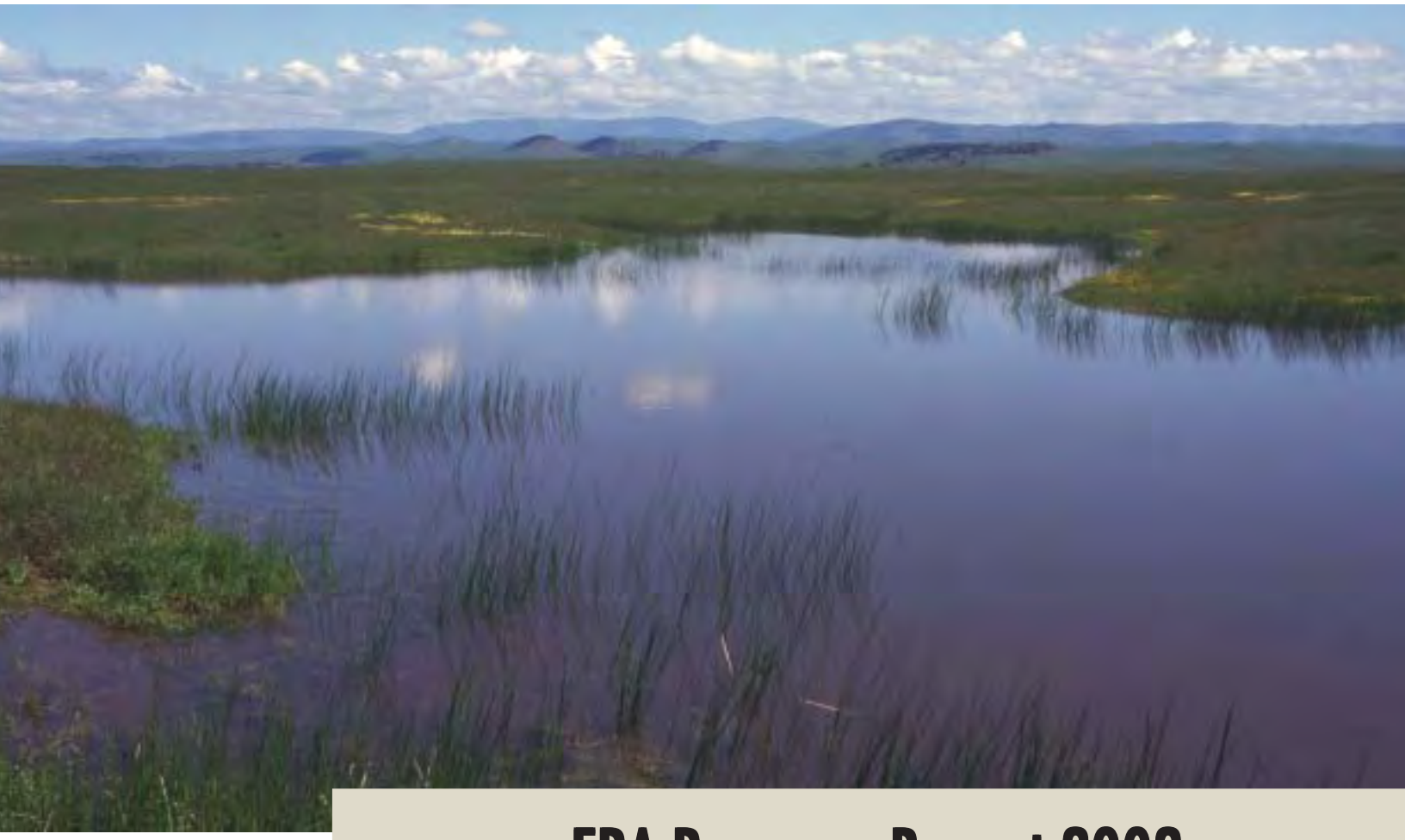

EPA Progress Report 2002
Pacific Southwest Region

U.S. Environmental Protection Agency
Pacific Southwest / Region 9
EPA–909–R–02–001

Dear Readers,

Growing up in Southern California, I learned early in life about the human cost of an unhealthy environment. The brown cloud that covered the Los Angeles Basin for too many days each summer affected everyone who worked and played there.

But over the years I've also watched the skies grow clearer and smog alerts become a thing of the past. In 2001, the Los Angeles area met national health standards nine out of every ten days — the cleanest year since smog measurements began over 40 years ago. While there is much more work to be done, we've come a long way.

I am honored to introduce this EPA Progress Report, the first that we have issued since I joined EPA as Regional Administrator in October 2001. The past year's accomplishments are full of promise for meeting the public health and environmental challenges we face in the Pacific Southwest, and I am eager to to continue our progress in this important mission.

EPA's Pacific Southwest Region is truly diverse, encompassing the states of Arizona, California, Hawaii and Nevada; 147 tribal nations and communities; and Pacific islands such as American Samoa, Guam, and the Northern Mariana Islands.

The problems we confront here are complex, interconnected, and resistant to traditional solutions. As we move to meet these challenges, we are fortunate both in our own strengths and in the capacity and will of our partners — the states, tribes, industry and the environmental advocacy communities. The test will be to maintain clarity about priorities, stay focused on results, and promote creativity and collaboration in environmental stewardship.

We are encouraging innovative, cost–effective ways of preventing pollution – for example, working with scientists and farmers to demonstrate ways to reduce toxic pesticide use, while cutting production costs. We are emphasizing partnerships with states and tribes, the private sector, and a multitude of other stakeholders. We are working to ensure that the nation's environmental laws are consistently enforced across state and tribal boundaries. We are giving special attention to new challenges such as bioterrorism preparedness, and to the unique needs of areas such as the U.S.–Mexico Border and Lake Tahoe. And we are making EPA's vast information resources more accessible than ever, through avenues like our Web site and the new Environmental Information Center at our San Francisco office.

In 2002, I hope you will join us in striving to protect public health and our exceptionally beautiful Pacific Southwest environment. We all have an important stake in it.

Wayne Nastri
Regional Administrator
EPA Pacific Southwest Region

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This report is also available on the Internet at *www.epa.gov/region09/annualreport*

Cover photos: Vernal pool wetlands in California's Central Valley in winter (top); Monument Valley on the Navajo Nation (below left); downtown Stockton waterfront Brownfields project, after redevelopment (below right; see story, p. 18). Photos by Tim Vendlinski, Michael Feeley, Kitty Walker.

chapter 1

CLEAN WATER

Thirty years after passage of the federal Clean Water Act in 1972, EPA continues to make progress toward safe and clean water. Here are just a few of the projects underway in the Pacific Southwest.

Partnerships

Whitman Renews EPA Commitment to Lake Tahoe

EPA Administrator Christie Whitman spoke at Lake Tahoe on August 21, 2001, with Nevada Senators Harry Reid and John Ensign, Governor Kenny Guinn, and federal, tribal, state and local officials to highlight efforts to protect the sensitive alpine lake.

"The federal government has played an important role in the Tahoe region for more than 100 years, and I can assure you that the Administration remains committed to restoring and protecting this precious natural treasure," said Whitman, speaking at the annual Lake Tahoe Summit Conference. "We will continue to pursue the goals of the Lake Tahoe Restoration Act by providing the technical expertise, monitoring and research that are crucial to succeed."

EPA has provided more than $17 million from 1997 through 2001 to improve water quality in and around the lake, and has assigned a full–time staff person, Jane Freeman, to work with other officials on lake issues. In 2002, there will be $19.7 million in new funding for federal agencies to continue these efforts, such as the restoration of wetlands that filter out pollution from runoff in the Upper Truckee River and

Meeks Creek watersheds. These issues are especially urgent because over the past 35 years, Lake Tahoe has lost about one–third of its exceptional clarity due to pollution, which stimulates algae growth.

This year, U.C. Davis is completing an EPA–funded water clarity forecasting model that will allow – for the first time – scientific predictions of the pollutant reductions needed to attain the desired water clarity in Lake Tahoe. This model will enable Tahoe Basin officials to decide which types of projects in which locations will yield the greatest gain in the lake's clarity.

The U.C. Davis effort has found that pollutants reach the lake from a variety of sources, and that over half the nitrogen pollutant loading to the lake is from air pollution. Research is now underway to predict runoff and soil erosion within specific Tahoe Basin watersheds, to guide development of strategies for the entire Tahoe Basin.

Tahoe's Environmental Improvement Program, a local/state/federal partnership, leverages three dollars for every federal dollar spent. In addition to addressing lake clarity, the program focuses on health of the basin's forests, and air quality and transportation issues.

Monitoring Finds Southern California Beaches Cleaner

Ongoing analysis of bacteria levels at 365 monitoring stations along Southern California beaches in 2001 showed progress toward cleaner beaches, particularly in Los Angeles County, where 82% of the beaches received very good to excellent ratings, compared with 68% in 2000. Overall, 84% of Southern California beaches received these ratings from the environmental group Heal The Bay, which uses weekly data provided by county health agencies.

From 1999 to 2000, California beach advisories and closings due to pollution increased by 63%, but much of this increase was attributed to the start of monitoring at beaches that had never been monitored earlier. Chronically–polluted beaches were identified, giving beachgoers a chance to avoid them. Sewage spills and urban storm drains are the leading causes of contaminated beach waters. Summer flows in storm drains are often contaminated with lawn fertilizer, pet feces, motor oil, and other contaminants swept off lawns and streets into waterways.

Opposite: Waterway surrounding Brown's Island in the Sacramento/San Joaquin Delta. Photo by Phillip Ramsey.
Below: Christie Whitman and Washoe tribe members at Lake Tahoe, August 2001. Photo by Leo Kay.

EPA has been working for several years with the State of California, environmental groups, and local governments to increase beach monitoring, prevent sewer overflows, and divert summer storm drain flows to sewage treatment plants (see Enforcement, page 5).

Last year, with EPA funding, the Surfrider Foundation, San Diego County Department of Environmental Health, Southern California

EPA has provided more than $17 million from 1997 through 2001 to improve water quality in and around Lake Tahoe.

Coastal Water Research Project, and Earth's 911 established free public access to real–time information on beach water quality. Using both an Internet site, *www.earth911.org*, and a bilingual, toll–free phone system (1-800-CLEANUP), beach–goers can use their zip code to access beach status information. On the Internet, the Earth's 911 Web site offers point–and–click maps that provide the most current beach advisory information, along with related environmental information. Other coastal states, including Georgia and New Jersey, have also begun using the Earth's 911 system.

San Francisco Bay/Delta Restoration Efforts Continue

From the 1960s through the 1990s, the spring salmon spawning run on Northern California's Butte Creek averaged about 1,000 fish, and in some years, it dipped as low as 10. Since 1999, however, the spring spawning run has increased to an average of about 6,000. This dramatic rebound is a success for the CALFED Bay–Delta Program, a collaborative water planning effort by EPA, federal and state agencies and other stakeholders.

The CALFED Bay–Delta Program, possibly the world's largest ecosystem restoration effort, has over a hundred projects like the Butte Creek salmon restoration already in progress, and many more planned.

The salmon recovery project on Butte Creek is an example of the cooperation CALFED brings to government agencies and

disparate urban, agricultural, and environmental interests. The 1998 –1999 removal of four small dams that had hindered salmon passage on Butte Creek was funded by the local Western Canal Water District and Southern California's Metropolitan Water District. Funding for the hundreds of CALFED projects comes from water users, a $1.97 billion bond measure passed by California voters in 2000, and federal funds.

For an update on the latest CALFED projects, check the CALFED Web site, at *http://calfed.water.ca.gov*.

New Monitoring of Bay Area Wetlands

Further downstream in the Bay–Delta watershed, EPA's Paul Jones is leading a team of scientists from state and federal agencies who are creating a Wetlands Regional Monitoring Program (RMP) for the San Francisco Bay Area. Every year, millions of dollars of public funds and thousands of hours in agency staff time are spent on protecting and restoring wetlands around the bay. The monitoring program will ensure that the funds are well–spent, by assessing the ecological health and trends of the wetlands, and measuring and comparing the progress of restoration projects.

The wetlands monitoring program, funded by EPA and the California Coastal Conservancy (a state agency), builds upon existing monitoring for toxic substances, underway for the past five years, by the non–profit San Francisco Estuary Institute (on the Web at *www.sfei.org*). Participants include other public agencies, colleges and universities, volunteers, and environmental groups who collect and analyze the data, and publish the findings.

