United States
Environmental Protection
Agency

Office of the Chief
Financial Officer
Washington DC 20460

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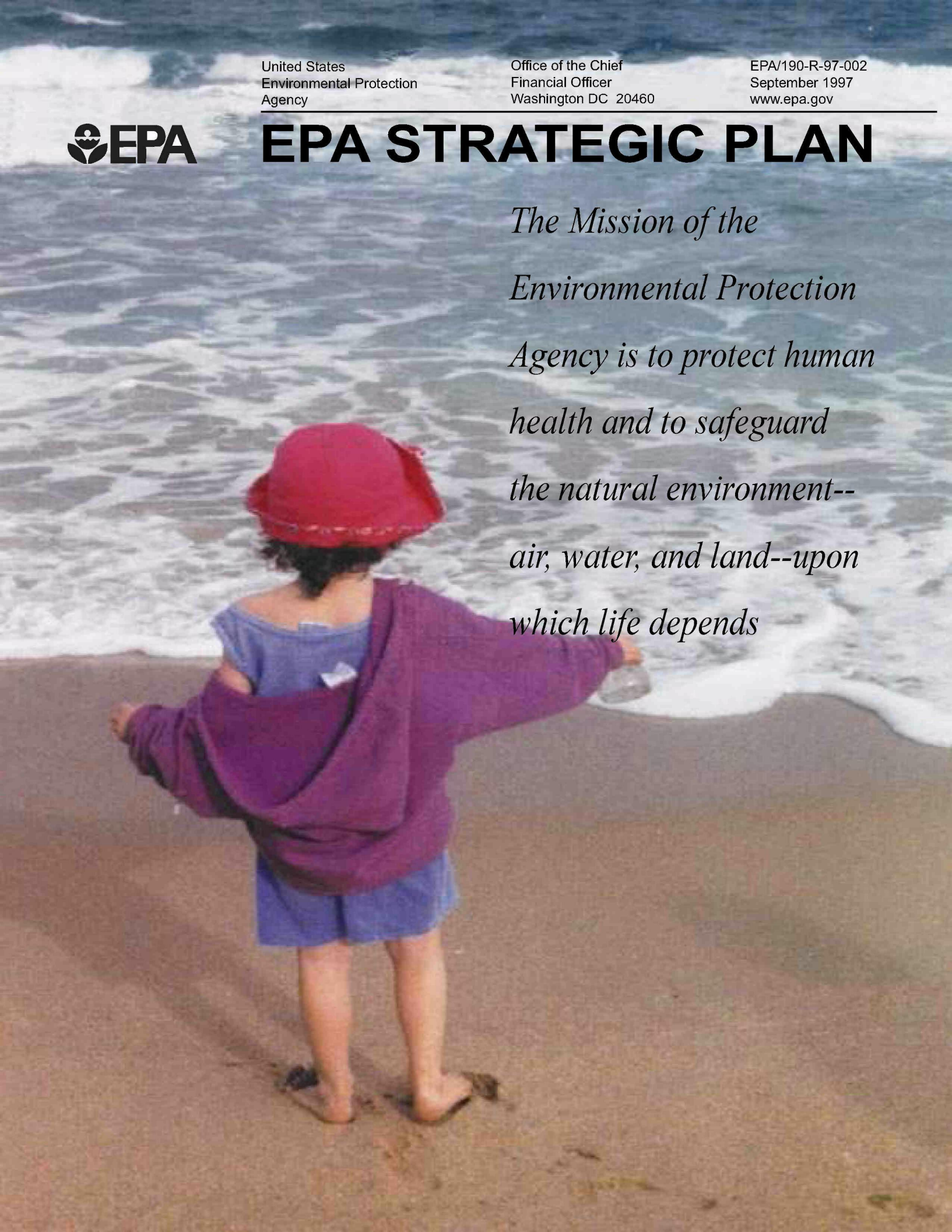
EPA STRATEGIC PLAN

The Mission of the Environmental Protection Agency is to protect human health and to safeguard the natural environment--air, water, and land--upon which life depends



Message from the Administrator

I am proud to present the U.S. Environmental Protection Agency's Strategic Plan, which charts the Agency's course for protecting human health and the environment. Developed with input from EPA's senior leadership and employees -- as well as from environmental stakeholders -- this Plan describes the Agency's goals and objectives and discusses strategies for achieving them in the years ahead.

As we approach the 21st Century, EPA is determined to build on the great strides we have made in controlling pollution and reducing risks to human health and the environment -- and doing so in ways that provide for the nation's continued economic progress. We will constantly seek innovative measures and approaches to ensure that all Americans have air that is safe to breathe, water that is clean and safe to drink, food that is free from dangerous pesticide residues, and communities that are free of toxic wastes.

