

# STATE OF COLORADO

Bill Ritter, Jr., Governor  
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Dedicated to protecting and improving the health and environment of the people of Colorado

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Colorado Department  
of Public Health  
and Environment

July 1, 2010

The Honorable Buffie McFadyen, Representative  
Transportation Legislation Review Committee  
Colorado State Capitol  
200 East Colfax  
Denver, Colorado 80203

Dear Chairwoman McFadyen and Committee Members:

Enclosed is a copy of the 2009 annual report to the Transportation Legislation Review Committee on the status of waste tire recycling in Colorado. House Bill 04-1428 requires this report.

Sincerely,

Gary W. Baughman, Director  
Hazardous Materials and Waste Management Division

w/Enclosure

# STATE OF COLORADO

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**Colorado Department  
of Public Health  
and Environment**

**Annual Report to the Transportation Legislation  
Review Committee  
on the  
Status of Waste Tire Recycling  
In Colorado for Calendar Year 2009**

Submitted to the Transportation Legislation Review Committee  
by the Division of Hazardous Materials and Waste Management  
Colorado Department of Public Health and Environment  
July 1, 2010

## DOCUMENT INFORMATION

**Title:** Annual Report to the Transportation Legislation Review  
Committee on the Status of Waste Tire Recycling in Colorado

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**Subject:** The report describes the status of waste tire recycling activities  
in the state of Colorado for calendar year 2009.

**Statute:** Section 25-17-202.7, C.R.S.

**Date:** July 1, 2010

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**Annual Report to the Transportation Legislation  
Review Committee  
on the Status of Waste Tire Recycling  
in Colorado for Calendar Year 2009**

This 2009 calendar year annual report on waste tire recycling in Colorado is being transmitted to the Transportation Legislation Review Committee (the Committee) as required by House Bill 04-1428 and section 25-17-202.7, C.R.S. The statute requires the Colorado Department of Public Health and Environment (the Department) to issue a report to the Committee on or before July 1st each year that includes the total number of waste tires recycled in the state. This information is submitted to the department pursuant to the Regulations Pertaining to Solid Waste Sites and Facilities (6 CCR 1007-2, Sections 8.4.1(B) and 10.2.2.).

**Executive Summary:**

Calendar year 2009 marks the sixth year the Department has compiled data related to the number of waste tires collected at end-processing facilities in the state of Colorado. End-processing facilities are facilities that recycle and reuse tires, or place tires in monofills for storage. We anticipate the tires stored in the monofills will be reused at a later date for tire derived fuel; rubber crumb for roadways, playgrounds, and sports fields; or for other uses. Therefore, placing tires in monofills for storage does not constitute final waste tire disposal. This is supported by information from the new owners of the two largest waste tire monofills in Colorado. The new owners indicated that one intends to produce crumb rubber products, while the other will shred the tire for tire derived fuel.

The data collected for calendar year 2009 includes an estimate of waste tires sent to a monofill formerly known as Tire Recycling, Inc., in Hudson, CO. In August, 2009, Tire Recycling, Inc, transferred ownership to Magnum D'Or Resources, Inc. after Tire Recycling, Inc. entered bankruptcy. Tire Recycling, Inc. failed to transfer the record of waste tires entering the monofill during 2009 to the new facility operators or the bankruptcy trustee, and the Department never received the data. Therefore, the 2009 data assumes that Tire Recycling, Inc. received the same amount of tires during 2009 as it received in 2008.

Colorado recycled 4,182,329 tires in 2009, which amounts to 92%\* of the tires generated that year. This represents an increase from the 79% recycling rate achieved in 2008 and an overall increase in the number of tires recycled. A portion of this increase in the recycling rate is likely due to the lack of data for Tire Recycling, Inc. Another portion can be attributed to a decrease in waste tire generation during 2009.

Colorado waste tire facilities reported receiving 4,724,715 tires during calendar year 2009. This number includes an estimated 432,819 tires that were not generated in Colorado, but brought in from states to the north and northeast for placement in Colorado's monofills. Conversely, we know of about 247,350 tires that were generated in Colorado, but sent to a recycling facility in Utah. There were approximately 4,539,246 waste tires generated in the state of Colorado during calendar year 2009.

