



REMEMBER THE PAST



PROTECT THE FUTURE



U.S. Environmental Protection Agency
Region 10, The Pacific Northwest & Alaska
EPA-910-R-00-007

Carol M. Browner
EPA Administrator

EPA was born 30 years ago at a time when rivers caught fire and cities were hidden under dense clouds of smoke. We've made remarkable progress since then. But we can't rest on our success.

Our mission to protect the environment, and to protect public health, is a mission without end. New challenges loom over the horizon as surely as the new day.

We must continue our work to ensure that with each new dawn, the sun shines through clear skies, and upon clean waters – and all our families enjoy the blessings of good health.

A handwritten signature in blue ink, reading "Carol M. Browner". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Carol M. Browner

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The United States Environmental Protection Agency was established thirty years ago as the country was becoming more aware of our dependence on the natural world. By placing most environmental laws under one agency, the government became more accountable and responsive to the needs of present and future Americans. In the past three decades rivers have become cleaner, skies clearer and our approach to addressing problems more holistic.

From the Regional Office in Seattle, the EPA employees are working to build partnerships with the state and local governments of Alaska, Idaho, Oregon and Washington and hundreds of Tribes to continue this progress.



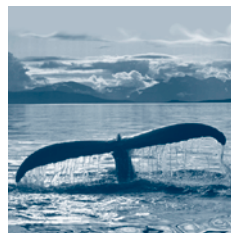
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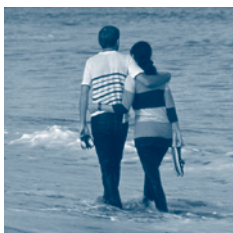
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CLEAN AIR

The Breath of Life - For A Healthy America

Clean air. It's easy to think that our air is pure and clean in the Northwest. Unless we see or smell the clues of air pollution, we don't often think of any problems with air quality.

It's true that we no longer see black smoke billowing from nearby smokestacks, yet there are times in the summer when haze makes it difficult to see the mountains in the distance. The familiar smell of wood smoke brings fond memories of cozy winter nights, but car and truck exhaust can be an unpleasant aroma on many urban streets.

Over the last thirty years, the main sources of air pollution have changed, but the challenge to keep the air free of pollution is as great as ever.

EPA's goal is to ensure that every person in the Northwest can breathe air free of pollutants that cause

significant risks of cancer, respiratory distress and other health problems. We want to clear the air of pollutants that damage our forests and crops, acidify our wilderness lakes, and obscure our view of the natural wonders we have in such abundance here.

Of the thousands of substances that are released to or subsequently form in the air every day, EPA has chosen to set national outdoor standards for just seven of them: carbon monoxide, lead, nitrogen dioxide, ozone, sulfur dioxide and particulate matter.

Pollution at Sea

Along the Alaska coast line, citizen complaints alerted EPA investigators to a different source fouling the air: Cruise ships. While investigating the complaints, EPA staff observed smoke coming from the ships which exceeded state and federal limits for visible emissions. Consequently, six cruise lines were issued Notices of Violation (NOVs) in early 2000 for emissions in Juneau, Seward and Glacier Bay.

Citizen tips are a valuable tool for finding polluters. By working closely with local residents, the EPA and state environmental agencies can better protect the air for those communities and their tourists.

EPA works with state and local governments to improve air quality, and the results to date are impressive. Since the federal Clean Air Act was passed in 1970, the nation has significantly cleaned up the air: 98 percent of lead, 79 percent of the particles, 41 percent of gaseous sulfur dioxide, 28 percent of the carbon monoxide, and 25





percent of the smog soup now called ozone have been eliminated from the air we breathe. Such improvements are very meaningful, due to the growth that occurred

during the same period. The nation's economy grew by 90 percent, the total U.S. population grew by 27 percent, and the number of motor vehicle miles driven increased by 111 percent!

Asthma and Children's Health

Asthma remains a persistent problem in the U.S. the number of children afflicted has doubled in the past 10 years, currently affecting almost five million nationwide. Nationally, the asthma rate among children ages 5-14 rose 74% between 1980-94. Asthma can be triggered by irritants and allergens such as smoke, dust, molds, mites and pet dander.

The trends related to asthma are not encouraging. For instance, the hospitalization rate for asthma in Washington state is rising much faster than the rest of the U.S. That rate is seven times higher among minority children from the inner city than children from other communities. Low-income and minority children are afflicted at much higher rates. To minimize asthma triggers, EPA promotes the use of common-sense, low-cost solutions for clearing the air in homes and schools.

In response to this problem, the EPA has funded several special projects including:

- *Community-based, inner-city asthma medical intervention clinic and home visit programs.*
- *An inner-city asthma outreach and education program.*
- *Development and distribution of brochures targeting residential air pollution improvements in minority and low-income communities.*

Economic growth and environmental protection can go hand in hand. Industry was the first target of the Clean Air Act rules, and by installing sophisticated pollution control equipment on facilities both large and small, much of the industrial air pollution of the past has been eliminated. Today, less than one-fifth of the total air pollution in the Northwest is caused by industry.



The quality of the air in the Northwest today is dependent upon the day-to-day choices we make. How do we get from place to place? How do we heat our homes? What do we do with garbage and yard debris?

Cars, trucks and other means of transportation account for more than fifty percent of the total air pollution in the United States, and even more in the Northwest. Vehicle exhaust is a main ingredient of smog during the warm summer months, and it produces carbon monoxide in the wintertime.

Yet despite the improvements in automobile exhaust systems over the last 30 years, pollution caused by cars is still a problem because there are simply more people driving more cars over greater distances

than ever before. A well-tuned vehicle creates less pollution, so vehicle emission check programs in major urban areas of the Northwest help citizens keep their cars and trucks tuned-up and operating efficiently year-round. Oxygenated gasoline in winter helps engines burn fuel efficiently even in the cold winter temperatures.

Wood-burning stoves and outdoor burning together account for approximately one quarter of the particulate pollution in the air we breathe. Road dust, windblown dust, as well as forest-burning and field burns also contribute to problems in some areas. During winter weather inversions, stagnant air traps pollution close to the ground, increasing the levels of pollutants where people breathe. These problems have been solved in many areas of the Northwest: new woodstoves are now certified to meet emission standards, and public education programs teach people how to burn wood efficiently, without excessive smoke. Special



Controlling Air Quality in Indian Country

The 1990 Clean Air Act Amendments authorizes Native American tribes to enact their own Clean Air programs, and clarifies EPA's responsibility to directly implement Clean Air programs throughout Indian Country until a tribal nation chooses to conduct its own air pollution control plan. EPA Region 10's work with Northwest Native American tribes is focused in two ways: 1) fostering tribal capacity to manage air quality by providing grant money and technical training; and 2) fulfilling the array of required regulatory responsibilities in Indian Country (for example, issuing clean air operating permits to industrial sources located in Indian Country).

precautions, such as local burning bans when pollution from particulate matter is measured at unsafe levels, helps keep pollution to a minimum.

Population growth is by far the biggest challenge to keeping the air clean. A growing population means more cars on the road, more construction of new homes and businesses, and greater demand on the surrounding environment.

