California Integrated Waste Management Board

FIVE-YEAR PLAN FOR THE WASTE TIRE RECYCLING MANAGEMENT PROGRAM (FY 01/02 – 05/06)

Final Draft

3/13/2001

Executive Summary

California is faced with the challenge of diverting or safely managing more than 31 million reusable and waste tires generated in the state each year. Another three million are imported from other states annually. Despite nearly doubling the number of waste tires recycled in California between 1991 and 1999, the number of waste tires generated each year continues to exceed the number of tires diverted from landfill disposal and stockpiling.

California has millions of waste tires illegally dumped or stockpiled. These stockpiles pose potential threats to the public health, safety, and environment, particularly when they are improperly maintained or catch fire. These negative environmental effects include habitat for pests and vectors, toxic smoke and residues, and contaminated air, water and soil.

Within the last three years, this state experienced two devastating waste tire fires: one at the Filbin stockpile in Westley and the other at the Royster stockpile in Tracy. These two fires burned more than 12 million waste tires resulting in considerable environmental damage to the region and significant adverse impacts to local residents.

Without significant expansion of existing markets for waste tires such as rubberized asphalt concrete, playground mats and other recreational surfacing, civil engineering applications, tire derived fuel and the development of new technologies that use waste tires, the waste tire stockpiles, both legal and illegal, and the environmental threat they pose, will continue to grow.

As a comprehensive measure to extend and expand California's regulatory program related to the management of waste and used tires, SB 876 (Escutia, Statutes of 2000, Chapter 838) was enacted. The measure's key provisions include the following:

(1) Increasing the tire fee from $0.25 to $1.00 per tire (bringing California in line with other large states) until December 31, 2006, reducing to $0.75 thereafter;
(2) Extending the California tire fee to tires on new motor vehicles;
(3) Revising the definition of "waste tire" and adding other definitions designed to provide regulatory relief for several thousand used tire dealers and waste tire recyclers;
(4) Expanding the tire manifest system;
(5) Increasing funding for recycling and recovery efforts;
(6) Strengthening enforcement by making changes to the Waste Tire Hauler and Waste Tire Facility Permit Programs; and
(7) Developing a five-year plan to implement the provisions of SB 876.

One of the key provisions of the statute requires the Integrated Waste Management Board (IWMB) to adopt and submit to the Legislature a five-year plan on or before July 1, 2001 including proposed budget allocations. The plan must be updated every two years. The plan shall identify the tire programs and establish a hierarchy and performance criteria that will allow evaluation of the effectiveness of these programs. This document provides that plan.

Six major goals have been established for the implementation of SB 876 and for guidance in the development of this plan and IWMB's waste tire management program:

1. *To eliminate all known illegal piles of waste tires in California;*

2. *To identify and track the used and waste tire flow in California;*

3. *To reduce the legal and illegal disposal of waste tires in California by increasing the reuse, recycling, and energy recovery of, or from, waste tires while protecting public health and safety and the environment;*

4. *To the greatest extent possible, this Plan will enhance alternatives to the disposal of only waste tires originating in California;*

5. *Provide excellent customer service in a responsible and cost effective manner; and*

6. *To implement this Plan in a manner that ensures that people of all races, cultures, and incomes are treated fairly, and that no segment of the population bears a higher share of the risks and consequences, including cumulative exposures or impacts of environmental pollution, or equitable access to environmental benefits.*

The Plan is divided into program elements as they are identified in the legislation [Public Resources Code (PRC) § 42855.5(b)]. These elements are:

- Enforcement and regulations relating to the storage of waste and used tires.
- Cleanup, abatement, or other remedial actions related to tire stockpiles throughout the State.
- Research directed at promoting and developing alternatives to the landfill disposal of tires.
- Market development and new technology activities for used tires and waste tires.
- The waste and used tires hauler program and manifest system.

Within each of these program elements, the plan provides;

a) A description of the current program,
b) Objectives for the new expanded program,
c) A detailed program description with an accompanying budget projection, and
d) A list of performance measures by which the program should be evaluated.

Overall, IWMB proposes a comprehensive and ambitious program for the management of waste tires that is intended to comply with both the spirit and intent of SB 876.

FIVE-YEAR PLAN FOR THE WASTE TIRE RECYCLING MANAGEMENT PROGRAM

Introduction

California is faced with the challenge of diverting or safely managing more than 31 million reusable and waste tires generated in the state each year. Another three million are imported from other states annually. Using calculations from the "Waste Tire Management Program 1999 Annual Report," 20.1 million tires (64.5 percent) of the 31.1 million waste tires generated were diverted from landfill disposal or stockpiling. In 1990, the California Integrated Waste Management Board (IWMB) estimated that 9.2 million waste tires (34 percent of the 27 million tires generated) were diverted from landfill disposal and stockpiling. Despite nearly doubling the number of waste tires recycled in California between 1991 and 1999, the number of waste tires generated each year continues to exceed the number of tires diverted from landfill disposal and stockpiling.

California has millions of waste tires illegally dumped or stockpiled. These stockpiles pose potential threats to the public health, safety, and environment, particularly when they are improperly maintained or catch fire. These negative environmental effects include habitat for pests and vectors, toxic smoke and residues, and contaminated air, water and soil. Many of these tires are dumped in low income or minority neighborhoods.

Within the last three years, this State experienced two devastating waste tire fires: one at the Filbin stockpile in Westley and the other at the Royster stockpile in Tracy. These two fires burned more than 12 million waste tires resulting in considerable environmental damage to the region and significant adverse impacts to local residents.

Without significant expansion of existing markets for waste tires such as rubberized asphalt concrete, playground mats and other surfacing, civil engineering applications, tire derived fuel and the development of new technologies that use waste tires, the tire stockpiles, both legal and illegal, and the environmental threat they pose, will continue to grow.

Legislative History

1989 - To address the need for better waste tire management in California, the Legislature enacted Assembly Bill (AB) 1843 (Brown, Statutes of 1989, Chapter 974) known as the California Tire Recycling Act, which promoted the recycling of the annual flow of waste tires as well as stockpiled tires. The act specified that the program promote and develop markets as an alternative to landfill disposal and stockpiling of whole tires. To accomplish these provisions,

the act allowed the IWMB to award grants and loans to businesses, enterprises, and public entities involved in tire recycling activities. It also required the IWMB to develop waste tire facility regulations for the safe storage of waste tires, and established a permitting system for waste tire facilities. A $0.25 fee on waste tires left for disposal funded these programs. The fee is deposited in the California Tire Recycling Management Fund and appropriated to the IWMB annually by the Legislature.

1993 – As an additional effort to ensure waste tires are disposed of at authorized sites, Senate Bill (SB) 744 (McCorquodale, Statutes of 1993, Chapter 511) was enacted creating the Waste Tire Hauler Registration Program. The Waste Tire Hauler Registration Program is also financed through the California Tire Recycling Management Fund.

1996 – To change the point of collection from a return fee to a fee on purchased retail tires, AB 2108 (Mazzoni, Statutes of 1996, Chapter 304) was enacted. This bill also provided for any traffic or peace officer to enforce the waste tire hauler registration requirements, thus causing further reduction of the illegal hauling and disposal of waste tires.

1998 – To extend the sunset date for the California Tire Recycling Act including fee provisions, from June 30, 1999 to January 1, 2001, AB 117 (Escutia, Statutes of 1998, Chapter 1020) was enacted. AB 117 also required the IWMB to submit a preliminary and final waste tire report by May 1, 1999 and June 30, 1999, respectively, to the Governor and the Legislature. The resulting report, entitled "California Waste Tire Program Evaluation and Recommendations Final Report June 30, 1999," included recommendations needed to address such waste tire issues as (1) elimination of waste tire stockpiles, (2) protection of public health, safety and the environment, and (3) an increase in sustainable economic markets for waste tires in California.

2000 – As a comprehensive measure to extend and expand California's regulatory program related to the management of waste and used tires SB 876 (Escutia, Statutes of 2000, Chapter 838) was enacted. The measure's key provisions include the following: (1) increasing the tire fee from $0.25 to $1.00 per tire (bringing California in line with other large states) until December 31, 2006, reducing to $0.75 thereafter; (2) extending the California tire fee to tires on new motor vehicles; (3) revising the definition of "waste tire" and adding other definitions designed to provide regulatory relief for several thousand used tire dealers and waste tire recyclers; (4) revising the tire manifest system; (5) increasing funding for recycling and recovery efforts; (6) strengthening enforcement by making changes to the Waste Tire Hauler and Waste Tire Facility Permit Programs; and (7) developing a five-year plan to implement the provisions of SB 876.

<u>Summary of SB 876</u>

Senate Bill 876 is a comprehensive measure related to the management of waste and used tires. One of the key provisions of the statute requires the IWMB to adopt and submit to the Legislature a five-year plan on or before July 1, 2001 including proposed budget allocations. The plan must be updated every two years. The plan shall identify the tire programs and establish a hierarchy and performance criteria that will allow evaluation of the effectiveness of

these programs. The program elements that are identified in the Legislation [Public Resources Code (PRC) Section 42855.5(b)] include the following:

- Enforcement and regulations relating to the storage of waste and used tires.
- Cleanup, abatement, or other remedial actions related to tire stockpiles throughout the State.
- Research directed at promoting and developing alternatives to the landfill disposal of tires.
- Market development and new technology activities for used tires and waste tires.
- The waste and used tires hauler program and manifest system.

Another key provision of the bill is that it identifies funding for the following specific purposes:

a) Cleanup, abate, remove, or otherwise remediate tire stockpiles throughout the State. The IWMB shall spend no less than $6.5 million dollars during each of the six inclusive fiscal years (FY), 2001-2007 on these cleanup activities [PRC § 42889(e)].
b) Develop and enforce regulations related to the storage of waste tires and used tires; evaluate the usefulness of designating a local government as the enforcement authority of regulations related to the storage of waste and used tires. If the IWMB designates a local government for that purpose, the IWMB would provide funding [PRC § 42889(d)].
c) Conduct studies and research directed at promoting and developing alternatives to the landfill disposal of tires [PRC § 42889(f)].
d) Assist in developing markets and new technologies for used tires and waste tires [PRC § 42889(g)].
e) Implement and operate a waste tire and used tire hauler program and manifest system tracking the movement of waste and used tires [PRC § 42889(h)].
f) Evaluate the usefulness of providing financial incentives for citizens who report the illegal disposal of waste and used tires as a means of enhancing local and statewide waste and used tire enforcement programs [PRC § 42889(c)].
g) Assist the Office of Environmental Health Hazard Assessment in preparing a report regarding health effects of smoke from burning tires. The cost of preparing the report is limited to $150,000 [PRC § 42889(k)].
h) Administer the collection, refund, and audit of revenues in the fund not to exceed three percent of the total annual revenue [PRC § 42889(b)].
i) Create an emergency reserve of not more than $1,000,000 [PRC § 42889(i)].
j) Administer overhead costs not to exceed five percent of the total annual revenue [PRC § 42889(a)].
k) Transfer funds to Farm and Ranch Solid Waste Cleanup and Abatement Grant Program pursuant to Chapter 2.5 of Part 7 [PRC § 42889(j)].

