3,891	3,121	4,174	2,655	3,126	3,338
Household Haz Waste					14	12	105	92	28	106	143	157	305	436
Alkaline batteries						4	26	44	0	0	0	0	0	0
Mixed batteries								75	154	120	204	188	218	
Lead acid batteries ³	176	417	559	739	1,184	10,134	12,614	6,673	18,483	12,861	15,509	12,906	14,602	13,794
Lithium batteries							1	0	1	0	0	0	0	0
NiCad batteries				9	0	18	32	17	27	0	0	0	0	0
Old broken crayons	0	1	0	0	0	0	0	0	0	0	0	0	0	
Paint ⁵	120	153	489	298	555	1,403	1,586	1,972	1,958	2,366	1,434	1,730	1,141	1,308
Porcelain	0	13	5	5	0	483	694	254	8	227	307	1,258	553	590
Rubber tire buffings ⁴	0	2,698	2,935	0	0	0	0	0	0	0	0	0	0	0
Scrap film (X-ray)	42	58	68	36	21	0	0	74	0	0	0	0	0	0
Solvents ⁵	16	6	110	290	188	248	223	217	249	280	261	274	526	237
Textiles			508	3,198	4,033	3,762	4,527	4,279	4,370	3,620	1,819	1,519	1,244	958
Tires ⁵	34,392	30,454	24,360	20,782	16,420	17,339	23,423	20,432	24,315	27,293	21,931	20,045	25,091	23,264
Used Motor Oil ⁵	28,796	49,769	47,632	44,567	44,114	45,675	48,225	43,580	50,439	55,466	52,837	43,123	43,871	40,513
Total other	67,243	90,320	86,145	84,920	98,969	125,979	120,302	107,080	120,207	125,181	118,640	103,662	108,876	112,113
Animal waste/grease	0	22,986	22,957	22,897	25,670	26,226	32,805	30,160	17,392	22,537	15,928	13,783	14,512	12,853
Food waste	0	2,000	5,000	3,590	3,486	9,685	12,339	14,937	13,008	9,644	12,430	16,407	21,475	21,949
Wood waste ⁵	112,425	157,881	243,773	326,688	360,819	424,569	402,799	420,889	444,017	449,791	503,967	460,896	371,531	311,846
Yard debris ⁵	91,348	208,722	235,562	278,750	309,407	348,472	400,174	403,552	480,117	548,493	543,683	511,380	497,252	475,386
Total organics	203,773	391,589	507,292	631,925	699,382	808,951	848,117	869,538	954,533	1,030,465	1,076,008	1,002,466	904,770	822,033
Adj. rounding/unspecified			2		1	-1	0	0	0	0	0	0	0	0
OREGON TOTALS	839,678	1,118,913	1,338,446	1,605,741	1,765,814	1,999,099	2,029,261	2,116,880	2,317,064	2,523,367	2,494,050	2,437,569	2,327,554	2,088,265

¹Phone books included in mixed waste paper in 1992, 1993 and 2001 and subsequent years.

²About 900 tons of plastic bottles was included with mixed plastics in the 1995 survey.

³Includes only batteries collected at household hazardous waste collection events until 2001.

⁴From 1998 rubber tire buffings were included with tires.

⁵Includes Marion Co. materials in 2001 and subsequent years burned for energy.

⁶In 2007 and subsequent years, Mixed Waste Paper, Hi Grade & Newspaper was combined into Paper Fiber

⁷Asphalt Roofing was included as burned for energy only in years 2001-2006

Data from 1993, 1995, 1997 and 1999 is not shown due to page formatting. Please contact DEQ directly for data from these years.