Above: Restored tidal lagoon at Crissy Field, San Francisco, is one of over 100 habitat restoration projects completed or under way in the San Francisco Bay/Delta watershed. Below: Boogie boarding at Santa Monica Beach, Calif. Photos by David D. Schmidt.

Good News for Delta: San Joaquin Farms Cut Selenium Drainage 25%

In the early 1990s, EPA helped negotiate a solution to the problem of selenium contamination in San Joaquin Valley and Delta waterways — the Grasslands Bypass Project Use Agreement, which took effect in 1995. Selenium is a toxic, naturally occurring mineral in soils of the western San Joaquin Valley. By 2001, selenium loads in downstream waterways had been reduced by at least 25%, or 1,300 pounds/year. This was a significant improvement from the 1980s, when selenium in agricultural drainage water was the cause of deformed duck embryos and hatching failures at the Kesterson National Wildlife Refuge.

The agreement is a contract between the U.S. Bureau of Reclamation, which owns the San Luis Drain, and farmers in the Grasslands drainage area (west side of San Joaquin Valley) that allows farmers to discharge water into the drain as long as they are continually decreasing the selenium in it. Agencies, farmers, and environmental groups are unanimous in praising the success of the project. Selenium reductions resulted from water conservation (drip irrigation of perennial fields), on–farm management of drainage water, changing crops, use of salt–tolerant crops, and economic incentives (such as load trading within districts, and tiered water pricing).

Southern California Wetland Recovery Program

Southern California's coastal urban and industrial development have left very little wetland acreage in the region. To help protect and restore the remaining wetlands, EPA is participating in the Southern California Wetland Recovery Program (SCWRP). This five–county effort, in partnership with federal, state, and local agencies and other groups, has spent $30 million – $26 million in state funds; $3 million in federal funds; $1 million from other sources – on acquiring (990 acres), restoring (825 acres), and mapping (150 square miles) coastal wetlands. A penalty for illegal placement of dredged material has added to the funding (See Enforcement, page 7).

Dairies: Preventing Water Pollution

Preventing water pollution from concentrated animal feeding operations, especially dairies, continues to be a major priority. Downstream waterways can be polluted by rainy–season runoff sweeping manure into the nearest ditch or stream. To prevent this pollution, EPA is working with California dairy operators, U.C. Davis, and others in the voluntary California Dairy Quality Assurance Partnership.

EPA also issued a discharge permit for Arizona dairies, requiring each facility to prepare a manure management plan to protect water quality. Arizona has over 200 dairies, with 140,000 dairy cows. Each cow produces about 120 pounds of wet manure per day.

The permit was written by EPA with assistance from the Arizona Department of Environmental Quality (ADEQ), the state's Cooperative Extension, the federal Natural Resources Conservation Service (NRCS), and dairy industry groups. EPA also worked with the state's Agriculture Department (ADA) to develop a producers notebook to explain the new requirement to dairy operators. EPA, NRCS, ADEQ, and ADA conducted four informational workshops to provide guidance for producers to comply with the permit.

Dairy in Chowchilla, Calif. Photo by Jamie Liebman.

For more information on preventing pollution from animal waste, go to *www.epa.gov/region09/animalwaste*.

Infrastructure

U.S. – Mexico Border Clean Water Projects

On December 7, 2001, EPA Regional Administrator Wayne Nastri joined San Diego Mayor Dick Murphy at the dedication of the newly completed South Bay Water Reclamation Plant, near the U.S.–Mexico Border. The secondary treatment facility recycles water, converting up to 15 million gallons of sewage daily into water clean enough for irrigation and industry. EPA contributed $27.3 million in federal funding for the $110 million project.

Nastri praised the city for completing its reclaimed water system in advance of a deadline set by federal law. With another reclaimed water facility already operational, San Diego can produce 45 million gallons of reclaimed water per day, which help meet the area's needs without importing more costly drinking water.

EPA works with the International Boundary and Water Commission (IBWC), the Border Environment Cooperation Commission (BECC), the North American Development Bank (NADBank), and local governments to build drinking water and wastewater treatment facilities for communities up to 100 km (62 miles) north and south of the Border. This combined effort has 38 projects underway, benefitting six million people. Congress has appropriated $50–$100 million each year since 1995 for this program. EPA manages these funds via grants to the BECC and NADBank.

EPA has also begun long range binational planning to identify future needs. EPA's planning effort for Tijuana will identify the fast–growing city's future needs for water and wastewater infrastructure. EPA awarded the city a $2 million grant via NADBank to fund this effort. Scheduled for completion by the end of 2002, this planning process may become a model of how Border infrastructure is planned, designed, and constructed in the future.

For information on other clean water projects in the Border area, go to *www.epa.gov/region09/border*.

Above: San Diego's new South Bay Water Reclamation Plant converts 15 million gallons of sewage daily into reclaimed water clean enough for industrial and irrigation uses. EPA Photo. Below: Vernal pool wetlands in California's Central Valley in winter (left) and spring (right). These seasonal wetlands provide habitat for rare and endangered species of fairy shrimp and native wildflowers. Photos by Tim Vendlinski.

EPA Funds Drinking Water Projects for Tribes

Last year, EPA's Pacific Southwest Region awarded $10.8 million for 12 projects to supply drinking water to six Indian tribes. This year, EPA plans to fund 36 new drinking water projects for Indian tribes, worth approximately $5 million. The increased number of projects results from an EPA–funded assessment of infrastructure needs for the Navajo Nation, which confirmed that 40% percent of Navajo homes still lack running water.

Enforcement

EPA Takes Action to Halt LA Sewage Spills

In January 2001, EPA and the Los Angeles Regional Water Quality Control Board (RWQCB) sued the City of Los Angeles in federal district court for over 2,000 sewage spills stemming from problems with the city's wastewater collection system over the past several years. EPA's action was joined with an existing suit filed by the environmental group Santa Monica BayKeeper to address the same issues. Local residents' groups, raising environmental justice concerns associated with the sewage spill issues, also subsequently joined the suit.

Los Angeles reported 2,065 spills between December 1995 and August 2000. Frequently raw sewage has ended up on city streets, in storm drains and in the Pacific. The city has taken action in recent years to reduce its spills, but is still averaging over 50 spills per month.

Kathy Baylor collecting a water sample for lead and cadmium analysis, from a natural sinkhole near an industrial site on Oahu, Hawaii. Photo by Paul Kalaiwaa.

Responsible Parties Spend $90 Million on MTBE Cleanup

Spurred by a series of EPA enforcement actions against more than a dozen parties responsible for leaking gasoline underground storage tanks, the nation's largest cleanup of soil and water tainted by the gas additive MTBE is now well underway. The contamination forced Santa

Stream in Great Basin National Park, Nevada. Photo by David D. Schmidt.

Monica to shut down wells that formerly provided 40% of the city's drinking water.

EPA, working in partnership with the Los Angeles Regional Water Quality Control Board, successfully compelled the parties to pay over $5 million for replacement drinking water, treat over 100 million gallons of contaminated ground water, remove over 4,100 cubic yards of contaminated soil, remove over 17,000 lbs of hydrocarbons using soil vapor extraction, drill over 400 groundwater monitoring wells, collect over 4,000 ground water samples, collect over 10,000 soil samples, and conduct pilot treatment tests of eight different technologies. By late 2001, they had collectively spent about $90 million on this effort.

For more information on this project and MTBE in general, go to *www.epa.gov/region09/mtbe/charnock*.

Dredging Penalty Helps Save Wetlands

Early last year, Orange County and its dredging contractor, Soli–Flo Partners LP, paid a $735,000 penalty for ocean dumping violations during the Upper Newport Bay dredging project. A recurring contractor error caused 975 barge loads of dredged mud and sand to be illegally dumped outside the ocean site approved by EPA.

The county paid $270,000 of the penalty to the California Coastal Conservancy to help purchase key coastal wetlands owned by Southern California Edison. Protecting the 17–acre Edison property, part of the Huntington Beach Wetlands, is a high priority for the Southern California Wetlands Recovery Project.

Routine dredging of shipping lanes is essential to the West Coast economy, with thousands of ships entering and leaving California ports each year. Harbors routinely fill with silt, and need to be deepened. EPA oversees the permits for disposal of dredged mud and sand to minimize harm to the environment. In the San Francisco Bay Area, EPA in the 1990s worked with the U.S. Army Corps of Engineers, the Bay Conservation and Development Commission, and the Regional Water Quality Control Board to adopt a "Long Term Management Strategy" for dredged material. The strategy, now in effect, emphasizes beneficial re–use of dreged material, as an environmentally preferable alternative to in–bay disposal.

EPA Science

Scientists Study Delta Cross Channel Impact on Fish

Scientists from eight state and federal agencies, including EPA fisheries biologist Bruce Herbold, are cooperating in a three–year study of how the opening and closing of a movable dam in the northern Sacramento–San Joaquin Delta affects migrating salmon, and water quality in the South Delta, where water is pumped into canals and sent to farms and cities farther south.

The dam controls water flows from the Sacramento River into the man–made Delta Cross Channel, which was built in 1953 to

EPA People

Amy Wagner and EPA's Regional Lab

Amy Wagner is a marine biology expert with EPA's Regional Laboratory in Richmond, Calif. She has been with EPA for 11 years, and is responsible for conducting marine toxicity tests, providing technical assistance, and coordinating field sampling.

For three years, Amy has also been the Volunteer Monitoring Coordinator for EPA's Pacific Southwest Region, assisting citizen water monitoring groups in California, Arizona, Nevada, Hawaii, and Pacific Island territories as far away as Guam. She has established an equipment loan program and provides technical training for volunteers. Amy recently made a presentation on microbiological analyses and data communication at the EPA–sponsored Volunteer Estuary Monitoring Conference in Tijuana, Mexico.

The Regional Lab conducts microbiological and pesticide testing of water samples from citizen monitoring groups. Over the past three years, the lab has analyzed over 700 samples from East Bay creeks and Oakland's Lake Merritt. Results have shown that bacteria levels typically increase as water flows downstream through urban areas, and sewage leaks or spills are readily identified in the samples. Last year, the lab analyzed samples for the common household pesticide diazinon, in addition to bacteria. The pesticide failed to show up in samples from all 25 East Bay locations tested – a good sign for the health of the creeks.

Amy has a B.A. in Aquatic Biology from the University of California at Santa Barbara and a Masters Degree in Marine Biology fom Moss Landing Marine Laboratories on Monterey Bay. To learn more about volunteer water monitoring projects, call Amy Wagner at 510–412–2329.

send clean, relatively salt–free Sacramento River water into the South Delta. If the dam's movable gates are closed during a dry fall season, water in the South Delta gets saltier, but salmon get a quicker, safer passage to and from the ocean – or so fish experts had assumed until 1999.

Under the auspices of CALFED (the state and federal agencies working to improve water quality in the Delta), the agencies' scientists tracked fish four ways: by dyeing 120,000 small hatchery salmon bright colors, putting them in the water upstream of the Cross Channel, and then trawling for them downstream; putting traps in the river to trap migrating adult fish; putting tiny radio transmitters on young downstream migrants; and putting sonar–like devices in the water to count large fish as they swim by.

Results of the first fall–season (2000) data showed that the relationship between the dam's gates closing and salmon survival is more complex than previously assumed. Further research will focus on how different schedules for opening and closing the gates can ease salmon migration.

EPA biologist Amy Wagner taking a sediment sample from a streambed. Photo by Kathy Baylor.

chapter 2

CLEAN AIR

Despite ever-increasing population and urban growth, the Pacific Southwest's biggest urban areas, including Los Angeles, continued to make progress in the ongoing struggle to protect tens of millions of residents from ground-level ozone (smog), as well as other air pollutants that can be just as harmful – particulates (dust and soot), nitrogen oxides (which add to smog), and carbon monoxide.

