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Series:	Speech File Backup Files
Subseries:	Chron File, 1989-1993

OA/ID Number:	13832
Folder ID Number:	13832-007

Folder Title:
Natural Communities Conservation Planning 9/14/92 [OA 7580]

Stack:	Row:	Section:	Shelf:	Position:
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9/11/92

PRESIDENTIAL REMARKS: NATURAL COMMUNITIES CONSERVATION PLANNING (NCCP) PROGRAM EVENT
SAN DIEGO, CALIFORNIA
MONDAY, SEPTEMBER 14, 1992
~~10:00 a.m.~~ 8:00 a.m.

NEXIS articles 1992 Almanac of Am Politics

Thank you, Governor Pete Wilson, for that introduction. Congressman Lowery. Our next U.S. Senators, John Seymour and Bruce Herschenson.

It's great to be back in California. You know, ~~this week is~~ last was the 142nd anniversary of California Admission Day -- when California became a state. For that entire century and a half, California has been a leader -- from the Gold Rush of that era to the technology explosion of today. From Disneyland to digital circuitry, from tourism to technology, California has led the way for America.

Sept 9, 1850

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Oct 14, 1988 Scripps Institution of Oceanography at U of CA Remarks

Oct ? Sept 14, 1988

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In the last four years, we have acted on that recognition. We have enacted a Clean Air Act that will not only cut acid rain, smog, and toxic air emissions -- but that will do so at less cost

Jim Fitzhenry x2800

to the economy than the old command and control prescriptions of the past.

We have taken the world lead in phasing out CFCs and other ozone-depleting substances by 1995 -- and taken the world lead in developing safe substitutes for them.

We have added over a million and a half acres to our National parks, ~~forests, wildlife areas, and public lands~~ -- and placed a special emphasis on improving campsites and trails, increasing boating and fishing access, and creating new recreational opportunities for millions of Americans -- young and old, able bodied and disabled.

We have launched historic new programs in which industry is voluntarily reducing its toxic emissions and installing energy-efficient lighting -- and achieved results faster, cheaper, and with less litigation and regulatory haggling.

These steps have shown what is possible when we harness the power of the marketplace in the service of the environment.

~~This~~ Last week, I spoke in Detroit about my Agenda for American Renewal. My agenda applies this same creativity -- this same respect for the power of the marketplace and the ingenuity of the American people -- to the full range of new challenges facing our economy.

America is in transition. We have succeeded in conquering the challenges of the Cold War. New technologies are allowing people to be their best -- decentralizing decisions and putting power in the hands of people. Companies are paying down debt,

and becoming more competitive. We are expanding markets for American products overseas.

No transition is easy -- and California's economy is feeling the effects of this one. So I know this. America's number one challenge today is to win the global economic competition. We must turn this economic transition into an economic opportunity. We must win the peace.

Winning that competition will require an integrated approach to meeting the challenges ahead. We must keep expanding our horizons -- winning new markets, seizing new opportunities. We must prepare our children for the challenges of the 21st century, and sharpen the competitive edge of our companies, large and small. We can promote economic security for this country while leaving no one behind. But we can only do these things if we are willing to change. To innovate. If we are willing to embrace what works -- and reject what doesn't.

Machiavelli once said that "One change leaves the way open for the introduction of others." The historic changes of the last few years have created a more competitive America in a freer, more open world. It would not be Machiavellian to suggest that we seize this moment: that we make the changes we must to grab the opportunities we can.

The integrated approach we bring to this new world -- this search for innovation -- must apply to the environmental challenges we face. Respecting the market. Fostering new technology. Fostering partnerships. These are the ideas that

will make us more competitive and create jobs. And these are the ideas that we should apply to environmental policy as well.

Let me give you some examples.

We've come together before this historic ranch house -- the site of the first land grant in the state of California -- to celebrate a voluntary partnership. Frankly, it's an experiment -- an effort to preserve species and their critical habitat while still allowing for economic development. The Natural Communities Conservation Planning project tries to bring all parties together, in a proactive and voluntary manner, before regulatory approaches kick in and reduce all flexibility.

We've already learned that preventing pollution at the factory works better than cleaning it up at the smokestack or the outfall pipe. This focus on prevention rather than remedial management can help us protect ecological systems as well -- without massive disruptions of the economy.

Here's another example that's operating right here in southern California. There is no question that for some factories and businesses it will be very expensive to meet the requirements of the Clean Air Act. There is also no question that the dirtiest cars on the road are the oldest ones -- those clunkers that first appeared before we had today's tough pollution control standards.

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This scrappage program worked -- and now we're going to apply it nationwide.

A third example of how investing in the environment can help the economy. Right now, San Diego could face the threat of limits on new sewer hookups because of inadequate sewage treatment. That would limit economic development. At the same time, the lack of secondary treatment is fouling the water. That hurts public health. It hurts recreation. It hurts California's tourism economy.

I have proposed in each of my last two budgets line-item grants to kick start the progress toward secondary treatment in those coastal cities that don't now have it. That includes San Diego, Los Angeles, Seattle, New York, Baltimore, and yes, the

infamous Boston Harbor. Bill Lowery and John Seymour have helped get those funds through the appropriations committees.

By cleaning our water, we can clean up the environment, encourage development, and promote tourism. So I call on Congress to support this initiative again this year.

A fourth example. One of the key ingredients that has allowed America to make progress already in reducing lead emissions, reducing carbon monoxide and ozone, in cleaning up our air and water, is technology.

Technology has made possible cleaner cars and cleaner factories, more energy efficient buildings, and less wasteful industrial practices. Technology is one of the keys to our environmental -- and our economic -- future.

One of the things we have learned over the past two decades is that command and control regulation freezes old technology in place. Market oriented policies, and investment in the future, can make new breakthroughs possible.

In this Administration, we have launched a broad program of investment in new technologies to clean the environment and promote energy efficiency. We started a partnership with the major auto companies to develop cars that can run on batteries, with zero air pollution. We're working toward lighter materials, so that everything from airplanes to automobiles will use less energy and create less pollution. We've increased investment in research and development for new ways to produce and use clean-burning natural gas. And perhaps most importantly, our national

energy strategy, by encouraging competition, will allow these technologies the chance to be adopted in the marketplace.

My opponent has begun to talk about these things, and I'm glad he agrees. But he should recognize one fact: the pro-regulatory policies that he is advancing -- and which his running mate has supported in the U.S. Senate -- will impede technology, not promote it. You can't have it both ways.

Finally, let me talk about an example that brings it all together. Trade. We have worked in this Administration for a more open world trading system -- for trade agreements that are good foreign policy, good economic policy, and good environmental policy.

The best example is NAFTA -- the North American Free Trade Agreement. It will bring jobs right here to California. It will allow us to expand our already growing exports to Mexico.

In support of NAFTA, we have developed an environmental action plan, to ensure sound environmental protection on both sides of the border. We've included funding for the Tijuana sewage plant. For stepped up enforcement. For a cooperative approach with the Mexican government, which has been working to improve its own environmental laws.

OK per Budget Page One 2/6

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Now here is an irony. At the exact moment Governor Clinton is using this as an excuse, his Democratic allies in Congress are

Bush Environmental Fact Sheet

cutting in half my proposed funding for the border environmental plan. Let me put it very simply. Congress should restore the funding. And Governor Clinton should take a stand.

These examples -- partnership, market forces, investment in the future, technology, and trade -- point the way toward a future in which both the environment and the economy can flourish. But we must remember this. This future isn't guaranteed. It requires the right choices, the right policies, and the right priorities.

Too often, when policies undermine the potential for partnership, or our laws are written in ways that discourage innovation, we get a different result: Confrontation. Litigation. Stagnation.

Later today, I will travel to the forests of the Pacific Northwest, to the woods of Oregon and Washington. Here, it must be said, the system has not worked. Interest groups have litigated endlessly. The courts have frozen almost all harvesting activity on Federal lands. And families and communities are suffering. The debacle surrounding the spotted owl is a lesson that there must be a better way.

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If we can create the unity of purpose, and apply the creativity of thought, that America has used to hurdle every other challenge that has stood in its path, there is no telling what America can accomplish.

We can leave cleaner air and water for our children -- and win the economic competition at the same time. We can win the peace. We can ensure that the 21st century is yet another American century.

Thank you, God bless you, and God bless the United States of America.

# # # #

Pres Doc TX A+I Univ. May 11, 1990 & Oct 22, 1990 Theodore Roosevelt Conservation Award Remarks

- ~~300~~ 700 people
- the Rancho ~~de los~~ ~~Penquasitos~~ Penasquitos
- 18 minutes
- prompter
- Who will intro
- Time ~~10~~ 8:~~00~~05 a.m.
- Susan Golding, mayoral candidate

MASTER

Document No. 349773

WHITE HOUSE STAFFING MEMORANDUM

DATE: 09/11/92 ACTION/CONCURRENCE/COMMENT DUE BY: ASAP!!!!!

SUBJECT: PRESIDENTIAL REMARKS: NATURAL COMMUNITIES CONSERVATION PLANNING PROGRAM EVENT, SAN DIEGO, CALIFORNIA

	ACTION	FYI		ACTION	FYI
VICE PRESIDENT	☐	☑	MCBRIDE	☐	☑
BAKER	☐	☑	MOORE	☑	☐
SCOWCROFT	☑	☐	MULLINS	☑	☐
DARMAN	☑	☐	PETERSMEYER	☑	☐
BATES	☐	☑	PORTER	☑	☐
BRADY	☐	☑	PROVOST	☑	☐
BROMLEY	☑	☐	ROSS	☑	☐
CALIO	☑	☐	SMITH	☑	☐
DEMAREST	☑	☐	TUTWILER	☐	☑
FITZWATER	☐	☑	ZOELLICK	☑	☐
GRAY	☑	☐	MCGROARTY	☐	☑
HOLIDAY	☑	☐	KAUFMAN	☐	☑
HORNER	☐	☐	GROOMES	☐	☑
BOSKIN	☑		DELAND	☑	

REMARKS:

Please provide any comments directly to Dan McGroarty AS SOON AS POSSIBLE, with a copy to this office. Thanks.

RESPONSE:

PHILLIP D. BRADY
Assistant to the President
and Staff Secretary
Ext. 2702

9/11/92

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SEP 11 P7:10

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quoted here positively (Smith)

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a0740-----
r w AM-SpottedOwl-Appeal 08-26 0497
^AM-Spotted Owl-Appeal,590(
^Bush Administration Asks To Resume Logging In Spotted Owl Habitat(
^By SCOTT SONNER=
^Associated Press Writer=

WASHINGTON (AP) - The Bush administration, eager to resume Northwest logging, asked a U.S. appeals court Wednesday to lift a judge's ban on timber harvests in national forests with northern spotted owls.

Acting Assistant Agriculture Secretary John Beuter said the logging injunction granted last month by U.S. District Judge William Dwyer of Seattle is wholly unnecessary to save the threatened owl from extinction.

``We have a scientifically credible management strategy in place that protects the long-term viability of the northern spotted owl,'' Beuter said in a statement.

The Agriculture Department filed the request with the 9th Circuit Court of Appeals in San Francisco, where last year it lost a similar dispute over protection Dwyer had ordered for the bird.

The motion seeks to stay Dwyer's injunction so the Forest Service could resume plans to log millions of acres of national forests in Oregon, Washington and northern California.

``We recognize that a stay pending appeal is extraordinary relief, but this is an extraordinary case,'' Anne Almy, an attorney for the Justice Department, said in the motion.

Attorneys for the Sierra Club Legal Defense Fund said they thought the ban would be upheld because the threatened bird's population is declining rapidly.

``This is the same court that affirmed Judge Dwyer last year under very similar circumstances,'' said Vic Sher, the group's managing attorney in Seattle. He said oral arguments on the motion are scheduled in San Francisco the first week of November.

If the logging ban is lifted, the agency would expect to harvest between 1.8 billion and 2.3 billion board feet of timber on those lands next year, Agriculture Department spokesman John Mahoney said. That's about half the annual average of the 1980s.

Environmentalists and the Bush administration have been in and out of court most of the two years since the Fish and Wildlife Service declared the owl a threatened species in June 1990.

Dwyer earlier cited a ``remarkable series of violations of environmental laws'' that have pushed the owl closer to the brink of extinction, including ``a deliberate and systematic refusal by the Forest Service and the Fish and Wildlife Service to comply with the laws protecting wildlife.''

``This is not the doing of the scientists, foresters, rangers and others at the working levels of these agencies,'' the judge wrote. ``It reflects decisions made by higher authorities in the executive branch of government.''

Dwyer issued the latest injunction in July, based partly on the Forest Service's failure to consider new evidence that shows the owl's population - estimated at 3,000 pairs - is less than once feared.

Dwyer also said the agency's environmental impact statement failed to take into account the owl protection plan's impact on 32 other species dependent on old-growth forests.

He ordered the agency to devise a new plan, but Deputy Forest Service Chief James Overbay said last month it would take nearly two years to do so.

Sher said the strategy backed by the Forest Service is based on the expectation new habitat will grow for the owl over the next 150 years. He said many of its proposed habitat conservation areas contain only a small amount of actual owl habitat.

Barry Polsky, a spokesman for the American Forest Resource Alliance, praised the administration's effort to lift the ban.

``The judge has gone overboard in shutting down timber sales,'' he said.

AP-TV-08-26-92 1525EDT(+

9/12 12:15 p.m

Christina --

Re acknowledgements. Grady put in acknowledgements in the speech, but CA Advance has no acknowledgements worked out yet. No confirmation on anyone. Haven't heard for sure who's going to be coming.

I'm going to call Hopson back tomorrow and hopefully I'll have some by then. In the meantime -- the ones Grady has in the speech are not confirmed.

— Michele

OFFICE OF
PRESIDENTIAL ADVANCE

COVER PAGE

TO: CAROL AARHUS

FROM: ED COWLING, SAN DIEGO

TOTAL NUMBER OF PAGES: 3
(including cover page)

DATE: 9/12/92

TIME: 12:30 PM

MESSAGE:

THE ATTACHED WAS DONE BY JIM WHALEN OF THE NEWLANDS CORP (PROPERTY DEVELOPER PARTICIPATING IN NCCP) AS SUGGESTIONS FOR SPEECH FOR MONDAY MORNING

IF YOU HAVE ANY QUESTIONS OR PROBLEMS WITH THE TRANSMISSION PLEASE CALL.

TELEPHONE NUMBER:

CAROL AARHUS
456 - 6218

NOTES ON RANCHO PENASQUITOS SPEECH

9/12/92
JIM WHALEN

(I do not mean to be so presumptuous to predict what you want the President to discuss, but I offer the following as a general direction, with appropriate facts interspersed.)

-Introduction-

Welcome... to the ranch house of the Rancho de los Penasquitos, one of the oldest houses in San Diego County (early 1800's)

It is appropriate that I come here to the Penasquitos (pronounced Pen-ya-skee-toes) Preserve to address the enrollees and supporters of the Natural Communities Conservation Planning program, since the Preserve itself is an example of the sort of partnership between the public sector and landowners that the NCCP hopes to foster.

Twelve years ago, when the original 1,800 acres of the Preserve were dedicated to the City of San Diego, people didn't talk very much about the importance of retaining large blocks of wildlife habitat. It may have been intuitively obvious, but at the time there was nowhere near the emphasis on ecosystem-based planning that we are seeing today. Nevertheless, the City's farsighted agreement with the landowner, NEWLAND, led to the saving of Penasquitos Canyon, and has permitted continuous additions of land over the years, so that now the Preserve now has over 2,500 acres in six-mile length and is the centerpiece of a major wildlife area.

The Natural Communities Conservation Planning program represents the realization that sometimes adversarial interests can reach a common goal, once each side acknowledges the genuine needs of the other. Conservation of wildlife habitat and economic development do not have to be mutually exclusive.

While not without its detractors from the extremes of both sides, the NCCP is the first program of its kind in the United States which promises to resolve the stalemate of Endangered Species protection. Whole ecosystems of coastal sage scrub will be preserved, with wildlife corridors stretching from the Pacific Ocean to the Cuyumaca (pronounced Koo-yoo-mah-cah) Mountains.

In slightly over a year, landowners and cities in San Diego, Orange and Riverside have <u>voluntarily</u> enrolled hundreds of thousands of acres of land, promising to delay development for the duration of the eighteen-month planning period to permit the design begin the formation of wildlife preserves.

The cooperation and compromise which inspire the NCCP are the glue which holds an admittedly difficult process together, and none of

the participants will get everything they want. But the success of the program will be measured by the permanent protection of Southern California's unique wildlife, from the mountain lion to the California gnatcatcher. It will allow economic development to proceed with a certainty that would have been denied by the listing of the gnatcatcher and the scores of other sensitive species. It will minimize the controversy associated with development because ocnservationists will be able to know that the coastal sage ecosystem is protected.

(Body of speech from Andy McLeod's piece (Resources Agency) drafted several weeks back, and I believe, already in your hands.)

Remarks on the 300 acres:

The so-called Park Trade is a further testament that conservation and development interests can meet in the middle to serve both sides' interests. When the voters of the City of San Diego approved the trade of a parcel of City-owned land, surrounded by future development and next to a freeway, for 300 acres of prime wildlife habitat owned by NEWLAND, they were confirming, once again, the wisdom of regional open space planning.

Instead of the piece-meal acquisition of postage stamp-sized open space, a large block of land rich with rare plants and animals will be added to the Penasquitos Preserve. The developer will also provide nearly two million dollars to go towards enhancing the Preserve and will get good land for development in return. Everybody, conservationists, the landowner, and general public, benefits from this innovative trade. This smart transaction is exactly the sort of thing the NCCP hopes to foster. Other landowners are engaged in similar efforts, such as the Irvine Company's sale of thousands of acres of land in Laguna Beach to the people of Laguna Beach.

When the 300 acres of land is added to the Preserve, a crucial wildlife corridor to the north will be permanently protected from development, and another piece in the puzzle will be placed. Several pairs of gnatcatchers will keep their homes.

TO:BOB GRADY
FROM:CONGRESSMAN BILL LOWERY
RE:COASTAL SAGE SCRUB MULTISPECIES HABITAT PLANNING INFO
DATE:SEPTEMBER 10, 1992

BACKGROUND

*** The California gnatcatcher, whose habitat is coastal sage scrub, is a 4-inch long bird noted for its kitten-like mewing

*** The National Resource Defense Fund petitioned the U.S. Fish and Wildlife Service to emergency list the California Gnatcatcher as an endangered species

+ On September 17, 1991, the Fish & Wildlife Service proposed listing the bird as endangered

+ Under the Endangered Species Act final action must be completed within a year from the date of proposal

*** San Diego County alone has 100,000 to 120,000 acres of coastal sage scrub and an additional 250,000 acres exist north of the county and in Baja, California

+ Listing of the bird could prohibit all development in the habitat in San Diego County

*** According to a study released by the Building Industry Association of Southern California, listing the bird as endangered would result in:

the loss of as many as **212,000 jobs**

and more than **$20 billion in business activity and earnings**

*** California Fish & Game Commission denied petition of endangered status for gnatcatcher on Aug. 30, 1991, because of ongoing efforts by the state and property owners to protect the bird's habitat

FEDERAL AND STATE EFFORTS

*** Lowery requested $600,000 (which was approved) in the Interior Appropriations Bill for fiscal year 1992 for the USF&W's Laguna Niguel field office to evaluate and process plans for multi-species habitat conservation plans being developed for coastal sage scrub areas of Southern California

+ For 1993, Lowery won approval of $400,000 for San Diego and $200,000 for Riverside County for coastal sage scrub habitat conservation plans in the House-passed Interior Appropriations Bill for fiscal year 1993

*** The State of California has developed the Natural Communities Conservation Program (NCCP) which seeks to bring together a coalition of public and private land owners in order to develop a regionwide plan to protect coastal sage scrub habitat (Further information on NCCP attached)

GENERAL TALKING POINTS

*** To prevent people from running roughshod over their environment, Congress enacted legislation in the 1970's to protect endangered species. The Endangered Species Act (ESA) is as important and vital today as it was then.

+ However, no law exists in a vacuum.

*** Theoretically, laws exist to provide structure to the relationships between people and between people and their environment, granting both parties certain rights and protections.

*** The Endangered Species Act provides that if a proposed project is likely to jeopardize an endangered species or its habitat, the applicants for the project must consult with the U.S. Fish and Wildlife Service in order to minimize the project's impact on the species.

+ Unfortunately, this consultation process only takes into account the rights of the species, not of the people proposing the project.

*** The need to balance environmental conservation and development in Southern California has become abundantly clear over the last decade.

*** The dedication and work by local municipalities and property owners in addressing the need to preserve the Gnatcatcher habitat has been unprecedented and impressive.

*** I have supported efforts in the past to develop and implement habitat conservation plans for specific species which have been listed as endangered --- with the success of these projects I applaud recent efforts to develop a multiple species conservation plan for Southern California.

For further information contact Jean Gingras with Congressman Lowery at 225-3201.


SCRAP
A CLEAN AIR INITIATIVE FROM UNOCAL

PROBLEM: L.A.'S POLLUTED AIR

On most days, the people of Los Angeles breathe the dirtiest air of any community in America. As the city's battle with smog enters its fifth decade, increasing attention has focused on mobile sources of pollution — automobiles, trucks, and buses — as key contributors to the region's air quality problem.

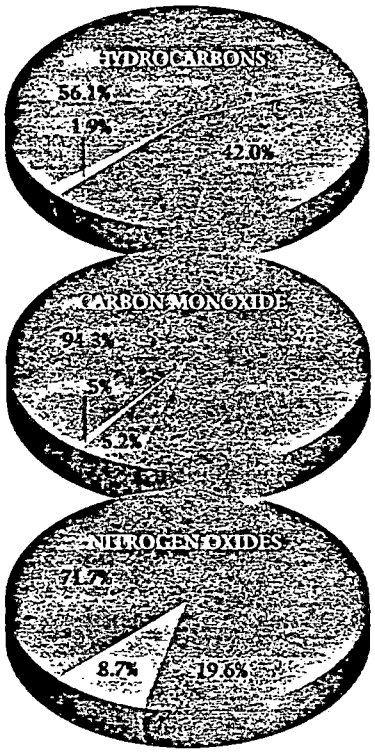
Mobile sources account for about 60 percent of all ozone-precursor emissions (hydrocarbons and nitrogen oxides) in the Los Angeles Basin. Petroleum refineries and electric power plants account for about 5 percent. Other sources (some of which have yet to be regulated) such as dry cleaners, bakeries, and even private homes make up the difference *(Figure 1)*.

Regulatory agencies and private industry have made excellent progress over the years in reducing emissions from large stationary sources. Progress has also been made on mobile sources. In fact, there have been no Stage III smog alerts in the Los Angeles Basin for 20 years, and no Stage II alerts for 6 years. Nonetheless, much more can still be done. While technology has sharply reduced emissions from the tail pipes of late-model automobiles and trucks, nearly 400,000 pre-1971 vehicles — all of which have little or no pollution control equipment — continue to operate on Southern California's streets and freeways.

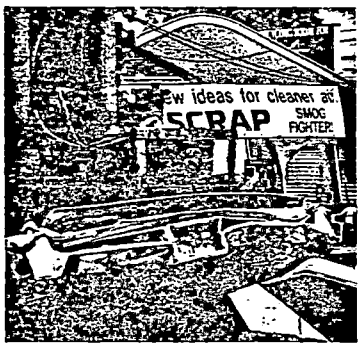
Mile for mile, these old cars are the worst polluters on the road. Although pre-1971 vehicles are a serious source of air pollution — accounting for about 15 percent of all emissions from mobile sources in the L.A. Basin — little has been done about them. Retrofitting these old cars with up-to-date pollution control systems would cost more than many of them are worth.

Figure 1

SOURCES OF EMISSIONS



■ MOBILE SOURCES
■ REFINERIES & POWER PLANTS
■ OTHER STATIONARY SOURCES



Unocal's innovative SCRAP program was launched on June 1, 1990.

UNOCAL'S ANSWER

In mid-1990, Unocal proposed a new approach to the problem. The company announced a demonstration program to eliminate several thousand of these vehicles through a voluntary purchase plan in which Unocal would pay $700 for each car, then turn it over to a

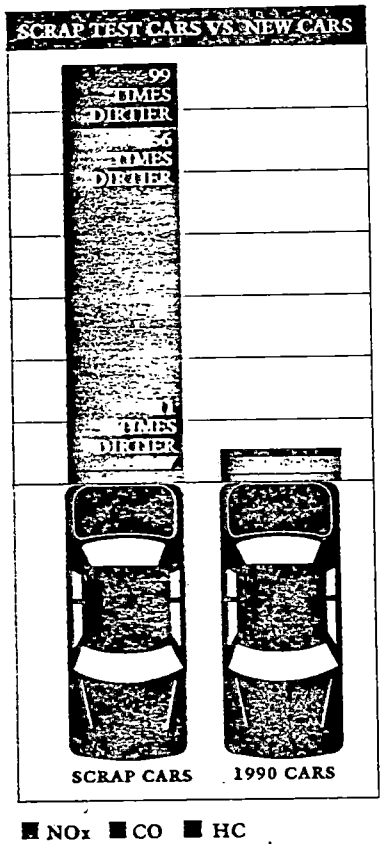
scrap yard to be crushed and recycled.

The benefits of the program would be quick and cost effective — a relatively simple but highly efficient method to improve air quality in a hurry. If successful, it could also encourage other companies to develop their own innovative approaches to improving environmental quality.

Unocal's South Coast Recycled Auto Project — SCRAP, for short — started with a budget of $5 million, enough to purchase and scrap 7,000 cars. The company estimated that taking this many pre-1971 vehicles out of circulation would cut L.A.'s air pollution by about 6 million pounds in the first year alone. SCRAP actually did a lot better than that. For one thing, other people soon joined the effort — more than 100 individuals, plus major firms like Ford Motor Company and Cypress Semiconductor, and regulatory agencies like the South Coast Air Quality Management District (SCAQMD). All contributed additional money for the program, raising the fund to nearly $6 million. Another 1,400 cars could be retired, cutting air pollution that much more.

The average SCRAP vehicle emitted more than 1,500 pounds of pollutants a year — roughly the weight of its scrap metal content.

Figure 2



But the biggest surprise was the final tally on exhaust emissions actually eliminated. Unocal tested the tail pipe emissions of every old car purchased for SCRAP. Early results suggested that these vehicles were far dirtier than air quality models had predicted. As a result, Unocal arranged to have rigorous emissions tests performed on 74 cars selected at random from the SCRAP vehicles. The results were eye-opening: On a per-mile basis, the average hydrocarbon (HC) emissions of the sample group were triple our expectations, and carbon monoxide (CO) was double *(Figure 2)*. Only in emissions of nitrogen oxides (NOx) did cars in the sample group prove "cleaner" than expected, although they were still 11 times dirtier than a 1990 vehicle.

Unocal's SCRAP program actually removed nearly 13 million pounds of pollutants from Southern California's air, or twice as much as projected when the program was launched. From an emissions standpoint, this was the equivalent of removing about 150,000 brand-new cars from the roads.

We also learned that SCRAP vehicles were driven on average 5,500 miles per year or about 90 percent as far as average old cars. Thus,

SCRAP vehicles were driven somewhat less than average but emitted far more pollution than expected.

These pre-1971 cars were among the least energy-efficient vehicles on the road, averaging 12 miles per gallon in city driving, about half the fuel economy of 1990 cars. In fact, had the SCRAP vehicles been sold as 1990 model-year cars, they would have been subject to an average "Gas Guzzler Tax" of $2,500 each!

MAKING IT WORK

On the face of it, buying and destroying 8,400 old cars in a community with nearly 6 million vehicles doesn't seem all that difficult. But SCRAP planners had to deal with several pressing issues before the program could begin.

First of all, what would the owners of such cars do for transportation once their vehicles were scrapped? Would $700 be enough to buy a replacement car? Unocal surveyed the used car market in Southern California and learned that, indeed, many post-1975 cars were priced below $700. What's more, these autos were equipped with smog controls, so that replacement transportation would be not only affordable, but cleaner as well.

Second, Unocal wanted to be sure the cars purchased for SCRAP were in running condition and registered in the Los Angeles Basin for at least six months. In short, SCRAP vehicles had to be part of L.A.'s air quality problem, not someplace else's.

Finally, Unocal had to find a way to speed up the administrative process of scrapping the vehicles. Ordinarily, it takes five to ten days for a scrap yard to complete the paperwork before a car can be legally crushed and shredded in Southern California. With 100 to 150 cars going through the SCRAP program each day, such delays would have required a huge parking area in which to hold the vehicles while they were being processed.

Recognizing the potential value of the SCRAP program, the Department of Motor Vehicles assigned special personnel to the project. These individuals handled the paperwork right at Hugo Neu-Proler's Down-

Unocal Begins Scrapping Older Cars For $700 Each

Unocal started scrapping older vehicles in the Los Angeles area in early June on its way to buying 7,000 of them to improve air quality by getting rid of some of the worst polluters.

The company is paying $700 per vehicle, which is proving to be a very attractive offer to holders of 1970 and older vehicles. As the program began, nearly 6,000 owners of qualifying vehicles had already made ap-

Top: An attendant conducts an emissions test on a SCRAP vehicle; bottom: Old cars are checked in at the scrap yard.

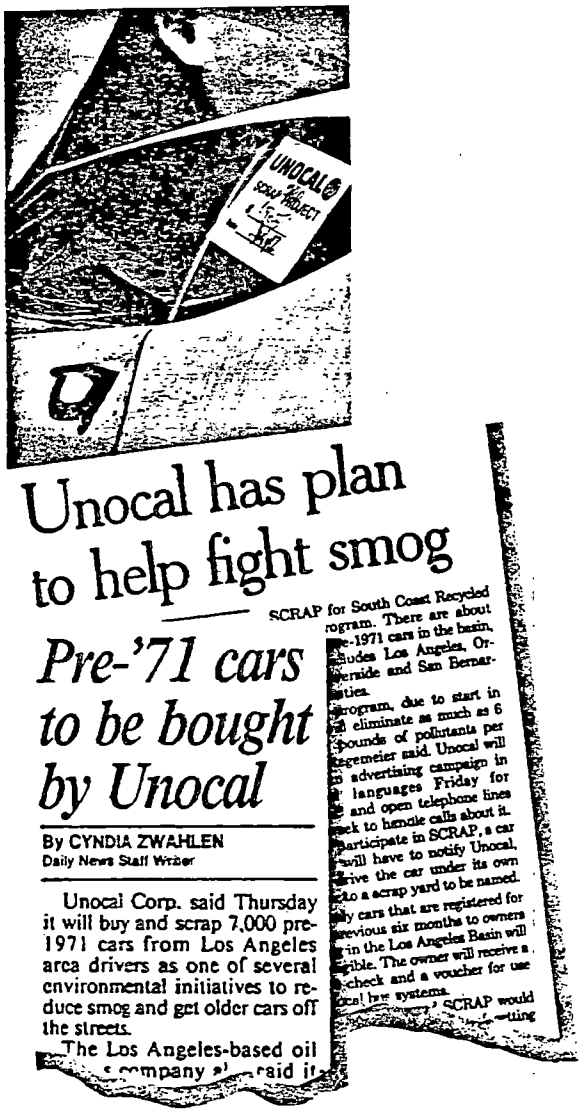
town Los Angeles Metal Center, where the cars were crushed, cutting processing time down from several days to a few minutes.

SCRAP TAKES OFF

With these questions resolved, the program was announced in late April of 1990, and Unocal began taking phone calls on May 2. The response was immediate. More than 3,000 calls were received the first day, and within two days 1,500 old cars were registered in the program. Eventually, appointments were made to scrap nearly 8,400 vehicles, and at times the waiting list grew to 2,000.

Unocal made it as easy as possible for qualified car owners to turn in their vehicles. Each caller was given a date and time to bring in the car. Checks to the sellers were then pre-printed. If the cars were delivered as promised, and the other conditions were met, the $700 checks were handed over at once. The company made a special effort to avoid scrapping classic cars and other valuable vehicles.

A few owners found it difficult parting with cars that had been with them for decades. Others pocketed their checks and walked away smiling. Some changed their minds and failed to keep their appointments at the scrap yard.



Unocal has plan to help fight smog

Pre-'71 cars to be bought by Unocal

By CYNDIA ZWAHLEN
Daily News Staff Writer

Unocal Corp. said Thursday it will buy and scrap 7,000 pre-1971 cars from Los Angeles area drivers as one of several environmental initiatives to reduce smog and get older cars off the streets.

The Los Angeles-based oil company also said it

SCRAP for South Coast Recycled ...rogram. There are about ...e-1971 cars in the basin, ...ludes Los Angeles, Or... ...erside and San Bernar... ...ties.

...program, due to start in ...ll eliminate as much as 6 ...pounds of pollutants per ...tegemeier said. Unocal will ...n advertising campaign in ... languages Friday for ... and open telephone lines ...k to handle calls about it. ...participate in SCRAP, a car ...will have to notify Unocal, ...rive the car under its own ...to a scrap yard to be named. ...y cars that are registered for ...previous six months to owners ...in the Los Angeles Basin will ...ible. The owner will receive a ...check and a voucher for use ...cal ... systems.

... SCRAP would ... getting

Top: All cars were numbered in sequence as they were received; opposite: Richard J. Stegemeier, Unocal chairman, president and CEO, is a leading proponent of cost-effective, market-based solutions to environmental problems.

MEASURING THE RESULTS

Just how dirty were the tail pipe emissions of the 8,376 cars that went through SCRAP? As Unocal launched the program, it was known that pre-1971 cars contribute a disproportionate share of air pollution to the L.A. Basin (*Figure 3*). California Air Resources Board (CARB) data led the company to expect the typical pre-1971 car to pollute 15

Figure 3

FLEET PROFILE: L.A. AREA

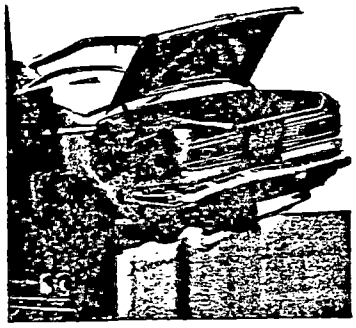
	PRE '71	ALL CARS	% OF TOTAL
Number Cars, 1000s	380	6,000	6
Number Miles, Millions	2,280	73,278	3
HC, Tons Per Day	57	266	22
CO, Tons Per Day	345	2,275	15
NOx, Tons Per Day	30	234	13

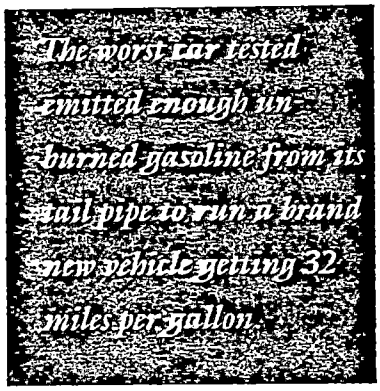
to 30 times more per mile than new vehicles, but nobody was sure how dirty the old cars actually were.

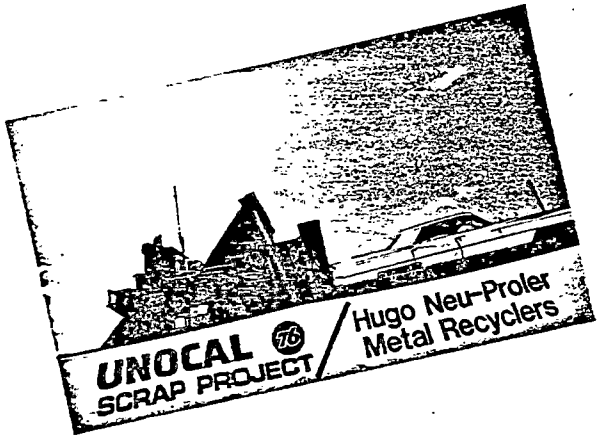
Unocal set out to measure the exhaust emissions at idle for every vehicle purchased. It soon became clear that these cars polluted far more than the average car. In fact, about 20 percent of the vehicles "pegged" (exceeded the measuring capabilities of) the BAR-90 Smog Check machines at 2,000-plus parts per million of hydrocarbon.

Unocal decided to get more definitive data by subjecting a random sample of the cars to the far more sophisticated and rigorous Federal Test Procedure. This test measures emissions under varying speed and load conditions and is the same test used to certify new cars. CARB, an active supporter of this decision, tested 43 cars, while Unocal arranged for 31 to be tested at an independent lab.

Working together, CARB and Unocal have probably amassed the world's best data base on the emission characteristics of old cars. The results showed that the pre-'71 cars were two to three times as dirty as expected — in some categories *more than 90 times dirtier* per mile than a new vehicle.







Top and bottom: SCRAP cars enter the crusher at the Hugo Neu-Proler Company's metal center near downtown Los Angeles.

SCRAP IN HIGH GEAR

By almost any measure, SCRAP was highly successful. It drew praise from such long-term advocates of clean air as Norton Younglove, chairman of the South Coast Air Quality Management District, who said, "Unocal's contribution not only meets the challenge, but also illustrates the commitment and leadership we must all exert to make clean air a reality in Southern California."

Hundreds of individuals wrote or called Unocal in support of the program. Many backed up their praise with financial contributions. The CEO of Cypress Semiconductor, based in San Jose, sent in the first check for $700 with the comment, "Buy and bury one for us, too." Ford Motor Company contributed enough money to scrap an additional 1,000 cars, the SCAQMD donated $100,000, and the Southern California Ford and Lincoln-Mercury Dealers Association, another $63,000.

Others provided incentives of their own. First Interstate Bank set up a special loan program for SCRAP participants, offering lower interest rates and longer repayment terms on some new and used vehicles. Ford offered participants special rebates on new cars.

Government agencies also caught the spirit by cutting red tape and providing personnel and equipment for clearing auto registrations and conducting smog tests. The California Air Resources Board laboratory tested emissions from SCRAP vehicles, the Bureau of Automotive Repair researched odometer readings, and the Department of Motor Vehicles provided on-site personnel and computers.

THE IMPLICATIONS OF SCRAP

The success of SCRAP brought renewed attention to innovative approaches to environmental problems. In particular, it highlighted the opportunity for regulators to create conditions that would make programs like SCRAP economically feasible for many companies in the Los Angeles Basin. The device that could make this work is called an "offset," and regulators began viewing it with renewed interest in the wake of SCRAP's results.

Offsets are credits that companies could receive for cleaning up air pollution from mobile sources — air pollution caused by some other organization or individual. These credits could temporarily offset the same amount of the company's own pollution "debt" (i.e., emissions from its own stationary sources).

Offsets would not necessarily cancel a company's pollution debt; they might simply defer it, providing time to explore more cost-effective technologies and systems for cleaning up the air.

Through a program of innovative offsets supplementing the existing regulatory framework, companies and public agencies could be encouraged to focus their efforts on the most cost-effective and immediate environmental programs. Properly used, offsets could accelerate the cleanup process, get the easiest (and often worst) causes of smog cleaned up first, and save money for the consumer, who ultimately pays the cost of pollution abatement and control.

Each year for the first three years the total emissions eliminated by crushing the 8,376 cars in SCRAP equal...