EPA is determined to do more than simply maintain the progress that's been made; by working together – federal, state and local governments, business, industry and citizens -- we can do what is necessary to improve the quality of the air we breathe.



Recognizes Earth Day 1971 - Lead Based Paint Poisoning Prevention Act 1972 - Clean Water Act, protects wetlands and gives EPA

CLEAN WATER

Safe Drinking Water for Everyone

The Pacific Northwest and Alaska are known for clear, clean, fresh tasting water. Our major rivers and lakes are found in the high desert, coastal rainforest, arctic glaciers and valleys separating mountains. Such varied landscapes offer a challenge when balancing economic and population growth with protecting the quality of these water resources. Since 1970, the EPA has worked with many partners to improve sewage treatment, reduce industrial waste discharges, and preserve habitat in our Northwest ecosystems.

Improved Sewage Treatment

In the past, raw or inadequately treated sewage was routinely released into our region's waters. As sewage decomposed, these wastes consumed large amounts of oxygen from the water. Over time, the continuous supply of sewage consumed so much oxygen that many lakes, rivers and streams could no longer sustain aquatic life.

To reverse this trend, the EPA developed a major sewage treatment program to eliminate the harmful effects of human wastes on aquatic ecosystems. Millions of dollars were provided to local governments to support the construction of new wastewater treatment plants. Additionally, the EPA required wastewater plants to treat and remove oxygen consuming wastes. In Oregon, these clean-up efforts doubled the oxygen levels in the Willamette River, revitalizing an important waterway.

Seventy-three million more people, in thousands of communities across the nation, have upgraded sewage treatment, compared to 25 years ago. The water quality improvements associated with these efforts are impressive. Releases of oxygen consuming wastes have declined by 36 percent (from 6,700 metric tons a day in 1970 to 4,300 metric tons a day in 1992) even though the amount of sewage being treated has increased by 28 percent. Even more significant, levels of life-giving dissolved oxygen have increased in regularly monitored waters across the country.

Safe Drinking Water

Most people in the United States simply turn on the kitchen tap to fill a glass with clean, safe drinking water.

Sewer Clean up

Between 1972-1990, the Clean Water Act provided \$1.9 billion to build wastewater treatment facilities and improvements in the states of Alaska (\$234 million), Idaho (\$246 million), Oregon (\$578 million), and Washington (\$843 million).

Water quality improvements in the Pacific Northwest have lead to great public health benefits. For example, EPA funds enabled the City of Yelm, Washington, to upgrade its collection and wastewater treatment facility and deal with failing or inadequate septic tank systems. Now the nitrate levels in the groundwater supply, which once were rising above the allowable drinking water standards, are under control.

For the City of Boise, Idaho, improvements to its Lander Street wastewater treatment facilities reduced the amount of nutrients and bacteria taking oxygen from the Boise River. Wastewater flows increased by seventy percent from 1995 to 1999. Consequently, the oxygen depleting nutrients and bacteria entering the plant increased by sixty percent. The changes to the facility reduced the detrimental nutrients and bacteria leaving the plant by eighteen percent over the same four years. The result was more oxygen available for the river's fish and plants.

It's probably even fair to say that most Americans assume that the 34 billion gallons of tap water we use each day will always be pure and close at hand. To ensure that this would always be true, Congress enacted the Safe Drinking Water Act in 1974.

Since that time, preserving the safety of our nation's public drinking water supply has been, and continues to be, one of the EPA's top priorities. Over the last 25 years the EPA has issued numerous drinking water standards protecting the public from the effects of harmful chemicals and microbial pollutants. In addition, the EPA and each state monitor the quality of drinking water supplies and develop strategies to prevent contamination. Together these

efforts constitute a comprehensive program providing the American public with safe and reliable water.

Special protection programs are being implemented in about 4,000 communities across the Northwest region. The success of these efforts is shown by the fact that in 1999 more than 90 percent of the population in community water systems received water meeting all health-based standards.

Reduced Industrial Pollution

Prior to 1970, wastewater discharges from industry went largely unchecked. The Clean Water Act, however, made it illegal for any industry to discharge pollutants directly to national waters without a permit specifying appropriate pollution limits. Those limits are based on balancing our economy's need for production and the ecosystem's natural ability to compensate for some amount of pollution.

The EPA developed standards for more than 50 different industries and currently oversees more than 57,000 industrial water pollution permits. Currently, these permits prevent more than one billion pounds of toxic pollution from entering our nation's waters each year.

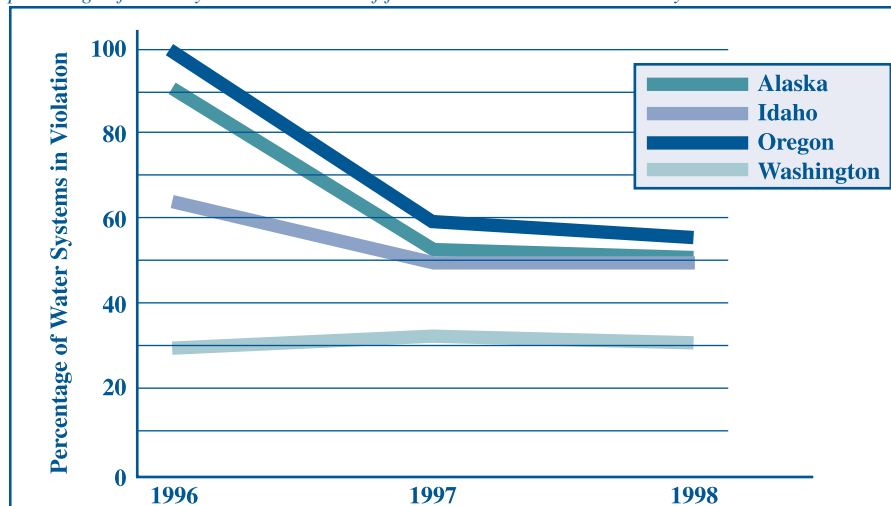
A related water pollution control program focuses on companies dumping liquid wastes down their drains into the public sewer system. The Clean Water Act contains special provisions that require these dischargers to "pretreat" their waste before it enters the sewer. More than 30,000 major industrial dischargers are now covered by pretreatment standards. As one of the EPA's most successful programs, pretreatment standards have reduced toxic discharges to public sewers by an estimated 75 percent.



Yaquina Bay Bridge, Newport Oregon

Public Water System Violations

Since the Safe Drinking Water Act Amendments of 1996, States have submitted annual reports. The percentage of water systems in violation of federal rules has declined steadily since that time.