Senate Bill 876 also allows the IWMB, after a hearing, to revoke, suspend, or deny a waste tire facility permit for up to three years under certain circumstances; for a period of not more than five years for chronic offenders that pose or may pose a significant risk to public health and safety or the environment or who have not shown reasonable progress toward correction.

Five-Year Plan Development

Under PRC § 42885.5, the IWMB is required to adopt a five-year plan establishing goals and priorities for the waste tire program and submit the plan to the Legislature by July 1, 2001. The plan is to include programmatic and fiscal issues as well as performance objectives and measurement criteria for the waste tire recycling program. The plan is to be revised and resubmitted to the Legislature every two years.

Many of the programmatic issues included in the plan were the subject of the report required by AB 117 (Escutia, Statutes of 1998, Chapter 1020) entitled, "California Waste Tire Program Evaluation and Recommendations, Final Report June 1999" (AB 117 Report). During the development of the AB 117 Report, several workshops were held to obtain public input and industry comments. The AB 117 Report was then approved by IWMB, California Environmental Protection Agency (Agency), the Governor's Office, and the Legislature.

Concurrent with development of the SB 876 Five-Year Plan, the Board has initiated various Fiscal Year (FY) 01/02 grant programs and has begun the writing of regulations necessary to carry out provisions of the bill. This has begun so that the IWMB will be able to make awards as early in the new fiscal year as the budget is approved. This timeline has been accelerated to meet the needs expressed by local governments and the tire industry during the AB 117 Report writing process and the SB 876 legislative process. Much emphasis had been placed on the need to enhance local enforcement programs, support remediation efforts, and promote recycling markets.

This report addresses the five program elements as identified in the bill [PRC § 42855.5(b)]:

1) Enforcement and regulations relating to the storage of waste and used tires.
2) Cleanup, abatement, or other remedial actions related to tire stockpiles throughout the State.
3) Research directed at promoting and developing alternatives to the landfill disposal of tires.
4) Market development and new technology activities for used tires and waste tires.
5) The waste and used tires hauler program and manifest system.

The Five-Year Plan is to include the hierarchy used by IWMB to maximize productive uses of waste and used tires and the performance objectives and measurement criteria used by IWMB to evaluate the success of its waste and used tire recycling program. Additionally, the Plan shall describe each program element's effectiveness, based upon performance measures developed by IWMB.

Six major goals have been established for IWMB's Waste Tire Management Program:

1. *To eliminate all known illegal piles of waste tires in California;*

2. *To identify and track the used and waste tire flow in California;*

3. *To reduce the legal and illegal disposal of waste tires in California by increasing the reuse, recycling, and energy recovery of, or from, waste tires while protecting public health and safety and the environment;*

4. *To the greatest extent possible, this Plan will enhance alternatives to the disposal of only waste tires originating in California;*

5. *Provide excellent customer service in a responsible and cost effective manner; and*

6. *To implement this Plan in a manner that ensures that people of all races, cultures, and incomes are treated fairly, and that no segment of the population bears a higher share of the risks and consequences, including cumulative exposures or impacts of environmental pollution, or equitable access to environmental benefits.*

The contents of this Plan includes six sections for each program element, including: The State of the Program; Directions/Recommendations from the AB 117 Report; Direction Provided by SB 876; The Plan; Performance Measures; and the Proposed Five Year Budget. Located at the end of each section, staff has developed a funding chart summarizing the proposed expenditures within each element. The conclusion of this Plan also includes a chart of proposed total expenditures for the entire Tire Recycling Management Fund.

A public meeting was held on January 16, 2001, to obtain input from stakeholders on this Plan. IWMB staff used input from stakeholders to further develop the program elements. Additional comments were received at the IWMB's Board Meeting on February 21, 2001.

Enforcement And Regulations Relating To The Storage Of Waste And Used Tires

A. The State of the Program

Since the inception of IWMB's Waste Tire Enforcement Program in 1994, 785 illegal waste tire sites have been investigated. Of these sites, 576 now comply with the IWMB storage requirements or have had the waste tires removed; 209 investigated sites are "active" and pending final enforcement action. Enforcement efforts by the IWMB have resulted in the cleanup of approximately 5.8 million waste tires since 1994. The operator or property owner removed these tires as a direct result of the IWMB enforcement action. Using historical cost data from State-funded tire cleanups, staff estimates that the IWMB's enforcement program has saved $8.7 million in potential State costs to remove waste tires from illegal sites. Since 1994, the IWMB has issued 360 Cleanup and Abatement Orders, 154 administrative complaints and 33 criminal complaints. Additionally, the IWMB has imposed $1,421,550 in fines against those owners and operators who have failed to comply with tire program requirements. To date, IWMB has collected approximately $75,000 of the imposed fines. Additionally, IWMB has placed liens against property in the amount of $224,018.

In FY 1998-99, the scope of an Interagency Agreement with the California Highway Patrol (CHP) in the Waste Tire Hauler Program was expanded to include aerial surveillance to identify possible illegal disposal of tires. The aerial surveillance program continued during FY 99-00. The aerial photos provided by CHP, enabled staff to identify 279 sites suspected of storing waste tires. Of these sites, IWMB staff has investigated 103 sites resulting in various enforcement actions including: letters of violations, cleanup and abatement orders and administrative complaints. [It is important to note that the 103 investigated sites identified by CHP are included in the 576 sites brought into compliance (45 are from CHP) and the 209 active sites pending final enforcement (58 are from CHP).]

IWMB has an ongoing responsibility to develop regulations to implement, interpret and make specific legislation relating to the storage, disposal, and hauling of waste tires. Currently, the Waste Tire Storage, Hauler, and Monofill regulations have begun the rulemaking process. Rulemaking efforts for the hauler and permitting program are scheduled to begin in FY 01/02. IWMB is also responsible for taking appropriate action to remediate threats to the public health or safety, or the environment. The levels of enforcement action include the following hierarchal steps: 1) Letter of Violation; 2) Clean up & Abatement Order (Unpermitted waste tire facilities); or 3) Legal Action (Administrative Hearings, Local Prosecutorial Referral, or an Attorney General Referral).

B. Direction/Recommendations from the AB 117 Report

One of the principal concerns raised during the AB117 meetings with stakeholders was the need for increased enforcement of the statutes and regulations. It was pointed out that failure to enforce, or inconsistent enforcement, creates major problems for legitimate businesses. Law-

abiding businesses have difficulty competing with those that willfully ignore the rules and thereby avoid costs associated with the regulatory process.

Further, failure to enforce the waste tire hauling and storage regulations directly leads to the creation of illegal waste tire storage piles. The creation of illegal tire piles has led to many different environmental problems, including mosquito and vector outbreaks, and worst of all, long-lasting, uncontrolled tire fires such as those that occurred near Fresno in May 1996, Tracy in August 1998, and Westley in September 1999.

The following recommendations were suggested by the AB117 workgroup (Recommendation #4):

- Enhance Enforcement - Create a streamlined enforcement approach to the unlawful storage and transportation of waste tires including continuing to work with CHP, and the creation of the Waste Tire Bounty Program, etc.
- Local Enforcement Agencies - Encourage local governments to more actively participate in the Waste Tire Enforcement Grant Program.
- Ease Permit Requirements - Change definitions in statute to make the permitting process less demanding; remove tire-derived products from the permitting process after the products have been sold and removed from the manufacturing facility; tiered permitting, etc.

C. Direction Provided by SB 876

PRC § 42889. "Funding for the waste tire program shall be appropriated to the board in the annual Budget Act…for the following purposes:

(d) To pay the costs associated with the development and enforcement of regulations relating to the storage of waste tires and used tires. The board shall consider designating a city, county, or city and county as the enforcement authority of regulations relating to the storage of waste tires and used tires, as provided in subdivision (c) of Section 42850. If the board designates a local entity for that purpose, the board shall provide sufficient, stable, and noncompetitive funding to that entity for that purpose, based on available resources, as provided in the five-year plan adopted and updated as provided in subdivision (a) of Section 42855.5. The board may consider and create, as appropriate, financial incentives for citizens who report the illegal disposal of waste tires and used tires as a means of enhancing local and statewide waste tire and used tire enforcement programs."

D. The Plan

Objectives

1) Bring all permitted facilities into compliance with permit conditions by 2006.

The Enforcement Program proposes to enhance its efforts to bring facilities into compliance by performing more frequent inspections of permitted facilities and by

completing enforcement actions in an expeditious manner, inspecting a greater number of facilities each year, and proceeding through the levels of enforcement actions in an expeditious manner.

2) *Bring known illegal sites into compliance by 2006.*

The Enforcement Program proposes to enhance its efforts to bring illegal sites into compliance by conducting more inspections of reported sites. The Program will seek to enhance its ability to identify illegal sites by extending the interagency agreement with the CHP for aerial surveillance to detect sites and researching the feasibility of establishing a bounty program to report illegal dumping.

3) *Increase local government participation in the enforcement of permit conditions.*

The Enforcement Program proposes to expand the role of local government in the detection, inspection, and enforcement at waste tire sites through an increase in scope and funding of its local government enforcement grant program and greater delegation of authority to qualified jurisdictions.

Greater detail on program activities is given below.

Program Activities

Early detection and local government participation are the keys to an effective enforcement program. The plan proposes that enforcement is most effective when it is two-pronged involving participation from both State and local entities. This enforcement plan includes recommended funding for both State and local entities, as follows:

State Enforcement - State efforts currently include investigations and inspections of waste tire facilities and waste tire haulers throughout the state to insure compliance with legislation and regulations.

1) Enhanced Enforcement - All participants in the AB 117 and SB 876 workshops agreed that enhanced enforcement is important to bring all tire facility operators into compliance with legislative and regulatory mandates. Enforcement programs are staff-intensive. Currently, the IWMB's enforcement program consists of seven staff, a manager, and a legal assistant for a total of nine positions. Additional legal support has been provided from Integrated Waste Management Account funds. Enforcement staff conduct inspections and investigations into the storage, transportation, and disposal of waste tires throughout the state. Tire Permit staff process applications for waste tire facility permits and exclusions. Staff is proposing an additional nine full-time staff positions (including two lawyers) to carry out the recommendations in the AB 117 Report and the requirements of SB 876.

Program costs would be $1,664,000 ongoing in FYs 01/02 - 05/06.

2) California Highway Patrol - As mentioned previously IWMB has taken advantage of the resources of the CHP by conducting an aerial surveillance program to identify possible illegal disposal of tires. The aerial photos provided by CHP, enabled staff to identify 279 sites suspected of storing waste tires. Of these sites, IWMB staff has investigated 103 sites resulting in various enforcement actions including: letters of violations, cleanup and abatement orders and administrative complaints. Staff proposes continued funding of the Interagency Agreement with the CHP by conducting further aerial surveillance to identify new sites suspected of storing waste tires.

   Proposed funding level: $200,000 for FY 02/03; and $200,000 for FY 04/ 05.

3) Waste Tire Bounty Program - An incentive or Bounty Program for the general public to report unregistered haulers and illegal waste tire facilities is suggested for consideration by IWMB in SB 876. A reward could be provided to pay the reporting party when there has been a successful criminal prosecution or administrative complaint against the offender.

   Staff will research the feasibility of a bounty program by contacting other agencies at State and Federal levels to evaluate programs similar in nature, including the appropriate payment (reward) and program administration (whether to diversify it to the local enforcement jurisdiction or maintain it at the state level). It is unresolved at this time, whether staff will conduct this study or use a contract to evaluate the cost/benefit of this program.