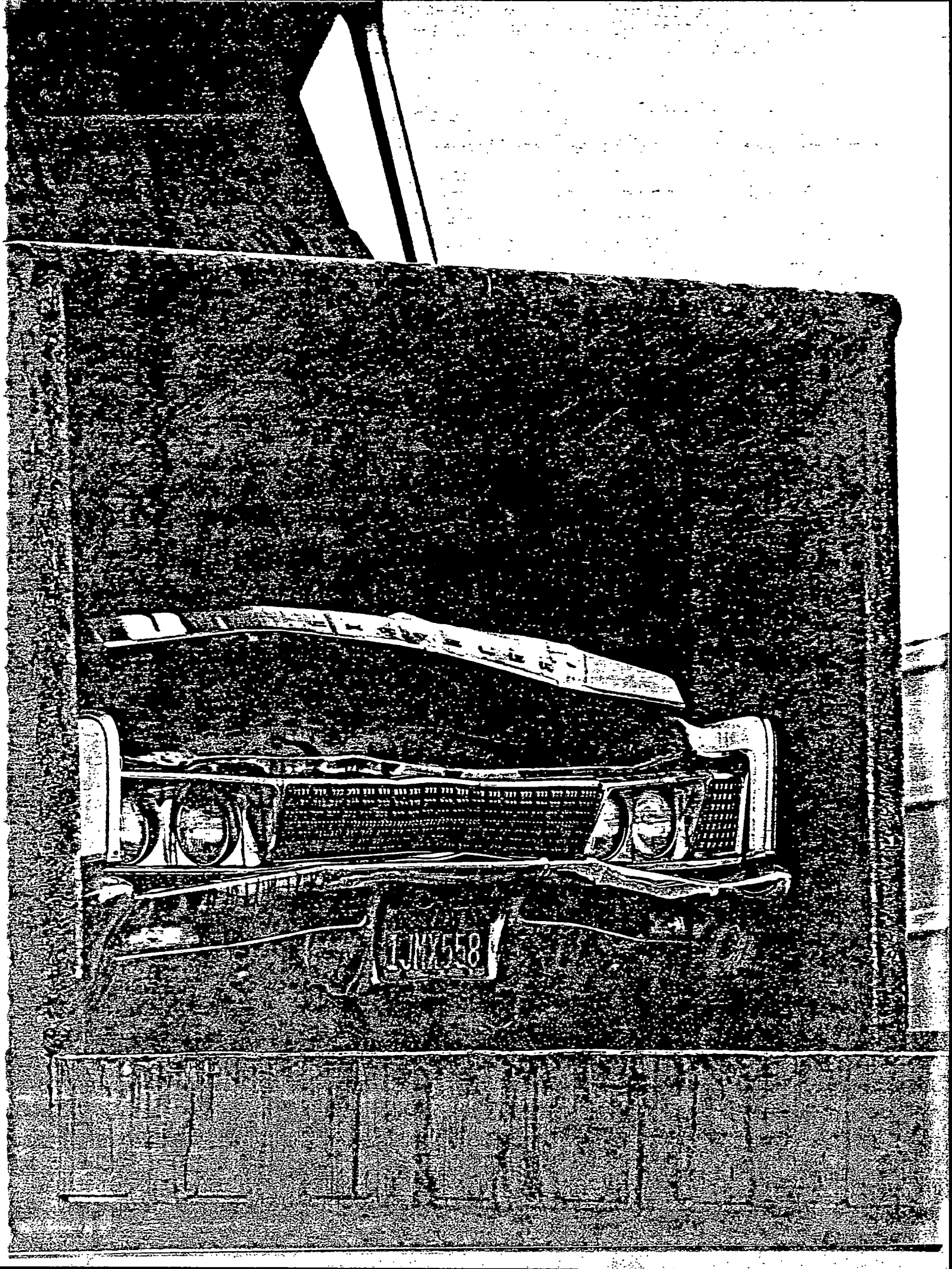
the total emissions of 150,000 brand new cars

the total emissions from 1 million gallons of oil-based paint

over half the CO emissions from all the refineries and power plants in the L.A.Basin

all of the hydrocarbon emissions of all barbecue lighter fluids in the L.A.Basin

Unocal Chairman Richard J. Stegemeier describes the SCRAP program at the kickoff press conference.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SCRAP: TEST RESULTS IN DETAIL

Unocal's SCRAP program removed 8,376 pre-1971 vehicles from Los Angeles area roads between June 1 and September 29, 1991. As a result, 12.8 million pounds of potential air pollution (hydrocarbons, carbon monoxide, and nitrogen oxides) were removed from L.A.'s air each year.

Most of the vehicles scrapped were large American cars: 60 percent had eight-cylinder engines and 24 percent had six-cylinder engines. The balance were smaller foreign cars (*Figure 4*). Eleven percent of the vehicles were trucks and vans.

The Federal Test Procedure. Unocal, working closely with the California Air Resources Board, selected 74 of the SCRAP cars for intensive emissions testing. Forty-three vehicles were tested at CARB facilities, and 31 were tested at an independent laboratory. Each car was put on a chassis dynamometer and run through the standard Federal Test Procedure (FTP).

The FTP is the same test procedure used with new cars to demonstrate that they meet mandated emissions levels. The procedure involves a series of driving cycles performed on a chassis dynamometer, which allows a vehicle to be tested at speed and under load conditions.

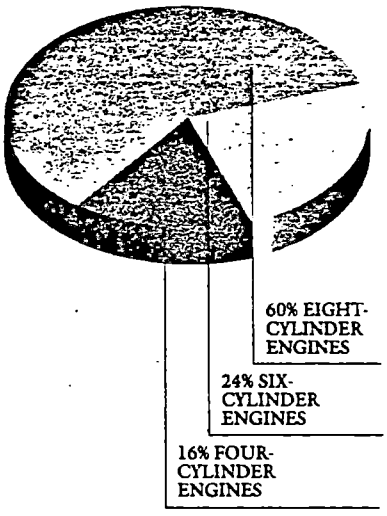
The first and third cycles are identical, except that the first cycle begins with a cold start. Simulated speeds range up to 60 miles per hour. The second cycle is a low-speed test involving simulated "stop and go" city driving.

In relatively new cars, most of the emissions are collected in the cold start phase before the catalyst warms up to operating temperature. The SCRAP vehicles, however, produced substantial emissions under virtually all driving conditions.

The FTP test results for all 74 cars are summarized in *Figure 5* on page 10. These findings were then compared with projected emissions based on the Motor Vehicle Emissions Factor (EMFAC 7D) modeling

Figure 4

VEHICLES SCRAPPED



Opposite: The crusher goes to work on an old car.

Figure 5

FTP CVS-75 TEST RESULTS — 74 CARS

	GRAMS / MILE				"CITY" MILES PER GALLON
	HC	CO	NOX	PM-10*	
'67 MERCURY COUGAR	17.5	16.6	3.28		13.4
'70 CHRYSLER IMPERIAL	6.7	129.4	1.77		8.9
'68 BUICK SKYLARK	14.6	87.2	1.13		12.8
'69 MERCURY COUGAR	15.0	250.2	0.57		10.1
'66 FORD GALAXY	6.7	123.7	2.04		12.2
'70 CHEVROLET NOVA	2.0	22.2	2.76		15.2
'69 CHEVROLET MALIBU	8.6	118.0	2.35		8.5
'67 CHEVROLET CHEVELLE	4.3	52.4	3.91	0.26	11.7
'67 AMC RAMBLER	9.6	151.0	1.26	0.20	14.1
'64 PLYMOUTH FURY	51.3	90.6	3.59	16.76	10.4
'70 FORD WAGON	4.9	63.7	4.26	0.29	10.0
'67 PONTIAC TEMPEST	31.4	62.4	5.51	0.44	12.7
'65 DODGE POLARA	27.5	68.5	4.05	0.20	10.5
'66 FORD RANCHERO	8.3	67.3	1.47	0.69	14.0
'68 DODGE DART	3.2	66.7	4.19		16.6
'67 CHRYSLER NEWPORT	18.1	163.4	2.63		9.8
'65 PONTIAC TEMPEST	7.5	111.7	2.97		13.2
'69 BUICK ELECTRA	2.8	46.1	3.81		10.9
'70 FORD MAVERICK	5.3	125.4	0.99		15.4
'68 TOYOTA CORONA	3.8	78.4	3.56		18.2
'70 PONTIAC LEMANS	87.4	126.8	4.35		7.2
'70 FORD CORTINA	10.8	163.7	0.45		14.7
'68 FORD FALCON	4.6	50.6	5.72	0.22	14.0
'70 BUICK ELECTRA	6.4	104.1	2.82	0.12	9.7
'68 MERCURY MONTEREY	5.1	54.3	2.98	0.18	9.6
'65 CHRYSLER NEW YORKER	8.1	132.8	0.89	0.20	10.6
'64 BUICK SKYLARK	31.2	56.9	3.03	0.61	13.1
'66 CADILLAC DEVILLE	2.2	26.0	3.41	3.45	9.2
'70 FORD MAVERICK	2.1	12.0	3.27	0.14	15.2
'70 CADILLAC DEVILLE	39.4	135.3	0.93	0.10	8.4
'69 BUICK WILDCAT	3.9	52.9	4.01		10.0
'69 DODGE CORONET	5.5	70.3	3.34		14.2
'70 PLYMOUTH FURY	10.6	149.7	2.29		9.8
'64 PLYMOUTH VALIANT	66.9	76.3	3.59		12.9
'69 VOLKSWAGEN BEETLE	3.8	41.6	1.04		21.0
'67 VOLKSWAGEN BEETLE	7.1	71.7	1.16		22.2
'70 BUICK LESABRE	13.3	126.4	1.60	0.81	10.8
'66 BUICK SKYLARK	39.8	128.5	1.36	0.50	9.4
'71 FORD LTD WAGON	6.0	48.0	6.62	0.37	10.5
'65 OLDSMOBILE F-85	8.6	117.5	1.92	0.43	10.5
'69 CADILLAC DEVILLE	3.7	34.6	3.19	0.97	8.3
'70 VOLVO	51.5	101.5	1.45	0.65	10.8
'70 FORD LTD	28.4	22.0	3.96	7.74	9.0
'69 DODGE DART	3.7	43.9	7.34	0.45	16.1
'67 FORD MUSTANG	5.1	57.4	1.87		18.3
'68 MERCURY MONTEGO	4.4	79.2	1.72		12.5
'70 CHEVROLET NOVA	4.3	58.4	2.15		16.0
'68 FORD FALCON	11.1	77.0	2.72		14.9
'68 BUICK SPECIAL	65.5	88.4	4.87		10.4
'70 CHRYSLER IMPERIAL	6.0	144.1	1.58		9.9
'67 TOYOTA CORONA	3.8	24.5	2.56		20.8
'70 FORD MAVERICK	4.8	112.6	1.28	0.59	16.2
'70 DODGE DART	51.6	169.2	0.86	0.95	11.4
'70 TOYOTA CORONA	16.8	76.6	2.39	0.28	16.4
'69 CHEVROLET IMPALA	49.7	67.4	2.87	1.01	10.9
'65 CHEVROLET VAN	17.1	79.3	5.49	4.37	11.8
'67 BUICK SPECIAL	20.7	210.5	0.29	2.86	9.1
'63 DODGE DART	5.8	77.2	5.72	0.57	13.1
'69 CHEVROLET IMPALA	14.9	82.9	2.51	0.47	9.6
'68 AMC RAMBLER	3.8	45.6	3.16		17.4
'66 FORD FAIRLANE	80.7	123.5	1.32		9.2
'70 TOYOTA CORONA	3.6	44.0	4.25		22.0
'70 FORD MUSTANG	9.5	80.4	2.34		16.6
'68 CHEVROLET IMPALA	37.3	110.6	5.81		10.0
'70 LINCOLN CONTINENTAL	5.1	15.4	6.64		11.9
'67 DODGE DART	8.6	160.7	0.85		14.3
'62 PONTIAC TEMPEST	5.0	62.6	3.88		16.9
'70 FORD LTD	13.7	72.7	7.06		10.8
'70 FORD MAVERICK	3.1	22.2	3.39		13.3
'70 CHEVROLET IMPALA	32.2	71.9	3.72		11.6
'70 BUICK SKYLARK	2.4	20.8	2.52		11.5
'68 VOLVO WAGON	4.4	32.8	3.07		18.3
'70 TOYOTA COROLLA	11.4	87.1	0.82		22.1
'65 FORD	3.5	41.3	4.73		14.8
AVERAGE	16.3	84.3	2.96	1.51	12.1

*Only 31 vehicles were tested for particulate emissions.

program used by CARB, as shown in *Figure 6*.

Hydrocarbon emissions from the SCRAP vehicles were 99 times greater than from a 1990 car. That is nearly three times what had been expected: 24.8 grams per mile (actual) versus 8.3 grams per mile (projected) for the typical pre-1971 car.

Figure 6

FTP TEST RESULTS VS. PROJECTIONS (GRAMS PER MILE)

SCRAP test results	HC	CO	NOx	PM10
FTP Results	16.28	84.3	2.96	1.51
Adjustments*	8.49	16.5	−0.02	—
"IN-USE" Emissions	24.77	100.8	2.94	1.51
Air quality model EMFAC-7D				
66-70 Cars	8.34	50.1	4.39	0.54**
1975 Cars	3.88	23.4	2.53	0.30**
1990 Cars	0.25	1.8	0.27	0.21**

* To reflect non-tail pipe emissions and scale to 16 mph. ** Includes particulates from tire wear.

The FTP results for SCRAP vehicles actually understate the true emission levels. First, they include tail pipe emissions only. Typically, evaporative emissions would add another 4 to 5 grams of hydrocarbon emissions per mile, while running losses would add another 1 to 2 grams per mile. That is why the FTP results were adjusted in *Figure 6* (using EMFAC model methodology) to reflect total "in use" emissions. As a result, total hydrocarbon emissions from SCRAP vehicles were nearly 100 times greater than HC emissions from a brand-new car. Carbon monoxide emissions were more than 50 times greater.

Individual test results varied widely. The worst 10 percent of the cars contributed 40 percent of the HC emissions (*Figure 7*), about 20 percent of the CO emissions (*Figure 8*), and 20 percent of the NOx emissions (*Figure 9*).

The FTP results may be conservative because the cars selected for

Figure 10

EMISSION TESTS AT IDLE

	NUMBER CARS	HC (PPM)	CO (%)
FTP Vehicles	74	842	3.8
All SCRAP Vehicles*	8,335	1,014	3.6
Difference		172	0.2

*Excludes cars with bad exhaust systems.

Figure 7

SCRAP HC EMISSIONS

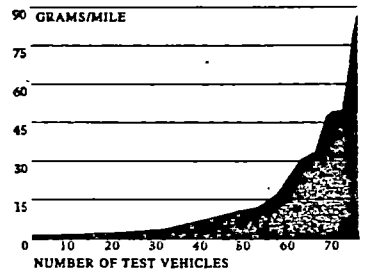


Figure 8

SCRAP CO EMISSIONS

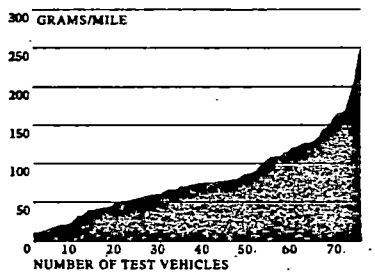
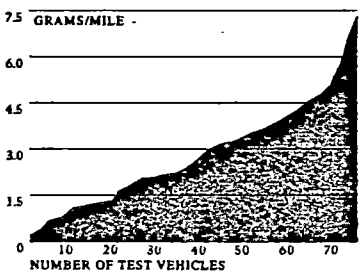


Figure 9

SCRAP NOx EMISSIONS



testing were somewhat cleaner than the average SCRAP vehicle at idle, as shown in *Figure 10* on page 11. In addition, 65 percent of the cars examined for FTP testing were rejected because of leaky exhaust systems, excessive smoke, or other problems.

Figure 11

HOUSEHOLD INCOME DISTRIBUTION

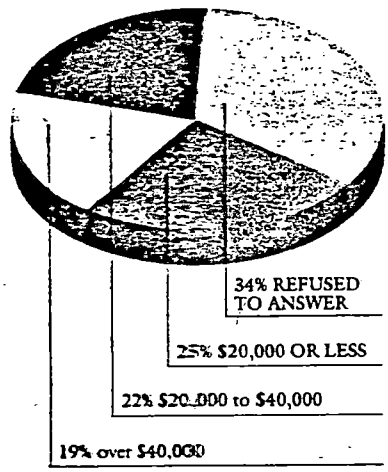
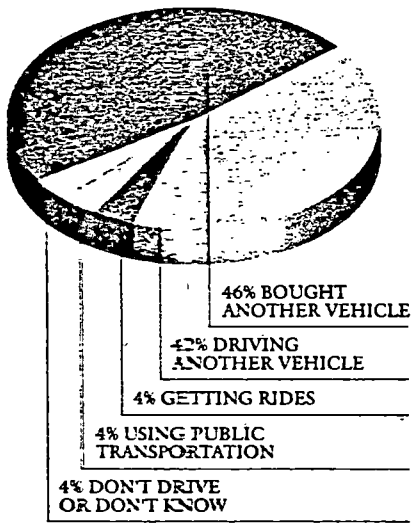


Figure 12

TRANSPORTATION ARRANGEMENTS AFTER SCRAP



THE FOLLOW-UP SURVEY

To discover more about the impact of SCRAP, Unocal asked Fairbank, Bregman & Maullin, Inc. (FB&M) — an independent public opinion research company — to contact a sample group of SCRAP participants after the program was over. In January 1991, FB&M conducted telephone interviews with more than 800 individuals.

The demographics of the SCRAP participants generally reflected the population of the South Coast Air Basin. However, SCRAP participants were on average somewhat older, much more likely to be male, and reported 15 percent less household income (*Figure 11*). Of SCRAP participants interviewed, nearly half were employed full time, 24 percent were retired, 10 percent were employed part time, 8 percent were unemployed, and the rest were homemakers or students, or they refused to answer the question. Sixty-two percent identified themselves as white, 25 percent as Hispanic or Latino, and 8 percent as black.

Eighty-eight percent of respondents indicated that they were using their old cars before putting them into the SCRAP project. Half the respondents were driving their cars every day, and 29 percent were driving their cars at least a few times per week. Sixty-five percent used their cars primarily to commute to work, and the rest either to run errands or go to school.

Forty-six percent of the principal drivers of the cars sold to SCRAP bought another vehicle, 42 percent were using another car, 4 percent were getting rides, and 4 percent were using public transportation (*Figure 12*). Of those driving replacement vehicles, more than 80 percent were behind the wheel of a newer (1975 or later), less polluting car. The net result: Cleaner air for Los Angeles.

For More Information...

Unocal welcomes questions and comments on SCRAP and other environmental issues. Please write to:

Corporate Communications
Unocal Corporation
P.O. Box 7600
Los Angeles, CA 90051

Printed on recycled paper

Unocal Corporation
1201 West 5th Street, P. O. Box 7600
Los Angeles, California 90051

UNOCAL 76

August 19, 1991

Richard J. Stegemeier
Chairman, President and
Chief Executive Officer

Mr. Richard G. Darman
Director
Office of Management and Budget
Old Executive Office Building
17th Street & Pennsylvania Ave., N.W,
Washington, DC 20503

Dear Mr. Darman:

Enclosed is a brochure, which explains Unocal's South Coast Auto Recycled Project (SCRAP). The program, which demonstrated an innovative and relatively inexpensive way to quickly and effectively reduce air pollution and conserve fuel, was immediately recognized as a success. The California South Coast Air Quality Management District contributed funds to expand the program and included concepts from the program in its 1991 Air Quality Management Plan. Also, Ford Motor Company, Cypress Semiconductor and other companies made contributions that expanded the program.

Under SCRAP, Unocal purchased over 8,000 pre-1971 automobiles and scrapped them. Tests on these cars indicated that hydrocarbon emissions were 99 times greater per mile than from a 1990 vehicle. In fact, one car emitted such a volume of hydrocarbons, a new car could run on the amount of unburned gasoline contained in the exhaust. Furthermore, the cars only averaged 12 miles per gallon in city driving, about half the mileage of a 1990 car. The air quality improvements and fuel savings were not only substantial but immediate.

I think you will find the information interesting and helpful in considering ways to improve air quality. If you have any questions or need additional information, please do not hesitate to contact our Washington, D.C. office at (202) 659-7600. Tom Hairston, our local vice president, or any of his staff will be pleased to assist you.

Sincerely,

R J Stegemeier

Enclosure

36748

Option: Accelerated Scrappage of Older Cars

Discussion: Older vehicles have lower fuel economy and higher emissions than new cars. Efficient operation of the market is hampered by:

tough emission standards for new vehicles and ineffective emission standards for old vehicles; and

externalities associated with petroleum consumption.

Government purchase and scrappage of these cars would decrease oil use and emissions. Unocal, Ford, and others have implemented a pilot program in L.A. Program involves purchase and immediate scrappage of designated model year vehicles that are currently registered and operated.

PROS: Would reduce HC emission by 200 - 300 thousand tons; 1.8 - 2.3 million tons NO_x; 80 thousand tons of CO and 4.8 - 6.9 tons of CO_2. The value of these reductions (excluding CO_2) is $0.9 billion - $1.2 billion.

Would reduce oil use by 10 mb/d - 15 mb/d between 1990 and 1994.

Relies on market mechanisms.

Slight increase to automobile sales.

Program estimated to be cost effective at today's gasoline prices.

CONS: Estimated program cost = $1.5 billion - $2.5 billion.

Requires effective administration at State and local governments to be effective and free of abuse.

ACTION REQUIRED AND BY WHOM: Various options exist to implement this program. Legislation providing Federal funds for a nationwide program could be established under DOE, EPA, or DOT authority. Alternatively, EPA could encourage programs in nonattainment areas through State implementation plans. Federal matching funds could also be provided. Lastly, Federal leadership could encourage private, State and local efforts as are occurring in L.A. Greatest benefits would result from a Federal funded national program. Most cost effective approach may be to rely on private efforts.

b. Size of program: Two million cars scrapped, as described in section 2.

c. Duration of program: One year.

d. Vehicle miles removed: Based on the MOBILE4 model estimate of vehicle miles travelled by the average vehicle in each model year, times the remaining life of the average scrapped car.

e. Remaining vehicle life: Three years. This number is supported by both Unocal's experience, and an estimate from the Department of Energy's Office of Transportation Systems.[1]

f. Gasoline price: Interpolated from the NES reference case prices for 1990 and 1995:[2]

	Reference	Reference - taxes[3]
1991	$1.00/gal	$ .738
1992	1.02	.750
1993	1.04	.768

Gasoline values are used only to calculate a cost-effectiveness figure for CO_2 reductions. They are not necessary for analyzing the main point of the program in the context of the NES, which is fuel conservation. The gasoline consumption reduction cost-effectiveness figures in Tables 1 and 3 can be compared to any gasoline price one chooses.

g. Value of removed emissions: The following cost values, from an analysis of the CAA amendment tailpipe standards done by EPA's Office of Mobile Sources, serve as a proxy for emissions reductions benefits: HC, $3,050/ton; and NO_x, $2,750/ton.[4] The avoided-cost CO value of $300/ton has been used in past EPA analyses, but is not based on the latest CAA amendments. SO_x and PM_{10} reductions are not valued. As they are based on CAA amendment provisions, these figures apply to the entire United States, and are thus conservative when used to analyze a program for non-attainment areas only.

h. Discount rate: All dollar benefits are discounted at 10% per year.

i. Scrappage rate in absence of program: 30%.

---

[1]Communication with M. D. Riehle, Unocal Policy manager, and calculations by Philip Patterson, DOE OTS. Both indicated that the average removed car could be expected to be on the road for longer than three years, but given some uncertainty, this analysis uses three years.

[2]NES EIA Reference Case, Table 3-2.

[3]Taxes are total of federal and state excise taxes as forecast by DRI. Does not include the latest $0.12/gal tax hike proposal.

[4]These are the lower values implied by the less stringent House CAA amendments.

4. Results

4.1 Fuel saved

After subtracting the 30% of cars that likely would have been scrapped without the program, case one saves 697 million gallons of gasoline over three years, an average of 637,000 gallons/day. Case two saves 485 million gallons, an average of 443,000 gallons/day. These savings do not continue into the future, unless the program is run for more than one year. However, its effectiveness decreases with each successive year, as the least efficient cars are removed in the first year.

4.2 Value of fuel saved

	Resource value: Reference - taxes
Case one:	$467 million
Case two:	$325 million

The security value of the reduction, at the NES value of $0.057/barrel:

Case one: $1,351,000
Case two: $ 940,000

The security value was not discounted.

These savings come at the following costs:

Table 1: Gasoline costs, before crediting

Cost per car:	$750	$1050
Case one	$2.15/gal	$3.01/gal
Case two	$3.09	$4.33

4.3 Emissions reductions

A scrappage program reduces criteria air pollution in two ways:

a. By removing older cars from the road, which may have been built before the advent of emissions control regulations, and which likely also have significantly deteriorated emissions control systems.

b. By reducing fuel consumption.

The reduced fuel consumption also reduces CO_2 emissions.

The program will reduce auto emissions by the following amounts over three years:

Table 2: Criteria emissions reductions

	HC	NOx	CO	CO2
Case one	318,000 tons	2,350,000 tons	85,000 tons	6,867,000 tons
Case two	216,000	1,793,000	81,000	4,777,000

4.4 Value of emissions reductions

Total criteria air pollution value:

Case one:	$1,216,990,000
Case two:	$ 906,364,000

After crediting the program with criteria air pollutant reductions, gasoline reduction costs fall to:

Table 3: Gasoline costs, after crediting CO, HC, and NO_x reductions

	Cost per car:	$750	$1050
Case one		$0.41/gal	$1.27/gal
"	, with security benefit	$0.40	$1.27
Case two		$1.22	$2.46
"	, with security benefit	$1.22	$2.46

Crediting the program with all benefits (criteria air pollution reductions, as above, and resource cost of gasoline savings), gives the following costs for carbon reductions:

Table 4: CO_2 costs, after crediting all benefits

	Cost per car:	$750	$1050
Case one		Savings	$ 61/ton
"	, with security benefit	Savings	$ 60
Case two		$ 56/ton	$182
"	, with security benefit	$ 56	$182

Gasoline price would have to fall by almost half for the case one, $750/car CO_2 costs to become greater than 0.

4.5 Effects on new car sales

If the miles added to 1990 cars all go into new cars at 13,000 miles per car, the yearly VMT for new cars, case one causes 22,300 new car purchases, and case two, 27,700 purchases. More conservatively, if the miles added to 1990 cars go into new cars at 100,000 miles/car, the average lifetime mileage, case one causes the purchase of 2,900 new cars, and case two, 3,600. In either case, effects on the new car market and the economy as a whole are small.

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...ed national program. Most
... private efforts.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET

NATURAL RESOURCES DIVISION

FAX COVER SHEET

FAX NUMBER: 395-1067
CONFIRMATION NUMBER: 395-4586

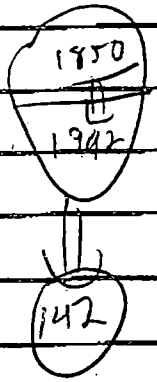
DATE: Sept. 8, 1992

To: Paul Gilman, Program Associate Director

FROM: Ron Landis, Asst. Div. Chief, Natural Resources Div.

Number of pages being transmitted (including cover sheet) 7

COMMENTS: Attached are NRD's comments on the Bush Environmental Record Fact Sheet in response to the request of the Director's Office Support Group on 9-4-92.



WHITE HOUSE STAFFING REQUEST

Subject

THE BUSH ADMINISTRATION AND THE ENVIRONMENT

Date/Time Received: 9/4/92 3:15 PM

RESPONSE DUE: TUESDAY, SEPTEMBER 8 9:30 A.M.

Response due to Director's office Support Group, Room 254, Ext. 3060.
Please respond to every staffing request, even if you have no comment.

Distribution Within OMB

Action		FYI
____	Director	_X_
____	Deputy Director	___
__X__	Dep. Dir./Mgmt.	___
____	Al-Samarrie, A.	___
__X__	Anderson, B.	___
____	Burman, A.	___
____	Dale, E.	___
__X__	Damus, R.	___
____	Gen. Mgmt. Div.	___
__X__	Gilman, P.	___
__X__	Grady, R.	___
____	Hale, J.	___

Action		FYI
__X__	Howard, R.	___
__X__	Legis. Affairs	___
____	MacRae, J.	___
____	Martin, B.	___
____	Mazur, E.	___
____	Murr, J.	_X_
____	Rockefeller, N.	_X_
____	Scully, T.	___
____	____ (Other)	___

Comments:

Document No. 348487

WHITE HOUSE STAFFING MEMORANDUM

DATE: 09/03/92 ACTION/CONCURRENCE/COMMENT DUE BY: 10:00 a.m. 09/08

SUBJECT: THE BUSH ADMINISTRATION AND THE ENVIRONMENT

	ACTION	FYI		ACTION	FYI
VICE PRESIDENT	☐	✓	MCBRIDE	☐	☐
BAKER	☐	✓	MOORE	✓	☐
SCOWCROFT	☐	☐	MULLINS	✓	☐
DARMAN	✓	☐	PETERSMEYER	☐	☐
BATES	☐	☐	PORTER	✓	☐
BRADY	☐	✓	PROVOST	☐	☐
BROMLEY	✓	☐	ROSS	✓	☐
CALIO	✓	☐	SMITH	☐	☐
DEMAREST	✓	☐	TUTWILER	☐	✓
FITZWATER	☐	✓	ZOELLICK	✓	☐
GRAY	✓	☐	CURTIS	☐	✓
HOLIDAY	✓	☐	_____	☐	☐
HORNER	☐	☐	_____	☐	☐

REMARKS:

Please provide any comments directly to Dale Curtis, Rm. 154, x5750, no later than 10:00 a.m. on Tuesday, 09/08, with a copy to this office. Thanks.

RESPONSE:

PHILLIP D. BRADY
Assistant to the President
and Staff Secretary
Ext. 2702

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
WASHINGTON, D.C. 20503

Michael R. Deland
Chairman

(202) 395-5080

92 SEP 3 P6:19

September 3, 1992

MEMORANDUM TO PHIL BRADY

FROM: MICHAEL DELAND Dale Curtis for MRD.

RE: BUSH ENVIRONMENTAL RECORD FACT SHEET

Attached is a very concise, updated summary of the President's environmental record, plus initiatives that have been cut, delayed or rejected by the Congress.

As you know, CEQ prepares and distributes this material on a regular basis to Administration officials and the public. These facts and figures have been closely checked for accuracy by my staff and are are drawn from previously cleared documents including the Sequoia fact sheet, UNCED statements and fact sheets, the President's Earth Day statement, the FY93 budget message, and the CEQ annual report.

I'd suggest that this be circulated for clearance as soon as possible so that we are all prepared to support continuing forays by the President, Vice President, and surrogates on this subject.

Comments may be directed to Dale Curtis on x5750, Room 134, who will prepare the fact sheet in final form for your sign-off.

Thank you.

Attachment

THE BUSH ADMINISTRATION AND THE ENVIRONMENT

The Bush Administration has expanded environmental protection both domestically and internationally. Highlights of that record illustrate an innovative, wide-ranging agenda.

54

Budgets: Major funding shifts to environmental protection, including a ~~82~~ percent increase for EPA's operating budget and 66 percent more for clean energy R&D

Enforcement: Made law enforcement history, filing more cases, collecting more penalties, and putting more polluters behind bars than in EPA's previous 18-year history combined

Clean air: Broke a 10-year Congressional gridlock by proposing, signing, and implementing the world's most protective and innovative Clean Air Act

over

Parks and recreation: Secured $750 million to expand parks, wildlife refuges, campgrounds, trails, and rivers -- $300 million more requested for FY93

- Reopened or upgraded dozens of recreational areas
- 20 new national park units, 57 new wildlife refuges
- Sport fishing investments up 47 percent

Forests and Agriculture:

- Ended clear-cutting as a standard practice on federal land
- Planted 225 million trees under new program to assist planting by communities and individuals
- Proposed a worldwide forest protection treaty and a doubling of international aid for forest conservation
- Approved new Farm Bill programs to reduce wetlands loss and water pollution

basil validate

Coasts and Oceans:

- Ended ocean dumping ~~and medical waste on beaches~~ of sewage sludge
- Signed a tough, effective oil pollution bill
- Imposed 10-year moratorium on oil and gas leasing off the West Coast, south Florida and New England
- Increased clean water grants for 6 cities in greatest need: Boston, New York, Baltimore, San Diego, Los Angeles, Seattle

ESD wide

Clean technologies:

- Increased funding 66 percent to $540 million, including alternate-fueled vehicles and clean coal technologies
- Launched U.S.-Asia Environmental Partnership and other programs to spur technology cooperation and exports

copy given to ESD

Federal landscape:

- Tripled funding for federal facility cleanups, especially nuclear weapons manufacturing sites
- Signed executive orders that spurred the federal government to increase energy efficiency and recycling

Unilaterally

International leadership:

- ~~First in world to~~ accelerate the phaseout deadline for CFCs, which harm the ozone layer, to the end of 1995
- Made environmental cooperation a centerpiece of improved relations with Mexico, in parallel with NAFTA talks
- Expanded debt-for-nature swaps with Latin America
- U.S.-proposed global climate treaty, calling for immediate action plans, signed by world leaders in Rio
- Committed to continue leading the world in protecting biodiversity, but refused to be pressured into signing treaty surrendering U.S. intellectual property rights
- Led the way to global bans on driftnet fishing and trade in African elephant ivory

ITEMS NOT MATCHED BY CONGRESS

Congress has cut, delayed, or rejected many of President Bush's significant environmental proposals.

Bush Proposal	Congressional Response
Every Bush budget has requested an increase for Superfund toxic waste cleanups to over $1.7 billion, ~~[illegible]~~ 24 percent above the FY 1989 level	Cut the President's request by $467 million over the last three years. The House bill for FY 1993 would cut the program below 1989 levels. Congress never matched the President's original proposal (FY 1990) of $1.74 billion.
Increase funds for expansion and improvement of national parks, wildlife and recreation areas by ~~[illegible]~~ 19 percent above 1992 levels (100 percent above 1989 levels). over	Congress cut the President's FY 1992 request by more than 25 percent and threatens to cut $250 million from the 1993 request -- including deep cuts in outdoor recreation, reforestation, and federal land acquisition
Elevate Environmental Protection Agency (EPA) to Cabinet status (proposed in January 1990).	Congress has yet to pass the bill; the House committee did not even schedule hearings on a bipartisan bill passed by the Senate and supported by major environmental groups

Provide full funding ($160 million) for new 1990 Farm Bill voluntary program to preserve wetlands -- the "Wetlands Reserve"

Sustained increases for overall wetlands protection: for 1993, a 35 percent increase over 1992 levels (170 percent over 1989 levels)

Provide $[illegible] million in FY 1993 ([illegible] the 1992 level) for environmental cooperation with Mexico

Zero funding in Congressional appropriations bills for FY 1993. Congress cut the 1992 amount by more than half.

Congress threatens to cut these programs below the [illegible] 1992 level

(241) 170% higher than

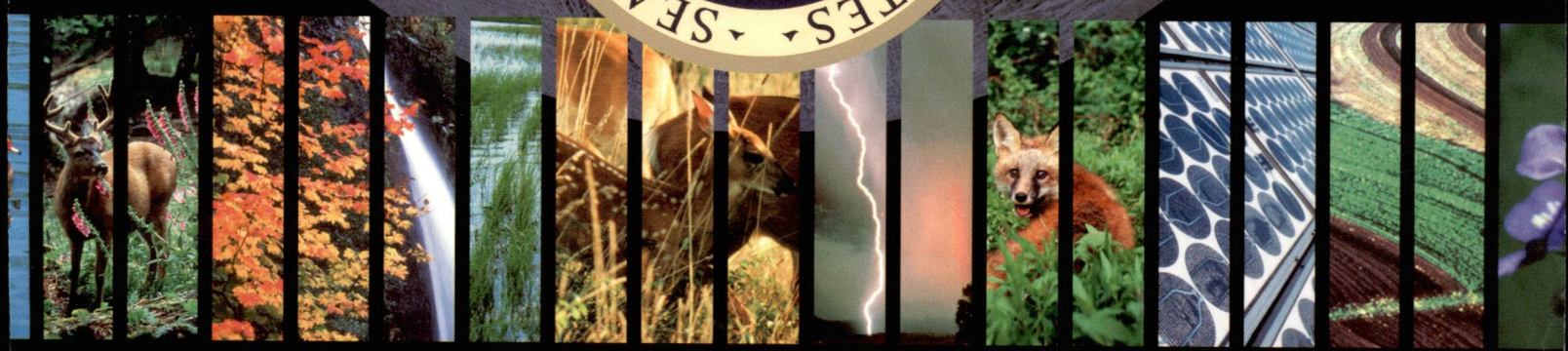
Congress threatens to cut the FY 1993 request by [illegible] $100 million.

(over)

Source: Council on Environmental Quality
August 27, 1992

U.S. ACTIONS FOR A BETTER ENVIRONMENT

A Sustained Commitment



U. S. ACTIONS FOR A BETTER ENVIRONMENT

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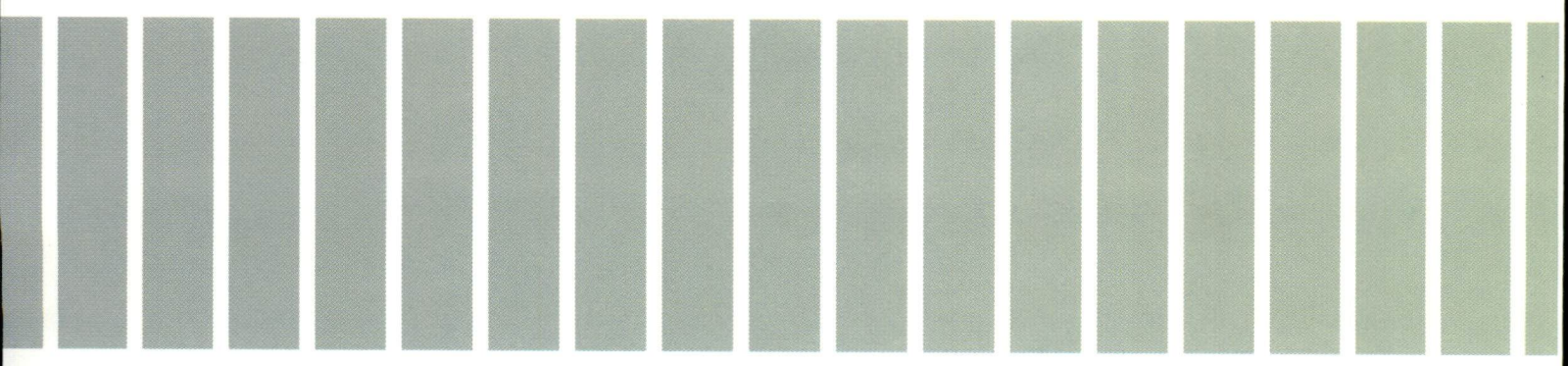
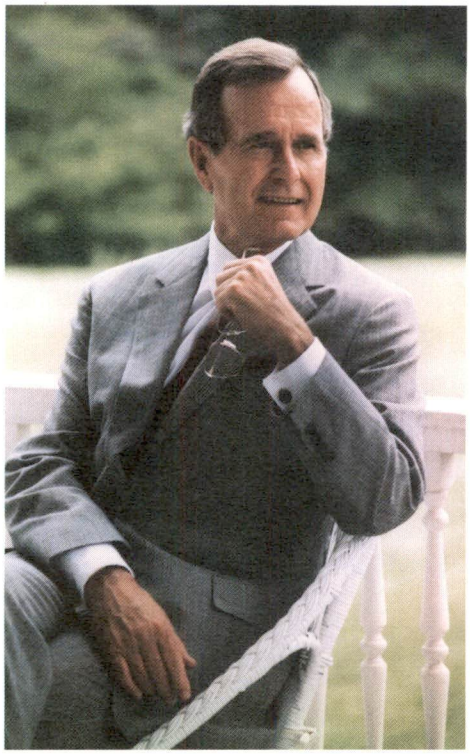




EXECUTIVE

A TRADITION OF LEADERSHIP

The United States has long been the world's leader in environmental protection, with the world's most comprehensive and advanced programs for controlling pollution, protecting valuable public lands, and enforcing environmental laws.

That tradition of leadership is more than a century old: America's first National Park, Yellowstone – the first in the world – was established in 1872, and today, U.S. National Parks are one of the world's premier visitor attractions.

In the past twenty years, that leadership has been extended as never before. In case after case, the U.S. has been the first nation to recognize emerging problems and to develop solutions. Examples include:

Controlling Automobile Emissions: In 1975, the United States began to require catalytic converters on automobiles. Many other nations are moving to adopt that requirement this year. Today, U.S. law requires that tailpipe emissions from new cars be 96 percent below those from the cars of twenty years ago. And the new Clean Air Act signed by President Bush will increase that requirement to over 98 percent over the next few years.

Phasing Out CFCs: In 1978, the U.S. unilaterally took action to phase out the use of aerosol propellants in order to reduce emissions of chlorofluorocarbons (CFCs). This action has been pursued only recently by many other nations. Subsequently, the United States was a principal advocate of the Vienna Convention, the Montreal Protocol, and the London Amendments to the Montreal Protocol, which required the elimination of CFC production by the end of the century. Today, the U.S. is more than 42 percent ahead of the schedule required by the London Amendments.

In February of 1992, in response to new scientific information, President Bush ordered that the U.S. unilaterally speed up the phase-out of CFCs, halons, methyl chloroform, and carbon tetrachloride to the end of 1995.

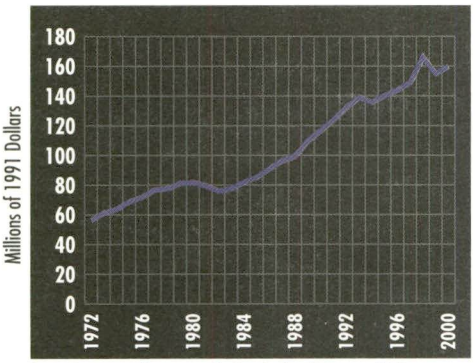
Clearing the Air of Lead: In 1982, the U.S. began to phase out the use of leaded gasoline. Today, 99 percent of the cars on America's roads run on unleaded gasoline, and annual lead emissions are 96 percent below those of a decade ago. Although unleaded gasoline is not yet widely available in many countries, several other nations are now considering measures to reduce the use of leaded gasoline.