Table 9: Disposition of Recovered Materials, 2009

Wasteshed	Total Recovered	Recycled	% of Total	Energy Recovery	% of Total	Compost	% of Total	Stock
Baker	4,067	3,134	77%	146	4%	787	19%	0
Benton	31,441	18,033	57%	1,845	6%	11,419	36%	143
Clatsop	17,584	9,611	55%	7,233	41%	740	4%	0
Columbia	12,017	8,713	73%	448	4%	2,857	24%	0
Coos	12,667	9,278	73%	3,117	25%	272	2%	0
Crook	6,273	5,199	83%	185	3%	889	14%	0
Curry	4,223	4,025	95%	198	5%	0	0%	0
Deschutes	75,365	45,451	60%	14,383	19%	15,531	21%	0
Douglas	30,847	17,628	57%	11,222	36%	1,997	6%	0
Gilliam	768	671	87%	92	12%	0	0%	4
Grant	1,099	1,053	96%	34	3%	0	0%	12
Harney	944	828	88%	39	4%	68	7%	9
Hood River	7,456	5,533	74%	187	3%	1,688	23%	48
Jackson	79,278	51,454	65%	15,113	19%	12,437	16%	274
Jefferson	4,475	4,045	90%	258	6%	169	4%	3
Josephine	29,512	15,458	52%	6,959	24%	6,984	24%	111
Klamath	26,257	20,136	77%	4,684	18%	1,384	5%	53
Lake	1,754	1,640	94%	22	1%	86	5%	6
Lane	190,879	97,890	51%	39,070	20%	53,920	28%	0
Lincoln	17,010	10,792	63%	6,082	36%	136	1%	1
Linn	56,127	36,049	64%	6,624	12%	13,252	24%	202
Malheur	4,909	4,400	90%	397	8%	112	2%	0
Marion	218,792	133,537	61%	37,932	17%	47,324	22%	1
Metro	1,112,048	702,716	63%	216,047	19%	193,270	17%	15
Milton-Freewater	2,319	1,510	65%	103	4%	705	30%	1
Morrow	3,548	3,519	99%	29	1%	0	0%	0
Polk	32,202	24,104	75%	1,033	3%	7,065	22%	0
Sherman	203	197	97%	2	1%	0	0%	4
Tillamook	9,271	7,533	81%	1,620	17%	68	1%	50
Umatilla	30,306	26,152	86%	3,229	11%	902	3%	23
Union	7,119	5,501	77%	124	2%	1,494	21%	0
Wallowa	1,055	882	84%	7	1%	118	11%	48
Wasco	9,224	8,305	90%	340	4%	527	6%	53
Wheeler	102	32	31%	7	7%	0	0%	64
Yamhill	47,123	20,426	43%	5,737	12%	20,958	44%	2
Total	2,088,265	1,305,435	61%	384,544	22%	397,158	17%	1,128

Appendix I: Methodology

Data Sources

In 2009, DEQ collected recycling and disposal data from:

- 239 private companies handling recycled materials, including buy-back centers, intermediate processors, material recovery facilities, yard debris composting facilities, beer and soft drink distributors, and end users
- 175 collection service providers
- 10 scrap metal dealers
- 39 disposal sites handling municipal and construction and demolition wastes.

Data Collection and Management

Recyclers and collection service providers who directly collect material in each county were surveyed. However, since it is not practical to identify and survey each individual generator of recyclable materials (such as all the retail stores in the state), DEQ also surveyed material processors and end users. Survey recipients were asked to return the completed surveys to DEQ by February 28, 2009. Metro-area and individual county watershed collection service provider forms were reviewed by Metro and local government staff for completeness and accuracy before being forwarded to DEQ. As surveys were received, DEQ staff checked the data for completeness, and in many instances, verified information by calling the survey respondent. Once approved, the data was entered into a database, and a number of quality control checks were performed. The two most important checks were:

Comparing information from different sources. For example, often collectors report sending more material to recyclers (or end users) than the recyclers report receiving. This issue is usually resolved by calling the receiving recycler or both the recycler and the collector to determine the source of the discrepancy. When a discrepancy cannot be resolved by talking to the involved recyclers and collectors, the information provided by the end user is used in most cases.

Examining per capita recycling calculations for unlikely results. For example, occasionally more material is reported as recovered than would be expected in a county, based on estimates using population. This issue is resolved by determining which survey respondents reported collecting or handling the material for the county in question, looking for unlikely results in their reports, and calling the involved recyclers and collectors. Problems in the units of measurement used sometimes cause these anomalies.

Quality of Data

This is the eighteenth year DEQ has collected recovery and waste generation rate data. Many companies who report have set up their own record-keeping mechanisms to help them provide complete, accurate, and timely data. However, each year DEQ staff encounters problems with reported data that need to be resolved. For example, the 2009 surveys included examples of materials being improperly reported as **recycled** rather than **disposed**, and numerous examples of double counting by multiple branches of the same company. Other errors in reporting include composted materials and material burned for energy reported as **recycled**. Some reporters provided good data on materials they have traditionally handled, but failed to report on new additions, such as scrap electronics. Other companies did not include data for all facilities they operate or failed to submit a survey form.

Double Counting of Materials

The processing and handling chain for each recyclable material is varied and complex – it can involve multiple companies handling the same material. In addition, DEQ determines recovery rates for individual watersheds as well as the state as a whole. The potential for double counting of materials in this process is a

major issue. For example, companies collecting materials, processors who purchase the materials from the collectors, and markets and end users of materials are all surveyed and report on the same materials. Having information on where each collector or recycler sells their material allows DEQ to eliminate the double counting of that material. DEQ's database is designed to track materials transferred from collector to recycler, collector to collector, or recycler to recycler, accounting for each material a company sold to an intermediate processor, while at the same time keeping track of the county of origin for that material. Thus, no matter where a material is ultimately recycled, composted, or burned for energy, DEQ can give proper credit to the wasteshed of origin.

Commingled Collection

Many areas of Oregon collected commingled recyclable materials. A dual stream system is used – glass is kept separate from the other mixed materials. This material is sent to processors or material recovery facilities (MRFs). These were asked to complete an additional commingled survey form. The added information details the individual materials that are sorted out of the commingled collection material mix.