   Staff will handle this feasibility research internally.

4) Regulations/Legislation - As previously indicated, IWMB has an ongoing responsibility to enforce legislation and to use regulations to implement, interpret and make specific legislation relating to the storage, disposal, and hauling of waste tires. Although recommended by the AB 117 Report, specific language for tiered permitting and the standardization of tire storage measurement using Passenger Tire Equivalents (PTE) was not included in SB 876. The AB 117 workgroup felt these two issues were important additions to the California Tire Recycling Act and should be reconsidered in clean-up legislation or during the rulemaking process. As discussed during the SB 876 public meeting, the use of PTEs as a measurement appears the better course. The formula used to determine PTEs at a storage site would be developed during the rulemaking process. The following activities involve recommendations to amend legislation; or implement, interpret and make specific legislation through the rulemaking process:

   a) Tiered Permitting Problem - Facilities storing fewer than 500 tires are not regulated by the State. Permitted solid waste landfills and transfer stations that receive fewer than 150 tires per day (averaged annually) are not required to obtain a separate permit for tire storage, but are required to meet the storage standards. Tire dealers and auto dismantlers with fewer than 1,500 waste tires and tire retreaders with fewer than 3,000 waste tires on their property may be eligible for

permit exclusions. Permit exclusions may also be granted if waste tires are stored in fully enclosed movable containers, such as truck trailers. Cement manufacturers that burn waste tires for fuel can be exempted from waste tire facility permit requirements and are allowed to store up to a 30-day supply of fuel (tires) on their property, provided they meet specific criteria set forth in the tire laws. Minor waste tire facilities (storing fewer than 5,000 waste tires) and major waste tire facilities (storing 5,000 or more waste tires) are required to obtain a waste tire facility permit that is issued by the IWMB.

The AB 117 workgroup recommended the development of a tiered permitting system for waste tire facilities and operations that takes multiple factors into consideration and issues different levels of permits. The AB 117 workgroup also felt that tiered permitting would be advantageous as IWMB has already established tiered regulations in place for transfer stations and compost facilities to account for the variations in health and safety risks associated with facilities and operations in different functional areas.

It is recommended that this issue be discussed further during future workshops and that IWMB determine if tiered permitting will be beneficial to the tire-permitting program.

b) Passenger Tire Equivalents - The accumulation and final disposition of waste tires has been the subject of much discussion. One group of stakeholders has advocated the counting of individual tires as a determining factor for permitting. Another group advocated the use of PTEs where every 20–25 pounds of tire rubber count as one tire. The AB117 workgroup recommended that PTEs be used to determine permitting requirements for waste tire storage areas. Potential cleanup costs and environmental hazards (fire, vector control, etc.) are factors of the mass of tire rubber involved, not the number of tires. For example, a fire at a site with 1,000 giant earthmover tires poses a much greater risk than a fire at a site with 1,000 automobile tires.

It is recommended that this issue be discussed further during future workshops and that IWMB determine appropriate measurement requirements.

Local Enforcement - IWMB currently has a grant program for local enforcement jurisdictions to assist in identifying illegal waste tire piles. Some of these grants allow for the initial enforcement steps (Letters of Violation) to be taken by the local enforcement agency. Participation in the program has been low with approximately 15 different agencies funded since 1997. Staff believe this has occurred for a variety of reasons; applicants felt there was not enough money, the tire problem was not considered a high priority, and lack of staff. Prior to SB 876, the waste tire enforcement grants have had an upper limit of $100,000 per jurisdiction with the FY 99/00 program budget at $500,000. To foster better working relationships with these enforcement agencies long term funding, training, and legal support should be provided by IWMB.

In the future, local agencies will have a vital and expanded role in enforcement. IWMB has never had sufficient personnel resources to conduct meaningful surveillance at the local level throughout California. To ensure compliance with the manifest requirements provided by SB 876, a local enforcement presence to inspect points of generation is essential. IWMB will develop specified delegation agreements to extend IWMB's enforcement authority to local enforcement agencies. Working together, IWMB and local enforcement agencies can oversee the flow of tires with greater regulatory scrutiny and greatly reduce the illegal disposal of waste tires.

IWMB should make a transition from the yearly grant process to a continuously funded program in which the grantee has been delegated enforcement responsibilities. This will eliminate the necessity for the annual grant application process. This Plan proposes that $2 million be set aside the first year to provide grants funded up to $200,000 each. During the second year, proposed funding should be $4 million for additional applicants. Each year thereafter, $6 million should be funded to Local Enforcement Jurisdictions to maintain existing and set up additional jurisdictions. It may take approximately three years to get the projected number of local agencies on board, trained, and in the field conducting field inspections. At the SB 876 public meeting, stakeholders identified a need for local jurisdictions to enhance their enforcement abilities through the use of high-tech surveillance equipment. Staff will consider allowing the expenditure as part of the grant award.

Proposed funding: $2,000,000 for FY 01/02; $4,000,000 for FY 02/03; and $6,000,000 for FYs 03/04 - 05/06.

E. Performance Measures

To evaluate the program's success in achieving its objectives, the following measures are proposed (baseline data will be collected during FY 2001/2002):

- *Increase in the number of inspections conducted by program staff by 20% per year through 2006;*
- *Increase the proportion of successful legal actions (those resulting in fines or penalties awarded);*
- *Track the number of documented violations to determine whether increasing or decreasing over time;*
- *Track the number of illegal sites that are closed or become permitted;*
- *Gradually reduce the number of newly discovered illegal sites (through CHP surveillance or local enforcement)on an annual basis;*
- *Increase the number of applicants participating in local government enforcement grant program; and*
- *Increase the number of jurisdictions delegated enforcement authority.*

F. Proposed five-year budget for Enforcement and Regulations Relating To The Storage Of Waste And Used Tire Program.

ENFORCEMENT AND REGULATIONS RELATING TO THE STORAGE OF WASTE AND USED TIRES BUDGET

Program Element	FY 2001/2002	FY 2002/2003	FY 2003/2004	FY 2004/2005	FY 2005/2006
Enhanced Enforcement Staff	$1,664,000	$1,664,000	$1,664,000	$1,664,000	$1,664,000
CHP	$ 0	$ 200,000	$ 0	$ 200,000	$ 0
LEA program	$2,000,000	$4,000,000	$6,000,000	$6,000,000	$6,000,000
TOTALS	**$3,664,000**	**$5,864,000**	**$7,664,000**	**$7,864,000**	**$7,664,000**

Cleanup, Abatement, Or Other Remedial Action Related To Tire Stockpiles Throughout The State

A. The State of the Program

Pursuant to PRC § 42826, the IWMB may perform any cleanup, abatement, or remedial work required to prevent substantial pollution, nuisance, or injury to the public's health and safety at waste tire sites where the responsible parties has failed to take appropriate action as directed by the IWMB. These efforts may entail stabilizing piles until they can be removed, removal of all waste tires, and/or remediation of the site after removal of the tires. In general, these waste tire sites are referred to the Wasted Tire Stabilization and Abatement Program once IWMB's Waste Tire Enforcement Program has exhausted enforcement efforts.

Since it began in 1994, the IWMB has utilized contractors to remediate or stabilize illegal waste tire sites. To date, the IWMB has awarded four contracts totaling approximately $8.1 million. Since 1995, IWMB has removed more than 11.2 million illegal waste tires from 44 sites at an average removal cost of $0.61 per tire for a total cost of nearly $6.9 million. Of the 11.2 million illegal waste tires removed since 1995, 77 percent went to a productive end use and 23 percent to landfills. While the number of sites remediated each year has remained almost constant, the cost of cleanup has varied significantly depending on the number of large projects undertaken that year.

IWMB Annual Remediation

Year	No. of Sites	Remediation Cost	Total No. of Tires Removed	Average Cost Per Tire Per Year
1995	6	$ 870,832	2,154,400	$ .40
1996	6	$ 389,487	411,436	$ .95
1997	9	$1,367,760	2,832,916	$ .48
1998	8	$2,726,196	4,488,325	$ .61
1999	15	$1,568,905	1,334,500	$1.18
Totals	**44**	**$6,851,787**	**11,256,719**	**$0.61**

While the aim of IWMB is to stabilize all unsafe or environmentally hazardous tire piles until abatement can be completed, three large tire pile fires and several small blazes have occurred since the beginning of the program. In May 1996, approximately 1.5 million tires burned at the Choperena waste tire site. Seven million tires were consumed at the fire currently smoldering at the Royster facility in 1998. In September 1999, another five million tires were consumed at the fire at the Westley facility.

All of these sites have or will require Board funded remediation, most likely through contracts funded by the tire program.

The intent of the Local Government Waste Tire Cleanup Matching Grant Program is to create local partnerships, and partnerships with Native American reservations and rancherias, to facilitate the removal, transport, and disposal/reuse of waste tires from legacy tire piles and piles

exceeding 500 tires. IWMB has issued Local Government Waste Tire Cleanup Grants for three consecutive fiscal years starting in FY 97/98. During this time, IWMB awarded 18 grants totaling $415,589. Under these grants, local governments have remediated 346,806 illegal waste tires as indicated in the following table.

Local Government Remediation Grants

Fiscal Year	Number of Sites	Number of Tires Remediated	Grant Award
1997-1998	8	140,290	$151,410
1998-1999	4	28,116	$51,323
1999-2000	6	178,400	$213,126
Totals	**18**	**346,806**	**$415,859**

Since 1992, IWMB has provided more than $1 million in grant funding to support local amnesty days and public education efforts. Sixty-eight grants have been awarded to local government for amnesty programs and used tire abatement efforts. With these grants, local governments hold amnesty days for the public to drop off waste tires, clean up small illegal tire piles, establish tire collection networks, purchase tire collection vehicles and equipment, and develop public education materials on proper maintenance and disposal of automobile tires. The following table is a summary of the Amnesty Day grants:

Amnesty Day Grants

Fiscal Year	Number of Grants	Grant Award
92-93	4	$ 74,400
93-94	8	$ 177,720
94-95	13	$ 316,287
95-96	1	$ 12,744
98-99	16	$ 176,543
99-00	26	$ 374,043
Totals	**68**	**$1,131,737**

B. Direction/Recommendations from the AB 117 Report

Remediating existing tire piles is a challenge. During the AB 117 workshops, industry representatives considered remediation second only to enforcement in priority. The costs associated with remediation are considerable and property owners and operators are many times reluctant to expend the money for major cleanup operations. The problem is compounded because many times the tire piles are located on economically undesirable land and cleanup costs exceed the value of the land itself, making land seizure a hollow threat. In other cases the property owners are victims of unscrupulous operators (tenants) and do not have the necessary resources to pay for cleanup.

The legal process to bring about the cleanup of waste tires by property owners or to conduct an IWMB managed cleanup can take years and can be expensive. This process is initiated only after direct negotiations fail and IWMB has exhausted its administrative enforcement actions

against the property owners. In addition, in some cases, IWMB must work with the Attorney General's Office to seek property access and conduct a Board managed cleanup.

