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THE WHITE HOUSE
WASHINGTON

FEBRUARY 4, 1990

INFORMATION

MEMORANDUM FOR THE PRESIDENT

THROUGH: CHRISS WINSTON

FROM: MARK LANGE

SUBJECT: INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

Attached is an address (to be teleprompted, about 15 minutes) for the third plenary session of the I.P.C.C.

Some 50 national delegations from around the world will attend, as well as various non-governmental organizations, for an audience totaling about 600.

The I.P.C.C. was formed in 1988 as an initial effort to study the science, impact, and necessary responses to global climate change.

Your remarks outline U.S. initiatives already underway, reiterate proposals made over the past year, and emphasize our determination that the science be done right.

As it stands, the head table will consist of:

-- IPCC Chairman Bert Bolin [bo-LEEN], who opens the session and introduces you

-- Secretary General of the World Meteorological Organization, Mr. G.O.P. Obasi

-- Executive Secretary of the U.N. Environmental Program, Dr. M.K. Tolba.

(Lange/Cawley)
February 4, 1989
3:45 P.M.
[IPCC.DOC]

PRESIDENTIAL ADDRESS: INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE
GEORGETOWN UNIVERSITY
MONDAY, FEBRUARY 5, 1990
10:15 A.M.

Thank you, Dr. Bolin [Bo-leen]. Professor Obasi. Dr. Tolba. Delegates of the World Meteorological Organization, and the United Nations Environment Program. Let me commend **all** of you, for coming together to examine an issue of such great importance. The recommendations this distinguished organization makes can have a profound effect on the world's environmental and economic policy.

By being here today, I hope to underscore concern -- my country's, and my own -- about environmental stewardship; and to reaffirm our commitment to finding responsible solutions. It is both an honor and a pleasure to be the first American President to speak to this organization, as its work takes shape.

You are called upon to develop recommendations which strike a difficult yet critical international bargain: a convergence between global <u>environmental</u> policy, and global <u>economic</u> policy. A bargain where **both** perspectives benefit -- and **neither** is compromised.

As experts, you understand that economic growth and environmental integrity need not be contradictory priorities. One reinforces and complements the other. Each, a partner. Both are crucial.

A sound environment is the basis for the continuity and quality of human life and enterprise. Clearly, strong economies allow nations to fulfill the obligations of environmental stewardship. Where there is economic strength, such protection is possible. But where there is poverty, the competition for resources gets tougher. Stewardship suffers.

For all of these reasons, I sincerely believe we must do everything in our power to promote global cooperation: For environmental protection **and** economic growth. For intelligent management of our natural resources **and** efficient use of our industrial capacity. And for **sustainable** and **environmentally sensitive** development -- around the world.

The United States is strongly committed to the I.P.C.C. process of international cooperation on global climate change. We consider it vital, that the community of nations be drawn together -- in an orderly, disciplined, rational way -- to review the history of our global environment, to assess the potential for future climate change, and to develop effective programs.

The state of the science; the social and economic impacts; and the appropriate strategies -- all are crucial components to a global resolution. **The stakes here are very high; the consequences, very significant.**

The United States remains committed to aggressive and thoughtful action on environmental issues. Last week, in my State of the Union address, I spoke of stewardship: because I

believe it's something we owe ourselves, our children and their children.

So we are renewing the ethic of stewardship in our domestic programs. In our work to forge international agreements. In our assistance to developing and East Bloc nations. And here, by chairing the Response Strategies Working Group.

I have just submitted a budget to our Congress for fiscal 1991. It includes over $2 billion in new spending to protect the environment. And, underscoring our commitment to your efforts, I am pleased to note that funding for the U.S. Global Change Research Program will increase by nearly 60 percent, to over **one billion dollars**.

That commitment, by far the largest ever made by any nation, reflects our determination to **improve our understanding of the science** of climate change.

We are working with our neighbors around the world to enhance global monitoring and data management, improve analysis, reduce the uncertainty of predictive models, and conduct regular reassessments of the state of the science.

Our program allows NASA, her sister agencies, and all our international partners, to move forward with the "Mission to Planet Earth." That will initiate the U.S. Earth Observing System, in cooperation with Europe and Japan, to advance the state of knowledge about the planet we share.

Furthermore, even as we wait for the benefits of this research, the United States has already taken many steps in our country that bring both **economic and environmental benefits.** Steps that make sense on their own merits in terms of responsibility and efficiency, which help reduce emissions of CFC's, carbon dioxide, and other pollutants now entering the atmosphere. **Let me outline them very briefly:**

We are pursuing new **technology development** that will increase the **efficiency** of our energy use, and thus reduce total emissions.

We're crafting a revised **Clean Air Act** with incentives for our private sector to find creative, market-driven solutions to enhance air quality.

We've launched a major **reforestation initiative** to plant a **billion** trees a year on private land across America.

And we're working out a comprehensive review and revision of our **National Energy Strategy**, with initiatives to increase energy efficiency and the use of renewable sources. These efforts, already underway, are the heart of a $336 million Department of Energy program, and are expected to produce energy savings through the year 2000 of over $30 **billion** -- while achieving significant pollution reduction. Quite a return on investment.

We're also working through diplomatic channels with our colleagues in other countries, and through innovative measures like debt-for-nature swaps, to do <u>more</u> than simply reduce global

deforestation. **We hope to reverse it** -- not unilaterally, but by working with our international neighbors.

The **economics** of our response strategies to climate change are getting intensive study in America. We are developing real data on the costs of various strategies, assessing new measures, and encouraging other nations to follow suit. And we look forward to sharing this knowledge and technical support with our international colleagues.

As we work to create **policy** and agreements on action, we want to encourage the most creative, effective approaches. Wherever possible, we believe that market mechanisms should be applied -- and that our policies must be consistent with economic growth and free market principles in **all** countries. Our development efforts and our dialogue can help us reach effective and acceptable solutions.

Last December at Malta, in my meeting with President Gorbachev, I proposed that the United States offer a venue for the first negotiating session for a framework convention, once the I.P.C.C. completes its work. I reiterate that invitation here, and look forward to your cooperation in that agenda.

We all know that human activities are changing the atmosphere in unexpected and unprecedented ways. Much remains to be done. Many questions remain to be answered. Together, we have a responsibility to ourselves and the generations to come, to fulfill our stewardship obligations. But that responsibility demands that we do it right.

We acknowledge a broad spectrum of views on these issues, but our respect for a diversity of perspective does not diminish our recognition of our obligation -- or soften our will to produce policies that **work**. Some may be tempted to exploit legitimate concerns for political positioning. Our responsibility is to maintain the quality of our approach, our commitment to sound science, and an open mind to policy options.

So the United States will continue its efforts to improve our understanding of climate change -- to seek hard data, accurate models, and new ways to improve the science -- and determine how best to meet these challenges. Where politics and opinion have outpaced the science, we are accelerating our support of the technology to bridge that gap. And we are committed to coming together periodically, for international assessments of where we stand.

Therefore, this spring, the United States will host a White House conference on science and economic research on the environment -- convening top officials from a representative group of nations, to bring together the three essential disciplines: science, economics, and ecology. They will share their knowledge, assumptions, and state-of-the-art research models, to outline our understanding and help focus our efforts. I look forward to participating in this seminar, and to learning from its deliberations.

Our goal continues to be matching policy commitments to emerging scientific knowledge -- and a reconciling of

environmental protection to the continued benefits of economic development. And as Secretary Baker observed a year ago, **whatever** global solutions to climate change are considered, they should be as specific and as cost-effective as they can possibly be.

If we hope to promote environmental protection **and** economic growth around the world, it will be important not to work in conflict, but with our industrial sectors. That will mean moving beyond the practice of command, control, and compliance -- toward a new kind of environmental cooperation -- and toward an emphasis on pollution **prevention**, rather than mere mitigation and litigation. Many of our industries, in fact, are already providing crucial research and solutions.

One corporation, for example, started an in-house program called Pollution Prevention Pays, that has saved the company well over half a **billion** dollars since 1975 -- and prevented 112,000 tons of air pollutants, 15,000 tons of water pollutants, and almost 400,000 tons of sludge and solid waste from being released into the environment. They've done it by rewarding employees for coming up with the ideas. And they have clearly demonstrated the benefits of doing it right.

Where developing nations are concerned, some argue we'll have to abandon the free-market principles of prosperous economies. In fact, we think it's all the more crucial in the developing countries, to harness incentives of the free enterprise system, in the **service** of the environment. \\

I believe we should make use of what we know. We know that the future of the earth must not be compromised. We bear a sacred trust in our tenancy here -- and a covenant with those most precious to us: our children, and theirs. We also understand the efficiency of incentives -- and that well-informed free markets yield the most creative solutions. We must now apply the wisdom of that system, the power of those forces, in **defense** of the environment we cherish.

Working together, with good faith and earnest dialogue, I believe we can reconcile vitality with environmental protection. Let me commend you on your outstanding work -- and wish you all deliberate speed in your efforts to address a very difficult, but very important, human concern.

Thank you -- and God bless you.

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"a couple of changes" Terry Stuart Lee Johnson

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE
GEORGETOWN UNIVERSITY
MONDAY, FEBRUARY 5, 1990
10:15 A.M.

THANK YOU, DR. BOLIN [BO-LEEN]. PROFESSOR OBASI. DR. TOLBA. DELEGATES OF THE WORLD METEOROLOGICAL ORGANIZATION, AND THE UNITED NATIONS ENVIRONMENT PROGRAM. LET ME COMMEND ALL OF YOU, FOR COMING TOGETHER TO EXAMINE AN ISSUE OF SUCH GREAT IMPORTANCE. THE RECOMMENDATIONS THIS DISTINGUISHED ORGANIZATION MAKES CAN HAVE A PROFOUND EFFECT ON THE WORLD'S ENVIRONMENTAL AND ECONOMIC POLICY.

BY BEING HERE TODAY, I HOPE TO UNDERSCORE CONCERN -- MY COUNTRY'S, AND MY OWN -- ABOUT ENVIRONMENTAL STEWARDSHIP; AND TO REAFFIRM OUR COMMITMENT TO FINDING RESPONSIBLE SOLUTIONS. IT IS BOTH AN HONOR AND A PLEASURE TO BE THE FIRST AMERICAN PRESIDENT TO SPEAK TO THIS ORGANIZATION, AS ITS WORK TAKES SHAPE.

YOU ARE CALLED UPON TO DEVELOP RECOMMENDATIONS WHICH STRIKE A DIFFICULT YET CRITICAL INTERNATIONAL BARGAIN: A CONVERGENCE BETWEEN GLOBAL ENVIRONMENTAL POLICY, AND GLOBAL ECONOMIC POLICY. A BARGAIN WHERE BOTH PERSPECTIVES BENEFIT -- AND NEITHER IS COMPROMISED.

AS EXPERTS, YOU UNDERSTAND THAT ECONOMIC GROWTH AND ENVIRONMENTAL INTEGRITY NEED NOT BE CONTRADICTORY PRIORITIES. ONE REINFORCES AND COMPLEMENTS THE OTHER. EACH, A PARTNER. BOTH ARE CRUCIAL.

A SOUND ENVIRONMENT IS THE BASIS FOR THE CONTINUITY AND QUALITY OF HUMAN LIFE AND ENTERPRISE. CLEARLY, STRONG ECONOMIES ALLOW NATIONS TO FULFILL THE OBLIGATIONS OF ENVIRONMENTAL STEWARDSHIP. WHERE THERE IS ECONOMIC STRENGTH, SUCH PROTECTION IS POSSIBLE. BUT WHERE THERE IS POVERTY, THE COMPETITION FOR RESOURCES GETS TOUGHER. STEWARDSHIP SUFFERS.

FOR ALL OF THESE REASONS, I SINCERELY BELIEVE WE MUST DO EVERYTHING IN OUR POWER TO PROMOTE GLOBAL COOPERATION: FOR ENVIRONMENTAL PROTECTION AND ECONOMIC GROWTH. FOR INTELLIGENT MANAGEMENT OF OUR NATURAL RESOURCES AND EFFICIENT USE OF OUR INDUSTRIAL CAPACITY. AND FOR SUSTAINABLE AND ENVIRONMENTALLY SENSITIVE DEVELOPMENT -- AROUND THE WORLD.

THE UNITED STATES IS STRONGLY COMMITTED TO THE I.P.C.C. PROCESS OF INTERNATIONAL COOPERATION ON GLOBAL CLIMATE CHANGE. WE CONSIDER IT VITAL, THAT THE COMMUNITY OF NATIONS BE DRAWN TOGETHER -- IN AN ORDERLY, DISCIPLINED, RATIONAL WAY -- TO REVIEW THE HISTORY OF OUR GLOBAL ENVIRONMENT, TO ASSESS THE POTENTIAL FOR FUTURE CLIMATE CHANGE, AND TO DEVELOP EFFECTIVE PROGRAMS.

THE STATE OF THE SCIENCE; THE SOCIAL AND ECONOMIC IMPACTS; AND THE APPROPRIATE STRATEGIES -- ALL ARE CRUCIAL COMPONENTS TO A GLOBAL RESOLUTION. THE STAKES HERE ARE VERY HIGH; THE CONSEQUENCES, VERY SIGNIFICANT.

THE UNITED STATES REMAINS COMMITTED TO AGGRESSIVE AND THOUGHTFUL ACTION ON ENVIRONMENTAL ISSUES. LAST WEEK, IN MY STATE OF THE UNION ADDRESS, I SPOKE OF STEWARDSHIP: BECAUSE I BELIEVE IT'S SOMETHING WE OWE OURSELVES, OUR CHILDREN AND THEIR CHILDREN.

SO WE ARE RENEWING THE ETHIC OF STEWARDSHIP IN OUR DOMESTIC PROGRAMS. IN OUR WORK TO FORGE INTERNATIONAL AGREEMENTS. IN OUR ASSISTANCE TO DEVELOPING AND EAST BLOC NATIONS. AND HERE, BY CHAIRING THE RESPONSE STRATEGIES WORKING GROUP.

I HAVE JUST SUBMITTED A BUDGET TO OUR CONGRESS FOR FISCAL 1991. IT INCLUDES OVER $2 BILLION IN NEW SPENDING TO PROTECT THE ENVIRONMENT. AND, UNDERSCORING OUR COMMITMENT TO YOUR EFFORTS, I AM PLEASED TO NOTE THAT FUNDING FOR THE U.S. GLOBAL CHANGE RESEARCH PROGRAM WILL INCREASE BY NEARLY 60 PERCENT, TO OVER ONE BILLION DOLLARS.

THAT COMMITMENT, BY FAR THE LARGEST EVER MADE BY ANY NATION, REFLECTS OUR DETERMINATION TO IMPROVE OUR UNDERSTANDING OF THE SCIENCE OF CLIMATE CHANGE.

WE ARE WORKING WITH OUR NEIGHBORS AROUND THE WORLD TO ENHANCE GLOBAL MONITORING AND DATA MANAGEMENT, IMPROVE ANALYSIS, REDUCE THE UNCERTAINTY OF PREDICTIVE MODELS, AND CONDUCT REGULAR REASSESSMENTS OF THE STATE OF THE SCIENCE.

OUR PROGRAM ALLOWS NASA, HER SISTER AGENCIES, AND ALL OUR INTERNATIONAL PARTNERS, TO MOVE FORWARD WITH THE "MISSION TO PLANET EARTH." THAT WILL INITIATE THE U.S. EARTH OBSERVING SYSTEM, IN COOPERATION WITH EUROPE AND JAPAN, TO ADVANCE THE STATE OF KNOWLEDGE ABOUT THE PLANET WE SHARE.

FURTHERMORE, EVEN AS WE WAIT FOR THE BENEFITS OF THIS RESEARCH, THE UNITED STATES HAS ALREADY TAKEN MANY STEPS IN OUR COUNTRY THAT BRING BOTH ECONOMIC AND ENVIRONMENTAL BENEFITS. STEPS THAT MAKE SENSE ON THEIR OWN MERITS IN TERMS OF RESPONSIBILITY AND EFFICIENCY, WHICH HELP REDUCE EMISSIONS OF CFC'S, CARBON DIOXIDE, AND OTHER POLLUTANTS NOW ENTERING THE ATMOSPHERE. LET ME OUTLINE THEM VERY BRIEFLY:

WE ARE PURSUING NEW TECHNOLOGY DEVELOPMENT THAT WILL INCREASE THE EFFICIENCY OF OUR ENERGY USE, AND THUS REDUCE TOTAL EMISSIONS.

WE'RE CRAFTING A REVISED CLEAN AIR ACT WITH INCENTIVES FOR OUR PRIVATE SECTOR TO FIND CREATIVE, MARKET-DRIVEN SOLUTIONS TO ENHANCE AIR QUALITY.

WE'VE LAUNCHED A MAJOR REFORESTATION INITIATIVE TO PLANT A BILLION TREES A YEAR ON PRIVATE LAND ACROSS AMERICA.