Clean Air Progress Continues in Major Urban Areas

L.A. Improves, but Regains Title of Smoggiest

The 2001 smog season concluded as the cleanest on record for California's South Coast air district (the metropolitan L.A. area), with only 36 days of smog levels exceeding the federal health standard. The good news is that the area had healthy air on 329 days — the best record in over 40 years. The bad news is that although this continues a steady trend toward cleaner air, the South Coast recaptured from Houston, Texas the title of smoggiest area in the nation. In 2001, the South Coast Air Quality Management District began putting its new "clean fleet" rules into effect, covering buses, trash trucks, street sweepers, cars and trucks, and airport ground vehicles. These landmark rules require public and private vehicle fleet owners to purchase only the cleanest-burning new vehicles.

Meanwhile, San Diego County achieved the federal health standard for ozone every single day in 2001– the first time since the standard took effect in 1971, when unhealthy air was recorded there about 25% of the time. The achievement is all the more impressive in view of the fact that local population – and motor vehicles – have more than doubled there since 1971.

EPA Downgrades San Joaquin Valley Smog Status to "Severe"

In October 2001, EPA reclassified the San Joaquin Valley from "serious" to "severe" status because the area failed to meet the ozone (smog) health standard. This move triggers further action by the San Joaquin Valley Unified Air District, including the creation of a new clean air plan demonstrating that the area will meet the health standard by November 15, 2005.

Phoenix Meets Ozone (Smog) and Carbon Monoxide Health Standard

The Phoenix area has had over four years of air quality that meets the ozone and carbon monoxide health standards, demonstrating that pollution control measures adopted by the community have worked. The Arizona Department of Environmental Quality (ADEQ) and the Maricopa Association of Governments are cooperating to develop workable plans to maintain this clean air status.

Tucson Particulates Action Plan

In 1999, Tucson failed to meet the clean air standard for particulates (dust and soot). Pima County air officials then began working with EPA, ADEQ, and community members to develop a Natural Events Action Plan under EPA's Natural Events Policy. The policy allows a community to adopt voluntary measures to control particulates if the measures can take effect sooner that way. The Pima County Department of Environmental Quality submitted it's plan to EPA in June 2001. The agency is now working with the local stakeholders to develop dust control measures for the area.

Las Vegas: EPA Proposes to Approve Carbon Monoxide Plan

EPA is planning to propose approval of the Las Vegas Valley's carbon monoxide (CO) clean air plan in early 2002. To clear the way, EPA staff have been working with the Nevada Department of Environmental Protection and Clark County to resolve issues related to vehicle smog checks, fuels and permits for new facilities that would add to CO pollution. The plan relies on emission reductions in all three areas to attain the national health standard for CO.

On November 9, 2001, EPA made an official finding that the vehicle emission estimates in Clark County's particulate clean air plan are adequate. The plan covers 2001, 2003 and 2006.

Partnerships

Children's Health and Indoor Air: EPA's "Tools For Schools"

Opposite: Monument Valley, Navajo Nation, Arizona. Photo by Michael Feeley. Below: EPA Administrator Christie Whitman with fifth-grade class from San Francisco's Clarendon Elementary School. Photo by David D. Schmidt.

At many schools, maintenance and custodial staffs are inadequate, school districts have deferred maintenance, and indoor air quality has declined. Asthma has increased in students and teachers, as have complaints of "sick buildings," absences, workmen's compensation claims and even lawsuits blaming schools for making teachers and children ill. EPA's Indoor Air Quality Tools for Schools kit shows how school staff can work together to ensure healthy indoor air for everyone. Benefits include improving the health, attendance, and

San Diego County achieved the federal health standard for ozone every single day in 2001.

Windmills generate electricity at Altamont Pass, Alameda County, Calif. Photo by Christy Shake.

attention of asthma-prone students, and better academic performance.

EPA developed this simple, common-sense guide in partnership with the American Lung Association and several school organizations. The Tools for Schools kit contains educational materials and checklists for evaluating typical activities, to show how all members of the school community, from teachers to maintenance staff, can help assure healthy indoor air.

Using the kit, school staff learn to recognize what contributes to indoor air pollution, and understand their building's ventilation, as well as the importance of working cooperatively with the custodial and maintenance employees.

Tools For Schools Results

- The San Francisco School District's Indoor Air Quality Committee tried out Tools for Schools at several schools. At one in the Bayview/Hunters Point area, known for high rates of asthma, the nurse reported a dramatic drop in office visits for asthma inhalers after the school's indoor air quality team conducted walk–throughs and solved problems that caused poor ventilation.
- The Saugus School District in Southern California used Tools for Schools district–wide after the indoor air concerns of teachers and parents almost sparked a school boycott. The district corrected many typical indoor air problems and now has a solid relationship with its community.
- The Visalia School District in California's Central Valley, which is known for its high asthma rate, also used the kits district–wide, and won a national Tools for Schools Excellence Award.

For more information go to *www.epa.gov/iaq* and click on the "Tools for Schools" button, or call EPA's Shelly Rosenblum at 415-947-4193.

Owens Valley: L.A. Helps Clear the Air

For generations, dust rising each winter from the dry, windy bed of Owens Lake, in the Eastern Sierra's Owens Valley, has created the nation's worst particulate air pollution problem. Today, clean air is on the horizon. On November 17, 2001, the Los Angeles Department of Water and Power (LADWP), began irrigating the dust-prone lakebed to reduce dust storms.

Los Angeles began diverting the Owens River in 1913. By 1930 Owens Lake, once an expanse of (very salty) water 18 miles long and 10 miles wide, was a gigantic salt flat.

EPA became involved in the Owens Valley air pollution issue in the 1990s, encouraging Los Angeles and the local Great Basin Air Pollution Control District to develop a plan for the lakebed. In 1999 they reached an agreement to bring the Valley's air quality up to the national health standard by 2006.

California suffered no blackouts in the summer of 2001, and is continuing its efforts to reduce the environmental impacts of generating electricity.

During 2000 and 2001, the LADWP built a network of pipes and irrigation "bubblers" (outlets) on 10 square miles of the lakebed. The network is being expanded in 2002 and 2003. By the time the $150 million, L.A.–funded project is finished, the air should be safe to breathe year–round — for the first time in over 70 years.

Western Regional Air Partnership Gets $4 Million EPA Grant

EPA is investing $4 million in grant funds, as well as policy and technical assistance, in the Western Regional Air Partnership, a coalition of western state governments, Indian tribes, and federal agencies working to improve visibility at federal wilderness areas, including the Grand Canyon. Visibility has suffered in recent decades due to haze resulting in part from fossil fuel-burning power plants.

Sierra Army Depot Ends Open Burning/ Open Detonation of Munitions

The Sierra Army Depot in Lassen County, which has destroyed more unwanted munitions through open burning and open detonation than any other installation in the United States in recent years, last year ceased the practice when the Lassen County Air District changed the Depot's burn permit.

Local communities, including the Pyramid Lake Paiute Tribe protested the open burning and detonation because it caused air pollution. EPA, responding to these concerns, directed the Lassen County Air Pollution Control District to change the Depot's operating permit under the federal Clean Air Act, by adding a ban on open burning and detonation when safe alternatives exist. The Depot is now seeking to install technology for the reuse, recovery, and recycling of munitions, and is evaluating options for alternative disposal methods for its current stockpile.

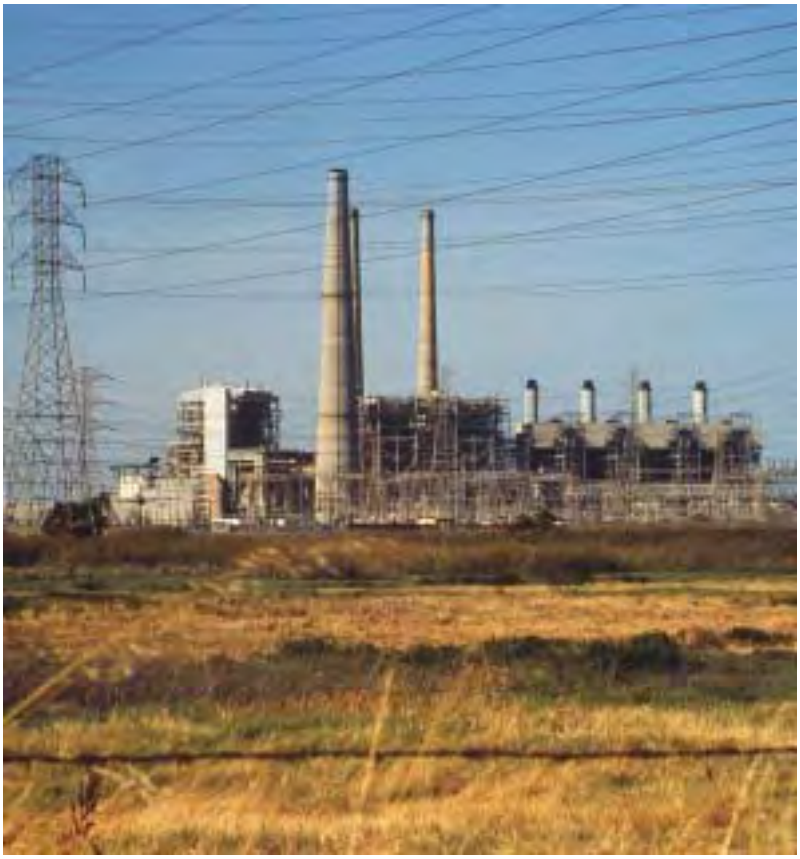
After lengthy negotiations with EPA, the Department of Defense also submitted significantly revised Toxics Release Inventory reports for the Depot. The updated reports for 1999 and 2000 show for the first time that the majority of toxic releases are to the land, and that air emissions are a much smaller amount than previously reported.

Infrastructure

Pacific Southwest Responds to Energy Crisis

EPA's Pacific Southwest regional office has been working diligently with other federal, state and local agencies to craft energy solutions that protect human health and the environment. As a result of these collective efforts, California suffered no blackouts in summer 2001, and is continuing its efforts to reduce the environmental impacts of generating electricity.

In the summer of 2000, retail electricity prices in parts of Southern California reached all-time highs, and shortages of generating capacity created temporary power outages in Northern California into early 2001. Many factors were involved, including a booming economy, growth in population and electricity demand, deregulation of electricity production in some states, drought in the Pacific Northwest reducing electricity from dams, and too few new power sources.



Pittsburg, Calif. power plant burns natural gas to generate electricity. Photo by Christy Shake.

EPA Expedites Permitting for "Peaker" Power Plants

Working cooperatively with the California Energy Commission, the California Air Resources Board, and local air pollution control districts, EPA developed a permit template for California air pollution control districts to speed up permitting of new power plants to meet daily "peaks" in demand. EPA also issued consent orders to several applicants, which allowed immediate construction while assuring compliance with federal clean air requirements. In 2001, EPA's Pacific Southwest office reviewed applications and draft permits for 15 "peaker" projects totaling approximately 1,320 megawatts (MW) of generating capacity.

Larger New Power Plants

President Bush on February 15, 2001 directed federal agencies to "expedite" federal permits for power plants in California. Since then, EPA has issued final construction permits for five major new power plants in California, totaling 2,390 MW: Elk Hills, 500 MW; High Desert, 700 MW; Pastoria, 750 MW; Midway Sunset, 500 MW, Blythe, 520 MW, and Sunrise, 320 MW. All will use state-of-the-art emission controls to minimize air pollution.

Flexibility for Existing Power Plants

EPA also worked with the state of California to allow the use of emergency backup generators if necessary to avert blackouts, and with Southern California's South Coast Air Quality Management District to allow power plants to operate at full capacity during the summer months, when demand for power was highest. Nevertheless, environmental impacts were minimized.

Enforcement

New Chrome Compliance Tool

EPA's Pacific Southwest office developed a *Manual to Aid Compliance and Enforcement of the Chromium Electroplating MACT* (Maximum Achievable Control Technology), to help state and local agencies develop their own MACT standards for chrome platers. This manual represents a comprehensive approach, by not only dealing with the technical and practical aspects of compliance, but also encouraging the use of pollution prevention and other innovative techniques. The manual is also used by EPA for compliance training and outreach, and to support EPA's Air Toxics and Environmental Justice initiatives.