The Record of the Past Two Decades:

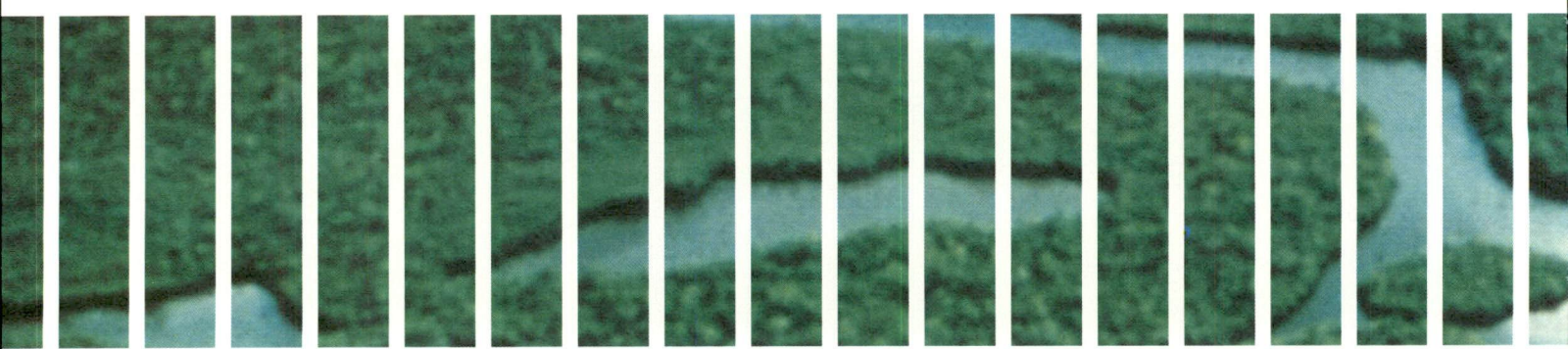
The U.S. has improved air and water quality and dramatically expanded its treasury of public lands over the past two decades. And this progress has been achieved during a period of robust economic growth.

Since 1970, U.S. real GDP has grown by 69 percent. Over the same period, U.S. emissions of particulate matter have been cut by 59%, emissions of carbon monoxide have been cut by 41%, emissions of volatile organic compounds have been cut by 29%, and emissions of sulfur dioxide have been cut by 25%. Our waterways are also cleaner: discharges by plants and factories of suspended solids into U.S. waters have been cut by over 80%.

US Pollution Control Expenditures



Source: Environmental Investments: The Cost of a Clean Environment, 1991



SUMMARY

"In the long run, successful environmental protection is a prerequisite to solid, sustainable economic growth."

– George Bush
September 14, 1988

And America's public lands and wilderness areas have been protected. In 1970, the U.S. had 868 miles of "wild and scenic" rivers designated for protection. Today, there are 9,463 miles of "wild and scenic" rivers. In 1970, the U.S. National Wildlife Refuge system included 29 million acres; today it includes 88.5 million acres. In 1970, there were 10 million acres in the U.S. Wilderness system; today it includes over 95 million acres.

Progress Under the Bush Administration:

President Bush has extended that record of American environmental leadership on a wide range of fronts.

Under the President's leadership, the U.S., has developed and put forward a detailed plan of action to address global climate change by limiting net emissions of greenhouse gases. The President has proposed to double worldwide forest assistance, and has worked actively since the 1990 Houston Economic Summit for a global forest convention. As a down payment, the President has pledged a $150 million increase in forest assistance next year.

The Clean Air Act proposed, negotiated, and signed into law by President Bush sets some of the most stringent controls on mobile and stationary sources of air pollution anywhere on earth. Under the Act, U.S. sulfur dioxide emissions will be cut in half and capped permanently, air toxic emissions will be cut by over 75 percent, and smog levels will be reduced to meet health standards in cities across the country.

The President has launched the world's most ambitious reforestation program, with a goal of planting an additional one billion trees per year for the next decade.

In the past three years, under the Bush Administration, the U.S. has signed the Basel Convention, to prevent the illegal international dumping of hazardous wastes, and the international protocol to strengthen protection of Antarctica. U.S. proposals at the 1989 Paris G-7 Summit helped lead to an international agreement on oil spill prevention and cleanup. U.S. efforts helped bring an end to driftnet fishing on the high seas and the importation of ivory from the African elephant.

The President declared a moratorium on oil and gas drilling off many environmentally sensitive areas of America's coasts. He has secured over a million and a half new acres for America's system of national parks, forests, wildlife refuges, and other public lands.

The President has signed bills to prevent oil spills, promote environmental education, and implement the North American Waterfowl Management Plan. And his annual budget requests have sharply increased investments in the Environmental Protection Agency (EPA), in the cleanup of facilities owned by the Federal government to ensure that they live up to the same standards as private facilities, and for wetlands acquisition, enhancement, and research.

A Continuing Commitment:

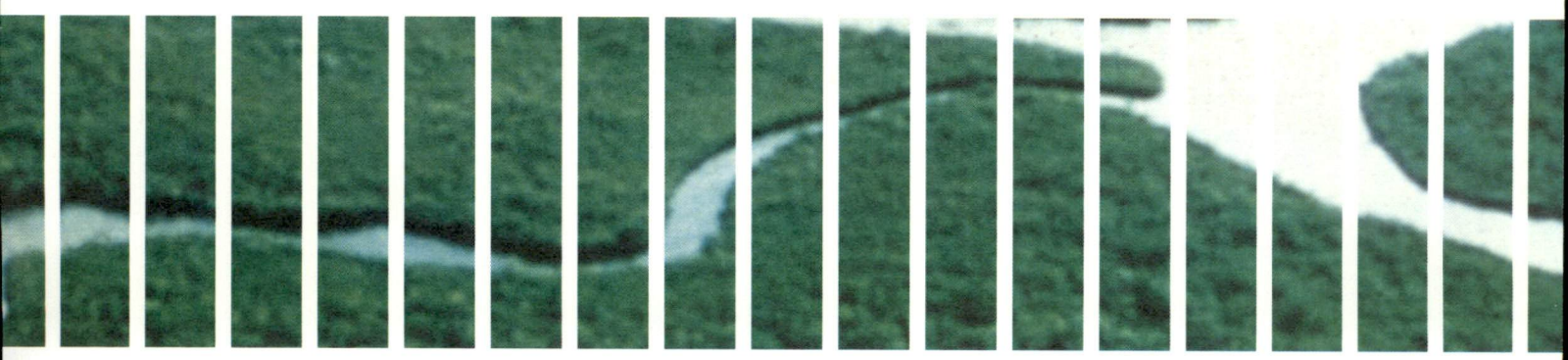
The United States today spends nearly $130 billion per year on pollution control. That represents about 2 percent of U.S. GDP —a commitment of resources matched by no other nation.

That investment is expected to rise. Under current policy commitments and requirements, Americans will spend more than $1.2 *trillion* over the course of the next decade to control pollution.

The commitment of the United States will be sustained. But as the world's population grows, and as all nations work for the economic growth to which they aspire, the challenge of protecting the earth's resources for the next generation will be great.

The United States will continue to adopt and to press internationally for efforts to limit air and water pollution, to protect nature's treasures of species and habitat, to develop new science and increase understanding of the earth's environment, to share technologies that promote energy efficiency and environmental protection. The U.S. will provide assistance to allow developing countries to enjoy a new generation of clean growth.

Most importantly, America will continue to lead in the quest for freedom and openness in political systems around the world. For only democratic systems provide the accountability necessary to ensure a clean environment. Only market-oriented economies can generate the resources necessary over the long term to invest in environmental protection. And only freedom allows human beings to reach their full potential.



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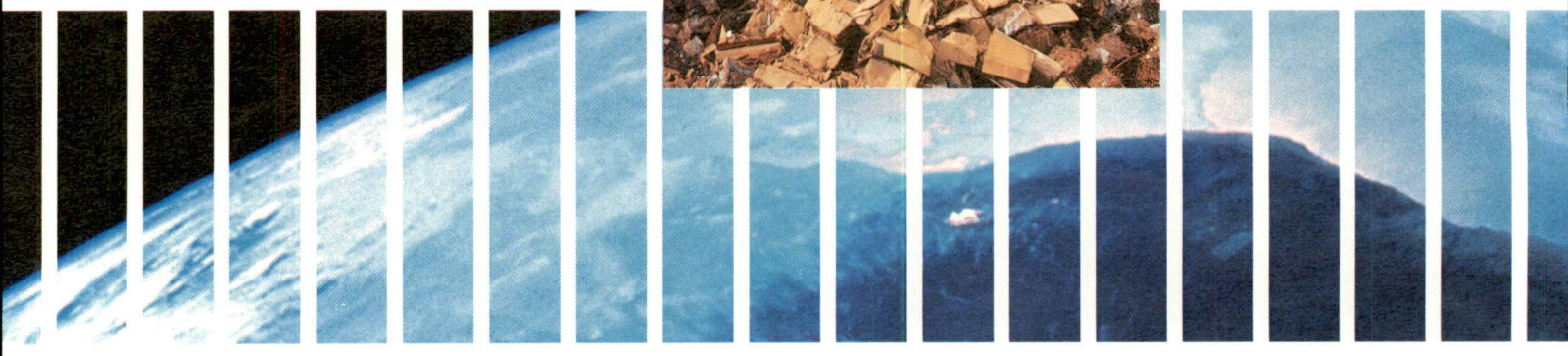

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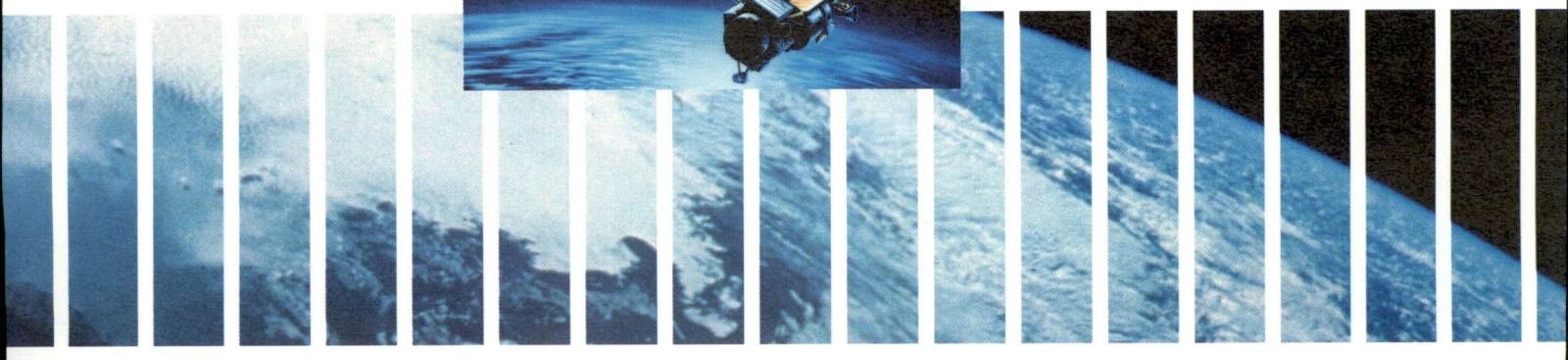


ATMOSPHERE

THE U.S. CLIMATE CHANGE ACTION STRATEGY

President Bush has established a comprehensive strategy for action to address climate change by: taking actions which will reduce greenhouse gas emissions and enhance greenhouse sinks; developing new technologies which can improve energy efficiency and reduce emissions; and supporting the world's most extensive program of climate change research to better understand changes in the Earth's systems and develop appropriate responses.

The U.S. climate change action strategy flows from the President's commitment to responsible stewardship of our planet, which includes the promotion of economic growth and sound environmental policies.

The U.S. strongly supports the Framework Convention on Climate Change because it is based on the development of national programs for action, as opposed to mere rhetorical commitments to address the problem of climate change.

The U.S. was the first nation to present a detailed program of action, with projections of emissions reductions that would be achieved through its implementation. The U.S. action agenda, presented at the first session of the International Negotiating Committee (INC) in February of 1991, projected, based on then available science, that U.S. net greenhouse gas emissions in the year 2000 would be below 1987 levels.

In the spring of 1992, after new scientific information was presented which indicated that reductions of greenhouse warming potential from reducing chlorofluorocarbons (CFCs) were not as great as earlier expected, the United States prepared and made public an updated action agenda, which included a wide range of additional actions that the U.S. was prepared to take to reduce net greenhouse gas emissions.

The updated plan projects that, with the addition of these further actions, U.S. net emissions of greenhouse gases in the year 2000 would be 125 to 200 million metric tons in carbon equivalent terms below projected levels. This is equivalent to a reduction of 7 to 11 percent in U.S. net greenhouse gas emissions of carbon dioxide, methane, and nitrous oxides as a result of the U.S. action agenda.

The U.S. believes that the response strategy outlined in the Framework Convention, calling for the development of national action programs and periodic reviews and updates of those programs to reflect whatever additional scientific information pertaining to the global climate change phenomena is developed, is the correct approach.

U.S. Emission Reductions

The U.S. Strategy puts high priority on immediate U.S. greenhouse gas emission reductions. The U.S. has already legislated or begun to implement administratively several items in its strategy. Other items, such as elements of the National Energy Strategy, have been proposed by President Bush and are now moving through Congress.

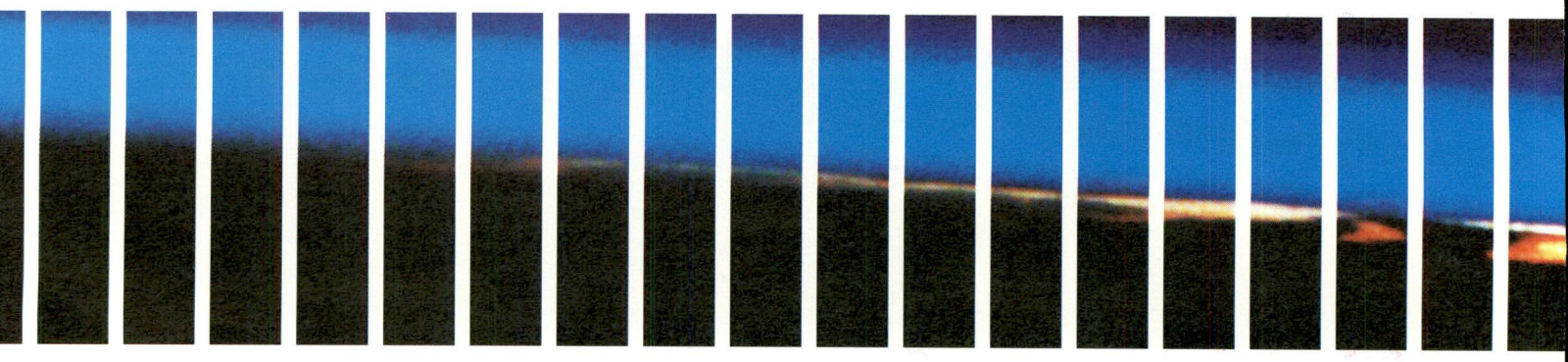
The actions contained in this comprehensive action agenda will achieve very large reductions of greenhouse gas emissions by the year 2000. Without action, estimated U.S. greenhouse gas emissions would grow by over 14 percent between 1990 and 2000. U.S. actions already planned are projected to hold net emissions in 2000 to only 1.4 to 6 percent above 1990 levels.

Chart 1 shows the estimated greenhouse gas emissions reductions in the year 2000 based on the actions already committed to by the U.S.

Achieving Reductions Quickly

In order to ensure quick action to address the problem of climate change, the U.S. endorses a "prompt start" to implementation of the Framework Convention. The Bush Administration is already moving forward to implement various energy efficiency and emission reduction measures under existing authorities.

To ensure that developing countries can participate in this "prompt start," the United States has pledged $25 million to assist in funding "country studies" for these nations. These country studies will allow developing countries



to develop detailed information on their emissions patterns and to identify possible strategies for limiting emissions and enhancing sinks.

SPECIFIC ACTIONS IN THE U.S. CLIMATE CHANGE STRATEGY

Actions To Limit Emissions of Greenhouse Gases and Precursors

The U.S. Strategy includes actions which will limit emissions of specific greenhouse gases and their precursors.

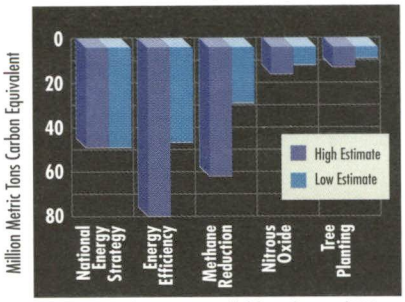
◆ *Clean Air Act regulation of VOCs, CO, NOx.* The 1990 Clean Air Act, signed by President Bush, directly reduces the emission of greenhouse and precursor gases by requiring emissions reductions of nitrogen oxides by certain utilities; tightening controls on automobile and stationary source emissions of volatile organic compounds, carbon monoxide, and nitrogen oxides; and expanding use of clean-burning fuels.

◆ *Proposed Regulation of Landfill Methane.* Capture of gases given off by landfills will reduce emissions of toxic chemicals as well as the greenhouse-related gas methane and volatile organic compounds. The U.S. EPA is currently preparing regulations to limit emissions from landfills.

◆ *Transportation Emissions Reductions.* The National Energy Strategy will reduce the emissions of greenhouse and precursor gases by several measures to increase the use of alternative fuels. The President has proposed a tradable credits approach to accelerate the scrapping of older high-polluting cars.

◆ *Accelerated U.S. CFC Phase-out.* President Bush's proposal to accelerate the phase-out of CFCs to the end of 1995 will significantly reduce emissions of these compounds, which are greenhouse gases in addition to being ozone-depleting substances. Because the phase-out of CFC's is required by the year 2000 by the Montreal Protocol in any event, and because the global warming potential of CFC emissions is uncertain, calculations associated with the U.S. action strategy do not assume any credit for the CFC Phase-out.

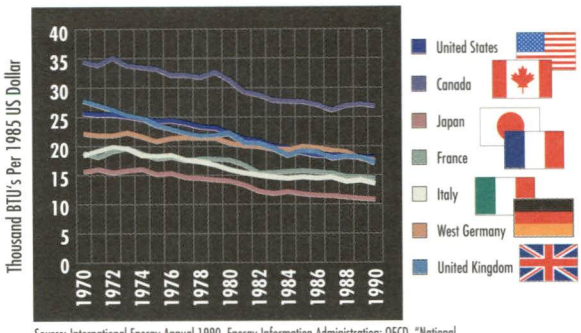
Greenhouse Gas Reductions from US Policy Actions



Source: Department of State, US Views on Global Climate Change, April 1992

CHART 1

Energy Consumption Per Unit of Gross Domestic Product



Source: International Energy Annual 1990, Energy Information Administration; OECD, "National Accounts" Volume 1, 1992

CHART 2

Actions To Improve Energy Efficiency and Reduce Emissions

The U.S. action strategy includes a large number of individual actions aimed at increasing energy efficiency. It takes a broad approach with actions in all of the sectors of our economy. New practices and technologies have the promise of providing the energy services that we depend upon while using less energy.

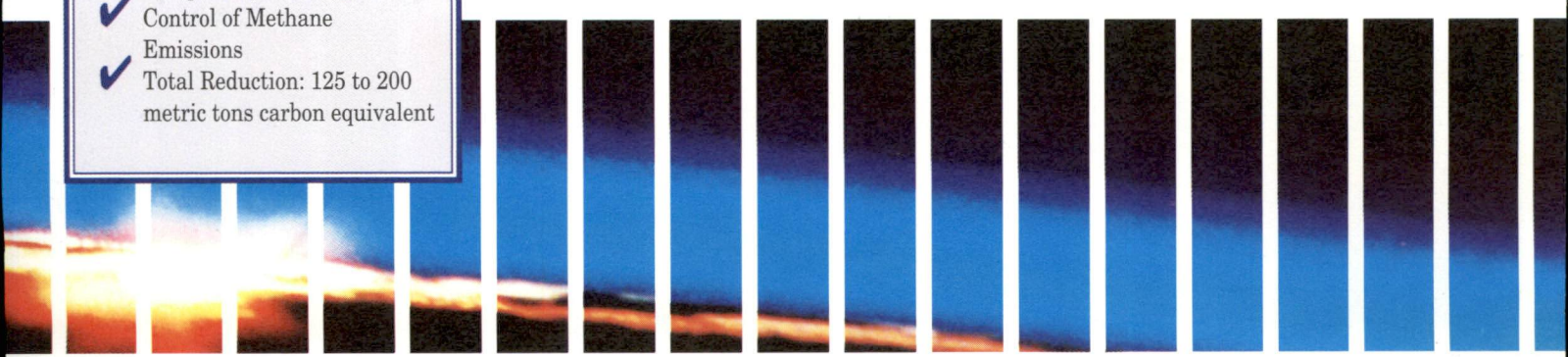
In addition, the action strategy includes measures to increase use of improved energy producing technologies or alternative sources of energy that reduce the level of emissions per unit of energy used by the final consumers.

These are only the latest in a long series of actions the U.S. has taken over the course of two decades to improve energy efficiency. Chart 2 shows recent experience of the U.S. and other countries in energy consumed per unit of gross domestic product (GDP). Chart 3 shows recent levels of greenhouse gas emissions per unit of GDP.

◆ *Transportation Efficiency.* Actions in the transportation sector aim at encouraging increased use of mass transit and ride-sharing.

AMERICA'S CLIMATE CHANGE ACTION PLAN

- ✔ The Clean Air Act (cuts CO, NO_X, VOC's; caps utility emissions)
- ✔ The National Energy Strategy (promotes energy efficiency, alternative energy sources, natural gas, and nuclear power)
- ✔ America the Beautiful Reforestation Program (plants one billion trees a year)
- ✔ Green Lights, Green Computers, Green Motors
- ✔ Control of Methane Emissions
- ✔ Total Reduction: 125 to 200 metric tons carbon equivalent



Electricity Sector Energy Efficiency. The Clean Air Act requires utilities to reduce emissions of sulfur dioxide by 10 million tons below 1980 levels and gives them flexibility to use the most cost-effective means. This powerful conservation stimulus should also reduce carbon dioxide emissions.

In addition, the National Energy Strategy (NES) contains several measures which will encourage utilities and electricity consumers to produce and use electricity efficiently and reduce greenhouse gas emissions. For example, the NES proposes reform of the Public Utility Holding Company Act (PUHCA). This reform will increase competition and efficiency in the electric utility sector and, in conjunction with reforms that will facilitate construction of new natural gas pipelines, should result in the increased use of natural gas, thereby reducing greenhouse emissions. In addition, the NES contains provisions to streamline the licensing process for nuclear electric generating stations. Nuclear electric generation has no greenhouse gas emissions.

Other actions included in the NES encourage increased efficiency in coal burning technology, and seek to expand the use of renewable resources such as solar power and hydroelectricity.

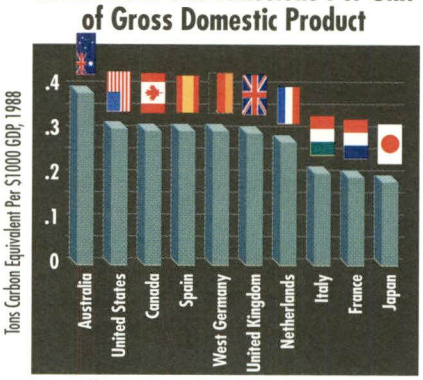
◆ *Actions to Stimulate the Use of Natural Gas.* The Administration has implemented a number of measures designed to encourage use of natural gas.

◆ *Residential and Commercial Building Efficiency.* The U.S. strategy in this sector includes a large number of actions to encourage more efficient lighting, more efficient building design and structural characteristics, more efficient heating and cooling, and more efficient appliances and other equipment. Electric utilities, spurred by regulatory changes that encourage integrated resource planning, have in recent years become active promoters of, and significant investors in, increased energy efficiency for customers.

EPA is implementing the innovative "Green Lights" program, a partnership which encourages businesses and state and local governments to install more energy-efficient lighting. More than 400 U.S. companies have already signed up for "Green Lights," which will bring such energy-efficient lighting to over two billion square feet of office space, more than the total office space in New York, Los Angeles, Chicago, Houston, Dallas, and Detroit combined. The Bush Administration is now working to expand similar programs to office computers, industrial motors, and commercial building heating and cooling.

In addition, the U.S. Department of Energy has promulgated rules improving energy efficiency standards for energy-consuming home appliances

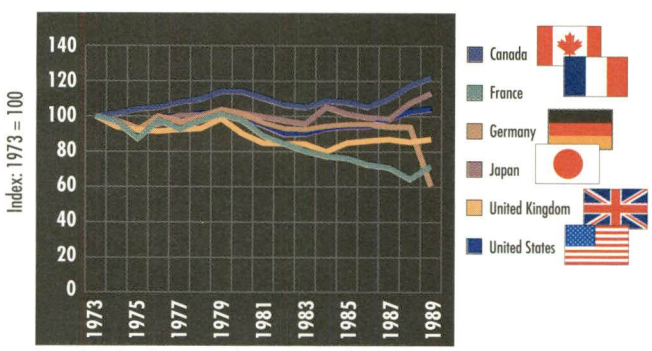
Greenhouse Gas Emissions Per Unit of Gross Domestic Product



Source: World Resources Institute, 1991 & Penn World Tables (Mark 5)

CHART 3

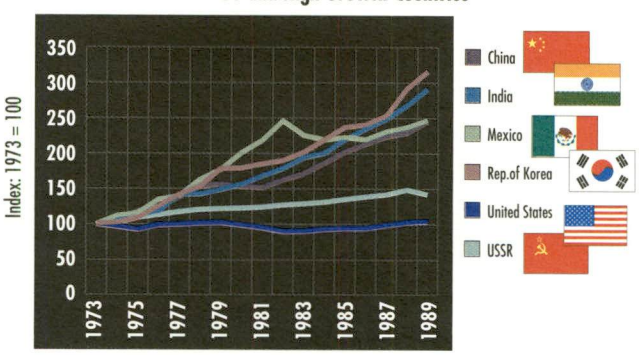
Trends in Carbon Dioxide Emissions
US and Moderate Growth or Decline Countries



Source: Calculated from data in DOE, "Trends '90, A Compendium of Data on Global Change," August 1990; 1989 emissions from "World Resources, 1992–1993," World Resource Institute, 1992

CHART 4

Trends in Carbon Dioxide Emissions
US and High Growth Countries



Source: Calculated from data in DOE, "Trends '90, A Compendium of Data on Global Change," August 1990; 1989 emissions from "World Resources, 1992–1993," World Resource Institute, 1992

CHART 5

such as dishwashers and washing machines. EPA complements these actions by promoting voluntary "Golden Carrot" programs for utilities which reward the development of super-efficient appliances.

◆ *Industrial Energy Efficiency.* In the industrial sector, the U.S. strategy includes the expansion of its energy auditing program to aid smaller firms identify and implement options for low-cost but quick payoff in energy saving investments. Other actions encourage firms to make systematic efforts in waste minimization and in adopting energy efficient technologies.

Actions To Enhance Greenhouse Gas Sinks

As part of his "America the Beautiful" program, President Bush has proposed one of the most ambitious reforestation programs in the world: a program to plant a billion trees per year across America above and beyond the number of trees that are normally planted. This reforestation initiative will contribute to cleaner air and water and energy conservation, and will reduce net carbon dioxide emissions. Urban tree planting under the program has increased 25 percent over the last year. Funding at the President's requested level would have significant impacts on net carbon dioxide emissions.

U.S. Strategy Includes Actions that Are Global and Long-term

Any strategy aimed solely at reducing emissions in the short-term in the U.S. or in the OECD countries without addressing emissions in the long-term and in other countries inevitably will be ineffective. The OECD countries, including the U.S., cannot control their own emissions in the long run without new technologies and practices.

Charts 4 and 5 show past trends in carbon dioxide emissions in the G-7 countries and in some high emissions growth countries.

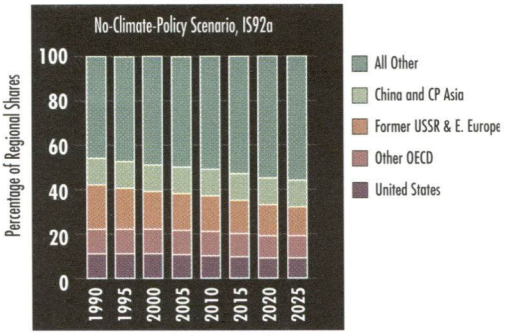
Non-OECD countries already produce the majority of global emissions for most of the major greenhouse gases. Moreover, they are projected to produce the vast majority of future increases of greenhouse gas emissions.

Charts 6 and 7 show IPCC projections of greenhouse gas emissions for various regions of the world. Actions aimed at reducing the world's total emissions of these greenhouse and precursor gases below the levels they would otherwise reach must address both OECD and non-OECD emissions.

Research and Development of New Technologies

The President's Budget for 1993 requests over $900 million dollars for National Energy Strategy R&D Initiatives and other programs that will provide the new technologies and practices that will be needed in the long term to address climate change. These initiatives seek more energy efficient technologies and practices in all major sectors; technologies for new or improved fuels that reduce or eliminate greenhouse and precursor gases; and technologies such as photovoltaics, superconductivity, and nuclear reactors which avoid the direct production of greenhouse gases. This 1993 request is an increase of 18 percent over the 1992 level and an increase of 130 percent over 1989 spending.

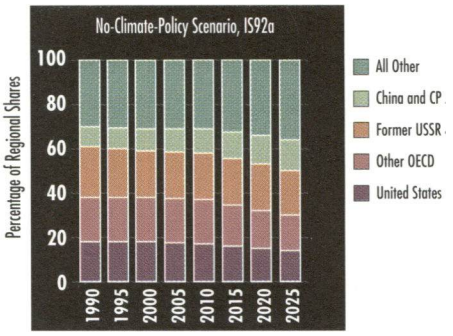
Regional Shares of Projected Net Methane Emissions



Source: Emissions Scenarios for the IPCC, An Update: Assumptions, Methodology and Results, May 1992

CHART 6

Regional Shares of Projected Net CO2 Emissions



Source: Emissions Scenarios for the IPCC, An Update: Assumptions, Methodology and Results, May 1992

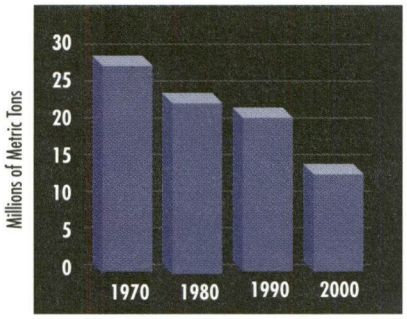
CHART 7

Technology Cooperation

The U.S. Strategy includes technology cooperation with developing countries and countries with economies in transition as a key element in the international community's efforts to respond to global climate change. U.S. technology cooperation activities relating to climate change include projects in the areas of energy efficiency, energy supply, agriculture, forestry and natural resources, climate science, coastal zone management, and others.

Estimated spending for climate change-related technology cooperation

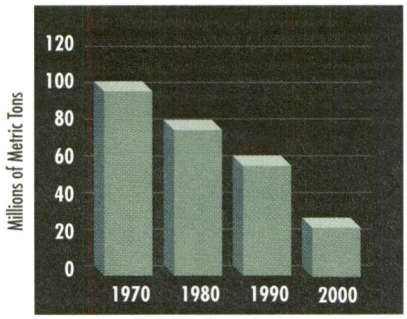
US Progress in Reducing Emissions of Sulfur Dioxide (SO2)



Source: EPA, National Air Quality and Emissions Trends Reports, 1984 and 1991

CHART 8

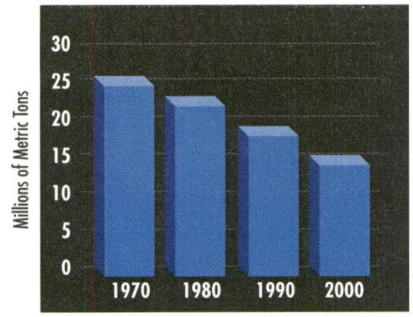
US Progress in Reducing Emissions of Carbon Monoxide (CO)



Source: EPA, National Air Quality and Emissions Trends Reports, 1984 and 1991

CHART 9

US Progress in Reducing Emissions of Volatile Organic Compounds (VOC's)



Source: EPA, National Air Quality and Emissions Trends Reports, 1984 and 1991

CHART 10

in 1991 was over 140 million dollars. President Bush's Administration also recently made a commitment to provide 25 million dollars to help assist developing countries to conduct greenhouse gas emissions inventories and other basic studies needed to develop national strategies to address climate change.

The United States Global Change Research Program

The U.S. is carrying out the world's largest research program on global change in the U.S. Global Change Research Program. The program is intended to increase understanding of the scientific and economic aspects of global change and to improve our capability to predict change. Funding was increased to $1.1 billion in fiscal 1992, and proposed at $1.4 billion in 1993. This represents more than half of the total amount spent on global change research by all countries worldwide.

CLEANING THE AIR: U.S. PROGRESS IN IMPROVING AIR QUALITY

The United States has made tremendous strides in reducing air pollution. Primary ambient air quality standards to protect public health are set for sulfur dioxide, nitrogen dioxide, carbon monoxide, particulates, ozone, and lead. In the 1980s, average concentrations of particulates fell by about 20 percent, sulfur dioxide by over 24 percent, carbon monoxide by about 29 percent, and lead by 88 percent.

Charts 8 to 11 show the trends in emissions of these pollutants since 1970.

The Clean Air Act of 1990, legislation patterned after that developed by President Bush in early 1989, is designed to finish this monumental air clean-up task. The new Clean Air Act will remove 56 billion pounds of pollution from the air each year. Americans will live healthier and more productive lives in a nation with cleaner air.

Significant air quality improvements mandated by the Act include:

- Greatly reduced emissions of toxic air pollution and acid rain-causing pollutants;
- Attainment of air quality standards nationwide by the year 2010;
- Cleaner cars, fuels, factories, and power plants;
- Less damage to lakes, streams, parks, and forests; and
- Less damage to the stratospheric ozone layer.

Implementation has moved forward swiftly:

◆ *Tailpipe emissions.* Beginning with 1994 cars and light trucks, a two-year program will cut emissions of hydrocarbons by 31 percent, and nitrogen oxides by 60 percent from 1991 levels. Seven other rules, including controls on diesel bus emissions, will alleviate smog and toxic air pollutants even further.

◆ *Fuel volatility.* Rules limiting fuel volatility — the tendency of gasoline to evaporate and pollute the air — will prevent yearly emissions of more than 2.6 billion pounds of ozone-forming hydrocarbons (volatile organic compounds or VOCs).

CASE STUDY: LEAD PHASEOUT

✔ **1982:** Under the leadership of then Vice President Bush, lead phaseout begins, using innovative trading and banking scheme

✔ **1992:** Lead emissions down 96%, Ambient lead concentrations down 95%

◆ *Reformulated gasoline.* Rules governing a new less-polluting generation of automotive fuels will reduce VOCs by about 300 million pounds a year in the nine dirtiest cities by 1995. A 2.7 percent average oxygen content in gasoline rule in 39 cities with carbon monoxide problems will cut emissions by 20 percent in 1993.

◆ *Acid Rain.* Utilities emissions of sulfur dioxide — the major contributor to acid rain — will be cut in half — a permanent reduction of 10 million tons per year. The Acid Rain Program provides flexible market-based incentives, including an Allowance Trading System that enables utilities to buy and sell emissions credits. This will give utilities the flexiblity to take the most cost-effective measures to comply and will provide strong incentives for conserving energy and investing in energy efficiency.

◆ *Hazardous Organics Rule.* Hazardous air pollutants will be reduced by this rule by more than 545,000 tons per year. Volatile organic compounds emissions will be reduced by 1.2 million tons per year.

◆ *Municipal Waste Incinerators.* Incinerator air emissions will be cut by 90 percent, eliminating more than 200,000 tons of pollutants a year. New limits have been set on emissions of particulates (including toxic metals such as lead and cadmium), sulfur dioxide, hydrogen chloride, nitrogen oxides, carbon monoxide, dioxins, and dibenzofurans.

PROTECTION OF THE OZONE LAYER

The U.S. has been the world's leader in responding to the depletion by various chlorine (CFCs) and bromine (halons) compounds of the stratospheric ozone layer which protects the earth's surface from ultraviolet radiation.

◆ *Ban on CFC use as spray can propellants.* In 1978, the U.S. banned CFC spray can propellants in non-essential uses. Only a few countries followed in this action.

◆ *Montreal Protocol CFC Phase-out.* At the London Meeting of Parties to the Montreal Protocol, the U.S. supported, and achieved agreement on, a complete world-wide phase-out of CFCs, halons, and certain other ozone-depleting substances such as carbon tetrachloride and methyl chloroform.

◆ *Accelerated U.S. CFC Phase-out.* The U.S., under the Clean Air Act, adopted legislative provisions which will phase out U.S. production and consumption of specified ozone-depleting substances more quickly than required by the amended Montreal Protocol. The U.S. law also includes a schedule for phase-out of HCFCs which is not required under the provisions of the Protocol. The U.S. enacted a tax on ozone-depleting chemicals during the phase-out to accelerate the reductions. President Bush in February of this year announced that the U.S. would seek:

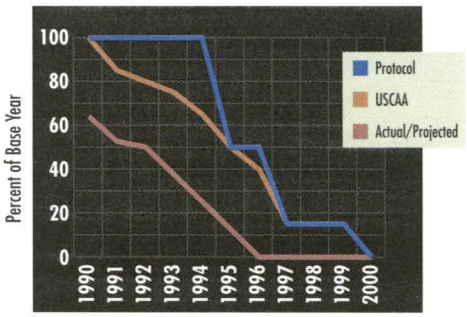
- A production phase-out of CFCs, halons, carbon tetrachloride, and methyl chloroform by December 31, 1995, with limited exceptions;
- a voluntary cut to 50 percent below baseline levels by the end of the year;
- agreement by all nations to join the U.S. in accelerating the phase-out.

Chart 13 shows the U.S. commitments to phase out ozone-depleting compounds more quickly than required by the Montreal Protocol and the London amendments.

"The Clean Air Act will reduce air pollution each year by 56 billion pounds – that's 224 pounds for every man, woman, and child in America."

President George Bush
November 15, 1990

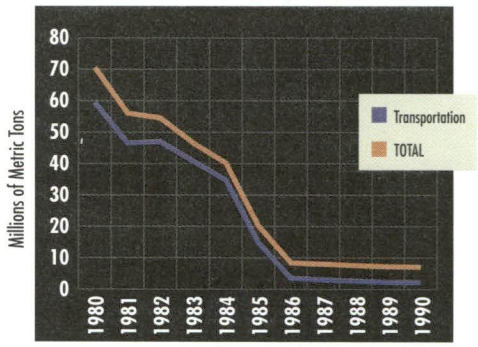
Phase-out of Major CFC's



Source: EPA, Stratospheric Ozone Protection Branch

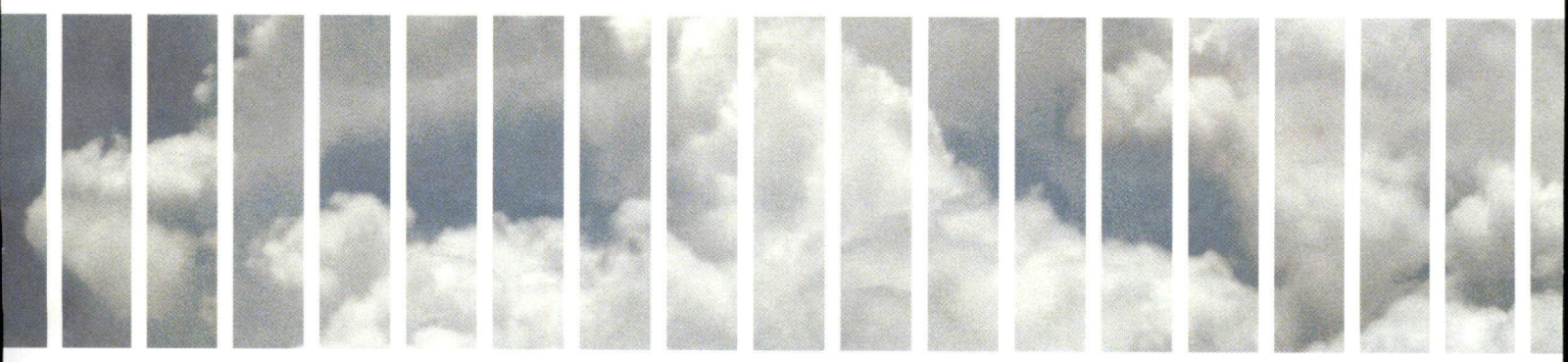
CHART 13

US Progress in Reducing Emissions of Lead (Pb)



Source: EPA National Air Quality and Emissions Trends Reports, 1984 and 1991

CHART 11



FORESTS

Americans care deeply about forests. Forests provide a home for millions of plant and animal species, a source of timber, food, and other useful raw materials, ecological functions such as watershed and soil protection, and the setting for recreational and aesthetic pleasures.

In the early years of this century, President Theodore Roosevelt made the conservation and sustainable use of forests a national priority. More recently, President George Bush has launched a number of programs that renew U.S. commitment to the stewardship of forests at home and abroad.