AND WE'RE WORKING OUT A COMPREHENSIVE REVIEW AND REVISION OF OUR NATIONAL ENERGY STRATEGY, WITH INITIATIVES TO INCREASE ENERGY EFFICIENCY AND THE USE OF RENEWABLE SOURCES. THESE EFFORTS, ALREADY UNDERWAY, ARE THE HEART OF A $336 MILLION DEPARTMENT OF ENERGY PROGRAM, AND ARE EXPECTED TO PRODUCE ENERGY SAVINGS THROUGH THE YEAR 2000 OF OVER $30 BILLION -- WHILE ACHIEVING SIGNIFICANT POLLUTION REDUCTION. QUITE A RETURN ON INVESTMENT.

WE'RE ALSO WORKING THROUGH DIPLOMATIC CHANNELS WITH OUR COLLEAGUES IN OTHER COUNTRIES, AND THROUGH INNOVATIVE MEASURES LIKE DEBT-FOR-NATURE SWAPS, TO DO MORE THAN SIMPLY REDUCE GLOBAL DEFORESTATION. WE HOPE TO REVERSE IT -- NOT UNILATERALLY, BUT BY WORKING WITH OUR INTERNATIONAL NEIGHBORS.

THE ECONOMICS OF OUR RESPONSE STRATEGIES TO CLIMATE CHANGE ARE GETTING INTENSIVE STUDY IN AMERICA. WE ARE DEVELOPING REAL DATA ON THE COSTS OF VARIOUS STRATEGIES, ASSESSING NEW MEASURES, AND ENCOURAGING OTHER NATIONS TO FOLLOW SUIT. AND WE LOOK FORWARD TO SHARING THIS KNOWLEDGE AND TECHNICAL SUPPORT WITH OUR INTERNATIONAL COLLEAGUES.

AS WE WORK TO CREATE POLICY AND AGREEMENTS ON ACTION, WE WANT TO ENCOURAGE THE MOST CREATIVE, EFFECTIVE APPROACHES. WHEREVER POSSIBLE, WE BELIEVE THAT MARKET MECHANISMS SHOULD BE APPLIED -- AND THAT OUR POLICIES MUST BE CONSISTENT WITH ECONOMIC GROWTH AND FREE MARKET PRINCIPLES IN ALL COUNTRIES. OUR DEVELOPMENT EFFORTS AND OUR DIALOGUE CAN HELP US REACH EFFECTIVE AND ACCEPTABLE SOLUTIONS.

LAST DECEMBER AT MALTA, IN MY MEETING WITH PRESIDENT GORBACHEV, I PROPOSED THAT THE UNITED STATES OFFER A VENUE FOR THE FIRST NEGOTIATING SESSION FOR A FRAMEWORK CONVENTION, ONCE THE I.P.C.C. COMPLETES ITS WORK. I REITERATE THAT INVITATION HERE, AND LOOK FORWARD TO YOUR COOPERATION IN THAT AGENDA.

WE ALL KNOW THAT HUMAN ACTIVITIES ARE CHANGING THE ATMOSPHERE IN UNEXPECTED AND UNPRECEDENTED WAYS. MUCH REMAINS TO BE DONE. MANY QUESTIONS REMAIN TO BE ANSWERED. TOGETHER, WE HAVE A RESPONSIBILITY TO OURSELVES AND THE GENERATIONS TO COME, TO FULFILL OUR STEWARDSHIP OBLIGATIONS. BUT THAT RESPONSIBILITY DEMANDS THAT WE DO IT RIGHT.

WE ACKNOWLEDGE A BROAD SPECTRUM OF VIEWS ON THESE ISSUES, BUT OUR RESPECT FOR A DIVERSITY OF PERSPECTIVE DOES NOT DIMINISH OUR RECOGNITION OF OUR OBLIGATION -- OR SOFTEN OUR WILL TO PRODUCE POLICIES THAT WORK. SOME MAY BE TEMPTED TO EXPLOIT LEGITIMATE CONCERNS FOR POLITICAL POSITIONING. OUR RESPONSIBILITY IS TO MAINTAIN THE QUALITY OF OUR APPROACH, OUR COMMITMENT TO SOUND SCIENCE, AND AN OPEN MIND TO POLICY OPTIONS. SO THE UNITED STATES WILL CONTINUE ITS EFFORTS TO IMPROVE OUR UNDERSTANDING OF CLIMATE CHANGE -- TO SEEK HARD DATA, ACCURATE MODELS, AND NEW WAYS TO IMPROVE THE SCIENCE -- AND DETERMINE HOW BEST TO MEET THESE CHALLENGES. WHERE POLITICS AND OPINION HAVE OUTPACED THE SCIENCE, WE ARE ACCELERATING OUR SUPPORT OF THE TECHNOLOGY TO BRIDGE THAT GAP. AND WE ARE COMMITTED TO COMING TOGETHER PERIODICALLY, FOR INTERNATIONAL ASSESSMENTS OF WHERE WE STAND.

THEREFORE, THIS SPRING, THE UNITED STATES WILL HOST A WHITE HOUSE CONFERENCE ON SCIENCE AND ECONOMIC RESEARCH ON THE ENVIRONMENT -- CONVENING TOP OFFICIALS FROM A REPRESENTATIVE GROUP OF NATIONS, TO BRING TOGETHER THE THREE ESSENTIAL DISCIPLINES: SCIENCE, ECONOMICS, AND ECOLOGY. THEY WILL SHARE THEIR KNOWLEDGE, ASSUMPTIONS, AND STATE-OF-THE-ART RESEARCH MODELS, TO OUTLINE OUR UNDERSTANDING AND HELP FOCUS OUR EFFORTS.

I LOOK FORWARD TO PARTICIPATING IN THIS SEMINAR, AND TO LEARNING FROM ITS DELIBERATIONS.

OUR GOAL CONTINUES TO BE MATCHING POLICY COMMITMENTS TO EMERGING SCIENTIFIC KNOWLEDGE -- AND A RECONCILING OF ENVIRONMENTAL PROTECTION TO THE CONTINUED BENEFITS OF ECONOMIC DEVELOPMENT. AND AS SECRETARY BAKER OBSERVED A YEAR AGO, WHATEVER GLOBAL SOLUTIONS TO CLIMATE CHANGE ARE CONSIDERED, THEY SHOULD BE AS SPECIFIC AND AS COST-EFFECTIVE AS THEY CAN POSSIBLY BE.

IF WE HOPE TO PROMOTE ENVIRONMENTAL PROTECTION AND ECONOMIC GROWTH AROUND THE WORLD, IT WILL BE IMPORTANT NOT TO WORK IN CONFLICT, BUT WITH OUR INDUSTRIAL SECTORS. THAT WILL MEAN MOVING BEYOND THE PRACTICE OF COMMAND, CONTROL, AND COMPLIANCE -- TOWARD A NEW KIND OF ENVIRONMENTAL COOPERATION -- AND TOWARD AN EMPHASIS ON POLLUTION PREVENTION, RATHER THAN MERE MITIGATION AND LITIGATION. MANY OF OUR INDUSTRIES, IN FACT, ARE ALREADY PROVIDING CRUCIAL RESEARCH AND SOLUTIONS.

ONE CORPORATION, FOR EXAMPLE, STARTED AN IN-HOUSE PROGRAM CALLED POLLUTION PREVENTION PAYS, THAT HAS SAVED THE COMPANY WELL OVER HALF A BILLION DOLLARS SINCE 1975 -- AND PREVENTED 112,000 TONS OF AIR POLLUTANTS, 15,000 TONS OF WATER POLLUTANTS, AND ALMOST 400,000 TONS OF SLUDGE AND SOLID WASTE FROM BEING RELEASED INTO THE ENVIRONMENT. THEY'VE DONE IT BY REWARDING EMPLOYEES FOR COMING UP WITH THE IDEAS. AND THEY HAVE CLEARLY DEMONSTRATED THE BENEFITS OF DOING IT RIGHT.

WHERE DEVELOPING NATIONS ARE CONCERNED, SOME ARGUE WE'LL HAVE TO ABANDON THE FREE-MARKET PRINCIPLES OF PROSPEROUS ECONOMIES. IN FACT, WE THINK IT'S ALL THE MORE CRUCIAL IN THE DEVELOPING COUNTRIES, TO HARNESS INCENTIVES OF THE FREE ENTERPRISE SYSTEM, IN THE SERVICE OF THE ENVIRONMENT. \\

I BELIEVE WE SHOULD MAKE USE OF WHAT WE KNOW. WE KNOW THAT THE FUTURE OF THE EARTH MUST NOT BE COMPROMISED. WE BEAR A SACRED TRUST IN OUR TENANCY HERE -- AND A COVENANT WITH THOSE MOST PRECIOUS TO US: OUR CHILDREN, AND THEIRS. WE ALSO UNDERSTAND THE EFFICIENCY OF INCENTIVES -- AND THAT WELL-INFORMED FREE MARKETS YIELD THE MOST CREATIVE SOLUTIONS. WE MUST NOW APPLY THE WISDOM OF THAT SYSTEM, THE POWER OF THOSE FORCES, IN DEFENSE OF THE ENVIRONMENT WE CHERISH.

WORKING TOGETHER, WITH GOOD FAITH AND EARNEST DIALOGUE, I BELIEVE WE CAN RECONCILE VITALITY WITH ENVIRONMENTAL PROTECTION. LET ME COMMEND YOU ON YOUR OUTSTANDING WORK -- AND WISH YOU ALL DELIBERATE SPEED IN YOUR EFFORTS TO ADDRESS A VERY DIFFICULT, BUT VERY IMPORTANT, HUMAN CONCERN.

THANK YOU -- AND GOD BLESS YOU.

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United States
Environmental Protection
Agency

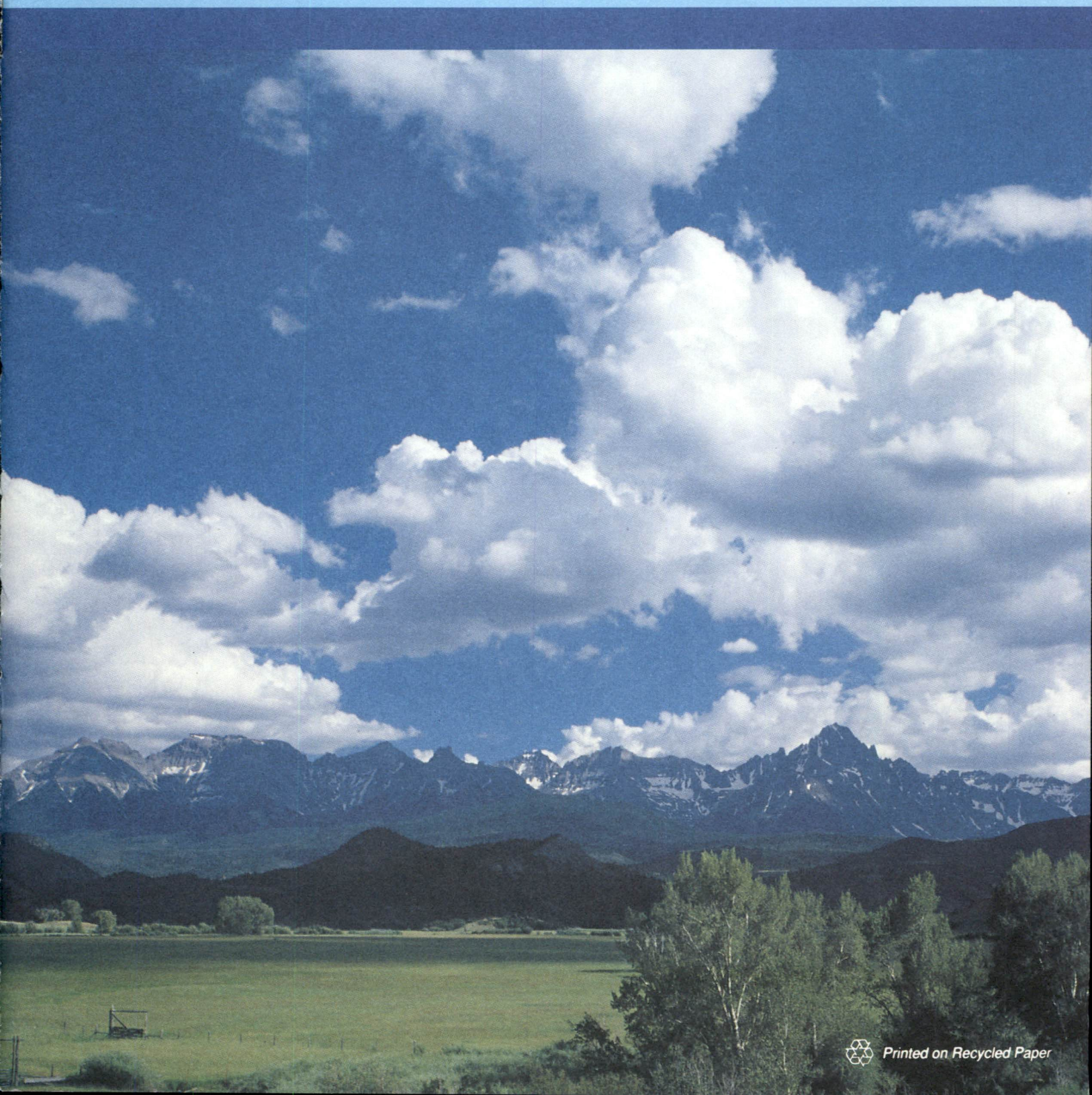
Communications And
Public Affairs
(A-107)

21K-1006
May 1991

EPA

Environmental Stewardship

EPA's First Two Years In The Bush Administration



CONTENTS

Cover Photograph
San Juan mountains
Colorado, USA.

PREFACE

When the Bush Administration took office in 1989, the environmental concerns and expectations of the American people had reached new heights. By our words and actions over our first two years in office, we probably have raised those expectations even further. As this report documents, the Bush Administration has shown itself to be serious, determined, and dedicated to the pursuit of an *aggressive and innovative* environmental agenda. President Bush has moved the environment from the margins of national concern to the mainstream. Our record of accomplishment to date is a source of great satisfaction and pride, both for the President and for all of us who work at EPA.

Our environmental challenge as the nation entered the decade of the 1990s was twofold: first, to deal with a new generation of problems that are both more widespread and more complex than those of the past; and second, to anticipate the environmental needs of the next century and begin to develop new policies and directions to meet those needs.

This dual challenge has required EPA to assume a role that is different in both scope and character from the past. EPA is broadening its view to encompass concerns of the global environment, and to embrace innovative approaches to environmental protection. We are elevating the role of science in decision-making, recognizing that good science is the basis of sound environmental policy. We are taking steps to evaluate the relative severity of environmental threats and harm, and to set priorities based on the greatest opportunities to reduce risk. We are designing new regulations and programs that fulfill our mandates while blending traditional and non-traditional tools, such as market incentives and voluntary action, to accomplish ambitious environmental goals. We are strengthening our ability to evaluate progress, to integrate and focus our activities for greater efficiency and effectiveness, and to adapt to changing conditions. And as we pursue these new directions, we also are working to strengthen existing environmental programs and to ensure that environmental laws and requirements are vigorously enforced.

Clearly, EPA cannot fulfill this ambitious environmental agenda by itself. All levels of government and all sectors of society, the international community, and individual citizens must share in the responsibility for harmonizing human activities with the needs and constraints of nature. I invite all who have not yet done so to join the President and EPA in actively seeking out opportunities to secure our environmental legacy for future generations.

William K. Reilly
Administrator

HIGHLIGHTS

This report is an overview of the Bush Administration's environmental themes and accomplishments during its first two years in office. It is by no means a comprehensive account of the work of the Environmental Protection Agency, let alone of the Administration as a whole. The report briefly describes the Administration's principal environmental themes and priorities, which are: preventing pollution, vigorously enforcing the laws, reducing environmental risks, protecting and restoring natural resources, providing leadership on international environmental issues, enhancing the role of sound science in environmental policy-making, and strengthening the resources available for environmental protection. The report then provides two or three specific examples of EPA actions that support each theme, and spotlights new or innovative programs. Finally, the report lists additional accomplishments that have helped to further the priority themes.

For more information on these or other EPA activities, please write to:

Office of Communications and Public Affairs
U.S. Environmental Protection Agency
401 M Street, S.W. (A-107)
Washington, DC 20460

or Telephone: (202) 382-4454

- **Clean Air Amendments.** Secured most significant air pollution legislation in nation's history--Clean Air Act Amendments of 1990. Calls for permanent 10-million-ton reduction in acid rain emissions; improvements in urban air quality; reductions in toxic pollutants.

- **Record-high Enforcement Results.** Past two years at EPA yielded new criminal and civil enforcement records. Fines imposed in 1990 grew to a record $91 million--$30 million in criminal cases and $61 million in civil penalties. One-quarter of all civil penalties ever collected by EPA were obtained during 1990, and 40 percent during the past two years.

- **Enforcement First at Superfund Sites.** Responsible parties contributed $1.4 billion in settlements toward cleanup at Superfund sites in 1990--an almost threefold increase from 1988. Superfund added 500 new enforcement positions; 1992 budget calls for $143 million more than 1991 for site cleanups.