Chevron Cuts Air Pollution in Hawaii

Under an agreement reached with EPA in May 2001, Chevron will pay a $650,000 penalty and spend at least $150,000 toward converting all of the loading racks at its Port Allen bulk gasoline terminal on Kauai, which will significantly reduce air pollution emissions. This settlement with Chevron resulted from its failure to install air pollution controls and limit emissions at its Hilo and Kahului bulk gasoline terminals, and its failure to inspect and file reports on equipment leaks and wastewater systems at its Kapolei petroleum refinery. This settlement is expected to achieve an annual emissions reduction of 230 tons of smog-forming volatile organic compounds.

EPA Science

How Much Water Pollution Comes from the Air?

From 1999 through 2001, EPA toxicologist Pam Tsai worked with other scientists from the non-profit San Francisco Estuary Institute on a cutting-edge project to estimate how much of San Francisco Bay/Estuary's contamination with five different heavy metals, PCBs (polychlorinated biphenyls), and PAHs (polycyclic aromatic hydrocarbons) is coming from the air. The scientists analyzed substances in the air from three locations using a high-volume air sampling device equipped with glass fiber filters and polyurethane foam. They also analyzed rain samples.

The scientists found that substantial amounts of all the pollutants except PCBs were entering the water directly from the atmosphere – 1,900 kg/year of copper, 930 kg of nickel, 93 kg of cadmium, 1,600 kg of chromium, and 27 kg of mercury. To put this in perspective, more than 10 times as much of these substances enters the bay/estuary in stormwater runoff.

As for PCBs, the scientists found that a greater amount of PCBs was leaving the bay as vapor, than entering the bay through atmospheric deposition. PAHs, however, proved to be the opposite: A greater quantity entering the bay by atmospheric deposition than leaving the bay as vapor.

EPA People

Jack Broadbent, New Director of Regional Air Division

Jack P. Broadbent, former deputy executive officer of California's South Coast Air Quality Management District, became director of EPA's Pacific Southwest Air Division in April 2001. At the South Coast district, Broadbent developed landmark regulatory programs that significantly contributed to cleaner air in the greater Los Angeles area. At EPA, he collaborates with other federal, state and local agencies, tribal governments, school districts, universities, the private sector, and community groups. Among his responsibilities as division director, Broadbent oversees grants to state and local agencies, reviews air quality plans, decides on permits, accomplishes rulemaking, determines compliance and enforcement of federal clean air regulations, and provides technical support.

Air Planning and Permits Chiefs Named

Steven Barhite joined the management team of EPA's Pacific Southwest Region as chief of the Air Planning office, and Gerardo Rios was named chief of the Air Permits office, in October 2001. Barhite came to EPA four years ago after working in research at San Francisco General Hospital. At EPA, he has worked on New Source Review and Clean Air Act Title V permits and programs, with a focus on the South Coast area. He took the lead on several key enforcement cases in the wood and metal coating industry involving precedential technology decisions. Recently, Barhite led the Air Division's efforts to address the energy crisis and construction of power plants. Gerardo Rios has been with EPA for 12 years, starting in the permits office. He went on to manage the U.S.-Mexico air program, where he established critical relationships between U.S. and Mexico partner agencies and stakeholders, and helped develop the first air quality plan for Mexicali and Tijuana. He also led EPA's Pacific Southwest Mexico Border Team and has been instrumental in establishing a borderwide air monitoring program. To reach Steven Barhite, call 415-972-3980. To reach Gerardo Rios, call 415-972-3974.

Yucca Mountain Regulatory Development

EPA developed, and on June 5, 2001 released, public health and environmental radiation protection standards for Yucca Mountain, Nevada, the Department of Energy's chosen site for high level nuclear waste. The standards limit individual annual radiation exposure to no greater than 15 millirem per year for the first 10,000 years following disposal of the waste. The separate groundwater standard for radiation is set at a level of 4 millirem per year.

Real-time Air Quality Conditions Now Available on EPA's AirNow Web Page

EPA's Ozone Mapping Project has air pollution forecasts, health information, and real-time ozone (smog) maps for San Francisco, Sacramento, Los Angeles, and other urban areas around the nation. The site provides people in our most populated areas with information about how we can protect our health and take action to reduce air pollution. To find out more, go to *www.epa.gov/airnow*.

Above: Jack Broadbent. Photo courtesy of South Coast Air Quality Management District.

chapter 3

CLEAN LAND

The Superfund enforcement program reached legal settlements for past and future toxic site cleanup costs totalling more than $1 billion in Fiscal Year 2001, the largest one–year total ever in the Pacific Southwest. To reach this milestone, EPA employed several legal tools: unilateral orders, administrative settlements, judicial settlement, and litigation.

Polluters to Pay Over $1 Billion for Toxic Cleanups in Pacific Southwest

Four settlements of particular note, involving the Iron Mountain Mine, Operating Industries Inc., Stringfellow and Montrose Superfund cleanup sites in California marked the conclusion of several years of enforcement effort and restored millions of dollars to EPA's Superfund Program for cleanup of other sites.

Partnerships

Reuse of Closing Military Bases

EPA worked with the U.S. Army, Navy and Air Force to continue transferring clean portions of closing military bases to local communities, helping revitalize local economies while cleanup of toxic contaminants continues on other portions. Local reuse authorities at McClellan Air Force Base in Sacramento County, Calif., estimated that companies leasing space at the former base have created 2,400 jobs. By late 2001, there had been 36 leases of property that included 51 buildings, with a total area of 1.8 million square feet. At Monterey County's Ford Ord, EPA approved the transfer of 70 acres to the city of Marina for reuse. In

San Francisco, EPA and the Navy laid the groundwork for the first transfer of clean land from the former Hunters Point Naval Shipyard to the city.

EPA Emergency Response Tackles Toxics

When toxic waste poses an imminent threat to public health or the environment, state and local governments can call for assistance from EPA's emergency response program. In early 2001, for example, EPA removed and safely disposed of 1,500 drums of toxic dry cleaning chemicals at an abandoned facility in Vernon, Calif. (near East Los Angeles), at a cost of approximately $600,000.

The AAD Distribution and Dry Cleaning Services site was a storage facility for perchloroethylene, a toxic chemical used in dry cleaning. The facility's warehouse and open lot were filled with 1,500 corroding drums of waste, many of which were precariously double–and triple–stacked. EPA's on–scene coordinator removed these drums, cleaned the facility, and supervised the removal of 240 drums of hazardous waste associated with AAD from six other California locations. The city of Vernon and the California Department of Toxic Substances Control had revoked the facility's permits and asked for EPA's cleanup assistance. AAD's owner/operator has been indicted on criminal charges for violations of state and federal hazardous waste regulations; EPA is also pursuing restitution of cleanup costs.

EPA and Tribal Partners

EPA's Pacific Southwest regional office works in partnership with 147 federally–recognized Indian tribes, the Bureau of Indian Affairs, and the Indian Health Service to carry out federal environmental laws and programs on Indian lands. Nearly 50% of the tribal land in the U.S. is within EPA's Pacific Southwest Region. Last year, EPA cooperated with tribes on the following land cleanup projects, among others:

Navajo Abandoned Uranium Mines

Wenona Wilson and Andy Bain of EPA's San Francisco office travelled with tribal officials to inform 30 Navajo communities of the results of EPA testing of local water sources. EPA also demolished and removed two hogans (Navajo traditional earthen dwellings) that were found to have been built with radioactive mine tailings.

Opposite: Downtown Stockton waterfront area was redeveloped with assistance from EPA's Brownfields program. Photo by Gregory Blore, courtesy of Gregory Blore Photography, Sacramento, Calif.
Below: Removing hazardous waste from drums at AAD site in Vernon, Calif. EPA photo.

There are more than 1,150 abandoned uranium mine sites on the vast landscape of the Navajo Nation, whose territory includes the Four Corners, where Arizona, Utah, Colorado, and New Mexico intersect. These sites, and the unseen radiation and heavy metal contamination that remains in soil and water near many of them, are the legacy of Cold War Era uranium mining.

To learn more about EPA's land reuse and redevelopment partnerships in the Pacific Southwest, go to www.epa.gov/region09/waste/brown.

Above: EPA and the Navajo Tribe demolished and removed this traditional dwelling on the Navajo Nation because it was made of radioactive rock and soil from a uranium mining area. It was being used for storage. Photo by Andrew G. Sowder. Below: Supply Creek Open Dump before closure, on Hoopa Valley tribal land, Northern California. Photo courtesy of Hoopa Valley Tribe.

Over a three–month period, the EPA/tribal team reached 1,028 individuals, most of whom lived near, or had family living near, abandoned uranium mine sites. At each community, the team explained — in most cases, in the Navajos' native language — the findings of the water sampling and how to reduce exposure to the contaminants. The team also informed residents about other abandoned uranium mine issues, such as radiation exposure, physical hazards and miner compensation claims.

Closing Down Open Dumps on Tribal Lands

Eighty open dumps were closed on tribal lands last year, 70 of them on the Navajo Nation alone. Open dump closures also included sites on lands of the Tuolumne Band of Me–Wuk in Calif., the San Carlos Apache Tribe, Ariz., and the Duckwater Reservation, Nev. EPA contributed $2.8 million towards cleaning up the highest risk sites and providing alternative disposal options. With EPA technical assistance and training, almost half of all tribes in the Pacific Southwest Region have drawn up solid waste management plans.

Tuba City Cleanup Progress

Cleanup at Tuba City, where leaking underground fuel storage tanks from two gas stations have contaminated soil and groundwater on the Navajo Nation and Hopi tribal lands, got a boost in September 2000 with the installation of a pilot subsurface volatilization and ventilation system (SVVS). The SVVS injects air into the ground, which then bubbles up through the contaminated ground water and soil, volatilizing and removing chemicals along the way. These volatalized chemicals are then removed by soil vapor extraction. The SVVS pilot system, paid for by responsible parties in compliance with an EPA order, has removed over 250 lbs. of benzene, over 1,200 lbs. of toluene, over 200 lbs. of ethylbenzene, over 1,800 lbs. of xylene, and over 350 lbs. of MTBE, and significantly reduced groundwater contamination in the test area.

To find out more about EPA's work with Indian tribes, go to *www.epa.gov/region09/indian*.

Redevelopment Partnerships

Brownfields

Brownfields are abandoned industrial properties where suspected toxic contamination may scare away potential purchasers and developers, hindering redevelopment. In some cases, a relatively inexpensive site assessment can remove this roadblock by demonstrating that the site is clean. More often, money provided by Brownfields grants is used to assess and clean up the property, and speed redevelopment. EPA's Pacific Southwest office has issued dozens of grants to local and tribal governments in the past few years, including:

- Stockton, Calif., where two EPA grants totalling $400,000 triggered cleanup of property which has been key to redevelopment of the city's historic downtown/waterfront area, including creation of a major new waterfront park.
- Emeryville, Calif., where an EPA revolving loan provided $300,000 for a private developer to complete a cleanup leading to commercial office development.
- Oakland, Calif., which received a $100,000 EPA grant to assess abandoned

sites where suspected petroleum contamination from leaking underground storage tanks may have thwarted redevelopment.

- West Hollywood, Calif., which leveraged $10 million in redevelopment funds from the Department of Housing and Urban development (HUD).
- The Ely (Nevada) Shoshone tribe, which obtained a $50 million commitment from the Public Health Service to clean up their abandoned landfill.
- EPA and state agencies conducted brownfields assessments that will clear the way for a day care center in Watts (Los Angeles); a community business incubator on Molokai (Hawaii); future park sites in Hawaii, Long Beach, and Kingsburg, Calif.; and an inter–modal transit site in Pasadena, Calif.
- Santa Fe Springs, Calif., which received a $100,000 EPA redevelopment grant to fund an industrial/office plan for the Waste Disposal Inc. Superfund cleanup site. The grant is also helping to relocate several landowners and tenants during cleanup.

For more information on EPA's redevelopment partnerships, go to *www.epa.gov/region09/waste/brown*.