DEQ combines the received commingled amounts into one type – Commingled All. The MRF receipt and sorting data is used to apply back to the companies that collect and transfer commingled materials to the MRFs. The individual materials sorted from the Commingled All collections are allocated back to the collecting wasteshed. These allocations are based on sorting estimates of for individual materials. All areas sending materials to one processor receive the same sorting percentage allocation which may not exactly match the actual collections percentages of their commingled mix. The sorted data integrity is “homogenized” and so a bit weakened. To further complicate material tracking, some commingled materials now pass through a transfer operation in-between the collection service provider and MRF. The difficulty in identifying specific materials in mixes is an unfortunate outcome of collecting and transferring recyclables in commingled packs. However, the volume of collected materials is greatly increased by this collection method.

Disposal Data

Information on disposal tonnage comes from annual or quarterly reports filed with DEQ by disposal sites for fee collection purposes. Disposal sites report **counting** waste by county and this amount is used in the recovery rate calculation. “Counting” waste includes municipal solid waste as well as construction and demolition wastes such as wood waste, asphalt roofing, carpet pad, upholstery foam, and gypsum wallboard. Also included in the counting disposal tonnage is animal waste and grease and tires. The following **non-counting waste** is excluded from this survey: industrial waste from manufacturing processes; sewage sludge; asbestos; petroleum-contaminated soil; and inert waste (full loads only) such as rock and gravel, dirt, concrete, brick, and asphalt paving.

