

U.S.—MEXICO

# BORDER SCRAP TIRE SUMMARY ACTION PLANS

U.S.— MEXICO BORDER SCRAP TIRE  
INTEGRATED MANAGEMENT INITIATIVE

## PROJECT OWNERS

- ▶ Border 2012 New Mexico-Chihuahua Rural Task Force
- ▶ Border Legislative Conference
- ▶ California Environmental Protection Agency-Office of Border Affairs
- ▶ California Integrated Waste Management Board
- ▶ City of Eagle Pass, Texas
- ▶ City of San Diego Solid Waste Local Enforcement Agency
- ▶ Endpoint Environmental
- ▶ Pan American Health Organization
- ▶ San Diego State University
- ▶ San Francisco State University
- ▶ Secretary of the Secretariat for the Environment and Natural Resources
- ▶ Rubber Manufacturers Association
- ▶ University of Texas
- ▶ U.S. Environmental Protection Agency



The Border Scrap Tire Summary Action Plans consist of a list of border scrap tire projects that are occurring throughout the U.S.-Mexico border region.

# TABLE OF CONTENTS

<b>Introduction</b>	3
<b>Principle One: Scrap Tire Generation</b>	4
Inventory of Tire Piles Along the U.S.-Mexico Border	5
Locating/Inventorying Waste Tire Piles in El Paso/Juarez Region Using Aerial Imagery	6
Remote Sensing of Waste Tires in the California/Mexico Border Region	7
Use of Satellite Technology to Locate/Monitor Tire Piles for CA/CA-Mexico Border Region	8
Border Tire Health Study	9
Tire Flow Study along the California-Mexico Border Region	10
Used/Waste Tire Flow Study in the California-Mexico Border Region	11
<b>Principle Two: Scrap Tire Pile Prevention</b>	12
SEMARNAT Scrap Tire Management Document	13
U.S.-Mexico Scrap Tire Management Experiences Handbook	14
U.S.-Mexican Border Tire Management Regulations	15
Training Seminars on Developing Scrap Tire Markets	16
<b>Principle Three: Scrap Tire Pile Cleanup</b>	17
Cleanup of El Centinela Scrap Tire Pile	18
Cleanup of Ciudad Juárez Scrap Tire Pile	19
Cleanup of Sonora Border Scrap Tire Pile	20
Cleanup of Piedras Negras / Eagle Pass Scrap Tire Pile	21
Grant for Cleanup of Waste Tires in the Tijuana River Valley	22
Grant for Waste Tire Cleanup of Tijuana River Channels	23
<b>Principle Four: Scrap Tire Management Participation</b>	24
Tire Outreach Project	25
Training of Mexican Tire Haulers and Used Tire Dealers	26
New Mexico-Chihuahua Rural Task Force Scrap Tire Cleanup Project	27
<b>Appendix</b>	
Contributors	28
Actions Items: U.S.-Mexico Border Scrap Tire Integrated Management Initiative	29
Principles: U.S.-Mexico Border Scrap Tire Integrated Management Initiative	30

## INTRODUCTION

### Purpose

The Border Scrap Tire Summary Action Plans consist of a list of border scrap tire projects that are being implemented throughout the U.S.-Mexico border region. These plans inform interested parties of border scrap tire activities and help foster coordination on and cooperation between scrap tire projects. Additionally, they aid in determining areas that need to be addressed.

Currently, there are twenty-four active scrap tire projects. The project descriptions listed in these Summary Action Plans will be updated and new projects will be added as they are initiated.

### Background

The Summary Action Plans were initiated in 2006 as a supplement to the U.S.-Mexico Border Scrap Tire Integrated Management Initiative document. The Initiative, an official Border 2012 Program document, provides a scrap tire management framework for the two counties to implement using a sustainable development vision. The Initiative provides guidance through principles and action items for the continuation of scrap tire pile clean-up and the prevention of future tire piles on both sides of the border.

### Structure of Summary Action Plans

The Scrap Tire Summary Action Plans document shares details of each project including a description, expected outcomes, a timeframe for project completion, the responsible organization with contact information, and the project's funding source. The projects are organized under the U.S.-Mexico Border Scrap Tire Integrated Management Initiative's principles and actions. For a list of the principles and actions, see Appendix two and three.

### Contributors

For a detailed description of the contributors to the Border Scrap Tire Summary Action Plans, see Appendix one.

# PRINCIPLE ONE

U.S.-MEXICO

## SCRAP TIRE GENERATION

### U.S.— MEXICO BORDER SCRAP TIRE INTEGRATED MANAGEMENT INITIATIVE

#### P U R P O S E

Better understand the problems contributing to scrap tire generation.

#### A C T I O N 1

Gather information to better understand scrap tire generation (including sources of substandard tires and illegal tire entry into Mexico), illegal dumping of scrap tires, and methods for effective management of scrap tires.

#### B A C K G R O U N D

Throughout the border region, a significant number of scrap tire piles exist containing millions of scrap tires. The tire piles tend to result from a robust market for partially used tires in the border region. Less expensive than new tires, these partially used tires have a short life, thus contributing to the large accumulation of scrap tires in the border region.