- **Stratospheric Ozone Protection.** President Bush proposed that the United States fully phase out, by the year 2000, production and use of chemicals that contribute to stratospheric-ozone destruction. In June 1990, in London, parties to the Montreal Protocol agreed to phase out chlorofluorocarbons (CFCs), carbon tetrachloride, and nonessential uses of halons by the end of the century and to phase out methyl chloroform by 2005.

  The United States is contributing more than any other nation to the Montreal Protocol Multilateral Fund to assist developing countries in making the transition from ozone-depleting chemicals.

  Domestically, an excise tax of CFCs and other ozone-depleting chemicals is reducing production and increasing recycling even faster than the phase-out requirements.

"These are our five principles: harnessing the power of the marketplace, state and local initiatives, promoting prevention, international cooperation, and strict enforcement."

— President George Bush, Washington, D.C., June 8, 1989

• **Far-reaching Regulatory Decisions.** In 1989, EPA banned 94 percent of all future uses of asbestos. Rules were issued cutting 29,000 tons of cancer-causing benzene annually from industrial sources. Smog-causing pollutants were reduced in cities with air-quality problems by reducing fuel volatility.

• **Wetlands Protection.** EPA vetoed the proposed Two Forks project in Colorado, citing adverse environmental effects, loss of wetlands, and viable alternatives. The Agency also exercised its veto authority in Rhode Island and Virginia.

• **Cutting Toxics Releases.** EPA launched a voluntary reductions program with industry--to reduce by one-third the total releases and transfers of 17 toxic chemicals by 1992; further, to cut them in half by 1995.

• **Bioremediation.** EPA achieved a breakthrough to using bioremediation in Prince William Sound, Alaska, to reduce in half the time necessary to degrade spilled oil on test plots.

• **Recycling Efforts Redoubled.** Over the past two years, national volume of materials recycled grew by more than 30 percent to 24 million tons. Thousands of communities are starting recycling programs to meet EPA goal of 25 percent recycling of municipal solid waste by 1992.

• **Climate Change Research.** EPA invested $9.6 million in 1989, $15 million in 1990 to learn about the causes and effects of climate change. Through actions already taken or planned, the United States should hold its greenhouse gas emissions at or below current levels for the foreseeable future. EPA produced seminal reports on climate change effects, and on policy responses and their consequences.

• **Assistance for Eastern Europe.** Administrator Reilly opened an environmental center in Budapest, Hungary to address regional pollution problems through education, training, and technology transfer.

• **Basel Convention.** EPA played a major role leading to U.S. participation in the Basel Convention on the Transboundary Movement of Waste, signed in March 1990. This 80-country treaty requires notice of proposed hazardous waste shipments and prior written consent, helping to ensure that waste will be managed in an "environmentally sound manner" by the receiving country.

• **States, Tribes, and Localities.** Despite fiscal constraints, EPA grants to states rose by 58 percent--to $498 million by 1991.

• **Focus on Minorities.** Sixty-nine percent of net growth of 1990 professional and administrative positions were women and minorities, with minorities approximately half the total. At management levels, minorities and women made up two-thirds EPA's net growth. Awarded a record number of small business contracts to minority-owned firms.

• **Setting Priorities.** At the request of Administrator Reilly, the Agency's independent Science Advisory Board prepared a report--*Reducing Risk*--offering guidance on how EPA can improve efforts to reduce risks to health and natural resources.

• **Global Forest Agreement.** President Bush proposed an agreement on forests at the G-7 Economic Summit in July 1990. The agreement covers both temperate and tropical rainforests, calling for research, training, and technical assistance.

PREVENTING POLLUTION

In the past, this country's environmental programs have focused almost exclusively on end-of-pipe pollution control and cleanup. This more traditional approach is best suited to large, easily identifiable sources like smokestacks and sewer outlets. It is much less effective, however, in dealing with diverse, diffuse "non-point" sources of pollution such as runoff from farms and forests and streets, leaky pipes and valves, and motor vehicles. As has been all too clearly demonstrated, treating pollution at the "end of the pipeline" is no longer enough.

Pollution can often be prevented at its point of origin, using the full range of options--from greater energy efficiency to incentives for producing less harmful substances to expanded recycling to natural resource conservation. In the certainty that pollution prevention must become a fundamental building block of the Agency's work, EPA is taking steps to apply this approach to all of its programs.

Recent federal legislation echoes this theme. The Pollution Prevention Act of 1990 establishes a hierarchy, declaring that the first priority is to prevent pollution or reduce it at the source wherever feasible. Pollution that cannot be prevented should be recycled in an environmentally safe manner. In the absence of feasible prevention or recycling opportunities, pollution should be treated. Finally, disposal or other release into the environment should be used only as a last resort.

The "33/50" Project– Voluntary Toxics Reductions

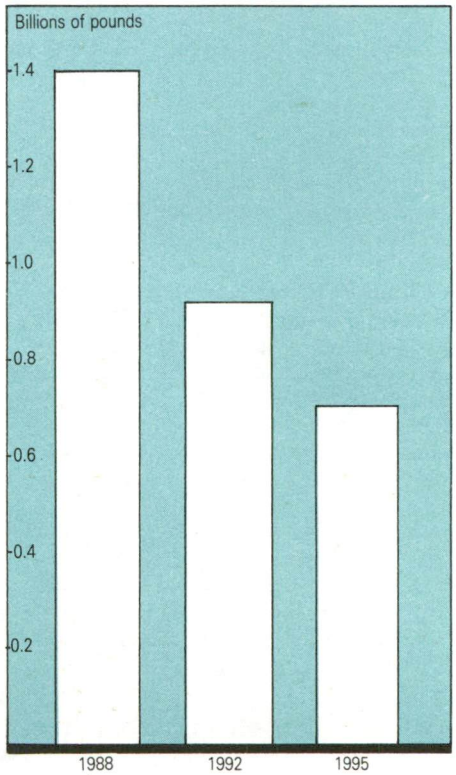
Cooperative initiatives with the private sector offer great potential for stopping pollution before it gets started. In 1989, at Administrator Reilly's invitation, nine major petrochemical manufacturers voluntarily agreed to reduce toxic air emissions substantially through changes in processing and substituting different materials at 40 chemical plants in 14 states. This collaborative effort, when fully implemented by December 1993, will annually reduce selected toxic air emissions by almost 83 percent, or 9.5 million pounds.

Another toxics reduction initiative--the 33/50 project--is now underway for a group of especially troublesome chemicals nationwide. Administrator Reilly has asked more than 600 U.S companies to do their part to reduce voluntarily the pollution caused by 17 high-priority chemicals. These companies are considered the largest contributors to a

17 Priority Chemicals under 33/50 Project

- Benzene
- Cadmium
- Carbon Tetrachloride
- Chloroform
- Chromium
- Cyanide
- Dichloromethane
- Lead
- Mercury
- Methyl Ethyl Ketone
- Methyl Isobutyl Ketone
- Nickel
- Tetrachloroethylene
- Toluene
- 1,1,1-Trichloroethane
- Trychloroethylene
- Xylenes

The 33/50 Project - Voluntary Toxics Reductions



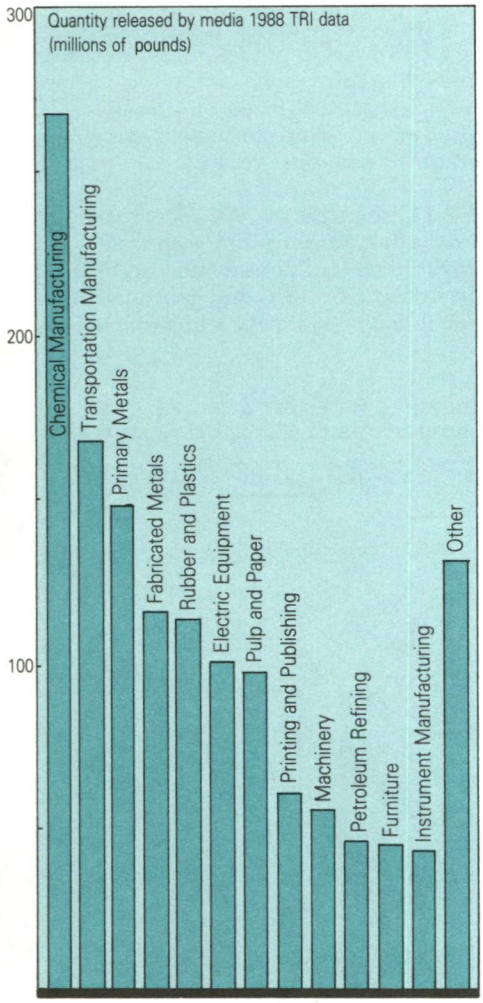
The 33-50 Project aims to voluntarily reduce emissions of 17 targeted chemicals a third by 1992 and a half by 1995. Chart includes total releases to air, water, and land and shows the anticipated reduction of toxic pollutants across all media given full industry participation.

Green Lights

universe of 1.4 billion pounds of toxic wastes at over 11,000 facilities.

The goal: to reduce by one-third the total releases and transfers of the chemicals selected by 1992; and to reduce them by one half by 1995. Meetings have taken place with officials representing industries including chemical, petroleum, paper, and transportation. EPA officials also are working on pollution prevention plans with 150 companies identified as having good potential for success under this program. By April 1, 1991, more than 100 companies had expressed interest in the 33/50 project.

1988 Toxics Release Inventory by Industry



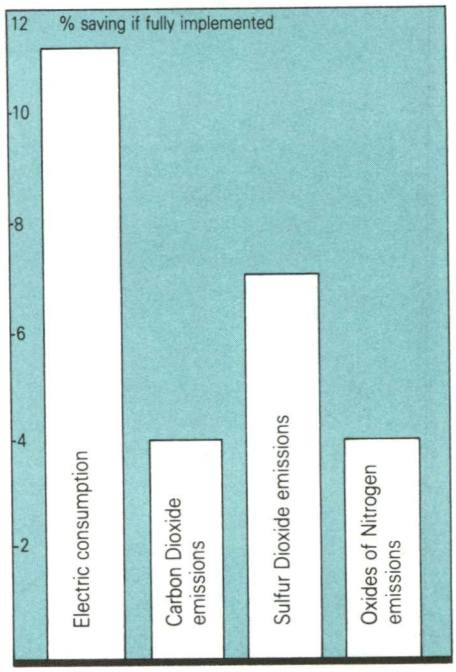
Lighting, especially in industry, stores, offices, and warehouses, accounts for almost one-fourth of the electricity used nationally. To help reduce air pollution and other forms of pollution caused by electricity generation, Administrator Reilly has started the Green Lights program.

This voluntary, non-regulatory program set up in January of 1991 is based on a simple premise: EPA works with major U.S. corporations to make certain they have the information and technical support they need to install lighting designs and technologies that are both energy-efficient and profitable.

When a corporation joins the Green Lights program, it signs an agreement with EPA committing the organization to survey all its facilities and install new lighting systems that maximize energy savings, to the extent that they are profitable and do not compromise lighting quality. EPA is compiling databases of products and contractors and working with manufacturers and distributors to ensure product availability. The Agency also will be promoting upgraded education of lighting installers and developing lists of financing sources to assist in the upgrades.

The Green Lights program, if implemented among all American business and industry, would reduce annual air pollution by 235 million tons, that is, five percent of the national total. By April 10, 1991, 50 U.S. corporations had become Green Lights partners--75 percent are in the Fortune 500.

What Can "Green Lights" Accomplish?



Energy saving and greenhouse gas reductions if all U.S. business and industry participated in the "Green Lights" energy conservation program.

Recycling

Green Lights Partners

Abbott Laboratories
America West Airlines
American Express Company
American Standard, Inc.
Amoco
Atlantic Richfield
Automated Data Processing
Baxter Healthcare Corporation
Bechtel
Bell Atlantic
Boeing
Browning Ferris, Inc.
The Oliver Carr Company
Citicorp/Citibank
Continental Insurance
Crestar Bank
Digital Equipment Corporation
Duracell U.S.A.
First Data Resources, Inc.
First Wachovia Corporation
General Dynamics Corporation
Gerber Products Company
The Gillette Company
G.M. Popkey Company, Inc.
Hasbro, Inc.
IPS Electric and Midwest Gas Divisions of Iowa Public Service Company
Johnson and Johnson
Kerr-McGee Corporation
Eli Lilly and Company
Lone Star Steel
Maytag
Memorex Telex
Fred Meyer, Inc.
3M
Nike, Inc.
Phillips Petroleum Company
Polaroid Corporation
Preston Trucking
Texaco Inc.
Thrift Drug Company, Inc.
Union Camp Corporation
University Corporation for Atmospheric Research
US Bancorp
Warner-Lambert Company
Waste Management, Inc.
Whirlpool Corporation
Wolverine World Wide
Xerox Corporation
Yellow Freight System, Inc.

The recycling ethic is strong and growing stronger. These past two years, the volume of materials that were recycled grew by more than 30 percent--to 24 million tons. During 1989 alone, more than 500 new curbside recycling programs were begun across the nation. More than 25 states now have established minimum recycling goals.

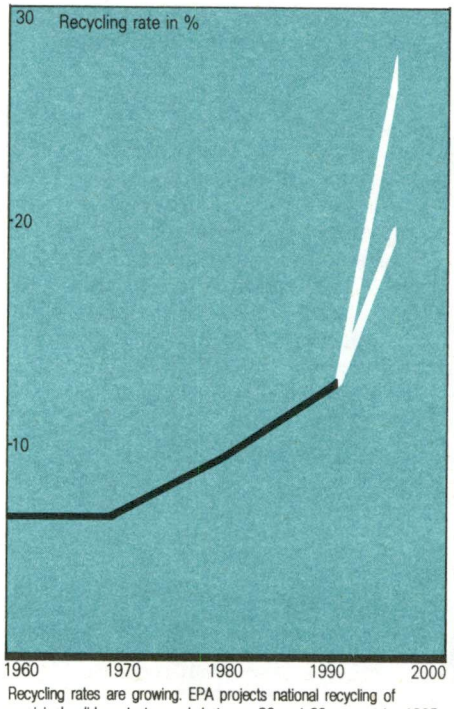
EPA activities are helping to make recycling a watchword of homes and workplaces alike.

- **Recycling Agenda.** EPA's "Agenda for Action" sets a national goal of reducing municipal waste by 25 percent by 1992.

- **"Green" Products.** EPA has initiated, with the U.S. Consumer Affairs Office and the Federal Trade Commission, an effort to develop guidelines for defining marketing terms such as "recyclable," and "recycled content" used on product labels. The aim is to help consumers make more informed shopping choices.

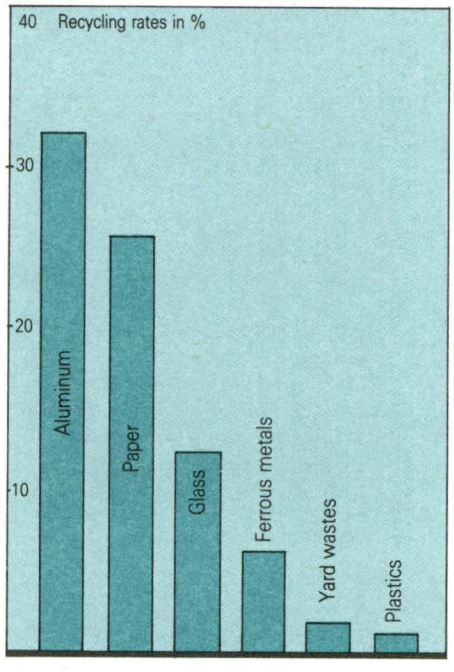
- **Ad Campaign.** In 1990, EPA co-funded a recycling ad campaign with the Environmental Defense Fund and the Advertising Council that generated 90,000 public inquiries for recycling information.

U.S.Recycling Rates - 1960 to 1995



Recycling rates are growing. EPA projects national recycling of municipal solid waste to reach between 20 and 28 percent by 1995.

Recycling Rates for Selected Components of Municipal Solid Waste



"For too long, we've focused on cleanup and penalties after the damage is done. It's time to reorient ourselves using technologies and processes that reduce or prevent pollution--to stop it before it starts."

— President George Bush,
Washington, D.C., June 8, 1989

Environmental Education

The quest for a new era of environmental stewardship received a strong boost with the passage of the National Environmental Education Act, signed into law by President Bush in November 1990.

The new law establishes a non-profit national environmental education and training foundation to be funded through government grants and private gifts. It also authorizes and funds educational activities nationwide, with a special focus on students at elementary and secondary school levels.

At White House ceremonies, President Bush and EPA Administrator William Reilly presented Presidential Environmental Youth Awards for community cleanup, wetlands protection, recycling, and waste reduction projects in both November 1989 and 1990. In 1990, EPA and the National Governors' Association co-sponsored the first-ever national environmental youth forum in Washington, D.C.; two young people from each state participated.

In 1990, the Agency also formed a new Office of Environmental Education, which has been charged with helping to foster science literacy as the core for environmental education in elementary and secondary schools.