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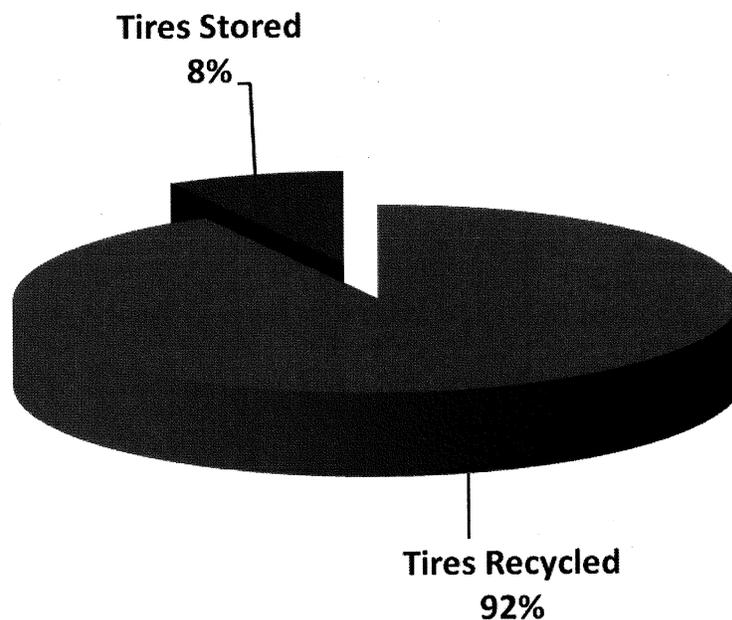
\* Based on estimate using 2008 data for one waste tire monofill

***USING WASTE TIRES AS TIRE DERIVED FUEL PROVIDED THE FOLLOWING BENEFITS:***

- Prevented the use of 30,175 tons of coal –
  - or enough energy resources to power 13,608 homes for one year
- diverted 2,534,700 tires from monofill disposal

**Figure 1**

**WASTE TIRES GENERATED IN 2009  
PERCENTAGE OF TIRES RECYCLED**



A total of 4,182,329 waste tires (or scrap tires) were recycled in Colorado during calendar year 2009. As shown in Figure 1 (above), based on our best estimate, this represents the recycling of 92%\* of the waste tires generated during this period. The remaining 8% of waste tires generated were either sent for long-term storage in permitted tire monofills or added to inventory storage at tire recycling facilities awaiting further processing. An additional 101,508 waste tires were recycled during 2009 as compared to 2008.