Prospective Purchaser Agreements Ease Revitalization

In some cases, EPA can ease redevelopment of polluted properties by ensuring that prospective purchasers aren't forced to pay an unfair share of the cleanup costs. For a fair share, negotiated in a Prospective Purchaser Agreement (PPA), the purchaser receives a release from Superfund liability. Last year, EPA in the Pacific Southwest entered into PPAs with:

- Northrop Grumman Systems Corp., which purchased a 70–acre electronics facility at the San Gabriel Valley Superfund site in Azusa, Calif. Northrop is taking over the current Aerojet defense contracts there and plans to expand operations for the design and manufacture of satellites.
- Home Depot, which intends to build a retail outlet on a 10–acre parcel at the Glendale portion of the San Fernando Valley Superfund site.
- The City of Phoenix, which is planning a 400–acre runway expansion to its Sky Harbor International Airport, which lies partly within the Motorola 52nd Street Superfund site.
- The Nature Conservancy, which acquired Palmyra Atoll, a group of coral islets in the mid–Pacific Ocean, as a wildlife refuge. This property was used as a U.S. naval air base during World War II, but retains its unique biological diversity, being one of the few unpopulated atolls left in the tropical Pacific.

Partners Join Forces For Low–Income Community

Just as cleanup work was about to begin at the Purity Oil Superfund site near Fresno, Calif., California Rural Legal Assistance, a nonprofit group, raised an environmental justice concern on behalf of residents of the Tall Trees Trailer Park, adjacent to the contaminated site. The whole area is zoned as "heavy industrial" by Fresno county. An auto wrecking yard, a recycling firm, a scrap metal lot, and a propane business were in close proximity. The trailers

Supply Creek Dump after closure, on Hoopa Valley tribal land, Northern California. Photo courtesy of Hoopa Valley Tribe.

themselves were very old, in disrepair, and unmoveable. The county government allowed the trailer park to stay because the residents could not afford to move. All of the residents were low–income families of farm workers or retired farm workers, many from Oaxaca, Mexico, whose first language was Mixtecan. To overcome this language barrier, EPA broadened its usual bilingual (English and Spanish) community outreach efforts to include Mixtecan.

EPA's Purity Site Team decided to re–examine the cleanup plan. They brought together staff of federal and state elected officials, the federal Department of Housing and Urban Development, Fresno County, the site's responsible parties (including Chevron), and others. With perseverance and patience, the group developed an innovative solution: to come up with funding levels above and beyond what could be mandated for the Superfund cleanup, making it possible to relocate the entire community. Funding from private and public sources was pooled. The Mixtecan community has been relocated, as a group, to new housing in the Fresno area. Cleanup of the Purity site is underway.

Broad–Based Partnership at Leviathan Mine Gets Results

Since the 1950s, acidic runoff from sulfur mining had rendered Leviathan and Bryant Creeks bright orange, very acidic and virtually lifeless, throughout their course from the mine site high in the Sierra Nevada, through National Forest land and Washoe tribal land. In 2001, EPA coordinated water treatment efforts by California's Lahontan Regional Water Quality Control Board, former mine owner Atlantic Richfield (ARCO) and the University of Nevada–Reno, dramatically improving the creek's water quality. By August, trout were populating the clear, clean water two miles downstream from the mine.

Acidic runoff treatment pond at Leviathan Mine Superfund site, Alpine County, Calif. EPA Photo.

Partnerships were also key to resolving EPA's claim that ARCO had failed to achieve goals set in a 1998 cleanup agreement. In November 2001, EPA announced a settlement with ARCO in which the company paid $720,000 for 480 acres of meadows, streams, and forest north of Stampede Reservoir in Sierra County, California. The Washoe Tribe now holds title to the land, and the Nature Conservancy holds a conservation easement on it, assuring that it will remain undeveloped. The tribe plans to operate a summer program there to educate their children about the Washoe culture.

"We thought that the community that had been most damaged by Leviathan and the pollution should be the community that most benefits," commented EPA attorney Joshua Wirtschafter, who negotiated the settlement.

Infrastructure

Groundwater Treatment Plant Completed at Motorola Site in Phoenix

In arid Arizona, where groundwater is a precious resource, EPA, Arizona, Motorola Inc. and Honeywell International Inc. officials in October 2001 celebrated the opening of a new treatment plant designed to decontaminate groundwater at the Motorola 52nd Street Superfund Site in Phoenix (see photo, next page). The new groundwater treatment plant is part of an ongoing cleanup which started in 1992, when the site's first treatment plant began operating. Both will need to operate continuously for the next ten to twenty years.

The new treatment plant will remove chlorinated solvents, mainly trichloroethylene, or TCE, first discovered in the groundwater in 1982. The clean water will be used for agricultural irrigation. Motorola and Honeywell built

the second groundwater treatment plant under an EPA order. Construction took 18 months. The two companies are paying for construction, operation, and maintenance of these facilities.

Cleanup Finished at Oroville Site

Just over ten years after EPA placed the Western Pacific Railroad site in southern Oroville, Calif., on the Superfund National Priorities List for cleanup, the job is complete. Groundwater cleanups often take much longer.

From 1920 through 1982, Western Pacific used a portion of the property to fuel, repair and maintain rail cars, which resulted in soil and groundwater contaminated with waste solvents, oils, grease and heavy metals. Under separate orders from the state and EPA, the site's current owner, Union Pacific Railroad Co., removed contaminated soils in 1989 and again in 1998.

Based on a decade of groundwater monitoring data, EPA determined in 2001 that an on–site groundwater treatment system had cleaned up the water to acceptable levels. Land use controls now in place allow for commercial and industrial uses, so the site can be redeveloped.

Enforcement

$340 Million Settlement to Clean Up Oil Landfill

EPA negotiated a $340 million settlement last year with over 160 companies to pay for further cleanup work at the Operating Industries Inc. (OII) site, a 190–acre landfill in Monterey Park, California, about 10 miles east of downtown Los Angeles. From 1948 to 1984, the landfill accepted municipal, commercial and industrial solid and hazardous wastes, including at least 300 million gallons of liquid waste. EPA found that nearly 4,000 different parties sent wastes to the landfill. Over the past two decades, EPA has reached settlements with more than 1,250 of them to pay for cleanup work. The recent $340 million settlement brings the responsible parties' commitments for cleanup costs to more than $600 million, one of the largest sums ever raised for a toxic cleanup. Under the federal Superfund law, any and all responsible parties must pay for cleanup – tax funds are used only as a last resort. This is known as the "polluter pays" principle.

The landfill towers hundreds of feet over the community of Montebello. There are approximately 53,000 homes near the landfill, including many adjacent to it. Earlier problems at the site have included leachate (contaminated water) runoff into neighborhoods, unstable slopes threatening to slump onto houses, and methane and odors migrating to nearby homes.

Past cleanup work has included installing a leachate containment and treatment system, building gas extraction and destruction systems, and capping the landfill with geo–textile fabrics along the slopes for stability and a clay quilt on top to reduce formation of leachate. The settlement covers future operation and maintenance needs, and continued groundwater monitoring.

Below: Left to right – EPA's Viola Cooper, Nadia Hollan, Brent Maier, Keith Takata, and Sean Hogan at the October 2001 opening of a new groundwater treatment plant at the Motorola 52nd Street Superfund Site in Phoenix, Ariz.

State to Reimburse EPA for Stringfellow Cleanup

Last summer, the State of California agreed to reimburse EPA $99 million for cleanup costs associated with the Stringfellow Acid Pits Superfund site, in Riverside County. The agreement is also significant because the state consented to take responsibility for future cleanup work at the site with EPA oversight.

The Stringfellow site had served as a repository for industrial liquid hazardous wastes for over 15 years before it was shut down in the 1970s, when residents of the neighboring

community of Glen Avon became increasingly vocal about their polluted well water. Over the past two decades, numerous cleanup actions have stopped wastes and groundwater contamination on the Stringfellow site from migrating.

Gila River Tire Fire Site Cleaned Up

In 1997, a fire burned a pile of over two million used tires on Gila River Indian Community land near Phoenix, Ariz.. When the fire was out, it left a gooey mess of hundreds of thousands of unburned and partially–burned tires, and contaminated soil. The Indian community was having trouble getting responsible parties to clean up the site, so they called EPA for backup. EPA issued an order to the 14 Arizona county governments that were the sources of the used tires, informing them that as potentially responsible parties they would have to pay for the cleanup.

EPA negotiated with the counties, and reached an agreement in which Pinal and Maricopa Counties, the sources of most of the tires, and Blackwater Industrial Development Corp., which had overseen the tire dump, paid for the cleanup. The site has now been restored to its original (pre–tire) condition.

EPA Science

U.S.–Vietnam Joint Study of Agent Orange

Though the Vietnam War ended over 25 years ago, there are still places in Vietnam so contaminated with the U.S. military's chemical defoliant Agent Orange that even weeds won't grow. And the extremely toxic dioxin that was a contaminant in Agent Orange may be a continuing cause of health problems there. In July 2001, Vance S. Fong, P.E., Quality Assurance Manager for EPA's Pacific Southwest Region, travelled to Vietnam as part of a U.S. negotiating team, and came back with a U.S.–Vietnam Agent Orange Research Agreement that commits both countries to cooperate in scientific research on monitoring technologies and the health effects of Agent Orange.

Under the Agreement, the two countries will collaborate on research to find the fastest, most economical ways to find dioxin hot spots, and evaluate various cleanup, containment, and risk management methods, to reduce human exposure to the toxins and improve public health.

McFarland Air Study

As part of a comprehensive environmental investigation in McFarland, an agricultural community in California's San Joaquin Valley, EPA is studying whether local residents are exposed to pesticides and other chemicals in the air they breathe. EPA has installed air monitoring stations at two schools in separate residential areas. Air sampling is being conducted 24 hours a day during four three–week intervals at different agricultural seasons of the year. With over 150 chemicals being monitored, this is one of the most comprehensive community air toxics studies ever done.

Data will be used to assess health risks to children and others in the community. This study is expected to have significance for other agricultural communities throughout the Pacific Southwest. Scientific benefits include improved air sampling and analysis methods for a wide range of airborne contaminants.

Leviathan Mine Stream Monitoring

At the Leviathan Mine Superfund site in Alpine County, Calif., where EPA's goal is to prevent acid runoff from polluting streams, EPA is monitoring the chemical and biological health of the surrounding watershed to assess the impacts of acid mine drainage. Chemical levels in streams can vary tremendously in response to daily and seasonal weather changes, such as rain, sun, temperature, and snowmelt rates, so samples are taken hourly.

Confluence of clean water in Mountaineer Creek (left) and acid-tainted water in Leviathan Creek (right), two miles downstream from Leviathan Mine in September 1999, before water treatment system began operating. EPA photo.

EPA People

Jeff Dhont and the Montrose Cleanup

The Montrose Chemical Company operated the West Coast's largest DDT manufacturing plant in Torrance, California, from 1947 to 1982. DDT–contaminated runoff went into a stormwater ditch which ultimately left contaminated soil buried in the front yards of a two–block residential area on Kenwood Avenue, near the former DDT plant. Jeff Dhont, EPA project manager for this site, worked with a team of EPA staff and contractors in 2001 to clean up and restore the yards of 22 homes.

Jeff has been a project manager with EPA since 1983. While focused on the Montrose site for the past six years, he has also worked on many other toxic cleanup sites. Jeff is known for his excellent planning skills, tireless attention to detail, perseverance, and the ability to work effectively with a large team of contractors and EPA staff, as well as community members. He has superior knowledge of Superfund technical and regulatory requirements, and takes innovative approaches to problem–solving.

These qualities were essential for the yard excavation project. Jeff's team carried out an extensive dust suppression and air monitoring program. They removed 1,500 truckloads of contaminated soil and replaced it with clean soil. They made sure residential yards were re–landscaped according to plans that EPA developed with the residents of each house. They kept residents informed every step of the way, and provided them free housing in local hotels during the construction work.

By January 2002, the job was done, and EPA Regional Administrator Wayne Nastri called it ". . . a huge success. We have left this neighborhood cleaner and safer by permanently removing the possible health threat from DDT and making the yards as clean or cleaner than yards elsewhere in Los Angeles." For more information on the Montrose cleanup, call Jeff Dhont at 415–972–3020.

Ecosystem health is also being assessed through analysis of water, sediments, and aquatic invertebrates. This bioassessment work is done by University of California researchers. Combining field ecology and chemical analysis this way is expected to give EPA a better understanding of ecological risks and potential ecosystem recovery after cleanup.

chapter 4

PREVENTING POLLUTION

It's easier, cheaper, and more effective to prevent pollution than to clean it up after it's produced. EPA has a number of voluntary pollution prevention partnerships with states, local governments and businesses, involving recycling, waste minimization, energy efficiency, and much more. For details, go to www.epa.gov/region09/p2.