In addition, this Strategic Plan emphasizes EPA's commitment to give an added measure of protection to America's children, who are often among the most vulnerable to environmental health threats.

I look forward to working with all of EPA's partners as we pursue the goals laid out in this Plan. Together, we can take the common-sense, cost-effective steps we need to protect our health and our communities, and to pass on a safe, healthy world to future generations.

Carol M. Browner, Administrator

EPA Strategic Plan

United States Environmental Protection Agency
Washington D.C. 20460

September 1997

Foreword

"It is time for EPA to link its budget to clear policy goals and measurable environmental results. Only then will we be able to tell the public what we are going to do to protect communities' health and the environment, how we will do it, how much it will cost, and when we will deliver results."

EPA Planning Committee Report, September 11, 1995

In 1995, EPA embarked on a far-reaching effort to change fundamental approaches to planning, budgeting, analysis, and accountability. The purpose of this venture is fourfold:

(1) To develop a clearly articulated mission and a set of goals and objectives for accomplishing the mission as well as a set of guiding principles by which these goals can be translated into our day-to-day activities and programs.

(2) To make better use of scientific information related to human health and environmental risks in setting priorities.

(3) To improve the link between long-term, outcome-based, customer-focused, environmental planning and yearly resource allocation.

(4) To develop a new management system that allows EPA's leadership and the American public to assess our accomplishments accurately and provide useful feedback for making future decisions.

While this effort will take several years for EPA to accomplish fully, our approach is to make real progress where we can in the short term, while we build for the future. With the completion of this Strategic Plan, the Agency has taken a major step forward in this process.

Purpose of the Plan

This strategic plan is a blueprint for taking EPA into the 21st Century and achieving critical human health and environmental protections for the American people over the next five years. As required under the Government Performance and Results Act (GPRA), it describes EPA's mission and ten broad goals that will serve as the framework for the Agency's planning and resource allocation decisions. It also lays out guiding principles that will guide EPA employees on a day-to-day basis as we work towards achieving our goals.

EPA's strategic plan is a dynamic and flexible document. Adjustments and changes in direction are inevitable as we move forward over time with the many complex and varied problems we are seeking to address. EPA will revise this plan within the next three years. However, new information from our customers and the scientific community will be factored into the Agency's planning process annually. This strategic plan will be a sound and strong base from which to focus on the highest priority environmental issues and assure effective use of taxpayer dollars. With the development of this strategic plan, we now have the framework to use in building for the future and in making EPA as effective as possible in meeting the needs of our customers—the American people.

