



**Report on**

**Pollution Prevention  
Accomplishments in  
Region IX**

**Fiscal Year 1995**

**U.S. Environmental Protection Agency  
Region IX**

**75 Hawthorne Street  
San Francisco, CA 94105**

## **FOREWORD**

*I am pleased to share with you the **Report on Pollution Prevention Accomplishments in Region IX for Fiscal Year 1995.***

*EPA Region IX continues to incorporate pollution prevention into all aspects of our regulatory and enforcement work. The Region is also leading the way with projects and programs that are focused on pollution prevention. These approaches lead to better, more cost effective protection for public health and the environment. We are forming close working relationships with state and local governments, industry partners, and communities. We also continue to provide the guidance and funding for state and local agencies to incorporate pollution prevention into their efforts and to develop ongoing pollution prevention programs. The Region will continue to work to reduce pollution in our own operations and to serve as a model for other government agencies and the private sector. And, we will strive to make even more progress in the coming year.*

A handwritten signature in black ink, appearing to read 'Felicia Marcus', written in a cursive style.

**Felicia Marcus**  
**Regional Administrator**

## TABLE OF CONTENTS

INTRODUCTION .....	1
POLLUTION PREVENTION ACCOMPLISHMENTS .....	3
Theme 1: Incorporating multimedia prevention as the principle of first choice .....	3
A. Enforcement and Supplemental Environmental Projects (SEPs) .....	3
1. United States Army Schofield Barracks .....	3
2. National Semiconductor and Dyna-Craft, Inc. ....	3
3. Chlorine-Free Pulp Mill .....	3
B. Rule Making .....	4
Theme 2: Building a national network of prevention programs .....	4
A. Regionwide .....	4
1. Pollution Prevention Incentives for States (PPIS) .....	4
2. Pollution Prevention Hub for Region IX .....	4
B. California .....	5
1. Pollution Prevention Water Quality Projects .....	5
2. Ground Water Protection .....	5
3. California Small Business Development Centers .....	5
4. Hazardous Waste Financial Assistance .....	5
5. Watershed Management IPA .....	6
6. Pollution Prevention IPA .....	6
7. Agriculture Initiative .....	6
8. Pollution Prevention Information for Consumers .....	7
C. Arizona .....	7
1. Nonpoint Source Pollution Prevention Projects .....	7
2. ADEQ's Pollution Prevention Partnership .....	7
D. Nevada .....	7
1. Nonpoint Source Pollution Prevention Projects .....	7
2. University of Nevada Small Business Development Center .....	8
E. Hawaii .....	8
1. Nonpoint Source Pollution Prevention Projects .....	8
2. Hawaii Department of Health Working Group .....	8
3. HDOH Waste Minimization Coordinator .....	9
4. Water Reclamation in Maui .....	9
F. Tribes .....	9
1. Pollution Prevention for the Navajo Nation .....	9
G. Pacific Islands .....	10
1. Division of Environmental Quality's (DEQ) Saipan Project .....	10
Theme 3: Expanding collaborative programs .....	10
A. Merit Partnership for Pollution Prevention .....	10
1. ISO 14000 Project .....	10
2. Metal Finishing Project .....	11
3. Industrial Laundry Project .....	11

4. Oil Refineries Project .....	11
5. Semiconductor Manufacturing Project .....	12
6. Alternative Fuel Vehicle Project .....	12
B. South Phoenix Waste Reduction Project for Metal Finishers .....	12
C. Bay Area Green Business Recognition Program .....	12
D. Green Lights .....	13
E. Common Sense Initiative (CSI) .....	13
F. WasteWIS\$E Program .....	14
G. TRADEX Project .....	14
Theme 4:     Increasing EPA's efforts to generate and share information .....	14
A. Santa Clara Project .....	15
B. Lindsay Museum Report on Polluted Runoff .....	15
C. Internal WMD Newsletter .....	15
D. Interactive Pollution Prevention Database .....	15
E. ARIES Database .....	16
F. The Pollution Prevention Resource Center .....	16
G. Region IX Pollution Prevention Lotus Notes Database .....	16
H. Wastewater Pollution Prevention Symposium .....	16
I. Arizona Environmental Recycling Headline .....	17
Theme 5:     Developing partnerships in technological innovation .....	17
A. Environmental Technology Initiative (ETI) .....	17
B. UCLA Wet Cleaning Demonstration Project .....	17
C. Port of San Diego Partnership Project .....	18
Theme 6:     Developing partnerships with other federal agencies .....	18
A. Central California Regional Water Recycling Study .....	18
B. Action Plan for the Statement of Support for Water Reclamation .....	18
C. Transportation Initiative .....	19
D. Marsh Restoration on San Francisco Bay .....	19
E. Sediment Reduction .....	19
F. Forestry Initiative .....	19
G. Southern Alameda Creek Watershed Project .....	20
H. Federal Facilities Pollution Prevention Roundtables .....	20
Theme 7:     "Leading by doing." .....	20
A. Paper-Less Office Campaign .....	20
B. Bicycle Commuting at Region IX .....	20
C. Region IX Laboratories .....	21
CONCLUSION .....	22
Appendix A: Pollution Prevention Grants and Other Projects in Region IX	
Appendix B: Glossary	

## **INTRODUCTION**

The United States Environmental Protection Agency (EPA) has made substantial progress in protecting the environment and human health through traditional command-and-control methods. However, this traditional approach focuses on treatment and disposal once a waste has been created. Pollution prevention (P2) provides a way for the reduction or elimination of pollution before it is created. P2 requires governmental agencies to move beyond the command-and-control paradigm and promote new ideas and technologies that reduce pollution. Industries must also take a proactive stance by reviewing how they do business and recognizing the economic as well as the environmental benefits associated with P2. Community members play a role in promoting P2 too. Consumers affect the market by making environmentally aware product and service choices.

This report summarizes Region IX's progress toward integrating P2 into its activities. Detailing accomplishments between October 1994 and September 1995 (Fiscal Year 1995), it builds on the accomplishments described in the previous Regional Pollution Prevention Accomplishments Reports published in 1992, 1993, and 1994. The state and local governments described in this report have received EPA funding, and complement the many other State and local P2 activities receiving other sources of funding.

### **The EPA Definition of Pollution Prevention**

The EPA has defined pollution prevention as:

The use of materials, processes, or practices that reduce or eliminate the creation of pollutants or wastes at the source. It includes practices that reduce or eliminate the use of hazardous materials, energy, water, or other resources and practices that protect natural resources through conservation or more efficient use.

Congress formally recognized P2 as the method of first choice for achieving environmental protection when it passed the 1990 Pollution Prevention Act. EPA has embraced the P2 concept as indicated in EPA's 1991 Pollution Prevention Strategy which provides guidance on incorporating P2 into ongoing programs. P2 garnered more support when Administrator Browner put out a 1993 policy statement on P2, and President Clinton issued executive orders on P2 in the federal government.

## **Pollution Prevention Themes**

This report is organized under the seven themes Administrator Browner described in her 1993 Earth Day address. Although some of the achievements described in this report satisfy more than one theme, we have placed each achievement in the category that seems most appropriate. The themes are:

- Theme 1:** Incorporating multi-media pollution prevention as the principle of first choice in all mainstream activities of EPA.
- Theme 2:** Building a national network of prevention programs among state, local and tribal governments.
- Theme 3:** Expanding collaborative programs that emphasize cross-media prevention, reinforce the mutual goals of economic and environmental well-being, and represent new models for government/private sector interaction.
- Theme 4:** Increasing EPA's efforts to generate and share information to promote prevention and track progress through measurement systems such as the Toxic Release Inventory (TRI).
- Theme 5:** Developing partnerships in technological innovation with other agencies and the private sector to increase industrial competitiveness and enhance environmental stewardship.
- Theme 6:** Developing partnerships with other federal agencies to create major opportunities for pollution prevention through investments in new technologies, and through policies that shape decisions in agriculture, energy, transportation, and the management of natural resources.
- Theme 7:** "Leading by doing." Reducing or eliminating pollutants generated from EPA operations.

## **POLLUTION PREVENTION ACCOMPLISHMENTS**

### **Theme 1: Incorporating multimedia prevention as the principle of first choice.**

The Pollution Prevention Team continues to offer a three hour "Pollution Prevention Orientation" training course as part of Region IX's in-house core curriculum. This training promotes the goal of this theme by providing participants with an overview of P2 and its incorporation into their work at EPA.

#### **A. Enforcement and Supplemental Environmental Projects (SEPs)**

EPA incorporates pollution prevention into compliance and enforcement activities as a principle of choice. EPA's program divisions and Office of Regional Counsel may negotiate with companies in violation to include a P2 project as part of the penalty payment. Examples of FY95 enforcement actions with P2 elements include:

##### **1. United States Army Schofield Barracks**

As part of a recent settlement under the Resource Conservation and Recovery Act (RCRA), the U.S. Army Schofield Barracks agreed to perform several supplemental environmental projects (SEPs) that involve P2. These projects include:

###### **a. Elimination of Spent Solvent Waste Stream**

By substituting a less toxic, non-RCRA regulated cleaner, the Army will eliminate 10,000 pounds of hazardous waste stream associated with the use of 90 part washers each year. For more information, contact Martin Pesaresi at (415) 744-1337.

###### **b. Implementing a Hazardous Substance Management System (HSMS)**

Through the HSMS, greater control over the use of chemicals will be achieved by ordering only what is needed, returning unused portions immediately for others' use, avoiding product loss due to shelf life expiration, and identifying nonhazardous/biodegradable alternatives. Schofield is expected to significantly reduce its hazardous waste generation. For more information, contact Martin Pesaresi at (415) 744-1337.

##### **2. National Semiconductor and Dyna-Craft, Inc.**

The goal of this SEP is the creation of a silver recovery unit. Silver is to be recovered from silver sludge and sent to a precious metal recycler. Originally, the silver removal was accomplished through precipitation with silver and zinc. The new system now uses oxidation and precipitation with a polymer. Therefore, the use of zinc is totally eliminated. For more information, contact Laurie Kermish at (415) 744-1344.

##### **3. Chlorine-Free Pulp Mill**

In February, Louisiana-Pacific Corporation (L-P) announced that its pulp mill near Eureka, California, had become the only bleached-pulp mill in North America to be converted to a totally chlorine-free operation. EPA Region IX and the Surfrider Foundation had filed enforcement actions

against the mill back in 1989, alleging more than 25,000 Clean Water Act violations. After the lawsuit was settled, L-P proposed the mill's conversion in exchange for being relieved of the obligation of installing wastewater treatment. L-P's new process has eliminated emission of dioxin and other hazardous chlorinated pollutants to the water and air, and it has reduced health hazards to workers and risks to the surrounding community. For more information, contact Jeremy Johnstone at (415) 744-1895.

## **B. Rule Making**

Staff from Region IX Air Division's Rules Development Section worked with the San Diego Air Pollution Control District (SDAPCD) on developing P2 language to include in their rules. Subsequently, SDAPCD has incorporated P2 into their rules and regulations. Rules requiring low vapor pressure solvent, high transfer efficiency coating application equipment, and low VOC content coatings have been in place for many industry types including the metal parts, wood, marine, polyester, resin, and aerospace industries. Currently, SDAPCD is developing a rule requiring P2 for the automotive coating industry. For more information, contact Angela Baranco at (415) 744-1196; or the SDAPCD P2 contact, Kevin Conteras, at (619) 694-2288.

## **Theme 2: Building a national network of prevention programs among state, local, and tribal governments.**

The Divisions and Offices in Region IX have been instrumental in supporting a network of pollution prevention programs throughout the Region. We have organized these accomplishments for this theme according to geographic location.

### **A. Regionwide**

#### **1. Pollution Prevention Incentives for States (PPIS)**

The Pollution Prevention Incentives for States (PPIS) grant program seeks to build and support state pollution prevention capabilities and to test, at the state level, innovative P2 approaches and methods. A primary goal is to fund the institutionalization of multi-media prevention as an environmental management priority. In addition, PPIS grants fund other P2 activities, such as providing direct technical assistance to businesses, collecting and analyzing data, conducting outreach, developing measures to determine progress in P2, and identifying regulatory and nonregulatory barriers and incentives to P2. In FY95, Region IX awarded \$570,000 in PPIS grants.