Appendix II: Respondents to the 2009 Material Recovery Survey

**PRIVATE RECYCLING
Survey Respondents**

4R RECYCLING
Burns, OR

A&P RECYCLING
The Dalles, OR

ACCESS INFORMATION
MANAGEMENT
Eugene, OR

ADVANCED M & D
SALES
Portland, OR

AGRIPLAS INC
Keizer, OR

ALBERTSONS
DISTRIBUTION CENTER
Portland, OR

ALLWOOD RECYCLING
Fairview, OR

AMERICAN RAG AND
METAL
Portland, OR

ANKMAR, LLC
Sweet Home, OR

ARMSTRONG WORLD
IND INC
St Helens, OR

ASH GROVE CEMENT
Portland, OR

ASTORIA LIONS CLUB
Astoria, OR

ASTORIA
WAREHOUSING
Astoria, OR

BAKER COMMODITIES
Seattle, WA

BAR 7A TRUCKING
Redmond, OR

BATTERY SYSTEMS OF
MEDFORD
Medford, OR

BEAVER BARK, INC
Scappoose, OR

BELLA ORGANIC LLC
Clackamas, OR

BEND METRO PARKS &
RECREATION DIST
Bend, OR

BEST BUY IN TOWN
Hillsboro, OR

BIO-MASS-ONE, LP
White City, OR

BLUE GOOSE
RECYCLING
Weston, OR

BLUE HERON
NEWSPRINT CO
Oregon City, OR

BOISE CASCADE
St Helens, OR

BON APPETIT MGMT CO
Portland, OR

BRING RECYCLING
Eugene, OR

CALBAG METALS CO
Portland, OR

CAROTHERS TIRE
Hillsboro, OR

CASCADE AUTO
RECYCLERS
Grants Pass, OR

CHERRY CITY METALS
Salem, OR

CINTAS DOCUMENT
MANAGEMENT
Portland, OR

CITY OF COTTAGE
GROVE
Cottage Grove, OR

CITY OF EUGENE
Eugene, OR

CITY OF GRANTS PASS
Grants Pass, OR

CITY OF KLAMATH
FALLS
Klamath Falls, OR

CITY OF PORTLAND
Portland, OR

CITY OF THE DALLES
The Dalles, OR

CITY RECYCLE, LLC
Portland, OR

CLACKAMAS COMPOST
Tualatin, OR

CLATSOP DISTRIBUTING
CO
Astoria, OR

CLAYTON WARD CO
Kennewick, WA

CLAYTON WARD CO
Salem, OR

CLEAN IT UP MARK
Portland, OR

COLUMBIA GORGE
PRESS
Hood River, OR

COLUMBIA RECYCLING
PDX
Portland, OR

COMPOST OREGON
Aumsville, OR

COMPUTER DRIVE
CONNECTION
Cornelius, OR

D & R DIETRICH & SONS,
INC
Vancouver, WA

D.A.D.S. RECYCLING
Vernonia, OR

DAISHOWA AMERICA
(NIPPON IND)
Port Angeles, WA

DARLING
INTERNATIONAL
Boise, ID

DARLING
INTERNATIONAL
Tacoma, WA

2009 Material Recovery and Waste Generation Rates Report 29

DENNIS CARLIN HAULING Woodburn, OR	FRED LEA DISTRIBUTING Salem, OR	HOOKER CREEK CO Bend, OR
DENTON PLASTICS INC Portland, OR	FRED MEYER Clackamas, OR	INTERNATIONAL PAPER Beaverton and Eugene, OR
DEPARTMENT OF ENVIRONMENTAL QUALITY Portland, OR	FRED MEYER Portland, OR	INTERSTATE PLASTICS Vancouver, WA
DUFUR LIONS CLUB Dufur, OR	FREE GEEK Portland, OR	IRAS SALES & SERVICE Madras, OR
EARTH CYCLE Grants Pass, OR	FULL SAIL BREWERY Hood River, OR	IRON MOUNTAIN Portland, OR
EAST OREGON PLASTICS Baker City, OR	FUN BEVERAGE Newport, OR	JEFFERSON AVENUE RECYCLERS LaGrande, OR
EC RESTAURANT SERVICES Harrisburg, OR	GARDNER ENTERPRISES INC John Day, OR	JOHNSON CONTROLS Canby, OR
ECHANIS DISTRIBUTING CO Ontario, OR	GARTEN FOUNDATION Salem, OR	K&S RECOVERY Aloha, OR
ECONOMY APPLIANCE RECYCLERS Medford, OR	GARY GRUNER CHEVROLET Madras, OR	KB RECYCLING Canby, OR
ECOSORT Eugene, OR	GEORGIA PACIFIC Halsey, OR	KE MCKAYS Gold Beach, OR
ECS REGENESYS Medford, OR	GEORGIA PACIFIC CORP Toledo, OR	KEYSTONE AUTOMOTIVE INDUSTRIES, INC Vancouver, WA
EMERALD SERVICES Tacoma, WA	GODFREY & YEAGER EXCAVATING Coos Bay, OR	KINGSLEY AIR FIELD Klamath Falls, OR
ENVIRONMENTAL FIBERS INTERNATIONAL Portland, OR	GOODWILL INDUSTRIES Eugene, OR	KIWANIS CLUB Tillamook, OR
ENVIRONMENTAL PROTECTION SERVICES INC Brooks, OR	GOODWILL INDUSTRIES Portland, OR	KNEZ BUILDING MATERIALS Clackamas, OR
ENVIRONMENTALLY CONSCIOUS RECYCLING Portland, OR	GOSPEL RESCUE MISSION Grants Pass, OR	LAKESIDE RECLAMATION Beaverton, OR
EPSON Hillsboro, OR	GRAF PAPER SALVAGE Portland, OR	LAKIN TIRES WEST INC Santa Fe Springs, CA
ERICKSONS SENTRY MARKET Burns, OR	GREENWAY RECYCLING Portland, OR	LAMB-WESTON INC Boardman, OR
ETECH Hillsboro, OR	GRIMMS FUEL CO Tualatin, OR	LANE FOREST PRODUCTS Eugene, OR
EUGENE MISSION Eugene, OR	HANKE'S RECYCLING Portland, OR	LAURELWOOD FARMS Gearhart, OR
EXIDE TECHNOLOGIES Portland, OR	HINES NURSERY Forest Grove, OR	LES SCHWAB WAREHOUSE CENTER Prineville, OR
FAR WEST FIBERS Portland, OR	HI-SCHOOL PHARMACY Vancouver, WA	LIFESPAN TECHNOLOGY RECYCLING San Diego, CA
	HOOD RIVER COUNTY Hood River, OR	MARION RESOURCE FACILITY Brooks, OR
	HOOD RIVER LIONS Hood River, OR	