\* Based on estimate using 2008 data for one waste tire monofill

**Figure 2**

**ANNUAL COMPARISON  
PERCENT OF WASTE TIRES RECYCLED**

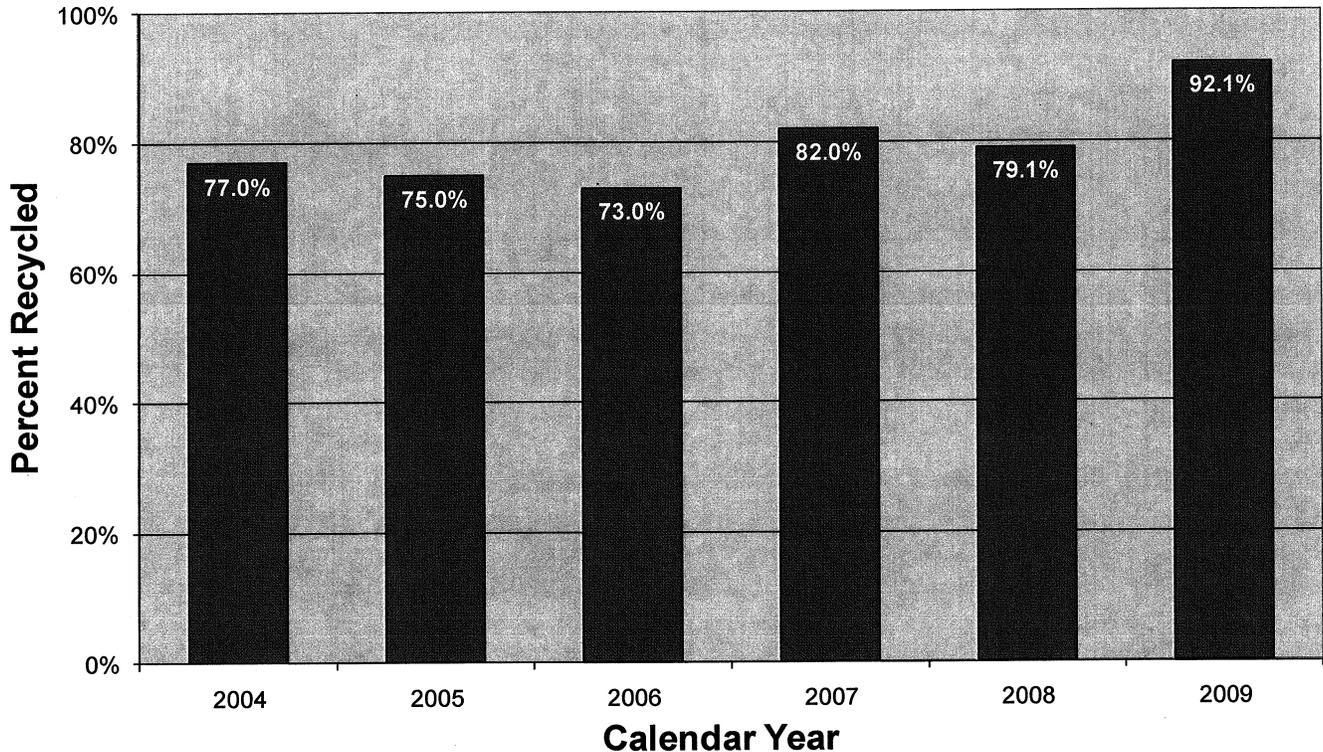


Figure 2 (above), provides an annual comparison of Colorado's waste tire recycling rates for the last six years. The recycling rates remained relatively consistent each year until 2009.

Based on the reported number of scrap tires received by waste tire facilities and an estimate for the Hudson monofill, about 4,539,246 waste tires were generated in Colorado during calendar year 2009. Considering Colorado's population of approximately 5,024,748 people, this estimated number is less than the accepted nationwide industry standard that predicts a tire generation rate of 1 waste tire/person/year. We believe the primary reason for this lower number of waste tires being generated is the poor economy. More people are deferring the purchase of new tires.

The division gathers this information through annual reporting from waste tire collection, recycling and storage facilities. The division continued outreach efforts to educate tire facilities regarding their compliance and reporting responsibilities.