The generation of scrap tires is expected to increase along the U.S.-Mexico border as population rates continue to accelerate. In the U.S., over 290 million scrap tires are generated annually. In Mexico City it is estimated that 5 million scrap tires are generated per year. The majority of these tires are used as tire derived fuel, or are applied in civil engineering and crumb rubber applications. In order to address this growing problem, it is necessary to better understand the problems contributing to scrap tire generation.

## PRINCIPLE 1

### Inventory of Tire Piles along U.S.-Mexico Border

#### DESCRIPTION

The EPA and SEMARNAT are working jointly with state and local governments to identify locations, classify size, and determine ownership of major tire piles in the U.S.-Mexico border region. The tire piles are being identified through interviews with border residents, state governments and national scrap tire experts.

#### EXPECTED OUTCOMES

The purpose of the project is to inventory major scrap tire piles in the entire U.S.-Mexico border region. The inventory will aid in the development of recycling options for scrap tires. For example, the inventory will allow the Border 2012 Waste Policy Forum to determine which tire piles are near scrap tire shredders and municipal waste landfills so that scrap tire shreds can be used as "daily cover" at nearby landfills.

#### TIMING

The EPA and SEMARNAT, collaborating with state and local governments, have made great strides in completing this project. Completion of the inventory document is expected by Spring 2007.

#### ORGANIZATIONS

EPA Office of Solid Waste  
Ellie Kanipe; [kanipe.elisia@epa.gov](mailto:kanipe.elisia@epa.gov)

#### FUNDING SOURCE

EPA Office of Solid Waste



### PRINCIPLE 1

## Locating and Inventorying Waste Tire Piles in El Paso / Juarez Region Using Aerial Imagery

### DESCRIPTION

Researchers at the University of Texas are exploring the potential of deciphering the color spectrums in aerial photography and satellite imagery to locate unknown tire piles and to estimate the size of these piles.

### EXPECTED OUTCOMES

Although field visits confirming results have yet to be completed, researchers have used the software program ERDAS to locate unknown tire piles in the El Paso/ Juarez region. ERDAS can take the color information from a known tire pile and match it to all other objects in an aerial image that have similar color bands. However, this means that shadows, pavement, and other dark objects do appear as false positives in the process. Researchers plan to explore the potential of using LIDAR technology to measure depth, thus eliminating false positives caused by these sources.

### TIMING

Completion of the project is expected in 2007.

### ORGANIZATIONS

University of Texas  
David Eaton Phd.; [eaton@mail.utexas.edu](mailto:eaton@mail.utexas.edu)

### FUNDING SOURCE

EPA Region 6

## PRINCIPLE 1

### Remote Sensing of Waste Tires Project in the California/Mexico Border Region

#### DESCRIPTION

Endpoint Environmental, working with San Francisco State University in a project sponsored by the California Integrated Waste Management Board (CIWMB), is mapping areas of Northern California and the California/Mexico border region for tire pile sites. To create the maps of tire pile sites, Endpoint Environmental leverages the Tire Identification from Reflectance (TIRe) Model. The TIRe Model is a computer-assisted image-processing algorithm invented at NASA's Ames Research Center in a proof-of-concept project funded by CIWMB in 2005.

#### EXPECTED OUTCOMES

The TIRe Model is designed to identify densely grouped tire piles of 100 tires or more in commercially available high-resolution satellite imagery. False-positives are attributed to shadows, polluted water bodies, and objects with tire-material content such as roof-shingles or polyethylene tubing. Endpoint Environmental staff separate false-positives from suspected tire piles using visual-interpretation techniques. During the course of the project, San Francisco State University will be refining the TIRe Model to further reduce false-positives. Endpoint Environmental is constructing a series of maps for CIWMB. Satellite imagery is used as a "background" in small-scale maps to clearly display tire pile sites.

#### TIMING

Completion of the project is expected mid-2008.

#### ORGANIZATIONS

- Endpoint Environmental  
Catherine Huybrechts; catherine@enpdointenvrionmental.com
- California Integrated Waste Management Board  
Darryl L. Petker P.E.; dpetker@ciwmb.ca.gov
- San Francisco State University  
Dr. Patricia "Trish" Foschi; tfoschi@sfsu.edu

#### FUNDING SOURCE

California Integrated Waste Management Board

## Use of Satellite Technology to Locate and Monitor Waste Tire Piles in California and the California-Mexico Border Region

### DESCRIPTION

This project will use satellite imagery to find illegal tire piles within the state of California. Due to its geographical proximity, the California-Mexico border zone will also be an area of focus for the purpose of locating and monitoring waste tire piles that may pose a threat to California communities.

### EXPECTED OUTCOMES

The final report associated with this project will provide the following information:

- A list of known and suspected tire pile locations.
- Imagery, photos and maps obtained / used to deliver results for the evaluation.
- Suggestions for future areas to be evaluated.
- Suggestions for future enhancement to current methodology.

### TIMING

The final report associated with this project will be completed by June 2007.