Spotlight

Public Empowerment

EPA is taking steps to ensure that individuals and groups throughout our society have the skills and knowledge they need to work productively with us. We are giving the public new tools--information that communities can use to work collaboratively with their local industries to prevent chemical accidents and reduce pollution.

Several programs have been especially effective in bringing about this public empowerment. The Emergency Planning and Community-Right-To-Know Act, passed in 1986, requires communities across the country to set up local committees to make plans for responding to chemical emergencies. EPA has helped to establish these citizen committees, which involve more than 50,000 people nationwide.

The same law requires certain manufacturing plants and other facilities to submit information about the chemicals they use, store, and emit into the environment. EPA has compiled this information into an annual report called the Toxic Release Inventory. Thus far, the Agency has issued two of these reports, which detail emissions of more than 300 toxic chemicals nationwide.

For the first inventory, which documents 1987 emissions, 74,000 reports were submitted by 19,000 manufacturing facilities. The second inventory is based on 83,000 reports submitted by 22,000 manufacturing facilities for 1988 emissions. Data for 1989 currently are being evaluated.

Making this sort of information public is yielding tangible results: many companies have announced voluntary reductions of emissions. Monsanto Company, for example, has pledged a 90-percent reduction in air emissions by 1992. Moreover, new laws requiring reductions in chemical releases have been passed in several states and are pending in several others.

Additional Accomplishments

- **Information Clearinghouse.** The Pollution Prevention Clearinghouse provides information on legislation, research, and case studies and is linked to an international data base of 43 nations. Set up in 1990, the Clearinghouse has received more than 6,000 calls from federal agencies, states, universities, and industries.

- **Pollution Prevention Set-Asides.** Two percent of every EPA program budget for 1991 and 1992 has been set aside to fund pollution prevention demonstration projects.

- **Model Community Plan.** A model community pollution prevention plan is being developed for the Chesapeake Bay area through a cooperative agreement between EPA and Department of Defense facilities--Langley Air Force Base, Fort Eustis Army Base, and Norfolk Naval Base.

- **Sustainable Agriculture.** EPA contributed $1 million to a joint competitive grant program with the Department of Agriculture to support sustainable agriculture projects.

VIGOROUS ENFORCEMENT

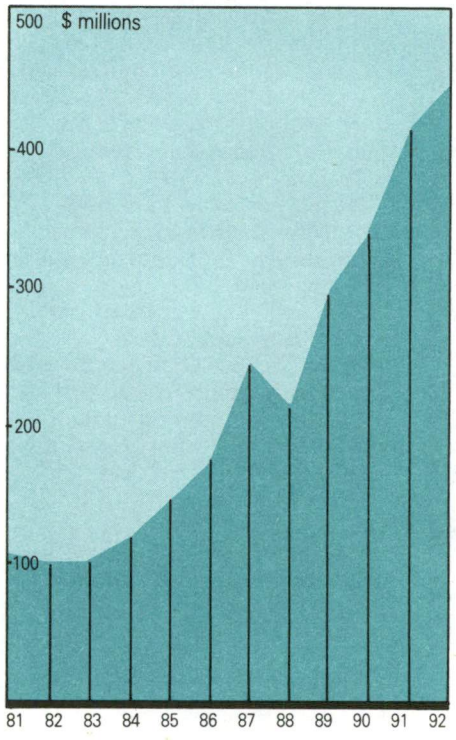
In 1989, EPA set new records in the enforcement of environmental laws. Last year, we broke our own records—including collecting a major increase in responsible parties' contributions to clean up hazardous waste sites—$1.4 billion, up almost threefold from 1988. We also sent more criminal and civil referrals to the Justice Department, obtained more convictions, and levied and collected more penalties than any previous Administration. In fact, in 1990, EPA obtained 25 percent of all civil judicial penalties imposed in the Agency's 20-year history, and the $96 million levied in 1989-1990 represents almost 40 percent of all civil penalty dollars obtained since 1970.

Record-High Results

Criminal Enforcement. The past two record-breaking years have yielded new criminal enforcement records. EPA seeks criminal sanctions against responsible corporate officers as well as the corporation itself. Federal judges increasingly have been willing to sentence criminal defendants to large fines and substantial prison or probationary terms.

One noteworthy criminal case last year involved sentencing a Wall Street trader to a $2 million penalty for filling wetlands without a permit under the Clean Water Act--the largest environmental monetary penalty ever assessed against an individual. Also, the first conviction under the Clean Water Act's "Knowing Endangerment" section was achieved against the president of a metal finishing company. The individual was sentenced to 26 months' imprisonment, a $400,000 fine, and two years of supervised probation for exposing employees to toxic pollutants through illegal disposal practices.

EPA Enforcement Budget



Other criminal enforcement highlights for 1990 included the following:

• **Record Referrals.** EPA referred 65 criminal cases to the Justice Department, surpassing the previous year's record total of 60.

• **Defendants Charged.** One hundred defendants (individuals and corporations) were charged last year, the largest number in EPA's history.

• **Guilty Verdict.** Thirty-two investigations successfully resulted in finding at least one defendant per case guilty.

• **Convictions.** Fifty-five defendants were convicted and sentenced for environmental crimes in 1990; more than half of those convicted were given prison sentences, and three-quarters of those are actually serving time. Jail terms averaged a record 1.8 years; the longest term was 12 years.

• **Fines.** Fines imposed for all federally-investigated environmental crimes increased from $13 million in 1989 to $30 million in 1990.

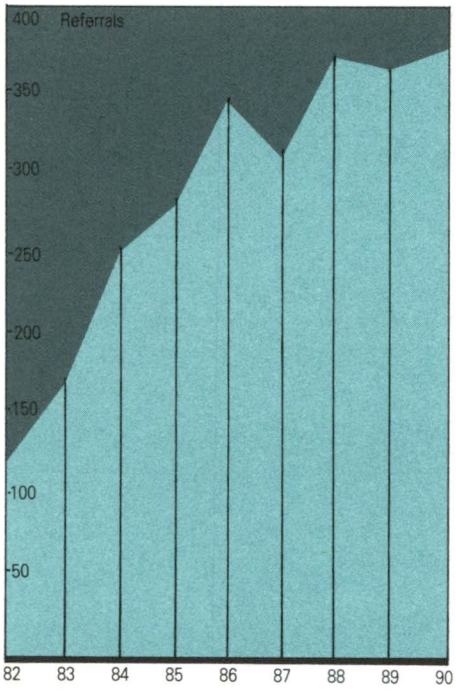
Civil Enforcement. Record results were achieved in civil enforcement as well. They included the largest single settlement for a U.S. suit against one entity charged with violating a federal environmental statute: Texas Eastern Transmission Corporation paid a $15 million penalty and agreed to perform $400 million in cleanup work at 89 polluted sites in 14 states.

Civil enforcement highlights for 1990 include the following:

• **Referrals.** EPA referred 375 civil cases to the Department of Justice, surpassing 1988's previous record total of 372 and 1989's total of 364 cases.

• **Penalties.** The Agency imposed $61.3 million in civil penalties, an all-time record--this included $38.5 million in civil judicial penalties and $22.8 million in administrative penalties, both records.

EPA Civil Referrals to Department of Justice - 1982 to 1990



New records also were set in enforcing specific statutes:

•**Resource Conservation and Recovery Act.** In 1990, Formosa Plastics Corporation, Point Comfort, Texas agreed to pay a $3.4 million penalty--the largest ever collected by EPA for violations of the federal hazardous and solid waste law--and establish a $1 million trust fund for environmental education.

• **Clean Water Act.** In one of the largest clean water law civil penalty settlements ever obtained against a privately-held corporation, a $2.1 million penalty settlement was reached in July 1990 with a pulp and paper company for federal pretreatment and permit violations.

In the largest civil penalty against a municipality, EPA assessed the City of Philadelphia $1.5 million in May 1990 for polluting the Delaware River with illegal discharges from the city's Southwest Wastewater Treatment Plant.

VIGOROUS ENFORCEMENT

Enforcement First at Superfund Sites

Efficient, effective clean-up of a hazardous waste site can be an extremely expensive undertaking. To move ahead steadily, given limited public funds, it is critical that the parties responsible for creating the pollution are also held responsible for clean-up costs.

In June 1989, Administrator Reilly established a new "Enforcement First" priority for Superfund to maximize private party contributions to clean up Superfund sites. He created 500 new Superfund enforcement positions throughout the nation. In 1990, for the second year in a row, EPA secured more than $1 billion in private party contributions, up almost threefold from 1988.

The President's 1992 budget request for Superfund provides $1.75 billion, an increase of $143 million—or 8 percent—over the 1991 appropriated level. This increase recognizes EPA's continuing progress in addressing Superfund problems and fuels its stepped-up emphasis on enforcement.

Statistics on responsible party activities show a renewed emphasis on "polluter pays":

• **Orders Issued.** One hundred thirty-one orders were issued requiring responsible parties to perform cleanup activities in 1990--a 31-percent increase over 1989.

• **Clean-Up.** Sites where responsible parties have started cleanup work is up from 46 percent in 1989 to 59 percent in 1990.

• **Referrals.** In 1990, EPA referred 79 cases worth an estimated $185 million to the Department of Justice to recover government cleanup costs from responsible parties. The Agency also won the first jury trial of its type awarding punitive damages of $2.3 million--triple the cost of government cleanup--in a federal court in Georgia.

Guidelines for Action at Superfund Sites

The Administrator's Superfund Management Review, which he promised at his Senate confirmation hearing, and unveiled in June 1989 spells out the enforcement-first theme and calls for these actions:

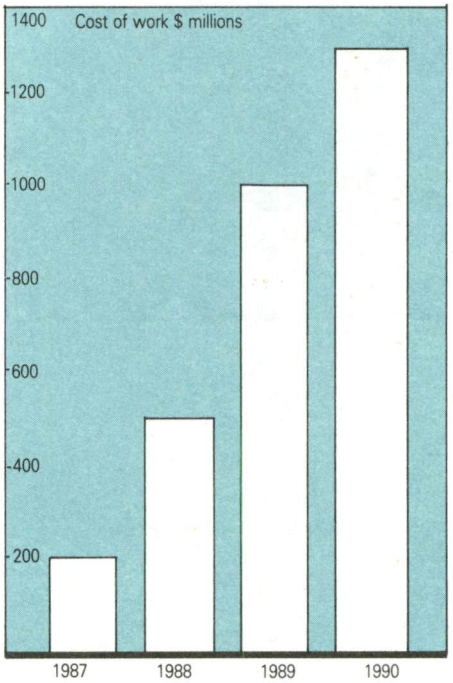
• ***Enforcement First.*** *Aggressively use enforcement to compel more private response.*

• ***Make Sites Safer.*** *Eliminate quickly all immediate threats to public health or the environment.*

• ***Set Priorities.*** *Address worst problems at the worst sites. Pursue incremental cleanup of problems posing the greatest risk.*

• ***Harness Technology.*** *Bring new technology to bear on cleaning up hazardous waste contamination.*

Dramatic Increase in Responsible Party Payment



Additional Accomplishments

• **Major Enforcement Initiative.** In an October 1989 enforcement initiative, announced jointly by Administrator Reilly and Attorney General Thornburgh, EPA, the Department of Justice, and several states brought actions against 61 cities charged with violations of the Clean Water Act's requirements for pretreatment of industrial wastewaters.

• **Federal Facilities Cleanup.** The Administration requested a 21-percent increase in funds for 1992 for cleaning up toxic waste at federal facilities. Appropriation bills provide $440 million for non-defense cleanups and $2.7 billion for defense-related cleanups.

Compliance Agreements at Federal Facilities. One hundred thirty-five cleanup and compliance agreements valued at over $60 billion have been reached since 1987 with federal facilities. Agreements were reached for 32 facilities in 1989 and 45 more in 1990--including agreements to clean up federal hazardous waste sites and bring federal sites into compliance with hazardous waste and water quality regulations.

Hanford, Washington. In Hanford, Washington a multi-billion dollar cleanup agreement was reached in 1989 with the Department of Energy and the State of Washington to begin the thirty-year chemical and radioactive waste cleanup effort there. Similar agreements are in place at DOE's Fernald, Ohio, Lawrence Livermore National Labs, and Mound facilities in Miamisburg, Ohio.

Rocky Flats, Colorado. EPA, the Department of Energy, and the Colorado Department of Health agreed to a cleanup process for the Rocky Flats nuclear weapons plant in Golden, Colorado.

"The final principle is that existing environmental laws will be vigorously and firmly enforced....Our message about environmental law is simple: polluters will pay."

-- *President George Bush, Washington, D.C., June 8, 1989*

• EPA directed enforcement activities to correct particular pollution problems:

Chesapeake Bay. EPA and the states of Pennsylvania, Maryland, and Virginia levied penalties in May 1990 totalling $230,000 against public and private facilities charged with violating water discharge permits protecting the Chesapeake Bay watershed.

PCB Contamination. In enforcing the Toxic Substances Control Act, EPA and the Department of Justice in 1990 negotiated a $66 million settlement for cleanup of polychlorinated biphenyls (PCB) contamination and restoration in New Bedford Harbor.

• The Agency also achieved significant results with administrative compliance orders under federal statutes:

Resource Conservation and Recovery Act. Imposed 331 administrative compliance orders and $2.5 million in penalties in 1989. In 1990, 302 orders were issued with $2.8 million in penalties. States also are increasing RCRA enforcement activities--794 in 1988, 1181 in 1989, 1331 in 1990.

Toxic Substances Control Act. In 1989, EPA issued 415 administrative actions and collected $4.2 million in penalties; in 1990, 531 actions brought over $25 million in penalties.

Community Right-To-Know. EPA issued 134 administrative complaints under the Emergency Planning/Community Right-To-Know Act (EPCRA) with proposed penalties of $6.9 million in 1989. Last year, the Agency filed 237 administrative complaints with proposed penalties of $12.5 million--representing a 77-percent increase in filings and an 81-percent increase in penalties.

Federal Insecticide, Fungicide and Rodenticide Act. In 1990, EPA began a comprehensive program to enforce the export provisions of FIFRA, the law that regulates pesticide use. Twenty-six pesticide producers were targeted for inspection and complaints already have been filed against nine for unlawful export of pesticides.

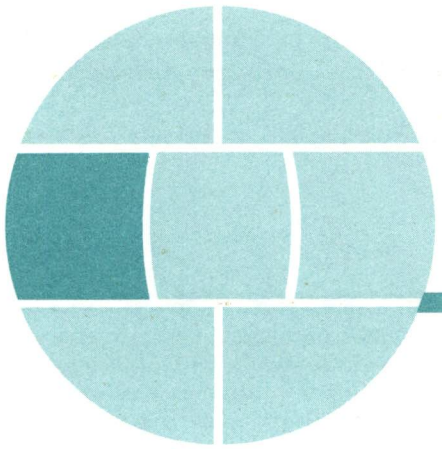
Spotlight

New Approaches to Enforcement

The Agency is exploring new strategies for enforcement to obtain maximum environmental benefits from each action taken. For instance, rather than enforcing a violation in only one medium—such as water or air—EPA is applying the concept of multi-media enforcement. In October 1990, the Agency announced that it was establishing a major initiative to consolidate air, water, and hazardous waste violations into a single complaint. Moreover, its initial efforts would be targeted at protecting a specific ecosystem--the Great Lakes.

Lawsuits drawing on the Clean Air Act, Clean Water Act, and Resource Conservation and Recovery Act were filed by EPA's Chicago regional office as part of the Great Lakes Action Plan. The charges, against two steel manufacturers and a metal finishing company, were for air, water, and land pollution affecting the Grand Calumet River area near Gary, Indiana.

The Agency also has begun a new pollution prevention enforcement initiative under the Toxic Substances Control Act. Here, too, there are results to show: in August 1990, a company paid a reduced penalty for new chemical violations in exchange for the purchase and installation of a solvent recycling system that halves emissions of an unregulated stratospheric ozone-depleting substance and a human carcinogen. In another case, an administrative penalty for failure to report a new chemical was reduced in June 1990 in exchange for installation of a pollution prevention project for filtration and recycling of wastes.



REDUCING RISKS

Through the 1970s and 1980s, Congress passed a number of important environmental laws--for air and water, pesticides, radiation, medical waste, Superfund, drinking water, and many more. Under these laws, environmental progress has been significant, measurable and indisputable.

The limits to this piecemeal approach to environmental protection were less apparent during the early years of EPA. Then the problems were belching smokestacks, dirty cars, filthy streams and rivers. Progress could readily be achieved, for example, by targeting facilities with obvious problems.

Today the environmental challenges are more daunting and the sources of pollution more diffuse, from pollution in the household to pesticide residues in food to growing threats to the planet's atmosphere, climate, and natural systems. These challenges call for new approaches that target scarce resources to the greatest risks to natural systems and to human health.

Relative Risk Report

Shortly after he took office early in 1989, EPA Administrator Reilly asked the Agency's independent Science Advisory Board to take on a seminal task: assess the problems that pose the most serious threats to human health and the environment using the risk concept. Moreover, he asked the Board to suggest how EPA can improve its efforts--with Congress and the rest of the country--to reduce these environmental threats.