The AB 117 workgroup recommended that IWMB initiate an aggressive two-year cleanup program to eliminate all known major illegal waste tire piles (more than 5,000 tires in size). Completely eliminating the largest illegal piles will greatly reduce the major environmental dangers associated with waste tires and will provide a positive message to the public that progress is being made toward an overall solution. Both State and local efforts will be needed.

To prevent waste tire pile fires and deal with those that do occur, IWMB should work with the Office of the State Fire Marshall (OSFM) to update the tire fire curriculum, work with appropriate State agencies to develop a tire fire protocol, and work with the Western Fire Chiefs Association to update and amend the Uniform Fire Code. IWMB should also take the lead in making certain the most current information is available on the nature of tire fires.

C. Direction Provided by SB 876

PRC §42889. "The moneys in the fund shall be expended for... the following purposes:

(e) To pay the costs of cleanup, abatement, removal, or other remedial action related to tire stockpiles throughout the state, including, all approved costs incurred by other public agencies involved in these activities by contract with the Board. Not less than six million five hundred thousand dollars ($6,500,000) shall be expended by the board during each of the following fiscal years for this purpose: 2001-02 to 2006-07, inclusive.

(i) To pay the costs to create and maintain an emergency reserve, which shall not exceed one million dollars ($1,000,000).

(j) To pay the costs of cleanup, abatement, or other remedial action related to the disposal of used whole tires in implementing and operating the Farm and Ranch Solid Waste Cleanup and Abatement Grant Program established pursuant to Chapter 2.5 (commencing with PRC §48100) of Part 7."

D. The Plan

Objectives

1) *To eliminate illegal stockpiles with more than 5000 tires by 2006.*

2) *To increase local government participation in the elimination of illegal stockpiles with fewer than 5000 tires.*

3) *To direct tires from cleanup to productive use rather than landfill disposal to the extent costs are reasonable.*

Greater detail on program activities is given below.

Program Activities

Over the next five years, IWMB will fund the waste tire stabilization and abatement program at $10.6 million for the first year, rising to $10.8 million the second year, decreasing to $8.8 million for the third year, and then to $7.1 million the fourth year and $6.6 million the last year. The program will continue to conduct remediation of sites with IWMB managed contractors and the awarding of grants to local governments for amnesty day events and clean up of illegal piles. In addition, funding of $300,000 will be provided to the Farm and Ranch Solid Waste Cleanup Grant Program. Further, an emergency reserve account will be established and maintained which shall not exceed $1 million dollars, as directed by SB 876.

The costs for cleanup as estimated in this Plan are generally higher than past cleanups. As identified in this element's objectives, IWMB plans to direct tires from cleanup to productive uses rather than landfill disposal, which ultimately will be more costly. Sites that remain unmitigated tend to be more remote and/or more complex than those sites that have been remediated.

Proposed funding: To conduct the expanded program, staff levels will be increased from the current 6 positions to 8 positions at a funding level of $686,000 each year.

Waste Tire Stabilization and Abatement Program – IWMB is currently funding both long-term and short-term remediation of illegal waste tire sites with IWMB managed contracts. The list of Long -Term and Short -Term Remediation Projects and approximate date in which the site will be remediated is attached to this plan (see the following Tables entitled, "Long-Term Remediation Projects and Short-Term Remediation Projects.)

Long -Term Remediation Projects by Fiscal Year (in Millions)

Project	County	FY 01/02	FY 02/03	FY 03/04	FY 04/05	FY 05/06	Total
Westley Tire Fire Site	Stanislaus	$6	$2	$1	$1	$1	$11
Royster Tire Fire Site	San Joaquin		$4	$3	$1	$1	$9
Totals		$6	$6	$4	$2	$2	$20

Short -Term Remediation Projects by Fiscal Year

Project	County	# Tires	FY 01/02	FY 02/03	FY 03/04	FY 04/05	FY 05/06
Clark road WTS	Butte	30,000	$131,700				
Sunrise Traders WTS	Napa.	8,000	$16,320				
Salacchi	Sonoma	300,000	$810,000				
Hale WTS	Sonoma	350,000	$545,000	$400,000			
Marrone WTS	San Bernardino	2,000		$4,500			
Manasero WTS	San Bernardino	2,000		$4,500			
Gribble WTS	San Bernardino	1,500		$3,375			
Nash Hill WTS	San Bernardino	10,000		$22,500			
Dietz WTS	San Bernardino	4,000		$9,000			
Valle Vista Road WTS	San Bernardino	2,000		$4,500			
Sears Point WTS	Sonoma	20,000		$56,000			
Bebe Ranch WTS	Sonoma	800,000		$1,000,000	$1,255,200		
Lakeville Road (Algrim) WTS	Sonoma	100,000			$270,000		
Hamner	Los Angeles	20,000				$40,800	
James	Los Angeles	5,000				$15,200	
Fitzsimmons WTS	Kern	7,500				$15,300	
America Hill WTS	Nevada	7,500				$15,300	
Garnet WTS	Riverside	150,000				$260,000	
Old Adobe Rd (Flochinni) WTS	Sonoma	11,000				$41,250	
Speers WTS	Tulare	10,000				$22,500	
Earlimart WTS	Tulare	20,000				$27,000	
Tulare Auto Wreckers WTS	Tulare	5,000				$11,250	
Future Remediation sites						TBD	TBD
Totals in millions		**1.754**	**$1.503**	**$1.504**	**$1.525**	**$2.500**	**$2.450**

This Plan proposes to move aggressively in the first three years on both long and short -term projects and proposes to cleanup all sites currently listed within the first four years. However, there remains a significant backlog of uninvestigated sites that may ultimately require state-funded cleanup after enforcement efforts have failed. Although the Program plans to move expeditiously through this backlog, these enforcement efforts will take time as staff research property ownership, issue orders and attain access in order to conduct cleanup. The Program will initially prioritize these sites to ensure that the most significant sites are addressed first. Prioritization will occur in the first three months followed by enforcement action as appropriate. It is hoped that cleanup will begin on the sites in the backlog that require State-funded cleanup by the second fiscal year.

a) Long-Term Remediation Projects – IWMB will be awarding new contracts to carry out long-term remediation of the Royster and Westley Tire Fire sites. Remediation of these sites will require more than just the removal of illegal waste tires. It will involve the remediation of contaminated debris, partially burned tires, as well as extensive site restoration. As part of the long-term remediation of these sites, it will be necessary to enter into Interagency Agreements to reimburse costs incurred by other public agencies involved in overseeing the remedial actions at these sites.

   Proposed funding: FYs 01/02 and 02/03 $6 million; FY 03/04 $4 million; FYs 04/05 and 05/06 $2 million. Over the next five fiscal years, proposed funding for these projects will be $20 million.

b) Short-Term Remediation Projects - IWMB has existing contracts to carry out short-term state-funded remediation of illegal waste tire sites. New contracts will be entered into and are tentatively scheduled to be presented during an IWMB Board Meeting in 2001. Additionally, funding will be made available to address waste tire clean up at Native American reservations and the Mexico/California border.

   Proposed funding: $1.5 million for FYs 01/02 – 03/04; $2.5 million in FY 04/05; and $2.7 million in FY 05/06. Over the next five fiscal years, proposed funding for these projects will be $9.7 million.

Local Government Waste Tire Cleanup Grant Program - The Program proposes to award FY 01/02 Local Government Clean-up grants as early in the new fiscal year as possible. The grant applications would be due in May 2001 and awarded in July 2001. Special consideration will be given for jurisdictions involved in the Farm and Ranch Programs, Native American remediation sites; and remediation sites involving the Mexican/California border.

Proposed funding: $1,000,000 for FYs 01/02 and 02/03; $1,200,000 for FY 03/04; $1,500,000 for FY 04/05; and $1,750,000 for FY 05/06. Over the next five fiscal years, proposed funding for these projects will be $6.45 million.

Local Government Amnesty Day Grants - The Program proposes to award FY 01/02 Local Government Amnesty Day Grants as early in the new fiscal year as possible. The grant applications would be due in late July 2001 and the grants awarded in November 2001.

Proposed funding: $500,000 for FYs 01/02 – 03/04; $750,000 in FY 04/05; and $1,000,000 for FY 05/06 (with maximum individual grant awards of $20,000). Over the next five fiscal years, proposed funding for these projects will be $3.25 million.

Emergency Reserve Account - SB 876 legislation requires that IWMB create and maintain an emergency reserve account, which shall not exceed $1 million. These funds will be used to respond to emergencies involving waste tires (e.g., tire fires).

Proposed funding: $1,000,000 FYs 01/02 – 05/06. This emergency reserve account will be in a state of flux subject to change and depending on the need or emergencies that

arise. Legislation requires IWMB to maintain $1,000,000 in this account. Thus, more than $1,000,000 may be expended on a yearly basis with ongoing funding necessary to replenish the account in FYs 02/03 - 05/06. If allocated funds are not expended, funds will be reallocated by IWMB for other waste tire related issues.

Farm and Ranch Solid Waste Cleanup Grant Program - The purpose of the Farm and Ranch Solid Waste Cleanup and Abatement Grant Program is to remediate solid waste that has been disposed of illegally on farm and ranch property. SB 876 requires that funds be allocated to pay the costs of cleanup, abatement, or other remedial action related to the disposal of used whole tires in implementing and operating this Program.

Proposed funding: $300,000 FYs 01/02 – 05/06. Over the next five fiscal years, proposed funding for these projects will be $1.5 million.

Fire Marshall Training - IWMB should work with OSFM to update the tire fire curriculum, work with appropriate State agencies to develop a tire fire protocol, and work with the Western Fire Chiefs Association to update and amend the Uniform Fire Code. IWMB should also take the lead in making certain the most current information is available on the nature of tire fires.

Proposed funding: $200,000 for FYs 01/02 and 02/03; a reassessment of needs at the end of the second year is necessary to determine ongoing funding for FYs 03/04 – 05/06.

E. Performance Measures

To evaluate the program's success in achieving its objectives, the following measures are proposed (baseline data will be collected during FY 2001/2002):

- *Complete the long-term waste tire remediation projects within five years;*
- *Complete the short-term waste tire remediation projects referred by IWMB's Waste Tire Enforcement Program on an annual basis;*
- *Increase the number of waste tire cleanup grants issued to local governments on an annual basis;*
- *Increase the number of waste tire amnesty grants issued to local governments on an annual basis;*
- *Increase the percentage of tires remediated through the Farm and Ranch cleanup grants issued to local governments on an annual basis;*
- *With the cooperation of the State Fire Marshall's Office, develop a tire fire response protocol and update and amend the Uniform Fire Code within five years.*

F. **Proposed five-year budget for cleanup, abatement and remedial action.**

CLEANUP, ABATEMENT, AND WASTE TIRE REMEDIATION BUDGET

Program Element	FY 2001/2002	FY 2002/2003	FY 2003/2004	FY 2004/2005	FY 2005/2006
Remediation Staff	$ 686,000	$ 686,000	$ 686,000	$ 686,000	$ 686,000
Long-term Remediation Projects	$ 6,000,000	$ 6,000,000	$ 4,000,000	$ 2,000,000	$ 2,000,000
Short-term Remediation Projects	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 2,500,000	$ 2,700,000
Local Government Waste Tire Cleanup Grant Program	$ 1,000,000	$ 1,000,000	$ 1,200,000	$ 1,500,000	$ 1,750,000
Local Government Amnesty Day Grants	$ 500,000	$ 500,000	$ 500,000	$ 750,000	$ 1,000,000
Emergency Reserve Account	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000
Farm and Ranch Solid Waste Cleanup Grant Program**	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000
Fire Marshall Training	$ 200,000	$ 200,000	tbd*	tbd*	tbd*
TOTALS	$11,186,000	$11,186,000	$9,186,000	$8,736,000	$9,436,000

* tbd = to be determined

** transfer to Farm and Ranch Program

Research Directed At Promoting And Developing Alternatives To The Landfill Disposal Of Tires

A. State of the Program

The IWMB has promoted a variety of alternatives for the recycling of tires and has concluded that a mix of strategies is necessary to reduce tire disposal in landfills. To date, projects involving rubber-modified asphalt, civil engineering uses, energy recovery, and molded rubber products have been funded.