### ORGANIZATIONS

- California Integrated Waste Management Board (CIWMB)  
Mitch Delmage; [mdelmage@ciwmb.ca.gov](mailto:mdelmage@ciwmb.ca.gov)
- California Environmental Protection Agency-Office of Border Affairs (Cal/EPA-OBA)  
Ricardo Martinez; [RMartinez@waterboards.ca.gov](mailto:RMartinez@waterboards.ca.gov)

### FUNDING SOURCE

California Tire Recycling Management Fund



## PROJECT FIVE

### PRINCIPLE

1

## Border Tire Pile Health Study: Human-Environmental Interaction and the Effect of Waste Tire Removal on Risk for Dengue Fever Infection in Brownsville, Texas and Matamoros, Tamaulipas

### DESCRIPTION

The Border 2012 Program Health Task Force is working with the EPA's Office of Research Development and the Pan American Health Organization (PAHO) in assessing the health risks of tire piles along the U.S.-Mexico border. Specifically, the 2012 Health Task Force, working with the 2012 Waste Policy Forum, is overseeing a study that will investigate the recent outbreak of dengue hemorrhagic fever in Brownsville, Texas and Matamoros, Tamaulipas and its relation to the scrap tire piles.

Because dengue fever is transmitted by an urban mosquito, examination of waste tires as water-holding containers in close proximity to households is critical to understanding the potential roles that tires play in mosquito breeding sites.

### EXPECTED OUTCOMES

This study will provide relevant environmental health data regarding tire piles along the U.S.-Mexico border. This data can be used when considering federal, state, and local-level options to administer scrap tire management programs, and in educational campaigns directed toward preventing the creation of new scrap tire piles.

### TIMING

This study is currently in its beginning phases. Completion is estimated by the end of 2007.

### ORGANIZATIONS

- Pan American Health Organization (PAHO)
- EPA Contact: Cyndy Merse; [merse.cynthia@epa.gov](mailto:merse.cynthia@epa.gov)

### FUNDING SOURCE

EPA Office of Research and Development and PAHO

## Tire Flow Study along the California-Mexico Border Region

### DESCRIPTION

San Diego State University's Institute for Regional Studies of the Californias is conducting a study on the flow of used tires in the California-Mexico border region. The study will describe and quantify the flow of used tires across the border, will evaluate the legal and regulatory framework as well as the economics of tire flows, will assess environmental impacts of used and scrap tires, will discuss recycling efforts, and will describe the final disposition of scrap tires in Baja California and Mexico.

### EXPECTED OUTCOMES

This study will develop a methodology to estimate the number of used and waste tires that have been transported from California to Mexico since 2000. Data will also be collected concerning the locations of existing tire piles. Estimates will be made regarding the number of tires that are sold, reused, and disposed of in the California-Mexico border region. The economic focus will include the costs to transport tires, revenue from the sale of tires, costs of tire disposal, and costs to remediate disposal sites as well as respond to possible waste tire pile fires. The environmental focus will evaluate the impacts of possible tire pile fires and will assess possible human health hazards associated with disease vectors in tire piles. Furthermore, the study will evaluate the existing regulatory structure used by California and Mexico to manage used tires in the region, including current waste tire policies, laws, regulations, and procedures. Finally, the study will provide suggestions and options for consideration by policy makers on tire related issues. The summary description, analysis, and recommendations will be published for wide distribution.

### TIMING

This study is currently in its initial phase. Its completion is expected by May 2008.

### ORGANIZATIONS

- San Diego State University, Institute for Regional Studies of the Californias

Paul Ganster, Ph.D.; [pganster@mail.sdsu.edu](mailto:pganster@mail.sdsu.edu)

Bertha Hernández, M.A.; [bhernand@mail.sdsu.edu](mailto:bhernand@mail.sdsu.edu)

### FUNDING SOURCE

California Integrated Waste Management Board—CIWMB  
Darryl L. Petker P.E. Contract Manager; [dpetker@ciwmb.ca.gov](mailto:dpetker@ciwmb.ca.gov)

## Used/Waste Tire Flow Study in the California-Mexico Border Region

### DESCRIPTION

This project consists of a study to determine the flow of reusable and waste tires in the California-Mexico border region. Through this project, the California Integrated Waste Management Board (CIWMB), in partnership with the California Environmental Protection-Office of Border Affairs (Cal/EPA-OBA), shall hire a contractor to prepare a technical report.

### EXPECTED OUTCOMES

The report will contain information regarding the following border-specific issues concerning used and waste tires:

- Identify the quantities of reusable and waste tires transported into Mexico from California, both legally and illegally, since 2000.
- Of the total tires transported into Mexico, quantify the number of tires sold for reuse, as well as those properly and illegally disposed of at landfills and dumpsites.
- Identify final disposal destination of waste tires that are being transported from California into Mexico.
- Discuss the economic impact to California and Mexico of the waste tire flow from California into Mexico.
- Make recommendations regarding changes to the current California and Baja California waste tire policies, laws, regulations and procedures.
- Identify, evaluate and make recommendations regarding potential markets for tire-derived products in Mexico.
- Identify, evaluate and make recommendations regarding appropriate tire disposal alternatives in the California-Mexico border region.

### TIMING

This CIWMB-Cal/EPA-OBA project is currently in its beginning stages, and should be completed by summer 2007.

