

State of Montana

2010 Recycling and Waste Diversion Summary



Montana's Integrated Waste Management Plan

The Montana Integrated Waste Management Act (75-10-803 MCA), directs Montana to reduce the volume of solid waste that is disposed of in landfills. The Act requires a written plan for managing wastes in accordance with the Act.

The Act describes a strategy for integrated solid waste management and sets the following targets to increase rates of recycling and diversion in Montana:

- (a) 17 percent of the state's solid waste by 2008;
- (b) 19 percent of the state's solid waste by 2011; and
- (c) 22 percent of the state's solid waste by 2015.

The integrated solid waste management strategy is based on a hierarchy of prioritized approaches to managing waste. These approaches, in order of priority, are: source reduction, reuse, recycling, and composting. The Department of Environmental Quality (DEQ) assists communities, solid waste facilities, and residents with their waste reduction strategies.

Montana's recycling and diversion rates during the past eight years are as follows:

Calendar Year	Recycled/Diverted*	Calendar Year	Recycled/Diverted*
2003	15.0%	2007	18.3%
2004	15.0%	2008	19.6%
2005	18.7%	2009	19.1%
2006	18.6%	2010	19.7%

** The Recycled/Diverted rate is actually higher than indicated since many businesses that recycle in Montana, or market recyclable materials, do not report their tonnages.*

Benefits of Recycling

Recycling generates significant economic benefits for communities. Recycling employs workers from a range of skill levels in a variety of jobs from materials handling, processing, and shipping to high-skilled, high-quality product manufacturing. The drive to more efficiently process recycled materials, and to develop new products and markets, spurs innovation which is a key to long-term economic growth. Investment in recycling companies and equipment filters through the local economy, and contributes to economic growth.

Equally important are the social and environmental benefits of recycling. Recycling promotes a more sustainable use of natural resources. Recycling activities across the state promote community development while conserving public resources. Landfills last longer and fewer new

ones are necessary. Pollution is prevented, energy is saved, and less greenhouse gas is emitted.

The National Recycling Coalition's (NRC) Environmental Benefits Calculator computed that the following benefits were achieved by the materials diverted from Montana landfills in 2010:

- Greenhouse gas was reduced by the equivalent of 227,470 passenger cars being removed from the roads.
- A total of 13.0 million BTU's were saved by recycling.
- 250,584 trees were saved by the recycling of newsprint, mixed paper, and office paper.

In addition the following *natural resource* savings were calculated:

Natural Resources Saved	
2010 Ferrous Steel Recycled	103,063 Tons
Iron ore saved per ton steel recycled	2,500 lbs.
Coal saved per ton steel recycled	1,400 lbs.
Limestone saved per ton steel recycled	120 lbs.
Iron ore saved	128,829 Tons
Coal saved	72,144 Tons
Limestone saved	6,184 Tons

As demonstrated by the results of the NRC calculations, there are numerous ways to express resource savings through recycling. Recycling saves energy otherwise used to mine and process raw materials. As Montana recycling statistics increase, the energy efficiencies become more evident. Visit the NRC calculator at:

<http://www.crra.com/nrcfiles/calculator/coverletter.html>

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The data used for the 2010 Summary was collected from the Annual License Renewal applications completed by solid waste management facilities licensed to operate in Montana. Licensed facilities include landfills, transfer facilities, compost operations, and resource recovery facilities. Non-licensed solid waste facilities include some recycling operations, end processors, and brokers. Recycling information from these non-licensed facilities is obtained through an annual survey. Response to the survey is *voluntary*, and it's important to note that several businesses chose *not* to divulge their 2010 recycling information. In addition, the information from some retail stores — particularly “big box” stores that recycle cardboard and plastic — is not included because this information is not currently available on a state level. Consequently, the recycling numbers reported are clearly more conservative than the amounts actually recycled.

The materials diverted from Montana landfills are sorted into two categories for reporting purposes — “Recycled Commodities” and “Other Recycled or Diverted.” The materials contained in each category are listed below.

Recycled Commodities

- Office paper, mixed paper, newspaper, magazines, catalogs, telephone directories
- Corrugated cardboard, chipboard or boxboard
- Plastic
- Glass
- Aluminum Cans
- Ferrous scrap metal, mixed metals, steel cans, white goods

Other Recycled or Diverted

- Organic material: yard and landscape waste, manure, agriculture wastes, sewage sludge, animal highway mortalities (composted by MDT)
- Carpet, textiles
- Fly ash
- Aggregate
- Construction/demolition debris
- Electronic waste, batteries
- Automotive fluids, waste vegetable oil

Montana’s Recycling Data

In Montana 1.7 million tons of Municipal Solid Waste (MSW) was generated during 2010. Based on the census population figure of 989,414, on average each day every Montanan contributed 7.5 pounds to the state’s landfills, recycled 1.47 pounds, and diverted .38 pounds of solid waste. On a national level, the Environmental Protection Agency’s (EPA) reports a lower average of 2.4 lbs. per U.S. resident per day is destined for a landfill. The EPA 2010 report can be viewed at: http://www.epa.gov/wastes/nonhaz/municipal/pubs/msw_2010_factsheet.pdf.

