



2016 Scrap Tire Annual Report Summary

Scrap Tire Program Background

The Texas Commission on Environmental Quality (TCEQ) Waste Permits Division regulates the management of used and scrap tires in Texas under the authority of Texas Health & Safety Code Section (§) 361.011, 361.112, 361.1125. The regulations in 30 Texas Administrative Code Chapter 328, Subchapter F, outline regulatory requirements and standards related to used and scrap tire management activities. Owners or operators of regulated scrap tire management activities are required to obtain a TCEQ Scrap Tire Registration to ensure the safe management of scrap tires to protect human health and the environment.

Regulated Tire Management Activities

Regulated management activities include used and scrap tire transportation, processing, recycling, utilization, storage, and land reclamation projects using scrap tires (LRPUTs).

Reporting Period and Requirements

Scrap tire transporters, as well as owners or operators of scrap tire facilities (STFs) and scrap tire storage sites (STSSs), must submit an annual report to the TCEQ and include information related to their tire management activities during the calendar year. The annual report for the preceding calendar year is due on or before March 1 in a form prescribed by the TCEQ. Scrap tire generators, and owners or operators of LRPUTs, are not required to submit an annual report.

Transporters

Scrap tire transporters must report the following information using the Scrap Tire Transporter Annual Activity Report form (TCEQ-10311):

- **tires collected from generators**—number and type (passenger, truck, off-the-road) of whole used tires and scrap tires, and weight of tire pieces and shreds *collected*, listed by generator name and address,
- **tires delivered to destination or end-use facility**—number and type of whole used tires and scrap tires, and weight of tire pieces and shreds *delivered*, listed by destination or end-use facility name and address.

STFs and STSSs

Owners or operators of STFs and STSSs must report the following information using the Scrap Tire Facility and Scrap Tire Storage Site Combined Annual Activity Report form (TCEQ-10305):

- **tires received**—number and type of whole used tires and scrap tires, and weight of tire pieces and shreds *received* from generators, transporters, or other tire facilities,

- **tires processed or stored**—number and type of whole used tires and scrap tires, and weight of tire pieces and shreds *processed and stored* at STFs and STSSs, and
- **tires delivered to destination or end-use facility**—number and type of whole used tires and scrap tires, and weight of tire pieces and shreds *delivered*, listed by destination or end-use facility name and address.

Number of Active Registrations by Type

According to agency records, the total number of active scrap tire registrations in 2016 was 12,985. The numbers of each type of activity by registered entities are detailed in Table 1. Number of active registrations by type. A single registration may include more than one type of tire handling activity.

Table 1. Number of active registrations by type.

Type of Registered Entity	Number of Registrations
Generator	12,321
Transporter	448
Scrap Tire Facility—Processing	89
Scrap Tire Facility—Recycling	3
Scrap Tire Facility—Energy Recovery	10
Scrap Tire Storage Site	14

End-Use or Disposition

The summary findings were compiled from the 191 Scrap Tire Transporter Annual Activity Reports and 67 Scrap Tire Facility and Scrap Tire Storage Site Combined Annual Activity Reports received in 2016. The discrepancy in the number of reports received and the number of registered entities is due to owner or operators failing to comply with notifying the agency when they go out of business or move and failing to submit annual reports timely.

Based on the findings, approximately 34.4 million used and scrap tires were managed in Texas in 2016. The main use or disposition avenues in Texas for whole used and scrap tires, include the following broad categories: tire-derived fuel source (TDF), crumb rubber production, landfill disposal, other recycling, other beneficial use, use in land reclamation projects, and construction projects. The breakdown of the different types of end-uses and their corresponding number of scrap tire units utilized is presented in Table 1. For the purpose of this report, the TCEQ considers one scrap tire unit equivalent to one scrap tire, regardless of size.

Table 2. End-use types and quantities of tires used in 2016.

End-Use or Disposition	Approximate Scrap Tire Units Utilized or Disposed	Percent of Utilization
Tire-Derived Fuel (TDF)	10,163,036	30%
Crumb Rubber	6,666,800	19%
Landfill	6,703,075	19%
Other Recycling	5,043,321	15%
Other Beneficial Use	3,019,472	9%
LRPUT	2,813,327	8%
Construction Project	31,101	<1%
Total	34,440,132	100%

A discussion for each end-use type listed in Table 2, is provided below.

Tire-derived fuel

The highest use of used and scrap tires is for energy recovery and use as a fuel source. Tire-derived fuel accounted for 10.2 million (30%) of the 34.4 million tires managed in Texas. In 2016, about 7.1 million of the tires were used as TDF at 4 of the 10 registered energy-recovery STF's located in Texas. The remaining 3.1 million tires were transported outside the state for use as TDF.

