U.S.—MEXICO

BORDER SCRAP TIRE PROJECT 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
- Centro de Calidad Ambiental
- City of Eagle Pass, Texas
- City of San Diego Solid Waste Local Enforcement Agency
- Ciudad Acuña
- H-E-B San Antonio
- New Mexico State University
- Texas Commission on Environmental Quality
- Texas A&M-Kingsville
- Texas A&M-Corpus Christi
- Pan American Health Organization
- Rad-Tec Fabricators
- San Diego State University
- San Francisco State University
- Secretariat of Environment and Natural Resources
- Silent Running
- Rubber Manufacturers Association
- University of Texas
- U.S. Environmental Protection Agency

June 2008

The Border Scrap Tire Project Action Plans are descriptions of border scrap tire projects that are occurring throughout the U.S.-Mexico border region.

PROJECT ACTION PLANS

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PROJECT ACTION PLANS

INTRODUCTION

Purpose

The Border Scrap Tire Action Action Plans are descriptions of border scrap tire projects currently being implemented throughout the U.S.-Mexico border region. A mechanism for educating interested parties of border scrap tire activities, they foster collaboration between scrap tire projects, and aid in assessing the needs for further projects.

The project descriptions will be updated and new projects will be added as they are initiated.

For a detailed description of contributors to the Project Action Plans, see Appendix One.

Background

The Project 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 establishes a clear and consistent under-standing of shared scrap tire management principles, and provides direction for the major program actions necessary to effectively manage scrap tires.

Structure of Project Action Plans

The Scrap Tire Project 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.

Contact

For further information or to update or include additional project descriptions, please contact Ellie Kanipe (kanipe.ellie@epa.gov, 703-347-8985).

U.S.-MEXICO

PRINCIPLE ONE

SCRAP TIRE GENERATION

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

PURPOSE

Better understand the problems contributing to scrap tire generation.

ACTION 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.

BACKGROUND

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

PROJECT ONE

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

DESCRIPTION

The EPA and SEMARNAT worked 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 were 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 completed the inventory document. The inventory document can be found at **http://www.epa.gov/epaoswer/non-hw/muncpl/tires/publications.htm**.

ORGANIZATIONS

- EPA Office of Solid Waste
  Ellie Kanipe; kanipe.ellie@epa.gov

FUNDING SOURCE

EPA Office of Solid Waste

PRINCIPLE 1

PROJECT TWO

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

Project completed in 2007.

ORGANIZATIONS

- University of Texas
  David Eaton Phd.; eaton@mail.utexas.edu

FUNDING SOURCE

EPA Region 6

PROJECT THREE

PRINCIPLE 1

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

DESCRIPTION

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, the Tire Identification from Reflectance (TIRe) Model is being used. 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. A visual-interpretation technique is used to separate false-positives from suspected tire piles. During the course of the project, San Francisco State University will be refining the TIRe Model to further reduce false-positives and a series of maps will be constructed 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 2008.

ORGANIZATIONS

- 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

PROJECT FOUR

PRINCIPLE 1

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 2008.

ORGANIZATIONS

- California Integrated Waste Management Board (CIWMB)
  Darryl Petker; dpetker@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 1

PROJECT FIVE

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.

ORGANIZATIONS

- Pan American Health Organization (PAHO)
- EPA's Office of Research and Development

FUNDING SOURCE

- EPA Office of Research and Development
- PAHO

PROJECT SIX

PRINCIPLE 1

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's 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

  Bertha Hernández, M.A.; bhernand@mail.sdsu.edu

FUNDING SOURCE

California Integrated Waste Management Board—CIWMB
Darryl L. Petker P.E. Contract Manager; dpetker@ciwmb.ca.gov

PROJECT SEVEN

PRINCIPLE 1

A Study of Passenger, Light Truck and SUV, Used Tire Economics in the California/AZ and Baja California Norte/Sonora Border Region

DESCRIPTION

Silent Running, a research and environmental advisory company, will evaluate the key economic factors that contribute to used tire flows from the U.S. to Mexico, focusing on economic drivers in California, Arizona, Baja California Norte, and Sonora. The study will include price comparisons between new and used tires in the U.S. and Mexico, the used tire value proposition, and an analysis of the retail tire industry structure in the U.S. and Mexico border region.

