

2006 Annual Report

Mississippi Waste Tire Management Program



Solid Waste Policy, Planning and Grants Branch
Office of Pollution Control
Mississippi Department of Environmental Quality



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Overview

The Mississippi Department of Environmental Quality (MDEQ) has developed this Annual Report to provide information on various aspects of the Mississippi Waste Tire Management Program related to the management and recycling of waste tires in our state. Most information contained in this Report provides details for calendar year 2006 on waste tire collection, transportation, storage, processing, recycling, disposal, and waste tire grants. However, for comparison, information from previous years has also been included.

In 1991, to deal with the growing problem of waste tire management and disposal, the Mississippi Legislature adopted legislation authorizing the Mississippi Commission on Environmental Quality to establish regulations for the collection, transportation, storage, processing, and disposal of waste tires. The Legislature also tasked the MDEQ with the goal of attaining statewide recycling of waste tires.

Since the inception of the waste tire management program:

- Several millions of waste tires have been cleaned up from around the state through the compliance and enforcement efforts of the MDEQ and through the MDEQ waste tire abatement program;
- Waste tire collection centers have been set up in every county in the state of Mississippi for use by residents and small businesses;
- Waste tire recycling rates in Mississippi have increased to over 90% of the tires collected annually; and
- High value products continue to be manufactured with Mississippi derived waste tire material.

The Rubber Manufacturers Association's (RMA) ranked Mississippi 5th nationally in state performance for scrap tire programs in the 2005 Edition of *Scrap Tire Markets in the United States*.



Waste Tire Collection and Transportation

Mississippi is largely a rural state which makes the collection and transportation of waste tires to processing companies and recycling markets a difficult task. Consequently, the development of a network of waste tire collection and hauling businesses across the state as well as local government collection sites for small quantity generators has been necessary to provide sufficient disposal options for waste tire generators, to prevent illegal dumping and to progress toward statewide recycling of waste tires.

Waste Tire Transportation

Waste tire haulers are important in moving tires to processors and recyclers. These haulers must register with MDEQ if they transport 50 or more waste tires or transport waste tires for compensation. In 2006, there were 108 registered waste tire haulers that collected and transported waste tires in Mississippi. Of these haulers, a little less than half were commercial haulers, collecting tires from multiple generators or for compensation. The remaining waste tire haulers were only engaged in the transportation of the waste tires generated by their business or organization.

In addition to these haulers, waste tire collection sites operate throughout the state, as interim points of storage and transfer for waste tires. These collection sites assist in collecting small numbers of tires for transport to recyclers sometimes great distances away. In 2006, over 1 million tires were collected and transported through these waste tire collection sites accounting for almost one-third of the waste tires generated in Mississippi. Almost all of these waste tires were recycled or beneficially reused.