2009 Material Recovery and Waste Generation Rates Report 30

MARKET OF CHOICE
Eugene, OR

MCFARLANES BARK INC
Milwaukie, OR

MCGOVERN METALS
Roseburg, OR

MCKENZIE RECYCLING
Eugene, OR

MERLIN PLASTICS
Delta, BC

METRO
Portland, OR

MIC TOTAL RECYCLE
Forest Grove, OR

MONROVIA NURSERY
Dayton, OR

MORROW COUNTY
PUBLIC WORKS
Lexington, OR

MYERS CONTAINER
CORPORATION
Portland, OR

NATURES NEEDS
Portland, OR

NEXT STEP RECYCLING
Eugene, OR

NORPAC
Longview, WA

NORTHWEST
ENVIRONMENTAL &
RECYCLING INC
Cornelius, OR

NORTHWEST
GREENLANDS
McMinnville, OR

NORTHWEST POLYMERS
Molalla, OR

NORTHWEST WOOD AND
FIBRE RECOVERY INC
Troutdale, OR

OAK LEAF ENTERPRISES
Central Point, OR

OIL RE-REFINING INC
Portland, OR

OREGON BEVERAGE
RECYCLING CO-OP
Portland, OR

OREGON COMPUTER
RECYCLING, INC
Warrenton, OR

OREGON PALLET
Salem, OR

OREGON RECYCLING
SYSTEMS
Portland, OR

OWENS ILLINOIS GLASS
CONTAINER INC
Portland, OR

OWYHEE DISTRIBUTING
CO INC
Nyssa, OR

P & E DISTRIBUTING CO
Baker City, OR

PACIFIC DISC INC
(PACIFIC RUBBER)
Toledo, OR

PACIFIC PALLET
Eugene, OR

PALLET DOCTOR
Cornelius, OR

PAPER CHASE
RECYCLING
Portland, OR

PENDLETON BOTTLING
CO
Pendleton, OR

PEPSI COLA BOTTLING
CO
Corvallis, OR

PEPSI COLA BOTTLING
CO
Klamath Falls, OR

PEPSI COLA BOTTLING
CO
La Grande, OR

PEPSI COLA BOTTLING
CO
Medford, OR

PEPSI COLA BOTTLING
CO
The Dalles, OR

PHILIP SERVICES
CORPORATION
Kent, WA

POLK COUNTY
Dallas, OR

PORT OF BROOKINGS
Brookings, OR

PORTLAND
HABILITATION CENTER
INC
Portland, OR

PRIDE
Sherwood, OR

PRINCES AUTOMOTIVE
Madras, OR

PROVIDENCE MEDICAL
CENTER
Portland, OR

QUALITY COMPOST
Milton-Freewater, OR

QUANTUM RESOURCES
Beaverton, OR

QWEST DEX
Englewood, CO

RB RECYCLING
Portland, OR

RB RUBBER
McMinnville, OR

RECALL
Kent, WA

RECHARGEABLE
BATTERY RECYCLING
CORP
Atlanta, GA

RECOLOGY OREGON
MATERIAL RECOVERY
Portland, OR

RECYCLE AMERICA
Troutdale, OR

RED BARN RECYCLING
Portland, OR

RESCO PLASTICS INC
Coos Bay, OR

RETRONICS
Portland, OR

REXIUS FOREST BY-
PRODUCTS
Eugene, OR

RITE AID
Wilsonville, OR

ROGUE MATERIAL
RECOVERY
Central Point, OR

ROSAUER'S SUPER
MARKET
Hood River, OR

RSR CORPORATION
Dallas, TX

S & H LOGGING
Tualatin, OR

SAFETY KLEEN
Elgin, IL

SAFEWAY
DISTRIBUTION CENTER
Clackamas, OR

SCHNITZER INDUSTRIES
Portland, OR

SCIENTIFIC
DEVELOPMENT INC
Eugene, OR

SEAPORT
INTERNATIONAL
Issaquah, WA

SHRED-IT
Tualatin, OR

SMURFIT-STONE
RECYCLING
Portland, OR

SOUTHERN OREGON
COMPOST
Grants Pass, OR

SP NEWSPRINT CO
Newberg, OR

SP RECYCLING CORP
Clackamas, OR

SPARC ENTERPRISES
Grants Pass, OR

ST VINCENT DEPAUL
Eugene, OR

ST VINCENT DEPAUL
The Dalles, OR

STAPLES
Framingham, MA

STAR OF HOPE
RECYCLING
Coos Bay, OR

STRATEGIC MATERIALS,
INC
Hayward, CA

STRUT
The Dalles, OR

TAYLORMADE
PRODUCTS INC
Scappoose, OR

TECHNOLOGY
CONSERVATION GROUP
INC
Lecanto, FL

THERMO FLUIDS INC
Clackamas, OR

TILLAMOOK COUNTY
CREAMERY
ASSOCIATION
Tillamook, OR

TIRE DISPOSAL
Molalla, OR

TIRE DISPOSAL &
RECOVERY (KRIDER)
Prineville, OR

TIRE DISPOSAL &
RECYCLING INC
Portland, OR

TOTAL RECLAIM INC
(ECOLIGHTS NW)
Seattle, WA

TRAIL'S END RECOVERY
Warrenton, OR

TREX COMPANY
Winchester, VA

TUALATIN VALLEY
WASTE RECOVERY
Hillsboro, OR

UNIFIED WESTERN
GROCERS
Milwaukie, OR

VAN DUSEN BEVERAGES
Astoria, OR

VEOLIA ES
ENVIRONMENTAL
Vancouver, WA

WALLA WALLA
RECYCLING
Walla Walla, WA

WAL-MART STORES