Crumb rubber

Approximately 6.7 million (19%) of used and scrap tires were recycled to produce crumb rubber. To produce crumb rubber, steel and tire cord are removed and the tire shreds are ground to a granular consistency either with the aid of cryogenic or mechanical means to reduce the size of the particles. Rubberized asphalt is the largest market for crumb rubber. Crumb rubber can be blended into asphalt and used in various roadway projects. Crumb rubber is also used as an infill for synthetic turf fields.

Landfill disposal

Approximately 6.7 million (19%) of the used tires and scrap tires generated or managed in Texas were disposed of in municipal solid waste (MSW) landfills. The TCEQ regulations specify that tires be split, quartered, or shredded before they are disposed of in a landfill. Scrap tire storage or processing activities at a landfill are authorized through the landfill's MSW permit.

Other recycling

Of the 34.4 million used tires and scrap tires managed in 2016, approximately 5 million (15%) tires were recycled. A tire is considered recycled when it can no longer be used and has been collected, separated, or processed and returned to use in the form of raw materials in the production of new products. According to the 2016 reporting data, 2 million tires were processed to produce mulch. Another 2.4 million tires were recycled to recover

wire and steel, and an additional 3,426 tons (equivalent to 342,600 tires) of tire shreds and pieces were mixed and melted with scrap steel and recycled to form heats of steel. One scrap tire facility reported 250,000 tires were transported overseas to be recycled. The remaining approximate 32,000 tires, were delivered to recycling facilities to recover metal and rubber materials.

Other beneficial uses

Other beneficial use of tires accounted for 3 million (9%) of the used and scrap tires utilized during 2016 in Texas. Beneficial uses include identification of usable tires and their resale, and production of tire mulch for landscaping.

LRPUTs

Approximately 2.8 million (8%) of the used and scrap tires generated or managed in Texas during 2016 were used for land reclamation at locations authorized by the TCEQ. Approved projects restore land to its approximate natural grade to prepare or reclaim the land for reuse.

Construction projects

Approximately 31,101 (less than 1%) of scrap tires were reported to be used in construction projects in 2016.

Scrap Tire Management Program Funding

Currently there is no dedicated funding for the scrap tire management program. There is no application fee for obtaining a scrap tire registration. Presently, the scrap tire management activities operate under a free-market system. Tire dealers set their own fees to cover their administrative and tire disposition costs.

The cleanup of tire sites is addressed through the use of financial assurance funds posted by the registration holder (in case of tire storage sites) or through supplemental environmental projects, administered by the TCEQ Office of Compliance and Enforcement or the Office of Legal Services.

TCEQ Compliance Monitoring and Enforcement

The TCEQ regional offices monitor scrap tire management activities in the state and evaluates compliance with TCEQ rules. The TCEQ Office of Compliance and Enforcement conducts enforcement action(s) against violators. The existing provisions for administrative and civil penalties for violating the Texas Health and Safety Code, Chapter 361 and corresponding TCEQ rules are located in Texas Water Code, Chapter 7. TCEQs' efforts focus on ensuring proper management of scrap-tire related activities, including the prevention of unauthorized disposal of tires.

Scrap Tire Management Challenges

The TCEQ has made significant efforts towards addressing scrap tire management issues and in reducing the number of unauthorized scrap tires stockpiles in Texas. Registration and regulatory requirements are designed to facilitate the safe management of tires in the state and minimize any adverse impacts to human health and the environment.

Ongoing challenges and opportunities that offer direction for future progress include:

- funding cleanup efforts for existing and newly created tire stockpiles,
- expanding existing markets or developing new markets and end-users where needed including transportation-related uses,
- minimizing the illegal dumping of scrap tires,
- improving compliance with TCEQ scrap tire regulations, and
- establishing a pre-approval process for large beneficial use projects using tires.

Unauthorized Scrap Tire Sites in Texas

The TCEQ maintains a list of known unauthorized scrap tire sites in the state. The locations of these sites are shown in Figure 1, along with information on the approximate quantity of tires. The number of tires at such sites ranges from a few hundred to a few million, for a total of approximately 16 million tires.