For a complete report on the nation's public water systems, view it on the web:
www.epa.gov/safewater/annual/acr98.pdf

Oregon's 1996 report double counted some systems

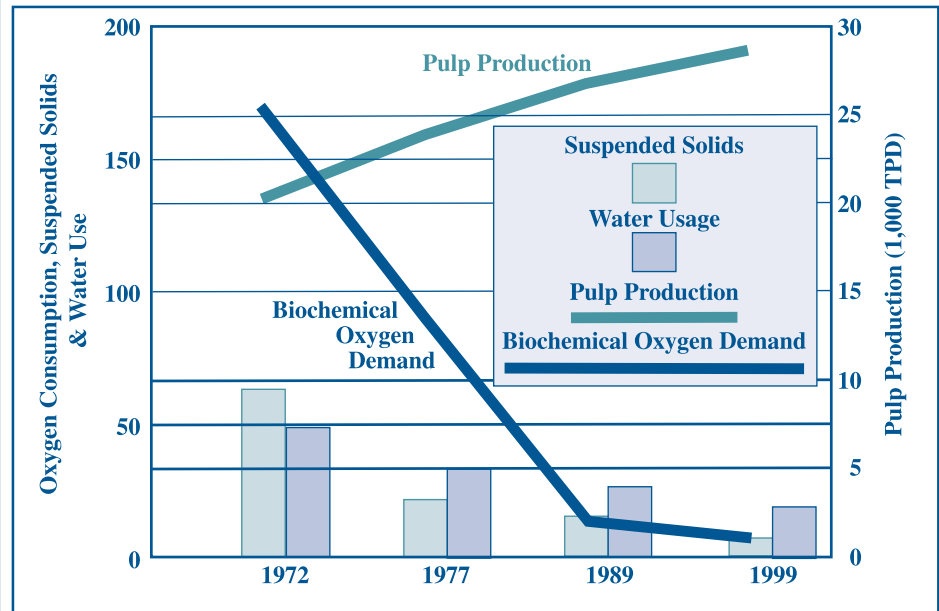
The Pulp Industry

Many industries affect Pacific Northwest water quality either by using or discharging water. Under the authority of the Clean Water Act, some of the most dramatic environmental progress has occurred in cleaning up Region 10's pulp & paper industry.

The manufacturing process uses far less water today than 30 years ago. Consequently, water pollution from these facilities has declined. For example, the water discharged consumes much less oxygen in the water. The suspended solids that cloud the water and hurt aquatic water life have also been reduced. The net improvement in water discharged by mills has been remarkable.

To achieve this pollution reduction, the industry made increased efficiency and waste reduction a top priority. There is an amazing downward trend in discharge and water use since 1967. And yet this streamlined industry has seen a steady net increase in production. That translates into a stronger economic base while releasing much less pollution - a real success story.

Pulp & Paper Wastewater Discharge Improvements in the Pacific Northwest & Alaska



How much has the water quality improved? Monitoring data tell of a 98 percent reduction in oxygen consumption, 89 percent reduction in Total Suspended Solids and 63 percent reduction in water use.

The graph above shows this compelling story of an efficient industry working to meet EPA water quality limits.

The Non Point Source Pollution Story

In the 1990's the EPA began looking at water quality problems on a watershed basis (the area from which water drains into a river system). Nearly every human activity within a watershed has some impact on its water quality.

As pollution from stationary sources such as factories and sewage treatment plants declined, the water quality was still impaired from the effects of many non point sources of pollution. Agricultural and logging activities, urban runoff and homeowner actions were still affecting water quality. Reductions in these non point source impacts are succeeding because of cooperation between other agencies, organizations and individuals. Perhaps the most significant impact has been when all of these interested

parties joined together to form Watershed Councils. The councils take an active role in protecting their own community's watershed.

Enforcement of environmental regulations alone will get us only

part way toward our goal of cleaner water. The citizens in each community must band together to preserve these precious water resources.





CLEAN LAND

From Superfund to Super Parks

Thirty years ago, thousands of contaminated junkyards, dump sites, and industrial facilities littered the land. Industry and the government addressed chemical usage and disposal totally separately. To bring this toxic dilemma under control, Congress began establishing laws to prevent polluting yet more areas, and then to clean up the many toxic sites around the country.

Congress enacted the Resource Conservation and Recovery Act (RCRA) in 1976 to address chemical usage and disposal from a more comprehensive approach. The act regulates hazardous waste through the entire 'life cycle' - from cradle to grave.

To address the existing, highly contaminated sites, Congress passed the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) in 1980, which established the Superfund program. More than 36,000 sites were identified and entered into EPA's inventory of hazardous waste sites.

These two laws changed the way the country looked at industrial pollution. Generators of hazardous waste became responsible for the use and disposal of their waste. Polluters became responsible for cleaning up the mess they created. The EPA then faced the challenge of monitoring chemical use, disposal and clean-up.

"From Cradle to Grave"

Hazardous wastes under RCRA are now managed within a system having a beginning and an end. Many industrial

and commercial facilities are required to have permits controlling both waste treatment and disposal. Although household hazardous wastes are primarily controlled at the local level, EPA set national standards for municipal waste disposal to ensure that problems don't arise in the future.

Business Incentives

The EPA's Region 10 is finding new ways to better manage our chemicals and waste, from using fewer toxic chemicals in industrial processes to voluntary cleanups of past releases. One such voluntary initiative provides incentives to companies for going beyond simple compliance with environmental requirements. Targeting 17 high-priority toxic chemicals, participating companies here have reduced releases and disposals by an astonishing 58%. Corporate consciousness and initiative account for much of the program's success with over a quarter of the eligible companies participating, the highest rate in the U.S.

Economic opportunity and environmental protection are not mutually exclusive propositions. In stimulating the development of businesses that use recyclable or reusable materials, new jobs and tax revenues have been created while performing an important environmental service to society. Our support led to a national electronic marketplace for recyclables on the Chicago Board of Trade Recyclables Exchange.

Congress intended for the States to have direct responsibility for running the RCRA program. The EPA assumed an assistance and oversight role, providing compliance and enforcement functions, where appropriate. Oregon, Washington, and Idaho have pursued and been authorized to regulate their share of the 6,818 hazardous waste handlers located throughout the region. Alaska has not. In 1997, Washington ranked 24th, Oregon 36th, Idaho 9th, and Alaska 47th in hazardous waste generation among the 50 states.

Garbage and Recycling

Most of us have heard reports about the unfortunate problems created by municipal landfills. We are addressing these problems by promoting better waste management practices. Lining landfills with high-tech seepage preventing barriers or returning sites to valuable park and recreational space make these sites better neighbors.

It takes an entire forest - over 500,000 trees- to supply Americans with their Sunday newspapers every week? Recycling is a vital part of any sensible waste management program. It not only reduces the volume of

garbage otherwise sent to landfills, but also reduces demands on our natural resources. Although the trend in recycling here has been steadily moving upward, so has the per capita amount of waste generated. Your continuing support is the key.

Toxic Substances

Some materials are so toxic, and the threat of their release to the environment so widespread, that special toxic substances laws were enacted to regulate them. EPA has broad authority to ensure that these substances are managed safely. Our focus in this region is on PCB's (polychlorinated byphenyls), chemicals in commerce (import/export), and lead.

Between 1930 and 1979, PCBs were used as an insulator in a variety of electrical equipment. PCB's are a very effective insulator - and a very potent environmental hazard. Some 137 million pounds of PCBs were safely disposed of in permitted facilities in 1994.