The IWMB has recently expended significant resources promoting the use of shredded tires in various civil engineering applications. Under two environmental services contracts with Dana Humphrey Consulting Engineering, the IWMB has provided education on, and promoted the use of tire shreds as an alternative to conventional lightweight fill materials in highway construction projects. These efforts have been focused primarily toward California Department of Transportation (Caltrans), since it is the agency responsible for developing technical standards for highway construction. The efforts have included coordinating meetings with Caltrans design engineers, giving short courses on the use of shredded tires in highway construction, and providing both technical and environmental information to regulatory agencies responsible for the oversight of these projects. As a result, Caltrans has identified several potential highway projects where shredded tires can be used as lightweight fill. The IWMB is also actively pursuing other civil engineering applications for waste tires. Through several research activities the IWMB has developed technical guidance manuals on the use of waste tire shreds in landfills. These manuals provide information and technical specifications for the use of tire shreds in leachate and landfill gas collection systems, as well as alternative daily cover and in the foundation layer for the final cover.

The combustion of tires for energy production and as a supplemental fuel has a proven history. In the past IWMB has supported this use by funding the analysis of emissions from facilities using tires as a fuel source. Pyrolysis and devulcanization represent technologies that have the ability to use large quantities of tires; however, their economic viability has not been proven. The first step to developing these potential markets is to evaluate the current state of the technology and the market. After the evaluation is complete, the IWMB should determine the next steps to move these technologies and markets forward.

Manufacturers using scrap tires to produce mats have indicated that, in general, markets are growing and that 15-20 percent of their production is related to IWMB grants. The goal is to retain the current level of usage and support research to develop additional uses. The potential for developing a significant end-use market for a multitude of molded rubber products, particularly new tires, does exist.

B. Recommendations from the AB 117 Report

Tire Research – This program will focus on developing new and promoting existing end-use applications for waste tires. Ultimately these end-use applications will provide alternatives to

the landfill disposal of tires. The AB 117 recommendations for research are: #19) Forming a partnership with the tire manufacturer to explore the development of techniques to use higher recycled content in the production of new tires; and #20) Partner with industry segments to assist in examining environmental aspects at sites engaged in energy recovery from tires.

C. Direction Provided by SB 876

PRC § 42889. "Funding for the waste tire program shall be appropriated to the board in the annual Budget Act...for the following purposes:

(f) To make studies and conduct research directed at promoting and developing alternatives to the landfill disposal of tires."

Further, PRC § 42889(k) requires the Office of Environmental Health Hazard Assessment, in consultation with the State Air Resources Board, the IWMB, and the State Department of Health Services to prepare a report that includes the following: the major chemical constituents of smoke from burning tires; the toxicity of those chemicals; and the potential effects on human health from exposure to smoke from tire fires. The report is due to the Governor and the Legislature no later than December 31, 2001, and the cost of the report shall not exceed $150,000.

D. The Plan

Objectives

1) *Support the development of new, or improvement of existing, markets for waste tires; and*

2) *Establish an effective peer review system that objectively and independently evaluates research conducted.*

Greater detail on program activities is given below.

Program Activities

In the course of undertaking the following research activities, IWMB staff will make every attempt to utilize neutral third-party peer review resources when appropriate and available. During the first fiscal year, the Program will evaluate the creation of a Tire Research Center at one of California's universities to provide, among other things, this third-party peer review resource. If deemed necessary, funding will be provided as appropriate in subsequent fiscal years. Staff will also work with staff from other state agencies to minimize duplication of effort, when appropriate.

> Currently, two positions support the IWMB's research efforts. To carry out an expanded research program, three additional staff position will be required for a total of five. Proposed funding: $374,000 for FYs 01/02 - 05/06.

Tire Combustion Toxicity Report – IWMB will develop an interagency agreement with the Office of Environmental Health Hazard Assessment to develop this report as directed by SB 876.

Legislatively mandated funding: $150,000 for FY 01/02.

Increase Recycled Content in New Tires - This project, using higher recycled content in new tires, may be very difficult to accomplish because the only major tire manufacturer (Pirelli) in the State recently announced tentative plans to close its Hanford facility within the next six months; however, a smaller specialty tire manufacturer which is interested in increasing recycled content in its new tire production, has contacted IWMB staff. This project would be accomplished through contracts.

Proposed funding: $200,000 in FY 01/02, $100,000 for FYs 02/03 and 03/04; and $50,000 in FY 04/05.

Research Involving Energy Recovery - The following projects/activities are proposed to address recommendation #20 from the AB 117 Report:

1. Update Report on Pyrolysis, Gasification and Liquefaction - In July 1995, CalRecovery, Inc. produced the report on "Environmental Factors of Waste Tire Pyrolysis, Gasification, and Liquefaction." The report presented the status of the technology, environmental impacts, resultant product market information, operating cost analysis and recommendations. Staff has received many inquiries seeking the IWMB's support of various pyrolysis-type conversion processes. This proposed report would evaluate what has occurred with these technologies in the last five years including advancements in techniques. Staff can use this information to evaluate whether these technologies are viable alternatives for waste tires and should receive additional research and development funding. The update project would be accomplished through a contract.

   Proposed funding: $50,000 in FY 01/02; tentative funding levels of $200,000 for FY 02/03 and $500,000 for FY 03/04 will be dependent on the findings of the report.

2. Energy Recovery From Tires - This project would be similar to past IWMB support for energy recovery from tires and may include the following activities: emission and ash testing, fuel feed system development, fuel sizing analysis, and capacity and production optimization. The IWMB would contract with a testing laboratory to provide emissions and ash characterization testing services. Other activities will be accomplished through contracts or grants with industry stakeholders

   Proposed funding: $500,000 for FY 01/02, $1,000,000 for FY 02/03 and $500,000 for FY 03/04.

Other Technologies – In addition to the AB 117 recommendations above, staff suggests the following areas for consideration of research activities:

1. Report on Status of Devulcanization Technology - Devulcanization of tire rubber is a controversial issue but, if achievable, would have the potential to revolutionize the use of waste tire rubber. The study of devulcanization is in its infancy, with many claims but few results. The aim of this contract and the resulting report to IWMB would be to investigate the status of the technique and discuss possible trends for the next five-to-seven years. Because devulcanization has tremendous potential for recycling waste tire rubber, it merits attention in the IWMB's strategies for the tire program. However, because devulcanization has never been proven, staff feels that this report is a necessary first step before committing future funding toward this technology.

   Proposed funding: $50,000 in FY 01/02; tentative funding of $200,000 for FY 02/03 would be dependent on the findings of the report.

2. Civil Engineering Uses for Waste Tires - This activity will continue the IWMB's program of investigating civil engineering uses for waste tires by renewing the contract for engineering services or initiating a contract to conduct specific research projects for civil engineering uses for waste tires. These projects could include but are not limited to; levee reinforcement, engineered fill, compaction studies, erosion control, earthquake dampening, expansion joint cushioning, etc.

   Proposed funding: $500,000 in FY 01/02; $1,000,000 for FY 02/03; $1,500,000 for FY 03/04; $500,000 for FY 04/05; and $250,000 in FY 05/06.

3. Increasing Tire Lifespan - This activity will research the material aspects of increasing the lifespan of tires. This project would be accomplished through a contract.

   Proposed funding: $200,000 in FY 01/02.

4. Use of Fiber and Steel From Crumb Rubber Manufacturing - This study will research possible recycling uses for the fiber and steel that results from the manufacturing of crumb rubber. It will examine what potential markets could be developed, what barriers exist, and what has been done to date. This project will be accomplished through a contract.

   Proposed funding: $100,000 in FY 01/02.

5. Recycled RAC - In the past ten years, the Board has provided over $4 million to promote the use of rubberized asphalt concrete (RAC). Questions still arise as to the emission of air pollutants during the recycling of RAC once it has reached the end of its useful life. This activity would fund emissions testing during the recycling of RAC in a joint project with one of the RAC Technology Centers.

   Proposed funding $200,000 in FY 02/03.

6) RAC Study - IWMB will enter into an Interagency Agreement with a Caltrans regional office to fund a test section of a highway, for side-by-side field tests including but not limited to the following processes: wet process, dry process and terminal blend.

Proposed funding: $600,000 for FY 01/02.

E. Performance Measures

To evaluate the program's success in achieving its objectives, the following measures are proposed (baseline data will be collected during FY 2001/2002):

- *Under contract with IWMB, the Office of Environmental Health Hazard Assessment (OEHHA) will complete a waste tire combustion toxicity report by December, 2001;*
- *Under contract with IWMB, specified major tire manufacturer(s) will increase the amount of recycled content in new tires within five years;*
- *The viability of pyrolysis-type conversion processes will be determined;*
- *The viability of energy recovery from waste tires will be determined and optimum operational parameters will be established;*
- *The viability of devulcanization will be determined;*
- *Increase the number of grants and contracts awarded to promote civil engineering applications of waste tires;*
- *Potential methods that could increase the life span of tires within five years will investigated and evaluated;*
- *Potential methods to recycle and reuse by-products created from the processing of crumb rubber will be investigated and identified;*
- *Increase the percentage of RAC used in highway projects in California over the next five years; and*
- *To the extent possible, establish a list of experts and assure that third party peer review is done on all research activities.*

F. Proposed five-year budget for research directed at promoting and developing alternatives to the landfill disposal of tires.

RESEARCH BUDGET

Program Element	FY 2001/2002	FY 2002/2003	FY 2003/2004	FY 2004/2005	FY 2005/2006
Research Staff	$ 374,000	$ 374,000	$ 374,000	$ 374,000	$ 374,000
Tire Combustion Toxicity Report	$ 150,000				
Increased Recycled Content in New Tires	$ 200,000	$ 100,000	$ 100,000	$ 50,000	
Update Report on Pyrolysis, Gasification, and Liquefaction *	$ 50,000	$ 200,000**	$ 500,000**		
Energy Recovery from Tires	$ 500,000	$ 1,000,000	$ 500,000		
Devulcanization Technology*	$ 50,000	$ 200,000**			
Civil Engineering Uses for Tires	$ 500,000	$1,000,000	$1,500,000	$ 500,000	$ 250,000
Increasing Tire Lifespan	$ 200,000				
Use of Fiber and Steel from Crumb Rubber	$ 100,000				
Recycled RAC		$ 200,000			
RAC Study	$600,000				
TOTALS	$2,724,000	$3,074,000	$2,974,000	$ 924,000	$ 624,000

*Funding for subsequent years depends on baseline year report.