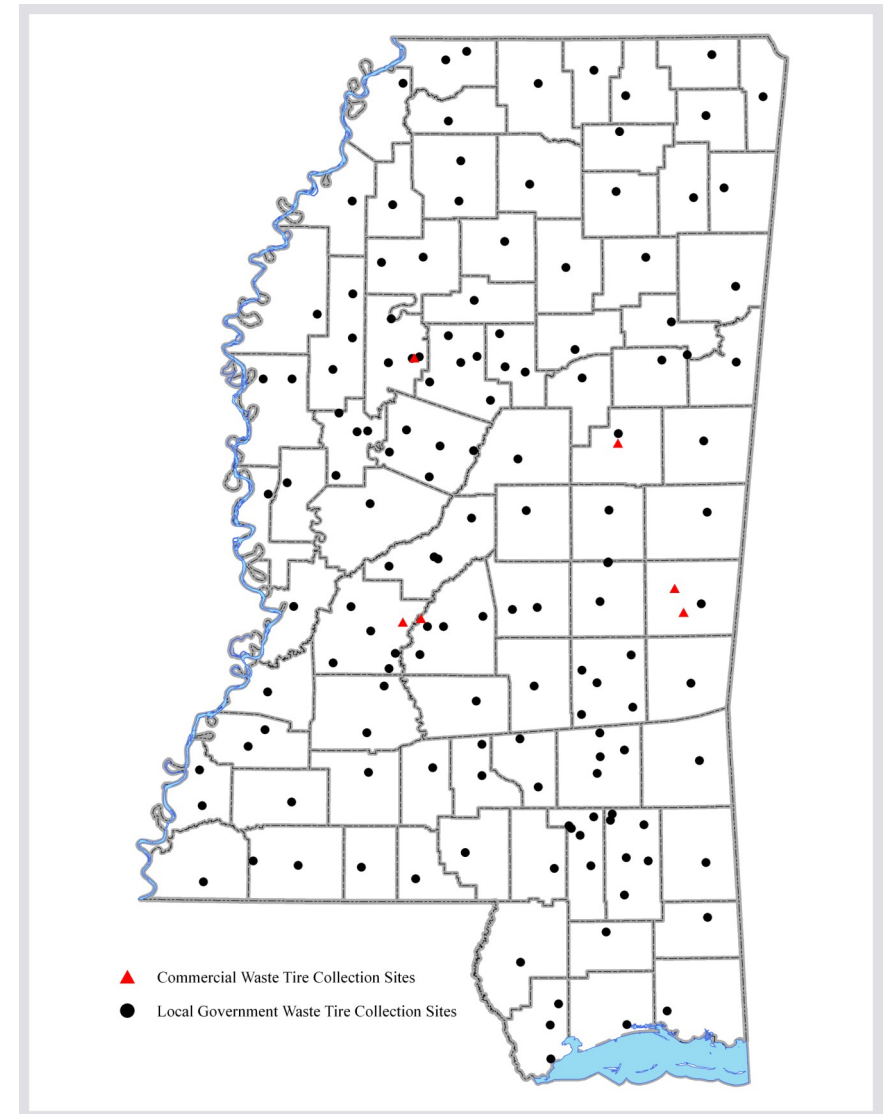


Figure 1 - Mississippi Waste Tire Collection Sites

Waste Tire Collection and Transportation Cont'd

Local Government Waste Tire Collection Sites

Often operated and maintained by Boards of Supervisors, municipalities and solid waste management districts, the state's 146 local government waste tire drop-off centers collected approximately 526,000 waste tires in 2006 from residents, small businesses and other small quantity generators. These local government waste tire collection programs are typically supported with grants from the MDEQ. These grants are funded by a fee on the wholesale of new tires.

In 2006, over \$900,000 in grant support was provided to local governments for the operation of local waste tire collection programs. Local governments can use the grant money for the development, maintenance, and operation of a local government waste tire collection program as well as public education and outreach. Of the 82 Mississippi counties, 79 received grant support in 2006 for the operation of these local collection programs.

As depicted in Figure 2, these local government grants assisted in the collection of over 500,000 waste tires from residents and other small quantity generators. Approximately 94%, of these tires were recycled at Mississippi waste tire processing facilities in 2006.