It is truly disturbing that one in every 25 children in the U.S. has dangerously high blood lead levels. This comes about in a variety of ways, including contact with leaded paints, contaminated soil, and dust. We're working to assist tribes and states to reduce lead exposure.

Cleaning up the Contamination

Superfund is designed to protect human health and the environment through fast, effective cleanup of priority hazardous waste sites and releases. Those who created the problems are required to clean them up. If they either can't be identified or can't afford the cleanup costs, the government moves forward with cleanup using federal money.

We work with others - state, tribal and local agencies, and the general public - in actively searching for sites that may require cleanup under

Superfund. Once identified, these sites fall into two basic categories. There are those sites which are considered such a significant hazard to human health or the environment that they require an immediate cleanup, known as a removal. And there are other seriously contaminated sites that require more long-term cleanup. These sites can be added to the National Priorities List (NPL) and thus become eligible for federal funded cleanup money if necessary. Some sites are also cleaned up under the supervision of a qualified state cleanup program.

The Removal Program

Removals typically take less than a year and involve waste treatment onsite or transferring drums, excavated contaminated soils, and other wastes to regulated disposal facilities. Some removals are outright emergencies stemming from fires or spills. In non-emergencies, we locate the party responsible for the contamination and direct them to perform the cleanup. If post-removal testing of soils and groundwater reveals that

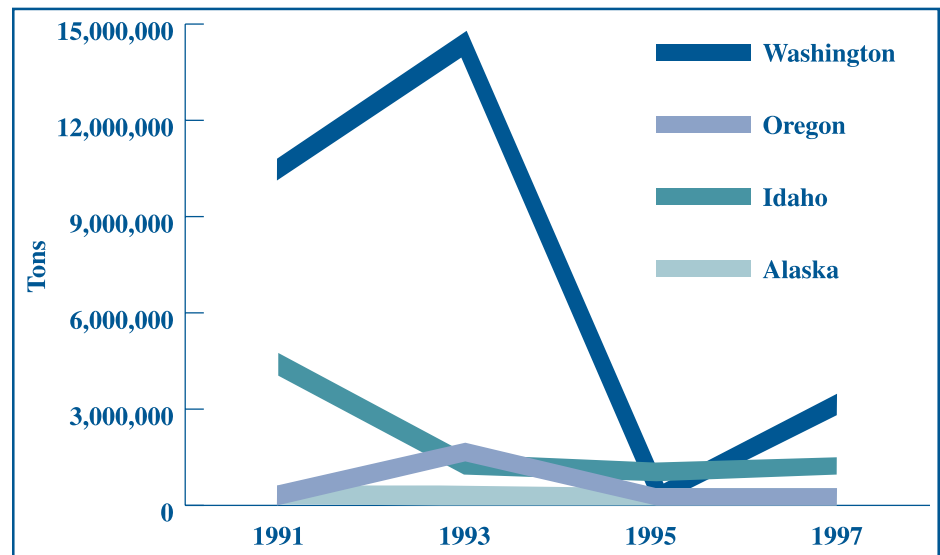
contamination levels are still of concern, the site may either be listed on the NPL or referred to another agency for further cleanup.

Northwest Superfund Sites

Of the over 1,400 Superfund sites located across the country, 91 can be found in the Pacific Northwest. Over a million people here live within two miles of one or more Superfund sites. These sites run the gamut from active industrial facilities to small businesses. From less than an acre to more than 21 square miles in size.

Of the region's 91 Superfund sites, 43 have been cleaned up and 22 of them have been formally deleted from the NPL. Final cleanups at another 41 sites are currently underway nationally. More than 675 of the most serious uncontrolled or abandoned hazardous waste sites have been cleaned up and 85 more will be done by the end of 2000. Responsible parties have paid 70 percent of the cleanup costs, saving taxpayers billions of dollars.

Quantity of RCRA Hazardous Waste Generated in the Pacific Northwest & Alaska



High-Tech Cleanup Winding Down

The Western Processing Company, a chemical waste processing and recycling facility, operated from 1961 to 1983 on a 13-acre site in Kent, 20 miles south of Seattle. Some of the Pacific Northwest's largest industries contracted with Western Processing to handle a wide variety of chemicals and waste materials.

In 1983, the EPA ordered the company to stop operations and placed Western Processing on the NPL. The Superfund program required the cleanup of contaminants from soil and water found during the site investigation.

Cleanup activities began in 1984 with the removal of 4,700 tons of wastes from ponds, drums, and tanks on the site's surface. The EPA worked with the Washington Department of Ecology in 1987 on the second cleanup phase, removing more than 35,000 cubic yards of contaminated soils and sludges.

In the ensuing years we built a 40-foot deep vertical barrier wall, groundwater treatment system, and a multi-layered cap over the entire 13-acre southern portion of the site.

Today, the site is 95% complete, and no taxpayer money was used to clean up the site. The work was managed and paid for entirely by the Western Processing Trust. The Trust was formed by the responsible parties (companies such as Boeing, Franz,) who had used Western Processing to dispose of their waste. The work accomplished demonstrates the successful partnership of government and private industry in helping to protect the environment and improve the quality of life for the people of the Pacific Northwest.



Oil Spills & Public Awareness
EPA and the Coast Guard are jointly responsible for cleaning up oil spills, and for enforcing laws meant to prevent spills. If a facility that stores oil reports two or more small spills, or one large one, it must submit a spill prevention and cleanup plan to EPA for review. EPA also performs inspections of such facilities to help keep spills from happening.

Superfund's Emergency Planning and Community Right to Know Act requires businesses using hazardous chemicals to report the chemicals and their quantities to state and local emergency response and planning groups. We support these groups with grants, technical assistance and training. Our hazardous materials response program has conducted health and safety training at eleven villages in Alaska in an effort to prepare residents for cleanup jobs at local sites.



Prince William Sound, Alaska. Eleven million gallons of crude oil from the Exxon Valdez contaminated shorelines 1989. Congress passed the Oil Pollution Act in 1990.



HEALTHY *Safe and Healthy Places to Live, Work and Play* COMMUNITIES

There is nothing unique about Americans wanting a safe and healthy place to live, recreate, raise children, have careers, build a future. In 1949, Congress mandated “a decent home and suitable living environment for every American family” and reaffirmed it again in 1968. President John F. Kennedy warned in 1963 that if we neglect our cities, we will neglect the nation.

And yet our cities have been neglected. Trends have found families moving to the suburbs as they seek the dream of home ownership, open space, parks and ball fields. New roads and freeways provided easy automobile access to abundant and affordable land, encouraging yet new development and urban sprawl.

The Northwest, and particularly the coastal and sound communities, has grown because of the opportunities created by its residents. Our commitments to economic restructuring, transportation and the environment, give us the opportunity to improve our region’s livability and prosperity for years to come.

How do we sustain our region’s livability and prosperity? By making economic and environmental decisions that meet our needs and without compromising the ability of future generations to meet theirs; in other words, by avoiding dead ends.