#### **2. Pollution Prevention Hub for Region IX**

In August 1995, Region IX convened a meeting to explore the need for a pollution prevention network to improve P2 information exchange and to avoid duplication of P2 efforts throughout California, Arizona, Hawaii and Nevada. Region IX identified nearly 100 providers of P2 assistance in the four State area, with providers coming from a variety of sources: business, State and local government, universities/research institutions, business assistance programs and nonprofits. The August meeting brought together representatives from each of these categories of P2 providers. The group concluded that Region IX should work in partnership with them to



facilitate the establishment of a Regional Pollution Prevention Hub to exchange information and facilitate networking among the diverse providers. Since the August meeting, Region IX established an electronic listserve to begin the process of linking the P2 assistance providers together. Further steps will be taken in Fiscal Year 1996 to set up the Hub. For more information, contact Eileen Sheehan, P2 Coordinator in Region IX at (415) 744-2190.

## **B. California**

### **1. Pollution Prevention Water Quality Projects**

In California, Clean Water Act §319 funds earmarked for implementing nonpoint source projects are playing a critical role in supporting community-based water quality projects that emphasize pollution prevention. Last year, \$3.1 million of §319 funds were awarded to 15 projects throughout the State. Activities being supported that contain a P2 component include cooperative efforts with landowners in Ventura County to utilize cover crops and streambank stabilization to reduce in-stream sedimentation, an agriculture effort in the Central Valley to adopt Diazinon-free production methods that rely on biological control and "soft" pesticides, and a restoration project in the Lassen Range for the spring-run Chinook salmon centered around a community-based educational program allowing hands-on learning experiences for K-12 students. For more information, call Sam Ziegler at (415) 744-1990.

### **2. Ground Water Protection**

Region IX's Water Management Division awarded a \$30,000 ground water protection grant to the City of Anaheim that will fund several pollution prevention activities to protect the City's ground water. Expanded or new efforts include delineation of wellhead protection areas; workshops, technical assistance and fact sheets on hazardous waste reduction, product substitution and modification, spill prevention, and recycling and reuse of materials; a ground water protection library; an environmental recognition program for businesses and community groups; a used-oil recycling program, which provides information as well as a network of convenient collection centers; and public education and outreach (e.g., bus stop posters). For more information, call Luisa Valiela at (415) 744-1839.

### **3. California Small Business Development Centers**

EPA awarded the California Trade and Commerce Agency a \$204,000 PPIS grant to develop environmental assistance/pollution prevention outreach programs at three Small Business Development Centers (SBDCs). The SBDCs provide free consulting assistance to small businesses throughout the state. In FY95, the Inland Empire SBDC (Riverside County) hired a full-time environmental program manager to provide counseling on compliance assistance and P2 and to conduct on-site assessments for small businesses. The Solano and Valley Sierra (Modesto and Merced counties) SBDCs provide businesses with on-site P2 assessments through a part-time contractor. For more information, contact Leif Magnuson at (415) 744-2153.

### **4. Hazardous Waste Financial Assistance**

During FY95, the Resource Conservation and Recovery Act (RCRA) 3011 grant funded two Intergovernmental Personnel Act (IPA) positions to the California Department of Toxic Substances

Control's Office of Pollution Prevention and Technology Development (OPPTD). The IPA staff participated in a number of major P2 activities, such as developing the Bay Area Green Business Recognition program and reviewing and analyzing P2 efforts in targeted industries. With their help, OPPTD produced two informative P2 outreach publications: *Assessment of the Semiconductor Source Reduction Planning Efforts* and *Assessment of California 1,1,1-Trichloroethane Users Source Reduction Planning Efforts*. The IPA staff also worked closely with the California Environmental Technology Partnership and the California Trade and Commerce Agency to bring P2 to the work of these groups.

#### **5. Watershed Management IPA**

Using PPIS funds, Region IX's Water Management Division assigned a watershed management IPA position to the Regional Water Quality Control Board, San Francisco Region. The IPA assignee has worked to develop watershed management planning tools to reduce sediment runoff into the S.F. Bay-Sacramento/San Joaquin Delta Estuary. Examples of tools include erosion control ordinances, general-plan and California Environmental Quality Act (CEQA) conditions, requirements for all new-developments, and other Best Management Practices recommended by the Regional Board's stormwater management program to cities and counties in the Bay Area for new developments. For more information, call Tim Vendlinski at (415) 744-1989.

#### **6. Pollution Prevention IPA**

A pollution prevention IPA assignment was created by Region IX's Water Management Division for the Regional Water Quality Control Board, San Francisco Region. Over the last year, the IPA assignee oversaw the Novato Sanitation District's pollution prevention program and developed a regional education strategy for the Board and local wastewater and stormwater agencies. The assignee also ensured participation by the Board for the first time in Pollution Prevention Week and, most importantly, was instrumental in initiating a dialogue between the Board and the Bay Area Air Quality Management District on the links between air and water pollution. For more information, call Liz Borowiec at (415) 744-1948.

#### **7. Agriculture Initiative**

In FY 95, the Agriculture Initiative continued to support the innovative Biologically Integrated Orchard System (BIOS) and the Biologically Integrated Farming System (BIFS) programs in California's Central Valley. These programs support the implementation of practices such as cover crop management and integrated pest management to reduce growers' reliance on chemical inputs. Through a grant awarded by the Bureau of Reclamation (co-written by Paul Feder, the Ag Initiative's program manager) the BIOS project has exceeded all expectations by expanding from 3 to 6 counties. Preliminary data indicates significant reductions in pesticide and nutrient applications on BIOS fields. This is pollution prevention! The BIFS program which was initiated through Assembly Bill 3383 (A.K.A. the 'BIOS BILL') was running at two sites in early FY96 on wine grapes and a cotton-tomato rotation. When one considers that wine grapes and cotton are the number 1 and 3 crops for chemical use in CA, and occupy over 25% of the irrigated acreage, BIFS offers great opportunities to lessen the ecological impact of CA agriculture. For more information, contact Paul Feder at (415) 744-2010.

In FY96, the Agriculture Initiative will continue to promote ecological farming systems as a means for linking EPA programs and achieving multi-media benefits in water and air basins. An emphasis will be placed on developing partnerships with key agriculture commodities and building on the success of the BIFS model. For more information, contact Tim Hatten at (415) 744-1983 or Paul Feder at (415) 744-2010.

## **8. Pollution Prevention Information for Consumers**

Alerted by local California governments about proposed legislation which they felt would muzzle their efforts to inform consumers about safer alternatives to commercial household products, Elizabeth Borowiec instigated Regional participation in the debate. After discussions with legislative committee staff, Elizabeth and others prepared, and Laura Yoshii signed, comments opposing legislation. The comments, sent to State Senate committee leaders, began a protracted round of discussion and debate with the Chemical Specialty Manufacturers Association. The legislation died in committee.

## **C. Arizona**

### **1. Nonpoint Source Pollution Prevention Projects**

Last year, \$460,000 of §319(h) funds were awarded by Region IX's Water Management Division to nine projects in Arizona under the State's nonpoint source program. Projects with pollution prevention components included a nonpoint source community demonstration center, watershed restoration on Bonita Creek, creation of a nonpoint source curriculum for grades 7-9, an on-farm composting program, implementation of grazing Best Management Practices, creation of a parent/student home-activity nonpoint source curriculum and newsletter, and publication of brochures about Project WET (Water Education for Teachers). For more information, call Lisa Nelson at (415) 744-1966.

### **2. ADEQ's Pollution Prevention Partnership**

With EPA's support, the Arizona Department of Environmental Quality ("ADEQ") began the pollution prevention partnership in summer, 1994. By the end of 1995, thirty of the forty companies responsible for generating 96 percent of Arizona's hazardous waste had teamed up with ADEQ to achieve significant reductions in waste generation. By publicly committing to specific waste reduction goals, and by meeting regularly with other business members to share "how to" information and advice, these thirty companies reduced their waste generation an average of 7% during 1995, compared to a 1% average reduction for non-partner companies. These thirty companies are now responsible for just 55% of Arizona's total hazardous waste generation, down from 75% the year before. For more information, contact Leif Magnuson at (415) 744-2153.

## **D. Nevada**

### **1. Nonpoint Source Pollution Prevention Projects**

Last year, \$406,000 of §319(h) funds were awarded by Region IX's Water Management Division to eleven projects in Nevada under the State's nonpoint source program. Projects with pollution prevention components included riparian management plans for the Walker and Lower Carson

Rivers, reducing the impacts associated with cattle grazing on riparian areas by employing alternative grazing management strategies, a water quality resource guide for Clark County residents, an urban stormwater-quality education program for Lake Tahoe, and a Nevada Project WET (Water Education for Teachers). Contact Stephanie Wilson at (415) 744-1968 for more information.

## **2. University of Nevada Small Business Development Center**

Region IX continues to support the University of Nevada Small Business Development Center (SBDC) with PPIS funds. The SBDC collects and disseminates pollution prevention information. It also provides industry-specific seminars, develops fact sheets, visits sites to provide waste minimization suggestions, and trains business staff. It has developed a resource base that includes information on P2 and waste management technologies, products, vendors, consultants, and waste management facilities.

In FY95, the SBDC answered more than 692 phone assistance calls, conducted 17 seminars attended by 700 persons, completed 32 on-site compliance/pollution prevention consultations, and published three issues of their newsletter and three fact sheets. Seminars this year focused on the automotive as well as the construction industries. A survey of SBDC clients conducted in FY95 by a University of Nevada-Reno graduate student found that 89% of the clients indicated they improved their compliance and 61% stated they reduced their waste generation. One business stated that it saved \$99,000 the first year in waste disposal costs while another business reported \$40,000 per year in savings! For more information, contact Leif Magnuson at (415) 744-2153.

## **E. Hawaii**

### **1. Nonpoint Source Pollution Prevention Projects**

Last year, nearly \$340,000 of §319(h) funds were awarded by Region IX's Water Management Division to four projects in Hawaii under the State's nonpoint source program. The projects all had a pollution prevention component. One was aimed at reducing nonpoint source pollution from herbicides and sediments in sugarcane fields through improved Best Management Practices. Another project was on erosion and sediment control education (especially to the building industry) and on training regarding the County of Maui's revised grading ordinance. Other projects were for watershed stabilization and water quality improvement on highly erodible former sugarcane lands and for early warning indicators of ground water contamination in soils of plantation land being converted to sustainable, diversified agriculture. Contact Sunny Kuegle at (415) 744-2019 for more information.

### **2. Hawaii Department of Health Working Group**

Under a PPIS grant, the Hawaii Department of Health (HDOH) established a Pollution Prevention Working Group. Drawn from diverse HDOH offices, the Working Group focuses on P2 issues of common concern such as waste minimization at construction sites and household hazardous waste. Region IX established an IPA position with HDOH for a full-time P2 coordinator who co-facilitates the Working Group. Hawaii also is supporting a materials exchange program, conducting

composting workshops, and exploring alternatives to agricultural burning. For more information, contact Eileen Sheehan at (415) 744-2190.

### **3. HDOH Waste Minimization Coordinator**

Through the RCRA 3011 grant, EPA funded a full time Waste Minimization Coordinator in the Hawaii Department of Health. In FY95, the coordinator produced and distributed informational bulletins regarding silver recovery services (aimed at the medical and dental sectors), alternatives for parts cleaning, and pollution prevention advice for hotels and auto maintenance facilities. She also conducted or participated in P2 workshops for the hotel and condominium sectors, and assisted in developing a waste minimization workshop for Department of Defense facilities. For more information, contact John Katz at (415) 744-2150, or Jane Dewell in Hawaii at (808) 586-4373.

### **4. Water Reclamation in Maui**

During the past year, the County of Maui has made steady progress on their water reuse program, due, in part, to EPA's efforts to promote water reuse through the Water Management Division's construction grants program, underground injection control program and West Maui Watershed Project. The County's Wastewater Reclamation Division reports that Kaanapali Resort has committed to using 1.0 mgd of reclaimed water for golf course and highway median landscape irrigation. The Reclamation Division is also preparing an ordinance mandating the use of reclaimed water at improved commercial properties. On Lanai, the entire effluent flow of 0.25 mgd is reused, also for golf course irrigation, while on Molokai reclaimed water will be used to irrigate highway shoulders. Finally, the County has used an EPA Environmental Education Grant to teach the public that reclaimed water is safe to use and a valuable resource that should not be wasted. For more information, call Nancy Yoshikawa at (415) 744-1163.