EXPECTED OUTCOMES

The findings of the study are intended to answer the following questions:

For this geographic region, what are the economic underpinnings behind used tire flows from the U.S. and Mexico-particularly for the tire resale market?

To what degree, if any, do tariffs, customs laws and practices, and government policy enhance or distort the market for the resale of used tires?

For this geographic region, what is the quality and useful life of used tires being resold in the U.S. and Mexico?

For this geographic region, to what degree would an increase or decrease of used tire flows from the U.S. to Mexico disrupt the Mexican retail tire industry?

To what degree, if at all, do flows of used tires from the U.S. into Mexico contribute to scrap tire stockpiles in Mexico in this geographic region?

TIMING

A) Field investigation in Baja California Norte complete.
B) Field investigation in Sonora and Arizona underway and to be complete in 2nd Qtr 2008.
C) Draft Study report to be distributed for peer review in 3rd Qtr 2008.

ORGANIZATIONS

- Silent Running
  Jim Dodenhoff; jdodenhoff@ca.rr.com

FUNDING SOURCE

Project is self-funded.

U.S.-MEXICO

PRINCIPLE TWO

SCRAP TIRE PILE PREVENTION

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

PURPOSE

Prevent new scrap tire piles.

ACTION 2

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

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.

BACKGROUND

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.

PROJECT EIGHT

PRINCIPLE 2

Guidance on Risk Reduction on Managed Scrap Tire Stockpiles

DESCRIPTION

SEMARNAT has produced, in collaboration with the Rubber Chamber of Mexico, a document that provides guidance for managing tire stockpiles. The object of the guide is to establish basic criteria for the construction and operation of transfer stations and gathering of waste tires.

EXPECTED OUTCOMES

The document will provide:

- General context of waste tires in Mexico
- Characteristics of waste tires
- Alternatives of integral management of waste tires
- General considerations for the installation and operation of a station of transference and gathering
- Recommendations for installation of a Transfer and Gathering Station
- Security measures
- Operation of the Gathering Center

TIMING

The project will be complete in Spring 2008.

ORGANIZATIONS

- SEMARNAT
  Alexandra González Narro; alexandra.gonzalez@semarnat.gob.mx

FUNDING SOURCE

SEMARNAT

PROJECT NINE

PRINCIPLE 2

U.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 2008.

ORGANIZATIONS

- EPA Office of Solid Waste
  Rick Picardi; picardi.rick@epa.gov

FUNDING SOURCE

EPA Office of Solid Waste

PROJECT TEN

PRINCIPLE 2

U.S. – Mexican Border Tire Management Regulations

DESCRIPTION

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

EXPECTED OUTCOMES

The finished document highlighting waste tire management regulations will allow for the analysis of waster tire regulations within the border region at the federal, state and local levels. The document will assist lawmakers modify and/or create regulatory frameworks to address core binational waste tire management issues.

ORGANIZATIONS

- Border Legislative Conference
  Edgar Ruiz; eruiz@csg.org
- EPA, Region 9
  Emily Pimentel; Pimentel.emily@epa.gov

FUNDING SOURCE

Border Legislative Conference (In-kind)
EPA Region 9

PROJECT ELEVEN

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

PROJECT TWELVE

PRINCIPLE 2

Waste Tire Reuse for Highway Construction Applications

DESCRIPTION

Researchers at the Texas A&M University – Kingsville are conducting a field demonstration for the construction usage of baled waste tires in civil engineering applications relevant to municipal and state construction specifications.

EXPECTED OUTCOMES

The primary objective of this project is to conduct a field demonstration to evaluate waste tire bales in reuse construction applications through participation with a municipal landfill in the US-Mexico border area of Brownsville, Texas. A pilot study is being conducted to evaluate waste tire material as roadway base material. During this study structural and environmental testing will be performed to evaluate the roadway for long-term applications.

TIMING

Project completion is expected by 2009.

ORGANIZATIONS

- Texas A&M – Kingsville, Department of Environmental & Civil Engineering
  Kim Jones, PhD., KJones@eng.tamuk.edu

FUNDING SOURCE

US EPA Region 6

PROJECT THIRTEEN

PRINCIPLE 2

Erosion Control at Landfill Slopes With Scrap Tires

DESCRIPTION

The project consisted of placing scrap tires on landfill slopes to help control erosion of the slopes. Landfill slopes erode and provide poor conditions for plant growth. Filling the scrap tires with yard waste improves conditions for vegetation growth.