Sprawl

In communities across the nation, there is a growing concern that current development patterns, dominated by what some call “sprawl”, are no longer in the long-term

interests of our cities, existing suburbs, small towns, rural communities, open space or wilderness areas. Though supportive of growth, communities are questioning the economic costs of abandoning infrastructure in the city, only to build it further out. They are questioning the social costs of the mismatch between new employment in locations in the suburbs and the available workforce in the city. They are questioning the wisdom of abandoning “brownfields” in older communities, eating up the open space and prime agricultural lands at the suburban fringe, and polluting the air of an entire region by driving further to get places. Spurring the smart growth movement are demographic shifts, a strong environmental ethic, increased fiscal concerns and more open views of growth. The result is both a new demand and a new opportunity for smart growth.

This opportunity should not be confused with “no growth” or even “slow growth.” People want the jobs, tax revenues, and amenities that come with development. But they want these benefits without degrading the environment, raising local taxes, increasing traffic congestion, or busting budgets. More and more local governments are finding that current development patterns frequently fail to provide this balance.

Portland, Oregon and Seattle, Washington, are two examples of communities searching for this balance. They have both struggled with the classic pattern of disinvestment in urban/suburban areas while investing in as-yet-unbuilt communities on the fringe. In the last two decades, flight from the core to the suburbs created a



golden ring of the priciest homes encircling the cities and moves further outward in both cases. Million dollar homes now sit on ridges along the eastside of Seattle, that were only twenty years ago homes to rabbits and deer. The rural character of these areas has been hit with traffic congestion, high taxes, decline in public services, and loss of farmland.

Portland, Oregon, however, has managed, with its long-standing urban growth boundary, downtown building boom, and well-developed transit system, to be known as one of the best known and frequently cited examples of smart growth.

Smart Growth

Smart Growth recognizes connections between development and quality of life. It leverages new growth to improve the community. The features that distinguish smart growth in a community vary from place to place. In general, smart growth invests time, attention and resources in restoring community and vitality to city centers and older suburbs. New smart growth is more town-centered, is transit and pedestrian oriented, and has a

greater mix of housing, commercial and retail uses. It also preserves open space and many other environmental amenities. But there is no "one-size-fits-all solution. Successful communities do tend to have one thing in common - a vision of where they want to go and of what things they value in their community - and their plans for development reflect these values.

Current development patterns are all too familiar. There has continued to be a disinvestment in older communities and the flight of much of the middle class to newer, diffuse, single-use developments. Older suburbs now experience the downward economic cycle once thought to be uniquely urban. Indeed, many suburbs now have more in common with urban counterparts than with new suburbs. This has created an opportunity to forge regional problem solving between the city and the

surrounding suburbs. This has thus led to investing in existing communities rather than subsidizing flight to as-yet-unbuilt developments. There has been a shift that new growth, especially growth subsidized by state's and the federal government, should add value to existing communities.

The call to reexamine our growth patterns and practices has support. The President's Council on Sustainable Development, a group of business CEO's environmentalists, and government agencies, recommended new patterns of growth to maintain community vitality. While land-use and growth-management activities are the responsibility of state, tribal and local authorities, EPA is uniquely positioned to encourage growth-management measures that take environmental impacts into consideration.

EPA Region 10 uses existing authorities under statutes such as the Clean Air Act, the Clean Water Act and the National Environmental Policy Act to help minimize the impacts of development activities. Region 10 also focuses on supporting state, tribal and local efforts. Specific activities include improving communications and providing technical expertise and resources to manage growth issues such as wastewater disposal, drinking water, water quantity, waste disposal, transportation and air quality, storm water runoff, and wetlands and habitat loss. EPA also provides funding and support for specific projects through programs such as Sustainable Development Challenge Grants and Better American Bonds

"We will help you build what we hear you are asking for and what is no less than you and your families deserve; livable communities, comfortable suburbs, vibrant cities, and for you grandchildren's well-being and for their grandchildren's too, green spaces."

Vice President Al Gore
January 11, 1999

Brownfields

Brownfields are abandoned or underused properties where real or perceived environmental contamination has slowed redevelopment. There are hundreds of these sites in the Region, from abandoned factories and shuttered gas stations, to aging rail yards. Cleaning up and reusing these areas often helps to preserve greenspace which would otherwise be used for development.

Since 1995, Region 10 has provided up to \$200,000 in seed funding to more than 20 state, local and tribal governments to expedite local site cleanup or assessment. Examples of recent brownfields initiatives include: funding of the Portland Brownfields Cleanup Revolving Loan Fund, which provides local cleanup loans; the Seattle/King County Job Training Pilot, which is successfully training individuals in need to work on hazardous waste site assessment and cleanup; and supplemental awards to the Oregon Economic and Community Development Department and King County, Washington to perform assessments which promote economic redevelopment and greenspace preservation.

Lead in Children

Cities have faced a myriad of environmental problems: polluted air; lead based paint hazards; asbestos, radon, vehicle gridlock, hazardous waste sites, polluted beaches. All of these threaten the health of the children growing up in our cities. As urban sprawl expanded, many of these same problems moved to the suburbs.

Before 1978, lead-based paint was commonly used in homes and apartment buildings. Exposure can also be traced to contaminated soil and water from mine wastes. Although cases of childhood lead poisoning are on the decline nationally, lead contamination remains a localized concern in parts of Region 10. Lead is a naturally

Community Tools for Transportation

When city and county governments ask for public participation in local planning, you can bring new ideas and concepts to the table:

Explore alternatives and involve the community. Look for creative solutions integrating land use, transportation, environment and livability.

Diversify the transportation system by providing more transportation choices. More choices enhances personal freedom, economic equity, and environmental protection.

Emphasize Transportation Demand Management (TDM). Explore this method of trip reduction through an array of travel alternatives, roadway incentives, financial incentives, work hours and location management.

Maximize the use of existing infrastructure. Habitat degradation, fragmentation, and loss can be prevented by making better use of the existing infrastructure.

Consider redevelopment. Redevelopment prevents sprawl and protects farms, forests, and natural lands. It also improves the existing built environment for people.

Maintain historic, cultural, natural features, and community character. Emphasizing local history, culture, and natural history and avoiding impacts to these elements helps to establish or maintain community identity and cohesion.



occurring substance that is toxic when ingested or inhaled. Lead is most hazardous to children under six years of age. Health effects include reduced intelligence and attention span, reading/learning disabilities and behavioral problems.

Home sellers and landlords must now disclose known lead-based paint and its hazards to both buyers and renters. Since June 1, 1999, in support of the Clinton-Gore Administration's right to know efforts, any contractor involved in remodeling or renovation is now required to give home owners a copy of a new booklet, *Protect Your Family From Lead in Your Home*.

EPA provides grant money to states and tribes for public education and testing activities. The agency also certifies training providers and programs to perform inspections, risk assessment and abatement work. EPA is also beginning to focus on outdoor sources of lead exposure -- such as paints used on playgrounds and fences. For example, EPA awarded the Washington State Department of Health more than \$2.5 million in grant funds for determining the extent of threats to children caused by lead paint and lead dust across the state.