**If warranted.

Market Development And New Technology Activities For Used Tires And Waste Tires

A. The State of the Program

The most recent year for which diversion data are available is 1999. The "Waste Tire Management Program 1999 Annual Report" shows a diversion rate of 64.5 percent; the diversion rate in 1990 was only 34 percent. In 1999, of the estimated 31.1 million reusable and waste tires generated in California, an estimated 20.1 million California tires and 2.0 million imported waste tires (from other states) were diverted from landfill disposal, as follows: 1.6 million were reused; 2.5 million tires were retreaded; 8.6 million tires were used for various shredded, crumb rubber, cut or stamped applications (including rubberized asphalt concrete (RAC), playground cover and other surfacing, civil engineering, alternative daily cover (ADC), railroad crossing levelers, and other molded products); 1.5 million were exported; and 7.9 million tires were combusted as a fuel (3.8 million were combusted for energy production, the cement manufacturing industry consumed 4.1 million waste tires).

In the early years of the Waste Tire Program (FY 1992-93 through FY 1994-95), IWMB put more emphasis on business development and innovative research grants. From FY 1995-96 to the present, IWMB emphasized grants to local governments as well as Interagency Agreements and contracts to promote waste tire recycling and market development.

During FY 98-99, IWMB expended significant resources promoting the use of shredded tires in various civil engineering applications. Under two environmental service contracts, IWMB has provided education on and promoted the use of tire shreds as an alternative to conventional light-weight fill materials. As referenced in the research element of the Plan, the table below illustrates the following: the use of waste tire chips in highway engineering projects, levee reinforcement projects, and leachfield projects. It also shows the potential for market development in those uses.

All three of the tire chip projects described in the subsequent chart have the potential to use millions of tires when replicated in other projects throughout California. The levee reinforcement project was completed in 1999. This technology, which has the potential to reuse millions of waste tires, was tested in the levee of an irrigation canal adjacent to the Feather River. Tires used in the project came from IWMB remediation projects in Oroville. The levee will continue to be monitored under carefully controlled water flow and pressure conditions.

The purpose of the research and demonstration septic tank leach field project with an Interagency Agreement with Caltrans is to demonstrate the beneficial reuse of waste tires in septic tank leach field construction, instead of using aggregate as the drainage and filter media. The monitoring phase of this project is ongoing, using an Interagency Agreement with the Department of Toxic Substances Control (DTSC) to provide the analytical services.

The use of waste tire shreds as a lightweight fills in highway projects is a technology that is common practice and has been used in numerous highway projects on the east coast. The purpose of the Dixon Landing Project is to introduce the technology to Caltrans in an actual

highway application to demonstrate that the material has the engineering properties that replaces conventional lightweight fill material at a substantially reduced cost. At the same time, it provides a beneficial reuse of waste tires. For this project, IWMB has agreed to supply the shredded tire material and has entered into an Interagency Agreement with Caltrans to begin delivery of the tire material beginning in May of 2001.

Waste Tire Civil Engineering Projects

Year	Item	Funding	Number of Tires Used
1997	Levee reinforcement project	$660,000	45,000
1998	Research of tire shreds in Septic Leach fields	$169,400	20,000
2001	Lightweight fill for the Dixon Landing Interchange	$450,000	900,000
Totals		**$1,279,400**	**965,000**

Another potential market is molded rubber products. It is not projected to consume large numbers of waste tires; however, the potential for developing end-use products does exist and should be nurtured. Manufacturers using scrap tires to produce mats have indicated that, in general, markets are growing and that 15-20 percent of their production is related to IWMB grants. Molded rubber products may be used in the existing market development grant programs, such as: the Local Public Agency Playground Cover and Track Surfacing Grant Program; the Waste Tire Green Building Grant Program; and the Tire Recycling Technology Commercialization Grant Program. The following tables summarize current and previous IWMB-funded waste tire market development and new technology projects similar to efforts proposed in this Five-Year Plan.

Since projects frequently fund more than just the purchase of the waste tire products, the funding for grants, contracts, and Interagency Agreements for market development for waste tires in California is not directly correlated with the number of waste tires used per project. For example, the Local Government Playground/Track Surfaces Grants may pay for site preparation as well as the purchase and installation of waste tire products.

RAC grants, contracts, and Interagency Agreements can fund equipment, which in the long-run will lead to greater use of RAC in California. However, the funding for these purchases cannot be directly correlated with number of waste tires used. Some of the funding went to purchase equipment for research and testing of RAC pavement projects.

Similarly, business development grants of the waste tire program went to companies to write business plans or to purchase a piece of equipment that will benefit the use of waste tires; however, the impact cannot be directly calculated in terms of number of waste tires used.

SUMMARY TABLE OF WASTE MARKET DEVELOPMENT GRANTS/CONTRACTS/INTERAGENCY AGREEMENTS

Years	Description	Funding	Estimated Number of Tires Used
94-00	Playground and Track Surfaces Grants	$2,573613	Not applicable[1]
1991-93	RAC Caltrans Interagency Agreement (I.A.): IWMB bought test equipment for Caltrans	$ 525,000	Not applicable
1992-93	I.A. with Caltrans RAC test strip Highway 16	$ 500,000	16,250
1992-97	RAC Tire Recycling Grants	$ 902,232	84,788[2]
1997-01	Los Angeles County RAC Technology Center	$ 1,200,000	1,500,000
2000-01	Sacramento County RAC Technology Center	$ 320,000	On-going
2000-01	I.A.s for use of RAC	$ 325,000	On-going
1992-00	Business Development, Research, and Molded Rubber Products Grants	$ 1,745,678	1,607,500
1999-00	Green Building Grant	$ 7,541	675[1]
Totals		**$8,099,064**	**3,209,213**

[1] The grants cover more than just purchase of the waste tire products; they also cover site preparation, installation, etc.

[2] Some of these grants are research grants and used very few tires.

Barriers to Market Development: Low Tipping Fees and End-Use Incentives

Waste tires flow to the lowest cost tipping fee, be it disposal, stockpiling, uses for energy, or uses in products made from waste tires. Facing costs of disposal as low as $ .42 per tire in southern California, businesses engaging in producing waste tire products have to compete with these low revenues for accepting tires. The tipping fees charged at landfills in northern California are higher, overall, than those in southern California. Further, SB 876 stakeholders (California businesses) have expressed concern over unfair competition from businesses receiving subsidies on waste tires coming from other states or countries.

B. Recommendations from the AB 117 Report

The recommendations in the AB 117 Report that involve market development are: 12) technology transfer and grants to local governments for civil engineering projects; 14) develop rubberized asphalt concrete (RAC) guidelines with Caltrans; 15) grants for molded rubber

products; 16) expand on Scrap Tire Management Council (STMC) product catalog; 17) procurement of tire-derived products by the state Department of General Services (DGS); 18) procurement of retreads by DGS; 19) public education/information program on tire care, disposal, high mileage tires, and 21) a universal end-use incentive program should not be established; IWMB should have the option of providing specific incentives to individual projects.

As indicated in the AB 117 Report, IWMB decided to focus on market development activities, not use of subsidies. If an end-use incentive or subsidy program were developed, all segments of the market would have to be supported, making the program very expensive to implement. Such incentives foster the creation of marginal businesses that compete with and threaten the viability of established businesses. Further, end-use incentive programs created in other states have not provided sustainable markets for used tires and, to the contrary, have actually damaged the existing permanent market development infrastructure. Although not recommended by the AB 117 Report, due to stakeholder input at public meetings and IWMB Board Meetings, this Five-Year Plan includes a research contract for $80,000 for a scope of work to revisit and evaluate end-use incentives as a market development option.

C. Direction Provided by SB 876

PRC § 42889. "Funding for the waste tire program shall be appropriated to the board in the annual Budget Act...for the following purposes:

(g) To assist in developing markets and new technologies for used tires and waste tires. The board's expenditure of funds for purposes of this subdivision shall reflect the priorities for waste management practices specified in subdivision (a) of PRC § 40051."

D. The Plan

Objectives

1) *Increase public awareness on the proper use and maintenance of tires and of reuse techniques for used or waste tires;*
2) *Increase the recycling of waste tires between the years 2002 and 2003 by 10 percent, by 2004, by 20 percent, and by 2006, by 25 percent, based on baseline data collected for 2001 and thereafter; and*
3) *Increase use of waste tires in energy recovery applications.*

Greater detail on program activities is given below.

Program Activities

The following activities are proposed to meet the market development requirements for the tire program. The existing two staff positions will continue to conduct the program and an additional two positions will be needed for the increased marketing activities. The activities are categorized according to the hierarchy of PRC § 40051(a).

Staff funding: $ 216,000 for FYs 01/02 - 05/06.

Tire Recycling Conferences - IWMB should continue to hold the Tire Recycling Conferences on a biennial basis. Tire conferences provide attendees with up-to-date information on the IWMB's waste tire management processes. They provide a forum to discuss all aspects of waste tire management, including hauling, manifests, clean-up, proper disposal, recycling technologies, research and market development activities. The conferences offer a venue for Board Members, staff, and stakeholders to meet and focus on issues of common concern. Past conferences held in 1993 (Los Angeles), 1995 (Sacramento), and 1998 (Santa Clara) were well attended, with between 100-200 people attending each one.

Proposed funding: $100,000 for FYs 01/02, 03/04, and 05/06.

Source Reduction – By advertising to the public via brochures and Public Service Announcements (PSA) IWMB will educate the public on the benefits of purchasing higher mileage tires and how to properly care for tires. Further, IWMB can encourage the use of retread purchases for the State's Fleet services through the Department of General Services (DGS).

1) Tire Care Brochure or Utility Bill Insert - Most tire companies are already making efforts to produce longer lasting, higher mileage tires. The best way to reduce the number of tires entering the waste stream each year is to educate the public on the benefits of purchasing higher mileage tires and how to properly care for tires. Proper tire care maximizes the lifespan of the tire. For the first year, staff envisions this project will entail the development of a one-page, tri-fold brochure or one panel front and back utility bill insert in English and Spanish that will be distributed statewide. This project would be accomplished through a contract. This funding will also cover a contract to develop baseline data in FY 2001-02 by conducting a survey for performance measures regarding public awareness of tire care, waste tire products, and proper disposal of tires as well as other waste tire issues. The survey will be conducted again in FY 2003-04 and FY 2005-06. The survey will measure the effectiveness of the brochure and the public service announcements described below.

   Proposed funding: $250,000 for FY 01/02; $150,000 for FY 03/04; $30,000 for contract for public awareness survey only in FY 05/06.

2) Public Service Announcements - As a follow-up to the brochure/insert, staff proposes the use of PSAs as a reminder on how to properly care for tires. This activity would be accomplished through a contract.

   Proposed funding: $350,000 for FY 02/03; and $250,000 for FYs 03/04 - 05/06.

3) Retreaded Tires - Retreading is a viable option for "renewing" tires by reusing the tire carcass (casing) after the legal tread has been worn off. The IWMB can support this use by encouraging DGS to purchase retreaded tires for the state fleet cars and trucks.

This activity can be accomplished through a Memorandum of Understanding (MOU) between the IWMB and DGS.

A pilot or trial program to purchase retreads could be another way to encourage DGS to use retreads. No funding is needed for this activity.