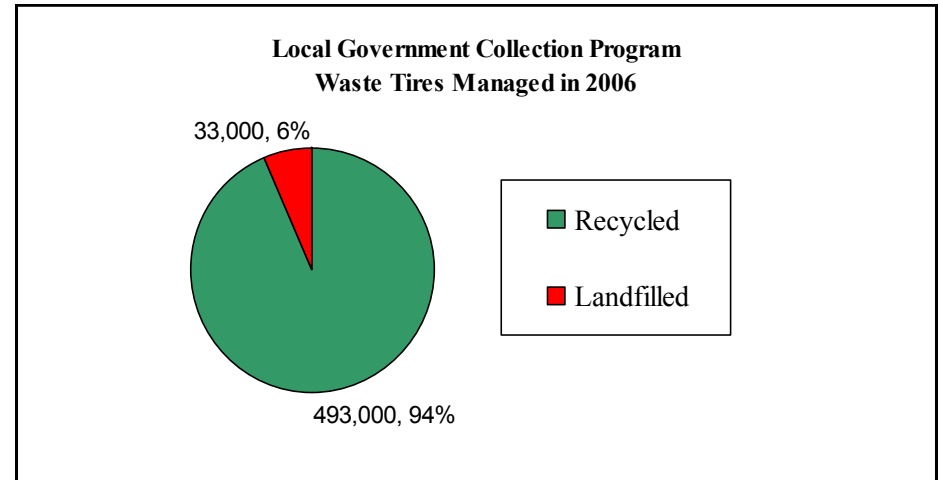


Figure 2

Commercial Waste Tire Collection Sites

Commercial collection sites are "for-profit" businesses that accept waste tires from waste tire haulers and from retail tire stores, automobile salvage yards and other large waste tire generators. These collection businesses receive waste tires from various generators and usually consolidate those waste tires into larger, long haul vehicles. In 2006, 6 commercial waste tire collection businesses transferred 550,000 waste tires to permitted processing facilities. All of these waste tires were transported to waste tire recycling facilities.

Waste Tire Processing and Recycling

Waste tire processing facilities are businesses that receive waste tires from various generators, haulers and collection sites. The waste tires are then cut, shredded, chipped or otherwise processed into smaller components. The chips or shreds may then be properly disposed or more preferably used for beneficial purposes such as civil engineering uses, tire derived fuel, or further processed for recycling into other manufactured products.

Past Trends (2001—2005)

As indicated in Figure 3, the numbers of waste tires collected and recycled in Mississippi have continued to grow. In 2001, Mississippi recycled over 83% of the waste tires collected and processed in the state. The rate of waste tire recycling has increased in successive years since then to 85%, 86%, 91%, and up to 93% for 2005.

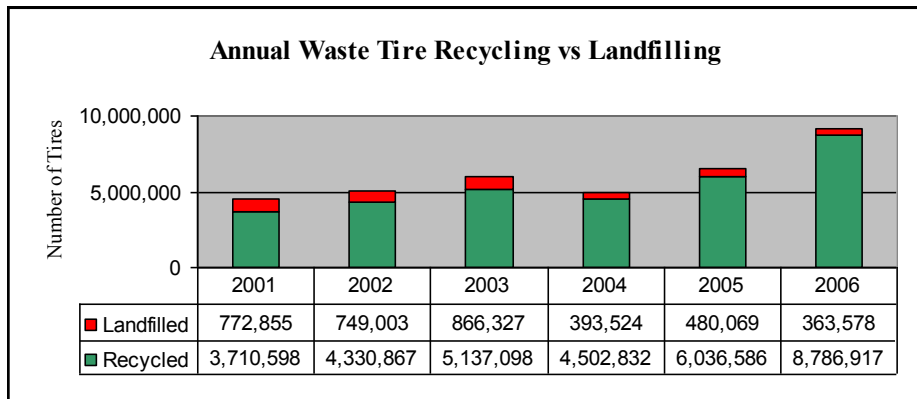


Figure 3

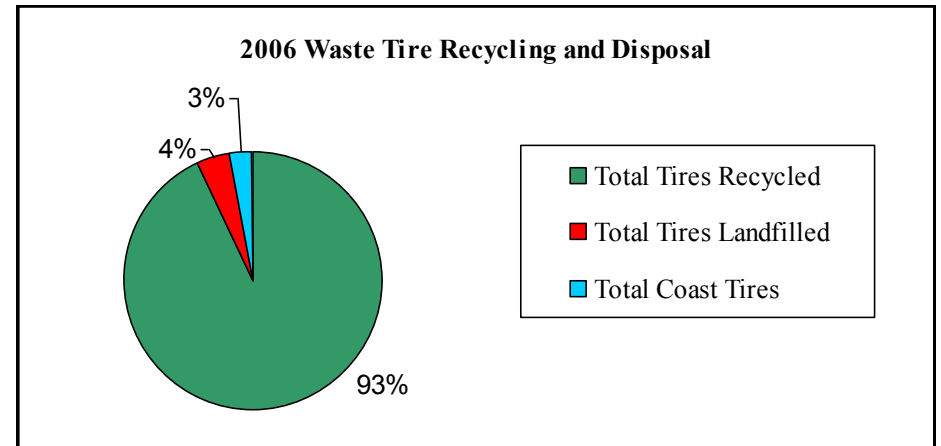


Figure 4

Calendar Year 2006

In Calendar year 2006, Mississippi’s waste tire processors collected and processed over 9,000,000 waste tires, the largest annual amount ever processed in the state. For comparison, processors collected around 4.5 million waste tires in 2001. This large increase can be attributed to several factors, primarily the involvement of one of the state’s waste tire businesses in a clean-up of a large tire stockpile in the state of Alabama consisting of several million tires.