The results are contained in *Reducing Risk: Setting Priorities and Strategies for Environmental Protection,* released in September 1990. The report's first and most basic recommendation is that we must do a better job of setting priorities. Other recommendations call for devoting more attention to risk reduction and pollution prevention and placing stronger emphasis on the protection of natural systems. Because the report's findings will help set the course for EPA action in years to come, the Agency is conducting an aggressive outreach program nationwide to publicize its recommendations.

Clean Air Act Amendments

Reducing Risk:
Setting Priorities and Strategies for Environmental Protection

Recommendations to EPA

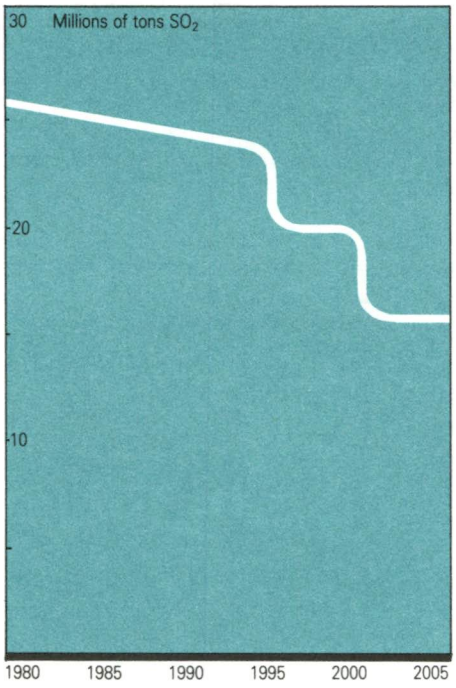
- *Target environmental protection efforts to opportunities for the greatest risk reduction.*
- *Give as much importance to reducing ecological risk as to reducing human health risk.*
- *Improve methodologies that support the assessment, comparison, and reduction of different environmental risks.*
- *Strategic planning and the budget process should reflect risk-based priorities.*
- *The nation as a whole should make greater use of all the tools available to reduce risk.*
- *Pollution prevention should be emphasized as the preferred option for reducing risk.*
- *Integrate environmental considerations as well as economic concerns into the broader aspects of public policy.*
- *Improve public understanding of environmental risks and train a professional workforce to help reduce them.*
- *Develop improved analytical methods to value natural resources and to account for long-term environmental effects in economic analyses.*

Science Advisory Board
September, 1990

In the summer of 1989, President Bush offered a sweeping legislative proposal to clean the nation's air. Besides breaking a 13-year Congressional deadlock, the proposal sought to integrate environmental and economic objectives. Approximately one and a half years later, the President signed the Clean Air Act Amendments of 1990 into law.

The new law is the most significant air pollution legislation in our nation's history. Its successful implementation is a priority for the President and the Agency. While the task is formidable, the benefits are enormous: healthier air for all to breathe, reduced respiratory illnesses and cancer, cleaner factories, fuels, and cars, improved visibility, more efficient energy use, and restored and preserved natural systems.

Sulfur Dioxide Emissions Cut by Ten Million Tons



Acid Rain Program: Under the new Clean Air Act, sulfur dioxide emissions from coal-fired electric utilities, the main contributor to acid rain, will be cut by 10 million tons by the turn of the century.

Highlights of the new Clean Air Act:

Acid Rain. *10-million-ton annual reduction of sulfur dioxide from 1980 levels, primarily from utilities; caps annual utility SO2 emissions permanently at approximately 8.9 million tons by 2000; reductions accomplished in two phases--1995 and 2000; nitrogen oxides reduced by 2 million tons from projected year 2000 levels.*

Urban Air Pollution. *All areas of the country with air quality problems will have to show steady, tangible progress on attaining air quality standards. Most cities will meet these standards in 10 years.*

Autos, Light Trucks. *New restrictions to reduce tailpipe emissions of hydrocarbons, carbon monoxide and nitrogen oxides by 40 percent from current levels, beginning with 1994 model year; new carbon monoxide standards required in cold temperature conditions.*

Clean Fuels. *Pollution reductions from gasoline and diesel fuels also required. Cities with worst ozone problems in 1995 to require cleaner "reformulated" gasoline, with other cities allowed to "opt in"; cities with carbon monoxide problems required to sell oxygenated fuels such as gasohol during winter months starting in 1992; pilot clean fuels program in California and other problem cities; requires percentage reductions each year to assure tangible progress.*

Air Toxics. *Toxic air reductions of over 75 percent within 10 years; EPA to establish technology standards for 41 industrial source categories by the end of 1992; toughter standards required later if significant residual risk remains.*

Regulations to Reduce Risk

In the last two years, EPA has built a record of steady, far-reaching regulatory decisions to reduce risk under almost every environmental statute:

• **Asbestos Ban.** In 1989, EPA broke a 10-year stalemate to ban almost all uses of asbestos in the U.S., in stages, over the next six years, including new product manufacture, imports, and processing. The action affects at least 94 percent of U.S. production and imports of asbestos, a known human carcinogen.

• **Benzene Emissions.** Two new rules were issued in 1989 and 1990 to cut 29,000 tons of cancer-causing benzene annually from industrial sources, reducing their emissions by more than 90 percent.

• **Gasoline Volatility.** EPA set final rules in 1990 to lower gasoline volatility levels during summer months to reduce smog formation. This single action will cut emissions of volatile organic compounds--prevalent in urban smog--by almost 7 percent nationally. Administrator Reilly indicated his intention to require a second reduction with similar benefits in 1992.

• **Cutting Sulfur in Diesel Fuel.** Last year, the Agency required an 80-percent reduction of sulfur in diesel fuel, beginning in 1993, to make diesel vehicles including buses and trucks operate more cleanly.

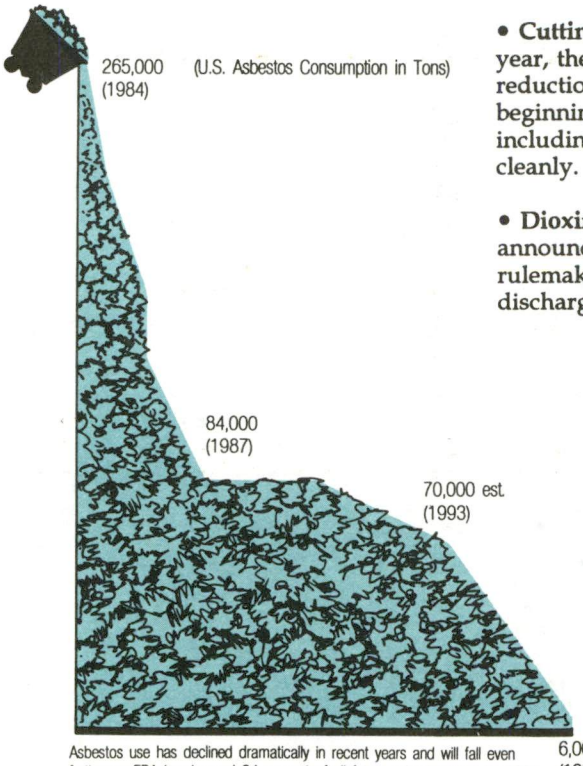
• **Dioxin in Paper.** In April 1990, EPA announced a program that would include rulemaking to establish industrial discharge standards for dioxin and chlorinated organics and to restrict land application of pulp and paper sludge.

• **Pesticide Actions.** In the past two years, EPA built on progress already initiated by industry to reduce risk from pesticides and took additional steps:

Alar. In 1989, the Agency negotiated an agreement to withdraw daminozide (trade name, Alar) from the market voluntarily. In 1990, EPA proposed prohibition on all sales and distribution of Alar products labeled for use on food crops.

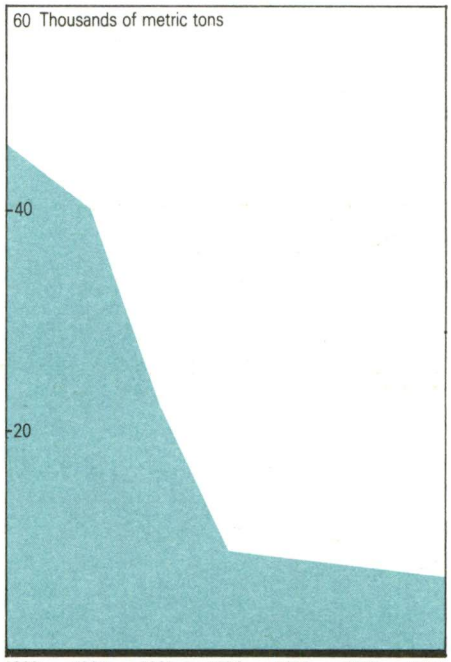
R-11, Compound 1080, EBDC, Diazinon. In June 1990, an active ingredient in insect repellents--R-11--was canceled. All uses of Compound 1080 except livestock protection collars were canceled in September 1990. EPA proposed canceling 45 food crop uses for three EBDC pesticides and all food uses for a fourth in December 1989, and, in July 1990, reaffirmed an earlier decision to cancel diazinon use on golf courses and sod farms.

Asbestos Use Decline



Asbestos use has declined dramatically in recent years and will fall even further as EPA has banned 94 percent of all future asbestos uses by 1996.

Lead Emissions



Total lead emissions in thousands of metric tons from all sources including transportation, fuel combustion, industrial processes and solid waste.

"Through millions of individual decisions--simple, everyday personal choices--we are determining the fate of the Earth. So the conclusion is also simple: we are all responsible and it's surprisingly easy to move from being part of the problem to being part of the solution."

-- *President George Bush, Spokane, Washington, September 1989*

Spotlight:

Market Incentives

The traditional approach to environmental protection has brought us a long way; but by themselves, technology-based prescriptive regulations are no longer sufficient to do the job at hand. In some cases, they may actually be counterproductive, inhibiting innovation and discouraging regulated industries from going beyond minimum legal requirements.

Incentives harnessing the power of the marketplace on behalf of environmental protection can effectively complement traditional regulations. The Bush Administration is committed to pursuing more integrated ways to link continued economic growth and environmental improvement. Perhaps the clearest expression so far of this link between environmental protection and economic health is the new Clean Air Act.

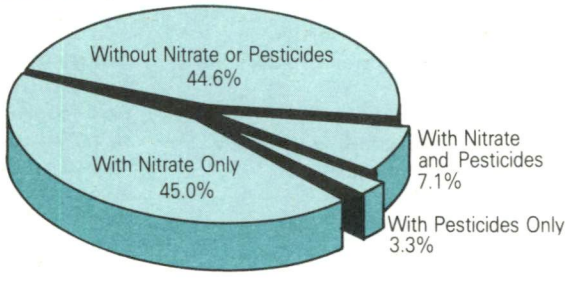
The new 1990 law is largely based on President Bush's proposals, which were not only sensitive to the costs of pollution control; they also included provisions to supplement traditional command-and-control regulations with flexible, market-based programs. Under the law, economic incentives are encouraged such as marketable permits to limit overall sulfur dioxide emissions--a precursor of acid rain. Thus, the nation can achieve significant improvements in air quality in the most cost-effective way possible. Other measures allow utilities the flexibility to choose the most economic means to reduce sulfur dioxide emissions, and the ability to bank and trade permits.

Another excellent example is the excise tax placed on most sales of chlorofluorocarbons (CFCs) and other chemicals which deplete the ozone layer. The tax, which began in 1990, limits production and consumption by increasing the costs of the substances. This, in turn, offers incentives for firms to shift away from these chemicals, increases recycling activities, and provides market incentive for the introduction of alternative chemicals and processes. EPA believes the tax was in part responsible for domestic production of CFCs being 23 percent below the allowable level in the first freeze-control period.

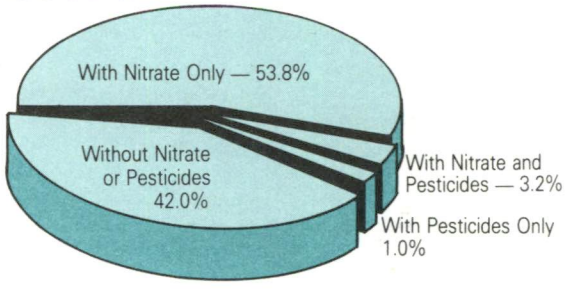
EPA will not shy from setting societal goals and standards; but, increasingly, the Agency will defer to businesses, to company executives and to plant managers, to decide upon technologies and the allocation of resources. These are business decisions, and so long as they are made with due regard for the needs and constraints of the environment, they should be made by business executives. Experienced technical people can find ways to improve products, cut waste, and achieve environmental advantages at a lower cost than anyone could predict. That is the best way to link competitiveness and economic growth on the one hand, and environmental quality on the other.

Wells in the United States

Community Water System Wells



Rural Domestic Wells



Additional Accomplishments

• **Urban Air Pollution.** EPA took several other actions to reduce urban air pollution from industrial and transportation sources:

Chemical Plants. Issued rules in June 1990 to reduce by 70 percent smog-forming emissions from new or modified synthetic organic chemical plants.

Hazardous Waste Facilities. Issued rules in June 1990 to reduce volatile organic compound emissions from process vents and equipment leaks at hazardous waste treatment, storage, and disposal facilities by over three-quarters, or by about 29,000 tons per year nationally.

Carbon Monoxide Emissions. Proposed new auto emission standards in September 1990 to reduce carbon monoxide emissions from automobiles in cold temperatures by up to 29 percent.

Volatile Organic Compounds. Proposed new rules in January 1990 to cut volatile organic compound emissions by about 5 percent nationally from autos and light trucks by reducing running loss and evaporative emissions.

• **Toxic Air Pollutants.** EPA took several actions to reduce public exposure to toxic air pollutants:

Municipal Incinerators. Set new standards in January 1991 to cut air emissions by 90 percent from both new and existing municipal waste incinerators by placing limits on toxic metals, toxic organics, and acid gases.

Radionuclide Emissions. Set new rules in December 1989 for controlling radioactive emissions from certain industrial facilities, weapons plants, and uranium mines.

Chromium Use Eliminated. In January 1990, EPA eliminated the use of hexavalent chromium, a known carcinogen, in an estimated 37,000 commercial air conditioning units; preventing 34 tons of chromium air pollution emissions annually.

• **Leaking Underground Storage Tanks.** More than 5 million underground tanks across the nation store petroleum and other hazardous chemicals beneath gas stations and other facilities. Leaking tanks can cause fires and explosions and contaminate drinking water supplies.

Corrective Actions. During 1989 and 1990, states and private parties began corrective actions at over 30,000 sites and completed them at almost 10,000 sites.

Funds for Cleanups. States spent $34 million in 1989 and $46 million in 1990 from the Leaking Underground Storage Tank trust fund to pay for corrective actions.

• **Other Pesticides Actions.**

Survey of Drinking Water Wells. In 1990, EPA completed the first national survey of 127 pesticides and nitrates in drinking water wells. This information is being used to evaluate regulatory and state-specific approaches to protect drinking water from pesticide pollution.

New Rules Affecting Drinking Water. In 1990, the Agency issued rules to regulate 26 pesticides and 36 other contaminants in drinking water. When effective, the rules will more than double the number of pollutants subject to federal standards.

Cancellations, Dinoseb. During 1989 and 1990, EPA canceled approximately 20,000 pesticide products for failure to pay new annual registration maintenance fees or to supply required scientific data. The Agency also destroyed one-half million gallons of dinoseb as well as the last remaining stocks of EDB.

Alternatives. Registered 10 new biologically-based pesticides in 1989 and 1990--representing almost one-third of all new registrations within last two years.

Certification and Training Regulations. Proposed revisions in October 1990 to strengthen rules governing certification and training of "restricted use" pesticides applicators.

"The significant new progress we need is with ourselves--our lifestyles, our energy use, the goods we buy and use, and the waste we generate."

-- William K. Reilly, National Press Club, September 26, 1990

- **Food Safety Reform.**

Food Safety Plan. EPA collaborated with the Food and Drug Administration and the Department of Agriculture on the President's plan for food safety reform. The plan would enhance EPA's ability to take swift action to cancel problem pesticides by cutting in half the time it takes to cancel a bad pesticide; imposing tougher penalties and increased record-keeping requirements; and establishing national uniformity for new pesticide tolerances unless local circumstances argued otherwise.

- **1990 Farm Bill.** With the Department of Agriculture and Congress, EPA developed strategies to establish landmark legislation that integrates environmental and agricultural goals:

Wetlands. A wetlands reserve program of one million acres providing long-term and permanent easements on farmland restored to wetlands;

Pesticide Registrations. Increased funding for the program to support registrations of pesticides used on "minor" or specialty crops; and

Management Practices. A water quality incentive program to provide funding and technical assistance to farmers to improve pesticide and nutrient management practices and reduce run-off and leaching problems.

- **Reducing Exposure to Toxic Substances.**

Lead. In February 1991, EPA announced a comprehensive strategy to reduce lead exposure through a series of actions and regulatory initiatives that will be phased in over this next year.

Guidelines and training courses on lead paint abatement are being developed with the Department of Housing and Urban Development.

Awarded $300,000 grant to Alliance to End Childhood Lead Poisoning for development of model community primary prevention program.