THE CAUSE FOR CONCERN

Climate change may well be occurring now, but we can't yet separate measured changes into results of greenhouse gases versus natural variability. Forest loss, however, is occurring rapidly now. Tropical forests are vanishing at the rate of over 17 million hectares (42 million acres) per year. Fifty percent or more of Europe's temperate forests are being degraded by air pollution.

In the United States, responsible forest conservation is a long-standing tradition. Annual forest growth now exceeds timber harvests by 37 percent, and the total national volume of wood is 25 percent larger than it was in 1952. After declining over three centuries, forest cover has been effectively stabilized since the beginning of the 20th century (see Table 1). Over 14 million hectares (34 million acres) of U.S. Forest Service land — an area the size of Florida — have been set aside as wilderness areas and another 53 million acres of forests are in parks and wildlife preserves on which timber harvesting is prohibited.

GLOBAL FORESTRY INITIATIVES

The United States' recent international forestry actions include: efforts to achieve a Global Forests Convention, the Forests for the Future Initiative, the Enterprise for the Americas Initiative, and increases in direct bilateral forest assistance.

◆ *Global Forests Convention.* At the 1990 summit of industrial nation leaders in Houston, President Bush called for the negotiation of a global forests convention to improve conservation of all the world's tropical, temperate, and boreal forests. Efforts to begin such negotiations have moved slowly because of the concern that curbing deforestation will impede economic development in poor nations. At UNCED, the United States had hoped to have a global forests convention signed and continues to support the development of forest principles.

◆ *Forests for the Future Initiative.* While seeking a global forests convention in the long term, President Bush is taking concrete action in the short term by calling on the international community to double worldwide forest conservation assistance from $1.35 billion to $2.7 billion annually. The goal of the Initiative is to halt the net loss of forests over the next decade, consistent with the strategy mapped out by several forest conservation groups.

As a downpayment on the Initiative, the United States has pledged to provide an additional $150 million in bilateral forest assistance next year. Participating countries would contribute to the total on a mutually agreed basis, with specific projects to be determined following consultations among interested parties.

The additional resources would be mobilized through existing bilateral and multilateral channels, such as through voluntary bilateral "forest partnerships" or, ultimately, through the World Bank's Global Environmental Facility (GEF). A Forest Partnership Forum will be convened by the U.S. by the end of 1992 to bring interested parties together to

FORESTS FOR THE FUTURE

- ✔ Double Worldwide Forest Assistance
- ✔ U.S. Down Payment: $150 Million Increase in Forest Assistance Next Year
- ✔ Goal: Halt Loss of the World's Forests by the End of the Decade

begin planning this Initiative.

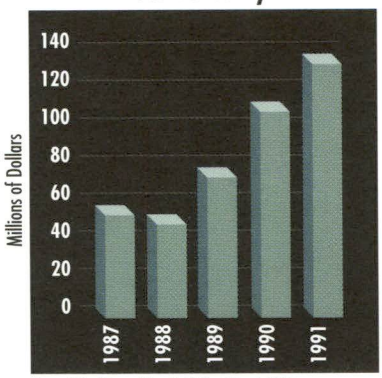
The benefits of this initiative are substantial and address both global climate change and biodiversity loss. Halting the net loss of the earth's forests by the year 2000 would reduce over twice as much carbon dioxide emissions as would stabilizing industrial country energy emissions at 1990 levels, at a fraction of the cost. And although tropical forests cover only a small fraction of the earth's surface, they contain more than 50 percent of its species.

◆ *Enterprise for the Americas Initiative*. This project, launched by President Bush in June 1990 and called "one of the most significant conservation plans ever" by a leading U.S. environmentalist, aims to expand free markets and trade in the Western Hemisphere, in part by easing the debt burden of Latin American and Caribbean nations.

Each country that benefits from a reduction of its bilateral debt owed to the U.S. government can pay interest on the remaining debt in local currency into trust funds that will support grassroots environmental projects. Through the negotiation of environmental framework agreements, the United States and each debtor country will set up local boards, including non-governmental conservationists, to make decisions about the use of these funds. In the past year, environmental framework agreements have been signed with Bolivia, Chile, and Jamaica. Over $250 million in debt owed to the U.S. Government is slated for reduction and over $30 million will be provided for conservation efforts in debtor countries.

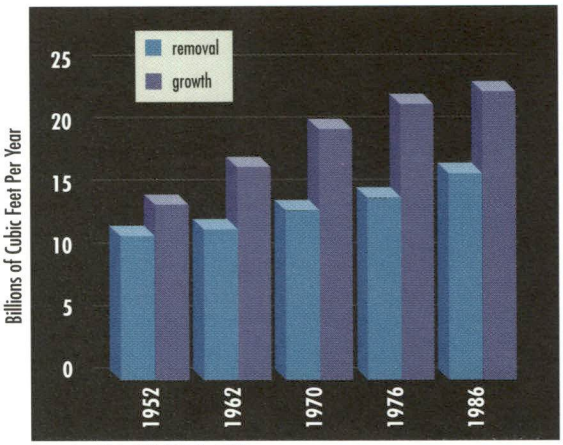
◆ *Increased Bilateral Assistance*. Direct outlays by the United States for international forest conservation have grown by over 150 percent since 1988, to about $120 million per year by 1993. These outlays include the programs of the U.S. Forest Service, Agency for International Development, Environmental Protection Agency, National Science Foundation, Park Service, and Peace Corps. Additional support for international forests, estimated at $20 million, is provided through the loan guarantees of the Overseas Private Investment Corporation (OPIC). OPIC loan guarantees for sustainable forestry projects will soon be increased by $40 million through its new Environmental Investment Fund.

US International Assistance for Forestry



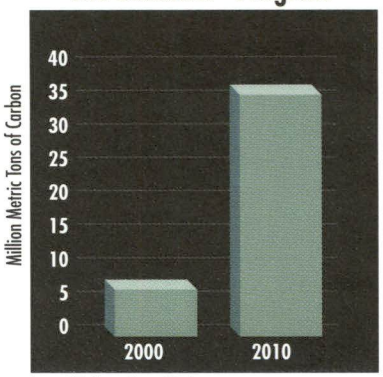
Source: United States of America National Report, 1992

US Timber Growth and Removal



Source: Forest Stats of US, 1987, Sept. 1989

Carbon Taken-up by "America The Beautiful" Program



Source: EPA, Climate Change Division

DOMESTIC FOREST CONSERVATION

In the United States, private individuals own most forest lands and plant 84 percent of the new trees each year. In addition, the U.S. Government manages 86 million hectares (212 million acres) of forest lands, including areas managed for commercial timber harvests in the public interest. The Bush Administration has launched programs to improve forest conservation on both private and public lands.

◆ *America the Beautiful Initiative*. To meet President Bush's goal to increase reforestation by one billion trees per year in this decade, the U.S. Forest Service is working with state foresters to support annual planting of 970 million trees in rural areas and 30 million trees in urban areas. In 1991, the first year of the initiative, over 25 million trees were planted or improved in urban areas. To support the rural element of this initiative, the U.S. Forest Service and state foresters seek to enlist millions of acres of non-industrial private land into forest management through a cost-sharing Stewardship Incentive Program. Funding was $19.8 million in 1991, and signups are scheduled in 1992 for cost-share projects such as the following:

- Stabilizing eroded lands,
- Protecting riparian areas and wetlands,
- Improving fisheries habitat,
- Enhancing forest recreation, and
- Establishing and renovating windbreaks and hedgerows.

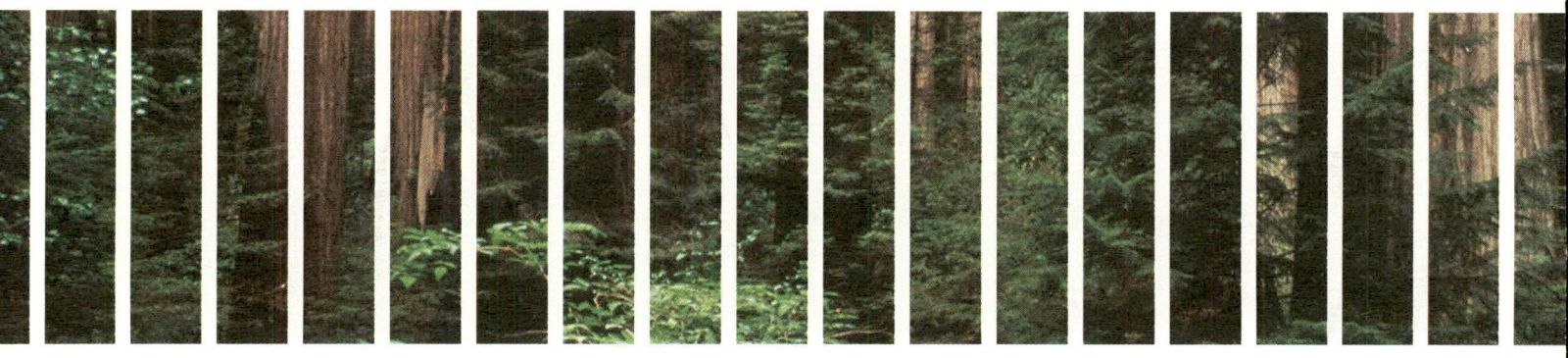
The U.S. Forest Service also cooperates with state foresters and private non-industrial landowners to develop forest stewardship plans prior to timber harvests. In 1990 the program assisted landowners with 8,700 forest stewardship plans on 340,000 hectares (840,000) acres of private forestland. In 1991 an additional 12,000 plans improved management of 570,000 hectares (1.4 million acres) for a total of 890,000 hectares (2.2 million acres) in the program to date. Program funding was doubled from 1990 to 1991, for a total of $12 million.

The National Tree Trust, a private non-profit foundation, was created by the 1990 Farm Bill to raise private-sector funds to help foster the national reforestation effort. In 1991 the National Tree Trust began operations in Washington, DC.

◆ *National Forests*. The National Forest System, with 77 million hectares (191 million acres) in 156 national forests managed by the U.S. Forest Service, contains 30 percent of the nation's total volume of growing stock. About one-sixth of that area is dedicated to the National Wilderness Preservation System. Total spending on forests management by federal, state and local governments is about $6.8 billion per year; research funding accounts for $700 million.

Recently, national forests have provided about 13 percent of the total annual wood harvest in the United

CHARLES MAUZY



"Environmental stewardship is crucial to sustaining strong economies. If we lose sight of the forest for the trees we risk losing both."

President George Bush
April 18.1990

States and one-quarter of the softwood timber used for lumber and plywood. In 1990 national forests produced 10.5 billion board feet of timber with a value of $1.4 billion. In the same year, the U.S. Forest Service reforested 200,000 hectares (500,000 acres) with over 50 different tree species.

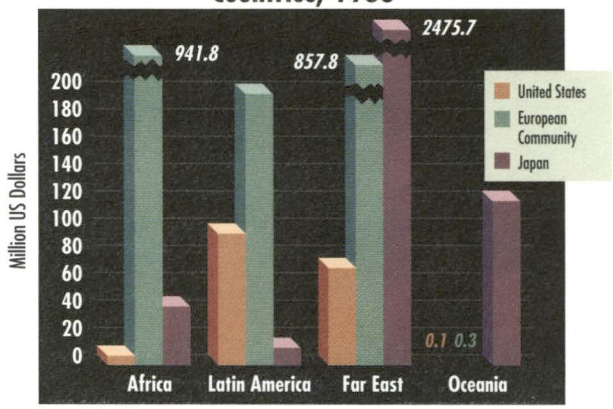
In the past, President Bush has proposed phasing out certain unjustified below-cost timber sales. Recently, the U.S. Forest Service adopted the principle of ecosystem management for the entire National Forest System, and both the Forest Service and the Bureau of Land Management have announced that clearcutting would be ended as a standard forest harvest practice. The Forest Service also has launched related research at 122 national forests and grasslands and at ten research centers across the nation focussing on the ecosystem management approach. The Service will study alternative forest harvest and management systems to increase forest resiliency to droughts, insects and fire, to sustain yields of desired forest products, and to regenerate diverse and productive new forests that retain important ecological characteristics of the original older forests.

Within the Department of the Interior, the Bureau of Land Management manages 19.3 million hectares (48 million acres) of forestlands, the Fish and Wildlife Service and the Bureau of Indian Affairs each manage 6.5 million hectares (16 million acres) of forestlands, and the National Park Service manages an estimated 15 million hectares (37 million acres) of forests as part of the National Park System. In 1990, as part of a reforestation program, BIA planted 4 million trees and BLM planted 13 million trees. In 1991 BLM estimates having planted 17 million trees.

The Department of Defense manages 2.4 million hectares (6 million acres) of forestland, of which roughly a third supports forests that could be managed for commercial timber. In 1991 DOD and EPA signed an agreement on forest and land management, pollution prevention, and climate change. The two agencies are also developing a project to enhance and measure energy conservation on military installations through strategically planted trees.

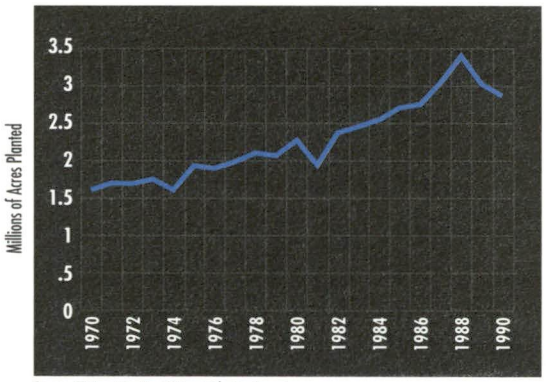
EPA, the Forest Service and DOE are promoting shade tree planting and light colored surfaces to reduce urban temperatures and energy demand through a program called "Cool Communities."

Cork and Wood Imports from Tropical Countries, 1988



Source: OECD, 1991

Reforestation in the United States



Source: US Forest Service, US Forest Planting Report

FRESHWATER

The United States has made large investments in water quality since the early 1970s, when many rivers, lakes, and bays were seriously degraded by pollution. Today, the Nation is maintaining that commitment and devoting increasing attention to coastal water quality, since almost half of the United States population lives in coastal areas.

FRESHWATER

Over the last 20 years, the U.S. has invested more than $75 billion in federal, state, and local funds to construct municipal sewage treatment facilities. Water quality costs to the private sector increased, on an annualized basis, from about $3.9 billion in 1972 to almost $20 billion in 1991.

◆ *Water Quality Trends.* The results are impressive. For example, between 1972 and 1988, the number of people served by sewage treatment plants with secondary treatment or better increased by 69 percent from 85 million to 144 million. Between 1972 and 1982, municipal loads of biochemical oxygen-demanding substances decreased by an estimated 46 percent and industrial loads fell by at least 71 percent. In the most recent survey, an estimated 70 percent of rivers and 60 percent of lakes met water quality standards and supported such uses as fishing and swimming.

◆ *Wild and Scenic Rivers.* The cumulative length of rivers designated for federal protection as "wild and scenic" has increased dramatically, from 868 miles in 1970 to 5,662 miles in 1980. Since 1987, nearly 1,700 river miles have been added to the system, for a total of 9,463 miles in 1991.

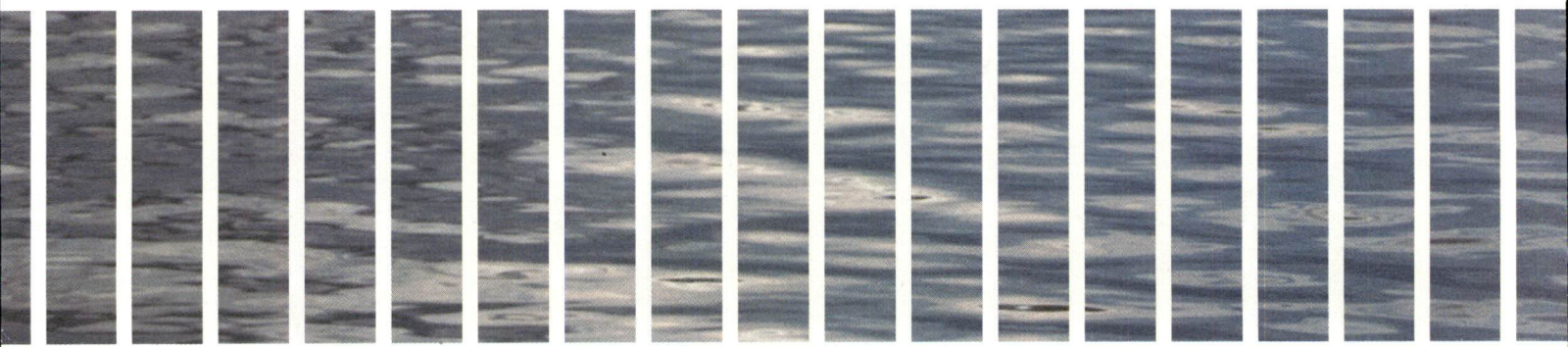
◆ *Drinking Water.* According to the World Health Organization, the quality of U.S. drinking water ranks among the best in the world. Waterborne diseases such as cholera and typhoid fever have been virtually eliminated in the United States.

COASTS AND OCEANS

In a pattern common to many nations, almost half of the U.S. population lives within 80 kilometers of a coastline, while these areas account for less than 10 percent of the nation's total area. The United States conducts many programs to protect coastal and marine resources and manage economic development in an ecologically-sensitive fashion.

◆ *Offshore development moratorium.* In June 1990 President Bush placed large coastal areas off-limits to oil and gas development until at least the year 2000, pending further environmental studies. The areas subject to the President's moratorium include 99 percent of the the California coast, and all of the coasts on Washington, Oregon, southern Florida and New England.

◆ *Oil Pollution Prevention and Response.* Breaking a 16-year deadlock, the President signed legislation in 1990 that strengthens oil spill prevention programs, creates a $1 billion cleanup trust fund, requires double-hull oil tankers, and increases polluter liability



& O C E A N S

"I am going to stop ocean dumping. Our beaches should not be garbage dumps and our harbors should not be cesspools.

President George Bush
August 18, 1988

and enforcement tools. Penalties imposed on the Exxon Corporation for its 1989 oil spill in Alaska marked the largest environmental settlement in U.S. history —over $1 billion in criminal fines and civil damages.

Also in 1991, the United States ratified an international convention on oil pollution which was first proposed by President Bush at the G-7 summit in 1989. The treaty was tested successfully in the U.S.-led international response to Iraq's massive oil release into the Persian Gulf in January 1991.

◆ *Sewage treatment upgrades.* Improvements in coastal water quality have occurred near many of the nation's coastal cities since wastewater treatment facilities were built in the 1970s and 80s. However, in a few of the nation's largest and oldest cities — Boston, New York, Baltimore, Los Angeles, San Diego, and Seattle — treatment plants have not been upgraded. President Bush secured $300 million for cost-shared grants to these cities in 1992, with another $340 million requested for 1993.

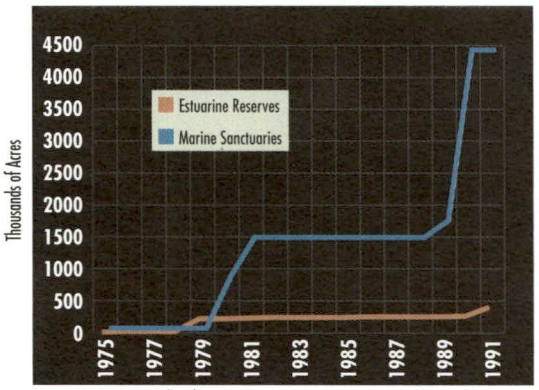
◆ *Ocean Dumping Ban.* Ocean dumping of industrial waste and municipal sewage sludge was phased-out by the United States in 1988. As a result of Bush Administration legal actions, eight Northeastern municipalities ended ocean dumping in 1991 and another will cease dumping in June 1992.

◆ *Coastal Zone Management.* Under the Coastal Zone Management Act of 1972, the Federal government provides financial and technical assistance to State governments, which must implement plans to manage and conserve coastal resources. The federal government has invested over $600 million in these programs; 94 percent of the U.S. coastline falls under federally approved CZM programs.

In 1990, the act added the requirement that CZM programs must control "nonpoint" sources of pollution such as runoff from farms and cities. From 1990 to 1992, the federal government has provided $140 million to the states to help with this effort.

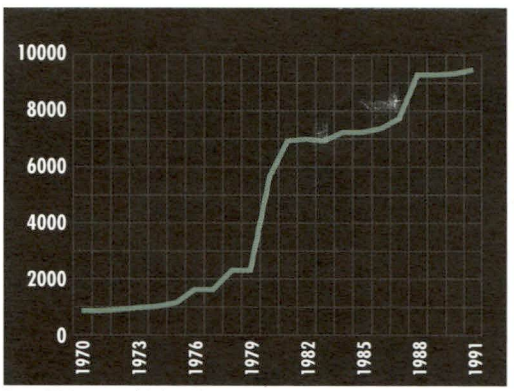
◆ *Estuary management.* The National Estuary Program, created in 1987, establishes a cooperative, basin-wide approach to protecting nationally significant bays. Comprehensive Management Plans are developed by government agencies in cooperation

National Estuarine Research Reserves and National Marine Sanctuaries

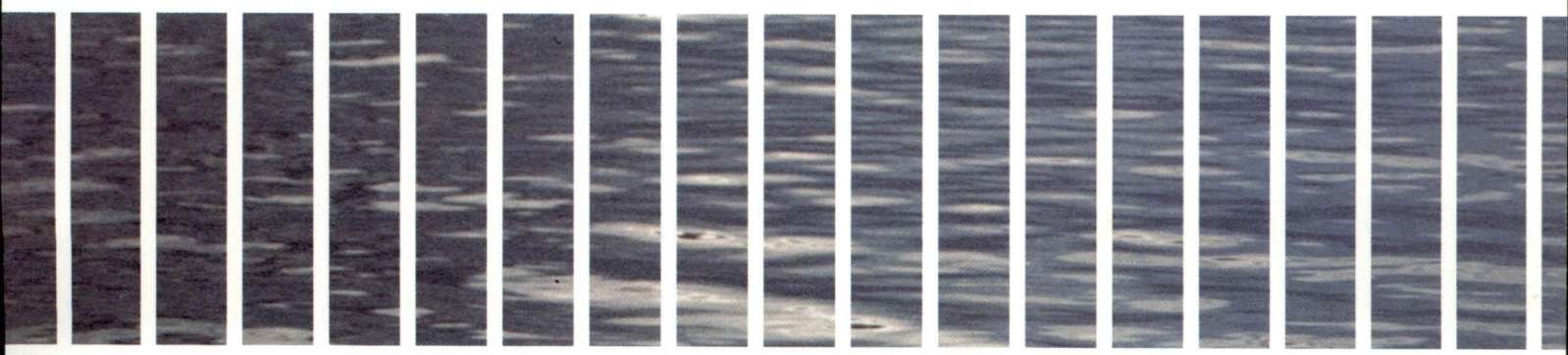


Source: CEQ, Environmental Quality, 1992

National Wild and Scenic Rivers



Source: CEQ, Environmental Quality, 1992



"Our environmental efforts should also be guided by a holistic view. The environment is composed of a seamless web of realtionships between living organisms and the air, water, and land that surrounds them."

President George Bush
April 20, 1991

with academic institutions, interest groups, and the public. On Earth Day 1990, President Bush added five estuaries in Louisiana, Maine, Florida, and Massachusetts, bringing the total to 17. Up to four more estuaries will be added in 1993.

◆ *Coastal America.* This new program leverages the expertise and authority of Federal agencies, State governments, and non-governmental organizations in a coordinated attack on coastal pollution, habitat loss, and sediment contamination. For example, one task force is working with AMTRAK to restore coastal salt marshes during renovations of the railroad between New York and Boston.

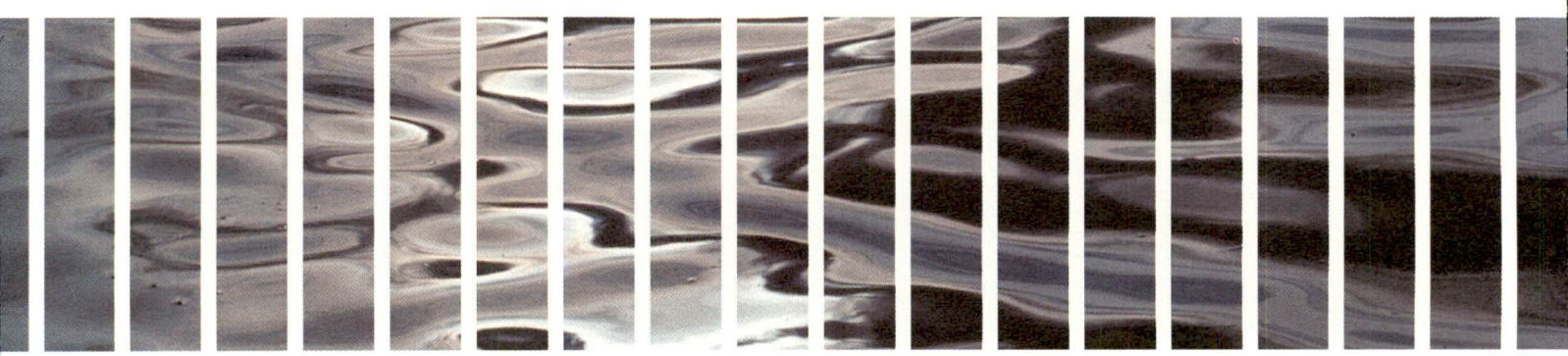
◆ *Specially Protected Areas.* Many areas of unique scenic or ecological value have been set aside for the conservation of plant and animal species:

- *National marine sanctuaries.* The nation's nine national marine sanctuaries are the marine equivalent of national parks, harboring a diverse array of plants and animals as well as spots for recreational diving and fishing. During the Bush Administration, these areas have been more than doubled to over 5,000 square nautical miles.
- *National Estuarine Research Reserves.* These areas are protected for support of long-term research. The Bush Administration has added six sites for a total of 19 reserves covering approximately 120,000 hectares (297,000 acres) of waters and wetlands.
- *National Parks and Wildlife Refuges.* Of over 470 national wildlife refuges, roughly one-third provide nursery areas for anadromous, estuarine, and marine fish, habitat for waterfowl and seabirds, and habitat for endangered and threatened species such as manatees.
- *The National Park System* preserves spectacular scenery and natural resources in areas including Florida, California, Maine, Hawaii, Alaska, Virginia, and the Great Lakes region.

◆ *Living marine resources.* Overfishing, habitat loss, and water-quality degradation have reduced most estuarine-dependent finfish and shellfish species to historic low levels. However, several positive changes have occurred since the United States adopted the Marine Mammal Protection Act of 1972.

- *Whales.* The eastern Pacific population of gray whales has recovered to normal levels.
- *Dolphins.* Dolphin captures by U.S. tuna fisherman have been reduced by over 90 percent since 1972, and in 1990, the three largest U.S. suppliers of canned tuna stopped buying tuna caught in dolphin-threatening nets.
- *Seals and otters.* Sea otter populations in Alaska have rebounded from extremely low levels, and the commercial harvest of Northern fur seals was ended in 1985.

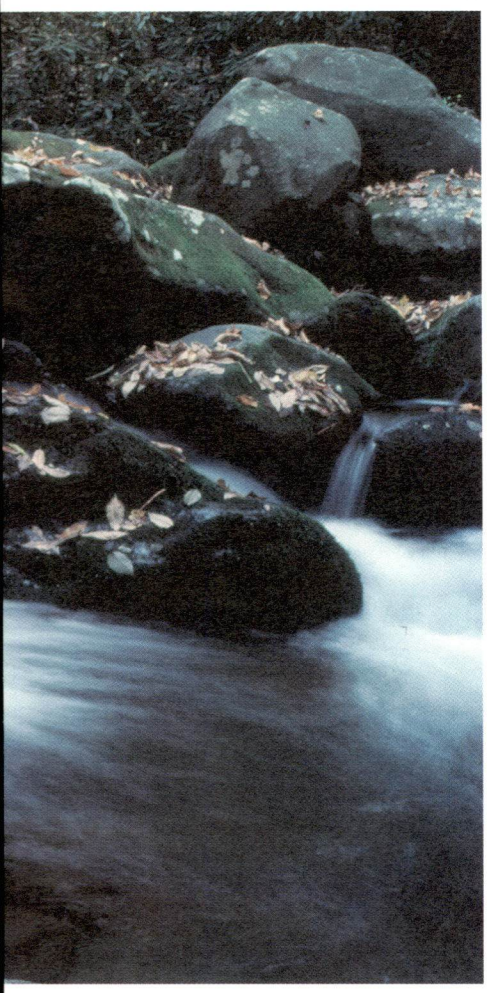
◆ *Driftnet fishing ban.* In 1991 the United States was the principal co-



"Before nature, the works of humanity seem somehow small. We can build no monuments to compare with nature. Our greatest creations really can't equal God's smallest."

President George Bush

April 18, 1990



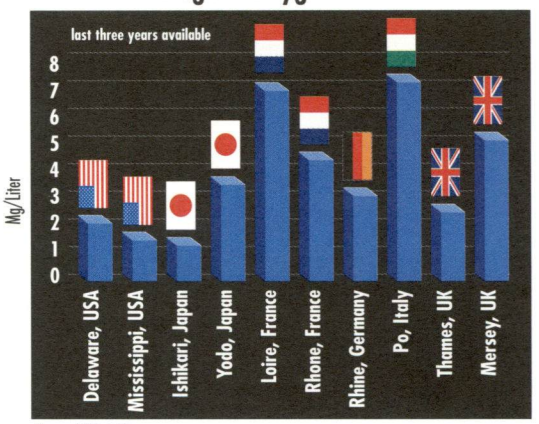
OCEANS ARE A U.S. PRIORITY AT UNCED

Encouraging other nations to join the U.S. in protecting oceans, coasts, and living marine resources is a priority at UNCED. The following U.S. proposals form the heart of the UNCED Agenda 21 ocean action plan:

- Improving coastal zone management to ensure ecologically-sensitive coastal development;
- Creating a revolving fund for sewage treatment facilities in developing countries
- Establishing a clearinghouse of marine pollution information through the United Nations Environment Programme;
- Using ecosystem approaches to manage living marine resources for maximum sustainable harvest of fisheries;
- Supporting the Global Ocean Observation System to improve understanding of ocean systems.

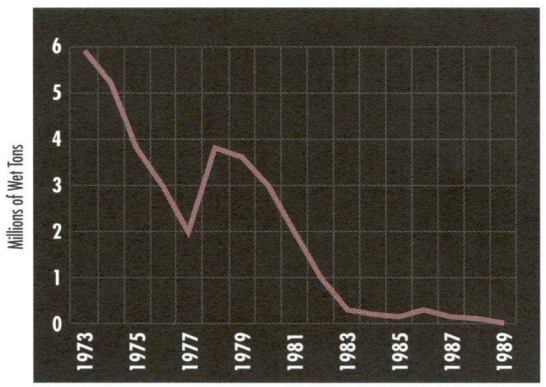
sponsor of a U.N. resolution that called for a global ban on high seas driftnet fishing by the end of 1992. Driftnet fishing is a highly destructive fishing technique that results in large incidental takes of marine mammals, seabirds, and other marine life. U.S. leadership was instrumental in persuading Japan, Taiwan, and South Korea to agree to comply with the ban.

Water Quality of Selected Rivers Biological Oxygen Demand

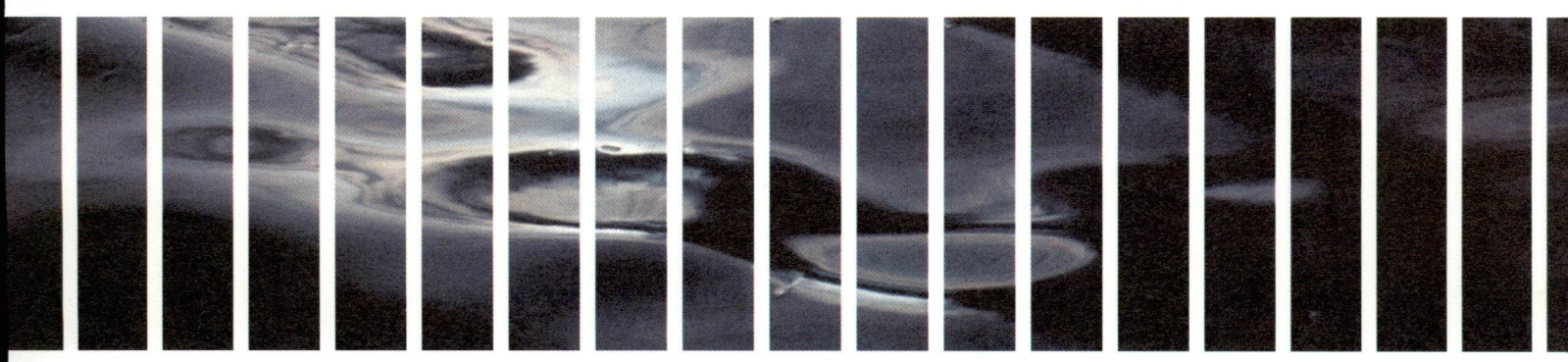


Source: OECD, 1991

Ocean Dumping of Industrial, Fisheries, Construction and Wood Wastes in US Waters



Source: EPA, Report to Congress on Ocean Dumping, 1987–1990



BIODIVERSITY

A rich variety of plant and animal species is what makes the Earth unique. Untold numbers of species have yet to be discovered — yet they hold the promise of many benefits for humanity, from curing disease to providing food and nutrition for the billions in the world.

Yet many species and their habitats are under stress. Land conversion, degradation of habitat, over-exploitation of certain plant and animal species, introduction of non-native species, and pollution have threatened to rob the planet of its vitality.

For these reasons, the United States has been a leader in enacting laws, providing assistance, and working for international agreements to protect species and habitat and preserve the biological diversity of the planet.

INTERNATIONAL EFFORTS

◆ *Assistance for Biodiversity.* The United States' aid for programs designed to aid biodiversity directly has grown dramatically from $4 million in 1987 to $73 million in 1991. In addition the U.S. has provided an additional $125 million for forest conservation.

◆ *International Agreements.* The U.S. is a signatory to various international agreements that help conserve biological resources, e.g., the Ramsar Convention on wetlands, the International Whaling Commission and the Convention on International Trade in Endangered Species (CITES). The U.S. is also working toward international conventions on forests and biodiversity.

◆ *Debt-for-Nature.* Debt-for-nature transactions, in which reductions of foreign debt are exchanged for long-term conservation commitment, are actively supported by the U.S.. Its Agency for International Development (AID) funded four debt swaps through 1990, and completed of six additional swaps totalling $30 million in 1991.

◆ *Bilateral Agreements: North American Waterfowl Management Plan.* The U.S. also has several bilateral agreements with its immediate neighbors that address resource conservation. For example, the North American Waterfowl Management Plan involves the U.S., Canada and Mexico in an effort to restore migratory waterfowl populations to 1970s levels. In the U.S., 65 wetland conservation projects totalling 96,000 hectares (237,000 acres) have been approved. In Canada, 94 approved projects affect nearly 200,000 hectares (500,000 acres). U. S. funds are supporting projects in Mexico affecting more than 800,000 hectares (2 million acres) of biologically rich wetlands and associated habitat.

◆ *Aid for Agriculture.* Without the improvements in agricultural productivity since World War II, the pressures on forest lands would be even greater in many developing countries, and deforestation even more devastating. Currently, direct annual U.S. aid for increasing agricultural productivity and sustainability is $560 million.

◆ *Multilateral aid.* The U.S. has also funnelled aid through multilateral channels such as the World Bank and the Global Environmental Facility to help fund programs to conserve biodiversity and forests, and increase agricultural productivity.

◆ *Cooperative Research: Neotropical Migratory Bird ConservationProgram.* U.S. scientists and institutions participate in research, worldwide, designed to further our knowledge of individual species, ecosystems and biodiversity. Of birds that nest in North America and winter south of the border, 71 percent are in decline for complex reasons. This program, also known as "Partners in Flight", involves Federal, State, and private organizations in Canada, the U.S., Mexico, the Caribbean, and Central America in research, monitoring,and habitat management to address the problem.

RESEARCH

The U.S. is proposing to augment existing research and inventory programs by encouraging nations to undertake national biodiversity inventories and establish centers to coordinate such

research. The U.S. will establish its own national center for biodiversity information in the near future. The U.S. has also offered to host a meeting of international experts to advise nations on such issues as data comparability and inventories. The U.S. has an extensive research program that addresses genetics, sustainable management of resources, habitat fragmentation, threatened and endangered species, species viability, biological communities, landscape ecology, assessment technologies, monitoring, and global change effects.

THE U. S. STRATEGY FOR PRESERVING BIODIVERSITY

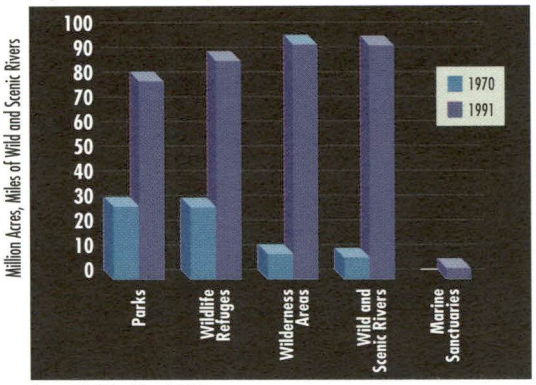
Reducing Habitat Loss:

Under President Bush's leadership, the United States is aggressively pursuing several efforts to reduce habitat loss, including:

◆ *Purchasing Sensitive, Threatened, Areas.* The Land and Water Conservation Fund purchases lands for conservation purposes. Between 1965 and 1991, this Fund spent over $17 billion (in 1990 dollars) to purchase about 2.8 million hectares (6.9 million acres) to augment National Parks, Wildlife Refuges, Forests, Grasslands and other Federal and State land holdings.

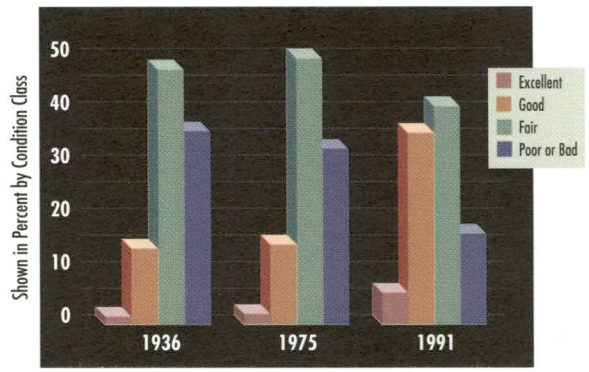
The President Bush's budget for 1993 requests $ 306 million for Federal acquisition of park, forest, refuge and other public lands, an increase of 61 percent over the 1989 budget. It also includes $ 60 million for the partnership with the States to create State parks.

Expansion of Major US Federal Protected Areas



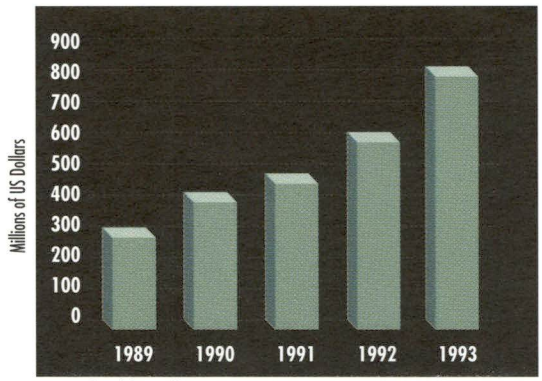
Source: USA National Report, 1992

Condition of Public Domain Rangelands



Source: Bureau of Land Management, 50 Years of Public Land Management, c. 1986 and unpublished data

Wetlands Funding



Source: Budget of the United States, 1993 & 1992

The U.S. National Wildlife Refuge system is one of the most important features of the U.S. public lands inventory from the perspective of preserving biological diversity. Wildlife refuges are specifically set aside to allow for conditions in which fish, birds, and other wildlife will thrive. Since coming to office, President Bush has established 57 new wildlife refuges, and has added over 300,000 hectares (750,000 acres) to the U.S. National Wildlife Refuge System. Today, there are 36 million hectares (89 million acres) in the National Wildlife Refuge system.

◆ *Establishing Protected Areas.* About 82 million hectares or 9% of the U.S. land mass has been set aside as National Parks, Wildlife Refuges, Wilderness Areas, and Wild and Scenic Rivers. In addition, about 1.5 million hectares (3.7 million acres) have been put into National Marine Sanctuaries and National Estuarine Research Reserves. Little or no development or human activity, other than controlled recreation, is allowed in these specially-protected areas.

In just the last four years, over 2.6 million hectares (6.4 million acres) have been designated as wilderness areas, 4,300 kilometers (2,700 miles) have been added to the U.S. Wild and Scenic Rivers, and five new national marine sanctuaries have been created.

The U. S. also manages an additional 171 million hectares (423 million acres, or 19% of the U.S. land mass) of National Forests, grasslands, rangelands and other lands which permit multiple uses such as hiking, camping, boating and other recreational uses, conserving fish and wildlife, timber harvesting, livestock grazing and mineral extraction. These lands too are managed so that they provide for the diversity of plant and animal communities.