## **F. Tribes**

### **1. Pollution Prevention for the Navajo Nation**

Region IX oversees a PPIS grant awarded to the Navajo Nation for developing mechanisms and technology to reduce pollution through source reduction, and recycling. The grant is multi-media and is designed to assist the Nation in developing institutional structures within the government entities to ensure P2 is incorporated into decision-making and planning; to develop multi-media P2 efforts; to coordinate state/federal programs; and provide outreach to industries, tribes, and consumers to develop a technical clearinghouse; and to demonstrate specific P2 efforts and to evaluate progress. The Navajo Nation is progressing on schedule in their efforts to accomplish their goals.

A few projects they have been involved with include reducing the generation of household hazardous waste, educating the Naschitti watershed community to conserve their natural resources, preventing future contamination in the Moenkopi system created by unlined coal stock piles, working with small businesses to find alternatives (waste reduction) to the high cost of solid waste disposal (due to landfill closures in October 1996), and training the entire Navajo Agricultural Products Industry (NAPI) on P2 practices in farming. For more information, contact Wendy Colombo at (415) 744-1202.

## **G. Pacific Islands**

### **1. Division of Environmental Quality's (DEQ) Saipan Project**

A P2 expert from Region VIII, David Schaller, spent three weeks in Saipan in mid-1995 to assist DEQ in building P2 capacity and to conduct P2 outreach for targeted industries in the Commonwealth of the Northern Mariana Islands (CNMI). A workshop on P2 for automotive and heavy equipment repair facility owners was conducted, and P2 audits were conducted at two CNMI industrial facilities. DEQ staff were provided with P2 on-the-job inspection/audit training prior to the actual audits. Audits were conducted on all three populated CNMI islands including Saipan, Tinian, and Rota. Mr. Schaller also assisted the CNMI Department of Public Works to develop a schedule for the closure of the Saipan Dump. For more information, contact Lois Grunwald at (415) 744-1588.

**Theme 3: Expanding collaborative programs that emphasize cross-media prevention, reinforce the mutual goals of economic and environmental well-being, and represent new models for government/private sector interaction.**

Pollution prevention requires a collaborative approach. Government and industry must work together to develop new approaches to environmental management. Region IX has had great success in developing public/private partnerships to promote pollution prevention.

### **A. Merit Partnership for Pollution Prevention**

The Merit Partnership for Pollution Prevention (Merit) is a voluntary program involving industry representatives, state and local regulatory agencies, community members, and EPA Region IX. The goal of Merit is to work in partnership with the private sector to implement P2 projects that demonstrate how to reduce environmental impacts in ways that make good business sense. Projects proposed to Merit are evaluated by a community advisory panel and a steering committee of industry and agency representatives to ensure that they are consistent with the goals of Merit.

Merit focuses on P2 practices and technologies. Current projects involve the development of international standards for environmental management systems and demonstration projects with the metal finishing industry, an industrial laundry, the oil refining industry, semiconductor manufacturers, and alternative fuel vehicle proponents. In many of these efforts, Merit works in conjunction with representatives from the Common Sense Initiative, Design for Environment, and other EPA initiatives. Merit Partnership projects include:

#### **1. ISO 14000 Project**

ISO 14000 is one of the Merit Partnership's major projects. The International Standards Organization (ISO) 14000 Standards are industry-developed standards that provide for comprehensive evaluation and certification of a company's environmental performance. There is general consensus among business leaders that the ISO 14000 certification will become a de facto requirement for companies to practice business internationally.

One of the standards requires that a company implements an Environmental Management System (EMS) based on internationally recognized standards. This standard, which will be the first ISO 14000 series standard introduced (probably in the spring/summer of 1996), is at the center of the Merit team's efforts around ISO 14000. Contact Dan Reich at (415) 744-1343 for more information.

## **2. Metal Finishing Project**

Merit, the Metal Finishing Association of Southern California (MFASC), and the California Manufacturing Technology Center (CMTC) have established a P2 program that involves working directly with Southern California metal finishing facilities to implement P2 technologies. This program involves the implementation of seven P2 projects at small and medium-sized metal finishing facilities in southern California. The projects include technical and in some cases financial support to participating facilities to evaluate and install P2 technologies for targeted metal finishing processes. The technologies are designed to reduce waste generation at the source and to recover materials from waste streams for reuse and recycling. The results of the facility projects have been and will be presented in technology transfer documents, videos, and at technical workshops to promote P2 to other metal finishers. Active information transfer is key to the success of this program. For more information, contact Laura Bloch at (415) 744-2279.

## **3. Industrial Laundry Project**

Funded in part by a \$20,000 grant from Region IX, the Industrial Laundry Showcase Project seeks to assess the effectiveness of various P2 measures at a small industrial laundry. The project, a partnership among Region IX's Water Management Division and the Merit P2 Partnership, the L.A. County Sanitation Districts and Best Washington Uniform Supply, has three P2 components: the development of best management practices and source-reduction guidelines; outreach to the laundry's customers on P2 opportunities; and implementation of an in-process water recycling and treatment system. EPA hopes to use the resulting data to develop stringent but realistic effluent guidelines for laundries, while the laundry will place itself ahead of the regulatory curve. For more information, call Bonnie Barkett at (415) 744-1908.

## **4. Oil Refineries Project**

In April 1994, the Merit Partnership sponsored the first Oil Refinery Roundtable. It was attended by representatives of oil refineries, local government agencies, refining experts, national labs, academia, and EPA. Participants at the first roundtable focused on three major categories of refinery pollution: hazardous air pollutants, criteria air pollutants, and wastewater sludges. Eventually, the roundtable participants decided to focus on wastewater sludges because this is the area where there is the greatest potential for using P2 to protect the environment and to save money. In May 1995 Merit sponsored the second Oil Refinery Roundtable. Again, representatives of oil refineries, local government agencies, refining experts, academia, national laboratories, and EPA attended. They concluded the session by setting up teams to work on three high-priority projects: Source Identification Checklist, Erosion Control Pilot Study and Cost-effective Sludge Source Control. The project's findings will be field-tested at a refinery in the future. For more information, contact Bonnie Barkett at (415) 744-1908.

### **5. Semiconductor Manufacturing Project**

Merit met with representatives of the semiconductor manufacturing industry, material and equipment suppliers from across the country, the National Labs, and local regulators. The focus of the meeting was to develop projects that would build upon the industry environmental roadmaps. A variety of project ideas arose from this meeting. One of the major concerns of the semiconductor manufacturers involves chemical use and recycling. Merit is evaluating the regulatory requirements and barriers to reuse and recycling. Contact Rusty Harris-Bishop at (415) 744-2363 for more information.

### **6. Alternative Fuel Vehicle Project**

The alternative fuel vehicle project encourages the use of various alternatively fueled vehicles at airports. Information collected on vehicle performance and experiences gained from using the vehicles will be transferred to other airport operators. We want to promote the use of alternative fuel vehicles at airports, such as liquefied natural gas buses, electric baggage tugs, and compressed natural gas shuttles. Working with about 20 public and private organizations, our goal is to share information so that the most effective fuel is used for each application. We would like to sponsor information exchange forums. There is a need to provide a forum for recognition and sharing of experiences. For more information, contact Rusty Harris-Bishop at (415) 744-2363.

The Merit Partnership is currently planning to sponsor additional industry sector roundtables to facilitate pollution prevention dialogue within these industry sectors. For more information, contact Dan Reich at (415) 744-1343.

### **B. South Phoenix Waste Reduction Project for Metal Finishers**

In FY95, U.S. EPA Region IX, the Arizona Department of Environmental Quality (ADEQ), the City of Phoenix and the Phoenix Chapter of the American Electroplaters and Surface Finishers (AESF) created a partnership to promote pollution prevention at metal finishing facilities in Arizona.

In FY95, EPA performed initial site visits at several volunteer facilities to evaluate them as potential P2 demonstration sites. Based on this evaluation, two facilities were selected to receive on-site P2 technical assistance during 1996. The projects undertaken, and the benefits derived at these two facilities will then be used in training sessions to all 50 Arizona metal finishers as local examples of the benefits to be derived from implementing P2. Reductions in wastes generated by the demonstration companies will be tracked and reported. For more information, contact Leif Magnuson at (415) 744-2153.

### **C. Bay Area Green Business Recognition Program**

EPA has joined the San Francisco Bay Area, Association of Bay Area Governments (ABAG), state and regional environmental agencies, and local businesses, to develop a program to recognize Bay Area businesses for environmental performance. The program is built from several successful local models. In 1996, with financial assistance from EPA, ABAG will initiate its regional program in 2 of the 9 Bay Area counties (Alameda and Napa).



The program proposes recognizing businesses for two levels of environmental achievement. The first level is compliance with all environmental regulations, and the second level is achievements in resource conservation and P2. Businesses are enthusiastically embracing this type of positive recognition program. One pilot program now boasts a 75% compliance rate, and has achieved major reductions in pollutants generated by participants. Future reductions from Alameda and Napa counties will be tracked and reported. Contact Leif Magnuson at (415) 744-2153 for more information.

#### **D. Green Lights**

The goal of the Green Lights program is to prevent pollution by encouraging major institutions — businesses, governments, and other organizations — to use energy-efficient lighting. Partners commit to install energy-efficient lighting in 90 percent of their space over a 5-year period, but only where it is profitable and feasible. In return, EPA offers program participants technical support in upgrading their buildings, lighting product information, and support in identifying financial resources for energy-efficient lighting.

Region IX has over 250 participants including State of California, Bank of America, Phoenix Arizona, Alta Bates Medical Center, U.C. Berkeley and Stanford. In general, participants have at least one million square feet of space in which they will be installing energy efficient lighting. Since January 1991, Region IX participants have committed to upgrading 614 million square feet of space. This will result in the prevention of over 79 thousand tons of carbon dioxide emissions. For more information, contact Michael Stenborg at (415) 744-1102.

#### **E. Common Sense Initiative (CSI)**

EPA Administrator Carol Browner launched the Common Sense Initiative (CSI) in July, 1994. The CSI goal is to find "cleaner, cheaper, and smarter" approaches to environmental protection. Under this initiative, EPA has brought together industry, government, environmental, environmental justice, academic, and labor leaders to examine a wide range of topics, including regulations, pollution prevention, reporting, compliance, permitting, and environmental technology.

Region IX is a co-lead for the computers and electronics sector. The Computers and Electronics Subcommittee has had one meeting since March 1995. Overcoming Barriers to Pollution Prevention and Recycling is one of three workgroups the subcommittee established. This workshop is 1) Addressing issues associated with the management of end-of-life (EOL) electronic equipment. Activities include developing household collection pilots; investigating regulatory barriers to cathode ray tube recycling; holding a conference on managing EOL electronic equipment; and, in conjunction with the conference, establishing an independent roundtable to serve as an information clearinghouse on and a forum for addressing issues involving management of EOL electronic equipment; and 2) Investigating regulatory barriers to P2 and recycling in the manufacturing process. This involves analyzing possible RCRA barriers to use of closed-loop, zero-discharge wastewater recycling processes in the computers and electronics industry. For more information, contact Dave Jones at (415) 744-2266.

#### **F. WasteWIS\$E Program**

EPA's voluntary WasteWIS\$E program encourages partnership companies to reduce their solid waste through source reduction, recycling, and increasing the recycled content of products they buy or manufacture. Region IX's Solid Waste Section entered into a cooperative agreement with the California State Chamber of Commerce to promote WasteWIS\$E to California businesses. The agreement calls for a series of meetings to generate support for the program and solicit membership from the business community. A quarterly newsletter on WasteWIS\$E for Region IX member companies will also be developed.

As a WasteWIS\$E project, EPA worked with the cities of San Diego and Tijuana to assess the waste stream of the maquiladora sector in Tijuana and the nature and extent of current binational recycling efforts. The project seeks to provide on-site waste reduction opportunity assessments and develop a binational electronic database for tracking recycled materials, products, and recycling companies. This project will be managed and implemented in conjunction with the Recycling Market Development Zone project described below and in cooperation with the Pollution Prevention Work Group. For more information, contact Donna Orebic at (415) 744-1168.