Bentonville, AR

WARM SPRINGS
COMPOSITE PRODUCTS
Warm Springs, OR

WASTE CONTROL
RECYCLING
Kelso, WA

WASTE MANAGEMENT
LAMP TRACKER
Phoenix, AZ

WASTE RECOVERY
WEST
Portland, OR

WASTE XPRESS
Portland, OR

WEST COAST GROCERS
Tacoma, WA

WEST UNION GARDENS
Hillsboro, OR

WEST VANCOUVER
MATERIAL RECOVERY
FAC
Vancouver, WA

WESTERN OREGON
UNIVERSITY
Monmouth, OR

WESTERN PULP
PRODUCTS
Corvallis, OR

WESTERN RECYCLING
Boise, ID

WHITE CITY RECYCLERS
White City, OR

WILLAMETTE
LANDSCAPE SUPPLY
COMPOST FACILITY
Salem, OR

WILLAMETTE
RESOURCES
Wilsonville, OR

WINCO
Woodburn, OR

WOOD WASTE
MANAGEMENT
Portland, OR

WOODCO FUEL
Aloha, OR

WRIGHT CHEVROLET
Fossil, OR

YAMHILL CO SOLID
WASTE MANAGEMENT
McMinnville, OR

YAQUINA RECYCLING
Newport, OR

SCRAP METAL Survey Respondents

BURCHAMS METALS
Albany, OR

CLYDE & REBECCA
REDMAN
Irrigon, OR

DAVIS RS RECYCLING
STATION
Clackamas, OR

HAMILTON METALS
Klamath Falls, OR

METRO METALS
NORTHWEST
Portland, OR

RBBG, INC
Parkdale, OR

RIVERGATE - CALBAG
LLC
Portland, OR

STEEL OUTLET INC
Roseburg, OR

SWIFT & MCCORMICK
Redmond, OR

WINTERS SALVAGE

2009 Material Recovery and Waste Generation Rates Report 32

Tigard, OR	CITY OF JUNCTION CITY Junction City, OR	DESCHUTES RECYCLING Bend, OR
COLLECTION SERVICE PROVIDER	CITY OF LONG CREEK Long Creek, OR	DESCHUTES TRANSFER CO Bend, OR
Survey Respondents	CITY OF MILTON FREEWATER Milton Freewater, OR	DON G AVERILL RECYCLING INC Tillamook, OR
ALLIED WASTE OF ALBANY LEBANON Albany, OR	CITY OF MONUMENT Monument, OR	DOUGLAS COUNTY PUBLIC WORKS DEPARTMENT Roseburg, OR
ALLIED WASTE OF CORVALLIS Corvallis, OR	CITY SANITARY & RECYCLING McMinnville, OR	ECOSYSTEMS TRANSFER & RECYCLING Veneta, OR
ALLIED WASTE OF DALLAS Dallas, OR	CITY SANITARY SERVICE Tillamook, OR	ENVIRONMENTAL WASTE SYSTEMS INC St Helens, OR
ALLIED WASTE OF GRANTS PASS Grants Pass, OR	CLARKS DISPOSAL John Day, OR	FINLEY BUTTES LANDFILL Boardman, OR
ALLIED WASTE OF MARION COUNTY Woodburn, OR	COBURG SANITARY SERVICE, INC Coburg, OR	HIGH COUNTRY DISPOSAL Redmond, OR
ALLIED WASTE OF SALEM Salem, OR	CONDON TRANSFER STATION Condon, OR	HOOD RIVER GARBG, RECY AND TRANSFER Hood River, OR
BAKER SANITARY SERVICE Baker City, OR	CONFEDERATED TRIBES OF THE WARM SPRINGS Warm Springs, OR	HORIZON PROJECT INC Milton Freewater, OR
BEAVER HILL INCINERATOR & DISPOSAL SITE Coquille, OR	COOS BAY SANITARY SERVICE Coos Bay, OR	HUMBERT REFUSE & RECYCLING (RAHN'S) Milton Freewater, OR
BEND GARBAGE & RECYCLING CO Bend, OR	COTTAGE GROVE GARBAGE SERVICE, INC Cottage Grove, OR	JEFFERSON COUNTY PUBLIC WORKS DEPARTMENT Madras, OR
BRANDTS SANITARY SERVICE Monmouth, OR	COUNTRYSIDE DISPOSAL SERVICE Junction City, OR	JOSEPHINE COUNTY RECYCLING & TRANSFER Grants Pass, OR
C & B SANITARY SERVICE Burns, OR	COUNTY TRANSFER & RECYCLING Elmira, OR	KLAMATH COUNTY SOLID WASTE MANAGEMENT Klamath Falls, OR
CARTM Manzanita, OR	CROOK COUNTY LANDFILL Prineville, OR	KLAMATH DISPOSAL Klamath Falls, OR
CASCADE RECYCLING COMPANY Bend, OR	CROOKED RIVER SANITARY Terrebonne, OR	KNOTT LANDFILL Bend, OR
CENTRAL COAST DISPOSAL Florence, OR	CURRY TRANSFER & RECYCLING Brookings, OR	LAKE COUNTY ROAD DEPARTMENT Lakeview, OR
CITY OF CANNON BEACH Cannon Beach, OR	D & O GARBAGE SERVICE INC Salem, OR	LAKEVIEW SANITATION Lakeview, OR
CITY OF HAINES Haines, OR	DAHL & DAHL INC, RECYCLING & TRANSFER Waldport, OR	
CITY OF HUNTINGTON Huntington, OR		