State and local governments manage a significant portion of the 28.5 million hectares (70 million acres) under their control as wildlife, conservation and other specially-protected areas. Finally, private landowners and non-profit conservation groups have nature reserves and wildlife sanctuaries on about half a million hectares.

◆ *Wetlands Protection:* Efforts to protect wetlands helped reduce the rate of wetland losses in the lower 48 states. Approximately 180,000 hectares (450,000 acres) of wetlands were being lost each year from the 1950s to mid-1970s. Current information indicates losses have been reduced to approximately 48,000 hectares (119,000 acres) per year between 1982 and 1991.

This rate of wetland loss is continuing to decline as the Federal government, states and private organizations develop programs designed to make progress toward the President's goal of no-net-loss of wetlands by protecting existing wetland resources and by taking advantage of opportunities to restore or create new wetland systems.

Just in the last four years, U.S. funding for wetlands research, enhancement, and acquisition programs has increased from $295 million to $600 million, with $812 million requested in 1993. Because of this increase, the U.S. is now acquiring or restoring over 200,000 hectares (500,000 acres) of wetlands per year.

◆ *Conservation Reserve Program.* Under this program, extended in the 1990 Farm Bill, 16 million hectares (40 million acres) of highly erodible, environmentally sensitive croplands can be withdrawn from production and restored to conditions that control soil erosion, protect water quality, and in many cases provide improved habitat.

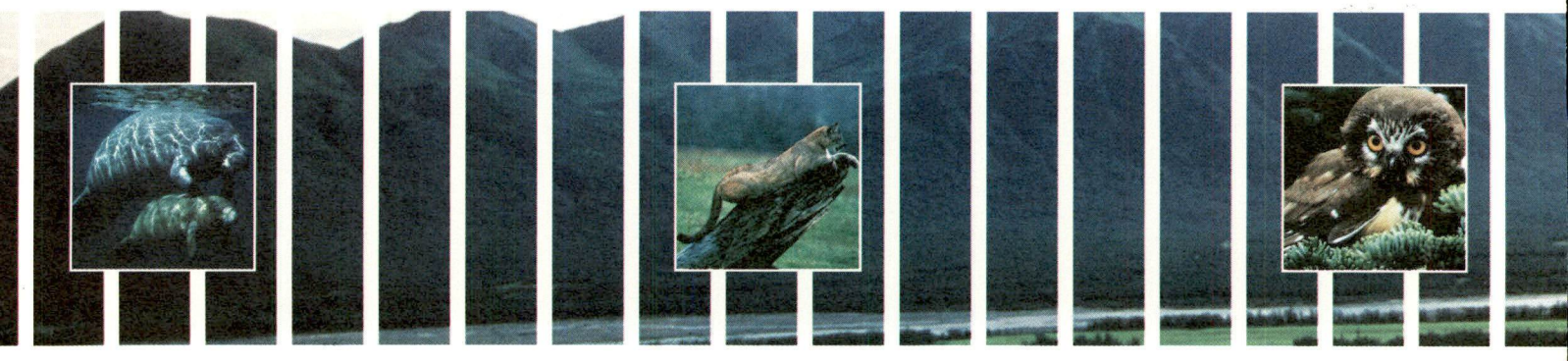
◆ *Wetlands Reserve Program.* Up to 405,000 hectares (one million acres) of former wetlands previously converted to cropland can be restored to conditions suitable for migrating waterfowl and other wetland-dependent species. President Bush has requested funds to support a one million acre enrollment in this program, although in its first year of operation, the U.S. Congress reduced requested funding.

◆ *"Swampbuster" provision.* The Food Security Act of 1985 provided farmers a major disincentive to convert wetlands to agriculture by denying any USDA farm program benefits to a farmer who produced commodity crops on land that was converted after 1985. This was extended by the 1990 Farm Bill, signed by President Bush.

◆ *Water Quality Incentives Program.* This program authorizes incentive payments to farmers to reduce agricultural sources of pollution on up to 4 million hectares (10 million acres) of cropland while maintaining agricultural productivity. The program was initiated in the 1990 Farm Bill, and funding of $6.75 million was appropriated in 1992. President Bush has requested $10 million for 1993.

FEDERAL LAND AND RESOURCE MANAGEMENT PLANS AND POLICIES

In addition to the 9 percent of U.S. lands that are specially-protected, the Federal government owns and manages over 23% more of the U.S. land mass. Most of this is managed by the Bureau of Land Management (BLM) and the



U.S. Forest Service. These agencies base their management on principles of multiple-use and sustained yield. Conservation and management of ecosystems and fish and wildlife communities are integral parts of their management programs.

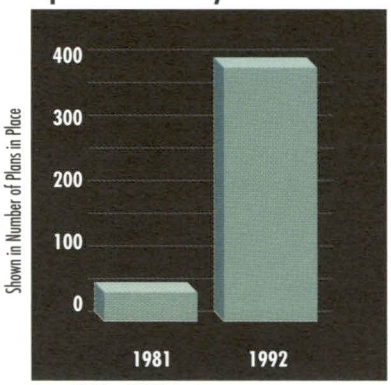
◆ *BLM and Biodiversity.* The BLM oversees 108 million hectares (259 million acres) of public land, about one-eighth of the U.S. located mostly in the 11 western states and Alaska. Resource Management Plans are directed to manage forests in ways necessary to sustain biodiversity.

Management of BLM lands includes a major program to recover and conserve over 160 federally listed and 1200 candidate threatened and endangered species.

BLM has designated 484 Areas of Critical Environmental Concern, covering about 3.2 million hectares (8 million acres), which are given special management to protect important fish and wildlife resources. BLM has alsoestablished 7 National Conservation Areas covering about 5.7 million hectares (14 million acres) to conserve resources of outstanding or exceptional national value, including ecological resources.

◆ *Forest Service and Biodiversity.* The Forest Service (FS) manages 155 national forests, 19 national grasslands and 83 experimental forests and ranges, with a total area of 76 million hectares (188 million acres). The National Forest Management Act specifically states that management plans are to "provide for diversity of plant and animal communities." Forest Plans are directed to provide habitat conditions that will sustain population numbers and distributions of sensitive species needed for long term viability of all native plants and animals.

Threatened and Endangered Species Recovery Plans in Place



Source: US Fish and Wildlife Service

National Forest System management includes a major program, "Every Species Counts", to recover and conserve over 200 federally listed threatened and endangered species.

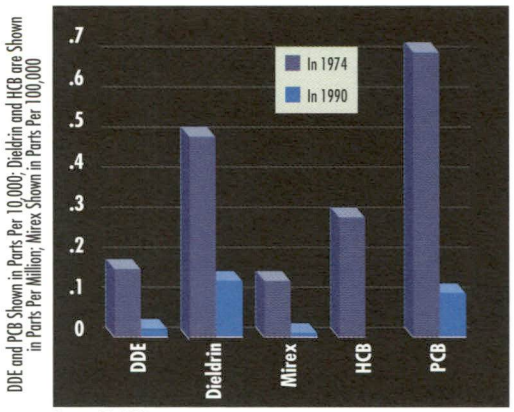
Natural areas in the National Forests are protected in 14 million hectares (34 million acres) of designated wilderness and over 200 Research Natural Areas with over 80,000 hectares (200,000 acres).

The Forest Service also helps conserve biodiversity on state and private land through cooperation and technology transfer with land managers.

RESTORING DEGRADED HABITATS AND CONTROLLING NON-NATIVE SPECIES

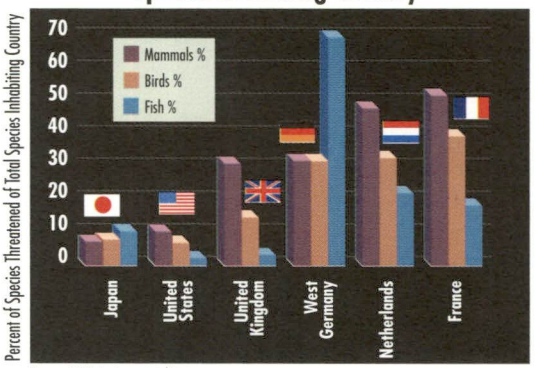
◆ *Rangelands condition.* Between 1945 and 1985, grazing on the public domain lands was reduced by 37 percent, and conditions on those public lands have improved. Overall, U.S. rangeland is now considered to be in its best condition since the beginning of the century, with about 80 percent rated as stable or improving. Further improvement is expected as the BLM implements its "the Range of Our Vision" program.

Contaminant Levels in Herring Gull Eggs in Lake Huron



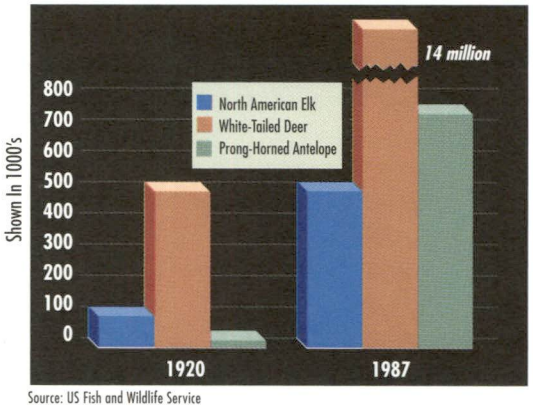
Source: CEQ, 1991

Percent of Species Threatened of Total Species Inhabiting Country

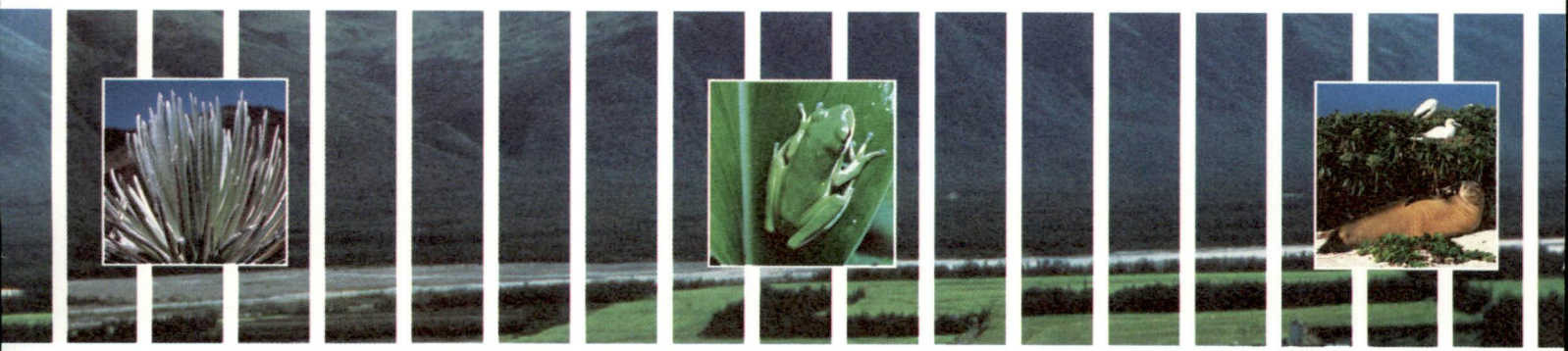


Source: OECD Environmental Data

Trends in Abundance of Certain Species



Source: US Fish and Wildlife Service



◆ *Re-establishing native fishes.* "Bring Back the Natives", a joint BLM/USFS program aims to re-establish native species in aquatic habitats. Almost 69 percent of U. S. threatened and endangered fishes and more than half of the fishes that are candidates for listing are found on these lands.

◆ *Habitat management.* Lands are also managed for restoration and recovery of rare plants and animals, for example, through prescribed burning of jack pine for Kirtland's warbler.

◆ *Wetland restoration.* Wetland restoration is a growing trend in the U.S. For instance, the Bush Administration has proposed a $370 million program to restore 17,400 hectares (43,000 acres) of wetlands and the original course of the Kissimmee River in Florida.

The FWS's "Partners for Wildlife" Program, since 1987, has entered into over 7,000 voluntary agreements with private landowners to restore converted and degraded wetlands on their property. To date the Partners for Wildlife program has helped restore about 60,000 hectares (150,000 acres) of wetlands on private lands.

Because stream and associated riparian zones are critical to wildlife and livestock in the arid West, the BLM aims to restore 56,000 kilometers (35,000 miles) of streams in the arid West by 1997.

◆ *Controlling exotic species.* Aggressive programs are sometimes needed to control exotic species that prey upon and displace native species. For example, efforts are underway to control by natural methods the sea lamprey which entered the Great Lakes via the St. Lawrence Seaway by release of sterile male sea lampreys in key waterways.

CONSERVING SPECIES

There are over fifteen Federal laws which protect and conserve particular species or groups of species in situ. Because no species exists in isolation, thse laws have also served to protect broad communities and ecosystems. The broadest of these is the Endangered Species Act of 1973. This Act gives the Secretary of the Interior, the authority to list species as "threatened" or, if they are in imminent danger of extinction, "endangered". The Act allows the Secretary to designate critical habitat for threatened or endangered species based on the best available scientific and commercial data within one year of the listing of a species as threatened or endangered.

Finally, the Act requires that the Secretary of the Interior develop and implement a Recovery Plan to enable the listed species to recover.

Of the 681 U.S. plant and animal species listed as threatened or endangered in March 1992, 45 percent are plants. About 10 percent are mammals, with approximately equal proportions (about 13 percent) of birds, fishes and invertebrates, and a lesser percentage (6 percent) of reptiles and amphibians combined.

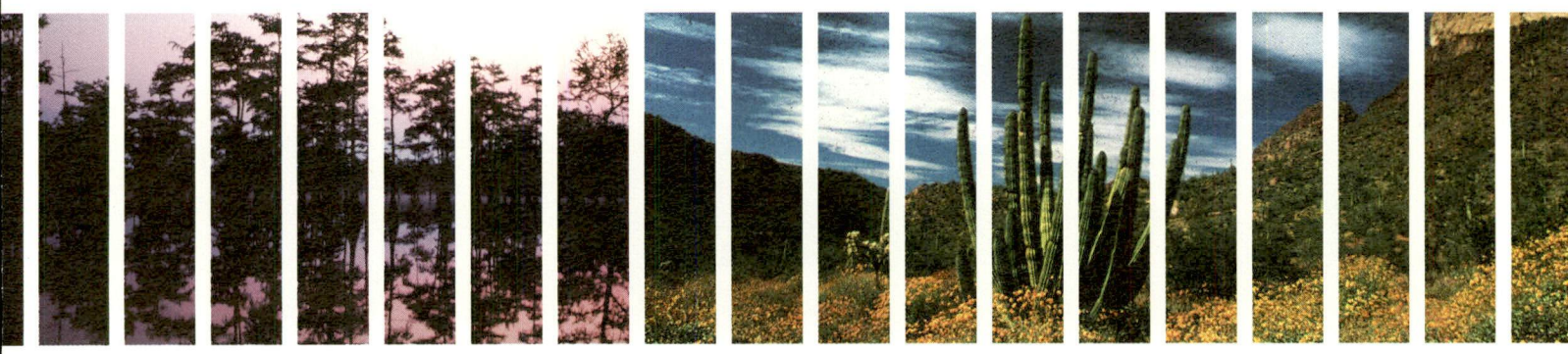
As of 1991, 41 percent of the listed species' populations were stable or increasing, 38 percent were declining, the status of 19 percent was unknown and 2 percent were believed extinct.

Even though these laws have a relatively narrow focus, they have been successful in bringing back a number of species including thenation's symbol — the bald eagle, the whooping crane, the American alligator, the red wolf, the peregrine falcon, the trumpeter swan and several species of marine mammals. However, for some species, populations continue to decline in spite of best efforts, e.g., manatees and marine turtles.

Two examples of success in species protection and recovery include:

◆ *Dolphin capture by U. S. fishermen reduced by 90 percent.* In 1972 U. S. purse seine fishermen killed 423,678 dolphins. With new gear this was reduced to less than 20,000 yearly in the 1980s. In 1990, the observed kill of dolphins by U. S. fishing boats was 5,083.

◆ *Sea otters thriving.* Between 1965 and 1969, 402 sea otters were translocated to six areas in Alaska. Those areas now have nearly 4,000. Sea otters in Alaska are now estimated to total 100,000 to 150,000.



SUPPLEMENTARY POLLUTION CONTROL LAWS

Even though a major focus has been on the improvement of human health, several laws designed to reduce pollution from soil, water and air help supplement species-specific and other conservation laws.

In particular, the Federal Insecticide, Fungicide and Rodenticide Act, the Toxic Substances Control Act and the Clean Water Act have helped reduce pesticide and excess nutrient loadings in the soil and water.

After increasing steadily throughout the 1960s and 1970s, overall use of both fertilizers and pesticides peaked in the early 1980s. Over the past 20 years, the United States has banned DDT, canceled the registration of 34 other pesticides and eliminated the use of 60 toxic inert ingredients.

America's bald eagle population was seriously threatened by the widespread use of DDT and other organochlorine pesticides until they were banned in the 1970s. The number of bald eagles in the lower 48 states has increased from as few as 1,000 nesting pairs in the early 1960s to over 3,000 nesting pairs. Other threatened species affected by DDT have also shown signs of recovery, including the California brown pelican and the peregrine falcon.

EX SITU CONSERVATION MEASURES

◆ *National Plant Germplasm System.* The National Plant Germplasm System provides reserves of genetic material essential to maintaining the nation's major crops. The system is the world's largest distributor of plant germplasm annually supplying more than 230,000 samples to more than 100 nations.

◆ *American Type Culture Collection.* The American Type Culture Collection (ATCC) is a gene library and a national repository for microorganisms that collects, propagates, preserves, and distributes cultures of microorganisms, cell lines, animal and plant viruses, and special gene and cellular products. Over 42,000 strains of microorganisms-freeze-dried or in live culture-are available for use in education, research, and various scientific and industrial applications.

◆ *American Zoos, Museums, Aquariums and Botanical Gardens.* These institutions have played a critical role in educating the public and instilling in them an appreciation for fish, wildlife and plants, and their inter-relationships.

Many species that are extinct in the wild survive only in these *ex situ* institutions. In a number of instances, captive breeding, greenhouse and nursery programs have been instrumental in increasing populations of endangered species sufficiently to allow their reintroduction into the wild. Successful examples include the San Joaquin kit fox, the peregrine falcon, the Hawaiian silversword, and the Knowlton cactus.

A network of U.S. and Canadian zoos and aquariums conducts a Species Survival Program for native and exotic wild animals. Of 156 institutional members, 128 have species survival plans for threatened and endangered animals. Member institutions cooperate with public agencies on captive breeding programs for native species including the black-footed ferret, California condor, red wolf, thick-billed parrot, whooping crane, and Puerto Rican crested toad.

STATE PROGRAMS

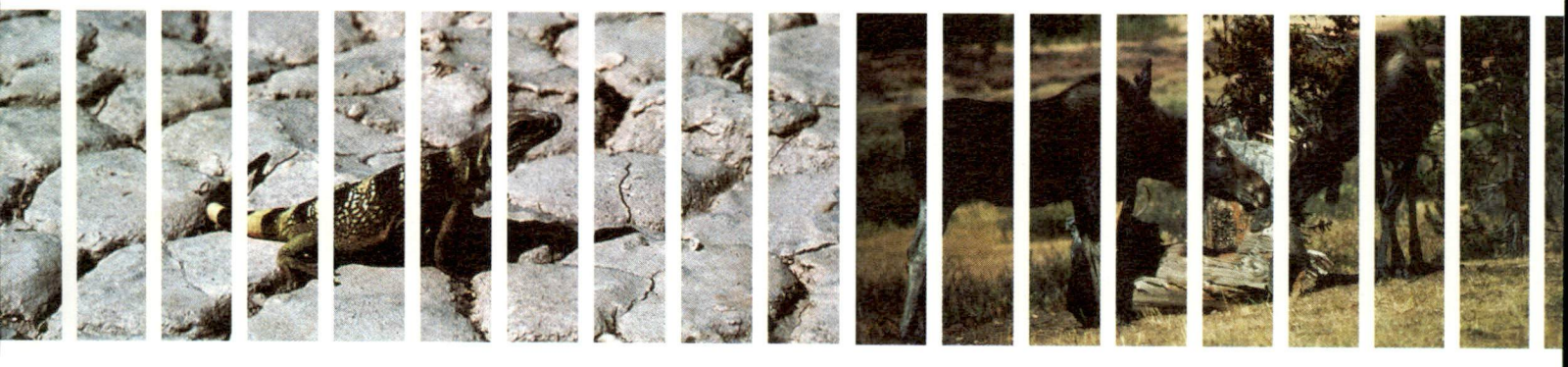
All 50 of the U.S. states have endangered species and natural heritage programs, as well as state forest and park systems. Approximately 40 states have established resource management systems whose explicit purpose is protection of "natural area" or similarly designated areas.

PRIVATE PARTNERSHIPS

Many private landowners and nonprofit conservation groups invest substantial resources to conserve biodiversity on their lands. The Nature Conservancy has over 400,000 hectares (990,000 acres) of nature reserves in 50 states. The National Audubon Society has 60,000 hectares (148,000 acres) of wildlife sanctuaries in 19 states.

In addition, thousands of private landowners have active partnerships with Federal land management agencies to preserve and restore habitat. For example, the Forest Service has arrangements with 67 conservation groups; and more than 7000 private landowners are part of the Fish and Wildlife Service's "Partners for Wildlife" program which have restored or improved about 60,000 hectares (148,000 acres) of wetlands.

The Department of Defense and the Nature Conservancy since 1988 have had a cooperative agreement "to identify, document and maintain biological diversity on defense installations".



WASTES

AND TOXIC SUBSTANCES

THE HAZARDOUS AND MUNICIPAL WASTE PROGRAM

Waste is an inevitable by-product of any society, and the challenges of waste disposal — whether the waste is solid, liquid, gaseous, or hazardous — can be formidable. The U.S. has met these challenges with the implementation of comprehensive laws, regulations, and institutional policies which not only promote the reduction of waste but seek to prevent and manage waste in a comprehensive fashion, from its generation to its ultimate disposal.

By 1985, the first comprehensive national survey revealed that U.S. industry was generating approximately 275 million metric tons of hazardous waste per year. Prior to 1976, Federal and state programs exercised little or no control over hazardous waste disposal. As a result, hazardous waste was often disposed of in an unsafe environmental manner, most commonly in municipal landfills.

In 1976, these practices were halted when the Resource Conservation and Recovery Act (RCRA) laid out the basic framework for regulating hazardous wastes. This includes regulation of the generation, transportation, treatment and disposal of hazardous waste.

More than fifteen years of experience with implementing the program has provided the U.S. with a unique opportunity to evaluate the risk posed by these wastes as well as the economic costs associated with this program, and provides a good starting point for moving forward.

The United States has spent tremendous resources managing wastes. U.S. programs are changing to ensure that the regulation of waste management is tailored to the risk posed, and that more emphasis is placed on reducing the amount of waste the U.S. generates. The RCRA program today costs the United States at least $32 billion per year. By the year 2000 it is estimated that these costs will rise to at least $42 billion per year.

WASTE AT U.S. FEDERAL FACILITIES

Hazardous waste cleanups at Federal facilities have received increasing emphasis. The President's 1993 budget proposes $5.5 billion for cleanup and compliance at Department of Energy (DOE) atomic weapons sites, more than three times the amount that was spent on this activity in the 1989 fiscal year. In less than three years, 264 locations have been cleaned of uranium contamination, two major production plants are now environmental restoration sites and numerous waste areas are closed. DOE is actively pursuing opportunities to develop new cleanup technologies and to provide for enhanced technology transfer between the DOE laboratories and industry.

WASTE EXPORTS

The United States has one of the most stringent waste export programs in the world. In 1989, the United States exported less than 1% of the hazardous waste generated within its borders, to nine countries. Under RCRA, U.S. companies are forbidden to export hazardous waste without first notifying the receiving country and obtaining that country's formal consent.

In addition to its own guidelines established under U.S. export programs, the United States has taken steps to work cooperatively with other nations to ensure the environmentally sound, transboundary movement of waste. One sign of this commitment is international agreements with Canada and Mexico specifying notice, export and enforcement procedures for hazardous waste exports. Another is that the U.S. is a signatory to the Basel Convention.

As a participant in the development of the Basel Convention, the United States looks forward to its ratification by the United States Senate. This action will enable the U.S. to continue its commitment to environmentally

safe management of wastes, as established in domestic programs and by other international agreements.

HAZARDOUS WASTE CLEANUP

In 1980, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as the Superfund program, was established to clean up abandoned or uncontrolled hazardous wastes sites. The Federal government has identified over 1,200 hazardous sites for long-term cleanup. All of these sites have undergone investigations to determine the nature and extent of contamination. The President's budgets for Superfund have significantly increased funding for direct site cleanup work to accelerate cleanup of those sites and ensure that the threats they pose to human health and the environment are eliminated as soon as possible. Long-term cleanup work has begun at 504 sites. In addition, emergency cleanup action has been taken at over 2600 sites that present immediate threats. Cleanups are financed by either the Federal government or by parties responsible for the contamination. Following the President's directive that polluters should pay for cleanup, last year the Federal government secured a record $1.4 billion in commitments to conduct site work from those responsible for hazardous waste pollution.

In addition, emergency and permanent Superfund cleanup work to date has treated, isolated, neutralized, or removed huge quantities of contaminants. This includes almost 13 million cubic yards of soils and solid wastes (enough to cover a football field more than a mile high); more than a billion gallons of ground water (enough to provide the population of New York City with drinking water for nearly five years); and more than 300 million gallons of surface water (more than a gallon for every person in the United States).

MUNICIPAL SOLID WASTE

The management and disposal of municipal solid waste is a growing national issue as available disposal options (traditionally landfills) in communities across the United States are filling up and new sites become increasingly difficult to site. Municipal solid waste is generated by households, commercial establishments and institutions such as schools.

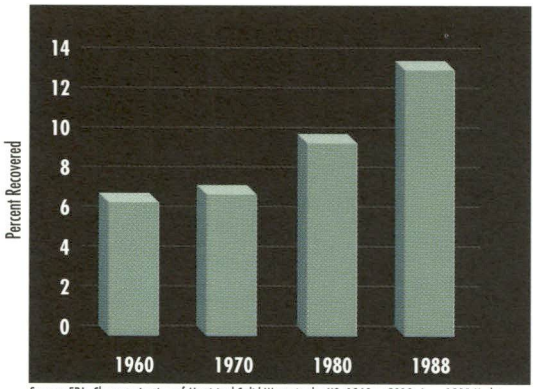
In 1988, an estimated 190 million tons, or approximately 4 pounds per person per day, of municipal solid waste was generated. Municipal solid waste management in the United States is primarily a state and local responsibility with solid waste management services typically provided by localities to their residents and paid for through state and local tax revenues.

Landfilling continues to be the dominant waste management technology in the United States. However, the percentage of waste placed in landfills is declining as the country moves toward the national goal of reducing municipal solid waste by 25% through source reductions and recycling. Approximately 73% of the waste generated in 1988 was placed in landfills, followed by incineration (14%) and recycling (13%), respectively.

The U.S. is promoting an integrated waste management approach, which recognizes that no single solid waste management technology is appropriate in all circumstances, but which includes: 1) source reduction and reuse; 2) recycling and composting; 3) incineration with energy recovery; and 4) landfilling.

The U.S. has made substantial progress in recycling. For example, the nation's recycling rate increased from 9 percent to 13 percent between 1985 and 1988 and the nation is committed to achieving its 25% recycling goal. The recycling rate is expected to continue to climb as the number of new recycling programs increases each year. Since

US Recovery of Municipal Solid Waste for Recycling



Source: EPA, Characterization of Municipal Solid Waste in the US, 1960 to 2010, June 1990 Update

1988, the number of curbside recycling programs increased by approximately 170 percent to over 2,700 programs nationwide.

◆ *Waste Reduction and Recycling.* President Bush has taken steps to ensure that Federal government agencies take a lead role in encouraging increased waste reduction and recycling. In October 1991 President Bush signed an executive order requiring each Federal agency to reduce wastes and increase recycling by taking the following actions:

- Initiate a program to promote cost-effective waste reduction and recycling of reusable materials in operations and facilities; and
- Procure more items made from recycled materials, in accordance with RCRA.

The order also establishes a Council on Federal Recycling and Procurement Policy to develop guidelines and help coordinate agency waste reduction and recycling efforts.

Finally, the Federal government continues to search for more innovative ways to encourage responsible municipal waste management. The U.S. is investigating and experimenting with economic incentives such as unit-based pricing (e.g., charging waste generators according to the amount of waste they produce) in order to encourage source reduction as well as recycling. The EPA is also participating in the development of life-cycle analysis, a method of evaluating the environmental effects of wastes throughout their life-cycle (i.e., from raw material extraction, manufacturing and disposal).

EPA's 33/50 PROGRAM

- ✔ Voluntary Program
- ✔ Companies Cut Toxic Releases by 33% by 1992 and 50% by 1995
- ✔ 797 Firms Signed Up to Date
- ✔ 341 Million Pounds of Highly Toxic Chemicals to Be Reduced

THE TOXICS PROGRAM

Industrial chemicals — metals and metal salts, organic solvents, plastic polymers, fertilizers, acid and bases, among many others — are ubiquitous in modern commerce. Most synthetic chemicals in use in the United States were introduced before the advent of Federal environmental protection laws. At the time of the Stockholm Conference, the chemical industry was largely self-regulated. As a result, the newly created EPA had very limited data on human health risks or environmental impacts from the tens of thousands of chemical in commerce.

In 1976, the Toxic Substance Control Act was enacted to address these problems. TSCA's key provisions provide screening, data-gathering, and regulatory control authority, all to enable the U.S. to make informed decisions about the manufacture, processing, use, and distribution in commerce of potentially toxic chemicals, preferably in advance of their entering the marketplace.

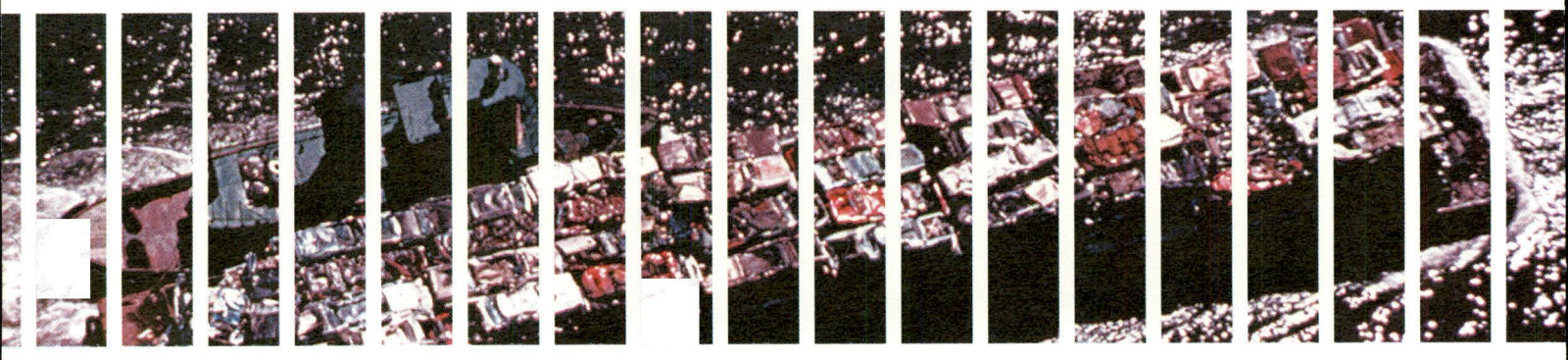
Early Accomplishments in Risk Identification and Assessment

◆ *TSCA* (section 5) requires firms to submit detailed information prior to the introduction of chemical substances into commerce. Since 1979, 20,000 new chemical substances have been reviewed with a current average of approximately 2,500 new chemicals being reviewed each year. This figure includes nearly 16,000 notices that have undergone full review and approximately 4,000 low-volume, test-market, and polymer-exemption applications. Since 1979, the Agency has taken follow-up regulatory action on nearly 1,700 chemicals.

◆ *Data gathering and risk assessment.* EPA has used its broad authority under TSCA section 8 to gather extensive information on a large number of chemical substances already in commerce, which the EPA has used to screen and evaluate potential risks posed by those chemicals.

◆ *PCBs.* The U.S. has implemented a broad regulatory program, as mandated by TSCA, that has banned PCB manufacture and restricted every other aspect of PCB use and disposal. As a direct result of this regulatory framework, the percentage of the population with "high" levels of PCBs in their body tissue has dropped from a high of about 7.5% in the mid-1970s to between zero and 2% today.

◆ *Asbestos.* The focus of much of the U.S. asbestos program has been on the inspection of asbestos in schools and the proper in-place management or removal of damaged asbestos from school buildings. Regulatory action to limit air emissions of asbestos fibers has also been taken. The toxics program is working to further restrict certain high-risk uses of asbestos within the next few years. Finally, rigorous standards have been set by EPA and the Occupational Safety and Health



Administration to limit workplace exposure to asbestos.

RECENT ACHIEVEMENTS

◆ *Lead.* In early 1991 the Federal government announced a comprehensive, multi-media strategy to reduce lead levels in drinking water and in ambient air near large stationary sources such as lead smelters and refineries, as well as stepped-up enforcement actions against facilities violating lead standards and investigations into the location of lead "hot spots."

◆ *The Toxics Release Inventory (TRI).* The Emergency Planning and Community Right-to-Know Act of 1986 provides citizens with unprecedented access to information about toxic chemicals in their communities. The TRI already has become an important national tool for promoting pollution prevention, and the TRI will be crucial for documenting the success of pollution prevention, efforts in the 1990s.

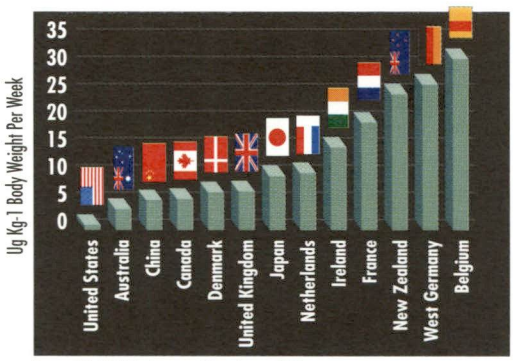
◆ *Pollution prevention through the 33/50 project.* The Pollution Prevention Act of 1990 calls pollution prevention a "national objective" and declares that "source reduction is fundamentally different and more desirable than waste management and pollution control."

The 33/50 Program for industrial toxic chemicals is the centerpiece of the U.S. pollution prevention strategy. 33/50 is a voluntary pollution prevention initiative to reduce releases and off-site transfers of 17 highly toxic chemicals by 33% in 1992 and 50% in 1995 (from a national total of 1.4 billion pounds, representing 22% of all chemical releases, based on a 1988 TRI data).

Already, the 33/50 Program has been a success in terms of industry participation and progress in meeting reduction targets. As of May 1992, 797 firms have made commitments to the program with a reduction of 341 million pounds projected when they achieve their targets, with some firms reporting reductions that exceed the target levels. These early successes reflect favorably on a number of themes inherent in the 33/50 project — fostering a pollution-prevention ethic throughout industry by promoting the benefits of obtaining measurable reductions in emissions, seeking cost-effective alternatives to regulatory command and control approaches to environmental protection, letting industry determine their own best methods to reduce pollution, and encouraging source and toxics-use reduction.

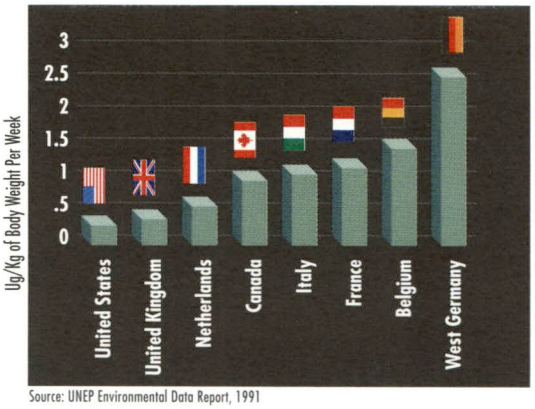
◆ *International testing initiative.* Through EPA, the United States has taken a leading role in a 13-nation effort to develop base-level data for chemicals that are produced in large quantities world-wide. This voluntary testing effort, known as the Screening Information Data Set (SIDS) program, has focused on substances of potential concern for which few test data are publicly available. Testing on more than 30 SIDS chemicals is due to be completed this year, with two further rounds scheduled.

Adult Dietary Intake of Lead (Pb)

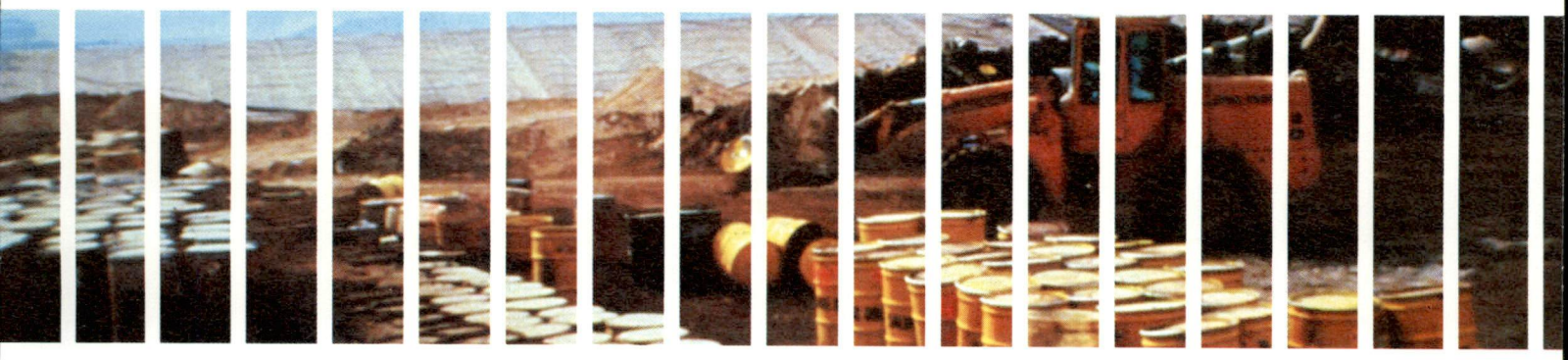


Source: EPA, UNEP Environmental Data Report, 1991

Adult Dietary Intake of Mercury (Hg) (1980–1988)



Source: UNEP Environmental Data Report, 1991



AGRICULTURE

America's lands are one of her greatest blessings. For more than a century, the United States steadily has added valued lands to her treasury of national parks, wildlife refuges, forests, and productive ecosystems. Agricultural policy, especially since the 1980s, has been reoriented to increase the market orientation of commodity subsidy programs and to harmonize environmental goals with commodity production.

THE 1990 FARM BILL

The 1990 Farm Bill, signed by President Bush, is the most environmentally sensitive farm bill in history.

- The 1990 Farm bill reflects the Administration's determination to reduce farmers' dependence on subsidies. Farmers are given greater flexibility to grow the crops that best suit the market and the environment.
- The 1990 Farm bill extended the market orientation of the 1985 Food Security Act:
  - Price supports were kept at levels which do not overwhelm market signals for sensible use of resources.
  - Acreage eligible for payments was limited , but farmers were given flexibility to plant any crop on certain acres. By decoupling current crop year yields from payment calculations, the 1990 Farm Bill helps to relieve the pressure to overuse fertilizers.
- In aggregate, U.S. commodity subsidy payments have been reduced from a high of $26 billion in 1986 to approximately $12 billion this year.

The Administration has worked for greater environmental gains in crop production policy by urging U.S. trade partners around the world to curtail their damaging practices. In the trade negotiations of the General Agreement on Tariffs and Trade, the United States seeks to restrain the distorting effects of subsidies and trade barriers.

Especially in the European Community, these distortions encourage farmers to cultivate intensively, so they tend to use more harmful fertilizers, herbicides and pesticides than they would if they were paid the market price. The United States proposal would allow all nations to reduce the budget cost and the environmental damage of subsidies. The Europeans Community's recent proposal to reform its Common Agricultural Policy is a hopeful response to U.S. calls for reform in world agriculture policy.

The Farm Bill also extended or created conservation programs that will protect the most sensitive lands. The Administration supports these programs. For example:

- The Conservation Reserve Program will withdraw almost 40 million acres of highly erodible land from production for approximately 10 years. During that time, the government pays the landowner an annual rent, as well as a portion of the cost to install an alternate ground cover.

& LAND MANAGEMENT

- The Wetlands Reserve Program has the goal of restoring and retiring up to one million acres of wetlands. The government will obtain long-term or permanent easements on the land, and pay the owners for those easements, as well as a portion of the cost of restoring the wetlands.
- Producers of agricultural commodities on highly erodible land must draw up a Conservation Compliance Plan in order to continue to receive agricultural program benefits, such as deficiency payments and farm operating loans.

PESTICIDE USE

President Bush has submitted legislation to update the federal statutes which govern the regulations of pesticide residues on food and the use of pesticides in food production.