Preventing Pollution Through Incentives, Enforcement

EPA also works with state and tribal governments to encourage voluntary pollution prevention efforts and enforce federal regulations that prevent pollution, such as rules to prevent leaks in underground fuel storage tanks; hazardous waste storage, tracking, and disposal regulations; and public disclosure of toxic releases and use (the Toxics Release Inventory, available on the Web at *www.epa.gov/tri)*.

Regulated facilities, from military bases to oil refineries to the corner gas station, are subject to surprise inspections by EPA and state, county, or tribal environmental inspectors. Penalties are adjusted to fit the seriousness of the violation and the responsible party's ability to pay.

Fines can add up quickly for major facilities with multiple violations. Last year, for example, a joint EPA/Hawaii Department of Health case against the University of Hawaii resulted in a record $1.7 million penalty. The University had numerous violations of hazardous waste regulations and was storing the wastes in ways that endangered students and staff.

Partnerships

EPA's Pacific Southwest Agriculture Initiative

Agriculture is an extremely important economic sector in the Pacific Southwest. It accounts for the majority of land use and has major impacts on public health and natural resources. EPA's regional Agriculture Initiative supports sustainable farming methods that are economically viable, environmentally sound, and socially responsible. Since 1994, EPA has been working with growers, the U.S. Department of Agriculture, state agencies, universities, and nonprofits on dozens of EPA grant–funded projects. Highlights include:

EPA Agriculture Grants in 2001

Last year, EPA awarded $454,200 in new grants to fund nine California projects to reduce pesticide use and support environmentally responsible farming practices, including new pest management strategies that minimize use of toxic pesticides such as organophosphates, carbamate and other carcinogens.

"This funding represents the EPA's continuing commitment to work with the farming community, academia, other government agencies and nonprofits to lessen pesticide use and risk in California," says Enrique Manzanilla, a division director in EPA's Pacific Southwest office in San Francisco. "Ultimately these projects will result in improved environmental and health conditions for everyone from the field workers who apply pesticides to the consumers who enjoy the produce." EPA awarded grants to:

- University of California (Davis) Sustainable Agriculture Research & Education Program (UCSAREP), $200,000 for the Biologically Integrated Farming Systems Project, which conducts research and development on biologically–based practices and reduced pesticide use, through public–private partnerships with growers of commodities such as prunes, almonds, apples grapes, dairy products, and strawberries.
- Organic Farming Research Foundation (Santa Cruz), $84,000 to support the research and development of organic methods for pest and disease management.
- Center for Agricultural Partnerships, $30,000 for on–farm trials of pheremones and other integrated pest management methods to reduced pesticide use on walnuts.

Opposite: EPA awarded a $30,000 grant last year to the Sonoma County Grape Growers for on–farm demonstrations of pest management alternatives for wine grapes. Photo by Gerald F. S. Hiatt. Below: Jamie Liebman of EPA's regional agriculture team, at a cotton gin near Chowchilla, Calif. EPA Photo

- Minor Crops Council (Visalia), $30,000 to identify pest management priorities and strategies for 10 commodities.
- Sonoma County Grape Growers (Santa Rosa), $30,000 for on–farm experiments, education, and demonstrations of pest management alternatives for wine grapes.
- UC Riverside Entomology Department (Coachella Valley), $30,000 for research

EPA's regional Agriculture Initiative supports sustainable farming methods that are economically viable and environmentally sound.

and development on alternatives to pesticides for ant control on table grapes.

- California Prune Board (Fresno), $22,000 to develop a pest management strategy and a database to track its results.
- UCSAREP (Davis), $20,000 for on–farm research and demonstration of the use of weather models for disease management in strawberries, which can potentially reduce fungicide use.
- California Tree Fruit Agreement growers, $8,200 for outreach to farmers and demonstrations of methods to reduce pesticide risks and use on peaches, plums and nectarines.

Agriculture Grants Get Results

The results of EPA's support of UCSAREP's Biologically Integrated Farming Systems (BIFS) and similar agricultural projects over the past few years are impressive. Among them:

- By 2000, 27 cotton growers participating in the nonprofit Sustainable Cotton Project's Biological Agriculture Systems in Cotton (BASIC) program reduced their use of insecticides and miticides by 83%, thereby reducing production costs by as much as $150 per acre.
- Results of the Biologically Integrated Farming Systems project include reductions in the use of organophosphates and other toxic pesticides, prevention of water pollution, and adoption of integrated pest and soil management methods. (See specifics in the chart below).

Summary of Impacts of Biologically Integrated Farming Systems (BIFS) Projects*

BIFS Project	Acres Farmed by BIFS Growers	# of BIFS Growers	Impacts on Pesticide Use	Other Impacts	Other Accomplishments
Prunes	6,303	33	Diazinon (an OP**) was eliminated on all BIFS farms	Use of irrigation water reduced on nearly all BIFS prune farms	24 educational meetings reached 1,100 people in 2000
Walnuts	3,430	12	83% of BIFS orchards eliminated OPs in 2000	BIFS growers reduced Nitrogen fertilizer use by 53 lbs per acre (avg)	Cover crops increased from 60% in 1999 to 75% in 2000
Apples	1,540	19	19 BIFS orchards reduced OPs by 59% and carbamates by 92%	Use of all traditional pesticides was reduced by 72% in BIFS orchards	Actual cost is $296/acre which is only $10 more than conventional
Rice	14,000	9	BIFS growers use less than half the amt of herbicides compared to avg	Alternative practices include non-chemical weed methods	Also includes reduced use of chemical fertilizer
Dairy	5,500	11	Reduced use of synthetic fertilizers	Demonstrate improved liquid manure management	Controlled use of water nutrients help prevent water contamination

* Source: UCSAREP. Complete data is available at: www.sarep.ucdavis.edu ** OP= organophosphate; BIFS = Biologically Integrated Farming System

Whitman Praises Scottsdale, Arizona and Intel for Environmental Excellence

On a January 9, 2002, visit to Arizona, EPA Administrator Christie Whitman praised the city of Scottsdale's government and the Intel computer chip manufacturing facility in Chandler for their environmental achievements in two EPA voluntary pollution prevention programs, Performance Track and Project XL (for eXcellence and Leadership).

Performance Track is a voluntary program for business, industry, and local governments in which members commit to improving their environmental performance over a three–year period, then track their progress toward the goals they set. From 1997 to 2000, the city government of Scottsdale improved its energy efficiency by nearly 20%, thus preventing an estimated 3.3 million tons of air pollution and saving local taxpayers $80,000 in energy costs. The city

also tripled its use of compressed natural gas, which burns cleaner than gasoline, to fuel vehicles.

EPA's Pacific Southwest Region has 30 participants in Performance Track, including the cities of Berkeley and San Diego, Calif. All have made specific commitments to reduce the amounts of solid waste they generate, the electricity and water they use, and reach other environmental goals. EPA is helping the latter two cities set up Environmental Management Systems to identify opportunities for improvement.

Whitman called the Intel XL program a model for the nation. In five years, the Chandler facility has recycled 2.5 billion gallons of water, and now recycles 65% of its waste. For details on this and other innovative projects, go to *www.epa.gov/Region09/cross_pr/innovations*.

EPA Grants Fund State, Local Initiatives

Last year, EPA's Pollution Prevention program in the Pacific Southwest managed over $3 million in active grants, including funding for:

- The California Department of Health Services to conduct waste audits as six hospitals participating in EPA's Hospitals for a Healthy Environment partnership. The hospitals achieved substantial reductions in waste materials such as mercury, plastic blue wrap, janitorial chemicals, and cardboard. One hospital alone reduced plastic waste – which formerly went to an incinerator — by 13 tons annually.
- The Nevada Small Business Development Center's Business Environmental Program, which responded to 793 calls for assistance, trained 419 people and conducted 85 on–site consultations, reducing waste by 139,108 pounds, and saving businesses $48,280.
- The California State Water Resources Control Board, to train 100 inspectors on pollution prevention for metal finishing in Sacramento, San Jose, San Francisco and San Diego. The training was based on EPA–developed tools and approaches.
- Western Nevada Community College, to establish a STAR (Spray Technique Analysis and Research) training program and trained painters to use efficient techniques.
- The Arizona Department of Environmental Quality (ADEQ) to work with seven companies to reduce their generation of persistent, bioaccumulative, toxic wastes. They eliminated a combined total of 8,191lbs. of chrome, 113,000 lbs. of lead, 615 lbs. of nickel, 36,279 lbs. of copper and 120 lbs. of mercury from their waste streams.

To protect workers, warning signs like this must be posted in agricultural fields during and immediately after pesticide application. EPA photo.

Nevada Mines Partnership Aims to Reduce Mercury Emissions

Since a new toxics disclosure regulation took effect in 1998, Nevada gold mines have reported releasing more than 13,000 pounds of vaporized, highly toxic mercury each year. EPA has been working with the mine operators to drastically reduce these emissions.

Mercury affects the nervous system and has long been known to have toxic effects on humans and wildlife. It also accumulates in the tissues of animals and is very persistent in the environment. Because mercury dissolves in water, it can have devastating effects on aquatic ecosystems.

"Once the reporting began, the amount of mercury emissions reported by Nevada gold mines really shocked us," says Dave Jones, Waste Division Associate Director in EPA's

Pacific Southwest office. "One facility had a total of over 9,400 pounds of mercury in their emissions while another had over 2,200 pounds. By comparison, an average coal–fired power plant emits only about 250 pounds of mercury per year. These data really pinpointed an area that needed immediate attention."

EPA and the Nevada Department of Environmental Protection (NDEP) approached the mining industry, which expressed interest in voluntarily reducing mercury emissions. Then, over the past two years, the gold mines tracked down their mercury sources, and developed mercury control strategies. EPA, NDEP, and the mines are now working together in a voluntary partnership to establish specific goals for mercury emission reductions. Proposals to reduce mercury emissions by 33 percent by the end of 2002 and 50 percept by the end of 2003 are under discussion.

EPA's national database of toxic releases and use, the Toxics Release Inventory, is on the Web at *www.epa.gov/tri*. It is searchable by zip code, to provide local data to users nationwide.

Jewelry Mart Partnership Looks to Reduce Toxics

Some of Nevada's gold production ends up in downtown Los Angeles, whose jewelry manufacturing district is the nation's second largest, with more than 30 high–rise buildings providing space for about 700 businesses, mostly small, that employ 15,000 workers. Many of them are exposed to toxic heavy metals in the air they breathe. EPA, in partnership with state and local governments, jewelry manufacturers, and building owners is creatively solving the "Jewelry Mart" district's pollution problems.

EPA's Nancy Rumrill inspects a hazardous waste storage area. EPA photo.

Emissions produced by each individual business typically do not exceed legal limits, but the emissions they produce collectively are dangerous. Tests by the California Department of Toxic Substances Control have confirmed hazardous levels of cadmium, chromium, lead, copper, nickel, silver, and zinc in the air, threatening the health of workers, as well as people simply walking by.

Environmental inspectors often found that workers were not using protective gear. They also discovered that some manufacturers may have discharged acid and cyanide solutions into drains, which can combine to create deadly hydrogen cyanide gas.

Changing the situation is complicated by the fact that many of the artisans and workers speak languages other than English. Nevertheless, this government–business partnership has developed guidelines to ensure that jewelry makers can safely reduce, recycle, store, and dispose of jewelry manufacturing wastes.

"The partnership is providing these small businesses with clear guidelines and technical and financial information to make them safe for workers and the environment," says Kathy Kaplan, Industry Partnership Coordinator for waste programs in EPA's Pacific Southwest Region. "The size of these operations, and their economic importance to Los Angeles, call for creative, partnership–oriented solutions."

Integrated Pest Management in Schools

EPA's Pacific Southwest pesticide program is making a concerted effort to introduce integrated pest management (IPM) projects in schools, to reduce children's exposure to toxic pesticides. IPM minimizes use of toxics while still keeping schools free of pests. The following are highlights of several IPM projects currently underway. These projects, together with other IPM efforts EPA supported in the region, have the potential to benefit over a million children.