**Figure 3**

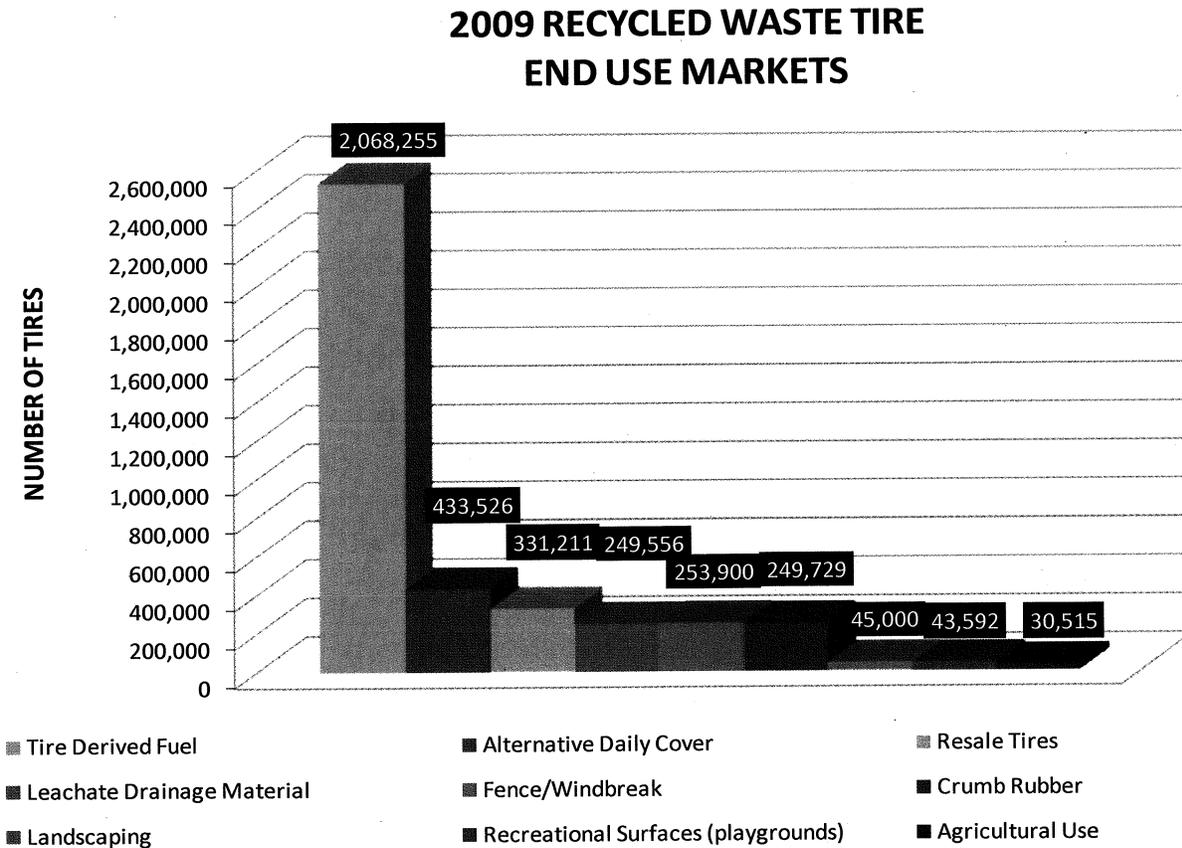


Figure 3 (above) captures the end-use markets for waste tires recycled during calendar year 2009. Of the nine end-use markets identified, the top five end-use markets included burning waste tires as tire derived fuel, the use of tire shreds as alternative daily cover at sanitary landfills, resale tires, the use of tire shreds as the leachate drainage layer in private and government-owned sanitary landfills, and the use of waste tires in fence structures.

**Figure 4**

**2009 WASTE TIRE INVENTORY ESTIMATE**

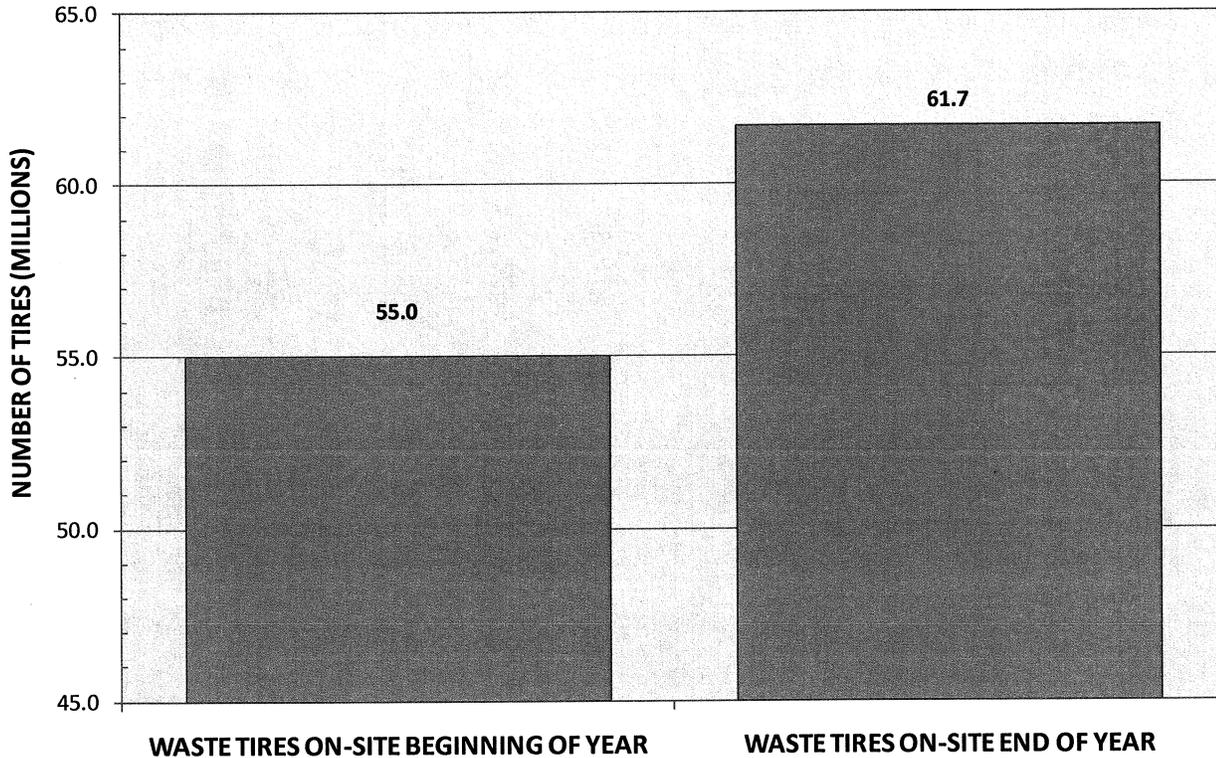


Figure 4 (above) reflects the number of waste tires in storage at designated waste tire facilities statewide at the end of calendar year 2009. The new owner of a waste tire monofill conducted a site survey that increased the quantity of waste tires already in storage at the facility by 6.1 million tires. Only about 600,000 waste tires were actually added to the statewide inventory.