### ORGANIZATIONS

- California Integrated Waste Management Board (CIWMB)  
Mitch Delmage; mdelmage@ciwmb.ca.gov
- California Environmental Protection Agency-Office of Border Affairs (Cal/EPA-OBA)  
Ricardo Martinez; RMartinez@waterboards.ca.gov

### FUNDING SOURCE

California Tire Recycling Management Fund

# PRINCIPLE TWO

U.S.-MEXICO

## SCRAP TIRE PILE PREVENTION

### U.S.— MEXICO BORDER SCRAP TIRE INTEGRATED MANAGEMENT INITIATIVE

#### P U R P O S E

Prevent new scrap tire piles.

#### A C T I O N 2

Consider federal, state, and local-level regulatory options to administer scrap tire management programs to prevent new scrap tire piles.

#### A C T I O N 3

Encourage development and implementation of a variety of environmentally acceptable and economically promising end-use markets for scrap tires to increase recycling and reuse. It is planned that this will be done through economic, regulatory, and technology development incentives.

#### B A C K G R O U N D

While the Border 2012 Program highlights cleaning-up tire piles, it is also critical to prevent the creation of new tire piles in the border region. This can be accomplished by establishing scrap tire management programs aimed toward prevention, and by increasing scrap tire recycling by developing markets for tire-derived products. The U.S. and Mexico are collaborating to assess the optimal methods for preventing new scrap tire piles by analyzing tire-derived fuel projects, civil engineering applications, and crumb rubber applications, among other methods.

PRINCIPLE  
2

## SEMARNAT SCRAP TIRE MANAGEMENT DOCUMENT

## DESCRIPTION

SEMARNAT is currently developing a Scrap Tire Management document which will serve as a framework for scrap tire programs in Mexico. In 2003, SEMARNAT mandated that all of the States create or adjust their legal framework for waste management. At this point, Nuevo Leon is the first state to comply with creating a scrap tire program.

## ORGANIZATIONS

SEMARNAT

Enrique Rebolledo; [Enrique.Rebolledo@semarnat.gob.mx](mailto:Enrique.Rebolledo@semarnat.gob.mx)

## FUNDING SOURCE

SEMARNAT



PRINCIPLE  
2U.S.-Mexican Scrap Tire  
Management Experiences Handbook

## DESCRIPTION

The U.S.-Mexican Scrap Tire Management Experiences Handbook is being prepared to assist federal, state and local governments and private industry in developing and administering scrap tire programs. The Handbook will offer options to prevent future tire piles, cleanup existing tire piles, and foster markets for the valuable resources contained in scrap tires. Technical, environmental, economic and reference data will be provided for major scrap tire applications.

## EXPECTED OUTCOMES

The U.S.-Mexican Scrap Tire Management Experiences Handbook will aid in preventing further growth of existing scrap tire piles as well as the creation of new piles. The Handbook is intended to accelerate market development efforts by providing critical information about the North American market experience and its potential applicability within both Mexico and the U.S. Additionally, the Handbook will allow industry participants to assess, prioritize, target and develop markets as efficiently and rapidly as possible.

## TIMING

The U.S. EPA and SEMARNAT will finalize the Scrap Tire Management Experiences Handbook by the end of 2007.

## ORGANIZATIONS

EPA Office of Solid Waste  
Rick Picardi; [picardi.rick@epa.gov](mailto:picardi.rick@epa.gov)

## FUNDING SOURCE

EPA Office of Solid Waste

PRINCIPLE  
2U.S. – Mexican Border Tire  
Management Regulations

## DESCRIPTION

The Border Legislative Conference, in collaboration with the EPA Region 9, is updating an existing Border Legislative Conference document which highlights federal, state and local waste tire management regulations in both Mexico and the U.S.

## EXPECTED OUTCOMES

The finished document highlighting waste tire management regulations will allow for the analysis of waste tire regulations within the Border Legislative Conference and at the federal, state and local level. Eventually, the document will help federal, state and local legislators modify and/or create regulations to address the core waste tire management issues.

## ORGANIZATIONS

- Border Legislative Conference  
Edgar Ruiz; [eruiz@csg.org](mailto:eruiz@csg.org)
- EPA  
Emily Pimentel; [Pimentel.emily@epa.gov](mailto:Pimentel.emily@epa.gov)

## FUNDING SOURCE

Border Legislative Conference and EPA Region 9 (San Francisco)

PRINCIPLE  
2

## Training Seminars on Developing Scrap Tire Markets

## DESCRIPTION

The U.S. Rubber Manufacturers Association (RMA), and border governments will work together to offer training seminars to promote the prevention of scrap tire piles along the U.S.-Mexican border. The proposed seminars will draw on Mexican and U.S. technical expertise, and will be offered at different locations along the border. The key audience of the seminars will be potential entrepreneurs who are most likely to create the scrap tire recycling industry. The seminars will focus on providing the fundamentals of developing a scrap tire recycling industry with subject matter ranging from the necessities of starting a business, to tire processing, to the key scrap tire markets.

## EXPECTED OUTCOMES

Since the training seminars will provide the necessary training on the basics of scrap tires, they will allow potential entrepreneurs the opportunity to learn the information they need to create the scrap tire recycling industry.