#### **G. TRADEX Project**

The County of San Diego Department of Environmental Health (DEH) completed its work in 1995 on its grant for Transborder Assistance for Developing Environmental Excellence (TRADEX). TRADEX aimed to improve the quality of the border environment by advocating the adoption of pollution prevention practices by the business community of Tijuana. Among other accomplishments, San Diego DEH: 1) provided seven on-site P2 consultations at Tijuana manufacturing facilities; 2) coordinated a conference in Tijuana for businesses, community groups, government agencies and elected officials on the benefits of P2 and environmental management systems; 3) worked closely with the Small Business Development Center at the University of Baja at Tijuana to integrate P2 information into their newsletter and library holdings; 4) on behalf of the EPA Border Liaison Office, organized a broadbased workshop of Border representatives and developed a *Compendium of Agencies/Organizations* for the San Diego/Tijuana area; and 5) Worked with the National Maquiladora Association to develop a P2 session at their annual conference which focused on metal finishing and furniture manufacturing. For more information contact Eileen Sheehan at (415) 744-2190 or Linda Giannelli Pratt at (619) 338-2215.

#### **Theme 4: Increasing EPA's efforts to generate and share information to promote prevention.**

Information and outreach are crucial to advancing pollution prevention. New ideas and approaches need to be disseminated, discussed, and evaluated. Region IX is continuing its efforts to provide information, facilitate information exchange, and develop solid measurement tools to track pollution prevention success.

### **A. Santa Clara Project**

In FY95 the Waste Minimization (WM) Team initiated the Santa Clara Valley Manufacturing Group (SCVMG) Pollution Prevention Pilot Project. The SCVMG, an industry group representing businesses in Santa Clara, is currently testing a reporting form that could be used to measure progress achieved in the reduction of waste and/or chemical constituents released to the environment. This form has the potential to not only measure local but also national voluntary P2 progress (e.g., voluntary attachment to TRI report). The pilot also serves as a vehicle to obtain feedback from participating companies on specific issues of national concern regarding prioritization of hazardous wastes for reduction, streamlined reporting, and reporting P2 progress.

The parameters of this place-based pilot project were defined through a consensus-based approach by representatives from the SCVMG, regional, state and local regulatory agencies, and publicly owned treatment works (POTWs), and community groups. If the pilot is successful, a full scale project will be initiated in Santa Clara. Contact John Katz at (415) 744-2150 for more information.

### **B. Lindsay Museum Report on Polluted Runoff**

In May, the Lindsay Museum in Walnut Creek, California, issued *Changing the Course of California's Water*, a report describing the water impacts of polluted runoff. The report and an associated public education campaign on the issue of stormwater pollution were funded in part by a §319(h) nonpoint source grant from Region IX's Water Management Division. The report made the point that urban and agricultural runoff are now a larger share of pollution than factories and sewage plants. Acknowledging the changing nature of pollution, the report stressed that P2--including reformulation of toxic products, proper use of household chemicals, restoration of marshes, and adoption of new land-use patterns to discourage auto travel--was the best prospect for clean water. For more information, call Jovita Pajarillo at (415) 744-2011.

### **C. Internal WMD Newsletter**

The Water Management Division's pollution prevention coordinators produced quarterly issues of *H<sub>2</sub>O Notes*, the newsletter of internal water-related P2 activities. The newsletter, which is routed to the Division's 150 employees, serves as a forum and clearinghouse and, more importantly, it highlights the P2 work conducted by WMD staff. Items discussed in the past year include the Region's water reclamation and conservation efforts, the conversion of a pulp mill to chlorine-free operations, and grants awarded by EPA for ground water protection. The pulp-mill issue was printed on sample chlorine-free paper from the mill, while the rest were printed on various types of recycled paper. For more information, call Niko Letunic at (415) 744-1941.

### **D. Interactive Pollution Prevention Database**

Developed by ATD staff, Region IX has a new interactive database, *Private Actions--Public Good*, developed by and for regional employees as a way to share and inspire ideas for pollution prevention and environmental protection at a personal level. The database contains discussion of real examples and suggestions of what individuals are doing or can do to make a difference. "It's more about putting a low-flow toilet in your bathroom than about influencing legislation for water conservation or water supply," said Matt Haber, database developer from the New Source Section.

#### **E. ARIES Database**

The Santa Barbara Air Pollution Control District is developing an interactive expert database system which will be used by regulated business and industry within the District. The system will include P2 information as well as permitting and other regulatory information that would greatly improve customer service and reduce costs. An important component of this system is a P2 module that would inform potential permit applicants of P2 alternatives and resources for their proposed business or project. For more information, contact Angela Baranco at (415) 744-1196.

#### **F. The Pollution Prevention Resource Center**

The Pollution Prevention Resource Center (PPRC) serves as a clearinghouse for information and publications about source reduction, waste minimization, recycling, reuse and recovery for EPA and other federal agency staff, state and local government agencies, industry, academic institutions, and the public. The PPRC is managed by the Pollution Prevention Librarian and is located in the Region IX Library. In FY95, the PPRC staff responded to 2,735 reference questions, and over 800 of them were specifically on P2. The staff also performed 480 database searches, and distributed over 2,200 requested publications on P2.

In addition to providing reference services, PPRC staff issues a quarterly bibliography of new resource material, a monthly update of P2 contacts regionally and nationally, a list of funding sources available (updated 2 or 3 times per year), and a current list of technical resources. PPRC staff also provides training to EPA staff on how to use online systems and other research tools, maintains a calendar of waste minimization events, and expands and organizes the P2 collection. For more information, contact Karen Sundheim at (415) 744-1508.

#### **G. Region IX Pollution Prevention Lotus Notes Database**

In order to improve the exchange of pollution prevention information within the Region and to minimize copying of documents, the Pollution Prevention Work Group, Karen Sundheim, the Pollution Prevention Librarian, and Andy Terry, a representative from Region IX's Information Services Branch, designed and established a Region IX Pollution Prevention Lotus Notes Database. The database includes information on Region IX P2 projects, a calendar of events, a listing of P2 grants, a Region IX P2 contacts list, a bibliography, other resources and a general discussion exchange. For further information, contact Eileen Sheehan at (415) 744-2190 or Karen Sundheim, Region IX P2 Librarian at (415) 744-1508.

#### **H. Wastewater Pollution Prevention Symposium**

This year, Region IX's Water Management Division hosted the Annual West Coast Wastewater Pollution Prevention Symposium, attended by nearly one hundred people. The event, which brings together Western state and local stormwater and wastewater officials, took place in San Francisco on November 13 and 14. Participants learned and shared information about design, funding and implementation of--as well as obstacles to--pollution prevention projects. Eileen Sheehan, Regional P2 Coordinator, gave one of the keynote addresses. For more information, call Liz Borowiec at (415) 744-1948.

## **I. Arizona Environmental Recycling Hotline**

The Arizona Environmental Recycling Hotline expanded its toll-free recycling hotline into all of the Region IX States. This project was a result of a demonstration grant which came from the Office of Administration and Resources Management's (OARM's) Public-Private-Partnership. The purpose of the grant was to develop alternative ways to finance environmental compliance and management by using funds from the private sector as well as the public sector. In September of 1994, the Hotline received additional funding of \$19,000. For the entire grant period, the funds provided to the Hotline equalled \$56,000 with 5% match from the Hotline for \$3,000. The project was successfully completed and met or exceeded all its goals. For more information, contact Viola Cooper at (415) 744-1633.

## **Theme 5: Developing partnerships in technological innovation with other agencies and the private sector to increase industrial competitiveness and enhance environmental stewardship.**

The federal government has a large role in promoting new technologies that have both environmental and economic benefits. Region IX has worked extensively with the states, industry, and local agencies to develop new ways of doing business that protect and enhance human health and the environment.

### **A. Environmental Technology Initiative (ETI)**

The Environmental Technology Initiative was announced by President Clinton in 1993, and was funded at \$68 million nationwide in FY95. By promoting the development, commercialization, and use of environmental technology, ETI seeks to improve environmental quality while fostering the creation of jobs and business. A major component of ETI is to foster products, services, and innovative technologies that prevent pollution. Sixteen ETI awards, totaling \$4.7 million, were granted to Region IX partnerships in FY95; seven of these awards are directly related to P2. Funds were released in the last quarter, so it is too early to project results. For more information, contact Winona Victory at (415) 744-1021.

### **B. UCLA Wet Cleaning Demonstration Project**

The University of California, Los Angeles (UCLA) Pollution Prevention Education and Research Center (PPEREC) is implementing a public-private partnership to demonstrate and study the process of wet cleaning. Wet cleaning is the process of using one or more water-based techniques to clean garments which have traditionally been dry cleaned. The hope is that wet cleaning will become a non-carcinogenic alternative to dry cleaning with perchloroethylene and other chlorinated solvents.

Studies will be performed at a privately owned wet cleaning facility. Testing will be done to measure the effectiveness, consumer acceptance, financial performance, energy and water usage, and employment potential of a wet cleaning facility compared to typical dry cleaning shops. This project is being funded by grants from the South Coast Air Quality Management District, the California Air Resources Board, and EPA. EPA's funding is in the form of an ETI socioeconomic

research pollution prevention grant. The UCLA PPERC contact for this project is Jessica Goodheart at (310) 206-4450.

### **C. Port of San Diego Partnership Project**

In June 1995, the San Diego Unified Port District and Region IX initiated an innovative partnership project to promote P2 within its jurisdiction. The project's goal is to help District and tenant facilities reduce environmental risk through P2 technical assistance. EPA's contractor, SAIC, with support from the District and San Diego Port Tenants Association (SDPTA), completed 18 onsite consultations with facilities. The types of facilities receiving assistance include boatyards, marinas, ship repair businesses, and facilities that perform vehicle maintenance. The purpose of the visits is to help tenants cost-effectively address environmental and compliance issues through pollution prevention (e.g., source reduction, best management practices, recycling). The identities of the businesses are kept confidential. Also, hands-on workshops are planned for facilities in order to reach a larger number of tenants. EPA's intention is that the pilot project will serve as a model for other ports. For more information, contact Bill Wilson at (415) 744-2192.

**Theme 6:     Developing partnerships with other federal agencies to create major opportunities for pollution prevention through investments in new technologies, and through policies that shape decisions in agriculture, energy, transportation, and the management of natural resources.**

### **A. Central California Regional Water Recycling Study**

Region IX's Water Management Division has participated in the Central California Regional Water Recycling study, an effort supported by over 20 water agencies and organizations in the San Francisco Bay Area that is exploring ways to reuse--rather than discharge--the significant amount of wastewater generated in Bay Area cities and towns. Recycling would increase the reliable water supplies for cities, farms and the environment while reducing the discharge of treated wastewater into San Francisco Bay. The key issues the study is addressing are the appropriate level of treatment for the recycled water, impacts and benefits to the environment, fair and reasonable ways to pay for treatment and conveyance facilities, and management of salts in agricultural applications. For more information, call Nancy Yoshikawa at (415) 744-1163.

### **B. Action Plan for the Statement of Support for Water Reclamation**

Region IX's Water Management Division was a key partner in the development of a final Action Plan, agreed upon by a number of California and Federal agencies, to implement the commitment the agencies made in signing California's "Statement of Support for Water Reclamation." The process of developing the document included a very successful full-day facilitated workshop, which was co-sponsored by Region IX. The Action Plan provides a framework for the appropriate agencies to work on specific projects to promote water reclamation in California, including education and outreach. For more information, call Nancy Yoshikawa at (415) 744-1163.

### **C. Transportation Initiative**

Region IX's Water Management Division and Air and Toxics Division initiated an internal discussion group to support state and local efforts that seek to reduce the environmental impacts of automobiles and of the larger transportation sector. In December, group members assisted EPA Headquarters' Office of Policy, Planning and Evaluation in organizing a one-day seminar for Region IX staff on transportation issues; several group members made presentations on their area of expertise. On a related note, the Water Management Division is lending support to a national task force, led by EPA Headquarters' Office of Water, that is considering the impacts to water quality of copper from brake pads. For more information on any of the above, please call Niko Letunic at (415) 744-1941.

### **D. Marsh Restoration on San Francisco Bay**

Region IX's Water Management Division was a partner in the Sonoma Baylands Tidal Marsh Restoration project, developed by the California State Coastal Conservancy and the Sonoma Land Trust to restore a large hayfield to its historic conditions as a tidal wetland. To make up the 7.5 feet of mud that had disappeared over time, the project will make use of more than 2.5 million cubic yards of clean dredged material from the Port of Oakland, which wanted to deepen its channels in order to accommodate larger container ships but had not been able to find a politically popular disposal option. San Francisco Bay will gain a 322-acre tidal wetland designed especially to aid endangered species, while the port and the region will benefit by increased economic activity. For more information, call Brian Ross at (415) 744-1979.