Some tire handling facilities in the state increased their storage inventories while awaiting further processing and development of end-use markets. Other tire facilities decreased their storage inventory by shipping tires offsite for reuse. The number of tires going to final end-use markets increased from 4,080,749 in 2008 to 4,182,329 in 2009, representing a 2.5%\* increase in the number of tires going to final end use markets. This increase represents a continuing trend of more waste tires going to end use markets in Colorado. The number of tires going to end use markets increased by 13.7% in 2007, and by 9.5% in 2008.

The two largest tire monofill facilities in the state made significant improvements positioning themselves for increased tire utilization in the coming year. The Midway tire monofill located in El Paso County submitted a revised engineering design and operation plan for new tire processing for recycling and tire derived fuel activities. They also worked with the county to accept abandoned tires for storage prior to shredding. In addition, they completed a number of facility improvements including

\* Based on estimate using 2008 data for one waste tire monofill

the installation of new fire control lanes, staging of fire fighting soil adjacent to the storage cells, reducing the height of the tires stored in the cells to grade level, and the separation of tire storage cells into a configuration that enhances potential fire fighting activities. The tire monofill in Hudson, Colorado also completed a number of improvements including a completely revised engineering design and operation plan and the installation of new tire shredding and crumbing operations. In addition, the facility has plans to reinvest in the operation and install two new shredding and crumbing lines of equipment. The activities at both monofills will result in significantly reducing the number of tires in storage. Both facilities indicated that they will be able comply with the requirement to eliminate the stockpiles within ten years, or sooner as markets develop.

In contrast, we observed a further decline in the number of waste tires being added to storage inventories in 2009. During 2007, 830,000 waste tires entered the waste tire storage inventory, compared to 783,000 tires entering waste tire inventory in 2008. The waste tire storage inventory increased by 572,121\* tires in 2009.

### 2005-2010 Tire Legislation

Two bills were passed during the 2005 legislative session that directly affected the management of waste tires in Colorado. The Waste Motor Vehicle Tire Hauler Act (HB 05-1126) requires the registration of commercial transporters of waste motor vehicle tires. The intent of this legislation is to ensure transportation and delivery of waste tires to proper storage and recycling facilities and to minimize the illegal dumping of tires.

Senate Bill 05-141 regulates the disposal of residentially generated waste tires. Effective July 1, 2007, this bill limits the disposal of residentially generated tires in landfills.

Senate Bill 09-289 was passed during the 2009 legislative session. Among other things this bill reallocated collection of the tire fee to the point of sale at tire retailers instead of the point of disposal, thereby improving the collection of the funds. This bill also required facilities to use only commercial tire haulers registered with the state to transport waste tires, required the state to develop a plan for the elimination of tire monofills within ten years, and required the Department of revenue to implement an outreach and education program for facilities handling tires. The combined result of this bill is to ensure waste tires are commercially transported to appropriate facilities, and that more of these tires are ultimately recycled.

House Bill 10-1018 provides a cradle-to grave-regulatory approach for waste tires. This bill specifies new decal and manifest requirements for waste tire haulers and waste tire facilities. The bill also requires waste tire monofills to submit an inventory reduction plan to the Department as a part of the facility Certificate of Designation. House Bill 10-1018 places administrative authority for the waste tire funds with the Department, and allocates resources for new personnel to manage the fund and provide program enforcement.

### **Future Methods for Data Collection**

Department staff provided educational outreach to 75 tire retailers between November 2009 and April 2010. The Department staff members shared information regarding the requirements of

Senate Bill 09-289, which requires tire retailers to use waste tire haulers registered with the Department. The outreach resulted in the registration of 9 additional waste tire haulers during the same time period.

House Bill 10-1018 creates a cradle-to-grave tracking system for waste tires generated and disposed of in Colorado. Tire retailer, waste tire hauler, and waste tire facility training on the manifest system is necessary, but the Department anticipates the system will increase the accuracy of data. The added personnel in the Department will provide the resources necessary to provide the training and increase the number of facilities and haulers reporting.

The Department updated the waste tire facility reporting form before facilities submitted their 2009 data. An added category identifies waste tires received from out of state sources. Data received showed Colorado facilities stored or recycled over 430,000 waste tires generated in other states.