The U.S. is also increasing efforts to reduce non-point source pollution attributed to pesticides and other agricultural inputs. Under this approach, the U.S. Government will:

- Assist states in establishing comprehensive ground-water protection programs which meet the national goals of preventing threats to human health and protecting the environmental integrity of the nation's groundwater.
- Strengthen research at USDA to determine how agricultural practices might contribute to groundwater contamination.
- Implement programs that reduce the incentives to use chemicals in crop subsidy programs.

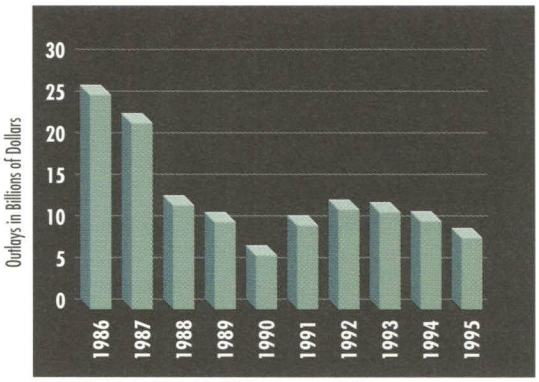
The U.S. is also placing more emphasis on sustainable agriculture. This form of agriculture is productive and profitable and will help to conserve natural resources. To support sustainable agriculture practices, the U.S. government will:

- Support programs that facilitate the technology transfer of integrated pest management practices.
- Offer educational resources and management advice to producers who seek eco-efficient means of production.

Investments in research and technology which will result in new agricultural inputs which are gentler to the environment are also being emphasized. These include:

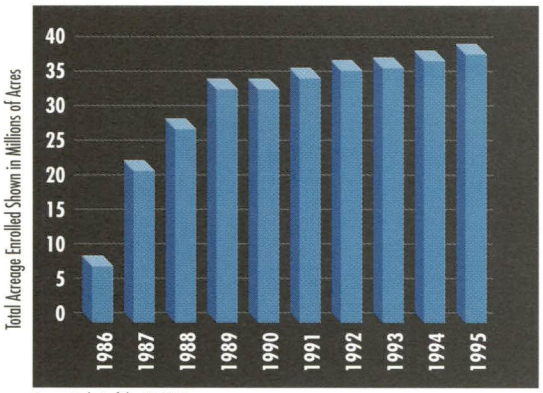
- Increased research and control activities utilizing biocontrol instead of chemical control methods.

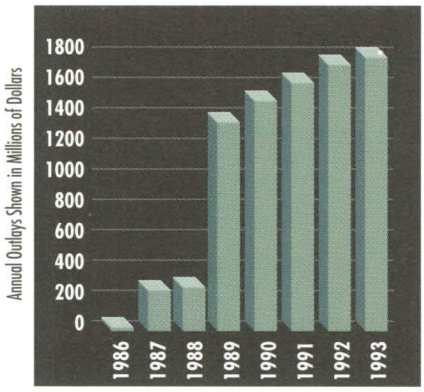
US Agricultural Commodity Subsidies



Source: USDA Agricultural Outlook April 1992; Budget on the US, 1993

Conservation Reserve Program





Source: Budget of the US, 1993

- Economic incentives for pesticide manufacturers and farmers to look for and utilize safer pesticidal products.
- Streamlined processes to obtain market approval for newer and safer pesticide products.

PRESERVING OUR NATURAL HERITAGE: U.S. PUBLIC LANDS

By the turn of the century, the U.S. already had set aside thousands of acres for future generations to use as national parks, forests, and other conservation purposes. More recently, conservation has grown to encompass not only aesthetic amenities and sustainable yield of natural resources, but also recreation and wildlife habitat. Federal ownership comprises 39 percent of the Nation's forests and 43 percent of the Nation's rangeland. Certain Federal lands are given special designations limiting land-use and activities. For example, national parks preserve areas of unique and fragile ecosystems, great beauty or significant historical values. Therefore, the use of this land is dedicated only to visitation and recreation — without resource or commercial development.

Many Federal public lands are managed under a policy of multiple use, which includes a combination of recreation, watershed protection, fish and wildlife habitat, timber, minerals and range. Significant quantities of commodities such as timber, grazed cattle, oil, gas and coal have come from the Federal lands, in addition to hunting, fishing, drinking water and camping. This multiple-use policy has been in practice on much of the Federal lands since the 1900's.

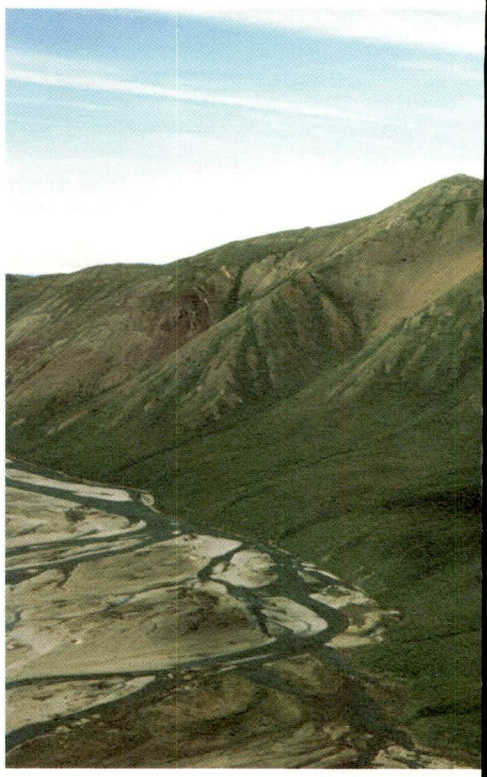
AMERICA THE BEAUTIFUL

In 1991 President Bush launched America the Beautiful, a major, multi-year natural resource conservation and recreation initiative to protect and enhance America's national parks, wildlife refuges, forests, and other public lands.

Since 1989, the President has doubled funding for parks, wildlife and outdoor recreation and has tripled funds to states under the Land and Water Conservation Fund. 20 national park units and 57 wildlife refugees have been added or proposed in addition to the existing units. In total, over 1.5 million acres have been added. Moreover, the length of rivers designated as wild and scenic has increased from 868 to 9,463 miles over the past 20 years. Finally, since 1982, the amount of restricted or dedicated use has increased significantly — an average of 1.5 million acres per year have been added to the national wilderness system.

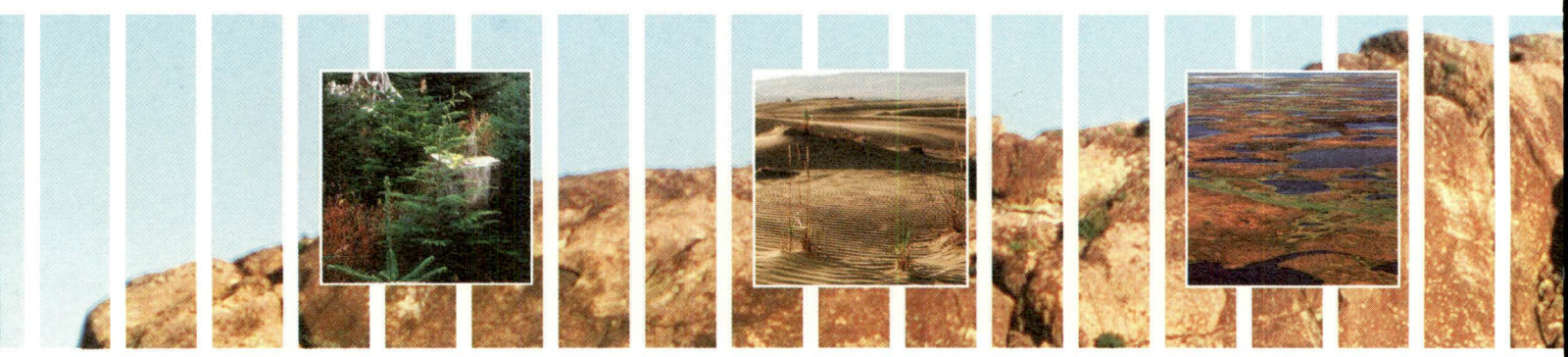
America the Beautiful consists of the following elements:

- *Enhancing Recreation and Restoration of Natural Resources* . The Bush Administration has increased Federal funding and expertise to protect threatened natural resource treasures and key Federal recreation areas in need of improvement. The 1993 budget includes $365 million for improved



"It will not be enough to merely halt the damage we've done; our natural heritage must be recovered and restored."

President George Bush
April 18.1990



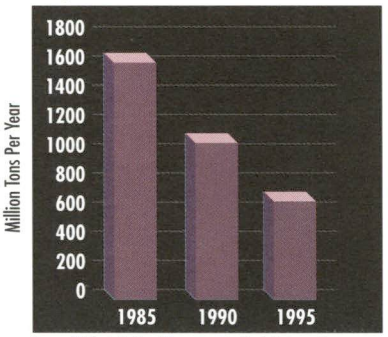
resource protection, including wetlands conservation and restoration, endangered species activities, and enhanced recreational opportunities in national park, wildlife refuge, and other public lands.

◆ *Targeted Parks: America's Crown Jewels*..To help meet the increasing public interest in experiencing and understanding America's natural wonders and rich history preserved in our national parks, the President proposed a Targeted Parks Initiative. It will establish special monitoring of critically significant resources under stress at 28 units in the National Park System and develop management models for long-term resource recovery and preservation that provide for continued public access and enjoyment.

◆ *State Challenge Cost-Share Programs* . America the Beautiful encourages expanded partnerships with private parties and State and local governments through a new challenge cost-share program for the U.S. Department of the Interior's National Park Service. Federal funds will be matched by non-Federal contributions for the protection and enjoyment of parks and refuges.

The President's outdoor program has allowed the opening of thousands of miles of new trails and the establishment of new campsites, boating access, and handicapped access facilities all across America.

Projected Soil Erosion from Croplands in US, Excess Soil Loss

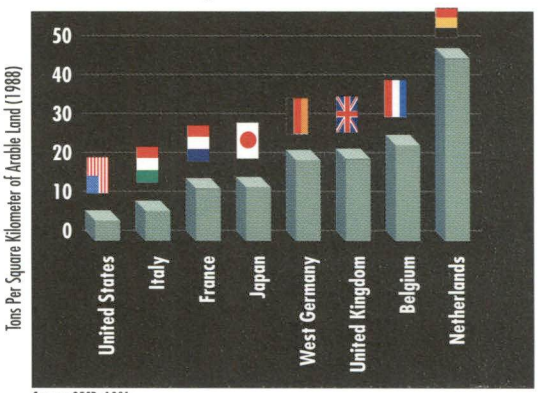


Source: USDA, Agricultural Resources: Cropland, Water, and Conservation Situation and Outlook Report, 1990

"We can serve this generation while preserving the earth for the next and all that will follow."

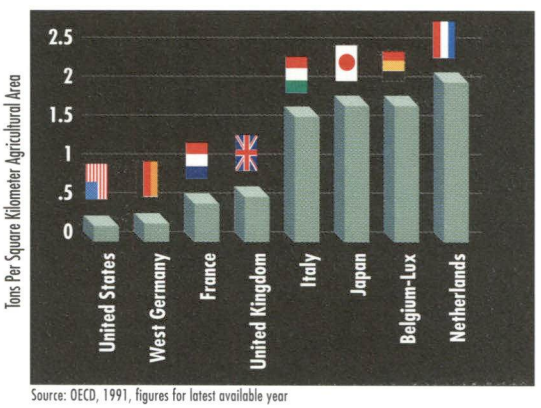
President George Bush
April 18.1990

Nitrogenous Fertilizer Use

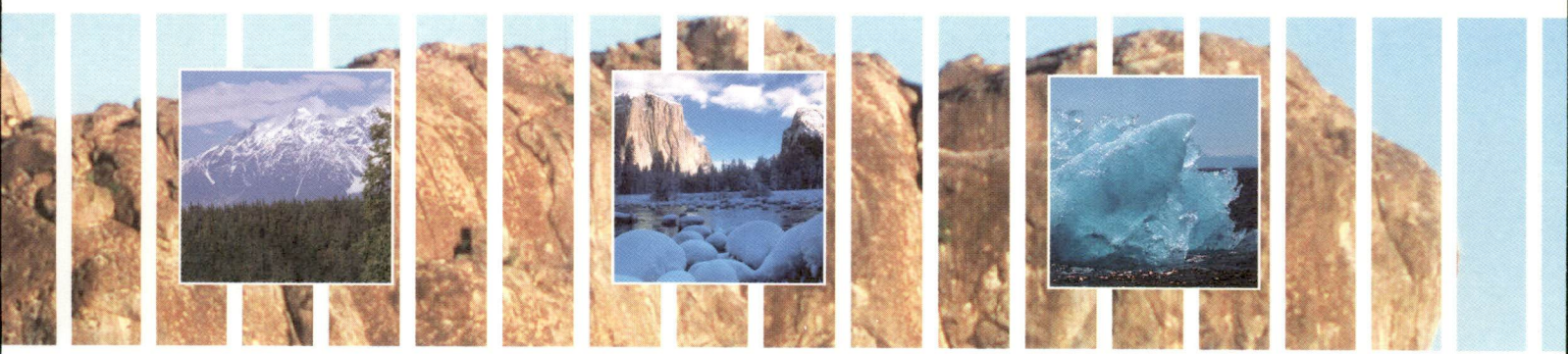


Source: OECD, 1991

Pesticides Use



Source: OECD, 1991, figures for latest available year



PUBLIC PARTI

There is no greater force for democracy, economic growth, or environmental protection than a people armed with facts. For this reason, expanding the public's role in decision-making worldwide is a top priority of the United States.

PUBLIC PARTICIPATION THROUGH UNCED

During two years of UNCED preparations, the United States worked successfully to expand public participation both in the UNCED preparations themselves and in national and international decision-making.

- The US worked to establish rules at UNCED that ensured non-governmental organizations would have access to negotiators and negotiation sites.
- The U.S. proposed and won language in the Rio Declaration and Agenda 21 that notes the importance of expanding public participation in sustainable development policy-making.
- As part of the preparation of the U.S. National Report to UNCED, the President's Council on Environmental Quality held public meetings in five cities to gather the views of diverse non-governmental representatives on U.S. environment and development policies.

PUBLIC PARTICIPATION UNDER U.S. LAW

Public participation is a hallmark of United States environmental law. Under more than 50 U.S. environmental laws and such statutes as the Freedom of Information Act and the Community Right-to-Know Act, many opportunities exist for the public to obtain information and participate in the development of laws, regulations, permits, and judicial actions.

In a comparative ranking of the G-7 industrial nations prepared by environmental groups and released at the 1991 London Economic Summit, the United States earned the highest score by a wide margin in the "public right to know" category.

- *Environmental Impact Assessments.* The United States pioneered the use of environmental impact assessments, which have influenced the design of thousands of federal projects to better accommodate environmental concerns. The law requires federal agencies to prepare detailed statements for major actions that significantly affect environmental quality, identifying impacts and evaluating alternatives. Public comment is sought, especially from individuals potentially affected by the action. Through this process, citizens have influenced a broad range of Federal actions.
- *Community Right-to-Know.* A 1986 law requires that local communities and states receive information on the routine and accidental chemical emissions of over 20,000 industrial facilities. Public awareness of these emis-

C I P A T I O N

sions has created a strong incentive for companies to reduce them voluntarily to improve community relations. In fact, in one example, since 1986 emissions from member companies of the Chemical Manufacturers Association (CMA) dropped by 40 percent, even while production was increasing by 10%.

◆ *Openness in Legislation and Regulation.* The public may influence legislation by casting votes in elections, communicating directly with legislators, or testifying in legislative hearings. Organizations representing millions of members serve as a two-way channel of information and advocacy between legislators and citizens on the full range of issues.

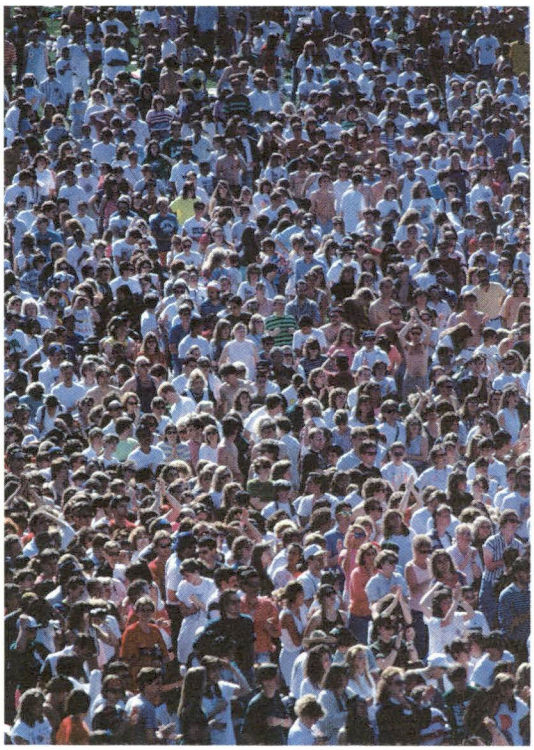
Public input is a key part of the process of developing and establishing regulations that implement a law. Proposed regulations are made widely available to the public, which is then provided a period of time to comment on the proposal. The regulatory agency may then revise the proposed rule and must explain to the public why particular comments were or were not accepted. Both the final regulation and the written response to public comments are again published in the *Federal Register*.

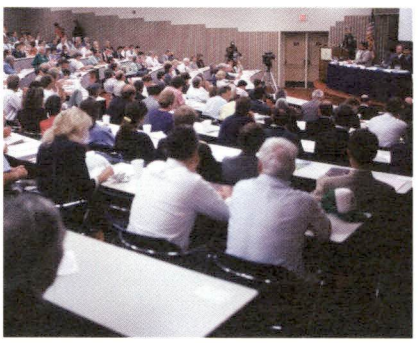
Effluent permits provided for by law are issued in a similar manner. Draft permits are published for public review and comment; agencies then issue, modify, or deny the permit based on those comments.

In recent years agencies increasingly have utilized "negotiated rule-making" to bring affected parties together to design environmental regulations. Agencies often organize public discussions, workshops, formal hearings, or formal advisory committees of interested parties to gather information and discuss environmental policy options.

◆ *Litigation.* After final regulations and effluent permits are published, affected members of the public are afforded a reasonable period of time to challenge them in the courts of the United States. Once rules and permits become effective, affected parties may seek through the courts to impose their requirements on any person alleged to have failed to comply with them. The settlements in such cases may compel compliance, payment of penalties to the government, or require convicted parties to pay the fees of plaintiffs' attorneys.

◆ *Enforcement.* The Bush Administration has provided record support for enforcing environmental laws. EPA has collected more fines and penalties in the last 3 years then in its previous 20 year history. Last year, private parties contributed a record $1.4 billion in settlements for the cleanup of Superfund hazardous waste sites.

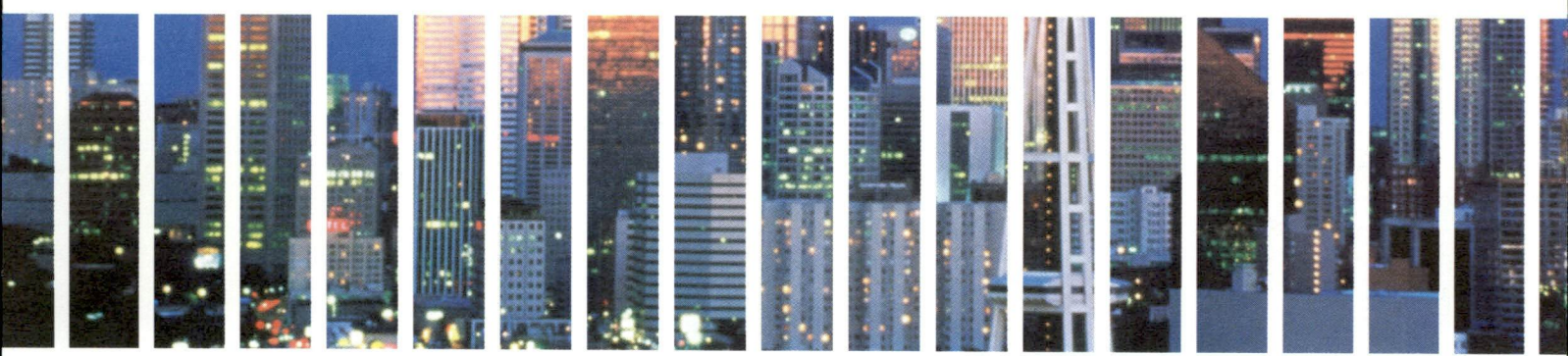




"Our message about environmental law is simple: Polluters will pay."

President George Bush

June 8, 1989



FINANCIAL AS

The United States has been the world's leading contributor of international economic assistance since 1945. Total United States assistance for economic, humanitarian, environmental, and development purposes was over $11.27 billion in 1991. President Bush's FY 1993 budget includes $734 million for international environmental financial assistance. This represents an increase of $293 million, or 61%, above 1990 levels. When combined with the portion of the U.S. contribution to multilateral bank lending that is devoted to environmental projects, total U.S. environmental international financial assistance will exceed $1.2 billion next year.

The United States recognizes that nations will benefit if a productive balance is established between economic growth and caring for the environment in both the developed and the developing world.

The United States believes that each nation must pay for the major share of its environmental efforts; however, the U.S. recognizes the need for outside resources to assist developing nations in achieving environmental objectives while working to fulfill their development aspirations.

U.S. ENVIRONMENTAL ASSISTANCE

- ✓ AID Bilateral Assistance
- ✓ Enterprise for the Americas
- ✓ Climate Change Country Studies
- ✓ OPIC Loan Guarantees
- ✓ GEF Core Fund
- ✓ GEF Parallel Financing
- ✓ Montreal Protocol Fund
- ✓ Forest Assistance
- ✓ Brazil Pilot Program

The United States and other OECD countries agree that the Global Environment Facility (GEF) should be the principal mechanism to direct multilateral aid to developing nations to fund the agreed incremental costs of projects with global environmental benefits.

U.S. BILATERAL ASSISTANCE

U.S. Agency for International Development (AID). The primary U.S. foreign assistance arm is the U.S. Agency for International Development (AID), which has an extensive global environmental program operating in 90 countries and funded at over $400 million per year. The current program includes assistance in forestry, biodiversity, coastal zone management, urban and industrial pollution, and water and resources management.

In implementing its global, national, and regional environmental programs, AID works closely with other U.S. federal agencies, other donor countries and non-governmental organizations. AID environmental projects range from small grants for local non-government organizations (NGOs) to large capital projects. The $315 million Alexandria Wastewater Project and the $904 million Cairo Wastewater/Sewage Project are examples of large scale activities. More typical are the $7.4 million program in Southern Africa to promote regional cooperation to manage and protect natural resources, the $18.5 million project in Indonesia for forestry planning and management, and the $35 million worldwide Environmental Pollution Prevention project help to reduce and prevent industrial pollution, toxic contamination, and deteriorating health.

Mexico Border Plan. The Bush Administration has worked to implement and strengthen a joint U.S. – Mexico environmental program. The Administration created an environmental action plan for the border area. The Administration secured $103 million in fiscal year 1992 for activities that support the plan and has requested $201 million for these activities in FY 1993.

Enterprise for the Americas Initiative (EAI). The Enterprise for the Americas Initiative, announced by President Bush in June 1990, generates financial resources for conservation and environmental protection in Latin America and the Caribbean. In fiscal year 1991, the United States took action to provide $34 million in total contributions to the environment in the respective local currencies. President Bush requested in fiscal year 1992 $100 million for the environment component but Congress did not approve the funds. In the fiscal year 1993 budget, President Bush has requested $135 million in country eligibility.

The entire Enterprise for the Americas Initiative aims to engage the United States in a partnership with its neighbors to increase trade, investment, and growth in the hemisphere. Progress in these areas will also help ease the pressure on scarce resources and permit more attention to domestic problems, including the need for environmental protection.

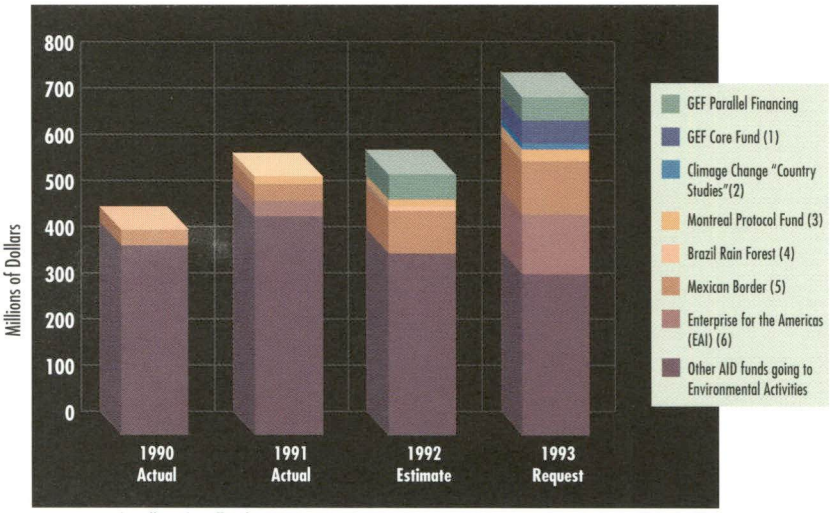
The EAI environmental component is applied when countries first qualify for a reduction of their bilateral concessional debt to the U.S. Government (AID and P.L. 480 loans) under the EAI by undertaking a strong economic reform program. If they agree to dedicate interest payments due on their remaining debt to environmental programs, these countries may deposit these monies into funds that will be administered by committees consisting of host country representatives, U.S. Government representatives and non-governmental organizations. Non-governmental organizations will hold a majority.

EAI environmental agreements have been signed with Chile, Bolivia, and Jamaica, all nations that qualified for debt reduction under the Initiative. The Bush Administration is committed to extending this program to additional nations in the region once added authority and appropriations are secured from Congress.

Climate Change "Country Studies". President Bush committed $25 million in bilateral assistance to help developing countries fund studies of greenhouse gas emissions. The "country studies" will:

- assist implementation of reporting obligations under the framework climate convention;
- aid in conducting emission inventories and vulnerability assessments;
- examine the economic impacts of greenhouse gas mitigation options; and
- build government capacity in a number of critical environmental areas.

Increases in US Environmental Financial Assistance



Source: USAID, Budget Office and US Office of Management and Budget

(1) The US is committed to provide these funds and will do so within the parameters of the FY 1993 budget.
(2) The US has pledged in FY 1994 an additional $12.5 million.
(3) The President requested $20 million for FY 1992, but Congress provided only $15 million.
(4) The US pledged $20 million to the pilot program in FY 1992, $5 million of which goes to the trust fund. The remaining $15 million is bilateral cofinancing over several years.
(5) Only includes spending in Mexico, no dollars are included for US activities in border area.
(6) Shows total contributions by host countries in local currency to the environment as a result of US debt forgiveness. For FY 1992, the President requested $100 million for the EAI environment component, but Congress did not approve the funds. The FY 1993 amount of $135 million shows the June 1992 estimate of country eligibility.

Polish Environmental Foundation. The United States provided the means for the Polish government to fund a Polish Environmental Foundation. The U.S. accomplished this by going beyond the large Polish debt reduction previously agreed to by the Western creditor governments and providing an additional 10 percent reduction in the debt obligations owed to the U.S. Government.

The U.S. action used a provision in the Paris Club agreement on Polish official debt reduction that allows additional voluntary debt reduction or debt swaps. This action is part of a multilateral agreement among Poland's bilateral creditors to reduce its official debt by 50 percent.

Budapest Regional Environmental Center. President Bush has directed AID and the Environmental Protection Agency to support the Budapest Regional Environmental Center in Central and Eastern Europe. This center conducts policy analysis, and helps raise public awareness. Public education targets include pesticide disposal, lead in drinking water, and energy conservation.

U.S./Japan Environmental Resource Center Program. The U.S./Japan Environmental Resource Centers will be a network of four national institutions located where the natural resource base is most threatened in Central and South America, Africa, and Southeast Asia or the South Pacific. The Program is

designed to support environmentally sound development by generating the knowledge and enhancing the human capacity necessary to promote the rational and wise use of natural resources in developing countries.

U.S./Asia Environmental Partnership (USAEP). The U.S. Asia Environmental Partnership is an unprecedented coalition of U.S. and Asian government units, businesses and community groups working together to enhance Asia's environment. Twenty U.S. Government agencies are collaborating to support the USAEP. Environmental fellowships in training, technology cooperation, environmental infrastructure and regional biodiversity conservation network are the focus of the partnership.

OPIC'S CONTRIBUTION

The U.S., through the Overseas Private Investment Corporation (OPIC), is helping to support investments in developing countries that practice sound environmental management. The Environmental Investment Fund is a $100 million equity fund, up to $40 million of which will be contributed by OPIC, and $60 million of which will be raised by the sale of limited partnerships for new or expanding enterprises in such countries. The fund, which will be privately owned and managed, seeks investments in the following fields:

- Sustainable agriculture and forest management;
- Ecological oriented tourism;
- Renewable and alternative energy technologies; and
- Pollution prevention technologies.

By using the power of the marketplace for the environment, OPIC seeks to apply practical, private sector solutions to pressing environmental needs of the developing world. Supported projects not only foster economic development, but promote a healthy environment, by offering peoples of developing nations market incentives for protecting their natural habitat.

MULTILATERAL FINANCIAL ASSISTANCE

The United States is providing leadership in the multilateral development banks in increasing the environmental considerations which govern bank lending policies. Progress has been made in the areas of environmental impact assessment and forest policy.

Global Environment Facility (GEF). The U.S. and other OECD countries agree that the GEF should be the principal mechanism for providing financial assistance to developing nations for the purpose of funding the agreed incremental costs of projects with global environmental benefits.

The GEF, formally established in 1991, is managed by the World Bank under a tripartite arrangement involving the Bank, UNDP and UNEP. It has resources of $1.4 billion and is currently operating on a three year pilot basis. The GEF funds innovative and demonstration projects in four key areas: greenhouse gases, ozone depletion, biological diversity, and international waters.

The Bush Administration has pledged $50 million to the GEF Core Fund and $150 million in parallel financing over a three year period. The U.S. is the largest contributor to the pilot program.

Montreal Protocol Fund. The United States is contributing $50 million to the Interim Multilateral Fund over a three year period. The fund was established under the Montreal Protocol to help developing countries with the transition to CFC replacement technologies. The U.S. is the first and largest contributor to the fund.

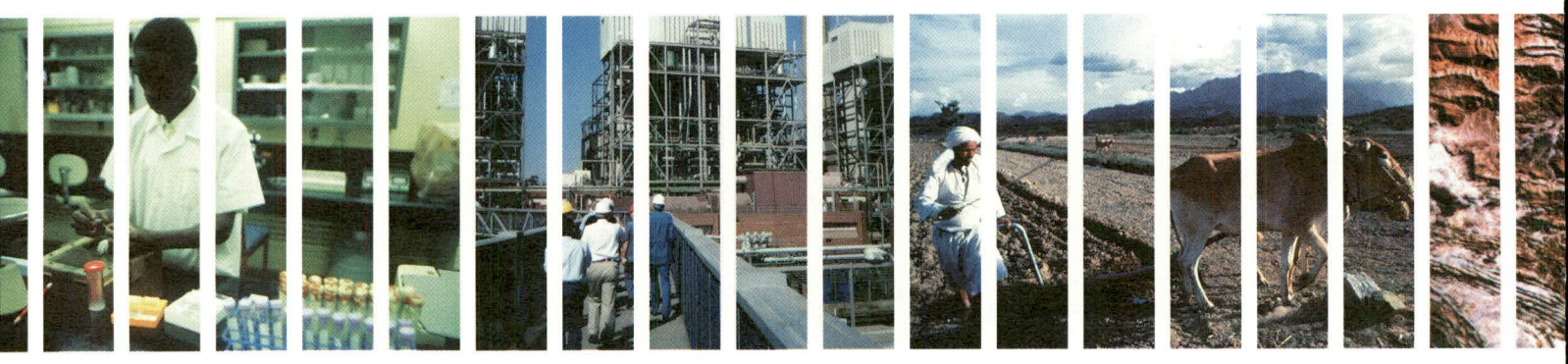
Brazil Pilot Program. The Brazil Pilot Program grew out of a commitment made by the G-7 leaders at the Houston and London economic summits. The Bush Administration has responded with action by pledging $20 million dollars in fiscal year 1992.

Projects to be funded through the pilot program will focus on: environmental monitoring and surveillance, environmental enforcement and control, strengthening of state environmental entities, and environmental education. A science and technology component is included that has a directed research project and two science centers of excellence.

The participants in the December 1991 meeting in Geneva made pledges of financial support totalling $250 million to be coordinated by the World Bank which includes new and ongoing programs. This program emphasizes the participation of non-governmental organizations and aims to develop replicable demonstration projects.

Multilateral Investment Fund. The Multilateral Investment Fund (MIF), which will be administered by the Inter-American Development Bank, will fund advisory services to help countries reform laws to protect the environment. It will also provide resources for the training of individuals who serve in regulatory positions that are designed to protect the environment.

Environmental Impact Assessments



(EIA) in the World Bank. The World Bank's operational directive on environmental impact assessment was revised in October 1991 to include new and stronger provisions that were goals of the U.S. These provisions included improvements in public access to environmental information in borrowing countries, and strengthening of requirements on the use of international environmental advisory panels. These changes constitute a dramatically improved World Bank approach for addressing the environmental impacts of their lending program.

The U.S. continues to work with the regional MDBs to strengthen its EIA procedures.

Multilateral Development Bank Forest Policy. The U.S. has also pressed the multilateral development banks for improvements in policies relating to forests and forest resources. In August, the World Bank adopted a new forest policy that represented a significant improvement over its previous policy. It places greater weight on the protection and conservation of forest areas and on considering forest impacts from policies on transportation and agriculture. It also prohibits direct or indirect support of commercial logging activities in tropical primary forests.

Energy Efficiency and Conservation. At the suggestion of the U.S. Government, language was included in the IDA-9 Replenishment Agreement providing for greater attention to energy efficiency and conservation measures on the demand side. One result of the initiative was a restructuring and reorientation of the World Bank's Energy Sector Management Assistance program (ESMAP).

A number of studies under the initiative identified organizational and procedural constraints within the MDB's and institutional and policy problems within borrowing countries. Recommendations include the use of integrated resource planning in all economic sectors, an institutional building program in borrowing countries, and a series of institutional and procedural changes within the MDBs themselves.

FUTURE OF FINANCIAL ASSISTANCE FOR THE ENVIRONMENT

The U.S. is committed to sustainable development. The U.S. will continue to do its part to help countries in need of financial assistance to address environmental concerns and promote sustainable development.

The U.S. approach will be based on principles we believe are necessary for effective assistance: the need for market-based economic systems; economic efficiency in projects; the integration of environmental and other policy objectives; and the value of public participation. Those areas we have identified as requiring priority attention are climate change, forests conservation of species and their habitats, conservation of marine resources, strengthening national capacities and preventing pollution.

In addition, the U.S. will continue efforts to provide financial resources for sustainable development more efficiently . This should include:

- more effective, efficient, and responsible *use of available resources*—the World Bank's regular lending programs and the use of its resources must integrate environmental and development goals;

"If developed nations ignore the growth needs of developing nations it will imperil us all. Those who have ascended the economic hill must break down the barriers to progress and assist others now making the climb."

President George Bush
April 18.1990

- *devising innovative approaches* for funding sources—such as debt-for-nature swaps;
- *seeking to mobilize further resources* from the private sector. Establishing national policies that create a favorable climate for international investment and trade is key;
- *preparing national development strategies*, in all countries, that integrate environmental and economic considerations and identify national policies and actions to promote sustainable development;
- *setting priorities* for funding;
- *supporting international financial institutions* in their efforts to reorient and strengthen their assistance towards the promotion of sustainable development;
- *devising improved mechanisms* for specific environmental purposes where appropriate; for example, the evolved GEF which will serve as the multilateral mechanism to provide needed resources to support the agreed incremental costs of achieving agreed global environmental benefits.

TECHNOLOGY

Industrialized and developing countries, working together, have an opportunity to seek new paths to sustainable economic growth and development. As awareness of the inter-relationship of global economic and environmental issues has grown, so too has the recognition that technology cooperation is at the heart of any strategy for sustainable development. The United States strongly supports technology cooperation with developing countries and countries with economies in transition.

While "technology transfer" is a generic term for the process of moving advanced hardware from wealthy nations to poor ones, it is commonly viewed as a centralized, government-to-government process. Indeed, in many important cases, technology transfer does result from official foreign assistance and exchanges.

In most cases, however, technological change occurs as the result of private sector activities such as direct foreign investment, joint ventures, licensing, exports, and professional training. For example, more than a third of the total assets of U.S. manufacturing companies are in foreign locations. Nearly one-half of the students earning advanced engineering degrees in the United States are from abroad.

"Technology cooperation" is a better term for the mutually beneficial, dynamic relationships that occur among all the parties to economic activity.

By calling for a cooperative process, the United States recognizes that the best way to promote the diffusion of technology is through partnerships with countries with whom we share common interests.

Free markets and free international trade are the major agents for the adaptation and diffusion of environmentally-sound technologies in the world today, especially for commercially applied technologies.

Expanding technology cooperation has been a U.S. priority in preparations for UNCED. Agenda 21 reflects U.S. proposals regarding the importance of intellectual property rights and the role of the private sector. Agenda 21 establishes a framework for technology cooperation including:

- information networks;
- technology assessment;
- capacity building;
- a collaborative network of research centers;
- assistance programs;
- support for technology transfer; and
- collaborative arrangements and partnerships.

Many aspects of technology cooperation undertaken by the United States fit within this framework. Moving into the 21st century, new and more efficient technologies will play an essential role in our efforts to contribute to the world's economy, protect the environment, and alleviate poverty and human suffering.

NEW U.S. TECHNOLOGY COOPERATION INITIATIVES

The U.S. is promoting several technology cooperation initiatives.

◆ ***Needs assessments*** are important because resources are limited and priorities must be developed.

Climate Country Studies will be carried out with the help of $25 million the United States has committed to enable developing countries to implement reporting obligations they undertake pursuant to the Framework Convention on Climate Change. The United States has already begun studies with three countries that will help to refine methodologies needed to conduct future analyses. Needs assessments will also be an important part of vulnerability assessments carried out by coastal states, which the United States will sponsor, through cooperation with other members of the IPCC Coastal Zone Management Subgroup (CZMS).

U.S. TECHNOLOGY COOPERATION INITIATIVES

- ✔ Climate Country Studies
- ✔ Technology Cooperation Corps
- ✔ Environmental Training Institute
- ✔ U.S. – Japan Environmental Centers
- ✔ ADEPT Mission
- ✔ America's 21st Century Program

C O O P E R A T I O N

◆ ***Training and technical assistance*** will be strengthened through the establishment of a new U.S. Technology Cooperation Corps and an Environmental Training Institute (ETI).

The Technology Cooperation Corps will be developed with the collaboration and participation of representatives of the U.S. business community, recognizing that one of the greatest sources of technical expertise and real world experience with environmental technologies and management systems is the U.S. private sector. This initiative will engage the private sector with counterparts abroad to identify ways in which U.S. corporations might share their know-how and expertise in environmental management and technology. In the process, we will identify the needs and potential for the transfer of green technologies and then eliminate the barriers to making them available.

The Environmental Training Institute will share U.S. environmental advances with the international community by providing training courses to qualified public and private-sector executives from abroad. The Environmental Training Institute represents an important joint venture between the environmental industry and the U.S. Government. Rather than build costly training facilities, the ETI will offer courses in existing laboratories, training facilities, and factories of major U.S. corporations and government agencies dealing with environmental problems.

◆ ***Capacity Building*** is a primary concern of developing countries and fundamental to U.S. technology cooperation efforts. Support for regional centers will help strengthen local expertise and regional cooperation.

The new *Inter-American Institute for Global Change Research*, which the United States has taken the lead in founding, will help strengthen the capacity of countries in the Western Hemisphere in basic research related to global change. The Institute, which will consist of a Directorate and a number of subregional centers located throughout the Hemisphere, will bring the region's best global change scientists together for research in such areas as the physical, biogeochemical and socio-economic aspects of global change.

Four *U.S. – Japan Environment Centers* will be established in East Asia, beginning with the first in FY-94. The goals of the Centers are to: 1) protect the environment and conserve biological resources, including tropical forests; 2) study and catalog biotic resources; and 3) develop sustainable methods and improved practices for the wise use of natural resources. The Centers will have a national emphasis, but lessons learned will be widely disseminated for use throughout the region.

A new *Energy Efficiency Center* has recently been established in Russia, complementing the centers previously established by the United States in Eastern Europe, including the Polish Foundation for Energy Efficiency and the "SEVEN" program in Czechoslovakia. The purpose of these centers is to promote economic development and environmental protection by improving energy efficiency.

◆ ***Technology transfer and development*** will be the focus of three new programs — Assisting Deployment of Energy Practices and Technologies (ADEPT), the America's 21st Century Program, and the International Cooperative Biodiversity Group Program.