LANE APEX DISPOSAL
Eugene, OR

LANE COUNTY SOLID
WASTE DIVISION
Eugene, OR

LES SANITARY SERVICE
Coos Bay, OR

LINCOLN COUNTY SOLID
WASTE DISTRICT
Newport, OR

LORENS SANITATION
SERVICE
Keizer, OR

MADRAS SANITARY
SERVICE
Madras, OR

MALHEUR COUNTY
ENVIRONMENTAL
HEALTH
Vale, OR

MARION COUNTY
PUBLIC WORKS - ENV
SERV
Salem, OR

MARION RECYCLING
CENTER INC
Salem, OR

MCKENZIE DISPOSAL
SERVICE LLC
Walterville, OR

MEL'S SANITARY
SERVICE
Tygh Valley, OR

MID OREGON
RECYCLING
Bend, OR

NESTUCCA VALLEY
SANITARY
Hebo, OR

NEWBERG GARBAGE &
RECYCLING
Newberg, OR

NORTH BEND
SANITATION
North Bend, OR

NORTH LINCOLN
SANITARY SERVICE
Lincoln City, OR

NORTH MARION
RECYCLING & DISPOSAL
Keizer, OR

OAKRIDGE SANI-HAUL
INC
Oakridge, OR

ONTARIO SANITARY
SERVICE INC
Ontario, OR

OREGON WASTE
SYSTEMS INC
Arlington, OR

P & J DISPOSAL
Creswell, OR

PACIFIC SANITATION
Salem, OR

PENDLETON SANITARY
SERVICE, INC
Pendleton, OR

PINE VALLEY
RECYCLING COMMITTEE
Baker City, OR

PRINEVILLE DISPOSAL
INC
Prineville, OR

R-SANITARY SERVICE
Garibaldi, OR

RAINIER SANITARY
SERVICE
Rainier, OR

RECOLOGY ASHLAND
SANITARY SERVICE
Ashland, OR

REGIONAL DISPOSAL CO
Seattle, WA

RIVERSIDE TRANSPORT
SERVICE
Arlington, OR

ROGUE DISPOSAL &
RECYCLING, INC
Central Point, OR

ROSEBURG DISPOSAL
CO
Roseburg, OR

ROYAL REFUSE SERVICE
Eugene, OR

RYAN MILLER & SONS
DISPOSAL SERVICE
Heppner, OR

S & S DISPOSAL
Nyssa, OR

SANIPAC INC
Eugene, OR

SANITARY DISPOSAL
INC
Hermiston, OR

SOURCE RECYCLING
Albany, OR

SOUTHERN OREGON
SANITATION
Eagle Point, OR

SOUTHERN OREGON
SANITATION INC
Grants Pass, OR

STAR GARBAGE
SERVICE
Eugene, OR

SUBURBAN GARBAGE
SERVICE
Salem, OR

SUNRISE ENTERPRISES
Roseburg, OR

SUTHERLIN SANITARY
SERVICE
Sutherlin, OR

SWEET HOME
SANITATION SERVICE
Sweet Home, OR

THE DALLES DISPOSAL
SERVICE
The Dalles, OR

THOMPSONS SANITARY
SERVICE
Newport, OR

TOLEDO RECYCLING
AND TRANSFER
Toledo, OR

VALLEY LANDFILLS INC
Corvallis, OR

VALLEY RECYCLING
AND DISPOSAL, INC
Salem, OR

WADSWORTH GARBAGE
DISPOSAL SERVICE
Coquille, OR

WALLOWA COUNTY
PUBLIC WORKS
Enterprise, OR

WASCO COUNTY
LANDFILL
The Dalles, OR

WASTE MANAGEMENT
OF COLUMBIA COUNTY
St Helens, OR

WASTE PRO (CITY
GARBAGE SERVICE)
La Grande, OR

WEST COAST
RECYCLING AND
TRANSFER
Coos Bay, OR

WESTERN OREGON
WASTE
McMinnville, OR

WHEELER COUNTY
COURT
Fossil, OR

WILDERNESS GARBAGE
& RECYCLING SERVICE
La Pine, OR

WINSTON SANITARY
SERVICE
Winston, OR

**METRO COLLECTION
SERVICE PROVIDER
Survey Respondents**

AGG ENTERPRISES INC
Portland, OR

ALLIED WASTE OF
CLACKAMAS AND
WASHINGTON
Wilsonville, OR

ALLIED WASTE OF LAKE
OSWEGO
Lake Oswego, OR

ALLIED WASTE OF
PORTLAND
Portland, OR

ALOHA GARBAGE CO
Aloha, OR

AMERICAN PROPERTY
MANAGEMENT
Portland, OR

ARROW SANITARY
(WASTE CONNECTIONS)
Portland, OR

BLISS SANITARY
SERVICE
Boring, OR

CANBY DISPOSAL CO
Canby, OR

CITY OF ROSES DROP
BOX SERVICE
Portland, OR

CITY SANITARY
SERVICE
Portland, OR

CLACKAMAS GARBAGE
CO
Milwaukie, OR

CLOUDBURST
RECYCLING
Portland, OR

CORNELIUS DISPOSAL
SERVICE
Cornelius, OR

CROWN POINT REFUSE
INC
Corbett, OR

DEINES BROTHERS
Portland, OR

DEINES, MEL SANITARY
SERVICE INC
Milwaukie, OR

DEYOUNG SANITARY
SERVICE
Portland, OR

ECKERT SANITARY
SERVICE INC