Polychlorinated Biphenyls (PCBs). EPA put into effect new regulations in December 1989 that establish a "cradle-to-grave" tracking and reporting system to ensure safe storage and disposal.

Asbestos. In the two-year period 1989-1990, EPA awarded $88 million to help 495 needy primary and secondary schools abate serious asbestos hazards.

Mercury in Paint. A voluntary agreement was negotiated in June 1990 with the paints and coatings industry to eliminate mercury from interior paints and to label mercury-containing exterior paints with a warning.

- **Indoor Air Pollution.** Growing scientific evidence indicates that air within homes and other buildings can be more seriously polluted than outdoor air, even in the largest and most industrialized cities.

Environmental Tobacco Smoke. Prepared risk assessment proposing passive smoking as a known carcinogen for review by Agency's Science Advisory Board.

State Radon Surveys. Released survey results in October 1990 for California, Hawaii, Idaho, Louisiana, Nebraska, Nevada, North Carolina, Oklahoma, and South Carolina showing elevated radon levels in each of the nine states. One in five homes has elevated screening levels in the 34 states tested so far.

Public Education. Set up national hotline, 1-800-USA-RADON, and made available a list of over 1,000 EPA-approved radon contractors nationwide. With the Advertising Council, EPA organized a national media campaign to urge homeowners to test and fix radon problems.

- **Managing Hazardous Wastes.**

Restricting Land Disposal. Finalized regulations in May 1990 that restrict land disposal of hundreds of untreated wastes. Treatment standards are designed to reduce toxicity of wastes, prevent future ground-water contamination, and assure safe management.

Corrective Action. New health-based standards and corrective procedures were proposed in July 1990 for designing remedies and cleanup at approximately 4,000 operating hazardous waste facilities nationwide, including federal sites.

Tracking Medical Wastes. EPA continued the two-year pilot tracking program to assure proper disposal of medical wastes and awarded $2.5 million in grants to nine states for implementing medical waste programs.

Blueprint for Superfund Cleanups. Finalized the National Contingency Plan in February 1990, emphasizing quick action to control immediate dangers, expanded use of in-place treatment technologies, increased public participation, and improved processes for selecting cleanup remedies.

Evaluating Superfund Sites. In November 1990, EPA revised the Hazard Ranking System--the criterion used to evaluate potential Superfund sites--to include factors on biological and soil contamination impacts.

Citizen Grants. EPA streamlined procedures for awarding citizen grants to community groups to help them participate in Superfund cleanup activities.

- **Improving Water Quality.**

Storm Water Permits. Finalized Clean Water Act rules in November 1990 describing how 100,000 industrial facilities, 173 cities and 47 counties can obtain permits for discharging storm water into municipal sewage systems.

Protecting Drinking Water Supplies. EPA set new standards in June 1989 to limit pollutants in public drinking water through monitoring and application of additional treatment technologies.

PROTECTING NATURAL RESOURCES

Protecting the nation's natural resources--estuaries and wetlands, forests, soils, water bodies, and the like--is a priority for the Bush Administration. The deterioration of these ecosystems became all too apparent in the summers of 1988 and 1989, when newspapers and television carried stories of swimmers fleeing beaches littered with medical waste and contaminated with bacteria.

One-third of the nation's shellfish beds are closed due to pollution, wreaking economic as well as environmental hardships. Twenty-five percent of monitored estuaries contain elevated levels of toxic substances, and eutrophication--excessive plant growth due to the presence of run-off nutrients--is increasing the number of "dead zones" where fish cannot survive. Coastal fisheries, wildlife, and waterfowl populations have declined while population and industrial growth along the coasts have increased dramatically. More than 120 million Americans now live within 50 miles of the shore.

Recognizing the grave and sometimes irreversible price being paid, EPA has intensified its efforts to safeguard these critical ecosystems. Within its broad plan to institute policies and practices that reflect respect for the fragility of ecosystems everywhere, the Agency has targeted several systems for special attention: the Great Lakes, Chesapeake Bay, the Gulf of Mexico, and several others. In these areas--which may become models for actions elsewhere--we are working in partnership with local government officials, businesses, and concerned citizens to use our new risk-based, multi-media approach to take action and get solid, lasting results.

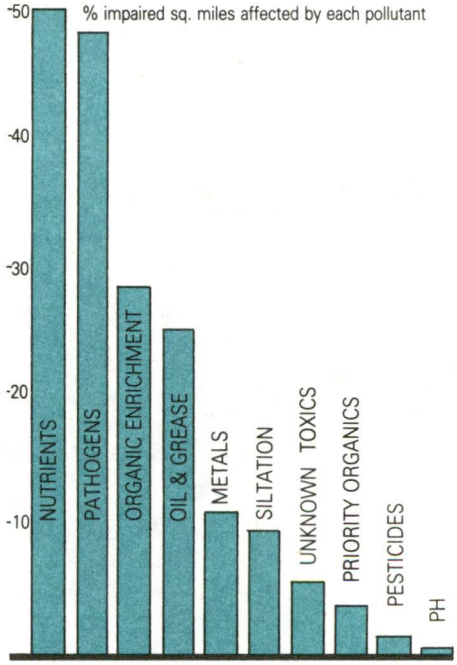
Wetlands

Approximately half of the wetlands originally in the contiguous United States have been lost since the time of the European settlement. In the two decades between 1955 and 1975 alone, more than 11 million acres were lost and other wetlands have been so degraded by pollution and hydrological changes that they no longer perform many of their natural functions.

Nebraska's Rainwater Basin, a vital link in America's migratory flyway, has lost over 90 percent of its wetlands. And in North Dakota, the prairie potholes that remain are crowded with ducks and geese battling for nesting sites, struggling to survive against the onslaught of disease and predators that find easy sport in the cramped breeding grounds. Today the terrible toll of generations of uninformed, unthinking, and incremental destruction of wetlands is all too clear.

This year, EPA has increased its spending for wetlands programs 44 percent--for early identification of valuable wetlands areas, for enhancing state and local grassroots programs, and for developing the knowledge and

Top Ten Pollutants in Estuaries



technical know-how to prevent further deterioration.

The Agency also is working with the Army Corps of Engineers to better administer Section 404 of the Clean Water Act, the major federal program protecting wetlands for which we share responsibility. In February 1990, EPA and the Corps signed an agreement aimed at mitigating wetlands loss, and last September, the Army Corps issued new regulatory guidance removing "prior converted" croplands from permitting requirements.

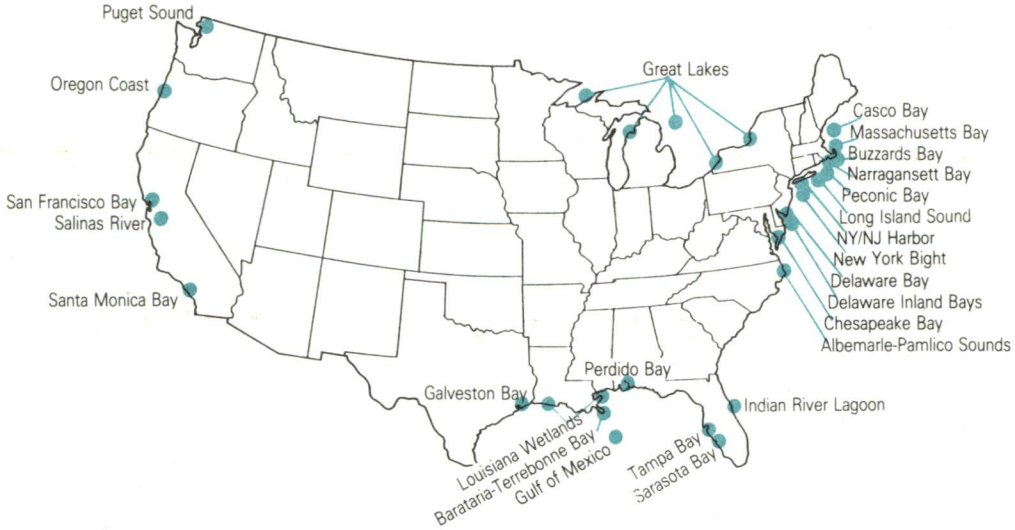
EPA has veto authority to stop projects moving ahead that could endanger wetlands. This power is not exercised lightly--when it has to be used, it is a sign the system is not working. In fact, over 10,000 permits are issued each year, and EPA has vetoed only 11 applications since 1972. But when it is a question of protecting high-value wetlands from irreparable harm or loss, the Agency will not hesitate to use its statutory authority, as Congress intended. Several recent actions illustrate this resolve:

- **Rhode Island.** EPA prohibited the use of Big River, Mishnock River, their tributaries, and adjacent wetlands as a site for the proposed Big River water supply reservoir in Kent County. The decision saved 575 acres of exceptional wetlands, 17 miles of free-flowing cold water streams, 10 ponds and 2,500 acres of primarily forested uplands.

- **Colorado.** EPA vetoed the proposed Two Forks dam and reservoir project on the South Platte River, citing adverse environmental effects and viable alternatives. This action saved over 14 miles of a recognized world-class trout stream and a prime recreation area within one hour of downtown Denver.

- **Florida.** EPA negotiations led to revisions of a proposed permit to fill wetlands at the Old Cutler Bay site near Biscayne National Park, preventing the destruction of several acres of important mangrove wetlands while allowing the project to go forward.

EPA Coastal Initiatives



Great Lakes

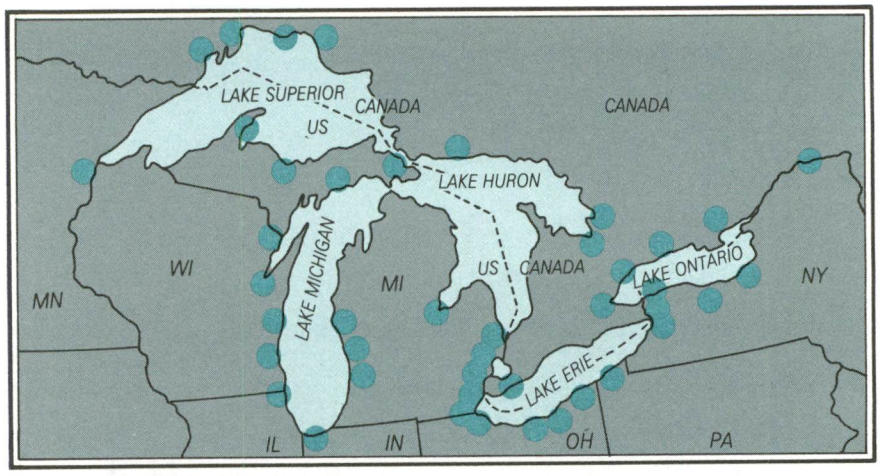
A vast interdependent body of water, the Great Lakes are an especially vulnerable ecosystem. In this unsurpassed watershed, EPA is pursuing restoration through an assortment of methods. The need for flexibility is dictated by the immense variety and complexity of the watershed itself: Lake Superior, for example, is remote and relatively underpopulated. Lake Erie, bordering major urban areas and once choked by excess vegetation resulting from runoff nutrients, is now sporting a variety of fish life. But now it is plagued by new invaders such as the zebra mussel, an exotic species with as yet no predator to check its numbers.

In this region, a model approach based on ecological perspectives is taking shape. EPA is trying to use the most advanced technology available, including satellite imagery, to identify the hot spots in the Great Lakes ecosystem. Through crafting solutions tailored to local circumstances, it is addressing persistent problems such as the deposition of toxic pollutants through the air and runoff from agricultural, urban, and other nonpoint sources of pollution.

The new Clean Air Act will help to curb a major problem the Great Lakes face--toxic and acidic air pollutants. But EPA also intends to go beyond traditional regulatory control and enforcement, fashioning voluntary agreements with the major sources of air pollution to protect these magnificent waters.

Cooperation is becoming stronger. EPA has drawn up an action plan emphasizing pollution prevention. The plan includes targeted reduction in release of toxic chemicals and conventional pollutants in the Great Lakes basin. The plan was unveiled in Chicago in April 1991 with support from Great Lakes governors.

Great Lakes Areas of Concern



More than 40 areas of concern have been identified in the Great Lakes Region, including loss of habitat, beach closings and restrictions on fish and wildlife consumption.

Additional Accomplishments

• **Oil Pollution Act of 1990.** EPA and the U.S. Coast Guard will be lead agencies for implementing this August 1990 law to facilitate oil-spill prevention activities, improve federal and state preparedness, set strict liabilities for cleanup costs, and expand oil-pollution research and development.

• **Pesticides.** EPA proposed a new program in July 1989 to protect endangered wildlife from effects of pesticide use. With help from the Fish and Wildlife Service and the Department of Agriculture, the program ranks species on status, vulnerability, and recovery potential.

"Pollution prevention has become the slogan for all EPA programs, from municipal wastewater treatment to toxic air pollution to stronger, carefully targeted multi-media enforcement strategies to integrated ecosystem-wide programs, such as our new initiative to clean up the Great Lakes."

William K. Reilly, National Press Club, September 26, 1990

- **Coastal and Estuary Initiatives.**

National Estuary Program. On Earth Day 1990, President Bush announced the addition of Barataria-Terrebonne Estuarine Complex in Louisiana, Casco Bay in Maine, Indian River Lagoon in Florida, Massachusetts Bay in Massachusetts, and Tampa Bay in Florida to EPA's National Estuary Program. A cooperative process has started to develop comprehensive conservation and management plans.

Ocean Dumping. EPA secured 1989 consent agreements to end the practice of ocean dumping of municipal waste and debris. Six New Jersey municipalities agreed to end the practice by March 1991, two New York areas by the end of 1991, and New York City by June 1992.

Nonpoint Source Pollution. In 1990, EPA awarded $40 million in first-ever state grants to implement nonpoint-source-management programs under Section 319 of the Clean Water Act.

Chesapeake Bay Protection. In December 1989, Administrator Reilly became chairman of the Chesapeake Bay Executive Council. Significant reductions in phosphorus discharges have been reported and progress has been made in restoring the striped bass population.

The Chesapeake Bay Program's citizen monitoring project has doubled in size over the past two years. More than 150 trained volunteers collect data for over 100 sites.

In April 1990, Administrator Reilly and Secretary of Defense Cheney signed a cooperative agreement on the Chesapeake Bay to institute pollution prevention practices, improve training, establish inspections, and to allocate $50 million in Defense Department funds toward cleanup of facilities on the Chesapeake Bay.

- **Visibility in the Grand Canyon.** EPA proposed rules in 1990 to cut pollution from a northern Arizona power plant that contributes significantly to winter pollution haze in the Grand Canyon. The 2,250 megawatt coal-fired plant, the Navajo Generating Station, is one of the largest electric utilities in the country. This marks the first time that the Clean Air Act was invoked to protect visibility.

- **Contaminated Fish Advisories.** In November 1990, EPA provided information about fish contamination to health, fishery, and environmental agencies in all states and territories. Included were descriptions of federal procedures for assessing risks, a bibliography of fish contamination reports, a list of advisories in effect, and a draft EPA plan for assisting states with fish consumption advisories.

Spotlight

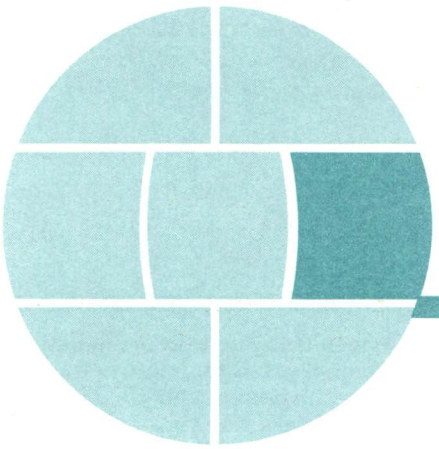
Bioremediation

EPA achieved a breakthrough in using bioremediation--microorganisms that detoxify soil or water--along the shorelines of Prince William Sound, Alaska after the *Exxon Valdez* oil spill. The objective of its Alaska Bioremediation Project was to demonstrate the feasibility of cleaning up shorelines through a focused approach: accelerating the degradation of oil by applying fertilizers which, in turn, enhance naturally occurring microbes. Results on test plots were significant: the time of degradation was cut in half.

Microbial treatment also has been successfully used both in the United States and abroad for on-site treatment of organic contamination of soils at hazardous waste sites. Use of enzymes for detoxifying organophosphate pesticides in soils has also been demonstrated. Research and actual cleanup of soils and aquifers contaminated by hydrocarbons, phenols, cyanides, and chlorinated solvents such as trichlorethylene have taken place.

In 1988, EPA established a Biosystems Technology Development program which addresses groundwater and oil-spill cleanup methodology. In addition, several developers of commercial-scale biological processes have applied to the Superfund Innovative Technology Evaluation program for demonstration evaluation on Superfund wastes.

In 1990, the Agency established the Bioremediation Action Committee comprised of government, industry, academic, and other representatives to remove barriers to and stimulate opportunities for uses of bioremediation. Administrator Reilly spoke to the biotechnology industry and convened a day-long meeting with top EPA officials to consider needs and opportunities to use biotechnology for cleanups. Reilly challenged the biotechnology industry to place a major new priority through investment and other business plans to "help clean this country up" faster and more cost-effectively than current treatment achieves.