### **E. Sediment Reduction**

Ballona Creek drains a highly urbanized portion of the Los Angeles Area into Marina del Rey. Along with other Federal agencies and local governments, Region IX's Water Management Division has participated in a task force attempting to reduce the amount of sedimentation that enters the Creek, blocking navigation into Marina del Rey and impacting water quality. The task force is also involved in reducing the amount of contamination entering the Creek through P2 methods (to avoid remediation of contaminated sediments every few years) as well as possible reuse--instead of disposal--of clean dredged material. For more information, call Paul Michel at (415) 744-1979.

### **F. Forestry Initiative**

As part of EPA's commitment to President Clinton's Northwest Forestry Summit--and its resulting plan for better forest ecosystem management--Region IX formed a multi-media Forestry Initiative to coordinate the actions of Federal and State agencies that share authority over forestry in California. The goal of the Forestry Initiative is to achieve sustainable forestry practices that will ensure the integrity of ecosystems, including protection of endangered species; P2 measures being used toward that goal include restoration of habitats, reduction of fertilizer and pesticide use, revegetation of riparian areas, decommissioning unused roads, erosion control practices and improved management of prescribed burns. Contact Chris Heppe at (415) 744-2009 for more information.

### **G. Southern Alameda Creek Watershed Project**

The Alameda County Resource Conservation District received \$150,000--funded through a special Congressional appropriation under the Near Coastal Waters Program--from Region IX's Water Management Division for a watershed protection project. As part of the larger vision for the San Francisco Estuary Project, the Conservation District is using the funds to develop a rangeland-management partnership among private landowners and land-management agencies to protect and improve water quality and biodiversity of the Alameda Creek watershed. By fostering voluntary adoption of proper management, the project will target poor grazing management, road construction, water diversion and other adverse land-use activities that are the suspected cause of soil erosion and stream sedimentation in the area. For more information, call Tim Vendlinski at (415) 744-1989.

### **H. Federal Facilities Pollution Prevention Roundtables**

In FY95, EPA Region IX helped to establish pollution prevention roundtables for Department of Defense and Department of Energy facilities in three areas of Region IX: southern California, northern California and Hawaii. Each of the roundtables meets quarterly and information and advice on P2 techniques is shared between participants. The roundtables are regularly attended by thirty to one hundred participants.

The roundtables are assisting federal facilities in achieving the 50 percent reduction in the off-site transfer and on-site emissions of hazardous constituents between 1994 and 2000 mandated by Executive Order 12856. For more information, contact Sara Segal at (415) 744-1575.

### **Theme 7: "Leading by doing." Reducing or eliminating pollutants generated from EPA operations.**

The federal government is one of the largest purchasers of goods and services. EPA Region IX has worked hard to set a good example for both the public and private sector.

#### **A. Paper-Less Office Campaign**

Region IX accepted Administrator Browner's Paper-Less Office Campaign Challenge to reduce the use of office paper by 15% in one year. To measure success, the Closed Loop Team (which had been promoting paper reduction, reuse and recycling to employees) tracked usage of photocopier paper between July 1994 and June 1995 and--based on past years' records--translated these numbers into total office-paper use. Bar graphs comparing usage with the previous year's were placed in each copier room and were updated monthly so that employees could monitor progress graphically; results were also announced electronically every month. Such ongoing, numbers-based and goal-driven tracking can be credited with our meeting the goals of the Challenge by reducing use of office paper by just over 15%. For more information, call Niko Letunic at (415) 744-1941.

#### **B. Bicycle Commuting at Region IX**

The ad-hoc Bicycle Commuting Committee, established in 1993, continued to promote bike commuting as a transportation alternative for Region IX employees and to educate staff about the environmental and health benefits of bicycling. The group hosted several lunch-time brown-bags,



made available books and videos through the Library, and organized a hugely successful Bike-to-Work Day event that drew over 50 participants from EPA and the three other Federal agencies that share the building (SSA, HCFA and INS). Unfortunately, and despite much organizing, the group has not been successful in obtaining space for the installation of new bicycle racks to meet growing demand. For more information, call Niko Letunic at (415) 744-1941.

### **C. Region IX Laboratories**

The EPA Region IX Laboratory officially opened for business on January 6, 1994. The following pollution prevention activities were implemented or refined at the Region IX Laboratory last year:

- The Regional lab continued to improve the running times for the solvent recycling and extraction system. Approximately \$6,550 in savings were realized as a result of recycling methylene chloride. Spare parts have been purchased to decrease the equipment down-time during equipment failure.
- Cooling water from the water distillation process is recycled through the newly purchased chilled water re-circulator to decrease water usage.
- A pollution prevention plan was prepared for the laboratory and submitted to headquarters. In addition, a pollution prevention team was formed at the laboratory that meets periodically.
- Pollution prevention training was provided to staff.
- Hazardous material storage containers such as glass and plastic are being properly emptied and cleaned, as required, and recycled through the West County Glass Recycling Center.
- Paper, plastic, aluminum and cardboard items are being recycled.

For more information, contact Pierre Belanger, Lab Safety, Health and Environmental Manager at (510) 412-2313.

## CONCLUSION

As we look back on past yearly accomplishment reports, we are struck by the dramatic growth of pollution prevention, both in the number of accomplishments and in the breadth of activities on which we have reported. Indeed, P2 activity is becoming so pervasive that capturing all actions that embody it is becoming more of a challenge as time goes on. National initiatives such as Project XL and the Common Sense Initiative have made P2 a philosophical foundation. Regional ventures like Merit work with individual facilities to demonstrate P2's effectiveness to entire industries. Our future challenge will be to disseminate these findings far and wide, to capitalize on the innovative pilot projects and to bring them widespread implementation.

Our job at EPA has been, and will continue to be, to push those who have not tried pollution prevention, or have only given it lip service. We do so not just because P2 is our policy, but because *P2 works*. We've been convinced that by a continuing program of environmental stewardship, with P2 at the core, a healthier environment will emerge, with less confrontation, and better allocation of resources. This reality is widely accepted in industry already, and government, small business, and agriculture are beginning to adapt many of the industry P2 models or are creating their own. Our continuing mission is to identify sectors that still have not fully adopted P2 and create opportunities for them to learn about its usefulness.

Pollution prevention also has application for the individual. Each of us, as consumers, makes daily choices that create (or avoid) the release of pollutants. The impact may be immediate and geographically congruent, such as taking one's auto to work. Or the impact may be one that slowly works in the marketplace and has environmental impacts in distant places, such as avoiding over-packaged and individually wrapped foods at the grocery store. Due to the complexity of the issues surrounding most of these consumer actions, we have far to go in moving from glittering generalities to practical, scientifically-based advice. It is becoming increasingly apparent to pollution prevention service providers that the collective impact of the consumer is the ultimate challenge for us. As we take our first, tentative steps into that arena, we prepare for a long uphill road.

## **Appendix A: Pollution Prevention Grants and Other Projects in Region IX**

## NATIONALLY AWARDED GRANTS AND CONTRACTS

	TITLE & FUNDING SOURCE	PURPOSE	R9 RECIPIENT & AMOUNT AWARDED	PROJECT DESCRIPTION	SCHEDULED COMPLETION, COMMENTS & REGION 9 CONTACT
	<b>POLLUTION PREVENTION INCENTIVES FOR STATES GRANTS (PPIS)</b>				
	Pollution Prevention Incentives for States (PPIS) Grant	To help build and support state pollution prevention (P2) programs and to test, at the state level, innovative pollution prevention approaches and methodologies.	Hawaii Dept. of Health Services: \$54,000	Development and implementation of a restaurant P2 program. Project addresses grease in the sewer system, water and energy use, solid wastes, and air quality issues through a series of workshops throughout the state.	Awarded FY95  Contact: Bill Wilson H-W-2 (415) 744-2192
	Pollution Prevention Incentives for States (PPIS) Grant	Same as above	California Department of Pesticide Regulation. \$160,000	Creation of a three-year cooperative outreach program to prevent ground water pollution by pesticides in grape and citrus producing areas of Tulare and Fresno counties.	Awarded FY95  Contact: Mary Grisier A-4-1 (415) 744-1095
	Pollution Prevention Incentives for States (PPIS) Grant	Same as above	University of California: \$160,210	Reduction pesticide pollution through training of pesticide use decision makers.	Awarded FY95  Contact: Mary O'Donnell A-4-5 (415) 744-1068
	Pollution Prevention Incentives for States (PPIS) Grant	Same as above	California Air Resources Board: \$75,000	To increase the emphasis on P2 in the agency's publications, in its training program, on its computer bulletin board, and on its Helpline.	Awarded FY95  Contact: Valerie Cooper A-2-3 (415) 744-1237
	Pollution Prevention Incentives for States (PPIS) Grant	Same as above	San Francisco Regional Water Quality Control Board: \$125,790	Partial funding of a project to promote local efforts to avoid pollution from construction activities	Awarded FY95  Contact: Tim Vendlinski W-2-4 (415) 744-1989

	<b>TITLE &amp; FUNDING SOURCE</b>	<b>PURPOSE</b>	<b>R9 RECIPIENT &amp; AMOUNT AWARDED</b>	<b>PROJECT DESCRIPTION</b>	<b>SCHEDULED COMPLETION, COMMENTS &amp; REGION 9 CONTACT</b>
	Pollution Prevention Incentives for States (PPIS) Grant	Same as above	The Navajo Nation Federal Award: \$182,000	1. Develop an institutional structure within the tribe to promote P2 2. Target priority areas for multi-media P2 projects (fleet maintenance, Packard-Hughes facility and agriculture) 3. Conduct outreach, education and technology transfer, including a technical clearinghouse.	Awarded FY93 Scheduled Completion: 9/96  Contact: Wendy Colombo A-5-3 (415) 744-1202
	Pollution Prevention Incentives for States (PPIS) Grant	Same as above	American Samoa Federal Award: \$50,000	1. Assess toxic loading on Pago Pago Bay 2. Target the highest emitting facilities for P2 audits 3. Implement P2 on a voluntary basis and through enforcement/permitting	Awarded FY93 Scheduled Completion: 12/96  Contact: Pat Young E-4 (415) 744-1594
	Pollution Prevention Incentives for States (PPIS) Grant	Same as above	Arizona Department of Environmental Quality: \$180,000	The Arizona Pollution Prevention Leadership Enhancement Program will fund seminars, conferences, a summer intern program, and a targeted reduction program.	Awarded FY94 Scheduled Completion: 9/96  Contact: Clint Seiter H-2-2 (415) 744-2141
	Pollution Prevention Incentives for States (PPIS) Grant	Same as above	University of Nevada-Reno Small Business Development Center: \$200,000	Operate a multi-media P2 program for small businesses, including workshops, individual and on-site assistance, and a newsletter.	Awarded FY94 Scheduled Completion: 9/97  Contact: Tony Terrell H-2-2 (415) 744-2029
	Pollution Prevention Incentives for States (PPIS) Grant	Same as above	California Dept. of Toxic Substances Control: \$200,000	Local government P2 support projects, including assistance with Regional P2 roundtables, environmental group partnership and the Los Angeles TOPPs program.	Awarded FY94 Scheduled Completion: 6/96  Contact: Elizabeth Adams H-6-5 (415) 744-2235
	Pollution Prevention Incentives for States (PPIS) Grant	Same as above	The California Trade and Commerce Agency Federal Award: \$204,000	1. Establish P2 assistance programs within three Small Business Development Centers in Merced, Solano, and Riverside counties  2. These programs will deliver P2 information, training, and on-site assessments of small businesses	Awarded FY93 Scheduled Completion: 9/96  Contact: Leif Magnuson H-4-3 (415) 744-2153