Waste Tire Processing and Recycling Cont'd.

Calendar Year 2006 Cont'd.

With this large increase in the number of tires collected and processed, our state experienced an all-time high recycling rate of 96% for calendar year 2006. 4% of the waste tires (or just over 350,000) collected by Mississippi processors continued to be disposed of at two Mississippi waste tire landfills. In addition, Hurricane Katrina affected the management of the remaining 272,000 waste tires, or approximately 3% of the waste tires collected in 2006, along the coast of Mississippi. The effects of Hurricane Katrina and how these waste tires are being managed will be discussed on Page 8.

Mississippi waste tires have been recycled into the following products or uses:

- Sports Field Top Coat
- Garden Mulch
- Tire Derived Fuel
- Door Mats
- Soaker Hoses
- Horse Swings
- Road Asphalt
- Air Condition Pads
- Walking Tracks
- Truck Dock Bumpers
- Bush Hog Wheels
- Equestrian Tracks

Waste Tires Generated in Mississippi

The previous two sections have addressed the quantities and recycling rates for those waste tires collected and processed by Mississippi waste tire recycling businesses including both tires generated in Mississippi and those generated out-of-state. However, the 3 million waste tires generated by Mississippi residents also continue to be recycled at high levels, according to information provided by waste tire recycling businesses. Overall, as depicted in Figure 5, 83% of Mississippi-generated waste tires were recycled in 2006 and only 10% were landfilled. There are two waste tire landfills operating in the northern and southern part of the state that disposed of 10% of the waste tires generated in Mississippi.

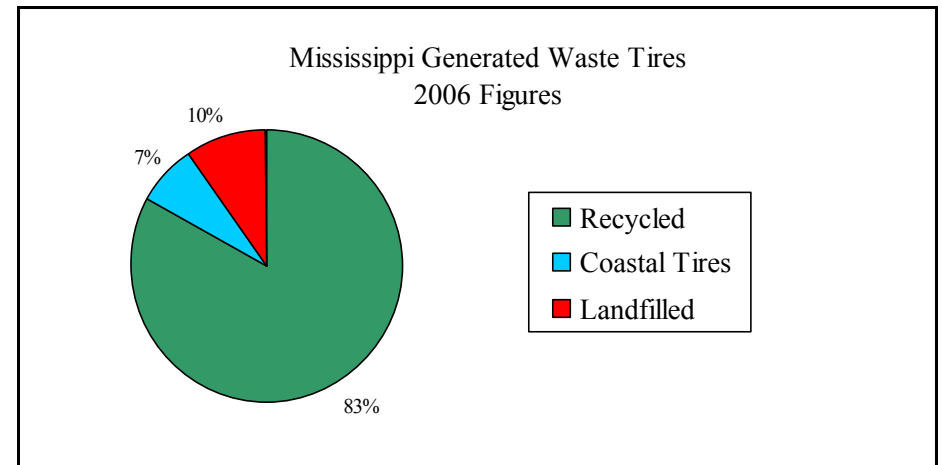
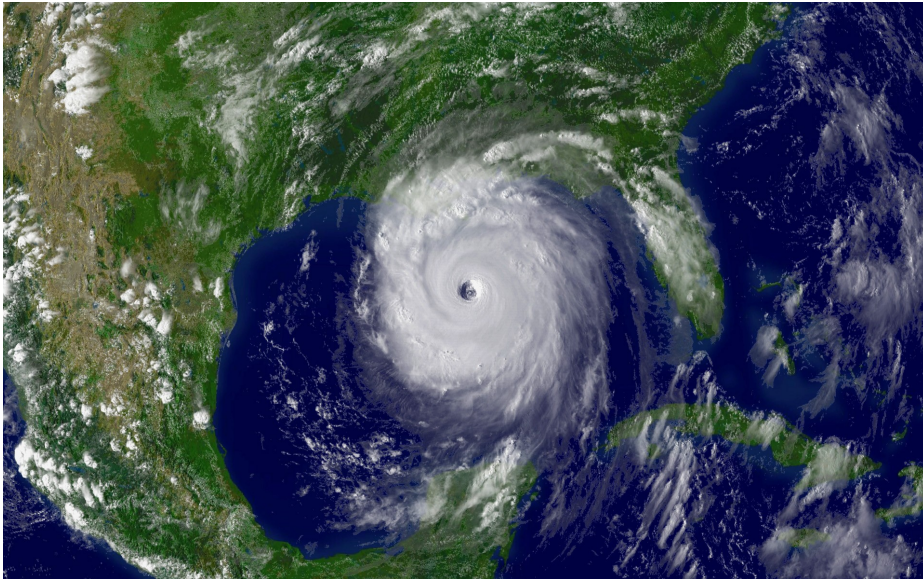