ADEPT will provide a program of assistance to developing and Eastern European countries in their choice and application of needed new energy technologies. It will promote cooperative efforts in the areas of 1) energy technology adaptation, 2) commercial demonstrations and 3) training.

The ADEPT mission will include research and demonstration ventures that are jointly supported by DOE and host country government agencies. These joint ventures would involve U.S. national laboratory and industrial groups working on integrated project teams with their host country counterparts to assure that a viable and sustained transfer of technology and operating practices is achieved. Use of indigenous fuel sources will be stressed, including use of biomass, geothermal, solar, wind and improved efficiency in fossil fuel energy conversion.

Through the *America's 21st Century Program*, DOE will enter into a new partnership with the nations of Latin America and the Carribean, with whom the U.S. has long had a special relationship, to promote the use of commercial, renewable energy technologies. Under this program, DOE will assist the U.S. rebewables industry in forming joint ventures in these countries.

The International Cooperative Biodiversity Group Program involves AID, the National Institutes of Health (NIH), and the National Science Foundation (NSF) in joint efforts to help strengthen global efforts to protect biological and cultural diversity. The three agencies will pool their resources to establish productive linkages between economic growth, the discovery of pharmaceuticals from natural products, and the conservation of biological diversity in tropical rainforests. The new $7.5 million, five-year program is based on the premise that the wise use of forest resources, to make new pharmaceuticals in this case, will promote both economic growth and conservation of biological diversity.

An innovative aspect of the program will be to ensure that a proportion of profits derived from any successful drugs are returned to the country where the compounds were first found. These funds will then be used to promote the conservation of tropical forests. In addition, the three agencies will work together to develop inventories of native species and knowledge of medicinal uses.

"Environmentalists and entrepreneurs must see how much their interests are held in common. It's time to harness the power of the marketplace in the service of the environment."

President George Bush
June 8, 1989

◆ ***Information exchange*** can be enhanced by our new Environmental and Energy Efficient Technology Transfer Clearinghouse that has been developed jointly by the Agency for International Development (AID), Environmental Protection Agency (EPA), and Department of Energy (DOE).

The Environmental and Energy Efficient Technology Transfer Clearinghouse is an on-line, computer-based information service for which pilot programs are currently being established in Mexico City and at UNIDO in Vienna. A demonstration program is being set up in Rio to enable UNCED participants to see how it will operate. Through a series of databases, the Clearinghouse will provide information on pollution control, renewable energy, and energy efficiency technologies.

ON-GOING U.S. TECHNOLOGY COOPERATION

Technology cooperation is an activity currently supported by many agencies of the United States government.

The United States Agency for International Development (AID) supports a wide range of programs. Examples include:

◆ *The Biomass Energy Systems Technology (BEST) Program* promotes an array of technologies and innovative management practices to lower the cost of generating power in rural areas.

◆ *The Program for the Acceleration of Commercial Energy Research (PACER)* is an Indian/U.S. collaboration in science and technology to foster innovation in the Indian electric power sector.

◆ *The Private Sector Energy Development Program (PSED)* stimulates and accelerates the development of private energy and power projects in developing countries.

◆ Through its *Business and Development Initiative*, AID supports environmentally beneficial energy technologies, as well as environmental services, systems, and technologies.

◆ *International Agricultural Research Centers (IARCs),* supported under agricultural research cooperation programs funded at $60 million per year, actively support the transfer of biotechnology to help improve agricultural productivity in developing countries.

◆ *Conservation of Biodiversity*, a $48 million a year program, supports activities ranging from dendrochronological surveys to ecological assessments to buffer zone development and rehabilitation of degraded lands.

◆ *The Forest Resources Management Project* is a $43 million effort designed to strengthen the capacity of forestry and natural resource management institutions in tropical and subtropical developing countries.

◆ *U.S. – Asia Environmental Partnership* (U.S.–AEP) is the first comprehensive regional environmental partnership program. It is designed to bring together Asian and U.S. businesses, non-governmental organizations, and governments to enhance Asia's environment and promote economic progress.

The United States Department of Energy (DOE) supports capacity building programs, energy policy analysis programs and DOE assistance programs with developing countries.

With the Mexican Petroleum

Institute, DOE is helping to build monitoring and analysis tools to combat air pollution in the Mexico City Valley. Another project has assisted Brazil institute a national electricity conservation program.

◆ The inter-agency *Committee on Renewable Energy, Commerce and Trade (CORECT)* is led by DOE to facilitate exports of renewable energy technologies. Use of photovoltaics in the Dominican Republic, wind systems in Guatemala, geothermal development in Honduras and improved coal-fired technology in Poland are examples of effective technology transfers and adaptation DOE has supported.

◆ *Technology Development and Transfer Projects* sponsored by DOE include capture of coal mining methane, improved use of forest biomass in producing energy, development of small hydropower projects and transfer of a variety of solar-powered technologies.

The United States Department of Commerce supports technology cooperation through the National Oceanic and Atmospheric Administration (NOAA) and the International Trade Administration (ITA).

◆ NOAA's *bilateral cooperative activities* include systematic observations and research on earth systems; collection, analysis, and use of environmental data and information; prediction of weather, severe storms, and climate; and assessment of vulnerability to sea level rise.

◆ The *International Trade Administration* makes potential buyers and sellers of environmental technology, goods and services aware of each others' needs and capabilities and helps put them in contact.

The Department of the Interior engages in forestry, natural resource and energy supply technology cooperation activities.

◆ The *National Park Service* and the *Fish and Wildlife Service* collaborate with other governments and international organizations to provide technology cooperation to assist countries in establishing model parks and also provide wildlife management training. The NPS 20-year collaboration with Costa Rica has helped that country acquire its strong reputation in eco-tourism.

◆ The *US Geological Survey* and the *Bureau of Mines* continue a significant involvement in the activities of the Center for Inter-American Mineral Resources Information through exchanges of information.

◆ The *Bureau of Reclamation* has trained over 5,000 resource engineers and scientists from over 80 countries.

◆ The *Bureau of Land Management* provides training and technical assistance in firefighting and natural resources, including training of fire fighters in Honduras and wildlife biologists in Sri Lanka.

The Environmental Protection Agency helps countries address the full range of pollution problems, including water, air, hazardous waste, pesticides and toxic substances through a range of services, including environmental information exchange, training and institutional support, technical cooperation and assistance, and related needs.

◆ *INFOTERRA/US* serves as the U.S. focal point for the UNEP environmental information exchange and referral service, handling over 6,000 requests per year.

◆ The *Budapest Regional Environmental Center* is an important element of U.S. Support for Eastern European Democracies (SEED). A regional center has also been established in the Caribbean.

◆ *EPA bilateral and multilateral technical assistance* activities span the globe. EPA is working with in-country teams of researchers to assess options for reducing CFC use and methane emissions from coal mining in China, increasing energy efficiency in the utility and transportation sectors in several Asian countries, and developing an environmental plan for the Mexican-U.S. border area.

The Department of Agriculture has a large reservoir of technical expertise in agricultural, forest, and natural resources sciences and management.

◆ The *Forestry Support Program (FSP)* works with AID and the U.S. Peace Corps to reduce forest and related natural resource deterioration which threatens the resource base of the rural poor.

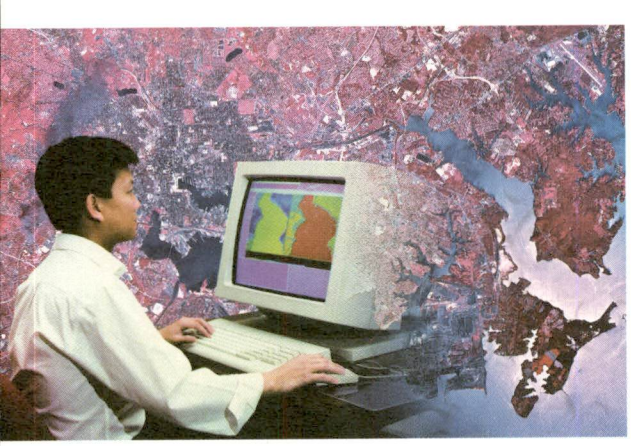
◆ The *Tropical Forestry Program (TFP)* initiated in 1990, provides training, technical assistance and support to international organizations in sustainable tropical forestry management. In cooperation with Federal and State agencies, environmental organizations, and U.S. universities, the TFP has plans for training 1,100 people in more than 25 developing countries.

"We believe that pollution is not the inevitable by-product of progress."

President George Bush
June 8, 1989

GLOBAL CHAN

One of the cornerstones to economic and industrial development is a reliance upon science and technology as the foundation of their economic development and growth. The United States is working to use that same foundation as a sound basis for environmental decisionmaking and environmental progress. The U.S. has had a long history of commitment to basic scientific research on environmental issues. The U.S., during the later part of the 1980's, developed the U.S. Global Change Research Program(US/GCRP) to address the fundamental research issues centrally relevant to global change, i.e., climate



change, ozone depletion, changes in terrestrial and marine productivity, global water and energy cycles, sea level changes, the impact of global changes on human health and activities, and the impact of anthropogenic activities on the Earth system. President Bush has substantially increased the investment in this program. His budget for FY 1993 includes $1.4 billion for global change research. The U.S. has already spent $2.6 billion since 1990 on the USGCRP. The U.S. investment represents more than half the funds spent world-wide for this purpose.

The scientific goal of the US/GCRP is to gain a predictive understanding of the interactive physical, geological, chemical, biological, economic and social processes that regulate the total Earth system and, hence, establish a scientific basis for national and international policy formulation and decisions relating to natural and human-induced changes in the global environment and their regional impacts. The US/GCRP addresses Earth system processes that vary on time scales that range from seasonal to several centuries. The US/GCRP addresses four parallel but interconnected streams of activity:

- Documenting Global Change (Observations, Data and Information Management)
- Understanding Key Global Change Processes (Physical, Geological, Chemical, Biological, and Social)
- Predicting Global and Regional Environmental Change (Earth System Modeling)
- Assessing the State of Scientific Knowledge and its Policy Implications(Assessment)

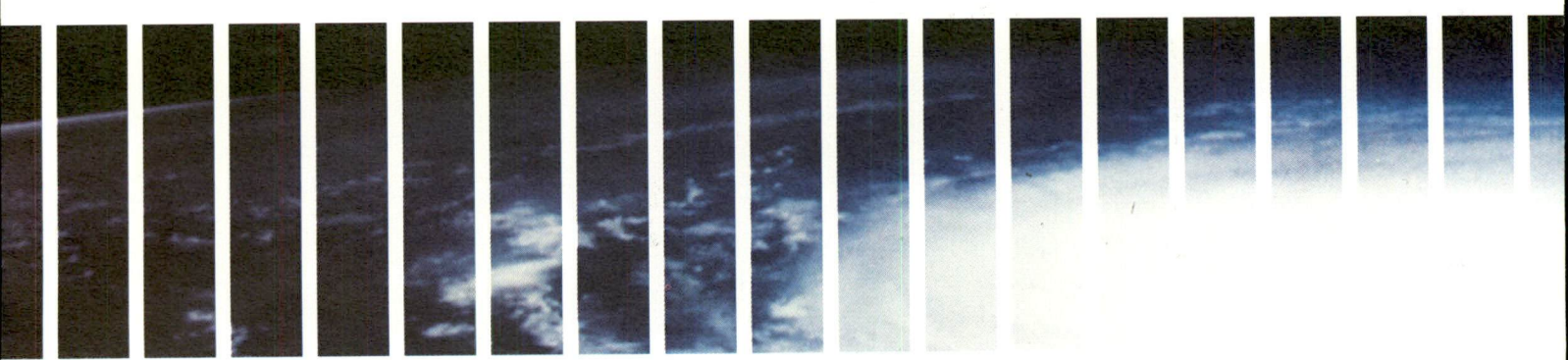
The US/GCRP cooperates closely with the U.S. and international scientific communities through the National Academy of Sciences (NAS) and the International Council of Scientific Unions (ICSU). The US/GCRP is also linked internationally to inter-governmental organizations, such as the World Meteorological Organization (WMO), the United Nations Environment Programme (UNEP), the Inter-governmental Oceanographic Commission (IOC), and to a number of agencies of other governments through the informal International Group of Funding Agencies (IGFA) for Global Change Research, and space agencies through the Committee on Earth Observations Satellites (CEOS).

RECENT PROGRESS AND ACCOMPLISHMENTS.

Substantial progress has been made by scientists in the U.S., often working in concert with scientists of many other nations.

1. Documenting Global Change

◆ *Space Observing System Deployment.* The Upper Atmosphere Research Satellite (UARS) was successfully launched aboard the space shuttle Discovery on September 12, 1991. The satellite includes ten scientific instruments that are designed to study the energy input, chemistry and dynamics of the stratosphere and mesosphere in an integrated way. UARS has produced global maps which record details of the Antarctic ozone hole and global-scale measurements of chlorine monoxide. The satellite has also detected the large plume of sulfur dioxide from the eruption of Mt. Pinatubo and mapped it globally.



have been conducted that has determined the feasibility of using acoustical measurements to observe the effects of global ocean warming.

◆ *Greenland Ice Sheet Project II (GISP II).* A 1,510 m ice core extending back approximately 8,000 years has been recovered on the summit of the Greenland ice sheet. Drilling at GISP II is expected to sample the entire depth of the Greenland ice sheet, which is providing a climatic baseline record for the Northern Hemisphere extending back about 150,000 years before the present.

◆ *Pliocene Warm Climate Reconstruction.* Substantial progress has been made on reconstructing conditions during the Pliocene. The data are being used to refine and test the ability of the general circulation models to accurately simulate past warm climates.

◆ *Southern Hemisphere Tree Ring Record from Tasmania.* A climatically sensitive huon pine tree ring record from western Tasmania has been obtained through the cooperative effort of U.S. and Australian scientists that provides a thousand-year record of climatic changes in the Southern Hemisphere, showing increased growth correlating with anomalous warming in Tasmania.

◆ *Global Land Data.* The Global Land Information System (GLIS), an on-line system to provide information on global land data to scientists, managers, policymakers, educators and others has been successfully implemented.

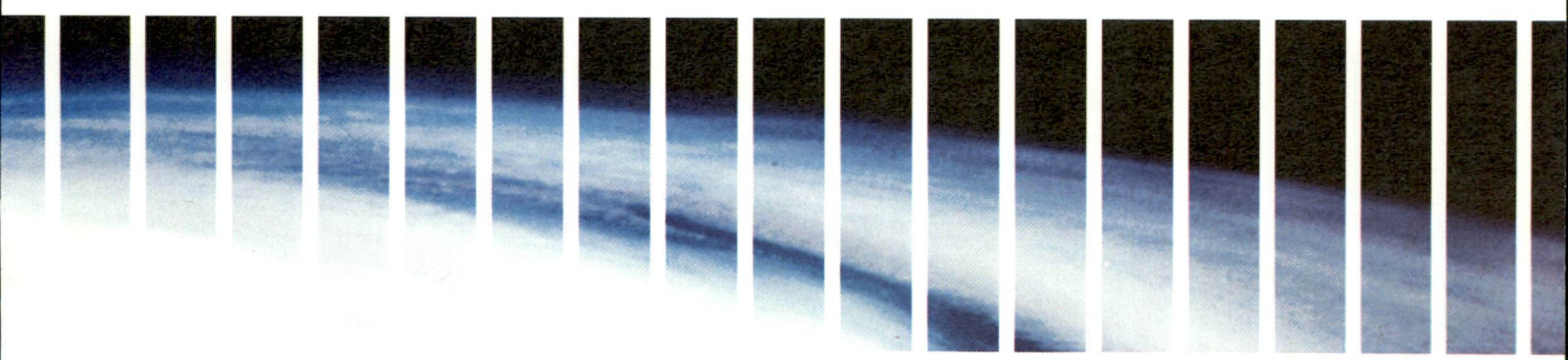
2. Understanding Key Global Change Processes

◆ *World Ocean Circulation Experiment (WOCE).* The World Ocean Circulation Experiment (WOCE) has been developed in recognition of the significant and essential role that oceans play in long-term climate change. The measurement program has now commenced. New data on the general circulation of the Pacific Ocean are now being processed. Measurement systems are in place to study aspects of the abyssal circulation of the South Pacific and South Atlantic Oceans.

◆ *Global Tropospheric Chemistry Experiment (GTCE).* The Global Tropospheric Chemistry Experiment (GTCE) has conducted two major aircraft-based experiments. First, the Atmospheric Boundary Layer Experiment, done jointly with Canada, has produced a new, extensive data base on emission of methane from high latitude wetlands and on the effects of long-range transport of pollutants on an otherwise pristine part of the global atmosphere. Second, the Pacific Exploratory Mission experiment, carried out jointly with seven Asian countries in 1991, addressed the impact of the Asian air mass on the western Pacific.

◆ *Joint Global Ocean Flux Study (JGOFS) - The Atlantic Bloom Experiment.* The international Joint Global Ocean Flux Study (JGOFS) addresses globally (1) the processes controlling the fluxes of carbon and other biogenic elements in the ocean, (2) the related exchanges with the atmosphere and the sea floor, and (3) the ability to predict the response of these oceanic processes to anthropogenic disturbances that may contribute to climate change. The first pilot project of the JGOFS program, conducted in 1990 by scientists from the U.S., the U.K., the Netherlands, Germany and Canada, has resulted in the best data set that now exists for studying the seasonal changes in the carbon cycle, including the air/sea exchange of CO2.

◆ *First International Satellite Cloud Climatology Project Regional Experiment (FIRE).* The First International Satellite Cloud Climatology Project (ISCCP), the Regional Experiment (FIRE), is designed to investigate the relationships between cloud systems and climate. FIRE Phase I (1985-1990) has produced fundamental new information on the formation, maintenance, and dissipation processes of cirrus and marine stratocumulus clouds including important radiative properties such as cloud reflectivity, optical depth, particle size, and liquid water/ice phase and optical path. FIRE-II (1991-1995) combines intensive field observations, extended time observations, and modeling studies to further improve understanding of cirrus and marine stratocumulus



clouds, validate cloud parameters deduced by ISCCP, and develop realistic cloud-radiation parameterization schemes for general circulation models.

◆ *Hypothesis Testing of Important Earth System Processes.* A number of major Earth system processes hypotheses have been advanced to explain important Earth system processes, for example:

• *Global Ocean Circulation.* The process of exchange between the ocean's warm surface layers and the cold deep ocean a mile or more down has been pictured as a global conveyer belt, driven by cooling in the polar regions. The movement in the oceans acts like a giant "flywheel." It is hypothesized that irregularities in the operation of this flywheel contribute to substantial climate change, such as during the last ice age when the conveyer belt may have slowed down and even stopped in the Arctic. Observational and modeling programs are aimed at investigating this hypothesis.

• *Role of Water Vapor in Ameliorating Greenhouse Warming.* Understanding the role of water vapor, clouds, aerosols and radiation in climate processes and feedback is critical to understanding climatic variability. Both observational and modeling projects are being carried out to test several hypotheses and to enhance understandings of these processes.

• *Western Pacific Region Thermostat.* The "thermostat" hypothesis suggests that in this region of high sea surface temperatures, as a consequence of surface warming, deep convection develops that produces highly reflective cirrus clouds, thus limiting further sea surface warming. A series of observations are underway that test this hypothesis.

• *Anthropogenic Sulfur Dioxide.* It has been hypothesized that direct scattering of solar radiation by some anthropogenic aerosols exerts a climate forcing that is comparable in magnitude to that of carbon dioxide but opposite in sign, and that this forcing is in part delaying the onset of greenhouse warming at least in the Northern Hemisphere. Observations and model calculations are now being conducted to better understand the role aerosols play in the Earth's radiation budget and the impacts they have on climate.

3. Predicting Global and Regional Environmental Change

◆ *Intercomparison of Global Climate Models.* The US/GCRP supports the international model intercomparison project to diagnose the differences and similarities among GCMs. The focus is on quantifying important feedback processes, effects of varying model resolution on various predicted fields, and intercomparisons of GCM simulations using standardized data sets.

◆ *Effects of GCM Resolution.* In order to investigate the effects of varying resolution in GCMs, a model has been run at four different grid resolutions of 5, 3, 2 and 1 degrees. Results indicate that increasing the resolution beyond 3 degrees does not affect the modelling of large-scale climatic phenomena. However, the variability of some aspects may be resolution dependent, e.g., high resolution may be required to simulate properly the regional seasonal cycle.

◆ *Increased Computational Power.* Two climate general circulation models have been transferred to massively-parallel computers. This is a significant milestone toward achieving the goal of a factor of 10,000 increase in computational speed of global climate models between the years 1990 and 2000. Nearly a doubling of the model's speed and higher spatial resolution capability have been achieved.

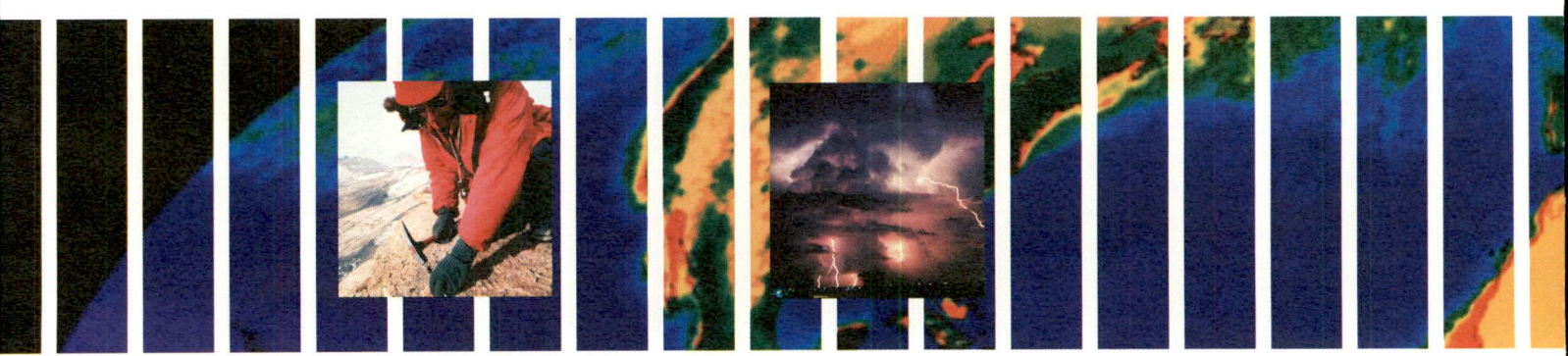
◆ *Global Modeling of Methane Sources, Sinks, and Distribution.* A three-dimensional chemistry transport model has been used together with an extensive set of measurements of surface level methane concentrations in order to help obtain estimates of the methane budget, especially the distribution of sources (fossil fuel, domestic animals, wetlands, tundra, landfill, tropical swamps, rice fields, biomass burning, termites).

◆ *Modeling Hydrologic Processes.* An improved representation of terrestrial hydrologic processes has been demonstrated to significantly improve the performance of one GCM.

4. Assessing the State of Scientific Knowledge and its Policy Implications

◆ *Stratospheric Ozone Depletion.* The US/GCRP agencies play a key role in the stratospheric ozone depletion issue, including sponsoring and participating in international field campaigns as well as conducting analyses of ozone and atmospheric chemistry data from various sensors. Based on these scientific results, the U.S. announced, in February 1992, that the U.S. would phase out CFC's five years earlier that that required under the Montreal Protocol.

◆ *An International Research Institute for Climate Prediction.* Recent scientific advances in observing, understanding, and modeling the El Nino-Southern



Oscillation (ENSO) cycle provide the nations of the world with a remarkable opportunity to apply new capabilities and research results to practical problems of economics and development. Climate variations associated with ENSO often have widespread and devastating impacts that range from the Indian monsoon to the intense storms in the Pacific and from the viability of commercial fisheries off the coast of South America to the occurrence of short-term regional drought in many parts of the world. The predictive models, developed by this research, have provided useful predictions several seasons in advance of an incipient ENSO event. The establishment of an institution to accelerate progress in interannual climate prediction has been discussed extensively during the past two years, both within the U.S. and with partner nations internationally. The U.S. is implementing a pilot project to demonstrate the operating concepts embodied in the plan and invites government officials and scientists from all interested nations to join in developing an International Research Institute for Climate Prediction.

◆ *Regional Institutes of Global Change.* President Bush, during the 1990 White House Conference on Science and Economics Research Related to Global Change, invited the countries of the world to join the U.S. in developing three regional research institutes that would link the interests and capabilities of the developed and developing world – one in the Western Hemisphere, one in Europe/Africa, and one in the Far East/Southwest Pacific. The first such institute, the Inter-American Institute for Global Change Research(IAI), has been developed. The IAI is a partnership among Inter-American countries and their scientific communities that focuses on broadening global change research in the developing world, providing support for truly multidisciplinary research and education, and encouraging the development of a sound scientific underpinning that supports national, regional, and international policymaking needs The legal instrument, initiating the IAI, was signed by eleven countries of the Americas in Montevideo, Uruguay on May 13, 1992.

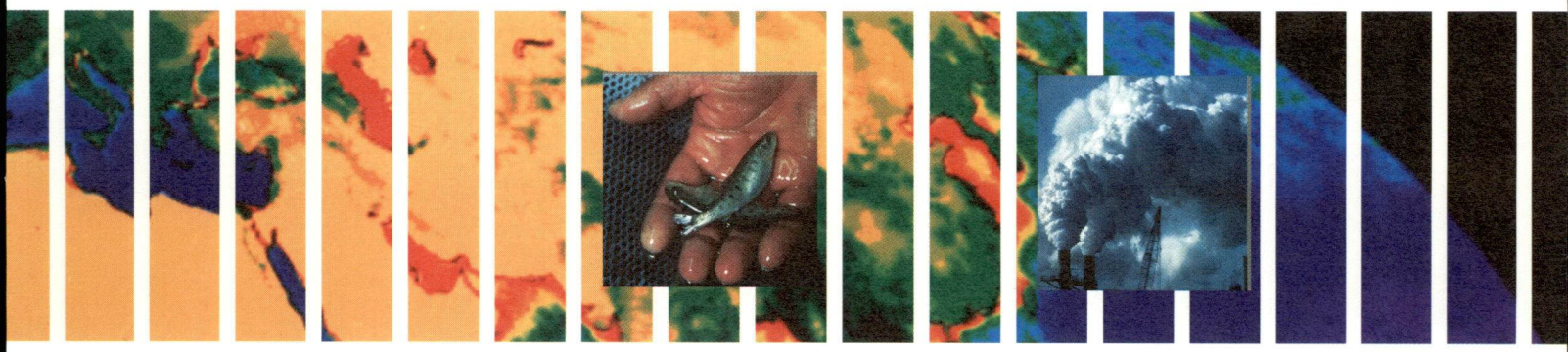
◆ *US/GCRP Data Policy Statement.* The U.S. government has adopted national policy for global change data, that governs the management and exchange of climate and other global change data and related information. Among seven fundamental principles, it is U.S policy that there shall be (1) full and open sharing of the full suite of global data sets for all global change researchers, and (2) data provided at the lowest possible cost to global change researchers, and as a first principle, those data are available at the marginal cost of filling a specific user request. The U.S. invites other countries and international organizations to consider similar data policy arrangements.

◆ *Global Change Research Information Office.* The US/GCRP will open, during 1992, a Global Change Research Information Office. This Office will provide scientific research information which can assist in preventing, mitigating, or adapting to the effects of global change. While focusing on the needs and interests of developing countries, the Global Change Research Information Office will also serve domestic and other international consumers.

THE FUTURE

The US/GCRP seeks to address the implications of environmental changes, through both domestic and international fora such as the IPCC, the Montreal Protocol (for chlorofluorocarbons), the International Negotiating Committee (INC) for a Framework Convention on Climate Change, the United Nations Conference on Environment and Development (UNCED), and a host of other important but lesser-known activities. The comprehensive nature of the US/GCRP promises not only the availability of information to respond to today's policy questions but the maintenance of a strong foundation of multidisciplinary science required to support the unanticipated problems of tomorrow.

The United States strongly believes that policy should be based on sound science. U.S. supported science has made possible much of the international cooperative action that has occured in the efforts to stem ozone depletion and address climate change. The U.S., through the USGCRP, will continue to support the world's leading program of scientific research.



CONCLUSION

Twenty years ago, when the leaders of the world gathered for the UN Conference on the Human Environment in Stockholm, they identified the protection of the environment as "the urgent desire of all peoples."

In the intervening two decades, that urgency has not lessened. But much has been learned, and much has been accomplished.

Two decades ago, the threat of nuclear war loomed as perhaps the most grave threat to the environment. Today, the specter of nuclear war has been calmed as never before in post-war history.

Two decades ago, environmental degradation in many countries was unchecked by effective strategies for prevention or mitigation — particularly in nations which lacked the accountability that democracy provides. Today, freedom and democracy have spread around the globe as never before — and free peoples are demanding a clean environment.

In the past two decades, the United States has built a record of commitment to environmental protection both at home and abroad. That record is being strengthened daily through the actions of governments, businesses, communities, and individuals. The United States has always had a bias for action. That bias is reflected in the United States strategy of moving forward with an action plan to limit greenhouse gas emissions, of launching a reforestation program at home and proposing increased forest assistance abroad, and of working toward a full range of cooperative international agreements and sound domestic environmental investments.

In the view of the United States, the most important result that can come from the United Nations Conference on Environment and Development (UNCED) is a commitment to sustained action on the part of all nations. Thus the U.S. supports the development of processes, institutions, and review mechanisms to ensure that the meeting in Rio de Janeiro is only the beginning of a process that will lead to real improvements in the global environment.

The prospects for such improvement are brightened by the lessons learned over the past two decades. The U.S. is today leading the way with a new, more sophisticated approach to environmental protection. This new approach is employing innovative approaches and market mechanisms while allowing for and indeed promoting economic growth.

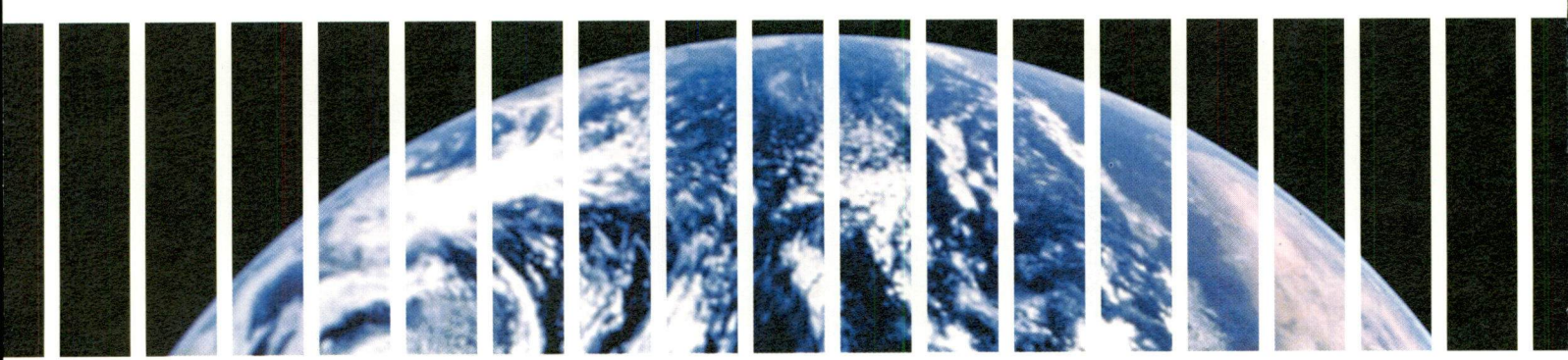
As our experience with environmental protection grows, we are learning to employ market mechanisms in the service of the environment. Performance standards with flexible implementation strategies, such as emissions trading, can protect the environment at least cost while allowing for maximum technological innovation.

We are learning that it is more effective to prevent pollution at the source than to clean it up after it has occurred.

We are learning that new technology may hold the key to achieving more energy efficient and more environmentally sound growth. The United States is pursuing a new generation of clean growth, both at home and around the world. To achieve it will require technology cooperation.

And certainly we are learning that environmental problems respect no borders. Many of the most important environmental challenges we face — from global climate change to deforestation to ozone depletion to degradation of the oceans — are international in scope and require international cooperation to solve.

The United States believes that pollution is not the inevitable byproduct of progress. The U.S. stands ready to form partnerships at home and abroad to launch a new generation of clean growth.



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Have a Nice Day!

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Where is Los Peñasquitos Canyon Preserve?

Los Peñasquitos Canyon Preserve encompasses the bottom lands and some of the slopes of Peñasquitos and López Canyons. These two canyons run east to west and lay between Rancho Peñasquitos on the north and Mira Mesa on the south. Bordered on the east by I-15, Peñasquitos Canyon meets the mouth of López Canyon about 6.5 miles to the west, where the Preserve ends at Sorrento Valley Blvd.

What Makes Los Peñasquitos Unique?

Combine history, geology, wildlife, wildflowers, trees, little cliffs (Peñasquitos in spanish), a creek, a waterfall, Indian artifacts, Mexican ruins, a 19th century ranch house, and what do you get? — Los Peñasquitos Canyon Preserve, a gem of a canyon in the heart of San Diego.

The canyon includes a wide variety of habitats, from chaparral covered hills to riparian habitats and marshes along Peñasquitos Creek.

These habitats support a wide variety of plants, including several on the rare and endangered species lists. Foremost among these is the Mesa Mint, a tiny flower that lives its entire life cycle in a vernal pool, a unique geological formation found in Los Peñasquitos. This endangered plant is found *only* in the vernal pools of San Diego, nowhere else in the world! The Friends have fought for years to protect the few remaining pools, including the ones on López Ridge.

Over 146 species of birds reside in the Preserve or the nearby Peñasquitos Lagoon, or stop here during their annual North-South migration.

Probably San Diego's greatest variety of mammals roam the Preserve, including the aptly named mule deer, mountain lion, bobcats, coyotes, raccoons, rabbits, skunks, and others.

The canyon is an important historical site. For thousands of years it was inhabited by Indians who left priceless relics of their use of the canyon's resources in sites throughout the canyon. Remnants of the Ruíz Adobe are located just inside the Preserve's western entrance, evidence of the first Mexican land grant in California.

The newly restored Johnson-Taylor Ranch House museum at the eastern end takes us back to early Mexican and American periods of the canyon's history. Crossing part of the Preserve to is the historic "road to Yuma," travelled in its day by covered wagons and stagecoach.

Los Peñasquitos — Under Pressure from Development

Unfortunately, San Diego's explosive growth hasn't missed Los Peñasquitos. Where once you could hike or ride your horse from one end to the other without seeing a house, now you can't escape the rows of homes lining the canyon rims.

All of López Ridge, forming Peñasquitos' southern rim at the west end, has fallen to the mercilous scraping of the bulldozer. A precious wildlife corridor was obliterated in the process.

Roads and "estates" pierce even the bottom lands on the northern edge near the Johnson-Taylor ranch house. Here, in a single day, the bulldozers wiped out an entire riparian habitat and a magnificent cactus patch planted by Indians centuries ago.

Buffer zones of empty land to the north and south are now being developed, severely restricting the range of the larger mammals who are increasingly isolated in the the Preserve itself.

Your help is needed to protect this wildlife, the endangered Mesa Mint, the vernal pools, and the still remaining open space vistas that make Los Peñasquitos Canyon Preserve unique among San Diego's parks.

RANCHO PEÑASQUITOS - A BRIEF HISTORY

Bienvenidos amigos al Rancho de los Peñasquitos. The Rancho name is Spanish in origin, pronounced pen-yas-kee-tos. Translated, the word means "little cliffs" in reference to the rugged palisades which rim the long valley. The magnificent canyon site occupies a portion of San Diego's earliest land grant. Natural features enrich the scenic profile and afford a habitat for countless species of native chaparral plants, birds and mammals. Permanence of the site is assured through the participation of the City and County of San Diego in Los Peñasquitos Canyon Preserve.

HISTORY: In 1823, the first Mexican Governor of California, Luís Antonio Argüello awarded the 1 league (4243 acre) Rancho Santa Maria de los Peñasquitos to Captain Francisco María Ruíz, veteran Commandant of the Presidio, as a reward for his loyal service. Ruiz built a modest adobe casa in 1824, which became the core George Alonzo Johnson incorporated into his 1862 Peñasquitos residence. Ruíz found sections of his rancho covered with brush and useless for cultivation or pasturage, so he requested an extra 1 league west of Peñasquitos called el Cuervo (the Crow). Governor José María Figueroa granted the addition to Ruiz in 1834.

In 1837, two years before he died, Ruíz conveyed Peñasquitos to his grandnephew Francisco María Alvarado, who cared for the old soldier when his health began to fail. Alvarado was politically active in San Diego both before and after the American occupation and served as regidor (councilman), Town Treasurer, Justice of the Peace, Elector and Coroner.

Alvarado's Peñasquitos Ranch was the first stopping place for Brigadier General Stephen Watts Kearny and the half-starved remnant of his Army of the West, marching from defeat in the Battle of San Pasqual in 1846.

In 1857, Alvarado shifted ranch operations to his son Diego, who lived in the west end of the canyon in the tract called El Cuervo.

From 1850-54, the U.S. Army ran supply trains through Peñasquitos canyon to provision Ft. Yuma, a garrison on the Southern Emigrant Trail, until Capt. George Alonzo Johnson contracted with the Government to supply Ft. Yuma from the mouth of the Colorado River.

In 1859, Alvarado's daughter Estéfana married George Alonzo Johnson. Johnson had achieved fame and wealth on the lower Colorado River. In early 1862, Johnson began to expand the old Ruíz adobe into a suitable home for himself, Estéfana and their growing family. In 1869, Diego Alvarado conveyed one-half of Rancho Peñasquitos to his brother-in-law, Johnson, for $1,500.

A series of financial setbacks caused Johnson to forfeit Peñasquitos in 1880. The ranch went through several land transfers before Colonel Jacob Shell Taylor, a wealthy Texas and New Mexico cattleman bought the 7000 acre parcel for $15,000. During the land boom of the 1880's, Taylor settled into the ranch house and ran a direct phone line and stage between Peñasquitos and Del Mar, the popular seaside community he founded. With F. Weber Benton and two minor partners, Taylor attempted to subdivide Peñasquitos, but the deal fell through in the crash of the late 1880's and Taylor sold his holdings in 1889 to early day land speculator Adolph Levi.

In 1910, Levi sold Peñasquitos to Charles F. Mohnike who paid more than $100,000 for the ranch and built the third adobe east of the Peñasquitos homesite. Mohnike added acreage to the original land grant and turned the Peñasquitos adobe into a bunkhouse for the ranch cowboys. Soon thereafter, title passed to Wirt Bowman of Caliente Race Track fame.

In 1921, two of San Diego's best-known cattlemen, George Sawday of Witch Creek, near Ramona, and Oliver Sexon, a County Under-Sheriff, bought the ranch and stocked it again with cattle and the ranch house continued as quarters for cowhands.

When Peñasquitos, Inc. purchased the whole ranch in 1962, the land spread over 14,000 acres. In 1974, the County of San Diego acquired the area around the ranch house in a community effort to develop Los Peñasquitos Canyon Preserve. Theme and focus of the County's contribution is the authentic interpretation of the Rancho's early days portrayed through a variety of programs.

8/91-mw

PENASQUITOS CREEK RESTORATION PROJECT

Current Situation: Eucalyptus were introduced into the United States from Australia in the early 1800's. The tree escaped cultivation and established itself in the natural landscape. Old photographs and records indicate that there were no eucalyptus trees in Penasquitos creek near the adobe. Since the 1910's the non-native Eucalyptus tree populations have increased dramatically in the creekbed. Eucalyptus trees crowd out native plants by producing mild toxins in their leaves and bark. This gets into the soil and provides a means of controlling plant growth. The result is a significant loss of valuable understory which is used by numerous species of wildlife. If unchecked Eucalyptus will continue to expand at a faster rate and eventually dominant the creekbed. This will result in a significant loss of species populations and biological diversity.

Master Plan Objective: The current draft master plan for Penasquitos Park identified the removal of exotic, non-native species as a goal to enhance the natural biological values of the park.

Project: Caltrans, needing a mitigation area, identified a 3 acre concentration of eucalyptus in the creek bed. Almost devoid of viable understory and overshadowing several native coast live oaks this concentration of trees is ideal for removal and replacement with native trees and shrubs.

After removal of the eucalyptus the area will be replanted with 3,500 native riparian trees and shrubs which naturally occur in the park. These trees include three kinds of willow, sycamore, and cottonwood. Shrubs and herbaceous plants will include mulefat, mugwort, sagewort, evening primrose, yerba mansa and common goldfields.