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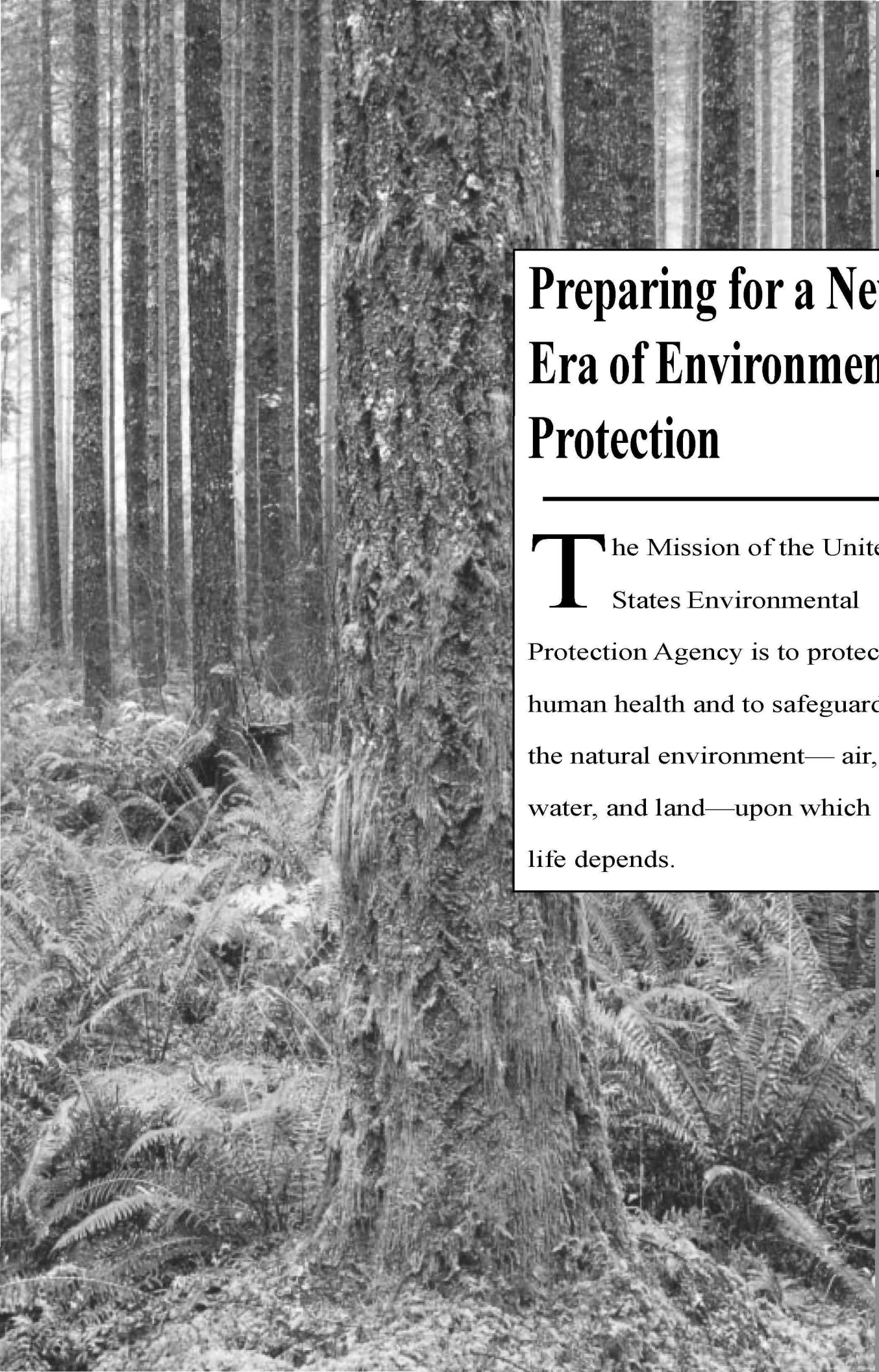


Preparing for a New Era of Environmental Protection

The Mission of the United States Environmental Protection Agency is to protect human health and to safeguard the natural environment— air, water, and land—upon which life depends.

Preparing for a New Era of Environmental Protection

From its origin, the Environmental Protection Agency (EPA) has led the nation in controlling pollution and other environmental risks to human health and the environment. As a result of decisions made and actions taken, our air, land, and water are now much safer and cleaner than twenty-five years ago—despite population increases and continued economic expansion. While the nation continues to enjoy tremendous benefits from these improved conditions, EPA is looking ahead to determine how it can help assure similar gains for the future. This Strategic Plan provides an opportunity for the Agency to explain to the American people how and where it will focus its attention and resources over the next five years.

Defining a strategic vision for the future has never been more important for EPA. Critics and advocates alike are coming forth with diverse, and often contradictory, ideas about how to improve the nation's environmental regulatory system. This has sparked an important public debate about how our traditional system must evolve in response to the environmental and economic realities of a new century. We are at a crossroad, and it is clear that the solutions of the past will no longer suffice.

EPA understands the reasoning behind the arguments being made for change and is already working to address many of them. None of these efforts represents a single definitive solution. But collectively, they symbolize an openness to change that must exist for a new era of environmental and public health protection to evolve.

It is with this evolution in mind that EPA managers and staff have undertaken the challenge of reinventing environmental protection. Consistent with a pledge made in 1995 by President Clinton, Vice President Gore, and Administrator Carol Browner to make the federal government work better and cost less, the Agency continues to investigate promising opportunities for strengthening our current environmental regulatory system. Understanding EPA reinvention efforts—the challenges driving them, how they are being pursued, and what they may mean for the future—is critical to understanding the choices and directions represented in this Strategic Plan.

Today's Challenges

As Congress has passed legislation to address environmental and human health threats, EPA has responded with a comprehensive set of regulations aimed largely at controlling the most obvious risks, such as pollution from large industries and municipal operations. This system is the means through which national environmental standards are set, permits are issued, compliance is monitored, and if necessary, enforcement actions are taken.

The logic and efficiency of managing environmental and human health risks in this manner are widely recognized, and yet, over time, limitations also have become clear. Insufficient flexibility in regulatory requirements that produce increasingly smaller levels of return can impose additional costs on industries and communities. Prescriptive controls can discourage technological innovation that could help lower costs and achieve environmental benefits beyond those achieved under current mandates. More importantly, a system focused largely on "end-of-pipe" pollution simply is not effective at addressing a number of emerging risks, such as polluted runoff or ozone depletion. Such risks are expected to escalate in the coming years as our population continues to grow and as our economy expands to accommodate an increasingly global marketplace. As we look to the future, EPA must address the limitations that exist within our current regulatory system and prepare to manage new risks as they emerge.