INTERNATIONAL LEADERSHIP

International leadership is urgently needed to solve the most pressing global environmental problems. Stratospheric ozone depletion, ocean pollution, species extinction, habitat loss, and climate change are only a few of the complex issues that transcend national boundaries. Although no one country can singlehandedly solve these problems, the United States is helping lead the way.

The Bush Administration is working to safeguard fragile natural resources at home and abroad by providing much-needed technical assistance and fostering regional and multi-lateral solutions. Together with other nations and international development organizations, this country is working to fully phase out ozone-destroying CFCs, negotiate a framework convention on climate change, and establish a new East European environmental center. These cooperative projects reach all corners of the globe. At the same time, EPA is training Peace Corps volunteers to do their part throughout the world in appropriate pesticides management, ground-water protection, and environmentally-sound forestry practices.

Enterprise for the Americas, Debt-for-Nature Swaps

Public debt renegotiation is a central element of President Bush's Enterprise-for-the-Americas initiative, an imaginative undertaking that links reduction of debt with investment, trade, and commercial debt reform. A debt-for-nature component of this project provides a key opportunity to focus on the valuable and fast-disappearing ecosystems of the region.

The initiative is premised on resuming economic growth in Latin America and the Caribbean, where countries owe the United States some $12 billion. Linking the environment to debt renegotiation seeks to strengthen the basis for sustainable growth in these nations. Participating countries will be able to use interest payments on the reduced debt to fund environmental projects. EPA was appointed the Secretary of the Environment for the Americas Board, which oversees the application of local currencies generated from debt reduction for environmental purposes.

Debt-for-nature swaps involve converting--at a discounted rate--official or commercial debt payable in foreign currency into local currency obligations and dedicating the resulting local currency proceeds to environmental projects. Swaps can involve projects such as acquisition or management of land for parks or nature reserves to protect fragile, valuable, or endangered ecosystems. They also may be used for pollution prevention or cleanup.

To date, nongovernmental organizations in the United States have successfully negotiated 15 swaps in eight countries involving commercial debt with a face value of nearly $100 million--in Latin America, Africa, Asia and Eastern Europe.

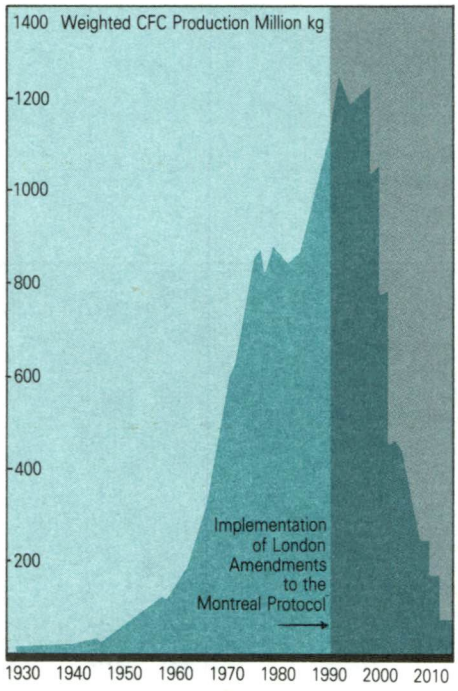
Protecting Stratospheric Ozone

In March 1989, President Bush proposed that the United States fully phase out production and use of chemicals that contribute to the destruction of the stratospheric ozone layer, which shields the earth from ultraviolet radiation's harmful effects on humans and the environment.

The United States is taking an active part in international efforts to strengthen the Montreal Protocol on Substances that Deplete the Ozone Layer. The Protocol was adopted in 1987 and has been ratified by almost 70 nations. During a June 1990 meeting in London, the Protocol Parties agreed to phase out chlorofluorocarbons (CFCs), carbon tetrachloride, and nonessential uses of halons by the end of the century, and to phase out methyl chloroform by 2005.

To help developing countries finance the transition from ozone-depleting chemicals, the United States is contributing to the Montreal Protocol Multilateral Fund. The U.S. contribution will be 25 percent of the total $160 to $240-million fund, more than double that of any other country. EPA represents the United States on the executive committee.

Global CFC Production 1931 - 2010



Budapest Center - Addressing Problems of Eastern Europe

Environmental conditions in Eastern Europe provide clear confirmation of the relationship between a healthy environment and a healthy economy. Polish officials estimate that environmental contamination represents a drag on Poland's GNP of as much as 15 percent. That country's Vistula River is so corrosive it is useless over 80 percent of its length even for cooling machinery. Sulfur dioxide levels in Krakow are so high that 500-year-old statues and monuments have crumbled in just 40 years. The nation is plagued by high rates of infant mortality, lung disorders, worker absenteeism, and premature deaths, with vast land areas contaminated by heavy metal pollution.

Delivering on a commitment by President Bush to take action on addressing the environmental problems not only of Poland but all of Eastern Europe, EPA Administrator Reilly opened an independent, nongovernmental regional center in Budapest, Hungary in September 1990. This project represents a new venture in institution-building for emerging East European democracies, and it promises to strengthen greatly the environmental policies of the region's countries. Regional problems are being dealt with through education, training, data collection and dissemination, and by strengthening existing environmental protection networks.

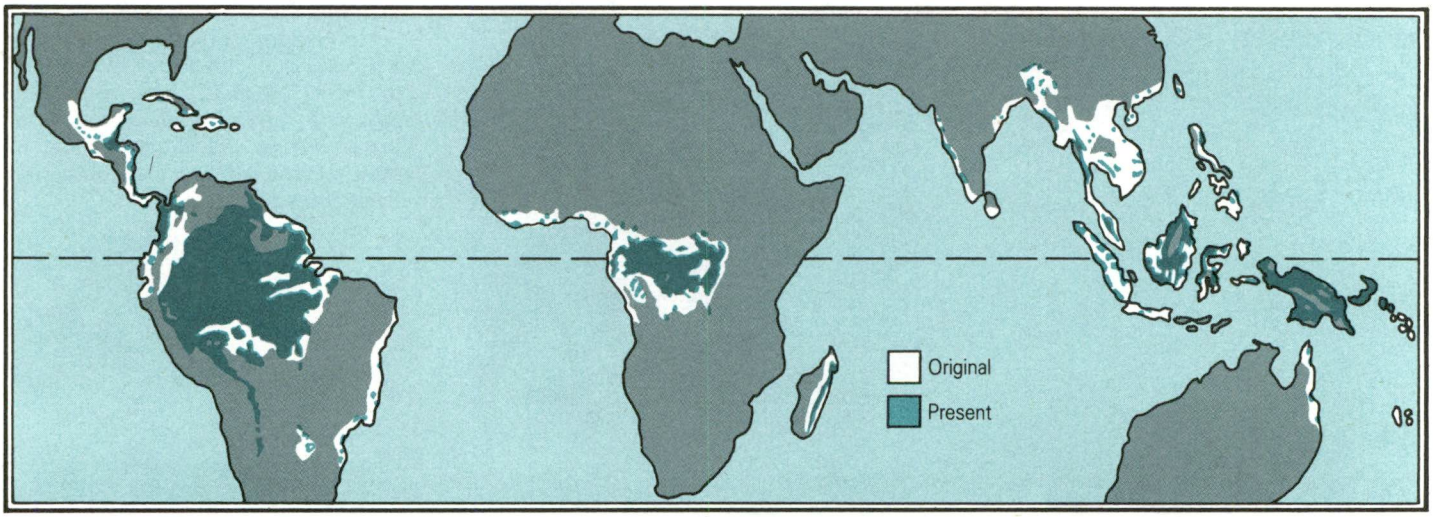
Spotlight

Global Forest Agreement

New data suggest tropical forests are being lost twice as fast as had been believed; many forests will have disappeared within 10 to 15 years at present rates of destruction. Concern for the rapid loss of the great forest systems worldwide led the President to propose an agreement on forestry at the G-7 Economic Summit in July of 1990. The agreement addresses world deforestation of both temperate and tropical rainforests, mapping and monitoring research, training, and technical assistance.

EPA is working with the State Department, the Department of Agriculture, and other agencies to carry the proposal forward with the goal that the agreement be signed at the United Nations Conference on Environment and Development in Brazil in 1992. At a preparatory meeting for the conference held in February 1991, participants discussed the merits of market incentives and debt-for-forest swaps as possible tools for forest protection.

Tropical Rainforests: A Disappearing Treasure*



*Smithsonian Institution Traveling Exhibition Service, 1988

"President Bush has moved the environment from the margins to the mainstream. As a result, the opportunities for genuine environmental progress have never been greater than they are today."

-- William K. Reilly, National Press Club, September 26, 1990

Additional Highlights

• **Basel Convention.** In March 1990, the United States signed the Basel Convention on the Transboundary Movement of Waste, sponsored by the United Nations Environment Program. This 80-country initiative requires notice of proposed hazardous waste shipments and prior written consent, thus helping to ensure that waste will be managed in an "environmentally sound manner" by the receiving country.

• **Canada.** EPA helped the State Department negotiate and finalize an air quality accord that will fight acid rain by reducing sulfur dioxide and nitrogen oxide emissions. President Bush and Prime Minister Mulroney signed this historic agreement in March 1991.

• **Mexico.**

Environmental Issues a Priority. At Secretary of State Baker's invitation, EPA is now part of the annual binational meeting with Mexico.

Mexico City. EPA participated in the 1989 Mexico City Metropolitan Zone Agreement, which calls for EPA's help in protecting and improving the environment in Mexico City.

Border Issues. EPA is collaborating with its Mexican counterpart, SEDUE, on border issues including response to chemical emergencies. The two countries have proposed funding construction of new wastewater treatment plants for Tijuana, Mexico and Nogales, Arizona.

• **Eastern, Central Europe.**

Technical Assistance. The United States initiated technical assistance programs to improve wastewater treatment and air quality monitoring in Krakow, Poland and helped establish energy efficiency centers in Warsaw and Prague.

Emergency Preparedness. A U.S.-Hungarian Workshop took place on Chemical Emergency Preparedness, Response, and Prevention in Veszprem, Hungary in September 1990. All Eastern and Central European countries participated.

Czech and Slovak Federated Republic. EPA, the Agency for International Development (AID), the World Bank, and U.S. private-sector officials joined the Czech government in a joint study assessing environmental conditions in the country. The goal is to determine priorities for action.

• **Thailand.** EPA and AID released a study comparing a number of environmental health risks facing Bangkok. The project was the first-ever application abroad of EPA's comparative risk technique--used to help set priorities given limited resources.

• **Morocco.** Dispatched technical advisors to Moroccan government to assist in dealing with a February 1990 oil spill threatening the Morocco coast.

• **Soviet Union.**

New Projects. During 1990, the U.S./U.S.S.R. Environmental Agreement was expanded to include more than 55 projects focusing on issues such as pollution prevention, halon reduction, and Arctic accumulation of air toxics.

Chemical Spill Assistance. The United States dispatched hazardous-spill experts to Latvia in quick response to a chemical spill that threatened drinking water supplies in November 1990. Soviet officials called the EPA assistance, "The most important American visit since Lindbergh."

Conference. EPA helped support the first-ever U.S.-Soviet conference for non-governmental environmental organizations in Moscow in March 1991.

• **Brazil.** Administrator Reilly and Brazil's Secretary of Environment Lutzenberger signed a Memorandum of Understanding on Environmental Cooperation in November 1990.

• **Trade Initiatives and Global Standards.**

Pesticides Precautions Abroad. An expanded EPA program was proposed for notifying other countries of U.S. pesticide regulatory actions. New labelling requirements for exported pesticides also were proposed.

Food Safety. Through negotiations sponsored by the General Agreement on Tariffs and Trade, the United States helped develop an international proposal to harmonize food safety standards, and to work for both healthy trade conditions and a safe U.S. food supply.

• **International Organizations.**

OECD. The United States played a major role in bringing about an international cooperative effort to share responsibilities for testing chemicals. The agreement was signed by 24 member countries of the Organization of Economic Cooperation and Development in April 1990.

World Bank. In November 1990, the United States announced its support for the World Bank Global Environment Facility, known as the "Green Fund." The fund will help developing countries address global environmental problems. A contribution of up to $150 million over three years has been pledged by the Administration.

SOUND SCIENCE

Science can lend much-needed coherence, order, and integrity to the often costly and controversial decisions that EPA must make. Science also can offer solutions--technologies that achieve low emission rates through the application of pollution-prevention principles, or technologies that achieve high levels of control at minimal energy and economic cost.

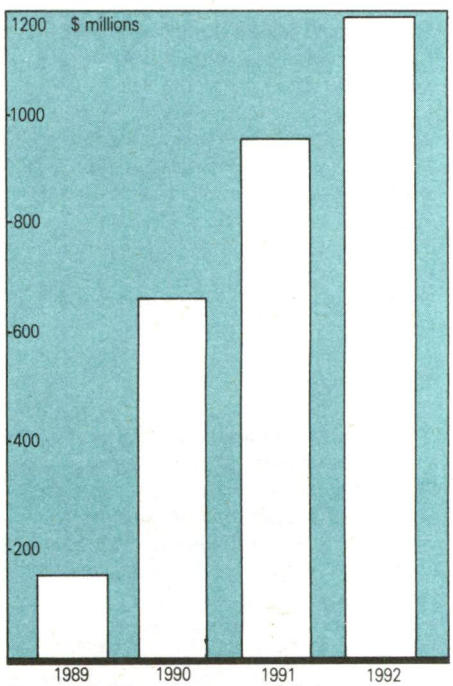
EPA's research laboratories located throughout the country perform research and development activities across the environmental spectrum. The Agency's research program is being strengthened to ensure decisions are based on scientifically sound data and analyses. Major budget increases are planned for strengthening research into areas most closely associated with reducing health and ecological risk--indoor air pollution, electromagnetic radiation, and bioremediation of wastes. Research is also being intensified in other areas, such as assessing exposure and determining neurotoxic and reproductive effects of exposure to different types of pollutants.

Climate Change Research

EPA has carried out some of the seminal research on the effects of climate change and possible responses to it. The Agency is a major participant in the U.S. Global Change Research program, set up to provide a sound scientific basis for developing national and international policy on global change, including climate change. Together with the Department of Energy and the Council of Economic Advisors, EPA is analyzing possible reductions in greenhouse gas emissions under existing federal programs.

The Agency's primary focus is on the assessment, evaluation, and prediction of ecological and environmental consequences of global change. EPA scientists evaluate processes and quantify relative contributions of man-made and biological sources of trace gases, quantify and model the consequences of climate change on ecosystems and their

Federal Funding for Global Change Research



Source: U.S. Office of Management & Budget

In Fiscal Year 1992, the Administration plans to invest almost $1.2 billion in global change research, doubling what was committed to the research program in 1990. EPA plays a vital role in the overall research effort.

subsequent feedback to the atmosphere, and examine the interaction of these gases in the atmosphere. This research will assist in providing process-level understanding and modeling capabilities to predict effects on regional scales.

The United States has been spending hundreds of millions of dollars a year to learn more about the scope, causes, effects, and responses to potential climate change. EPA has invested $9.6 million in 1989 and $15 million in 1990--more than a 50-percent increase--in major research efforts to examine the causes and effects alone of climate change and the implications for future policy. This year, the Bush Administration will spend $1 billion in research and monitoring to reduce scientific and economic uncertainties relating to global change--up 57 percent from 1990 levels.

Nor is the Administration just waiting for the science to jell. In February 1991, President Bush hosted the opening session of international negotiations on a framework climate-change convention. Domestically, the Administration already is committed to a series of actions that make sense for a number of reasons and will yield benefits whether or not climate change proves to be a problem of serious consequence.

By passing a new Clean Air Act, phasing out CFCs, carrying out the President's reforestation initiative to plant a billion trees a year over the next decade, and other measures, including those in the National Energy Strategy--that is, as a result of actions already taken or planned--the United States should hold its greenhouse gas emissions approximately at or below current levels for the foreseeable future. In 2030, these actions will reduce emissions by one-third of what they would otherwise be.

The United States is taking a comprehensive approach to potential climate change, considering all greenhouse gases, sources and sinks. Such an approach is more effective and less costly than focusing on a single greenhouse gas or on a single set of sources. It provides flexibility for each nation to develop a diverse, innovative, cost-effective mix of measures tailored to its own domestic circumstances. It uses scientific and economic knowledge comprehensively, leaving no important variable omitted.