HEALTHY *Looking at the World Differently* ECOSYSTEMS

Traditionally, we have looked at environmental problems based on where they occur, such as in the water, air or soil. Or we focused on the nature of the problem, such as hazardous waste, pesticides or asbestos. As a result we often missed the deeper perspective of how all these element interrelated in the real world. We were not looking at the whole picture at one time. EPA now looks at the challenges facing our fragile environment from an ecosystem approach. We are now finding big picture solutions to ecosystem level problems.

Our goal is to protect and restore the remarkable ecosystems in the Pacific Northwest and Alaska by addressing problems in specific geographic areas using an integrated approach. It is a complex way of doing business, requiring coordination with many different people. It is also time consuming. However, since we began focusing on environmental interrelationships over four years ago, significant progress has been made in addressing environmental problems from a holistic ecosystem perspective.

Working Together in Agriculture:

Agricultural practices have been linked to a number of environmental problems: nitrate and pesticide contamination of ground and surface water, air quality impairment caused by “agricultural dust”, loss of natural shrub-steppe habitat and loss of salmon habitat. The agriculture industry is concerned about these environmental challenges and others such as loss of pesticides needed to protect crops, declining market

prices for traditional crops and increasing costs of doing business.

The Columbia Plateau Agricultural Initiative is a comprehensive effort promoting environmental protection with wise agricultural practices, resulting in a sustainable environment and a sustainable industry. In early 1997 EPA, various state, federal and local agencies, local Conservation Districts, Washington State University Cooperative Extension, industry organizations and individual farmers began working together. The intent was to support community-based and individual efforts in five eastern Washington counties that promote farming and ranching practices which protect both the environment and the pocketbook.

EPA provided \$400,000 in funding for projects that promote nitrate monitoring in groundwater, develop new farming practices and provide education and training. In addition, the Columbia Plateau Agriculture Initiative tapped into funds from other programs such as environmental education grants, safe drinking water grants and air quality protection and food safety funding sources.

The “Wilke Farm Project” is a national model of how to develop and demonstrate to farmers, that environmentally friendly crops and cropping methods can result in a sustainable agriculture industry. The Wilke project and the other efforts of the Columbia Plateau project look at agriculture and the natural ecosystems holistically, not in



the context of independent environmental elements. They develop economically sustainable crops and cropping methods, while minimizing pesticide and fertilizer use. They also aim to prevent sediment run-off to surface water and wind erosion that causes agriculture dust.

Innovation and Industry

When several species of Pacific salmon were listed as endangered in 1999, private land owners faced a new challenge to maintain productive crops while protecting aquatic habitat. The EPA, National Marine Fisheries Service and the State of Washington worked with Simpson Timber Company to develop an integrated plan for managing their timber lands. The plan addresses the conservation needs of fish and wildlife, maintains water quality, basin hydrology and channel integrity. Simpson was able to integrate healthy environmental management into a profitable commercial forest operation. By making strong commitments to protect the ecological integrity of their lands and waters Simpson sought flexibility in how the *Endangered Species Act* and *Clean*

Water Act would be enforced in the watershed.

Simpson Timber Company's voluntary effort to manage these lands from an ecosystem approach is an example of how industry and government are working together to view the environment differently. This area of the Chehalis River Basin, about 220,000 contiguous acres, is being managed beyond the measures that Simpson would otherwise be subject to. Simpson Timber Company, the EPA and National Marine Fisheries Service developed a mutually acceptable plan, ensuring the protection of the aquatic dependent resources of the area and the ability to maintain a commercial forestry operation.

Forest and Fish

Salmon are often referred to as an "icon" in the Pacific Northwest and Alaska. They represent thriving streams, healthy forests and a connection to our historical roots of living off the land. Unfortunately, many Pacific salmon runs are listed as threatened or endangered under the *Endangered Species Act*. The reasons for the critical state of many salmon runs generally fall under the

category of habitat destruction or modification, whether it be from hydropower dams, agricultural practices, urbanization, or forest practices.

One large scale attempt at habitat improvement is the Forest and Fish agreement that covers nearly eight million acres of private forest land in the State of Washington. While forest practices are regulated, the continuing decline of salmon triggered a second look at the adequacy of those regulations. They ultimately proved to be inadequate.

The EPA joined other federal and state agencies, counties, tribes, and forest landowners to re-evaluate the regulations. The goal was to meet both the *Endangered Species Act* and the *Clean Water Act*, while recovering harvestable levels of salmon and timber. The parties met the goals through a long and difficult, but ultimately successful negotiation. The new agreement provides:

- 180 feet of stream side vegetative buffers
- protection for small streams
- additional restrictions on logging steep slopes

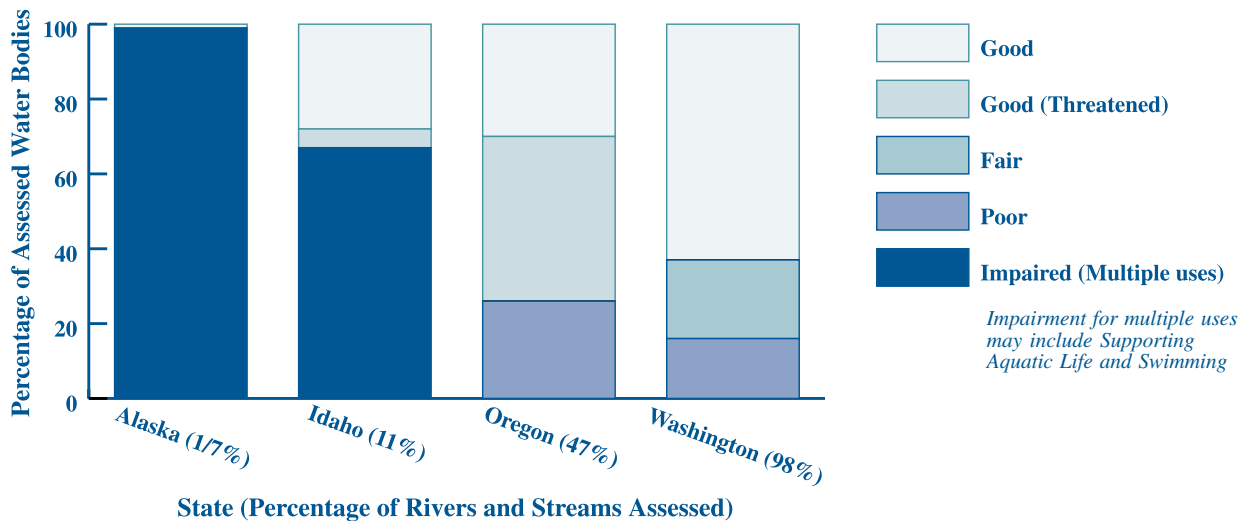
- inventories, prioritization and repair of forest roads
- increased enforcement
- reclassification of some streams
- funding tribal involvement
- and, continuing evaluations on the success of the new rules.

Forest practices in the State of Washington are now among the most stringent in the nation, and are the result of stakeholders negotiating in good faith to protect the ecosystem.

There will always be challenges when we attempt to balance environmental protection with economic activities and the needs of communities. Effective solutions to environmental problems require the cooperation and involvement of many groups who have a wide range of interests. We must work together to examine these challenges from an ecosystem approach. Looking not only at legal and scientific efforts to protect the environment, but the social and economic needs of people as well.