	<b>TITLE &amp; FUNDING SOURCE</b>	<b>PURPOSE</b>	<b>R9 RECIPIENT &amp; AMOUNT AWARDED</b>	<b>PROJECT DESCRIPTION</b>	<b>SCHEDULED COMPLETION, COMMENTS &amp; REGION 9 CONTACT</b>
	<b>ENVIRONMENTAL JUSTICE THROUGH POLLUTION PREVENTION (EJP2)</b>				
	Environmental Justice Through Pollution Prevention (EJP2)	To promote environmental justice through the use of pollution prevention techniques	South Bayshore Community Development Corp: \$95,000	Train community members to perform waste audits at restaurants and produce markets.	Awarded FY95 Contact: Bill Wilson H-W-2 (415) 744-2192
	Environmental Justice Through Pollution Prevention (EJP2)	Same as above	Resource Policy Institute: \$50,000	Develop and deliver a long-term training program with key minority community leaders to conduct P2 assessments in their communities.	Awarded FY95 Contact: Bill Wilson H-W-2 (415) 744-2192
	Environmental Justice Through Pollution Prevention (EJP2)	Same as above	Institute for Research and Technical Assistance: \$96,750	Use of P2 techniques to address health and safety threats and environmental concerns in automotive parts cleaning applications.	Awarded FY95 Contact: Laurie Amaro A-2-3 (415) 744-1247
	Environmental Justice Through Pollution Prevention (EJP2)	Same as above	Pima County: \$72,000	Focus on P2 on commercial and light industrial operations in the City of South Tucson, a low income, primarily Hispanic community.	Awarded FY95 Contact: Bill Wilson H-W-2 (415) 744-2192
	Environmental Justice Through Pollution Prevention (EJP2)	Same as above	City of Nogales: \$86,250	Target potential sources of drinking water contamination in the Nogales area. Conduct P2 workshop, develop facility P2 plans, and establish a local source of P2 information.	Awarded FY95 Contact: Donna Orebic H-2 (415) 744-1284

	TITLE & FUNDING SOURCE	PURPOSE	R9 RECIPIENT & AMOUNT AWARDED	PROJECT DESCRIPTION	SCHEDULED COMPLETION, COMMENTS & REGION 9 CONTACT
	<b>OTHER NATIONAL POLLUTION PREVENTION GRANTS</b>				
	National Industrial Competitiveness through Efficiency, Energy, Environment, Economics (NICE3); jointly administered by EPA and DOE	The goal of this grant is to improve industrial energy efficiency and reduce costs and emissions to the environment.	California Integrated Waste Management Board:  NICE3 grant = \$100,000  Match = \$210,000  Total project = \$310,000	"Increasing Paper Industry Competitiveness Through Mixed Paper Recycling": The State teams up with the paper industry to "demonstrate how a typical paper product facility can substitute up to 40% of its raw material fiber production requirements with post consumer waste."	Duration: 1/93 - 1/96  This is a grant funded by EPA Headquarters, not the Regions.
	Agriculture in Concert with the Environment (ACE)   EPA Office of Pollution Prevention and Toxics & USDA	<ul style="list-style-type: none"> <li>• Adoption of sustainable agriculture/farming practices</li> <li>• Study of agricultural impact on habitats, wildlife protection</li> <li>• Education and training</li> </ul>	\$1.4 million available nationwide in FY95. <ul style="list-style-type: none"> <li>• California Tomato Research Institute: \$40,000</li> <li>• Source Ecosystems: \$30,430</li> </ul>	<ul style="list-style-type: none"> <li>• California Tomato Research Institute</li> <li>• Development and demonstration of a farm-wide system for control of the principle Lepidopterous pests of tomatoes based on disruption of premating pheromone communication between female and male moths</li> <li>• Source Ecosystems (Hawaii)</li> <li>• Orchard alley cropping in the subhumid tropics.</li> </ul>	California Tomato Research Institute Completion: 12/96 Source Ecosystems Completion: 12/97  <ul style="list-style-type: none"> <li>• Eligible:               <ul style="list-style-type: none"> <li>• farmers</li> <li>• non-profit organizations</li> <li>• land grant institutions</li> </ul> </li> <li>• Matching funds required</li> </ul> Contact: Rhonda Miller (Utah St Univ ) (801) 797-0351

	TITLE & FUNDING SOURCE	PURPOSE	R9 RECIPIENT & AMOUNT AWARDED	PROJECT DESCRIPTION	SCHEDULED COMPLETION, COMMENTS & REGION 9 CONTACT
	Small Business Innovation and Research Grants (SBIR)	To fund high-risk research by qualified small businesses in the EPA program areas, including pollution prevention.	Funding supplied by a 2% set-aside from the total extramural research budget. \$7 million awarded nationally in FY95. Available Grants: • Phase I grants provide up to \$65,000 for concept feasibility (6 months) • Phase II provides up to \$220,000 for continued development of the most promising Phase I projects.	SBIR projects in Region IX.  California: Altex Technologies Corp., Santa Clara, \$49,941 Low NO <sub>x</sub> Multiple Flame Burner  Membrane Technology and Research Inc., Menlo Park, \$50,000: Recycle and Reuse of VOCs from Fugitive Emissions and Small Vent Streams  Membrane Technology and Research Inc. Menlo Park, \$50,000: In-Process Recycling of Acetic Acid from Aqueous Waste Streams  Membrane Technology and Research Inc. Menlo Park: \$150,000 Carbon Adsorption /Membrane Regeneration Hybrid System  XXsys Technologies, San Diego, \$150,000: Development of an Ultrasonic Prototype Instrument to Replace and Environment-Polluting Measurement Practice in the Composite Materials Industry	This is funded by EPA headquarters. Ten other federal agencies also finance research through SBIR, including pollution control and prevention.  EPA Contact: Donald Carey, EPA Office of Exploratory Research, 202-260-7899.  For information on other agencies: Office of Technology, U.S. Small Business Administration, 202-205-7777
	Environmental Technology Initiative Grants (ETI)	Promotes the development, commercialization, and use of environmental technology to improve environmental quality while fostering the creation of jobs and business.	Funded at \$68 million nationwide in FY95.	ETI projects within Region IX include:  1) Environmental/Recycling Hotline  2) Regulatory barriers associated with establishing constructed wetlands for wastewater treatment/reuse and wildlife habitat enhancement  3) Develop two Regional environmental technology information systems for two tribal groups	Distributed by EPA HQ  Region IX Contact: Winona Vickers (P-2-1) (415) 744-1021



	TITLE & FUNDING SOURCE	PURPOSE	R9 RECIPIENT & AMOUNT AWARDED	PROJECT DESCRIPTION	SCHEDULED COMPLETION, COMMENTS & REGION 9 CONTACT
	Environmental Technology Initiative Grants (ETI)  (continued)	Same as above	Same as above	<p>4) Establishment of an area-wide, computer-based crop disease forecasting (monitoring) system</p> <p>5) Electric station car program: reducing pollution and promoting regional rail in southern California</p> <p>6) Barrier reduction: A program to test results-oriented partnership strategy to <i>reduce carefully targetted</i> regulatory/legislative barriers impeding full commercialization of innovative waste-treatment technologies</p> <p>7) Create an ecological restoration database</p> <p>8) Evaluate tax inequity as a barrier to innovative environmental technologies</p> <p>9) Chemical-free cleaning of semiconductors by the radiance process</p> <p>10) Pilot technology verification project to verify effectiveness of innovative environmental technologies</p> <p>11) Environmental-technology leveraging network exchange (E-lynx). Develop an interactive communication system focused on needs of end-users and technology producers</p> <p>12) San Diego/Tijuana Waste Wi\$e project to promote and implement waste reduction</p> <p>13) <i>Economic Incentive programs</i> for managing water quality in Nevada's Truckee River Basin</p> <p>14) Merit -geographically focused technical assistance and pollution prevention technology assessment, integration and training for the southern California metal</p>	Distributed by EPA HQ.  Region IX Contact: Winona Victory P-2-1 (415) 744-1021

## REGIONALLY SELECTED MULTI-MEDIA POLLUTION PREVENTION GRANTS AND CONTRACTS

TITLE & FUNDING SOURCE	PURPOSE	R9 RECIPIENT & AMOUNT AWARDED	PROJECT DESCRIPTION	SCHEDULED COMPLETION, COMMENTS & REGION 9 CONTACT
<b>ENVIRONMENTAL EDUCATION GRANTS</b>				
Environmental Education Grants  Office of Environmental Education	To stimulate environmental education by supporting projects to design, demonstrate, or disseminate practices, methods, or techniques related to environmental education or training.	\$186,000 awarded in FY95 to 25 groups  Arizona 1. Pima County Department of Environmental Quality: \$5,000 2. Intertribal Council of Arizona: \$17,500 3. Madison Simis Elementary School: \$4,857 4. Navajo Community College: \$4,500 5. Southwest Center for Education and the Natural Environment: \$5,000  California 1. Apple Valley Unified School District: \$2,150 2. Bayview Opera House: \$25,000	Arizona 1 Conduct workshops on clean air issues for Sunnyside School District elementary school teachers. 2. Provide a model K-8 environmental education curriculum and hold ten educator's workshops for teachers employed in reservation schools. 3. Enroll elementary students in a four-week summer institute to investigate water quality and conservation issues 4. Add an environmental education component to the "Summer Science Enrichment Program for Navajo Youth" 5. Link secondary school teachers and students with science experts for environmentally related research.  California 1 Produce a documentary video on students' efforts to seek efficient solutions to reducing waste disposal. 2. Use the creative medium of visual arts to teach elementary students about environmental issues.	Scheduled Completion 6/95  • Matching funds required  Contact: Stacey Benfer E-2 (415) 744-1586

	TITLE & FUNDING SOURCE	PURPOSE	R9 RECIPIENT & AMOUNT AWARDED	PROJECT DESCRIPTION	SCHEDULED COMPLETION, COMMENTS & REGION 9 CONTACT
	Environmental Education Grants (continued)	Same as above.	3. Citizens for a Better Environment: \$22,800 4. Conservation Science Institute: \$5,000 5. Friends of Cabrillo Marine Aquarium: \$4,600 6. Friends of the San Francisco Estuary: \$5,000 7. Greater Long Beach Girl Scout Council: \$4,950 8. Long Beach Unified School District: \$4,928 9. Mattole Unified School District: \$5,000 10. Oakland Museum of California: \$13,436 11. Sacramento Zoological Society: \$2,480 12. San Francisco Bay Wildlife Society: \$5,000 13. Tides Foundation Community Focus: \$5,000	3. Alert parents to the potential hazard of lead poisoning in four bilingual workshops. 4. Restore the natural habitat at the Alameda Naval Air Station through propagation of oak seedlings by students. 5. Conduct four workshops on marine environmental issues for 80 teachers. 6. Conduct a two-day workshop for teachers and Boy/Girl Scout leaders for creek monitoring projects. 7. Introduce 150 girl scouts and their leaders to environmental issues relating to surface and groundwater management. 8. Provide training for a staff member of Signal Hill Elementary School in three local priority environmental concerns. 9. Provide training for community's teachers, land owners, and other residents will allow them to define local needs. 10. Present an interactive exhibit on "Global Warming" along with a four-month long series of educational programs. 11. Acquaint educators with environmental education curriculum materials and practical ways to apply the materials. 12. Establish a field trip program at the Wildlife Refuge to teach about wetlands, endangered species, and migratory birds. 13. Assemble a team of students and parents to study air quality issues and solutions for their area.	