Figure 5

Waste Tire Processing and Recycling Cont'd.

Effects of Hurricane Katrina

Hurricane Katrina created 46 million cubic yards of disaster debris in Mississippi and had lasting effects on solid waste management in Mississippi. Waste tire management was no exception with significant damage to retail tire stores and waste tire collection and processing businesses along the Gulf Coast. As Fig. 4 shows on Page 6, 3% of the waste tires collected in Mississippi in 2006 were neither landfilled or recycled. A majority of these waste tires were stockpiled or otherwise unmanaged in the three southern counties due to the loss of processing and recycling ca-



Source: NOAA, 2007

capacity in that region. Hurricane Katrina contributed to the closure of the only waste tire recycling facility along the Mississippi Gulf Coast. This recycling facility was capable of processing over 600,000 southern Mississippi waste tires per year. As a direct result of the closure of this facility, approximately 272,000 waste tires were, at this writing, known to be stockpiled in the coastal area.

However, since the development of this report, work to clean-up and recycle approximately 200,000 of those waste tires has been underway. In addition, the MDEQ has been in contact with several companies interested in locating a new waste tire recycling facility in south-central Mississippi. We are hopeful that new recycling businesses will be operational in the region in the near future.

Based on a study conducted in 2004, Mississippi waste tire recycling facilities directly employed over 100 employees and exceeded \$2.7 million in payroll.

Waste Tire Clean-Up Programs

One ongoing condition that Mississippi must deal with in our waste tire program is illegal and abandoned stockpiles or dumps containing waste tires. Because tires are known breeding grounds for mosquitoes and other disease carrying vectors, MDEQ places a significant amount of attention in getting these illegal stockpiles cleaned up. The primary focus of the MDEQ clean-up program is to determine the person(s) responsible and require that they clean up the unauthorized tire stockpile. Where these actions are not successful, the MDEQ administers a Waste Tire Abatement Program as authorized under state law, where MDEQ-approved contractors assist in the removal of unauthorized and abandoned waste tire piles from throughout the state. If a responsible party does not take appropriate actions to clean up a stockpile as directed or if no responsible party can be identified, the waste tires may be cleaned-up through the MDEQ abatement program. Since 1994, approximately 2.5 million waste tires have been properly removed from illegal disposal sites in Mississippi through the program.

The abatement program has successfully cleaned up waste tire stockpiles ranging in size from just a few thousand tires up to piles as large as 750,000 waste tires. As of this date, most of Mississippi's known historic waste tire stockpiles have been cleaned up; however, MDEQ continues to discover smaller piles often dumped or placed in environmentally sensitive areas. Additionally, illegal tire stockpiles continue to be created periodically by unauthorized collectors, closed retail businesses, and other such circumstances.