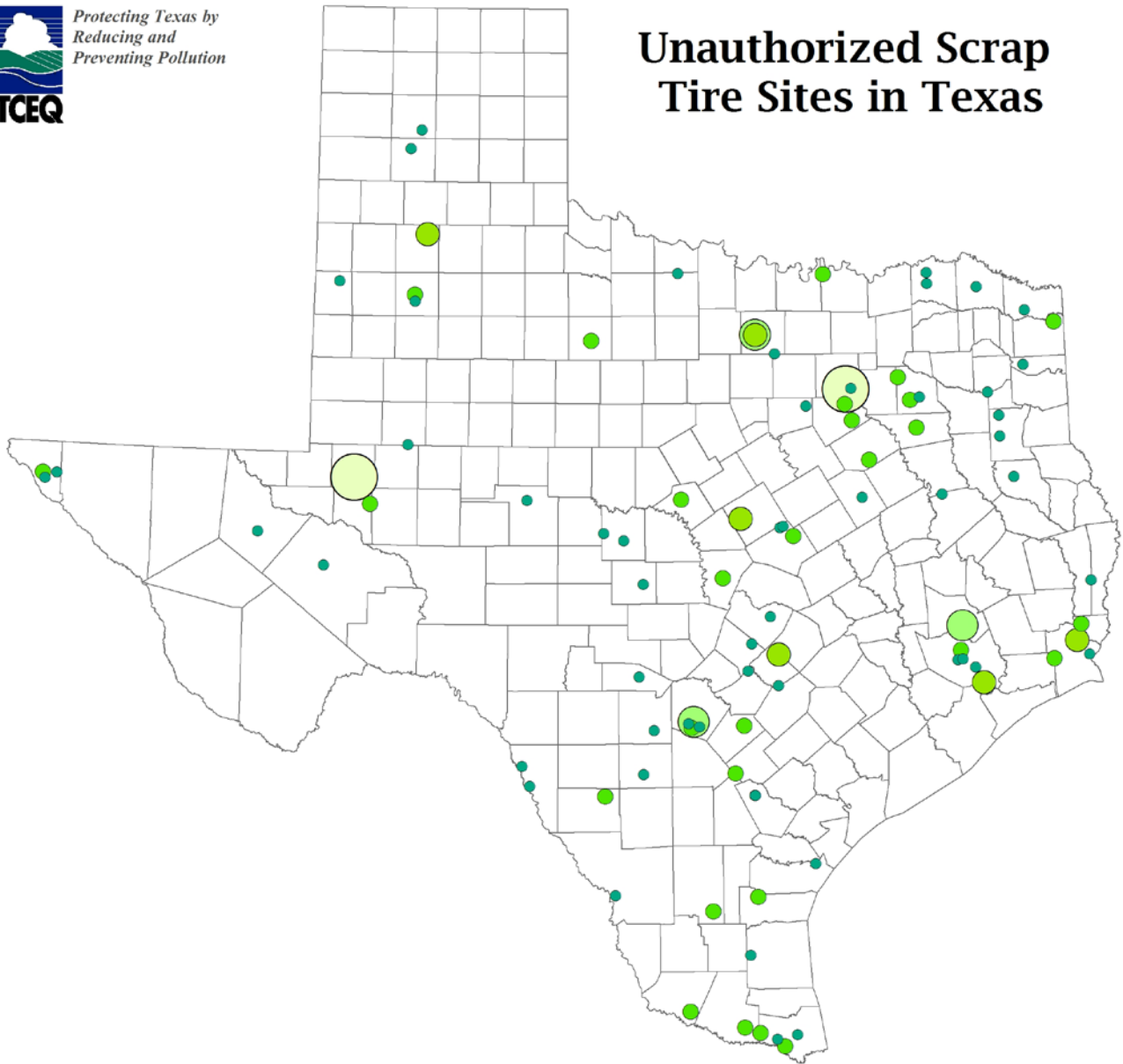
Unauthorized scrap tires can broadly be categorized as:

- new, generally small, unauthorized scrap tire piles that are reported to the TCEQ; and
- legacy, generally large, well-documented scrap tire piles that may have been registered at one time.



Protecting Texas by
Reducing and
Preventing Pollution

Unauthorized Scrap Tire Sites in Texas



Approximate Number of Tires

- 0 - 7,299
- 7,300 - 299,999
- 300,000 - 999,999
- 1,000,000 - 2,449,999
- 2,450,000 - 5,000,000

This map was generated by the Waste Permits Division of the Texas Commission on Environmental Quality. This product is for informational purposes and is not intended for legal, engineering, or surveying purposes. For more information concerning this map, contact the Waste Permits Division at (512) 239-2335.

Figure 1. Unauthorized scrap tire sites in Texas (updated September 2017).