- Los Angeles Unified School District (LAUSD): This gigantic school district,

with approximately 800,000 students and 75,000 employees, used EPA Buy Clean for Schools grant funds to train school personnel in IPM approaches, such as low–risk alternatives to pesticides. Since the district's IPM policy was initiated, LAUSD has reduced the number of pesticides used on school grounds from 120 to 35 products. LAUSD will also develop an IPM manual for all staff, and training procedures to be shared with other districts.

- Kyrene School District, Tempe, AZ: This partnership of universities, the private sector, and state and federal agencies initially involved three pilot schools, where a 90% reduction in pesticide use was achieved. It was so successful it will be expanded to cover the whole district, which includes 25 schools serving approximately 20,000 students. The partners produced a brochure describing the Kyrene model. EPA provided additional funds to study the use of organic acids to reduce fire ant and mosquito populations.

Recycling

EPA's national goal is for recycling and composting to divert at least 35% of municipal solid waste from landfills and combustion, by working in partnership with state and local governments and the private sector. California has already far exceeded this, recycling 46% of its trash by 2000, thanks largely to a 1989 state law, sponsored by State Senator Byron Sher, that required local governments to achieve a 50% waste reduction goal within ten years (a subsequent law extended the deadline to 2005). EPA catalyzes local waste reduction efforts through grants. Over the last three years, EPA support for recycling in California included:

- A grant to Solana Recyclers in Encinitas, San Diego County, which trained 218 community college students to conduct waste audits, reduced waste by 3,500 tons, conducted audits that saved local businesses more than $500,000, and expanded the Recycled Product Purchasing Cooperative nationwide. The cooperative sells low cost recycled paper to 150 organizations and has become self-sustaining (for details, go to *www.recycledproducts.org*).
- A grant to the San Francisco–based Materials for the Future Foundation for five building deconstruction pilot projects that provided job training to 221 people, diverted 2,119 tons of lumber and steel from landfills, and leveraged more than $600,000 in outside funding.

Kathy Baylor of EPA's regional waste division (left), with contract personnel taking samples of hazardous waste on Guam. EPA Photo.

Reusing and recycling these building materials reduced greenhouse gas emissions by 898 metric tons of carbon equivalent, equal to a year's emissions from 675 cars.

- EPA's California Jobs Through Recycling grant helped start nine recycling businesses in Alameda County, creating 60 local jobs and diverting 37,177 tons of waste per year from landfills. One of these, Bay Area Tire Recycling in San Leandro, processes 7,500 tons of tires per year to produce rubberized asphalt for road surfacing. The company expects to reach 15,000 tons per year. This grant also supports:
- St. Vincent de Paul, a nonprofit that recycles mattresses, box springs, couches, recliners, and hide–a–beds, producing polyurethane foam, shredded spring steel, shredded mixed fiber, and shredded wood. The group recycles 1,440 tons per year of materials that would otherwise end up in landfills.

Other states have farther to go. Nevada, for example, recycled only 11% of its waste in 2000. To help jump–start recycling in Nevada, in March 2001 EPA co–sponsored the Nevada Recycling Forum in Las Vegas with the Nevada Department of Environmental Protection (NDEP) and Clark County (Las Vegas area) Health District. Nearly 100 people attended the forum, which focused on recycling opportunities.

EPA's support of recycling in Nevada, Arizona, and Hawaii included grants to:

- The Clark County Public Education Foundation, to establish a materials reuse warehouse and conduct recycling and reuse education in Clark County, Nev.
- Stardust Building Supplies in Phoenix, Ariz., for a model residential demolition permit review program and will recover reusable building materials from 90 homes prior to demolition.
- Maui Recycling Group in Pukalani, to expand a comprehensive Web–based electronic reuse database for Hawaiian nonprofit organizations and the public.

Making EPA and Federal Agencies Greener

Last year, employees at EPA's Pacific Southwest Regional Office in San Francisco recycled over 190 tons of cans, bottles, and paper worth $16,000 from their offices. But EPA's efforts to make the federal government "greener" didn't end there. Last year EPA also:

Sign on Pyramid Lake Paiute land. EPA Photo.

- reviewed and commented on 63, or 100%, of federal agencies' Draft Environmental Impact Statements (EISs) in the Pacific Southwest. In EISs, the agencies must analyze the environmental impact of a proposed action. Examples include permits for mining, or constructing freeways and federally–funded water and flood control projects. EPA reviews of Draft EISs are done when projects are still in the planning stage, and EPA can raise issues that reduce environmental impacts. EPA's comments last year brought about major changes to protect the environment in the Colusa Basin (Calif.) Integrated Resources Management Plan, the East Bay (Calif.) Municipal Utility District Supplemental Water Supply Project, and the Salton Sea (Calif.) Restoration Project.
- conducted Environmental Management Reviews at General Services Administration (GSA) facilities in San Francisco and Tucson, and the Naval Base Point Loma in San Diego. These reviews analyze opportunities to reduce waste and pollution by changing standard operating procedures. For major facilities like military bases, the environmental benefits can be huge. Results are tracked by comparing EPA's recommendations with a follow–up report prepared by the facility.
- held pollution prevention workshops for environmental managers at military bases, and for other federal facilities, such as hospitals, on minimizing medical waste, green building practices, and purchasing environmentally preferable products.

Preventing Pesticide, Lead Poisoning on Tribal Lands

To assist tribes in the Pacific Southwest with preventing pesticide and lead poisoning on tribal lands, EPA has issued 29 grants (one to a consortium of four tribes) with a total annual funding level of $2.4 million. EPA has also provided training to tribal environmental agency staff, as well as growers, on compliance with federal pesticide regulations, including the Worker Protection Standard.

The grants support a variety of efforts on tribal lands, such as:

- Enforcement of federal pesticide regulations.
- Conducting reservation–wide pesticide use assessments to identify problem areas.
- Educating school staff, tribal parks and wildlife departments, and tribal communities about the use, misuse, and risks of pesticides.
- Sampling for pesticide contamination in water and in plants used for basketry.

EPA has also been providing funds and training to tribes for several years to help them develop their own lead poisoning prevention programs and assess lead hazards on tribal lands. Last year EPA also awarded grants seven tribes for educational outreach and blood screening.

Soledad Prison Tries Nontoxic Wet Cleaning for Uniforms

EPA and California Department of Corrections (CDC) officials visited Soledad State Prison in June 2001 to announce the nation's first prison program where inmates will use wet cleaning, an environmentally responsible alternative to dry cleaning (which uses toxic chemicals), as part of its vocational training program.

The program, made possible by a $10,000 federal grant from the Vocational and Technical Education Act, $12,000 in CDC vocational funds, and a $40,000 EPA grant to the Environmental Finance Center in Hayward, Calif., allows Soledad inmates to process 23 tons of laundry per year while learning a new trade. Prisoners clean officers' uniforms, prison employees' clothing, and laundry for local non–profit organizations, such as school band uniforms and graduation gowns.

Infrastructure

Over 100 Tribes Now Have Own Environmental Programs

Environmental infrastructure isn't just pipes and concrete. It's also state, local, and tribal government agencies with trained staff enforcing environmental laws. Since state governments have no jurisdiction on Indian lands, the job falls to EPA and the tribes. Of the 572 federally–recognized tribes in the nation, 147 (26%) are located in the Pacific Southwest. These reservations make up nearly 50% of all Indian land in the United States, and have approximately 26% of the total tribal population.

Since the 1980s, EPA has been working with the tribes to build their own environmental agencies to carry out federal environmental laws. Ten years ago, only a handful of tribes in the Pacific Southwest had such programs. Today, about 90% of Pacific Southwest tribes have one, or are developing one.

Sunset in the Monument Valley, on the Navajo Nation. Photo by Gerald F.S. Hiatt.

While many of these programs are still in their initial stages of development, improvements in reservation environments in the last decade have demonstrated the effectiveness of the EPA/tribal partnership. One example is the closing of dozens of open dumps on tribal lands. Tribes in the Pacific Southwest have also made great strides in developing partnerships with other federal and state agencies, as well as with neighboring communities.

To find out more about EPA's work with Indian tribes, go to *www.epa.gov/region09/indian*.

Enforcement

Illegal Household Pest Products Pose Hazards

Last year, EPA assessed penalties totaling over $200,000 against 15 businesses caught selling or distributing illegal, unregistered household pesticide products in violation of federal law. Businesses in California, Nevada, Hawaii, and

Guam were penalized for selling illegal products such as insecticidal chalk and moth balls (see photo, this page), which are a hazard to children, who may ingest their poisons. Between 1992 and 1995, Poison Control Centers nationwide received 668 reports of poisoning incidents involving insecticide chalk, which is indistinguishable from regular white blackboard chalk. EPA is cooperating with states and tribes in an effort to stop the sale and use of this hazardous product.

How to Identify Illegal Pest Products

If you use such common products as flea and tick repellents for your pets, antibacterial cleansers, mothballs, or other household pest products, take a close look at their labels. Some of these products may be illegal and endanger your children, your pets, or yourself.

Most of the illegal products are also available in legal, registered versions. The main safety concern with these illegal products is that though they may look similar to, and make the same pesticidal claims as, their legal counterparts, the illegal versions have not been thoroughly tested for efficacy and toxicity. Their ingredients often remain unknown. And since the products are unregistered, their labels have not been reviewed for adequate directions and safety warnings.

For example, foreign–labeled, unregistered versions of the common pet products Advantage and Frontline, though registered in other countries, have omitted important warnings, especially those pertaining to children. For versions imported from England and Australia, doses are often given in metric units, which can lead Americans to unwittingly overdose or under–dose pets.

These illegal multicolored mothballs are a hazard to children because they look like candy. Photo by Jim Grove.

Illegal naphthalene moth repellents (mothballs) pose an attractive hazard to young children. Mothballs can easily be mistaken for candy, or simply tempt young children to touch and play with them. Recent studies have linked naphthalene to illnesses, including nasal cancer.

Insecticide chalk has been imported illegally, primarily from China. It is illegal in any form. The toxic chalk poses a particular risk for children because it looks like regular chalk, and lacks child–proof packaging. For more details, go to *www.epa.gov/region09/toxic/pest/chalk*.

Sale and distribution of these types of unregistered products continues to be widespread. If you have any in your house, or see them on sale, call Pam Cooper of EPA's Pacific Southwest Pesticides and Toxics Section, at 415–947–4217.

Lead Hazards, Disclosure, Contractor Certification

Lead poisoning is one of the most serious environmental threats to children. Elevated blood lead levels can retard young children's mental and physical development. EPA and other state and federal agencies are working to protect children from exposure to lead-based paint (present in most homes built before 1978), which is the most common source of lead poisoning.

Sellers and landlords of all homes built before 1978 are required to disclose the presence of lead paint to prospective buyers and tenants. If the seller, landlord, or buyer will want to make the property safe, they should hire a contractor certified for lead paint work. EPA and state agencies certify trained workers and firms who are qualified, as well as people and firms qualified to do the training.

For certified trainers in California, go to *www.dhs.ca.gov/childlead/html/CRTcrse.html*.

For certified trainers in Arizona, Nevada, Hawaii, Pacific islands, and tribal lands, go to *www.epa.gov/region09/toxic/lead/training.html*.

EPA Science

Using GIS for Environmental Justice

Geograpic Information Systems (GIS) is a computer mapping technology that can display any number of variables simultaneously. Last

EPA People

Tag Team Spreads Green Message To Auto Repair Shops

EPA's Leif Magnuson and John Katz have reduced smog and other pollution in the Pacific Southwest through an innovative partnership with the auto and fleet maintenance industries.

The Auto Repair and Fleet Maintenance Pollution Prevention Project, which involved training staff from 24 vehicle fleet facilities and 400 auto shops, last year prevented an estimated 720 tons of pollution and saved over $1 million for participants. This program is a national model for an industry comprised of thousands of small businesses that have a serious cumulative impact on the environment.

There are more than 40,000 auto repair shops in EPA's Pacific Southwest Region. California's South Coast air district (the Los Angeles area) was so concerned about air emissions from solvent sinks in auto shops and similar operations that they banned the use of these sinks, preventing nearly 20 tons of smog-causing air pollution per day. Plus, about 10% of the shops in California are not connected to public sewer systems, so washwater, oil, degreasers and solvents end up contaminating land and groundwater.