Portland, OR

ELMERS SANITARY
SERVICE
Portland, OR

FLANNERY'S DROP BOX
SERVICE
Fairview, OR

GARBARINO DISPOSAL
SERVICE INC
North Plains, OR

GLADSTONE DISPOSAL
CO INC
Oregon City, OR

GRESHAM SANITARY
SERVICE INC
Gresham, OR

GRUETTER SANITARY
SERVICE
Portland, OR

HEIBERG GARBAGE
SERVICE
Portland, OR

HILLSBORO GARBAGE
DISPOSAL
Hillsboro, OR

HOFFMANN SANITATION
Portland, OR

HOODVIEW DISPOSAL &
RECYCLING
Canby, OR

HOUSING AUTHORITY
OF PORTLAND
Portland, OR

LEHL DISPOSAL INC
Canby, OR

MOLALLA SANITARY
Oregon City, OR

MULTNOMAH COUNTY
DROP BOX SERVICE
Portland, OR

OAK GROVE DISPOSAL
CO INC
Milwaukie, OR

ON SITE DEMOLITION
Portland, OR

OREGON CITY GARBAGE
CO
Oregon City, OR

PAPASADERO JF & SONS
Portland, OR

PORTLAND DISPOSAL &
RECYCLING
Portland, OR

PRIDE DISPOSAL
Sherwood, OR

RIVER CITY
ENVIRONMENTAL
Portland, OR

ROCKWOOD SOLID
WASTE INC
Gresham, OR

SANDY TRANSFER
STATION
Sandy, OR

SUNSET GARBAGE
COLLECTION INC
Portland, OR

SWATCO SANITARY
SERVICE
Banks, OR

THE TRASHMASTERS
Portland, OR

TWELVE MILE DISPOSAL
SERVICE
Corbett, OR

VALLEY GARBAGE &
RECYCLING, INC
Beaverton, OR

VALLEY WEST REFUSE
DISPOSAL INC
Aloha, OR

WACKER DAVE
SANITARY
Boring, OR

WALKER DAN DISPOSAL
SERVICE
Estacada, OR

WALKER GARBAGE
SERVICE
Portland, OR

2009 Material Recovery and Waste Generation Rates Report 35

WASHINGTON COUNTY
DROP BOX
Hillsboro, OR

WASTE MANAGEMENT
INC
Portland, OR

WASTE MANAGEMENT
OF WASHINGTON
COUNTY
Portland, OR

WEISENFLUH, J & R
SANITARY SERVICE
Portland, OR

WEITZEL GARBAGE
SERVICE & RECYCLING
Portland, OR

WEST LINN REFUSE &
RECYCLING INC
Canby, OR

WEST SLOPE GARBAGE
SERVICE
Portland, OR

WICHITA SANITARY
SERVICE
Gladstone, OR

WOODFEATHERS, INC.
Beaverton, OR

DISPOSAL SITE
Survey Respondents

ANT FLAT LANDFILL
Enterprise, OR

BAKER SANITARY
LANDFILL
Baker City, OR

BEAVER HILL
INCINERATOR &
DISPOSAL SITE
Coquille, OR

BROWNS ISLAND
DEMOLITION LANDFILL
Salem, OR

BURNS/HINES
Burns, OR

CHEMULT DISPOSAL
SITE
Klamath Falls, OR

COFFIN BUTTE
SANITARY LANDFILL
Corvallis, OR

COLUMBIA RIDGE
LANDFILL & RECYCLING
Arlington, OR

CROOK COUNTY
LANDFILL
Prineville, OR

DELTA SAND & GRAVEL
DEMOLITION LANDFILL
Eugene, OR

DIAMOND DISPOSAL
SITE
Burns, OR

DREWSEY DISPOSAL
SITE
Burns, OR

DRY CREEK DISPOSAL
SITE
Medford, OR

ENERGY RECOVERY
FACILITY
Salem, OR

FIELDS DISPOSAL SITE
Burns, OR

FINLEY BUTTES
LANDFILL
Vancouver, WA

FRENCHGLEN DISPOSAL
SITE
Burns, OR

HAINES LANDFILL
Haines, OR

HILLSBORO LANDFILL
Hillsboro, OR

HUMBERT SANITARY
LANDFILL
Milton-Freewater, OR

JOE NEY DISPOSAL SITE
Coquille, OR

KLAMATH FALLS
LANDFILL
Klamath Falls, OR

KNOTT LANDFILL
Bend, OR

LAKE COUNTY ROAD
DEPARTMENT
Lakeview, OR

LAKESIDE
RECLAMATION
Beaverton, OR

LYTLE BOULEVARD
LANDFILL
Vale, OR

MILTON-FREEWATER
LANDFILL
Milton-Freewater, OR

ONTARIO SANITARY
SERVICE INC
Ontario, OR

PRAIRIE CITY LANDFILL,
Prairie City, OR

REGIONAL DISPOSAL
COMPANY
Seattle, WA

REGIONAL TIRE
RECOVERY AND
DISPOSAL
Prineville, OR

RILEY DISPOSAL SITE
Burns, OR

RIVERBEND SANITARY
LANDFILL
McMinnville, OR

ROSEBURG LANDFILL
Roseburg, OR

SALEM AIRPORT
DISPOSAL SITE
Salem, OR

SHORT MOUNTAIN
LANDFILL
Eugene, OR

TIRE DISPOSAL
Molalla, OR

WASCO COUNTY
LANDFILL
The Dalles, OR