EXPECTED OUTCOMES

- Reduced erosion on landfill slopes
- Improved conditions for development/growth of vegetation on the slope
- Reduced mosquito breeding
- Saved landfill space
- Reduced maintenance, closure, and abandonment costs

TIMING

The work was a Master Thesis and was done during September 2001 to September 2002.

ORGANIZATIONS

- Centro de Calidad Ambiental, Lab. de Geofisica Ambiental
  Dr. Martin H. Bremen; mbremer@itesm.mx

FUNDING SOURCE

Funded as part of an agreement between the Landfill SIMEPRODE and ITESM.

PROJECT FOURTEEN

PRINCIPLE 2

Scrap Tire Management Planning with Baja CA (and Sonora)

DESCRIPTION

This project involves working with at least one municipality in Baja Ca to assess scrap tire management practices, needs and begin working on short and long-term institutional and infrastructure planning needs. The project will develop a plan using guidance from the actions recommended in the Binational Scrap Tire Management Initiative.

A similar project is expected to be performed in Sonora once the Baja CA project scope of work has been defined.

EXPECTED OUTCOMES

Agree to implement best management practices at an active tire management facility in Baja CA.

TIMING

Complete first phase by September 2008 and second phase by September 2009.

ORGANIZATIONS

The work is being performed with EPA funding administrated under a grant from the BECC. To date, the municipality of Mexicali has agreed to work on this project.

- EPA, Region 9
  Emily Pimentel; Pimentel.emily@epa.gov

FUNDING SOURCE

EPA Region 9 funded $15K for Baja CA (and $15K for Sonora)

PROJECT FIFTEEN

PRINCIPLE 2

Project "Green Way" Pedestrian Trails

DESCRIPTION

Project "Green Way" Pedestrian Trails is a pilot program to recycle fleet scrap tires into rubber mulch for use in enhancement projects by the Corpus Christi Parks & Recreation Department. Spearheaded by H-E-B Grocery, the project is being conducted by Corpus Christi local businesses, concerned citizens, tire recyclers and the Corpus Christi Parks & Recreation Department.

- Businesses will contribute to the program through recycling scrap tires;
- Citizens have volunteered to recruit businesses to up-cycle;
- Tire recyclers have provided incentives by contributing a per-pound credit for material derived from the scrap tires; and
- Parks and Recreation will use recycled tires in constructing their trails.

EXPECTED OUTCOMES

Project "Green Way" will demonstrate the benefits of collecting illegally dumped scrap tires to supply the raw material to manufactures of rubber mulch. H-E-B has pledged to recycle 8,000 fleet scrapped tires. This will save the Corpus Christi Parks & Recreation Department trails program approximately $35,000 dollars.

TIMING

The projected start date was April 25, 2008.

ORGANIZATIONS

- Texas A&M Corpus Christi, Texas
  Theresa Holland, Graduate Candidate, MPA; theresalholland@hotmail.com
- H-E-B San Antonio, TX 78218
- Rad-Tec Fabricators Reedville, Texas 78656

FUNDING SOURCE

Program seeks funding assistance.

U.S.-MEXICO

PRINCIPLE THREE

SCRAP TIRE PILE CLEAN-UP

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

PURPOSE

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

ACTION 2

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

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.

BACKGROUND

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 4 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.

PROJECT SIXTEEN

PRINCIPLE 3

Centinela and INNOR Cleanups in Mexicali, Baja CA

DESCRIPTION

Centinela with 1.2 millions tires and INNOR with 415,000 tires were abandoned tire piles in Mexicali. As early as 1985, scrap tires were abandoned along the foothill of the Centinela Mountain in an area of about 14 hectares just north of Mexico's Federal Hwy 2. In the same area, but south of Federal Hwy 2 scrap tires were taken to a property that was authorized as a waste storage facility in 1996. About two years later the permit was revoked for non-compliance and the owners abandoned the property. The Border 2012 scrap tire management partners identified Centinela and INNOR 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."