River and Stream Quality Assessment - Support of Aquatic Life
 From the 1998 305b Report to Congress



For more details visit - <http://www.epa.gov/305b/98report/>



HEALTHY *Many Countries — One World* PLANET

World events have changed our view of the potential for disaster awaiting an unprepared nation. Bhopal, India - 1984: 43 tons of toxic gases escape from a factory killing two thousand people. Chernobyl - 1986: Uncontrolled nuclear reaction spreads radiation across Northern Europe. Kuwait - 1991: Oil fields set aflame by retreating Iraqi troops, blacken middle eastern skies. For weeks, even months, they brought us to an awareness of what a small, vulnerable place the world really is. But for all their special notoriety, they might also have diverted our attention from more common, everyday releases of pollutants into the global environment.

Two important lessons we have learned from these global tragedies: Lack of safeguards on human activities can

Regional EPA specialists advised Saudi Arabian leaders on an environmentally sound relocation of this treated water outfall pipe.



Sewage in the Red Sea

The City of Jeddah in the Kingdom of Saudi Arabia sought the expertise of EPA scientists and engineers in the design of a wastewater treatment plant on the shores of the Red Sea. The Saudi government's Meteorological and Environmental Protection Administration faced the task of determining the effects of releasing the treated waste water into the adjacent coral seas.

Recognizing the expertise of the United States Environmental Protection Agency in evaluating sewage treatment plants, the Saudi government requested a team of specialists to review the proposed outfall design. Three EPA employees were dispatched to Jeddah at the expense of the Kingdom of Saudi Arabia.

After studying maps, oceanographic reports, discharge estimates, and design plans, the three EPA team members used a computer simulation to estimate how the treated wastewater would dilute in the coastal sea, and where it would travel. The simulation results proved very useful to the Saudis in their decision making processes, supporting the extension of the outfall pipe and additional lengthy diffuser. In addition to providing a simulation of the anticipated effects, the EPA team also proposed effluent monitoring, an impact study of the coastal coral reef, and a training program which would further develop the technical expertise in Saudi Arabia.

result in environmental and human disaster; and large scale environmental contamination and its associated impacts do not stop at international borders.

The world is interconnected.

Whether it's put in environmental, economic, or social terms, how we manufacture, consume and dispose of goods eventually affects other people in other lands. It could be the transport of airborne pollutants, trade in endangered species, loss of habitat to deforestation, or ocean-dumping of toxic wastes. Actions affecting the environment in a remote corner of the world can have an adverse impact in the United States.

A Win Win Situation

The EPA's dedication to solving complex environmental challenges extends beyond U.S. borders. EPA is actively involved with partners in foreign countries that will yield a "win-win" for all countries.

For example, we know that the Pacific Northwest contributes so-called greenhouse gases (e.g. CO₂) that have led to global climate change. We also know that others outside this region contribute to this global environmental problem, affecting our weather and other

natural systems. Similarly, domestic and foreign activities contribute to stratospheric ozone depletion, which may lead to increased incidences of skin cancers, cataracts, and other health and welfare concerns. By engaging our international colleagues in discussions, we hope to find solutions to reducing greenhouse gas emissions and ozone depleting chemicals that will be of mutual benefit for all.

Closer to home, our record of cooperation with our Canadian neighbors in addressing trans-border environmental issues continues to grow. We regularly work

U.S. and Canada Marine Ecosystem Partners

EPA Administrator, Carol Browner and Environment Canada's Minister, David Anderson, signed a Joint Statement of Cooperation on the Georgia Basin and Puget Sound Ecosystem, in January, 2000. This Statement of Cooperation between the U.S. and Canada is the first bilateral agreement to address the two marine basins as one ecosystem.

The Puget Sound, Strait of Juan de Fuca and the Strait of Georgia, are three basins that together form a larger ecosystem. As the largest marine estuary in North America, the Georgia Basin-Puget Sound region is one of the most ecologically diverse, containing a wide range of internationally significant species and habitats.

As the current regional population of six million moves toward an estimated nine to eleven million by 2020, planning for sustainable growth will be essential to maintaining a balance between development and environmental health. The Statement of Cooperation has been developed to provide for improved trans-border cooperation, priority-setting and information exchange throughout the ecosystem.

In 1996, The Province of British Columbia and the State of Washington committed to cooperative efforts on environmental matters on the Puget Sound/Georgia Basin ecosystem, resulting in the identification of priority issues through assigned international task forces. The EPA and Environment Canada will join in these protection strategies for managing a shared marine ecosystem.

Areas of major concern include:

- *Minimizing estuarine habitat loss;*
- *Establishing marine protected areas;*
- *Protecting marine plants and animals;*
- *Minimizing exotic species introduction;*
- *Joint monitoring and research;*
- *More effective controls on toxic wastes releases*

The Georgia Basin to the North and the Puget Sound to the South Are Now Cooperatively Managed by the United States and Canada



The cooperative agreement also allows both Federal governments to engage in projects to address air quality issues, growth and transportation issues, and climate change.



cooperatively on issues related to salmon, water quality, air quality and chemical management.

We also devote a small fraction of our resources to helping others around the world. Over the past three years, we have sent our experts to more than twenty countries providing assistance to deal with the often profound environmental problems they face. The expense to the U.S. is minimal. The host country pays for all travel and operation expenses, while the EPA contributes technical experts. As an alternative, we have met with officials from more than 35 countries during their visits to the United States, with whom we share our environmental management experiences.

Benefits for Region 10

For the many benefits that this modest investment yields, it is clearly worthwhile. Our efforts often lead to direct improvements in the health and welfare of people in host countries. Building capacity in foreign environmental programs leads to more efficient use of these countries' precious natural resources. Our involvement in technical pollution control issues often opens doors to the purchase of American environmental products and services, stimulating our economy. And as host countries begin to shoulder the real costs of responsible environmental stewardship, the increased price of their products results in a more level international marketplace.

Among all the benefits to the United States, perhaps the most subtle are the experiences our employees bring back. In working with people elsewhere under difficult, sometimes desperate circumstances, we get ideas for new, often low-tech solutions that can be applied to some of the problems we encounter here.



CHALLENGES FOR THE NEXT CENTURY

Encouraging Sustainable Business Practices

“A sustainable United States will have a growing economy that provides equitable opportunities for satisfying livelihoods and a safe, healthy, high quality of life for current and future generations. Our nation will protect its environment, its natural resource base, and the functions and viability of natural systems on which all life depends.”

The President’s Council on Sustainable Development

The Unmistakable Problem

Our industrial system transforms natural resources into nearly all of the products and services that we use--our food, our cars, our computers. These products ultimately return to the environment. This flow of materials, usually in an altered form, from nature to the economy and back is fundamental to our society. According to the World Resources Institute, the weekly per person consumption of natural resources is equal to 300 shopping bags filled with materials

Energy Efficiency = \$avings

A business can change its processes to save money and protect the environment. It is also less vulnerable to government regulations. These types of investments are generally low-risk and high-yield. The U.S. EPA’s Energy Star and ClimateWise programs have shown that switching to energy efficient technologies can save millions of dollars. Businesses in Region 10, saved over \$21 million dollars through these programs by using technologies such as compact fluorescent lamps, solar energy, and non-toxic materials. These companies made themselves more competitive, and more attractive to environmentally conscious consumers.

weighing as much as a large luxury car. In fact, a recent study says that for developing countries to duplicate the “American” standard of living will take in excess of three planet Earth’s worth of resources. Short of mounting a massive space exploration program, living within the carrying capacity of this planet is certainly a more cost effective and sustainable option.