Recycling Programs – As recommended by the AB 117 Report and in SB 876, IWMB's Five-Year Plan shall assist in developing markets and new technologies for used tires and waste tires. The following grant programs and contracts include projects and programs aimed at increasing the markets for used and waste tires and encouraging the development of new technologies.

1) Civil Engineering Uses - AB 117 Report recommendation #12, proposes that the IWMB provide grants to encourage local governments to use waste tire products in civil engineering applications. Civil engineering uses have the potential to use a large number of waste tires. These uses include, but are not limited to, highway projects, lightweight fill, septic system drain fields, and levee reinforcement. A measure of the success of this program would be to increase usage over a five-year period to four million tires per year. The Local Government Civil Engineering grant program would be geared toward the use of tire shreds or bales in civil engineering projects. Only local government agencies and public-private partnerships would be eligible for this program, and initially, non-landfill applications would receive preference.

   Proposed funding: $500,000 for FY 01/02; $1,000,000 for FYs 02/03 and 03/04; and $1,500,000 for FYs 04/05 and 05/06.

2) Playground Cover - The Local Government Playground Cover grants are a continuation of the existing IWMB program (started in FY 1996/1997) that develop markets for crumb rubber and have proven helpful to local government agencies and schools in meeting State and federal playground safety and accessibility requirements. Jurisdictions that have not received these grants in the past will receive preference.

   Proposed funding: $800,000 for FYs 01/02 - 05/06.

3) Track and Other Recreational Surfacing - The Track and Other Recreational Surfacing grants were previously offered under the Playground Cover and Track Surfacing Grant Program. This grant program is being separated to allow for larger grant awards and targeting of these grants to schools and local government agencies. These grants will help develop markets for crumb rubber and have proven helpful to schools and local government agencies in providing running track facilities. Jurisdictions that have not received these grants in the past will receive preference.

   Proposed funding: $1,000,000 for FYs 01/02 - 05/06.

4) Product Commercialization - The Product Commercialization grants will target businesses that need assistance to establish or expand their products to a commercial

scale. These grants will be aimed primarily toward developing molded rubber products, per recommendation #15 of the AB 117 Report.

Proposed funding: $2,000,000 for FYs 01/02 - 05/06.

5) Green Building - The Green Building grants will be for the purchase of building products containing recycled rubber. The grants will be provided through the IWMB's existing Green Building grant program and administered by the Waste Prevention & Market Development Division (WP&MDD).

Proposed funding: $300,000 for FY 01/02; $400,000 for FY 02/03; and $500,000 for FYs 03/04 - 05/06.

6) Rubberized Asphalt Activities - The IWMB has supported testing and demonstration projects, awarded grants for local government application of RAC, conducted workshops and conferences to inform potential users, and funded a statewide technology center to provide technical assistance in the use of RAC. A measure of success of these activities is to increase usage over a five-year period to five million waste tires per year.

a) Rubberized Asphalt Concrete Technology Center (RACTC) - The two centers will continue their respective programs of technology transfer to local governments through direct consultation, conducting local and regional workshops, providing informational materials and an Internet website. Feedback from local governments about the quality of service provided by both the southern and the northern California RACTC has been positive, and the continuation of this service to local governments will help to accomplish the IWMB's objective of increasing the use of RAC statewide. Staff will work with the RACTCs to develop signage criteria for future local government RAC projects. This project would be accomplished through contracts (standard agreements) with Sacramento County for the northern center and Los Angeles County for the southern center.

Proposed funding: $250,000 for each center ($500,000 total) for FYs 01/02 - 05/06.

b) Rubber Pavements Team - The IWMB staff will continue to work with Caltrans staff to resolve issues relating to the technical aspects of using RAC, including support of developing guidelines for the use of RAC. Further, staff will pursue a specification preference in Caltrans' bidding process for using RAC made from California-produced crumb rubber. Staff will also work with Caltrans to identify the major RAC projects completed in the State and place these on the IWMB's web page.

No funding is associated with this activity.

c) RAC Signs - Staff will enter into an Interagency Agreement with Caltrans to support signage next to RAC pavement projects completed by Caltrans during the last five years and including projects completed in FY 2001/2002 (first year). Subsequent years' funding will cover current year projects. The signs will inform the public about the rubberized asphalt projects for approximately five years (estimated life of a sign).

Proposed funding: $130,000 for FY 01/02; $30,000 for FYs 02/03 – 05/06.

7) Recycling Market Development Zone (RMDZ) Loans - The support of the RMDZ Loan program will allow direct loan assistance for waste tire related businesses. Both RMDZ and tire staff have received numerous inquiries regarding tire businesses wishing to relocate to a RMDZ to take advantage of the loan program. Providing support to the loan program will ensure that funds are available to assist businesses that qualify for the program.

Proposed funding: $2,000,000 per year for FYs 01/02 - 05/06.

8) Capital Improvements; California State Parks - IWMB staff will work with Department of Parks and Recreation (DPR) staff to identify development or habitat reconstruction projects that will incorporate the use of waste tires. This work would be conducted through an interagency agreement between the IWMB and DPR. IWMB staff recommends that $200,000 for each of the next five FYs be applied toward development and renewal projects in state parks to encourage use of waste tires by this state agency.

Proposed funding: $200,000 per year for FYs 01/02 - 05/06.

9) Support of Other IWMB Programs - The Tire Recycling Program will provide funding to support various IWMB programs that encompass multi-material projects.

Proposed funding: $50,000 for the WP & MDD Buy Recycled Conference for FYs 01/02 - 05/06; $10,000 each for WP&MDD CalMAX and WRAP Awards programs for $20,000 for each FYs 01/02 - 05/06.

10) Rebate Study - Develop a Request for Proposal for a study of end-use incentives (subsidies) to various phases of waste tire management that include but not be limited to the following:

- A cost-benefit analysis of subsidies when compared to other market development programs;
- A review of subsidies in other states and countries and the effects of these subsidies on California's waste tire market;

- An analysis of legal issues of subsidies in reference to provisions in the North American Free Trade Agreement and the General Agreement on Tariffs and Trade and the Interstate Commerce Clause of the U.S. Constitution;
- The resources needed to implement the program;
- A consideration and analysis of implementing a subsidy that would include a decline in amount paid and a phasing out process;
- The appropriate receiver of the subsidy—the end-user? The hauler? The Processor?
- Data on the optimal amount per waste tire for a subsidy program for each producer/end user, and the cost of such a program; and
- A proposal of what waste tire management programs in the current Five-Year Plan would have to be eliminated to fund such a subsidy program.

If a rebate program were to be implemented, it would have to build on the manifest system that will be developed during the first year.

Proposed funding: $80,000 for FY 01/02. Subsequent funding will depend on results of study and revisions to the Five-Year Plan.

E. Performance Measures

The performance measures for market development directly relate to the objectives stated in Section D, The Plan. Baseline data will be collected during FY 2001-02 for all quantitative measures using the annual waste tire survey, grant and contract results, and end-uses reported in the new manifest system. The performance measures below are presented in order of IWMB's hierarchy of waste management (source reduction, recycling and reuse, environmentally safe transformation, followed by disposal).

- *Percent increase in public awareness of proper care and purchase of tires, use of products made from recycled waste tires or purchase of retreaded tires, and proper disposal of waste tires. These educational attributes will be measured by contracting with an organization to conduct a survey every two years of California residents and compare the results with baseline data obtained from a survey during FY 2001-02;*
- *Percent increase in the level of recycling as described in the objectives section, as measured from the annual survey and data from the manifest system;*
- *Percent increase of grant funds appropriated that are used by the end of the grant term, obtained by conducting an analysis of the grant program after all grants are closed;*
- *Percent increase in use by public agencies of waste tire products, including RAC, measured by analyzing annual reporting requirements and grant/contract final reports to IWMB;*
- *Percent reduction in the number of waste tires disposed in landfills annually, based on data collected for the Annual Report and from the new manifest system;*
- *Level of satisfaction with grant/contract management based on staff surveys conducted when the grants/contracts close; and*

- *Improve grant administration by streamlining the grants administration and identifying time-consuming and unnecessary procedures (measured in working days when compared with baseline data).*

F. Proposed five-year budget for market development and new technology activities for used and waste tires.

MARKET DEVELOPMENT AND NEW TECHNOLOGY ACTIVITIES BUDGET

Program Element	FY 2001/2002	FY 2002/2003	FY 2003/2004	FY 2004/2005	FY 2005/2006
Market Development Staff	$ 216,000	$ 216,000	$ 216,000	$ 216,000	$ 216,000
Tire Recycling Conferences	$ 100,000		$ 100,000		$ 100,000
Tire Care Brochure or Utility Bill Insert and Public Awareness Survey	$ 250,000		$ 150,000		$ 30,000
Public Service Announcements		$ 350,000	$ 250,000	$ 250,000	$ 250,000
Civil Engineering Uses	$ 500,000	$1,000,000	$1,000,000	$1,500,000	$1,500,000
Playground Cover	$ 800,000	$ 800,000	$ 800,000	$ 800,000	$ 800,000
Track and Other Recreational Surfaces	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000
Product Commercialization Grants	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000
Green Building	$ 300,000	$ 400,000	$ 500,000	$ 500,000	$ 500,000
RACTC	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000
Signs for Caltrans RAC projects	$ 130,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000
RMDZ Loan	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000
Capital Improvements State Parks	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000
Buy Recycled Conference	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
CalMAX and WRAP Awards	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000
Rebate Study	$ 80,000				
TOTALS	$8,146,000	$8,566,000	$8,816 ,000	$9,066 ,000	$9,196,000

*Funding for subsequent years depends on baseline year report.

The Waste and Used Tire Hauler Program and Manifest System

A. State of the Program

Beginning January 1, 2001, SB 876 legislation requires every person who transports ten or more waste tires to hold a valid tire hauler registration and use state-issued decals and manifests. Prior to obtaining registration, a prospective hauler must post a $10,000 bond. Registered tire haulers must register annually with IWMB, possess manifests during transport of waste tires, transport only to legally authorized facilities, and return the completed manifest to the generator of the waste tires. State law requires that persons receiving tires from unregistered haulers report the unregistered hauler to IWMB by providing the name, address, and license plate number of the unregistered hauler. The hauler program consists of two separate components: registration and enforcement.

In 2000, IWMB registered 827 California waste tire haulers and 8,944 vehicles. Registrations expire at the end of each calendar year. IWMB sends renewal packages to registered haulers so they can renew their registrations in a timely manner. Those haulers who do not renew by the end of the calendar year are cancelled. IWMB distributes manifests at no charge to registered haulers upon request. Approximately 100,000 manifests are distributed per year.

Current law allows exemptions from waste tire registration under certain conditions:

- Hauling nine or fewer tires;
- The person hauling is in a government vehicles and employed by local, state, and federal government and is not hauling tires for hire;
- Hauling tires through the state without loading or unloading tires;
- Hauling tires for agricultural purposes (defined); and
- A common carrier hauling tires on a back-haul.

B. Direction/Recommendations from the AB 117 Report

The AB 117 Report recommended a reform of the manifest system. The report recommended that the existing manifest system be continued with five modifications, as follows:

- "Close the loop" on accountability, i.e., have copies of manifests returned to IWMB for monitoring;
- Account for imported scrap and used tires;
- Provide for "one time hauls" to support amnesty days and individual cleanup of small tire piles:
- Increase from five to ten the maximum number of waste and used tires that can be transported without having to obtain a waste tire hauler permit; and
- Develop a process to allow a hauler to temporarily substitute a replacement vehicle for a permanently registered vehicle.