Magnuson and Katz developed 15 fact sheets and two videos which directly addressed the needs of shop owners. The materials, available on-line at *www.epa.gov/region09/p2/autofleet*, provide complete technology descriptions, how-to tips, compliance information, and case studies with cost and payback analysis. California, Arizona, Nevada, Tennessee, the U.S. Department of the Interior and several cities are already using the materials.

Magnuson and Katz helped trade associations and state and local agencies reach a point where they can sustain the program on their own. The California Department of Toxic Substances Control, for example, took over the training task for that state, conducting 25 workshops, and training 800 shop owners, workers, and local agency staff in 2001 alone. For more information, call Magnuson, at 415-972-3286, or Katz, at 415-972-3283.

year, EPA used GIS to target an inspection sweep of hazardous waste facilities near schools in low–income, minority neighborhoods in Vernon, Los Angeles County, California.

The goal was to send inspectors to facilities with the greatest potential risk to the largest, most vulnerable populations. The GIS employed census data showing income and ethnicity by zip codes, and ranked hazardous waste facilities based on their proximity to schools. Then, inspectors from EPA, the state Department of Toxic Substances Control, and the city and county fanned out to inspect the facilities closest to schools.

The sweep found violations of state and federal hazardous waste regulations at 14 facilities, which resulted in fines and operational changes to ensure safe handling, storage, and transport of hazardous waste.

Leif Magnuson and John Katz of EPA's regional pollution prevention team. EPA photo.

chapter 5 ENVIRONMENTAL INFORMATION

EPA's customer service efforts in the Pacific Southwest take a big step forward in spring 2002 with the opening of our Environmental Information Center, and the startup of its toll–free number: 866–EPA–WEST.

EPA Opens Environmental Information Center

In spring 2002, EPA's Pacific Southwest office is opening its new Environmental Information Center, with a toll-free number for public inquiries: 866-EPA-WEST. The center has consolidated EPA's visitor reception area, call center, and public library. The center's staff assist callers and visitors to the San Francisco regional office, who typically include concerned citizens, students, educators, members of the regulated community and others, answering their questions and providing access to EPA's extensive environmental information resources. It's located on the 13th floor of our regional office at 75 Hawthorne St. in downtown San Francisco, within walking distance of five public transit systems: BART, Muni, AC Transit, SamTrans, and CalTrain.

EPA's Web Site

The Pacific Southwest area of the EPA Web site, *www.epa.gov/region09* continues to provide the public with essential information about protection of air, water, and land in the region. Web site visitors can keep up on Superfund site cleanups, participate in public comment opportunities on important regulatory actions, learn more about recycling and waste reduction, obtain technical assistance, and find out about job openings.

Our regional home page has a new look that reflects a transformation occurring throughout EPA's Web site, including new, standard features for all EPA Web pages. The new elements significantly aid browsing, searching, and returning to relevant EPA topics. For EPA's main portal to environmental information, go to *www.epa.gov*. For environmental information specific to the states and territories in the Pacific Southwest, go to *www.epa.gov/region09*.

Environmental Education

Last year, EPA awarded 25 environmental education grants totalling $398,418 to fund projects in California, Arizona, Hawaii, and Nevada.

Grantees included:

- Food, Land & People, for an environmental and agricultural curriculum now used by nearly 12,000 teachers nationwide, reaching more than 300,000 students annually.
- The California Coastal Commission, for "Boating Clean and Green Campaign, Phase III," to educate boaters and marina operators on pollution prevention.
- Adopt-A-Watershed, for an eight-day summer training institute for 2,400 teachers, who will reach 61,000 students in the first year.
- Northern Arizona University, to train teachers in tribal K-12 schools to do environmental monitoring involving atmosphere, remote sensing, land cover/biology, and soils.
- Hawaii Nature Center, to field test a wetland education program for third grade students at an O'ahu marsh recently purchased by the state as a bird sanctuary.
- Champions of the Truckee River (Nevada), to educate riverside communities on watershed management, water quality, quantity, flooding and habitat.

To learn about EPA's environmental education programs, go to *www.epa.gov/enviroed*.

Opposite page: Students from "Marine Mania" at George Washington High School on the Pacific island of Guam received an EPA award last year for protecting the marine and shore environments of Guam. The "Marine Mania" group, headed by teacher Linda Tatreau, used school outings to prevent oil spills, clean up trash, and educate others on the need to protect coral reefs. Photo by John McCarroll.

EPA People

Vicki Tsuhako and EPA's Pacific Islands Contact Office

Vicki Tsuhako has been working at EPA's Pacific Islands Contact Office (PICO) in Honolulu for over 35 years. She began working at the Honolulu office of EPA's predecessor agency, the Federal Water Pollution Control Administration, when it was established in 1966. In 1970, it became part of the newly-formed EPA.

In l975, EPA's regional administrator transferred everyone in the Honolulu office to San Francisco – except Vicki, whose task was to serve as EPA's public information officer and liaison with Hawaii's state and local governments, as well as governments of far-flung Pacific islands like American Samoa, Saipan, and Guam. For the next twelve years, she was EPA's lone pair of eyes and ears in the Pacific.

As EPA's responsibilities grew in the 1970s and 1980s as a result of new environmental laws, Vicki's workload grew. So in 1987 EPA hired another Oahu resident, Dean Higuchi, to assist. Since then, Vicki and Dean have worked as a team. In recent years, PICO has also had a receptionist, Alma Elmer; two people from EPA's regional Water Division; and a visitor's cubicle for other EPA staff who come to Hawaii on brief assignments for meetings, conferences and compliance monitoring. The PICO office, in Room 5–152 of Honolulu's federal building, at 300 Ala Moana Blvd., can be reached at 808–541–2721.

The Pacific Southwest area of EPA's Web site, at www.epa.gov/region09.

EPA Pacific Southwest/Region 9 Organization Chart

Office of the Regional Administrator: 415.947.8702
Regional Administrator: Wayne Nastri
Deputy RA: Laura Yoshii
Associate RA: Keith Takata

Office of Planning/Public Affairs
415.947.8700
Director: Sally Seymour

- Public Information/News Media Relations
- Strategic Planning
- Partnerships: State, Congressional Liaison
- Fostering Innovation
- Compliance Assurance Coordination

Air Division
415.947.8715
Director: Jack Broadbent

- Planning • Permits • Rule Making
- Enforcement • Technical Support
- Radiation & Compliance Assurance

Water Division
415.947.8707
Director: Alexis Strauss

- Clean Water Act
- Safe Drinking Water Act
- Marine Sanctuaries Act
- U.S. – Mexico Border Program

Waste Management Division
415.947.8708
Director: Jeff Scott

- Pollution Prevention
- Solid Waste Program
- RCRA Permits/Corrective Action
- RCRA Inspections & Enforcement
- RCRA State Program Development
- Underground Storage Tank Program

Superfund Division
415.947.8709
Acting Director: Jane Diamond

- Site Cleanup • Brownfields • Oil Pollution
- Federal Facilities and Base Closures
- Emergency Response & Planning
- Community Involvement • Site Assessment

Office of the Regional Counsel
415.947.8705
Regional Counsel: Nancy Marvel

- Legal Counsel
- Enforcement

Cross Media Division
415.947.8704
Director: Enrique Manzanilla

- Federal Facilities Coordination
- Agricultural Initiative
- Pesticides • Toxics • MERIT Partnership

Policy and Management Division
415.947.8706
Director: Nora McGee

- Budget, Finance/Grants/Contracts
- Superfund Cost Accounting • Science Policy
- Laboratory & QA/QC • Facilities
- Information Resource Management
- Health & Safety • Human Resources

U.S. Environmental Protection Agency
Pacific Southwest/Region 9 Contacts

Phone inquiries:
415–947–8000 or
866–EPA–WEST (toll–free)

Email inquiries:
r9.info@epa.gov

EPA Web site:
www.epa.gov

For Pacific Southwest issues:
www.epa.gov/region09

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EPA Pacific Islands Contact Office
300 Ala Moana Blvd., Room 5124
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808–541–2721

EPA San Diego Border Office
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San Diego, CA 92101
619–235–4765

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Order from EPA's Environmental Information Center at 415–947–8000, or 866–EPA–WEST (toll–free), email r9.info@epa.gov or view and print from the Internet at www.epa.gov/region09/annualreport

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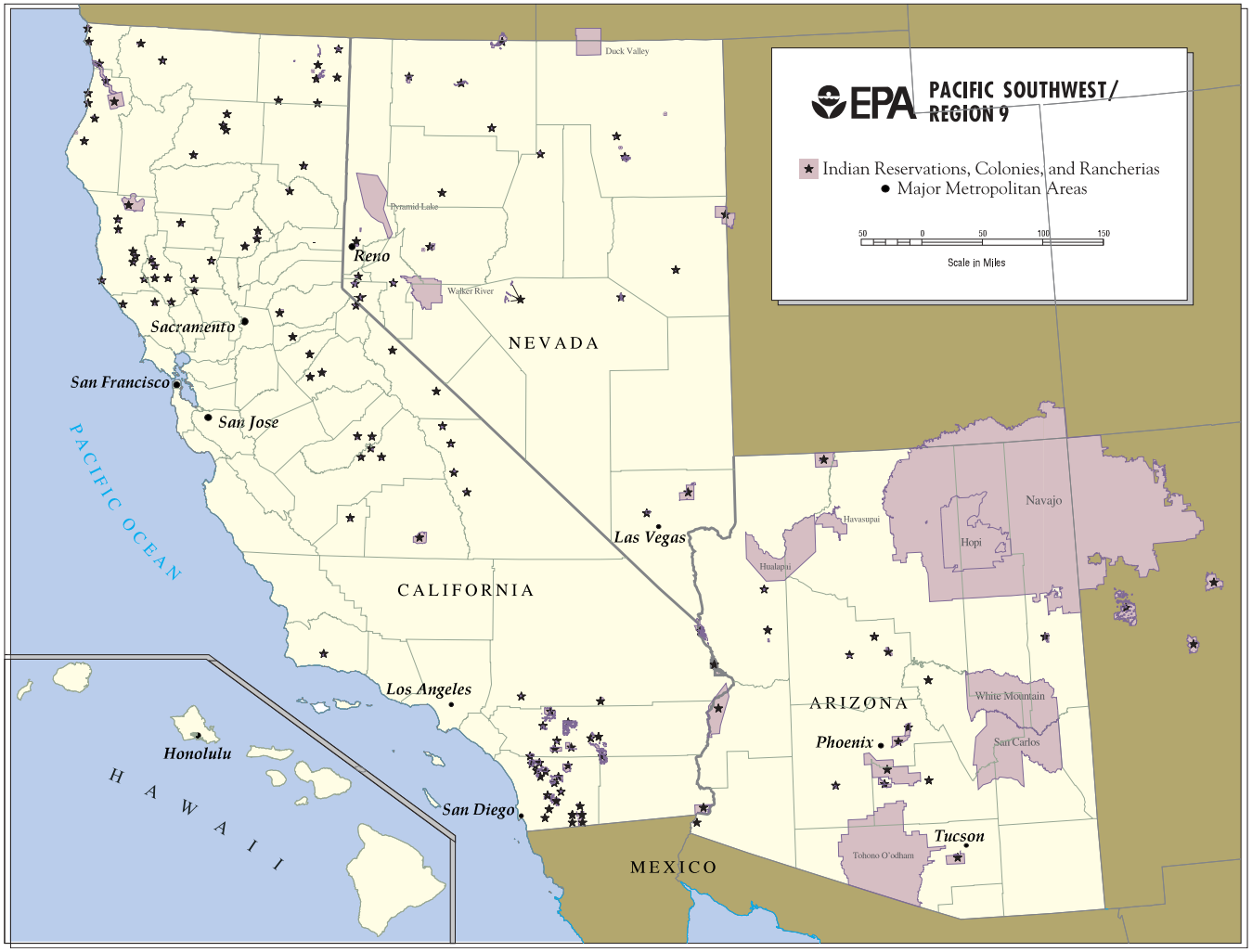

EPA's Pacific Southwest Region includes the States of Arizona, California, Hawaii and Nevada; 147 tribal nations and communities; and Pacific islands such as American Samoa, Guam, and the Northern Mariana Islands. Map shows boundaries of states, counties and tribal lands.

EPA

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