## TIMING

Beginning spring 2007

## ORGANIZATIONS

- Rubber Manufacturers Association  
Michael Blumenthal; [MBlumenthal@rma.org](mailto:MBlumenthal@rma.org)

# PRINCIPLE THREE

U.S.-MEXOC

## SCRAP TIRE PILE CLEAN-UP

### U.S.— MEXICO BORDER SCRAP TIRE INTEGRATED MANAGEMENT INITIATIVE

#### P U R P O S E

Cleanup “legacy” (existing) tire piles using environmentally sound and cost effective solutions.

#### A C T I O N 2

Consider federal, state, and local-level regulatory options to administer scrap tire management programs to cleanup legacy tire piles.

#### A C T I O N 4

Abate tire piles by seeking funding to eliminate legacy scrap tire piles, and invest in and adequately manage temporary storage and transfer stations to facilitate recycling and/or reuse of scrap tires.

#### B A C K G R O U N D

Under the Reduce Land Contamination goal of the binational environmental Border 2012 Program, objective three addresses the cleanup of scrap tire piles. Specifically, the objective aims to cleanup three of the larger scrap tire sites in the U.S.-Mexico border region by 2010. Great strides have been made in achieving this objective with over 2.7 million tires having been cleaned-up along the border. Furthermore, 450,000 tires have been removed at the INNOR Tire Pile in Mexicali resulting in the pile’s complete elimination.

PRINCIPLE  
3

## Cleanup of El Centinela Scrap Tire Pile

## DESCRIPTION

Centinela, the scrap tire pile with 1.2 million abandoned tires, was ranked as one of the largest scrap tire piles in the border region. The Border 2012 scrap tire management partners identified Centinela as one of the largest tire piles. The cleanup of this tire pile was established as a target to meet Border 2012 Goal 3 to "cleanup three of the largest sites containing abandoned waste tires."

The tires were transported to CEMEX plants located in Ensenada and Hermosillo where they were then co-processed as tire derived fuel (TDF). The success of this cleanup is attributed to the ability of government, industry, and other partners to leverage their respective resources.

## EXPECTED OUTCOMES

Since tire piles pose environmental and health problems, the cleanup of the Centinela tire pile will significantly improve the environmental health of the area within the vicinity of the site. Centinela was one of the largest scrap tire piles in the border area; therefore, it has contributed to meeting Border 2012's scrap tire objective.

## TIMING

In October 2006, EPA completed the cleanup which began in December 2005.

## ORGANIZATIONS

- SEMARNAT  
Adriana Oropeza (as of January 2007)  
Edgar De Villar; [edgar.delvillar@semarnat.gob.mx](mailto:edgar.delvillar@semarnat.gob.mx) (as of February 2007)
- EPA Region 9 (San Francisco, California)  
Emily Pimentel; [Pimentel.emily@epa.gov](mailto:Pimentel.emily@epa.gov)

## FUNDING SOURCE

EPA Region 9:	\$285,000
SEMARNAT:	in-kind donation - trucks/trains
CEMEX:	in-kind donation - shredding of tires and co-processing as TDF
City of Mexicali:	in-kind donation - coordination support

Collaboration resulted in leveraging EPA funding at least ten times.



PRINCIPLE  
3

## Cleanup of Ciudad Juárez Scrap Tire Pile

## DESCRIPTION

To date, approximately 1.45 million scrap tires have been removed from the Ciudad Juárez tire pile through the collective efforts of the U.S. EPA, SEMARNAT, the Border Environment Cooperation Commission (BECC), the City of Juárez, and GCC Cemento, A.A. de C.V., Samlayuca (the local cement plant). Encompassing approximately four to five million scrap tires, the 8-10 year old Ciudad Juárez tire pile site is 16% percent cleaned.

## EXPECTED OUTCOMES

Since tire piles pose environmental and health problems, the cleanup of the Ciudad Juárez tire pile site will significantly improve the environmental health of the area within the vicinity of the site. The Ciudad Juárez site is one of the largest scrap tire piles in the border area; therefore, its cleanup will contribute to meeting Border 2012's scrap tire objective.

## TIMING

The Ciudad Juárez tire pile is expected to be 100% cleaned-up during the next several years.

## ORGANIZATIONS

- SEMARNAT  
Adriana Oropeza; Adriana Oropeza (as of January 2007)  
Edgar De Villar; [edgar.delvillar@semarnat.gob.mx](mailto:edgar.delvillar@semarnat.gob.mx) (as of February 2007)
- EPA Region 6 (Dallas, Texas)  
Robert Snowbarger; [Snowbarger.robert@epa.gov](mailto:Snowbarger.robert@epa.gov)

## FUNDING SOURCE

SEMARNAT:	\$60,000
Chihuahua State:	\$40,000
Ciudad Juárez Municipality:	\$30,000
EPA Office of International Affairs:	\$60,000

## Cleanup of Sonora Border Scrap Tire Pile

## DESCRIPTION

This project consists of removing 250,000 scrap tires from municipal solid waste landfills in Sonora's border where tires pose a fire risk (e.g. San Luis Rio Colorado or other municipality), and to establish a properly managed storage center to facilitate the timely transfer of tires to appropriate destinations for processing as TDF or other reuses.