	TITLE & FUNDING SOURCE	PURPOSE	R9 RECIPIENT & AMOUNT AWARDED	PROJECT DESCRIPTION	SCHEDULED COMPLETION, COMMENTS & REGION 9 CONTACT
	Environmental Education Grants (continued)	Same as above.	<p>14. Tuolumne County Superintendent of Schools Office: \$14,600</p> <p>15. University of California, Santa Cruz: \$5,000</p> <p>16. Yosemite Community College District: \$5,000</p> <p>Hawaii</p> <p>1. Honolulu Zoological Society: \$5,000</p> <p>Nevada</p> <p>1. Northern Nevada Natural Resources Educational Council: \$5,000</p> <p>Commonwealth of the Northern Mariana Islands</p> <p>1. Department of Lands and Natural Resources: \$5,000</p>	<p>14. Conduct a week-long conference on forest health management for 50 K-12 teachers</p> <p>15. Strengthen marine science education programs in local schools through teacher training.</p> <p>16. Match up retired scientists with 25 rural elementary school teachers to implement environmental education curriculum</p> <p>Hawaii</p> <p>1. Present 16 workshops for 320 teachers to offer creative and environmentally motivated lessons to their students in preparation for zoo field trips</p> <p>Nevada</p> <p>1. Sponsor ten one-day field trips for students to explore the unique Great basin eco-region</p> <p>Commonwealth of Northern Mariana Islands</p> <p>1. Complete the development of a high school environmental science textbook presently in draft form</p>	<p>Scheduled Completion: 6/96</p> <p>• Matching funds required</p> <p>Contact: Stacey Benfer E-2 (415) 744-1586</p>

	TITLE & FUNDING SOURCE	PURPOSE	R9 RECIPIENT & AMOUNT AWARDED	PROJECT DESCRIPTION	SCHEDULED COMPLETION, COMMENTS & REGION 9 CONTACT
	<b>PUBLIC-PRIVATE PARTNERSHIPS AND OTHER OPM GRANTS</b>				
	<p>Electronic "Voice-mail" Hotline for recycling information toll free 800 #</p> <p>Public/Private Partnership demonstration grant (EPA HQ)</p>	<p>Promote recycling and waste reduction at local level, with financing provided mostly by private sector. Software applicable nationwide. No cost to caller.</p>	<p>Recycling Hotline: \$19,000 in FY94 to supplement \$37,000 FY93 grant.</p>	<p>Toll free 800 number gives access to a national voice-mail system keyed to postal ZIP codes which provides information on local recycling centers. The service is paid for by private sector advertising and media contributions. A second grant has been negotiated to expand the program nation-wide to all states, with HQs OARM and OSWER approval. Region IX is proposing to partner the Hotline in an ETI grant for FY95 to speed expansion nationwide and start expansion into Mexico and Canada. Currently active in 8 states.</p>	<p>Scheduled Completion 7/30/95</p> <p>Contact Viola Cooper P-2-1 (415) 744-1633</p>

	<b>TITLE &amp; FUNDING SOURCE</b>	<b>PURPOSE</b>	<b>R9 RECIPIENT &amp; AMOUNT AWARDED</b>	<b>PROJECT DESCRIPTION</b>	<b>SCHEDULED COMPLETION, COMMENTS &amp; REGION 9 CONTACT</b>
	<b>2% SET-ASIDE FUNDS</b>				
	2% Pollution Prevention Set-Aside Funds (FY95)	This money was part of the FY95 allocation for pollution prevention activities.	California Department of Pesticide Regulation. \$25,000	Funding to support AB3383 integrated pest management program.	Contact Mary Grisier A-4-1 (415) 744-1095
	2% Pollution Prevention Set-Aside Funds (FY95)	Same as above	UCLA Community Food Security Project: \$25,000	For community supported agriculture that features pollution prevention and organic farming.	Contact Karen Salkind A-4-1 (415) 744-1100
	2% Pollution Prevention Set-Aside Funds (FY95)	Same as above	California Department of Pesticide Regulation: \$25,000	For demonstration projects in Lompoc, including vegetative buffers and integrated pest management.	Contact Karen Salkind A-4-1 (415) 744-1100
	2% Pollution Prevention Set-Aside Funds (FY95)	Same as above	Local Government Commission: \$25,000	To assess the need for a Regional Pollution Prevention Center, develop materials, and hold stakeholder meetings.	Contact Laurie Amaro A-2-3 (415) 744-1247
	2% Pollution Prevention Set-Aside Funds (FY95)	Same as above	American Lung Association: \$8,300	To support "Tools for Schools" action kit dissemination and training for school administrators.	Contact Barbara Spark A-1-1 (415) 744-1132
	2% Pollution Prevention Set-Aside Funds (FY94)	This project was funded by the FY94 allocation for P2 activities.	Commonwealth of Northern Mariana Islands  Federal Award (FY94): \$18,306	Regulatory compliance workshops for local industry (Saipan, Tinian, and Rota)	Contact Jim Branch E-4 (415) 744-1601

	<b>TITLE &amp; FUNDING SOURCE</b>	<b>PURPOSE</b>	<b>R9 RECIPIENT &amp; AMOUNT AWARDED</b>	<b>PROJECT DESCRIPTION</b>	<b>SCHEDULED COMPLETION, COMMENTS &amp; REGION 9 CONTACT</b>
	2% Pollution Prevention Set-Aside Funds (FY94)	Same as above	Local Government Commission (Sacramento): \$76,694	Assistance to local governments in implementing multi-media P2 programs	Contact: Laurie Amaro A-2-3 (415) 744-1247
	2% Pollution Prevention Set-Aside Funds (FY94)	Same as above	Marin County Office of Waste Management : \$60,000	Regional (Bay/Delta) P2 project for marines, boat yards, and recreational boaters. Project includes local inspector training, marina educational programs, and boater education.	Contact: Donn Zuroski H-8-3 (415) 744-2285
	2% Pollution Prevention Set-Aside Funds (FY93)	TRADEX Project  Project to provide transborder assistance for developing environmental excellence.	San Diego County Department of Health Services: \$44,100	<ul style="list-style-type: none"> <li>• Work with companies with operations in Mexico on P2 opportunities</li> <li>• Provide targeted assistance (training, materials) to these companies</li> </ul>	Completed 12/95 Final Report Available  Contact: Eileen Sheehan H-W-2 (415) 744-2190
	2% Pollution Prevention Set-Aside Funds (FY93)	These funds are intended to enhance the ability of Regional offices to use pollution prevention approaches to address high risk environmental problems and to help institutionalize pollution prevention into regulatory and non-regulatory programs.	EPA Region IX Agriculture Initiative Project in the Water Management Division received \$80,000.	The Agriculture Initiative currently is working with the Dixon Resource Conservation District to reduce pesticide use. These funds will build upon these efforts and address pesticide use in tomatoes, California's highest value vegetable crop.	Contact: Paul Feder W-3-1 (415) 744-2010
	2% set-aside from ORD (FY90)	This money was part of the FY90 national 2% allocation which went to ORD ORD selected several projects at SCAQMD to fund.	Region IX recipient: South Coast AQMD EPA funding. \$31,000 FY-91 funds South Coast AQMD funding: \$56,000	Evaluated low-VOC coating technology opportunities in printing, architectural and industrial maintenance coatings, and adhesives through the Center for Emissions Research and Analysis (CERA)	Final Report Available  ORD Contact Mike Kosusko (919) 541-1195

	<b>TITLE &amp; FUNDING SOURCE</b>	<b>PURPOSE</b>	<b>R9 RECIPIENT &amp; AMOUNT AWARDED</b>	<b>PROJECT DESCRIPTION</b>	<b>SCHEDULED COMPLETION, COMMENTS &amp; REGION 9 CONTACT</b>
	2% set-aside from ORD (FY 90)	Same as above.	Region IX recipient: South Coast AQMD EPA funding: \$100,000 SCAQMD funding: \$100,000 Lilly (paint company) funding \$50,000	CERA/South Coast Cooperative Agreement. Low-VOC or no-VOC coating demonstration project for wood furniture. Developed two top coats that met all performance criteria, and conducted market study.	Final Report available  ORD contact: Bob McCrillis (919) 541-2733
	2% set-aside from ORD (FY90)	Same as above.	Region IX recipient: Air pollution prevention and control division EPA funding: \$70,000 in FY 95	Develop test methods to identify how much VOCs are in consumer products and develop method to speciate into individual components.	ORD contact: Jamie Whitfield (919) 541-2509.



	TITLE & FUNDING SOURCE	PURPOSE	R9 RECIPIENT & AMOUNT AWARDED	PROJECT DESCRIPTION	SCHEDULED COMPLETION, COMMENTS & REGION 9 CONTACT
	<b>OTHER REGIONAL AC&amp;C CONTRACT FUNDS FOR MULTI-MEDIA PROJECTS</b>				
	Pollution Prevention Library Resource Center	<ul style="list-style-type: none"> <li>Continues pollution prevention center in Region IX library</li> </ul>	<ul style="list-style-type: none"> <li>\$55,000 per year</li> </ul>	<ul style="list-style-type: none"> <li>Funds pollution prevention librarian and purchase of pollution prevention resources</li> </ul>	Funding through: <ul style="list-style-type: none"> <li>Region IX allocation of the regional support account</li> </ul> Contact: Eileen Sheehan H-W-2 (415) 744-2190

## WATER PROGRAM GRANTS

	TITLE & FUNDING SOURCE	PURPOSE	R9 RECIPIENT & AMOUNT AWARDED	PROJECT DESCRIPTION	SCHEDULED COMPLETION, COMMENTS & REGION 9 CONTACT
	<b>BASE WATER PROGRAM GRANTS</b>				
	Non-Point Source Grants  319(h)	<ul style="list-style-type: none"> <li>State Non-Point Source (NPS) Program implementation</li> <li>Surface and groundwater protection</li> </ul>	<ul style="list-style-type: none"> <li>Approx. \$4.2 million for R9 annually</li> <li>50 % of funds awarded to State to support base program.</li> <li>Allocation to each State based on a national formula</li> </ul>	Projects support: <ul style="list-style-type: none"> <li>Pollutant source reduction and abatement through demonstration of management practices that prevent pollution, and protect/enhance water quality</li> <li>Public education and outreach to promote pollution prevention and heighten awareness on NPS pollution.</li> </ul>	Grants 5-20 % match   Contact: Sam Ziegler W-3-1 (415) 744-1990
	Construction Grant Administration Funds	<ul style="list-style-type: none"> <li>Administration of the Construction Grants Program</li> <li>Funds may also be applied towards:               <ul style="list-style-type: none"> <li>POTW compliance maintenance</li> <li>promotion of pollution prevention practices</li> <li>permits</li> <li>monitoring</li> <li>water quality planning</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>States</li> <li>De-obligated funds, variable</li> </ul>	Pollution prevention components in Hawaii: <ul style="list-style-type: none"> <li>wastewater and sludge reuse</li> <li>wastewater minimization through water conservation</li> <li>cesspool phase-out</li> </ul>	<ul style="list-style-type: none"> <li>No match requirement</li> <li>Requires adequate state strategy to wind down construction grants program</li> </ul> Contact: Linda Reeves W-2-1 (415) 744-1944
	State Revolving Loan Program	\$ is applied towards: <ul style="list-style-type: none"> <li>POTW construction, compliance and maintenance</li> <li>nonpoint source projects, including pollution prevention</li> </ul>	This program is administered by the states for a loan program to local communities	Loan projects in FY94 included: <ul style="list-style-type: none"> <li>City of Davis for a constructed wetland</li> <li>Panoche Water District to replace outdated irrigation equipment with more efficient, water conserving devices</li> </ul>	Contact: Juanita Licata W-2-1 (415) 744-1949

	TITLE & FUNDING SOURCE	PURPOSE	R9 RECIPIENT & AMOUNT AWARDED	PROJECT DESCRIPTION	SCHEDULED COMPLETION, COMMENTS & REGION 9 CONTACT
	State Wetlands Protection Development Grants  104 (b)(3)	To support State wetlands protection programs, either by • developing new programs, or • refining existing ones	<ul style="list-style-type: none"> <li>• Funding for FY95: \$15 million nationwide</li> <li>• 4 Region IX projects with pollution prevention elements</li> </ul>	4 Projects w/ pollution prevention elements <ul style="list-style-type: none"> <li>• California: \$82,000 Planning/Policy Development for Impact Avoidance to Long Valley/June Lake</li> <li>• Republic of Palau: \$17,000 training in wetland delineation and functions</li> <li>• CNMI: \$7,000 for training in wetland delineation and functions</li> <li>• California: \$150,000 for statewide analysis of wetland resources</li> </ul>	<ul style="list-style-type: none"> <li>• Funding for State agencies and Indian Tribes only</li> <li>• 25% match required</li> </ul> Contact: Suzanne Marr W-3-1 (415) 744-1974
	Underground Injection Control (UIC) Grant Program  SDWA 1443(b)	Establishment/Implementation of UIC programs by states	<ul style="list-style-type: none"> <li>• \$ to states w/ primacy for implementation of UIC programs</li> <li>• In FY95, \$100,000 was awarded for programs in Anaheim, Scotts Valley, Kern County, and San Bernardino County</li> </ul>	Pollution prevention incorporated in elements of enforcement action: some wells out of compliance required to develop pollution prevention implementation plan All grants included funds for inspections to limit discharge of wastes to underground sources of drinking water.	Ongoing Grants  Contact: Susan Wichard W-6-3 (415) 744-1924
	National Estuary Program	<ul style="list-style-type: none"> <li>• To maintain and restore the integrity of the nation's 17 estuaries through sound management practices</li> <li>• Region 9 estuaries include San Francisco Bay (SFEP), Santa Monica Bay (SMEP), and Morro Bay (MBEP)</li> </ul>	SFEP funding \$460,000 <ul style="list-style-type: none"> <li>• NEP 104 (b)(3): \$310,000</li> <li>• 104 (b)(3) Congressional Add-on. \$150,000</li> </ul> SMEP <ul style="list-style-type: none"> <li>• NEP 104 (b)(3) funds \$370,000</li> </ul> MBEP <ul style="list-style-type: none"> <li>• NEP 320 (g) \$125,000</li> </ul>	All programs have a large pollution prevention component, including <ul style="list-style-type: none"> <li>• waste minimization</li> <li>• implementation of BMPs for agricultural and urban run-off</li> <li>• recycling</li> <li>• education and public outreach</li> </ul>	Contacts: <ul style="list-style-type: none"> <li>Santa Monica Bay Jovita Pajarillo, W-1 (415) 744-2011</li> <li>San Francisco Bay Tim Vendlinski, W-3 (415) 744-1989</li> <li>Morro Bay Cheryl McGovern, W-3-2 (415) 744-2013</li> </ul>