All the INNOR tires were transported to CEMEX's plant in Ensenada, whereas Centinela 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

EXPECTED OUTCOMES

Since tire piles pose environmental and health problems, the cleanup of the INNOR tire pile will significantly improve the environmental health of the area within the vicinity of the site. INNOR 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

The INNOR tire pile cleanup started December 2004 and was completed May 2005. The Centinela tire pile started June 2005 and was completed October 2005. [*The cleanup started with INNOR and then cleanup began on Centinela.*]

ORGANIZATIONS

SEMARNAT, Central Office, Mexico City
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Edgar De Villar; edgar.delvillar@semarnat.gob.mx
EPA Region 9 (San Francisco, California)
Emily Pimentel; Pimentel.emily@epa.gov

FUNDING SOURCE

EPA contributed $200,000
In-kind contributions $600,000

All funding resulted in the completion of two tire piles: INNOR (415,000 tires) and Centinela (1.2 million tires).

PROJECT SEVENTEEN

PRINCIPLE 3

Cleanup of Ciudad Juárez Scrap Tire Pile

DESCRIPTION

Nearly 3 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). The 8-10 year old Ciudad Juárez tire pile site encompasses approximately four to five million scrap tires.

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
  Edgar De Villar; edgar.delvillar@semarnat.gob.mx
- EPA Region 6 (Dallas, Texas)
  Robert Snowbarger; Snowbarger.robert@epa.gov

FUNDING SOURCE

Government of Chihuahua:	$80,000 plus $30,000 this year
SEMARNAT:	$113,000 plus $60,000 this year
Government of Ciudad Juárez:	$65,000
EPA:	$200,000

*All Mexican quantities are taken from the Annexes of Execution between SEMARNAT and the State Governments, the Municipalities, Cemex or Cementos Chihuahua, and CANACEM.

PROJECT EIGHTEEN

PRINCIPLE 3

Cleanup of Sonora Border Scrap Tire Pile

DESCRIPTION

Many tire piles in Mexico are not abandoned, but most do not meet basic guidelines to prevent or minimize risks due to fires and disease. Although the Border 2012 program's immediate priority was to cleanup three of the largest "legacy" tire piles in the border region, border stakeholders agreed to invest in other scrap tire clean-ups. One of these cleanups was conducted in San Luis Rio Colorado, Sonora. Scrap tires are authorized for disposal at a property in San Luis, but they have not been adequately managed and accumulate in unsafe numbers. The goal of this tire cleanup was to reduce the number of scrap tires from the tire piles in this region. In the long-term, the municipality will be encouraged to adopt minimum practices to safely store tires until they are shipped for processing in any number of sustainable reuse options.

EXPECTED OUTCOMES

Remove 110,000 tires and transport them to Hermosillo, Sonora to process them as tire derived fuel.

TIMING

The cleanup was completed September 2007.

ORGANIZATIONS

BECC, EPA, SEMARNAT, CEMEX, and the municipality of San Luis Rio Colorado, Sonora all partnered to complete this cleanup.

- SEMARNAT
  Edgar De Villar; edgar.delvillar@semarnat.gob.mx
- EPA Region 9 (San Francisco, California)
  Emily Pimentel; Pimentel.emily@epa.gov

FUNDING SOURCE

BECC managed $52,000 grant awarded to them by EPA
SEMARNAT $16,000usd aprox.
CEMEX in kind donation to process 110,000 tires

PROJECT NINETEEN

PRINCIPLE 3

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 August 2008.

ORGANIZATIONS

- City of Eagle Pass, TX
  Hector Chavez; hchavez@cityofeaglepass.com
- SEMARNAT
  Edgar De Villar; edgar.delvillar@semarnat.gob.mx
- EPA Region 6 (Dallas, Texas)
  Robert Snowbarger; Snowbarger.robert@epa.gov

FUNDING SOURCE

SEMARNAT:	$10,000
Government of Coahuila:	$10,000
Piedras Negras Municipality:	$15,000
EPA Region 6:	$50,000

*All Mexican quantities are taken from the Annexes of Execution between SEMARNAT and the State Governments, the Municipalities, Cemex or Cementos Chihuahua, and CANACEM.

PROJECT TWENTY

PRINCIPLE 3

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 Donavan 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.