## EXPECTED OUTCOMES

Since tire piles pose environmental and health problems, the cleanup of the Sonora border community tire piles will significantly improve the environmental health of the area within the vicinity of the site. The project will also help develop scrap tire management infrastructure; therefore, it will contribute to meeting Border 2012's scrap tire management objective.

## TIMING

Cleanup is estimated to be complete in 2007.

## ORGANIZATIONS

- SEMARNAT  
Adriana Oropeza (as of January 2007)  
Edgar De Villar; [edgar.delvillar@semarnat.gob.mx](mailto:edgar.delvillar@semarnat.gob.mx) (as of February 2007)
- EPA Region 9 (San Francisco, California)  
Emily Pimentel; [Pimentel.emily@epa.gov](mailto:Pimentel.emily@epa.gov)  
Elise Hunter; [Hunter.elise@epa.gov](mailto:Hunter.elise@epa.gov)

## FUNDING SOURCE

The project will be carried out with public-private sector partnerships that include SEMARNAT, the State of Sonora, CEMEX, the Sonora rail service, and respective local municipalities. Funding will be provided by SEMARNAT and EPA.

SEMARNAT: \$25,000 (?)  
EPA Office of International Affairs & Region 9: \$50,000

## Cleanup of Piedras Negras / Eagle Pass Scrap Tire Pile

### DESCRIPTION

The cities of Eagle Pass, Texas and Piedras Negras, Coahuila, Mexico are working together to deal with the illegal dumping of scrap tires in the region. To date, approximately **159,000 scrap tires** have been removed from piles in the Eagle Pass / Piedras Negras areas for TDF through the collective efforts of the U.S. EPA, SEMARNAT, BECC, the City of Eagle Pass and the Municipio de Piedras Negras.

### EXPECTED OUTCOMES

This project will remove nearly 250,000 scrap tires that will be used as TDF and in civil engineering applications.

### TIMING

The Piedras Negras tire pile is estimated to have cleaned-up approximately 200,000 scrap tires by April 2007.

### ORGANIZATIONS

- City of Eagle Pass, TX  
Hector Chavez; [hchavez@cityofeaglepass.com](mailto:hchavez@cityofeaglepass.com)
- SEMARNAT  
Adriana Oropeza (as of January 2007)  
Edgar De Villar; [edgar.delvillar@semarnat.gob.mx](mailto:edgar.delvillar@semarnat.gob.mx) (as of February 2007)
- EPA Region 6 (Dallas, Texas)  
Robert Snowbarger; [Snowbarger.robert@epa.gov](mailto:Snowbarger.robert@epa.gov)

### FUNDING SOURCE

Coahuila State:	\$10,000
Piedras Negras Municipality:	\$40,000
EPA Region 6:	\$50,000

## Grant for Cleanup of Waste Tires in the Tijuana River Valley

### DESCRIPTION

The CIWMB awarded \$41,575 to the City of San Diego Solid Waste Local Enforcement Agency (LEA) to pay for the removal and disposal of thousands of waste tires that were washed during winter storms into the Tijuana River Valley from Mexico. These waste tires impact the Tijuana River Valley Regional Park.

The project was completed on December 31, 2006. San Diego contracted with The County of San Diego Parks and Recreation Department who performed the actual collection and removal of the waste tires under contract with Donovan Detention Facility. 2,350 tires were removed for a cost of \$26,059.45. The LEA has prepared the final report for submittal to CIWMB.

The County of San Diego Park and Recreation Department intends to apply for these funds directly to fund future waste tire removal efforts in the Tijuana River Valley Regional Park.

### TIMING

This waste tire project was completed December 31, 2006.

### ORGANIZATIONS

- California Integrated Waste Management Board (CIWMB)  
Mitch Delmage; mdelmage@ciwmb.ca.gov
- California Environmental Protection Agency-Office of Border Affairs (Cal/EPA-OBA)  
Ricardo Martinez; RMartinez@waterboards.ca.gov

### FUNDING SOURCE

California Tire Recycling Management Fund

PRINCIPLE  
3Grant for Waste Tire Cleanup of Tijuana  
River Channels

## DESCRIPTION

During yearly rain storms, thousands of tires flow across the border from Tijuana and impact San Diego city and county land. The City of San Diego Solid Waste Local Enforcement Agency administers a grant from the California Integrated Management Board to help fund County Park and City of San Diego Streets Division clean-ups of scrap tires that flow into the Tijuana River Valley Regional Park.

## EXPECTED OUTCOMES

Manual and mechanical clean-ups will remove hundreds of tires from Smuggler's Gulch, the Main channel, and Pilot channel of the Tijuana River. This allows the river to flow without causing flooding and additional degradation. Clean-up in this area stops the tires from moving further downstream into the more sensitive estuary habitat.

## TIMING

Periodic

## ORGANIZATIONS

- City of San Diego Solid Waste Local Enforcement Agency  
Bill Prinz; [wprinz@sandiego.gov](mailto:wprinz@sandiego.gov)

## FUNDING SOURCE

Waste Tire Clean-up Grant from the California Integrated  
Waste Management Board



## PRINCIPLE FOUR

U.S.-MEXOC

### Scrap Tire Management Participation

#### U.S.— MEXICO BORDER SCRAP TIRE INTEGRATED MANAGEMENT INITIATIVE

##### P U R P O S E

Involve stakeholders and communities in creating scrap tire solutions.