	<b>TITLE &amp; FUNDING SOURCE</b>	<b>PURPOSE</b>	<b>R9 RECIPIENT &amp; AMOUNT AWARDED</b>	<b>PROJECT DESCRIPTION</b>	<b>SCHEDULED COMPLETION, COMMENTS &amp; REGION 9 CONTACT</b>
	Section 106 Water Pollution Control	<ul style="list-style-type: none"> <li>Administer programs for the prevention, reduction &amp; elimination of water pollution</li> <li>Recipients include States, Interstate agencies, Indian tribes</li> </ul>	Pollution prevention is gradually being integrated into States' workplans. Overall 106 funding for FY95: Surface/ Ground -AZ \$555,000/ \$179,499 -CA \$3,500,000/ \$482,151 -HI \$469,000/ \$0 -NV \$222,000/ \$173,467 -Territories \$679,388/ \$231,233 -Native Am. \$942,825/ \$33,580	Incorporation of pollution prevention into wastewater permitting inspection & enforcement, sludge and wastewater reclamation programs, education and public outreach	Awarded 10/94 Completion 9/95  Contacts Cheryl McGovern W-3-1 (415) 744-2013  Nancy Yoshikawa W-2-2 (415) 744-1939
	104(b)(3) Water Quality Grants - Watershed Protection	Watershed development projects	<ul style="list-style-type: none"> <li>Santa Monica Bay and Calleguas-Conego: \$200,000</li> </ul>	Development of watershed approach to improve water quality through implementation of urban BMPs, pollution prevention, NPDES permits, pretreatment, stormwater and other elements of water quality programs.	Contact: Mark Flachsbart W-5-1 (415) 744-1874

	TITLE & FUNDING SOURCE	PURPOSE	R9 RECIPIENT & AMOUNT AWARDED	PROJECT DESCRIPTION	SCHEDULED COMPLETION, COMMENTS & REGION 9 CONTACT
	104(b)(3) Water Quality Cooperative Agreements- (Stormwater sludge & pretreatment)	Unique investigations, pilots/demonstrations to implement NPDES related activities	FY95: • \$939,873 awarded to Region IX for stormwater, sludge & pretreatment and implementation of watershed approach.	<p><b>Arizona</b></p> <ol style="list-style-type: none"> <li>1. \$138,974 awarded to ADEQ for the development of their stormwater program.</li> <li>2. \$133,955 grant for the development of a sludge program which promotes its beneficial reuse.</li> <li>3. \$115,000 grant for the development of watershed approach to improve water quality through implementation of urban BMPs, pollution prevention, NPDES permits, pretreatment, stormwater and other elements of water quality programs.</li> </ol> <p><b>California</b></p> <ol style="list-style-type: none"> <li>1. \$200,000 to SWRB to bring all stormwater non-filers into compliance with the general stormwater permit.</li> <li>2. \$85,000 to the SWRCB to study non-stormwater discharges and provide recommendations on how to address them.</li> <li>3. \$60,000 to produce a handbook for implementing stormwater compliance programs by municipalities.</li> <li>4. \$34,000 awarded for biosolids operator training program.</li> </ol> <p><b>Nevada</b></p> <p>\$172,944 for the development of a stormwater program.</p>	<p><b>Arizona</b></p> <p>EPA Contact: Mark Flachsbart W-5-1 (415) 744-1874</p> <p>State Contact: Melanie Barton (602) 207-4139</p> <p><b>California</b></p> <p>EPA Contact: Mark Flachsbart</p> <p>State Contact: Lindsey Roberts (510) 382-7800</p> <p><b>Nevada</b></p> <p>EPA Contact: Mark Flachsbart</p>

## RCRA PROGRAM GRANTS AND CONTRACTS

	TITLE & FUNDING SOURCE	PURPOSE	R9 RECIPIENT & AMOUNT AWARDED	PROJECT DESCRIPTION	SCHEDULED COMPLETION, COMMENTS & REGION 9 CONTACT
	<b>BASE SOLID AND HAZARDOUS WASTE PROGRAM GRANTS</b>				
	Solid Waste Technical Assistance (RCRA §8001)	Hazardous and solid waste research, demonstrations, training, and other projects. Regional allocation may be used for contracts, grants, or cooperative agreements. May not be used for ongoing program implementation.	<ol style="list-style-type: none"> <li>1. CA Integrated Waste Management Board: \$500,000 (FY94)</li> <li>2. Arizona Dept. of Commerce: \$74,000 (FY 94)</li> <li>3. California Chamber of Commerce: \$25,000 (FY94)</li> <li>4. Tucson Office of Economic Development: \$50,000 (FY94) \$15,000 (FY95)</li> <li>5. Community Environmental Council: \$50,000 (FY94)</li> <li>6. NV Recycling Coalition (NVRC): \$29,000 (FY94)</li> <li>7. LA Shares: \$40,000 (FY94)</li> <li>8. Navajo-Zuni: \$30,000 (FY94)</li> </ol>	<ol style="list-style-type: none"> <li>1. Recycling/Reuse Business Assistance Center</li> <li>2. Recycling Economic Development Advocate</li> <li>3. WasteWi\$e Grant</li> <li>4. Recycling Economic Development Project will provide direct technical assistance to recycling processors and manufacturers.</li> <li>5. CEC will work with the Ventura and Long Beach Recycling Market Development Zones to identify manufacturers with high potential to convert to recycled feedstock.</li> <li>6. NVRC will host an annual "Jobs Through Recycling" conference focused on recycling economic development in the Western States.</li> <li>7. LA Shares is a clearinghouse which redirects excess materials back into reuse by matching private sector generators with non-profit users.</li> <li>8. Develop waste reduction program for tribes.</li> </ol>	<ol style="list-style-type: none"> <li>1. Contact: David Duncan H-3-1 (415) 744-2106</li> <li>2. Contact: Kathy Kaplan H-2 (415) 744-2105</li> <li>3. Contact: David Duncan</li> <li>4. Contact: David Duncan</li> <li>5. Contact: Kathy Kaplan</li> <li>6. Contact: David Duncan</li> <li>7. Contact: David Duncan</li> <li>8. Contact: Rebecca Jamison H-2 (415) 744-2098</li> </ol>

	TITLE & FUNDING SOURCE	PURPOSE	R9 RECIPIENT & AMOUNT AWARDED	PROJECT DESCRIPTION	SCHEDULED COMPLETION, COMMENTS & REGION 9 CONTACT
2	Hazardous Waste Financial Assistance (RCRA §3011)	Hazardous waste financial assistance to state programs. RCRA §3011 funds the development and implementation of state hazardous waste management programs.	<p>FY 95 Allocations:</p> <p>AZ DEQ, \$1,330,513  CA DTSC, \$7,585,595  HI DOH, \$454,530  NV DEP, \$567,626  GU EPA, \$200,000</p> <p>Approximately 3.6% of these funds went to pollution prevention activities.</p>	<p>State agency grants to AZ, CA, HI, and NV include funding for waste minimization activities:</p> <p>AZ - Provides technical assistance and training for haz. waste generators.</p> <p>CA - Supports two IPA's in regional offices and headquarters of the Dept. of Toxic Substances Control, who perform technical assistance and coordination functions. Additional resources are devoted to various waste minimization projects, regulatory integration and waste minimization assistance.</p> <p>HI - Supported a full-time waste minimization coordinator who provided written technical information and assistance to generators.</p> <p>NV - Partially supports the Nevada Small Business Development Center's tech. assistance outreach to generators.</p>	<p>All state grants noted are on a state fiscal year basis and expired on 6/30/95, except Hawaii's grant which expired in 9/30/95.</p> <p>Project Officers:</p> <p>AZ: Bridget Coyle H-2  (415) 744-2032</p> <p>CA: John Moody H-3  (415) 744-2058</p> <p>Waste Minimization liaison:  Josephine Chien, (415) 744-2045</p> <p>NV: Lisa Vanderpool H-2  (415) 744-2086</p> <p>Waste Minimization liaison:  Leif Magnuson, (415) 744-2153</p> <p>HI: Nichole Motoux H-2  (415) 744-2030</p> <p>Waste Minimization liaison:  Josephine Chien, (415) 744-2045</p>

## AIR AND TOXICS PROGRAMS GRANTS

	TITLE & FUNDING SOURCE	PURPOSE	R9 RECIPIENT & AMOUNT AWARDED	PROJECT DESCRIPTION	SCHEDULED COMPLETION, COMMENTS & REGION 9 CONTACT
	<b>BASE AIR AND TOXICS PROGRAM GRANTS</b>				
	§105 Air Grant	To assist state and local air pollution control agencies carry-out federal Clean Air Act requirements.	Region IX awarded more than \$25 million to state and local air pollution control agencies.	<p>All grant recipients are required to report on pollution prevention activities. Region IX guidance provides Some activities include:</p> <ul style="list-style-type: none"> <li>• Clark County is exploring energy conservation and renewable energy sources to reduce air pollution</li> <li>• Washoe County program promotes efficient woodstoves.</li> <li>• San Joaquin Valley Air Pollution District is developing a checklist for inspectors to use in assisting permittees to adopt pollution prevention measures.</li> <li>• San Diego Air Pollution Control District is working to promote alternative fuel vehicles</li> </ul>	For more information, contact: Angela Baranco A-2-2 (415) 744-1196



## **Appendix B: Glossary**

<b>ADEQ</b>	<b>Arizona Department of Environmental Quality</b>
<b>BMP</b>	<b>Best Management Practices</b>
<b>CIWMB</b>	<b>California Integrated Waste Management Board</b>
<b>CNMI</b>	<b>Commonwealth of Northern Marianas Islands</b>
<b>CWA</b>	<b>Clean Water Act</b>
<b>ETI</b>	<b>Environmental Technology Initiative</b>
<b>EV</b>	<b>electric vehicle</b>
<b>HDOH</b>	<b>Hawaii Department of Health</b>
<b>HWMD</b>	<b>Hazardous Waste Management Division</b>
<b>IPA</b>	<b>Intergovernmental Personnel Act</b>
<b>NEPA</b>	<b>National Environmental Policy Act</b>
<b>NGV</b>	<b>natural gas vehicle</b>
<b>NPDES</b>	<b>National Pollutant Discharge Elimination System</b>
<b>OFA</b>	<b>Office of Federal Activities</b>
<b>OPINAP</b>	<b>Office of Pacific Island and Native American Programs</b>
<b>PM-10</b>	<b>Particulate matter less than 10 microns</b>
<b>POTW</b>	<b>Publicly Owned Treatment Works</b>
<b>PPIS</b>	<b>Pollution Prevention Incentives for States</b>
<b>PPRC</b>	<b>Pollution Prevention Resource Center</b>
<b>RBAC</b>	<b>Recycling Business Assistance Centers</b>
<b>RCRA</b>	<b>Resource Conservation and Recovery Act</b>
<b>REDA</b>	<b>Recycling Economic Development Advocates</b>
<b>REPA</b>	<b>RCRA Enforcement and Permitting Assistance</b>
<b>SBDC</b>	<b>Small Business Development Center</b>
<b>SCAQMD</b>	<b>South Coast Air Quality Management District</b>
<b>SEP</b>	<b>Supplemental Environmental Projects</b>
<b>TES</b>	<b>Technical Enforcement Support</b>
<b>TOPPs</b>	<b>Targeted Opportunities for Pollution Prevention</b>
<b>TRIS</b>	<b>Toxic Release Inventory System</b>
<b>VOC</b>	<b>Volatile Organic Compounds</b>