In calendar year 2006, MDEQ funded a waste tire abatement project involving the removal of a few thousand 18-wheeler tires that were imbedded in a creek bed in Marshall County. The individual responsible for illegally disposing of these waste tires was charged with illegal dumping by the local authorities in Marshall County, eventually plead guilty, and is now paying restitution to MDEQ for the costs of this clean-up.

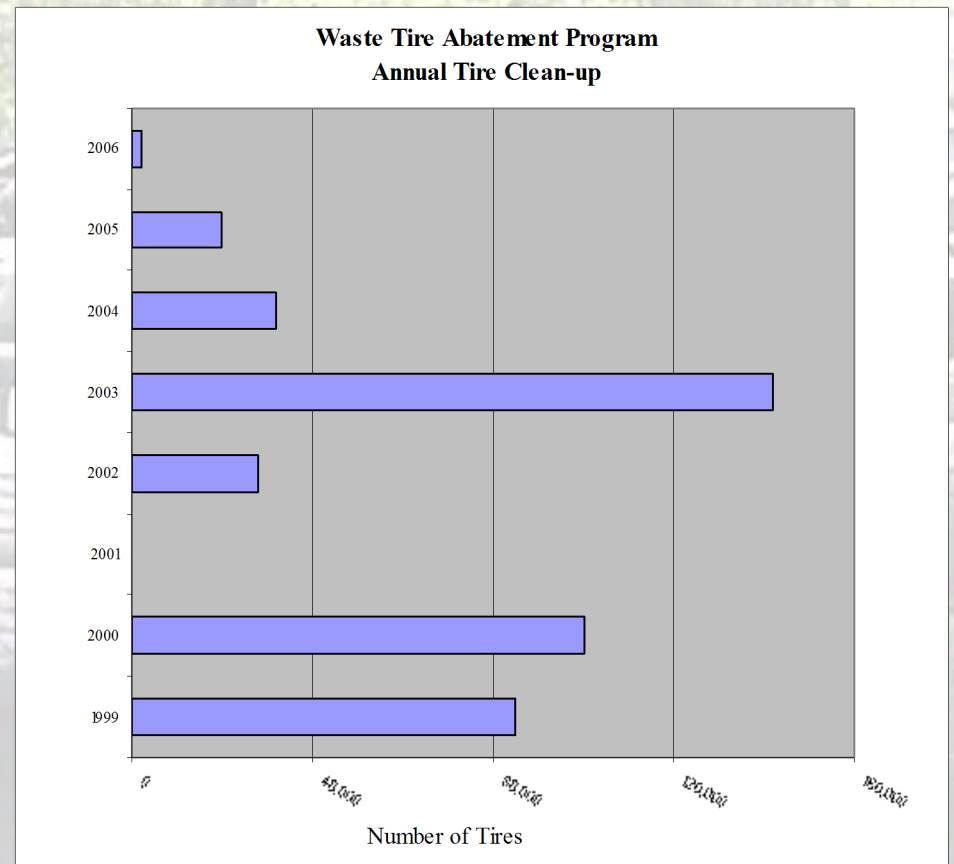


Figure 6

Waste Tire Program Outlook

2006 was a year of both successes and challenges for Mississippi's waste tire program. Our state saw unprecedented recycling rates for waste tires but also saw new challenges in dealing with the effects of Hurricane Katrina in south Mississippi. The next few years will continue to pose challenges as we strive towards finding recycling options for those remaining waste tires that continue to be landfilled in our state. In addition, we face new challenges with recent court rulings that could affect the continued use of waste tire chips for supple-

mental fuel sources. The goals of our program for the future include continuing to work towards the development of high value waste tire products, continued transition away from the landfill disposal of waste tires and the waste tire processing residuals, continued work to rebuild the waste tire recycling industry in south Mississippi, movement towards online permitting and records reporting, and continued efforts to develop alternative uses for waste tires.



For more information, contact:

Ethan Mayeu, Waste Tire Program Administrator
Mississippi Department of Environmental Quality
P.O. Box 10385
Jackson, Mississippi 39289-0385
www.deq.state.ms.us