C. Direction Provided by SB 876

SB 876 legislation mandated changes to the tire hauler program. In particular, it provides for a reform to the manifest system and the development of a new manifest form. SB 876 mandated the following:

- "Close the loop" on accountability by requiring that copies of each manifest are returned to IWMB for monitoring;
- An increase from four to nine the maximum number of waste and used tires that can be transported without having to obtain a waste tire hauler permit;
- Provide for "one time hauls" to support amnesty days and individual cleanup of small tire piles;
- A reform to the manifest system and specified that the manifest be made available in electronic format which would be submitted to the IWMB electronically;
- A change to the placement of the decal from the driver's side door to the windshield; and
- An increase to the penalties levied for violations of the PRC pertaining to waste and used tire hauling.

Under PRC § 42961.5, the manifest is referred as the "California Uniform Waste and Used Tire Manifest" and must be originated by the generator. In the past, the manifest was distributed to registered haulers and it was their responsibility to provide a copy to the generator when the tires were picked up and after the tires reached the end-use destination (if the generator requested a copy). With the new mandates in SB 876, the manifest is distributed to generators. One of the first tasks to accomplish this mandate, in addition to developing a manifest form, is to identify waste and used tire generators and to determine how the new mandates will be implemented. Another major change to the manifest system is the manifest copies must be sent to the IWMB by the generator, hauler and end user in order to "complete the loop."

D. The Plan

Objectives

1) *Bring all generators of used and waste tires in the state into compliance with the manifest requirements by 2002.*

The Waste and Used Tire Hauler Program proposes to identify and contact the estimated 8,000 to 10,000 generators of used and waste tires and train them on the use of the Waste Tire Manifest System.

2) *Establish a "paper" manifest system for tracking the movement of used and waste tires throughout California by 2002.*

The Waste Tire Manifest Program proposes to improve the tracking of used and waste tires and create a system of accountability for the generator, hauler, and destination site operator by developing a new manifest form requiring submittal of copies to IWMB by all three

entities. Data will be entered into an electronic database for analyses of tire movement by IWMB staff.

3) Establish an electronic submittal process for the manifest system by 2003.

The Waste Tire Manifest Program proposes to create an electronic version of the used and waste tire manifest form and make it possible for generators, haulers, and destination site operators to submit the form to IWMB electronically.

Greater detail on program activities is given below.

Program Activities

The Waste Tire Hauler Program is currently staffed with one full-time position. The expanded program will require the addition of one position for a total of two full-time positions in IWMB's Special Waste Division. To support the data management needs of the program, an additional three positions will be needed in IWMB's Administration and Finance Division

Proposed funding: $490,000 for FYs 01/02 - 05/06.

California Highway Patrol - In FY 1997-98, the IWMB entered into a $200,000 Interagency Agreement with CHP to create a training video on the waste tire hauler regulations for use in training law enforcement officers statewide. In addition to the training video, the CHP and IWMB staff created a pamphlet (English and Spanish) listing requirements for hauling waste tires and procedures for becoming registered as a waste tire hauler. Staff recommends to continue efforts with the CHP by entering into an Interagency Agreement with the CHP Motor Carrier Unit to conduct enhanced vehicle checkpoints throughout the state to ensure compliance on waste tire haulers. Additionally, the CHP acting in the role of the State Police, will be used for the following: to conduct legal process service; assist IWMB staff in investigations; and perform other enforcement related activities for the IWMB.

Proposed funding: $200,000 for FYs 01/02 and 02/03; $400,000 for FYs 03/04 and 04/05; and $600,000 for FY 05/06.

Manifest System - To develop the expanded manifest form and program, the following steps are required:

- Identify the estimated 8,000 to 10,000 generators;
- As an interim measure, the current manifest forms will be mailed with detailed instruction sheets;
- Generate a new manifest form to meet the new requirements including electronic versions;
- Develop regulations to implement the new manifest format, processing requirements, electronic submittal process, and electronic database;
- Provide the new form with a letter of instruction to all waste/used tire generators in the state for both hard-copy and electronic submittal of forms;

- Develop a tracking and database system to monitor the manifests sent to the IWMB by the generators, haulers, and end users/disposal sites, quarterly. Once the manifests are received they will be entered into the database;
- Design a process that safeguards proprietary and confidential information submitted by the generators; and
- Develop a training program for interested parties regarding the regulatory requirements for the hauling of waste/used tires and the waste/used tire manifest system.
- Develop a training program to assist Mexican waste tire haulers to meet the legal requirements for hauling tires in California.

The proposed funding for the development, purchase of equipment, and implementation of the new manifest system and the electronic database is $1.1 million during FY 01/02 (the baseline year) and dropping to $800,000 in FY 02/03. The new manifest program will identify illegal haulers, operators not using the manifest, and those who use manifests that are not complete or correct. Proposed funding for ongoing program costs is $1.3 million for FYs 01/02 and 02/03 and $1.11 million for FYs 03//04 - 05/06.

E. Performance Measures

To evaluate the program's success in achieving its objectives, the following measures are proposed (baseline data will be collected during FY 2001/2002):

- *Percent of generators identified and contacted by program staff by December 2002;*
- *Percent of identified and contacted generators trained on registration and manifest requirements by December 2003;*
- *Percent of identified used and waste tires generated, using IWMB's historical data, that are reported under the paper manifest system in 2003; and*
- *Percent of identified used and waste tires generated, using IWMB's historical data, that are reported under the paper and electronic manifest systems in 2004.*

F. Proposed five-year budget for the Waste and Used Tire Hauler Program and Manifest System.

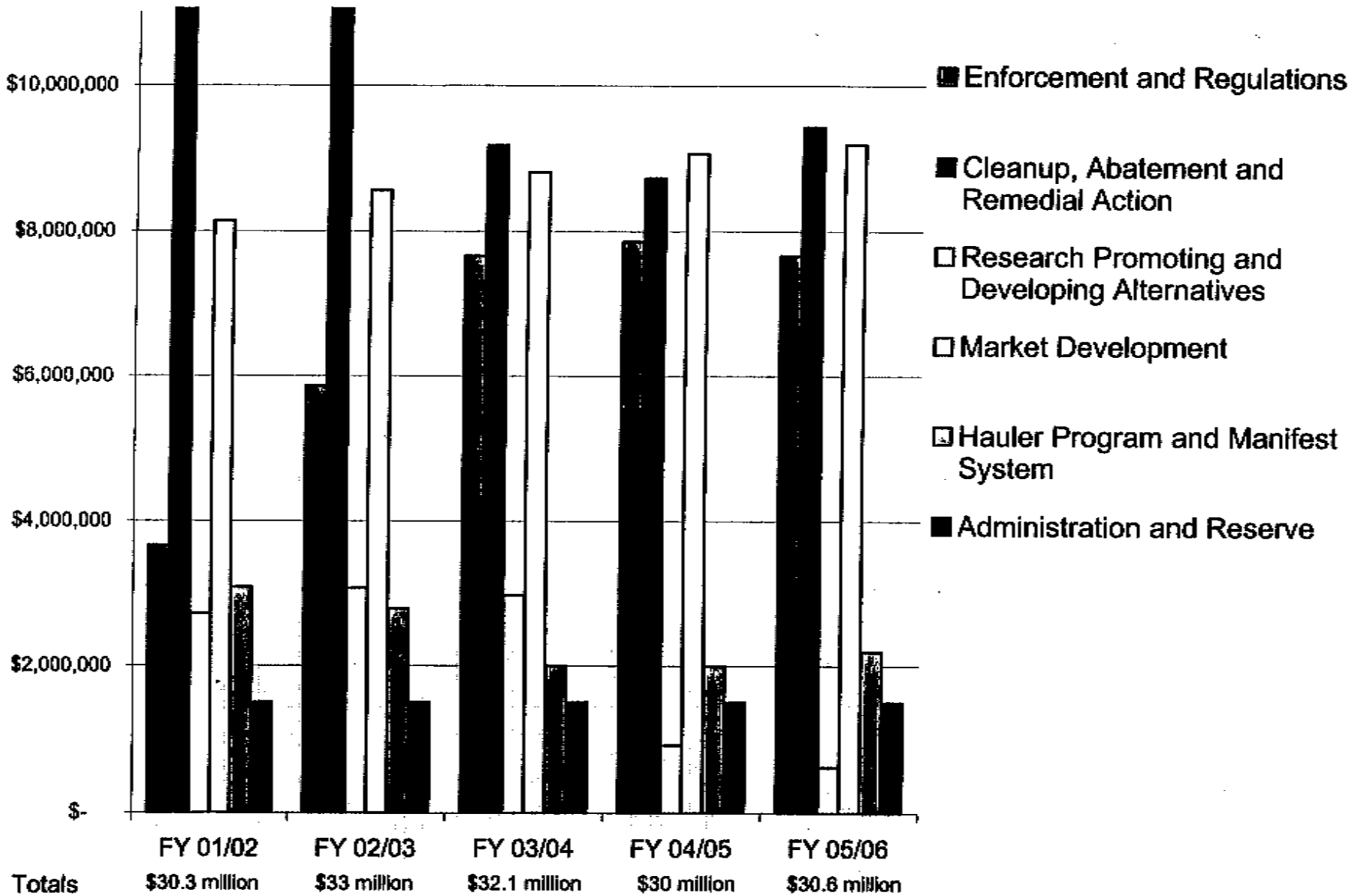
WASTE AND USED TIRE HAULER PROGRAM AND MANIFEST SYSTEM BUDGET

Program Element	FY 2001/2002	FY 2002/2003	FY 2003/2004	FY 2004/2005	FY 2005/2006
Hauler/Manifest Staff	$ 490,000	$ 490,000	$ 490,000	$ 490,000	$ 490,000
CHP	$ 200,000	$ 200,000	$ 400,000	$ 400,000	$ 600,000
Hauler Program & Manifesting	$2,400,000	$2,100,000	$1,110,000	$1,110,000	$1,110,000
TOTALS	$3,090,000	$2,790,000	$2,000,000	$2,000,000	$2,200,000

TOTAL WASTE TIRE MANAGEMENT FUNDING
2001-2006 (in millions)

	FY 2001/2002	FY 2002/2003	FY 2003/2004	FY 2004/2005	05/06 2005/2006	Totals for all FYs
Enforcement	$3.66	$5.86	$7.66	$7.86	$7.66	**$32.72**
Clean up	$11.19	$11.19	$9.19	$8.74	$9.44	**$49.73**
Research	$2.72	$3.07	$2.97	$0.92	$0.62	**$10.32**
Markets	$8.15	$8.57	$8.82	$9.07	$9.20	**$43.79**
Hauler and Manifest	$3.09	$2.80	$2.0	$2.0	$2.2	**$12.08**
Administration	$1.5	$1.5	$1.5	$1.5	$1.5	**$7.50**
Totals	**$30.31**	**$32.98**	**$32.14**	**$30.09**	**$30.62**	**$156.14**

Waste Tire Recycling Management Program
FYs 01/02 to 05/06 (in millions)



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