The Road to Sustainable Business Practices

EPA and businesses have a history of interactions which span a range from antagonistic through synergistic. Before the 1970's, corporations were generally unprepared for the "command and control" approach to environmental protection. There were no industry goals for environmental performance. During the 1970's, with the increasing attention to environmental issues and the creation of the EPA, the corporate response was generally viewed as "reactive," in part to regulatory standards being created and enforced. During the 1980's, the industry goal was motivated mainly by avoiding additional costs. Companies stressed Total Quality Environmental Management and Stakeholder Participation. Beginning in the 1990's, the industry goal was to adopt the "eco-efficient" profit-center approach. Industries began using strategic environmental management systems, product stewardship,

design for the environment, and environmental cost accounting. The "Sustainable Development" era ahead, will be characterized by integrating sustainability principles.

The price of goods and services usually do not include environmental impact costs. There are few, if any, "sustainable" choices for the consumer, and often they are more expensive. For this reason, the Region 10 Evergreen program honors companies which integrate pollution prevention into business planning. Fifteen

Corporations, because they are the dominant institution on the planet, must squarely address the social and environmental problems that affect humankind.

Paul Hawken,
co-founder of Smith & Hawken, and
author, *The Ecology of Commerce*

companies have been honored in the past 4 years with Evergreen awards after demonstrating a commitment to the environment, achieving environmental results through

pollution prevention *and* providing greener purchasing options for the public. If businesses can offer consumers choices which support a healthy environment, they ultimately protect the source from which all revenue flows-- the planet's natural resources.

In Region 10, our philosophy is that the best way to prevent pollution is to move up the waste management hierarchy towards source reduction. Source reduction means reducing or eliminating the creation of wastes at the source. Changes in materials, practices, processes or design are the key to source reduction. However, a recent poll of 137 businesses in the Pacific Northwest show that less than 1% of businesses employ eco-efficiency. Clearly, there is much to be done to educate and encourage business to adopt cost-saving measures which also protect the environment.

Eco-Efficiency May Not Be Enough

Pollution prevention, waste minimization and source reduction are extremely important practices for the business sector and cost savings, for the small number of businesses which employ them, have been substantial. A growing number of observers, however, suggest that these eco-efficiency practices, while significant, may not be enough. Robert M. Day of the World Resources Institute states that "Eco-efficiency excellence will be necessary, but not sufficient, for doing business in the next millennium." He points out that eco-efficiency is a valuable concept both for society and business because it is in everyone's interest to drive waste out of our economic systems. Global trends, however, indicate that we are not even coming close to achieving what is needed for sustainable development. The

goal of sustainability is slipping further from our grasp.

Individual Choices are the Key

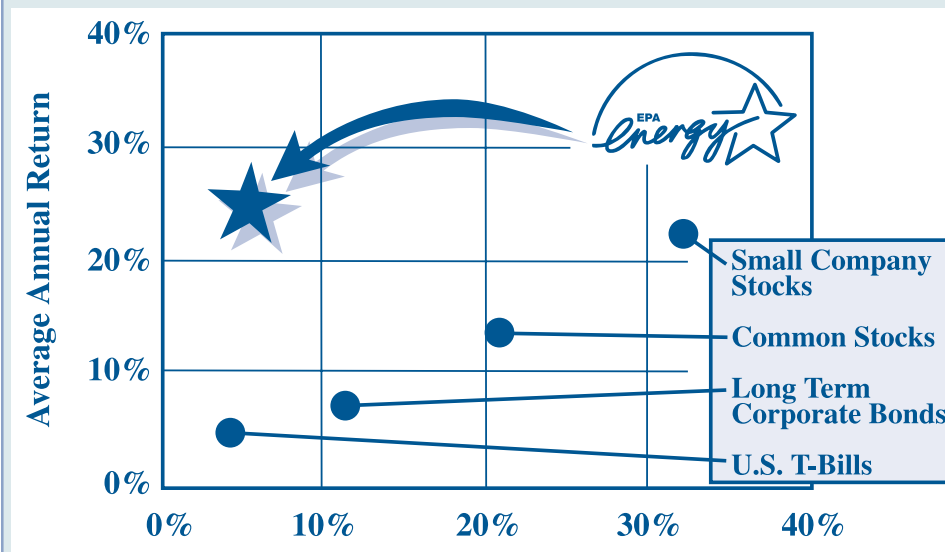
Meaningful steps towards sustainability for the business sector can mean many different things. From steps taken to improve efficiency and eliminate waste all the way to complete redesign of the way a company does business. One thing is clear, no business activity can be truly sustainable without being profitable. All major federal environmental laws are based upon the constitutional power of the Commerce Clause. EPA's environmental regulatory authority only extends within the parameters allowed by the rules and statutes as passed by Congress.

Most of the environmental problems are not caused by a polluting factory which can be simply permitted to

pollute less. It will take a holistic approach to environmental protection, working in concert with sustainability business leaders, transforming the current system by designing products in a whole new way.

You, as a consumer, can drive this change. Personal choices of consumers (what we buy, how we travel, where we live) actually create more of an impact than all industrial sources combined. In the Pacific Northwest, most air pollution is caused by wood smoke and automobiles. The portion of air pollution from large facilities is small in comparison. For more information about the power of personal choices, please visit Region 10's Sustainability Website at www.epa.gov/r10earth/sustainability. The choices you make will shape our environmental future.

Energy Efficiency Is A Superior Investment



Consumers, businesses, and organizations have a tremendous opportunity to make smarter equipment purchasing and investment decisions. Thousands of equipment purchases are made every day. People tend to buy the equipment that is the least efficient, thereby committing themselves to higher energy bills for the next 10 to 20 years, depending on the life of the equipment. At the same time, buyers overlook the investment opportunities represented by the more efficient equipment - investment opportunities with more than double the return on investment of other common options, such as money markets or U.S. Treasury bonds (see figure at left).

Richard, S., Hardy, B., Von Neida, B., and P. Mihlmester. 1998. *The Investment Risk in Whole Building Energy-Efficiency Upgrade Projects*. In the *Proceedings of the 1998 ACEEE Summer Study on Energy Efficiency in Buildings*.

We are all responsible for this planet, but business must take the lead because only business has the global reach, the innovative capability, the capital, and most important, the market motivation to develop the technologies that will allow the world to truly achieve sustainable development.

Harry Pearce, Vice-Chairman of General Motors



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REMEMBER THE PAST • PROTECT THE FUTURE

30 YEARS OF ENVIRONMENTAL PROGRESS IN THE PACIFIC NORTHWEST