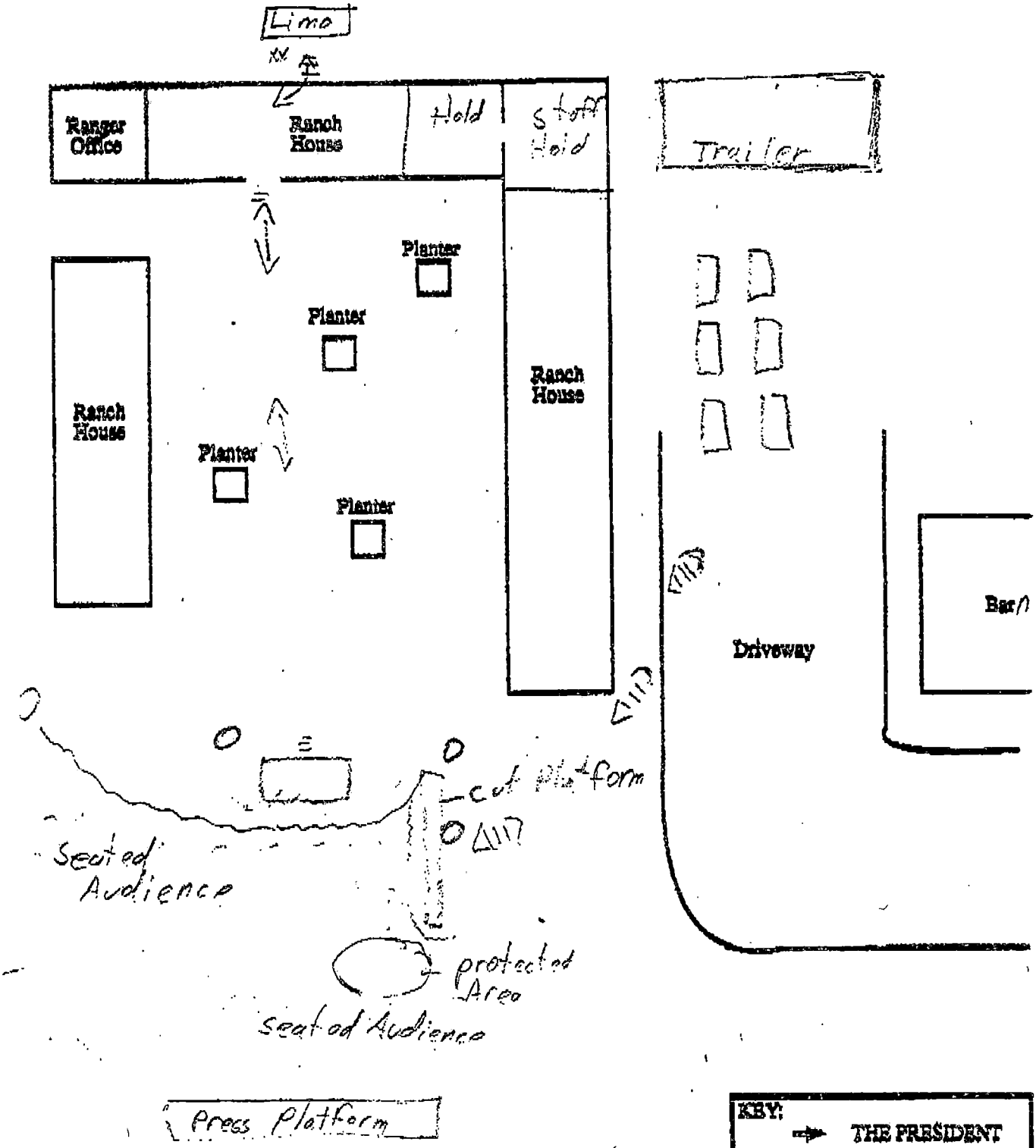
Caltrans will maintain and monitor the new planting area for 5 years. The level of effort will diminish with time, usually at the third year very little maintenance is required.

In addition to this riparian habitat restoration Caltrans will be helping to save one of the historic structures in the park. Volunteer palms around the Spring house have jeopardized its foundation. Caltrans will carefully cut these trees at the base to protect the existing historic features.

Ecological Context: Penasquitos Preserve is intended to provide visitors with the natural and historic values of the region. The creekbed and vegetation significantly contribute to the atmosphere of the park. As the eucalyptus trees continue to expand at an exponential rate the wildlife values of the creek will diminish. Riparian systems provide habitat for the majority of wildlife species occurring in California. Many species use the area for foraging and nesting. The leaf litter and understory with its cooler temperatures provide excellent habitat for insects, amphibians and some reptiles. These areas are frequently used for foraging by many birds, reptiles and small mammals. Young plant growth in the riparian system provides forage and shelter to several wildlife species.

DRAFT 1

TAB
SAN DIEGO, CALIFORNIA
Rancho de los Penasquitos
Overview Diagram
Monday, September 14, 1992



San Diego

Grady/Harbus

NATURAL COMMUNITIES CONSERVATION PLANNING EVENT

The Natural Communities Conservation Planning (NCCP) is an innovative approach to species and habitat conservation. The California Resources Agency, the Department of Fish and Game, the U.S. Navy and Marines, private property owners, local governments and environmentalists are all working together to provide a habitat which ensures the long-term survival of several endangered species while allowing for economic development.

The President will be able to reiterate what will be said in Washington and Oregon about a balance between protecting the environment and permitting economic growth in California. NCCP acts proactively to appease both sides of the spectrum: the developers and the environmentalists.

The President will travel to the Rancho Santa Maria de los Penasquitos which is located in the center of several thousand acres "enrolled" by members of NCCP. The President will address a standing crowd of 200-500 people. The audience will be comprised of private business owners, political officials, environmentalists and private property owners, all of whom are involved in this cooperative effort by dedicating land for habitat conservation.

5

The ranch house was built in the 1800's and is the site of the first land grant in the state of California. The event will be held in the inner courtyard. Although the ranch house is at the base of a canyon, the site is well protected from high ground because is enclosed on three sides by the ranch house walls and large trees.

The site is accessible by dirt road (the last 200 yds.) and the motorcade will arrive next to the ranch house. The President can either walk through the crowd into the ranch house offices for a hold and briefing about NCCP and the surrounding conservation habitat. If a more secure arrival is desired, the rear of the ranch house has porch steps which lead into the offices. The President will give his remarks from the porch level, facing the courtyard audience. The courtyard has scattered landscaping, large palm trees, cactus, etc. The press platform could be placed head-on with a 60'- 70' throw. The porch elevates the President approximately 2 feet above ground level. The angle of the sun should be strong enough so that the entire porch is well lit and not shaded. Foliage may have to be placed behind the President against the ranch house wall because the walls are painted white.

The site is approximately 20-25 minutes from downtown San Diego and only a short drive from Miramar. Limited parking is available on site but there is a park within walking distance.

All in all this will provide the President with an excellent forum to talk about protecting the environment while at the same time considering the economic factors to the state. Furthermore, NCCP is a model of public/private partnerships working together for a common goal.

CONTACTS:

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Kathleen Shanahan, Bush Quayle - CA,
916/558-1992 o 916/523-3103 pager

LEVEL 1 - 1 OF 2 DOCUMENTS

Public Papers of the Presidents

Remarks at the Presentation Ceremony for the Theodore Roosevelt Conservation Award

26 Weekly Comp. Pres. Doc. 1636

October 22, 1990

LENGTH: 1059 words

... make conservation more than just a word, but really, in a sense, a way of life.

You may remember a couple of years back when Time magazine named Earth the "planet of the year." And Jay Leno said, "What do you expect? All the judges came from Earth. " [Laughter] Well, it was almost exactly 1 year ago that I met here at the White House with many of you all, many of the same Congress men and women, joining together to develop a program ...

LEVEL 1 - 2 OF 2 DOCUMENTS

Public Papers of the Presidents

Remarks at the Texas A&I University Commencement Ceremony in Kingsville, Texas

26 Weekly Comp. Pres. Doc. 747

May 11, 1990

LENGTH: 2657 words

... looking back at Earth and taking the pulse of the most important planet in the universe. You may remember of a couple years back when Time magazine named Earth "Planet of the Year." And the comedian -- you remember Jay Leno, the comedian -- he said: "What did you expect? All the judges came from Earth. " [Laughter]

We call this initiative Mission to Planet Earth. It's an effort of such magnitude that it dwarfs everything in the past. A worldwide study of the complex interactions between land, sea, ice, and air, as ...

Los Angeles Times

July 19, 1991, Friday, San Diego County Edition

SECTION: Metro; Part B; Page 3; Column 1; Metro Desk

LENGTH: 882 words

HEADLINE: OLDER ADOBE IS DISCOVERED IN LOS PENASQUITOS;
HISTORY: THE REMAINS OF AN 1824 RANCH HOUSE -- THE COUNTY'S FIRST -- ARE FOUND WITHIN THE WALLS OF THE JOHNSON-TAYLOR ADOBE AND ARE OF NATIONAL HISTORIC SIGNIFICANCE.

BYLINE: By NANCY RAY, TIMES STAFF WRITER

BODY:

The site of the first adobe ranch house in San Diego County and one of only a few still standing in the state has been found within the walls of a more recently constructed adobe in Los Penasquitos Canyon.

County Supervisor Susan Golding and county parks department officials announced Thursday that the site of the area's first ranch house, built in Los Penasquitos Canyon by Capt. Francisco Maria Ruiz in 1824, has been found within the walls of the Johnson-Taylor Adobe built in the 1860s.

Adobe ruins at the western end of the canyon, earlier believed to be the Ruiz ranch house, were built at least 10 years later, the officials said.

Golding said research conducted by historian Mary Ward and archeologist Susan Hector "proves beyond a doubt" that the original Ruiz rancho is hidden in part of the later Johnson-Taylor adobe.

Three walls of the north wing of the present ranch house date from the historic Ruiz rancho, which qualifies the site as the oldest standing ranch house in the area, making it of national historic significance, Golding said.

Both adobes lie within the city-county park, Los Penasquitos Canyon Preserve, and the newly authenticated Ruiz ranch house is part of a larger building, the Johnson-Taylor Adobe, which has been renovated and serves as offices for park officials, historians and archeologists.

Golding said the Johnson-Taylor ranch house and authenticated portions of the earlier Ruiz rancho "now meet every criterion to be listed as a National Historic Landmark and to be eligible for federal grants for its preservation and improvement."

Until the new evidence came to light, the Johnson-Taylor Adobe rated only a "locally significant historic site" ranking.

Ruiz, commandant of the Presidio of San Diego, was awarded the first land grant, Rancho Santa Maria de los Penasquitos, by the first Mexican governor of California, Luis Antonio Arguello, in 1823 as a reward for his long military service.

Ruiz built a small ranch house on the land to fulfill the requirements for keeping the grant.

The square league of land -- 4,400-plus acres -- included the eastern end of the canyon and mesas to the north and south that are now the suburbs of Rancho Penasquitos and Mira Mesa. It did not contain the land at the western end of the canyon where the adobe ruins, formerly thought to be the original ranch house, are situated.

According to Ward, Ruiz did not obtain the land on which those adobe ruins are situated until 1834, when he applied for and obtained a second league of land to the west. That adobe was built after that date, Ward said.

Nancee Hanson, county parks department spokesman, said the historical and archeological evidence of the Ruiz ranch house came to the attention of park department officials only two weeks ago after Ward and Hector, who had been doing research independent of each other for serval years, compared notes and realized the importance of their find.

Ward noted that the historical documentation for the eastern site "has been around for 100 years," contained in the 75-page "Proceedings of the Land Case for Rancho de los Penasquitos. "

Hector said she had begun archeological research at the Los Penasquitos site in 1983. Excavations during the 1980s "resulted in collection of data supporting the contention that the early building found under the Johnson-Taylor Adobe was built by Capt. Francisco Maria Ruiz."

The archeological dig was conducted during the renovation of the north wing of the building. The western end of the wing was found to contain construction dating to the 1820s, and the eastern portion of the wing had been a ramada kitchen, a brush structure enclosed by low adobe walls.

Artifacts found during the archeological exploration included a ceramic vessel, commonly known as an olive jar and probably made in Europe in the late 1700s. Other artifacts dating to the early 1800s included ceramics, glass beads, glassware and historic Native American pottery.

A cobblestone foundation flooring and other construction methods date the hidden structure to the early 1800s, Hector said.

According to historian Ward, Ruiz, a bachelor, lived in the adobe ranch house until his death in 1839. But two years before, Ruiz had deeded the Penasquitos land to his old friend, Francisco Maria Alvarado. .

In 1846, the Ruiz-Alvarado ranch house was the first stopping place for Gen. Steven Kearny and his Army of the West as they beat a retreat from their defeat in the Battle of San Pasqual, the first and last battle fought in the state in the Mexican-American War.

The rancho then passed to George Alonzo Johnson, who married Alvarado's daughter, Estefana, in 1859. The former sea captain set about expanding the modest ranch house, spending $30,000 on the work.

In 1869, it was, according to a local journalist, "not only commodious but most conveniently planned and tastefully furnished; while outhouses, barns stables, milkhouse, wash-house and bath-house are in keeping with the dwelling and are well adapted to the conveniences and pleasures of a gentleman of taste and refinement."

Johnson later lost the rancho through taxes "and some questionable land dealings" to Col. Jacob Taylor, who turned the ranch house into a stagecoach stop on the San Diego-to-Yuma run.

GRAPHIC: Photo, (A2) Historic Find: San Diego County's first adobe ranch house has been found within the walls of a more recently constructed adobe in Los Penasquitos Canyon. County officials said research "proves beyond a doubt" that the original rancho built in 1824 is hidden in part of the Johnson-Taylor Adobe, built in the 1860s. Above, a 1935 photo of Johnson-Taylor Adobe. San Diego Historical Society; Photo, The remains of an 1824 adobe, which were incorporated into the Johnson-Taylor ranch house built about 40 years later, were recently discovered after an archeologist and historian compared notes. Los Angeles Times; Photo, HISTORY REWRITTEN: County officials have announced that the long-disputed site of the ranch house of Capt. Francisco Maria Ruiz has been found buried in the walls of the Johnson-Taylor Adobe.

3RD STORY of Level 2 printed in FULL format.

Los Angeles Times

March 28, 1992, Saturday, Home Edition

SECTION: Metro; Part B; Page 7; Column 1; Letters Desk

LENGTH: 362 words

HEADLINE: CLUNKERS

BODY:

Talk about bad science, Alexander Cockburn's recent article on clunkers is a classic example, ("A Kind, Clean World for the Clunker," Column Left, March 15).

He seems to think that emissions controls on automobiles are some sort of bureaucratic error that let big industry off the hook. Nothing could be further from the truth. Cars and trucks are the primary problem in the Los Angeles Basin. According to the California Air Resources Board, mobile sources emit 56% of all hydrocarbons, 71% of all oxides of nitrogen and 94% of all carbon monoxide; refineries and power plants total 1.9%, 8.7% and 0.5%, respectively.

In Unocal's program, the average car scrapped had 99 times more hydrocarbon emissions per mile than a (then) new 1990 car, 50 times more carbon monoxide and 11 times more oxides of nitrogen. The worst car emitted enough unburned gasoline at the tailpipe to power a car getting 32 miles per gallon. The best car was 40 times cleaner -- but it was still eight times dirtier per mile than a new car. The program was a quick, painless and cost-effective way to reduce air pollution.

His points about sulfuric acid are equally distorted. Nationally, gasoline contains over 0.030% sulfur; in California, the typical gasoline has 0.015% sulfur, which will be reduced to 0.004% in 1996. A typical Eastern coal used for power generation has 3% sulfur, or 200 times more than California gasoline!

Los Angeles, with the highest number of catalytic converter-equipped cars (Cockburn's "sulfuric acid factories") in the world, is in attainment with state and federal air-quality standards for sulfur compounds. Since 1975, the first year the converters were put on cars, emissions of sulfur dioxide from automobiles have dropped from 35 tons per day to 14. This is only about 11% of sulfur dioxide emissions from all sources.

And his contention "that auto thieves will now have an incentive to prey on poor people's old Plymouths or Chevys" also ignores the facts. In Unocal's program, sellers were required to produce identification showing that they were indeed the legal owners.

RICHARD J. STEGEMEIER, Chairman, President & CEO, Unocal, Los Angeles

TYPE: Letter to the Editor

1ST STORY of Level 2 printed in FULL format.

The San Francisco Chronicle

AUGUST 26, 1992, WEDNESDAY, FINAL EDITION

SECTION: NEWS; Pg. A1

LENGTH: 1078 words

HEADLINE: COST-SAVING IDEA
Buying Up Old Cars to Cut Pollution

BYLINE: Jonathan Marshall, Chronicle Economics Editor

KEYWORD: CASH-FOR-CLUNKERS

BODY:

From Washington to San Francisco, public officials and private executives are working feverishly on a novel approach to reducing air emissions: paying owners of pollution-belching gas-guzzlers to drive them off the road and into the junk yard.

The idea offers something for everyone. Owners of old clunkers may come away several hundred dollars richer. Private companies that sponsor buy-and- scrap programs may enjoy relief from much more expensive pollution mandates if they retire enough dirty cars. And the public would probably have healthier air.

The U.S. Office of Technology Assessment released a report in July estimating that such a program could save $ 100 million a year over traditional means of cleaning the air -- as well as saving close to 200 million gallons of gasoline annually by spurring people to drive more fuel-effi cient cars.

The U.S. Environmental Protection Agency also endorsed the concept in an announcement this March.

''This cash-for-clunkers program will give government and private industry a new, cheaper option for reducing air pollution,'' declared EPA Administrator William Reilly. The program, he said, represents a ''pioneering approach . . . to achieve desired environmental benefits more cost-effectively'' through flexible, market-oriented methods.

Even as the EPA works on drafting guidelines for the states, the idea is gaining ground on a variety of fronts:

* California's Air Resources Board is developing a program of its own to let private industry buy up old cars and diesel buses in return for pollution ''credits'' that could be used to cover temporary projects such as construction or drilling operations. Also, numerous local governments are showing interest in the concept. The Contra Costa County Board of Supervisors voted in March to back the idea.

* U.S. Generating Co., a joint venture of PG&E and Bechtel based in Delaware, is now offering $ 500 to the first 125 residents of that state who turn in a high-polluting, pre-1980 car. The project is a collaboration with the President's Commission on Environmental Quality, which is sponsoring a

detailed study of its results.

* In a remarkable alliance of former foes, the Environmental Defense Fund and General Motors are jointly advising the EPA on strategies to extend car-scrapping programs nationwide and develop them as a model for other market-based incentives to promote technological breakthroughs against pollution.

Provoking all this interest is the fact that cars built before federal pollution mandates usually emit far more smog-producing chemicals than newer vehicles.

UNOCAL PROGRAM

No one knew quite how big the potential of the cash-for-clunkers strategy was until Unocal, in cooperation with several other companies and public agencies, undertook an extensive buy-and-scrap experiment in Los Angeles in 1990. Paying $ 700 per car, the company bought up 8,376 pre-1971 vehicles in four months. The program accepted only cars registered in the area more than six months to prevent people from trying to trade in out-of-town clunkers.

The cars taken off the road were dirty indeed, according to tail pipe tests. A 1970 Pontiac LeMans, for example, spewed out 87.4 grams of ozone-forming hydrocarbons per mile, compared with the 1980s standard of 0.41 grams per mile. On average, the scrapped cars emitted 99 times more hydrocarbons than a new 1990 car and 11 times more nitrogen oxides, a component of both smog and acid rain.

Even taking into account the fact that older cars are driven fewer miles, Unocal estimated that the 6 percent of cars in the Los Angeles basin built before 1971 account for 22 percent of all hydrocarbon and 13 percent of all nitrogen oxide emissions from mobile sources.

In all, the company calculated, its four-month test eliminated 12.8 million pounds of potential pollutants from the region's air each year. ''It would have cost us about $ 120 million to reduce the same amount of emissions from our refinery,'' said Unocal spokesman Barry Lane. ''Scrapping the cars cost us only $ 6 million.''

POLLUTION 'CREDITS'

Under guidelines now being drafted by the state Air Resources Board, other California firms could use the same approach to earn pollution ''credits'' that could be sold or used in-house to avoid more costly cleanup efforts.

''Let's say The Chronicle wants to build a new printing plant,'' said board spokesman Jerry Martin. ''They need to find ways to offset the pollution generated in that construction project. They can go to Muni and suggest that they retire 50 of their old diesel buses and The Chronicle will buy 50 natural gas buses, obtaining credit for reducing that excess pollution.''

Many environmentalists cautiously endorse the idea.

''We think car-scrapping can make a useful contribution, mostly in the short term, since older cars will fall apart in the not-too-distant future,'' said A. Blakeman Early, Washington representative of the Sierra Club.

But Early said the organization opposes a central tenet of most such proposals: letting companies earn temporary pollution credits as an incentive to sponsor the program.

''We are very hostile to this concept,'' Early said. ''We think scrappage may be needed in addition to a wide variety of other reductions. Our goal is to get all possible reductions, not a cost saving.''

Joe Goffman, a senior attorney at the Environmental Defense Fund in Washington, also cited several hurdles in designing a successful program. ''You have to have a reliable way of measuring the emissions from each car to know how many pollution credits to give'' the participating companies, he said. ''And you have to make sure no one has an incentive to tamper with the cars.''

But Goffman said his organization, which pioneered market- based approaches for encouraging utilities to reduce acid rain at the lowest possible cost, sees the cash- for-clunkers program as an important first step toward harnessing incentives in favor of a cleaner environment. Instead of fighting a rear-guard action against government mandates, firms would come to see innovative pollution control as a source of profit, not just a cost.

If the pollution credit system in the buy-and-scrap program proves feasible, he said, ''then you've got a real live mechanism to motivate more aggressive development and commercialization of breakthrough technology.''

TYPE: SPECIAL REPORT: ENTERPRISE COLUMN

SUBJECT:
AIR POLLUTION; AUTO SMOG; ENVIRONMENT; AUTOS; SALES; US; DEPARTMENTS; REPORT

NAME:
U.S. Office of Technology Assessment; U.S. Environmental Protection Agency

2ND STORY of Level 2 printed in FULL format.

Car and Driver

June, 1992

SECTION: Vol. 37 ; No. 12 ; Pg. 25

LENGTH: 1060 words

HEADLINE: Fill it with M85; Methanol fuel for automobiles Column

BYLINE: Bedard, Patrick

BODY:

* Nobody has to spend a nickel to demonstrate that automobiles will run on methanol. Indy racers go over 200 mph on the stuff every May.

So why is California promoting a fleet of 4700 methanol-capable cars and vans? Best I can tell, the program exists purely because government people have government money to spend.

Chevrolet began building at least 2000 "variable-fuel" Luminas in March. Ford plans 2700 vehicles later this year. These cars can operate on gasoline, M85 (85 percent methanol, 15 percent unleaded gasoline) or any mixture of the two. M85 will be available at 90 California stations when the state's plan comes together.

Automakers have good reason for going along with the scheme-they get paid. Methanol Luminas sell for $ 2000 more than gas Luminas. Changes are minor: a corrosion-resistant fuel system, injectors with greater capacity, an electronic sensor to tell the injectors how much methanol is in the mix, an indicator on the dash that tells the driver how much methanol (this is for his amusement only, because the car drives the same regardless of the mixture); and, of course, distinctive exterior badges to tell bystanders this a "variable-fuel vehicle."

A few California car buyers will have good reason for going along with the game, too-they'll get paid. Rebates up to $ 2000 apply, except in the government town of Sacramento (state capital), where the rebates can be as large as $ 4200. In all, $ 4.2 million in government money has been budgeted for these rebates.

While cleaner air is the big petunia in this California program, every press release throws in the bonus of reducing "California's nearly 100 percent dependence on petroleum for transportation fuel." Apparently state planners haven't heard the news that the Arab oil embargo has been over for ten years and the market is so awash in cheap petroleum, most of it non-Arabian, that we enjoy the luxury of refusing to buy from three Arab OPECers (Iran, Iraq, and Libya) because we don't like their politics.

I considered the possibility that methanol might be environmentally preferable to petroleum until Donald Raff, at methanol supplier Hoechst Celanese, told me that all commercial methanol is made from natural gas and has been since the 1920s. It could be made from other substances-it was known as wood alcohol when I was a kid-but any other source makes the price

uncompetitive.

Last I heard, natural gas comes from wells, and those wells are right next to oil wells on the environmentalists' list of crimes against the earth.

Methanol, back when it was known as wood alcohol, was also known as nasty stuff. "Don't even breathe the fumes," I was told. "They're poisonous." Now we say, "highly toxic." Worse yet, alcohols mix inseparably with water-there's no skimming off or filtering out as there is with gasoline. A methanol spill could easily contaminate ground water and not be noticed until people start dying.

Such a mishap, of course, wouldn't make the phones ring at California's Air Quality offices. There's nobody but air people at those numbers and they like methanol because they say "it produces 30 to 50 percent less smog-forming emissions" than gasoline. The Wall Street Journal regurgitates this to read "up to 50 percent less polluting," which is not true. These variable-fuel vehicles actually produce approximately the same amount of pollutants (hydrocarbons, carbon monoxide, and oxides of nitrogen) as gasoline cars. It's just that the hydrocarbons emitted are 30 to 50 "percent less reactive," and therefore less likely to produce smog.

Still, 30 to 50 percent sounds like a big deal. Until you realize that today's gasoline cars already have their hydrocarbon emissions reduced 96 percent compared with the unregulated cars of the sixties. So we're talking 97.2 to 98 percent less smog instead of 96 percent less.

How much clean air could California get for its $ 4.2 million if it really wanted clean air instead of a fancy program to keep its bureaucracies humming? A lot more. The big emissions sources are out-of-tune cars called "gross polluters." Just one can produce as much hydrocarbon as 230 new cars. And the technology exists to find these stinkers as they drive by.

A less selective method is to simply weed out old cars. Unocal last year offered $ 700 each for pre-1971 cars licensed and operating in California: 8376 cars driven an average of 5500 miles annually were bought and crushed. A sample of those cars were tested for emissions. On average, each one put out 99 times the hydrocarbon of a new car.

Hmmm. How many old cars would you have to take off the road to equal the benefits of this expensive methanol program? Let's assume that these 4700 new variable-fuel vehicles will be driven 15,000 miles a year. Then we can calculate the "reactivity" reduction compared with 4700 new gas cars. Giving methanol the benefit of the most favorable estimate-50 percent less reactivity-my calculator says 65 old cars. At $ 700 each, you could get the clean-air result of the whole 4700-car program for $ 45,500.

These variable-fuel cars have a downside that doesn't appear in the press releases California sends to the newspapers. The exhaust contains formaldehyde, lots of formaldehyde, about ten times more, according to the EPA. State officials know this. In fact, standards for formaldehyde emissions have been outlined and are scheduled to take effect in 1993. But the 4700-car program doesn't meet these standards. Isn't it interesting that in the name of clean air the state would spend so much money to hurry so many cars into service that don't meet a clean-air standard that is just one year away?

The $ 4.2 million in rebates is just a small part of this program's expense. A state agency also distributes the methanol to the retail outlets, and it will have a budget of $ 1 million a year. Then there are all the state employees being paid nice salaries. They live in a dream world of other people's money. I was talking with the clean-fuels program manager from the Sacramento Metropolitan Air District. He told me, "I'll never deny that petroleum is a cheap, convenient, attractive thing for transportation, but, you know, in public policy you have to look beyond that."

Yes, if I look beyond "cheap, convenient, and attractive," I definitely see methanol.

TYPE:
Column

SUBJECT:
Automobiles, Fuel and fuel systems ; Automobile industry, Product development ; Methanol, Usage

COMPANY:
General Motors Corp. Chevrolet Motor Div., Product development AZCars and vans powered by methanol are being promoted in California. General Motors Corp. Chevrolet Div is building a small fleet variable-fuel Lumina vans. The benefits are dubious, as variable-fuel cars produce about as much pollutants as gasoline-powered automobiles. ; SIC: 5012 ; 3711

LOAD-DATE-MDC: May 20, 1992

CO:
GENERAL MOTORS CORP; GENERAL MOTORS CORP CHEVROLET MOTOR DIV;

TS:
GM (NYSE); GMH (NYSE); GME (NYSE);

IND:
031 AUTO MANUFACTURERS; 011 AEROSPACE INDUSTRIES; 072 SOFTWARE DATA PROCESSING;

March 20, 1990, Tuesday, BC cycle

SECTION: Regional News

DISTRIBUTION: California

LENGTH: 514 words

HEADLINE: San Diego grand jury urges aggressive water-saving measures

BYLINE: By KATE CALLEN

DATELINE: SAN DIEGO

KEYWORD: WATER

BODY:

The San Diego County grand jury, in a report critical of public water policies, urged Tuesday that more aggressive water conservation and reclamation measures be passed into law as quickly as possible.

The jury threw its support behind the Sierra Club in its court battle to include stronger water-saving efforts in San Diego's planned $2.8 billion sewage treatment system.

And jurors lamented the region's slowness in requiring low-flush toilets and low-flow showerheads, measures now in place in Pasadena, Santa Monica and other Southern California cities.

''We in San Diego are very complacent about the water situation and have been for years and years. The only time we become serious about it is when we have a drought,'' said Richard Turnbull, who directed the grand jury review.

According to the nine-page report, San Diego County is using 50,000 acre feet of water more than its annual allotment of 550,000 acre feet of imported water.

''In the past, San Diego County has consumed 30 percent of Metropolitan Water District's Colorado River and Northern California water, although it is only legally entitled to 11 percent,'' said the report.

The jury emphasized that such unbridled use of dwindling water reserves will prove crippling in the event of a natural disaster.

''A catastrophic flood or earthquake, resulting in severed aqueducts from Skinner Lake and Perris Lake, would greatly limit imported water, especially in the northern part of the county,'' the report said.

Mandatory water-saving equipment in area homes, the subject of the Sierra Club's ongoing federal suit against the city of San Diego, could lead to the reclamation of 70,000 acre feet of water a year or one-third of the total wastewater flow from the city's sewage system, Turnbull told reporters.

Such reclaimed water could be used in place of potable, or drinking, water for farm and park irrigation as specified in the state's water code, he added.

''That water being dumped in the ocean is usable water, valuable water. Why dump it in the ocean?'' he said.

Turnbull, a former Oceanside City Councilman who served on the city's water board, predicted San Diego eventually will be forced to ban new sewer hook-ups and otherwise limit water availability for new development.

''It's coming to that,'' he said. ''It's not quite that severe but it's coming to that.''

In its seven recommendations, the report outlined incentives and penalties that could change water-use habits throughout the county.

The jury endorsed quick passage of the County Water Authority's Model Reclamation Ordinance, a comprehensive water-use plan, and urged stringent local enforcement ''by issuing warnings and citations to offenders, followed by court action where continued infractions occur.''

Homeowners should receive rebates for approximately one-third the cost of low-flow equipment, and the County Water Authority Board should encourage the establishment of strategically placed treatment plants ''by providing a financial stipend of $50,000 per project,'' the report said.

Natural Communities Conservation Planning:
Moving Beyond The Endangered Species Act Approach

Background:

Within every county in California is a species listed as threatened or endangered under either the Federal or State Endangered Species Act (ESA). Continued loss of habitat due to development and population increases in California's most rapidly growing counties, as well as petitions for new listings of species under the Endangered Species Act, has created situations where single species protection and regulation under these Acts neither saves species nor accommodates compatible economic development.

For example, the small song bird, California gnatcatcher, is currently petitioned for listing under the ESA. The bird's habitat -- Coastal Sage Scrub of southern California -- covers more than 250,000 acres in parts of San Diego, Orange, Riverside, Los Angeles, and San Bernardino counties and contains more than 60 other potentially threatened or endangered plants and animals, each of which could require listing and, ultimately, regulation and continued stalemate.

Response:

The California Resources Agency and the Department of Fish and Game, as part of Governor Wilson's "Resourceful California" iniative, have undertaken an innovative approach to species and habitat conservation called Natural Communities Conservation Planning (NCCP). Currently, the Resources Agency is working with the U.S. Fish and Wildlife Service (USFWS), the U.S. Navy and Marines, private property owners, local governments, and environmentalists in a planning effort to proactively protect sufficient habitat to ensure the long-term survival of viable populations of all the species, and allow for compatible economic development.

Actions:

- The NCCP program has established a Scientific Review Panel composed of five nationally recognized conservation biologists to develop science-based criteria for conservation areas.
- A MOU was signed with the USFWS in December, 1991, committing its support to the effort and providing over $500,000 for support of NCCP in 1991.

- An Advisory Committee, including representatives of government, landowners and environmentalists and the military, is assisting in the process.

- More than 60 landowners and local governments have voluntarily enrolled in the NCCP program. The effort involves a 6,000 square mile study area. To date there has been less than 2,000 acres of habitat loss and more than 300,000 acres subject to voluntary protection and oversight. The enrollments include hundreds of thousands of acres of Coastal Sage Scrub, which will be protected during the 18-month interim planning period. Federal and local governments, developers, and environmental groups have joined together in this important effort. In Orange County, for example, public agencies and private landowners have enrolled over 90% of the Coastal Sage Scrub habitat in interim protection.

- Permanent, enforceable agreements, covering thousands of acres, are anticipated within eighteen months. These agreements will be designed to conserve sufficient habitat to ensure the sustainability of the ecosystem and, ideally, while allowing compatible economic development to continue, and ideally obviate the need for future listing decisions. Natural Communities Conservation Planning agreements will satisfy the requirements of Federal and State Endangered Species Acts, should individual species subsequently become listed.

Future Directions:

The NCCP process improves on the ESA in two significant ways. First, it provides an ecosystem, rather than a single-species, approach to protection. Second, NCCP seeks to anticipate situations before species become threatened or endangered. It is focused on prevention, rather than remedial management, and relies on voluntary, locally-based, inclusive processes to arrive at plans for conservation and compatible economic development.

The NCCP program is not a substitute for the ESA. Authorized by new law in California, this pilot project for Coastal Sage Scrub is intended to demonstrate a positive, proactive alternative to the sometimes draconian impact of regulatory authority which can be exercised when species approach the brink of extinction. Indeed, it is the prospect of listing that creates the incentive for landowners and local government to participate in the NCCP program. Thus, the NCCP adds an important new tool at the front end to reconcile wildlife conservation with the need for economic development. The NCCP is

not another mandatory government program; it can only be successful with the full cooperation of all levels of government, private landowners, developers and conservationists.

Businesses and environmentalists across the nation are watching this proactive alternative to single species conservation; if successful, this approach will be a model for the nation.

Key Issues:

The NCCP, if characterized as a non-regulatory, voluntary way to protect wildlife and habitat, will receive little overt opposition, though a healthy dose of skepticism may come from some quarters who would rather undo all protection, and from those who are fearful that NCCP could weaken the ESA.

Editorally the Orange County Register and the Los Angeles Times have been supportive of the NCCP concept, though the effort has been criticized for delays and because of the allegations of a few environmental activists. Riverside County press has been generally favorable; there has been little editorial comment.

Most opposition to the NCCP comes from (1) those who oppose endangered species regulations and (2) some environmentalists who are concerned that it will undercut the Endangered Species Act. Any Presidential event for the NCCP ought to consider the following:

I. The federal listing decision on the California gnatcatcher petition is due in mid-September with the possibility of allowing for an additional 6-month study period. If USFWS decides to postpone the listing decision for six months, does the President want to comment before that decision is announced and appear to influence it? Or, does he want to comment on the NCCP after the USFWS makes its decision, showing his perspective on the value of the NCCP as a positive and promising supplement to the Endangered Species Act?

II. Any mention of endangered species issues enrages some property rights advocates and some parts of the right wing:

- Pat Buchanan mentioned (opening night at the Republican convention) "radical environmentalists" who care more about spotted owls and fish than about people and jobs and the economy;
- The "Wise Use" movement opposes environmental regulations and is committed to undoing laws and

resource protection; and

- o The recent "Lucas" decision from the U.S. Supreme Court has invigorated property rights advocates who believe any restrictions on the use of land, including EIRs, are administrative takings that require compensation.

III. Bob Perkins, Executive Director of the Riverside County Farm Bureau, believes that NCCP is only working because there is "a gun to the head" of participants and that efforts should be devoted to undoing the Endangered Species Act. The State Farm Bureau supports the NCCP program as a voluntary program.

- o Generally, NCCP is not yet widely subscribed to in Riverside County. The Riverside County BIA supported enrollment as did TMC Development and Metropolitan Water who are enrolled. The County Board enrolled their publicly owned land, but has not enrolled as a permitting local government. Property-owner groups and neighborhood associations spoke against the proposed county enrollment, based on fears of property rights issues. Eventually there will be some property rights conflicts, as actual conservation plans are implemented -- probably two or more years away. (Enrollment was unopposed in most other jurisdictions within the Study Area.)

IV. Other established industry and business-oriented associations are concerned about the program due to regulations proposed by the Department of Fish and Game. Although substantially amended, and now deferred, the regulations are still pending before the California Fish and Game Commission. Industry associations have opposed regulations proposed in conjunction with the program, including the California Cattleman's Association, Western States Petroleum Association, Riverside County Property Owners Association, California Association of Realtors, and the timber industry.

The California Chamber of Commerce, County Supervisors Association of California and the League of California Cities have been silent.

IV. A few established environmental organizations, such as Planning and Conservation League and Audubon Society, attack NCCP as too weak, and are afraid that NCCP will be substituted for the Endangered Species Act.

Potential Questions from the Press:

1. Will you (as President) interfere with the listing decisions which are pending, if necessary, in order to give the NCCP time to work?

2. Do you support re-authorization of the Endangered Species Act?

3. What are problems with the Act?

4. The NCCP program has been criticized as having no "teeth" - do you honestly believe a non-regulatory program can work?

5. NCCP is only working because there is a recession -- can it work if the pressure for growth and development returns?

6. Why do you (should we) really care about the gnatcatcher? or the lizards? when thousands of them exist across the border anyhow?

7. If the federal government decides that species, habitat or natural systems should be protected, shouldn't the U.S. Government pay the cost of the program?

8. A substantial percentage of land in California is already publicly owned. How much can we afford to own and keep more off the tax rolls?

LEVEL 2 - 1 OF 2 STORIES

Federal News Service

APRIL 17, 1990, TUESDAY

SECTION: FROM THE WHITE HOUSE

LENGTH: 3116 words

HEADLINE: CB
WHITE HOUSE CONFERENCE ON SCIENCE AND ECONOMICS RESEARCH
RELATED TO GLOBAL CHANGE
SPEAKER: WILLIAM REILLY, ADMINISTRATOR,
ENVIRONMENTAL PROTECTION AGENCY
J.W. MARRIOTT HOTEL
WASHINGTON, D.C.

... natural systems are in human hands, dependent on human efforts. A little more than a year ago, Time magazine searched for its man or woman of the year, and the editors decided after careful review of the year's news to name its awardee, planet Earth. Now, the comedian, Jay Leno, commented on this award, and he said, "Well, what could you expect? All the judges came

from Earth." Well, we're all biased, we're ...

The Washington Times, April 20, 1990

- Bush, May 16, 1988.

I'm an environmentalist; always have been and always will be.

- Bush, Aug. 1, 1988, at a rally in Belmar Beach, N.J.

The fact is that, ultimately, the goal of a clean and healthy environment is NOT in conflict with the need to create jobs in a growing economy. Quite the contrary: In the long run, successful environmental protection is a prerequisite to solid, sustainable economic growth.

- Bush, Oct. 14, 1988, speaking to the Scripps Institution of Oceanography at the University of California, San Diego.

The Associated Press, October 15, 1988

Merced and Fresno.

He was to spend the rest of the weekend in Denver.

Bush aides view California as critical, and suggest that it could go either way.

Speaking at the Scripps Institution of Oceanography on Friday in San Diego, Bush said if elected one of his first acts in office would be to seek passage of stronger clean-air legislation.

He also called for "a very close look" at whether proposed new oil drilling of the coast of Southern California might harm the environment before going ahead with federal approval for the drilling.

"I oppose drilling in those environmentally sensitive areas where the risk of ...

LEVEL 1 - 4 OF 8 STORIES

October 15, 1988, Saturday, Late City Final Edition

SECTION: Section 1; Page 8, Column 1; National Desk

LENGTH: 921 words

HEADLINE: Bush, Fighting Back Glee, Vows Tough Battle to End

BYLINE: By GERALD M. BOYD, Special to the New York Times

DATELINE: LA JOLLA, Calif., Oct 14

BODY:

... week at Westminster College in Fulton, Mo., where Winston Churchill delivered his Iron Curtain address.

Pledge on Environment

In addition, Mr. Bush hopes to spend part of the next three weeks shoring up support among voters ...

... people.''

Mr. Bush also plans to attempt to counter issues that Mr. Dukakis has used to his advantage, such as the Vice President's record on the environment. Later today, with the Pacific Ocean as a backdrop, he spoke at the Scripps Institution of Oceanography at the University of California at San Diego.

Mr. Bush vowed to convene a global conference on the environment in his first year in office if he is elected, saying that such a gathering would address concerns such as acid rain and the possible warming of the ...

Ed Cowling, lead advance, San Diego, 9/13/92 -- told Gary Gershowitz:

a) Thought the speech should be balanced with economic growth and not just focusing on the environment.

b) County/city run park open to the public with recreational facilities and a housing development near by.

c) Park has maintained natural territory.

d) Speech should not emphasize that this is a specific place to preserve endangered species/wildlife.