TIMING

This waste tire project was completed December 31, 2006. 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.

ORGANIZATIONS

- City of San Diego Solid Waste Local Enforcement Agency
  Bill Prinz; wprinz@sandiego.gov
- 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 3

Tires Be Gone

DESCRIPTION

The Texas Commission for Environmental Quality has cleaned up 250,000 tires at a site called Tires Be Gone. The site is located south of Hueco Tanks State park which is near El Paso, Texas.

EXPECTED OUTCOMES

Since tire piles pose environmental and health problems, the cleanup of the Tires Be Gone will significantly improve the environmental health of the area within the vicinity of the site. 250,000 tires were removed.

TIMING

Completed fall 2007.

ORGANIZATIONS

Texas Commission for Environmental Quality

FUNDING SOURCE

Cleanup funded by Texas Commission for Environmental Quality.

PROJECT TWENTY-TWO

PRINCIPLE 3

Brownsville / Matamoros Used Tire Mitigation Project

DESCRIPTION

The proposed project will process 1.5 million tires onsite at the Regional Sanitary Landfill of Matamoros, Tamaulipas, Mexico. Tires already on site and those to be collected from surrounding communities will be shredded and used in civil engineering projects at the landfill.

EXPECTED OUTCOMES

Since tire piles pose environmental and health problems, the cleanup of the Matamoros tire pile site will significantly improve the environmental health of the area within the vicinity of the site. The Matamoros 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

Cleanup is estimated to be complete in 2010.

ORGANIZATIONS

- SEMARNAT
  Edgar De Villar; edgar.delvillar@semarnat.gob.mx
- EPA Region 6 (Dallas, Texas)
  Robert Snowbarger; Snowbarger.robert@epa.gov

FUNDING SOURCE

US EPA Region 6 - $75,000
Matamoros & Brownsville - $51,258

PROJECT TWENTY-THREE

PRINCIPLE 3

Ciudad Acuña's Scrap Tire Disposal Program

DESCRIPTION

Ciudad Acuña is working to dispose of scrap tires. The project consists of transporting 60,000 scrap tires from Ciudad Acuña to Piedras Negras, Coahuila. From there, the scrap tires will be transported by railcars to the Cemex cement kilns in Torreon or Monterrey.

EXPECTED OUTCOMES

Since tire piles pose environmental and health problems, the cleanup of these tires will significantly improve the environmental health of the area within the vicinity of the site. 60,000 scrap tires will be disposed of through this project.

TIMING

The project is expected to be initiated in mid-2008.

ORGANIZATIONS

SEMARNAT
Edgar De Villar; edgar.delvillar@semarnat.gob.mx

FUNDING SOURCE

State of Coahuila	approx. $9400.00
SEMARNAT	approx. $9400.00
Ciudad Acuña	approx. $5700.00

U.S.-MEXICO

PRINCIPLE FOUR

Scrap Tire Management Participation

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

PURPOSE

Involve stakeholders and communities in creating scrap tire solutions.

ACTION 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.

ACTION 6

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

BACKGROUND

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.

PROJECT TWENTY-FOUR

PRINCIPLE 4

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 (NG0) 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.

UPDATE: The City of San Diego Solid Waste Local Enforcement Agency abandoned the idea to develop a video on how to properly use waste tires in the construction of retaining walls upon the advice of CIWMB engineers and City of San Diego officials.

TIMING

This contract was completed in May 2007.

ORGANIZATIONS

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

FUNDING SOURCE

Contract from the California Integrated Waste Management Board

PROJECT TWENTY-FIVE

PRINCIPLE 4

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

PROJECT TWENTY-SIX

PRINCIPLE 4

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 and completed fall 2007.

ORGANIZATIONS

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

FUNDING SOURCE

U.S. EPA Border 2012 Program

PROJECT TWENTY-SEVEN

PRINCIPLE 4

U.S.-Mexico Border Scrap Tire Integrated Management Initiative Collaborative Effort

DESCRIPTION

The Border 2012 Program has kicked off a campaign to work with Border States and municipalities in implementing the U.S.-Mexico Border Scrap Tire Integrated Management Initiative (Tire Initiative.) 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 establishes a clear and consistent understanding of shared scrap tire management principles, and provides direction for the major program actions necessary to effectively manage scrap tires. See Appendix 2-3 for more details on the Tire Initiative.