##### A C T I O N 5

Involve the U.S. and Mexican governments, the private-sector, academics, and non-governmental organizations in the implementation of the U.S.-Mexico Scrap Tire Integrated Management Initiative.

##### A C T I O N 6

Establish and implement educational outreach programs geared toward a diverse audience of stakeholders to increase scrap tire recycling and reuse opportunities.

##### B A C K G R O U N D

The ten-year binational Border 2012 Program emphasizes a bottom-up, regional approach to addressing border environmental issues. The U.S.-Mexico Scrap Tire Integrated Management Initiative recognizes the importance of bringing together a wide variety of stakeholders to produce priority actions which can be sustained. It aims to involve the U.S. and Mexican governments, the private-sector, academics, and non-governmental organizations in carrying out the Initiative.

## Tire Outreach Project (TOP)

## DESCRIPTION

The California Integrated Waste Management Board has awarded a contract to the City of San Diego Solid Waste Local Enforcement Agency to work with the City of Tijuana, Mexico and other affected communities along with Non-Government Officials (NGO) from surrounding border cities along the California-Mexico Border. TOP is in the process of developing solutions for scrap tire collection, disposal, and recycling. TOP will promote awareness among canyon residents of recycling opportunities and beneficial uses of scrap tires.

## EXPECTED OUTCOMES

TOP expects to produce an educational video on how to build retaining walls from scrap tires. This video will be produced in both Spanish and English for use by government planners and engineers, as well as NGOs, to teach the basics of adequately engineered scrap tire retaining walls. Accompanying printed materials will also be produced.

## TIMING

This contract will be completed in May 2007.

## ORGANIZATIONS

- California Integrated Waste Management Board (CIWMB)  
Mitch Delmage; [mdelmage@ciwmb.ca.gov](mailto:mdelmage@ciwmb.ca.gov)
- California Integrated Waste Management Board (CIWMB)  
Lillian Conroe; [lconroe@ciwmb.ca.gov](mailto:lconroe@ciwmb.ca.gov)
- City of San Diego Solid Waste Local Enforcement Agency  
Bill Prinz; [wprinz@sandiego.gov](mailto:wprinz@sandiego.gov)

## FUNDING SOURCE

Contract from the California Integrated Waste Management Board

## Training of Mexican Tire Haulers and Used Tire Dealers That Cross Into California to Buy Used Tires for Sale in Mexico

### DESCRIPTION

This project consists of a series of Spanish language workshops to train Mexican haulers and used tire dealers about applicable statutes and regulations pertaining to hauling, purchasing, selling, and storing used/waste tires within California. By providing this language-specific training, the illicit collection, storage and disposal of used/waste tires within the California-Mexico border will be reduced. SB 772 requires CIWMB staff to work with Mexican authorities in dealing with cross-border hauling of used/waste tires.

### EXPECTED OUTCOMES

Implementation and completion of this five-year training program will improve California-Mexico used/waste tire management practices in the following areas:

- Compliance of Mexican haulers with regard to the requirements for hauling used/waste tires within the California-Mexico border;
- Public awareness about the environmental and public health and safety threats associated with used/waste tire mishandling;
- Increased cooperation and collaboration with Mexican authorities regarding tire management issues;
- Tracking of legal and illegal used/waste tire flow across the California-Mexico border;
- Coordination with businesses operating in the border region in applying the same environmental and control requirements.

### TIMING

This training project began in February 2005 and will be completed by 2010.

### ORGANIZATIONS

- California Integrated Waste Management Board (CIWMB)  
Mitch Delmage; mdelmage@ciwmb.ca.gov
- California Environmental Protection Agency-Office of Border Affairs (Cal/EPA-OBA)  
Ricardo Martinez; RMartinez@waterboards.ca.gov

### FUNDING SOURCE

California Tire Recycling Management Fund

## New Mexico-Chihuahua Rural Task Force Scrap Tire Clean-up Project

### DESCRIPTION

The Border 2012 New Mexico-Chihuahua Rural Task Force is working with the New Mexico Environment Department, the Autonomous University of Ciudad Juárez and New Mexico State University to evaluate scrap tire piles and address clean up and proper management and disposal of scrap tires in Palomas and Ascensión, Chihuahua. The project consists of the following components:

- A technical workshop on scrap tire management and disposal options for rural communities in the task force region;
- Assessment of location and size of scrap tire piles in Palomas and Ascensión;
- Education and outreach on proper disposal of scrap tires including development and distribution of outreach materials;
- Clean-up and baling of scrap tires.

Secondary students from Palomas and Ascensión will be involved in the implementation of this project. The Autonomous University of Ciudad Juárez in conjunction with New Mexico State University will be training students in how to use Global Positioning System (GPS) units, Geographic Information Systems (GIS), and how to evaluate tire piles. The students will have the opportunity to go out in the field and evaluate scrap tire piles in and around their communities. Students will also develop a brochure on how their communities can properly dispose of used tires and why proper disposal is important. This project will also organize a technical workshop for communities in the task force region that will provide information on options available to small communities for scrap tire management and disposal. This workshop will help rural communities design programs to address their scrap tire management and disposal issues.