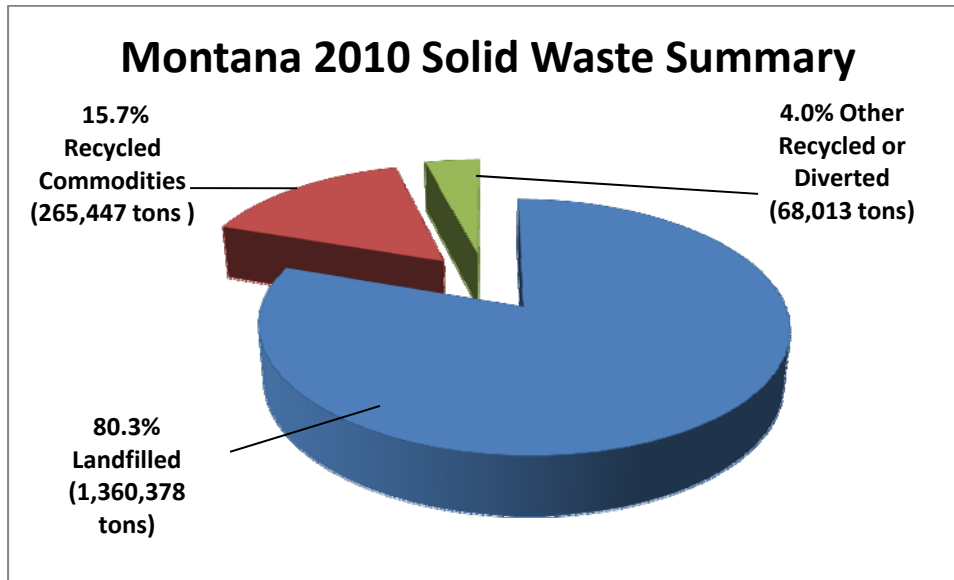
Recycling is a challenge in Montana – the state is rural, has limited recycling infrastructure, and is distant to markets.

Table 1 sorts into three categories the waste that was generated in Montana during 2010 – waste that was landfilled, commodities that were recycled, and material that was recycled or diverted in some manner from landfills (e.g., composting).

2010 Montana Data			
	Tons		Tons
Amount of Solid Waste Landfilled			1,360,378 80.3%
Amount of Solid Waste Recycled	265,447	15.7%	
Other Recycled/Diverted from Landfill	68,013	4.0%	
Total Amount Recycled and Diverted			333,460 19.7%
Total Solid Waste Generated in Montana			1,693,838 100%

Chart I illustrates the breakdown of the state’s solid waste. During 2010, the reported amounts show that 80.3 percent of the solid waste generated in Montana was sent to landfills, and 19.7 percent was recycled or diverted from the landfill for another use.

Chart I.



2010 Compared to 2009

It's interesting to note the changes (Table II.) that took place in the reported Solid Waste data when comparing 2009 to 2010. The overall amount of Solid Waste generated (landfilled, recycled, and diverted) remained nearly static as almost 1.7 million tons were reported for each year.

Table II.

Montana's Solid Waste	Reported in 2009	Reported in 2010	Difference
Tons of Solid Waste Landfilled	1,370,950 tons	1,360,378 tons	Landfilled amount decreased by 10,572 tons
Recycled Commodities	176,446 tons	265,447 tons	Recycled Commodities increased by 89,001 tons
Other Recycled/Diverted	147,490 tons	68,013 tons	Other Recycled/Diverted decreased by 79,477 tons
Total Reported	1,694,885 tons	1,693,838 tons	Total Solid Waste decreased by 1,047 tons

Landfilled Material

Nationwide, the amount of material landfilled has decreased due to the weakened economy. When less material is purchased, less waste is discarded. In Montana the economy, paired with the increase in the amounts recycled, are factors that may contribute to this decrease.

Recycled Commodities

All materials in the "Recycled Commodities" category, with the exception of glass, can be marketed to generate revenue. During 2010 the prices paid for these materials, especially metals, began to rebound from the 2008 price crash. As shown in the *Individual Material*

Comparison, Table III, the collection of these materials increased accordingly. Additionally, in 2010 a small portion of the Federal stimulus money was used to build the recycling infrastructure in Montana, which may have had an impact on the amounts of recyclable materials collected.

Table III.

Individual Material Comparison				
<i>MATERIAL TYPE</i>	Reporting year 2009	Reporting year 2010	<i>Difference in Tons</i>	
<i>Recycled Commodities</i>				
Aluminum Cans	1,666	2,501	835	<i>increase</i>
Steel Cans	115	130	16	<i>increase</i>
Scrap Metal	130,717	211,614	80,897	<i>increase</i>
Glass	1,395	439	-956	<i>decrease</i>
Plastic Containers and film	498	1,577	1,079	<i>increase</i>
Corrugated Cardboard	25,728	30,482	4,754	<i>increase</i>
Paper (office, newspaper, magazines)	16,327	18,704	2,377	<i>increase</i>
<i>subtotal</i>	176,446	265,447	89,001	<i>increase</i>
<i>Other Recycled or Diverted</i>				
Composted organics	68,391	51,865	-16,526	<i>decrease</i>
Construction & Demolition		5,143	5,143	<i>increase</i>
Other Recyclables	9,209	9,491	282	<i>increase</i>
Carpet	83	284	201	<i>increase</i>
Electronics	531	706	176	<i>increase</i>
Aggregate	39,476		-39,476	<i>decrease</i>
Fly Ash	29,800	525	-29,275	<i>decrease</i>
<i>subtotal</i>	147,490	68,013	79,477	<i>decrease</i>
Total Tons Recycled	323,936	333,460	9,524	<i>increase</i>

Other Recycled or Diverted

The remaining reported materials, “Other Recycled or Diverted” decreased by a large amount. Less material diverted for composting was reported. The larger factor was the decrease in the amounts of aggregate and fly ash reported for 2010. High fuel prices in 2010 may have been a factor that contributed to these heavy materials not being transported to recyclers.

Summary

Recycling in Montana is effectively working and growing. The recycling rate is gradually increasing as additional infrastructure is developed. The current higher pricing paid for commodities encourages new business investment. Montana residents are responding to the increased opportunities to recycle locally. For more information on recycling, and to read case studies about DEQ’s recycling/diversion projects, visit the DEQ website at www.recycle.mt.gov.