The Science Advisory Board - EPA's Objective Advisor

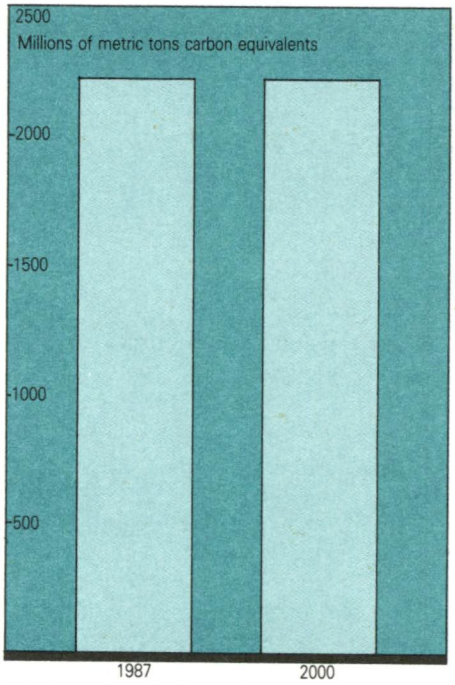
For more than a decade, the Science Advisory Board (SAB) of EPA has provided the Agency with unbiased critical thinking on a variety of scientific issues related to the environment. Its job is to provide the best technical and scientific knowledge available on the relative risks posed by environmental problems and the options available to reduce these risks.

The Board is comprised of approximately 60 full-time members and 250 consultants from outside the Agency and the U.S. government--scientists, engineers, and other experts. Its role has become more essential as the number and complexity of demands on EPA have grown. Perhaps its most significant undertaking in recent years was the 1989-1990 study to determine which issues should be environmental priorities for the Agency. Results are published in a capstone report, *Reducing Risk: Setting Priorities and Strategies for Environmental Protection.*

The SAB has played a critical role in several other EPA initiatives during the past several years. Based on Board recommendations in the late 1980s, the Agency reevaluated its environmental and health research programs, which lead to a major new "core research" approach in 1989 for building the Agency's information base in four key areas--ecological risk assessment; health risk assessment; risk reduction; and exploratory grants and research centers.

In 1990, the SAB reviewed an EPA report on electromagnetic fields that evaluates data on the relationship between exposure to this phenomenon and cancer in humans. In separate projects, the SAB is reviewing reports on the potential carcinogenicity of perchloroethylene--a common dry cleaning chemical--and the risks of environmental tobacco smoke, or cigarette smoke to nonsmokers.

Projected U.S. Greenhouse Gas Emissions



Includes carbon dioxide, methane, volatile organics, oxides of nitrogen, carbon monoxide, nitrous oxide and chloroflorocarbons.

Spotlight

Harnessing Technology

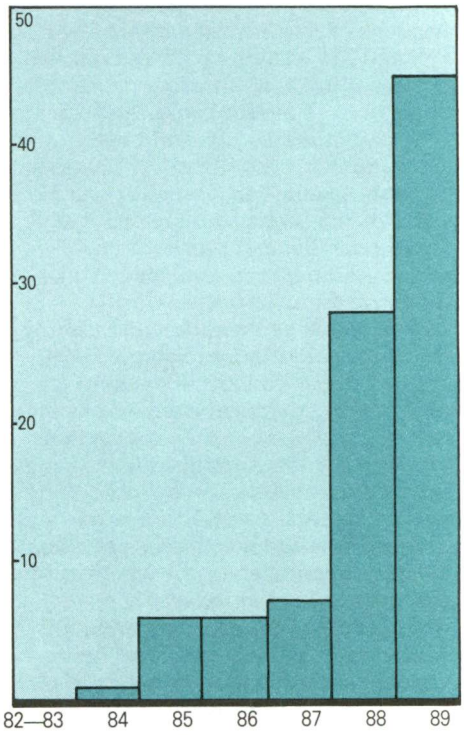
EPA continues to play an instrumental role in collaborative efforts to develop technologies that combat environmental problems. To shorten the learning curve on how and where technology can best be applied, the Agency has created a National Advisory Council for Environmental Technology Transfer (NACETT). This diverse group of 37 members offers expertise from government agencies, business and industry, academia, and public interest groups.

The Agency's Center for Environmental Research Information complements the work of NACETT. The Center publishes information about technological tools and presents seminars, workshops, and training courses across the United States. During 1989 and 1990, it responded to 125,000 requests for science and engineering documents and sponsored 104 seminars and workshops for 17,000 participants from state and local governments and the private sector.

To promote new technology, EPA has established cooperative arrangements with industry through the Federal Technology Transfer Act and maintains close links with federal, industrial, and academic laboratories demonstrating new technologies. During 1990, the Agency entered into 17 agreements with the private sector to research and commercialize innovative environmental technology. Projects included oil-spill remediation, water purification, and controls on emissions.

EPA's Superfund Innovative Technology Evaluation (SITE) demonstration program has been especially effective in finding and applying technological solutions to a particular type of problem--the elimination of hazardous waste sites. At present, there are 56 Superfund sites in which an innovative treatment technology is being used for actual cleanup jobs. Fifty-nine percent of all cleanup remedies undertaken in 1990 employed innovative technologies.

Number of Innovative Technologies Selected



EPA's Superfund Innovative Technology Evaluation program has grown rapidly as new technological solutions are applied to eliminating hazardous waste sites.

EPA Research Laboratories

Types of EPA Research Facilities

Risk Reduction Engineering Laboratory - Cincinnati
Air and Energy Engineering Laboratory - RTP
Atmospheric Research and Exposure Assessment Laboratory - RTP
Environmental Monitoring Systems Laboratory - Cincinnati
Environmental Monitoring Systems Laboratory - Las Vegas
Robert S. Kerr Environmental Research Laboratory - Ada
Environmental Research Laboratory - Athens
Environmental Research Laboratory - Corvallis
Environmental Research Laboratory - Duluth
Environmental Research Laboratory - Gulf Breeze
Environmental Research Laboratory - Narragansett
Health Effects Research Laboratory - RTP

"The surest path to protecting human health and the environment, and to gaining the public's trust, lies in our ability to point to a steadily decreasing volume of, and exposure to, hazardous substances in our environment."

-- William K. Reilly, American Enterprise Institute, June 12, 1990.

Additional Accomplishments

• **Pollution Prevention Research.** The Agency's pollution-prevention research program has grown from about $2 million in 1987 to more than $9 million in 1991. Research covers how to prevent pollution not only during production but also during use, repair, and disposal.

• **Clean-up at Federal Facilities.** EPA is working with the Departments of Defense and Energy to develop cooperative demonstrations of innovative treatment technologies for cleanup and waste-minimization assessments at sites in Georgia, California, Texas, Colorado, and Montana.

• **Survey of Ecological System Health.** The Agency started a ground-breaking project designed to create a comprehensive, continually updated survey of the status of ecological resources in the United States. The Environmental Monitoring and Assessment Program (EMAP) works by linking EPA's monitoring capabilities to counterparts in the Department of Agriculture, NOAA, and the Fish and Wildlife Service. EMAP data make it possible to assess changes in specific ecosystems and determine whether these changes are human-induced stresses. Already it is providing information on the health of estuaries from Cape Cod to Cape Hatteras and on stresses to northeastern forests.

• **Data Systems.** EPA researchers are developing better measurement technology and designing new methods to determine exactly what people breathe and consume through food and water. These data systems help the Agency focus on the right questions--who is being exposed to what, and what does that mean in terms of health risk?

• **Great Lakes Monitoring.** To monitor water quality and carry out pollution surveillance in the Great Lakes, EPA acquired the 180-foot research vessel, *Lake Guardian*. It joins EPA's other vessel, *The Peter W. Anderson*, which collects data and performs analyses on ocean and coastal activities.

• **Technology to Fight Acid Rain.** The Agency successfully completed a demonstration project on the Limestone Injection Multistage Burner in May 1990. The burner can be used as low-cost retrofit sulfur dioxide control technology for many coal-fired utility boilers, helping users comply with the acid rain provisions of new Clean Air Act.

• **Biotechnology Research.** EPA continued its research into finding methods for assessing the potential risk resulting from the introduction of microorganisms into the environment. This program supports regulation of the products of biotechnology under federal toxics and pesticides laws.

• **Ecological Institute.** Responding to an SAB recommendation, EPA has begun efforts with the National Research Council and the academic community to explore the benefits of a National Institutes of Health-like organization for basic research in the environmental sciences.

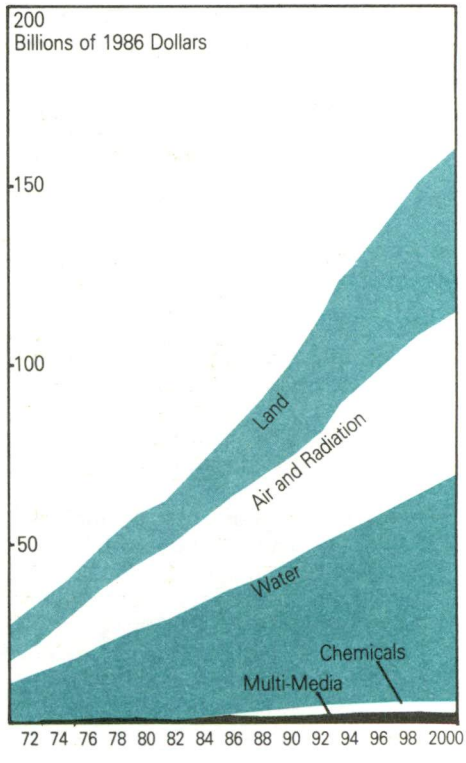
STRENGTHENING AGENCY RESOURCES

The United States as a whole now spends more than $100 billion a year on environmental protection, over triple the amount the nation spent in 1972. That figure will continue to grow in the next 10 to 15 years as the new Clean Air Act Amendments take effect and the nationwide cleanup of hazardous waste sites proceeds--reaching about 2.7 percent of the GNP by the year 2000. Given this level of expenditure--and its implications for productivity and international competitiveness--the nation must pay more attention than it has in the past to meeting its environmental commitments in the most cost-effective ways.

EPA is promoting cost-effectiveness by strengthening its own workforce, using tools such as Total Quality Management and strategic planning methods. And thanks to President Bush's commitment, EPA's numbers and financial base are growing. Staff has increased 15 percent and operating funds have increased 26 percent in the past three budgets. In 1991, EPA was appropriated $6.1 billion, a 9 percent increase over 1990. If the 1992 budget request is approved, the Agency's budget for operating programs and trust funds will have increased by $1 billion and the Agency workforce will have grown by more than 2,900 workyears during the Bush Administration.

To provide expertise from outside the Agency, EPA has set up a financial advisory board whose members include senior executives from business, industry, finance, banking, and government. At the same time, the Agency has set up a special team to explore alternative financing mechanisms. Essays exploring a range of ideas and possible models--for instance, the role of banks in environmental protection and California's approach to managing waste--were published in a November 1990 EPA report, Paying for Progress: Perspectives on Financing Environmental Protection.

Pollution Control Costs



Working with States, Tribes, and Localities

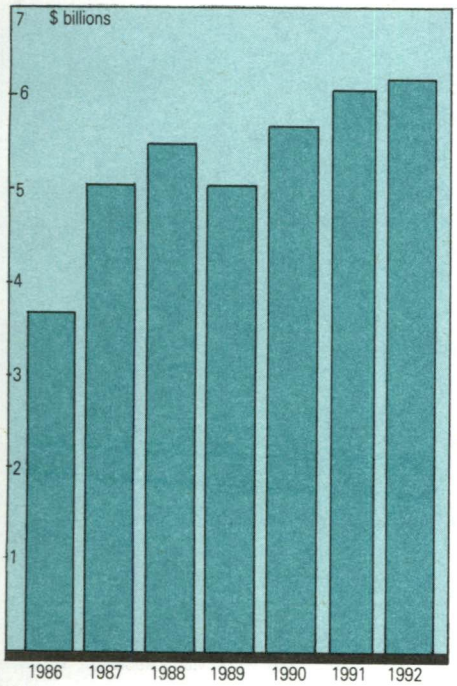
Much of the burden of environmental management falls upon state and local governments. To help lighten the load, EPA is building environmental partnerships with these other levels of government and with Indian tribes. The goal is to help boost limited financial and human resources and allow the Agency to leverage its own limited federal funding into more effective environmental programs.

State grant programs are an integral part of this process. Despite severe federal fiscal constraints, grants to states during the Bush Administration have risen by 58 percent. In Fiscal Year 1989, EPA awarded $315 million in grants to states. By 1991, that figure had grown to $498 million.

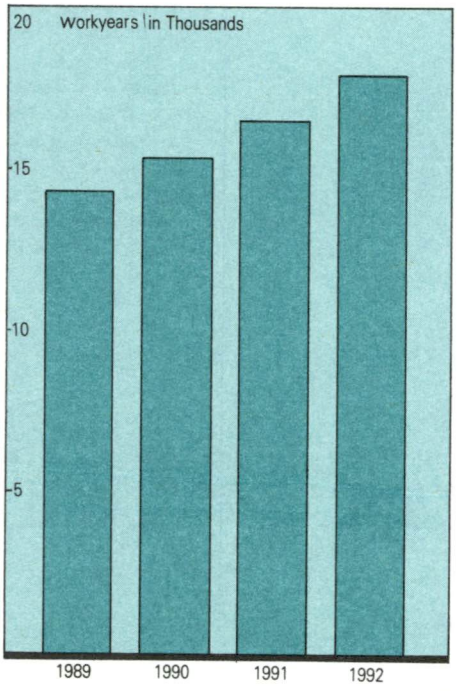
Small communities may face a particularly difficult challenge meeting environmental mandates. To address these circumstances, EPA set up a Small Communities Coordinator project in 1989. The aim is to ensure that the particular burdens EPA actions may place on small communities are borne in mind during regulatory decision-making. Technological assistance to small communities was bolstered during 1990, when the Agency established a subcommittee for small communities under the National Advisory Committee on Environmental Policy and Technology.

EPA has moved forward aggressively with implementing President Bush's policy of dealing with federally-recognized Indian tribes on a government-to-government basis. In 1989 and 1990, $27 million was awarded to tribal governments for constructing or modifying 30 wastewater-treatment systems to serve reservations and Alaskan native villages. Clean lakes grants increased from three grants totalling $200,000 in 1989 to 12 grants totalling $1 million in 1990.

Growing EPA Dollars

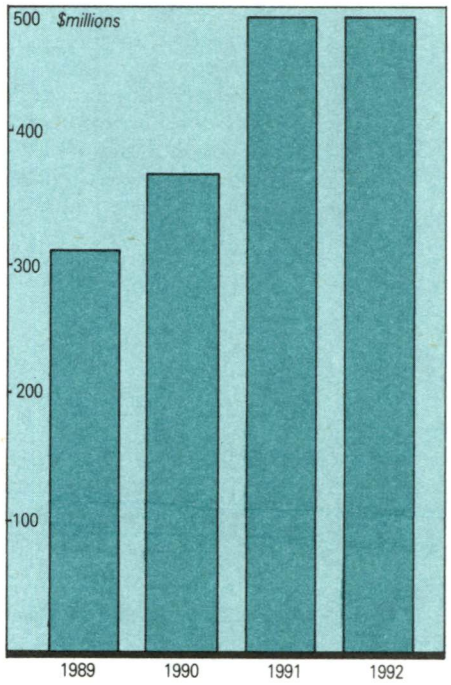


EPA Workforce is Growing



The Agency's workyear ceilings continue to grow to meet the President's commitment to improving environmental protection. EPA's 1992 request represents a workforce growth of 2,900 workyears during the Bush Administration.

State and Local Grants



Other Accomplishments

Spotlight

Public–Private Partnerships

Public--private partnerships offer a promising, alternative-financing mechanism to help state and local governments construct and operate environmental facilities. In such partnerships, EPA and state governments facilitate the activities and provide technical support. Communities are the implementers of the partnerships, with banking and business interests offering financial and technical resources. Associations, foundations, academia, and interest groups provide expertise and support for outreach to the public.

EPA's Public--Private Partnerships Initiative provides information and assistance to local governments on how they can work with the private sector to finance environmental protection. Demonstration projects are being carried out to illustrate how communities can successfully initiate public--private partnerships. Special emphasis has been placed on projects that help small communities achieve compliance with environmental standards and regulations.

- **Strategic Planning.** EPA is putting into place a four-year strategic planning and budgeting process. The goal is to focus attention and resources on the areas of greatest risk and identify the greatest potential for risk reduction.

- **Focus on Minorities.**

  EPA Workforce. Within EPA, 69 percent of the net growth of 1990 professional and administrative positions were women and minorities, with minorities approximately half the total. At management levels, minorities and women made up two-thirds of EPA's net growth. Hispanic and Asian-Pacific Americans both increased by over 50 percent in this category during 1990.

  Environmental equity workgroup. The Agency established an environmental equity workgroup to address the concern that minority and low-income communities may bear a disproportionate share of environmental risk. The group is working with a university-based equity organization as informal advisor to gather data and draw up a plan for action.

  Business contracts. EPA awarded a record number of small-business contracts to minority-owned businesses during the past two years. Direct contract and grant awards totalled $485 million for Fiscal Year 1989 and $492 million for Fiscal Year 1990.

"We must go beyond compulsion and laws and incentives to ensure the environmental integrity of our nation and our planet....we must engage the heart, which is seldom reached by appeals to law or economics, in the task of bringing our habits, our choices, and our lifestyles into harmony with the needs of nature."

-- *William K. Reilly, Shipley Commencement, June 15, 1990*