### EXPECTED OUTCOMES

- Maps of scrap tire piles locations in Palomas and Ascension including estimates of the magnitude of the tire problem in these communities;
- Clean up and baling of some of the scrap tires in these communities;
- An action plan for addressing scrap tire management and disposal issues in Palomas and Ascension;
- Increased awareness among secondary students and their communities regarding the scrap tire problem and proper disposal;
- Development of GPS and GIS skills among secondary student project participants.

### TIMING

This project was initiated in Fall 2006. Completion is estimated by Sept. 2007.

### ORGANIZATIONS

Border 2012 New Mexico-Chihuahua Rural Task Force  
Allyson Siwik, asiwik@zianet.com

### FUNDING SOURCE

U.S. EPA Border 2012 Program

# APPENDIX ONE

## SUMMARY ACTION PLANS

### Contributors

The U.S.-Mexico Border Scrap Tire Group emphasizes collaboration among stakeholders who have an interest in border scrap tire issues. These relevant stakeholders include State and local governments, other governmental organizations (e.g. Border Legislative Conference), academia, the private sector, and non-governmental organizations. Through the concentrated efforts of the U.S.-Mexico Border Scrap Tire Group, all interested parties can achieve their aims in a mutually beneficial way.

The Border Scrap Tire Group is coordinating with the Resource Conservation Challenge (RCC) Scrap Tire Workgroup because each has similar goals and interests. The Border Scrap Tire Summary Action Plans help to further both the Border Scrap Tire Group's goals and the RCC Scrap Tire Workgroup Goals. The Border Summary Action Plans are modeled after the RCC Scrap Tire Workgroup Summary Action Plans.

The partners involved in the Border Scrap Tire Group have varied degrees of involvement with the U.S.-Mexico Border 2012 Program. For this reason, it is important to note that for those organizations not formally part of the Border 2012 Program, the Border Summary Action Plan projects are not compelled to have explicit completion dates. The intent of the Border Summary Action Plans is to provide a mechanism for coordination of border tire work.

#### **Project Owners**

- ▶ Border 2012 New Mexico-Chihuahua Rural Task Force
- ▶ Border Legislative Conference
- ▶ California Environmental Protection Agency-Office of Border Affairs
- ▶ California Integrated Waste Management Board
- ▶ City of Eagle Pass, Texas
- ▶ City of San Diego Solid Waste Local Enforcement Agency
- ▶ Endpoint Environmental
- ▶ Pan American Health Organization
- ▶ San Diego State University
- ▶ San Francisco State University
- ▶ Secretary of the Secretariat for the Environment and Natural Resources (SEMARNAT)
- ▶ Rubber Manufacturers Association
- ▶ University of Texas
- ▶ U.S. Environmental Protection Agency



## APPENDIX TWO

### SUMMARY ACTION PLANS

#### Principles:

#### U.S.-Mexico Border Scrap Tire Integrated Management Initiative

As part of the Scrap Tire Integrated Management Initiative's effort to promote effective management of scrap tires in the border region, scrap tire management principles and actions were included in the document. Upon completion, the actions will lead to the fulfillment of the Initiative's four basic principles and the Border 2012 Program tire objectives. In some cases, the proposed actions involve activities that both Mexico and the U.S. are already implementing, independently or jointly under the Border 2012 Program.

**Principle One:** Better understand the problems contributing to scrap tire generation.

**Principle Two:** Prevent new scrap tire piles.

**Principle Three:** Cleanup "legacy" (existing) tire piles using environmentally sound and cost effective solutions.

**Principle Four:** Involve stakeholders and communities in creating scrap tire solutions.

## APPENDIX THREE

### SUMMARY ACTION PLANS

#### Actions:

#### U.S.-Mexico Border Scrap Tire Integrated Management Initiative

As part of the Scrap Tire Integrated Management Initiative's effort to promote effective management of scrap tires in the border region, scrap tire management principles and actions were included in the document. Upon completion, the actions will lead to the fulfillment of the Initiative's four basic principles and the Border 2012 Program tire objectives. In some cases, the proposed actions involve activities that both Mexico and the U.S. are already implementing, independently or jointly under the Border 2012 Program.

- Action 1:** Gather information to better understand scrap tire generation (including sources of substandard tires and illegal tire entry into Mexico), illegal scrap tire dumping, and methods for effective management of scrap tires
- Action 2:** Consider federal, state, and local-level regulatory options to administer scrap tire management programs.
- Action 3:** Encourage development and implementation of a variety of Environmentally acceptable and economically promising end-use markets for scrap tires to increase recycling and reuse. It is planned that this will be done through economic, regulatory, and technology development incentives.
- Action 4:** Abate tire piles by seeking funding to eliminate legacy scrap tire piles, and invest in and adequately manage temporary storage and transfer stations to facilitate recycling and/or reuse of scrap tires.
- Action 5:** Involve the U.S. and Mexican governments, the private-sector, academics, and non-governmental organizations in the implementation of the Partnership Initiative.
- Action 6:** Establish and implement educational outreach programs geared toward a diverse audience of stakeholders to increase scrap tire recycling and reuse opportunities.