Specifically, the EPA and SEMARNAT are seeking Border States and municipalities to collaborate on the Tire Initiative by asking them to sign a letter of commitment. By doing so, the Border States and municipalities are:

- Indicating their awareness and understanding of the Tire Initiative and its Principles and Actions;
- Expressing our support and collaboration with the Tire Initiative; and
- Committing to work together to leverage existing resources to implement activities which support each of the Tire Initiative Actions while maintaining consistency with each country's waste management policies.

EXPECTED OUTCOMES

The goals of the Tire Initiative collaboration effort are to:

- Increase awareness and understanding of the Tire Initiative and promote actions to cleanup and prevent future tire piles;
- Obtain commitment from all Border States and municipalities to collaborate on the Tire Initiative and its Principles and Actions by signing a Letter of Commitment; and
- Encourage Border States and municipalities to consider developing or enhancing their current scrap tire management plans based on the Principles and Actions in the Tire Initiative.

TIMING

This project is being launched winter 2008.

ORGANIZATIONS

- U.S. Environmental Protection Agency
  Ellie Kanipe; kanipe.ellie@epag.gov
- SEMARNAT
  Lic. Alexandra González Narro; alexandra.gonzalez@semarnat.gob.mx

PROJECT TWENTY-EIGHT

PRINCIPLE 4

”Llantazo" Tire Collection Program

DESCRIPTION

In order to eliminate breeding sites for mosquitoes that transmit dengue, which is a great concern for health officials along the US-Mexico border, an event took place to collect scrap tires from backyards, creeks, and rural roads across Nuevo Laredo. To provide incentives for residents to bring scrap tires to temporary collection centers, a resident would receive a bicycle if he or she was able to collect 50 tires and a soccer ball if he or she was able to collect 10 tires.

EXPECTED OUTCOMES

40,000 scrap tires were collected from Friday, March 14th through Sunday, March 16th as part of the event. A total of 125,000 scrap tires were collected from January to March. The Nuevo Laredo’s Department of Ecology is in negotiations with Apasco Inc. (Cement company) to draft a contract that will allow them to use Apasco's tire shredder to shred the tires that they have at their tire collection site. The tires will then be taken to the Apasco cement kiln.

TIMING

The event took place March 14-16, 2008.

ORGANIZATIONS

- Texas Commission On Environmental Quality (TCEQ), Border Affairs Program
  Victor Hugo Wong; vwong@tceq.state.tx.us

FUNDING SOURCE

State of Tamaulipas Department of Health
Nuevo Laredo’s Department of Ecology

PROJECT TWENTY-NINE

PRINCIPLE 4

Bi-national Community Action for Environmental Cleanup and Education

DESCRIPTION

The focus of this project is on education and removal of abandoned waste tires from a large abandonment site in the US-Mexico border region of Luna County, New Mexico. The project focuses on local action coupled with concepts of health promotion, community beautification, and literacy thus creating community awareness about the environmental issues associated with the improper management of scrap tires.

EXPECTED OUTCOMES

The project resulted in the cleanup up of one of the largest scrap tire piles in the New Mexico-Mexico border region. As a result of the efforts of New Mexico State University College of Health and Social Services, the Universidad Autonoma Ciudad Juarez, and the local community over 160,000 tires were removed from the 120 acre site. The project has been presented as both a scrap tire cleanup and an environmental health success story at numerous workshops and conferences.

TIMING

Cleanup completed in 2007.

ORGANIZATIONS

- New Mexico State University
  Larry Olsen, PhD, lolsen@nmsu.edu

FUNDING SOURCE

U.S. EPA Region 6

APPENDIX ONE

PROJECT 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 Project Action Plans help to further both the Border Scrap Tire Group's goals and the RCC Scrap Tire Workgroup Goals. The Border Scrap Tire Project 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 Project Action Plan projects are not compelled to have explicit completion dates. The intent of the Border Project Action Plans is to provide a mechanism for coordination of border tire work.

APPENDIX TWO

PROJECT ACTION PLANS

Principles:

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

As part of the U.S.-Mexico Border 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

PROJECT ACTION PLANS

Actions:

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

As part of the U.S.-Mexico Border 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.