EPA's Response

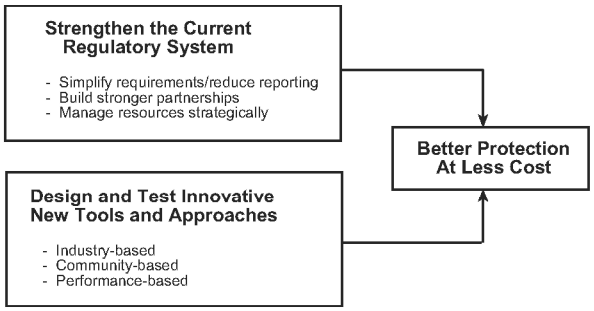
As Figure 1 shows, EPA has adopted a dual-tiered strategy to meet this challenge. On one level, EPA is working to strengthen those features of the current system that have proven effective. Regulations are being simplified and reporting requirements are being reduced where possible so that regulated facilities as well as governmental agencies can focus their resources more productively.

Strengthening the current system also means strengthening relationships -- internally and externally -- to ensure that all potential talents, resources and perspectives are brought to bear on the problems that remain. EPA is working to build stronger alliances with a multitude of partners, but it is especially focused on improving working relationships with the states.

Finally, EPA is handling its resources much more strategically. Last year, the Office of the Chief Financial Officer was established to integrate planning, budgeting, analysis and accountability activities throughout the Agency.

Figure 1

A Dual Strategy for Reinventing Environmental Protection



On another level, EPA is working to develop fundamental new tools and approaches to advance environmental and human health protection beyond our current capabilities. EPA and many external stakeholders are now asking, "How do we move beyond mere compliance with environmental standards and create a system that consistently delivers better results?" EPA believes that better results will be achieved through performance-based approaches that create incentives for continuous improvements, and through tailored management strategies that take into account the unique conditions and circumstances facing specific industries or communities.

To get better environmental protection at reasonable cost, EPA will use the results from experiments with innovative approaches to make broader changes to the Nation's environmental management system. Reinvention of environmental protection involves rethinking specific steps of the regulatory process, such as setting standards and writing regulations, issuing permits, collecting environmental reports about pollution, providing assistance to help business comply with the law and conducting enforcement actions. Working with states and other partners, EPA is incorporating successful innovations into the daily operation of environmental programs.

Today, the Agency is developing performance-based approaches that can lead regulated facilities to invest in environmental improvements that might not otherwise be pursued. For example, through Project XL, which stands for eXcellence and Leadership, facilities are offered regulatory flexibility if their alternative management strategy promises better results than would otherwise be achieved under the current regulatory system -- and if they actively involve interested stakeholders.

EPA is also looking for ways to better address the environmental challenges of specific industry sectors. Our regulations are structured to control pollution in specific environmental media -- such as air, land, water -- not from specific industry sources. As a result, industries are often faced with the difficulty of having to track, understand, and comply with multiple requirements under each environmental statute. Through the Common Sense Initiative, EPA and multiple stakeholders are exploring how to replace the pollutant-by-pollutant approach of the past with a more comprehensive industry-by-industry approach for the future. Participants are looking at all regulatory responsibilities as a step towards simplifying requirements and encouraging practices that could improve environmental performance while also cutting costs.

A similar need for more tailored environmental management strategies at the local level has led EPA to develop more community-based environmental protection tools. Grants to help concerned stakeholders understand technical issues affecting their community, a new website featuring the latest tools for community-based environmental protection, and a new community-right-to-know program dedicated to improving public access to environmental information are just a few examples of how EPA is reaching out to create a system more responsive to local

priorities.

Today, these reforms are redefining our environmental management system. In addition to the traditional tools that have proven effective in the past, businesses, communities, government agencies, and private citizens are gaining access to a much broader menu of choices for determining how to best meet their interests and responsibilities. Facility-wide and multimedia permits provide an alternative to the traditional issuance of multiple permits for one location. A risk-based approach to monitoring allows regulated facilities to focus their resources on collecting more useful data. Electronic reporting systems are providing a quicker, easier, and more accurate means of submitting information. And new compliance assistance centers help facilities better understand regulatory requirements. As these examples show, reinventing environmental protection means improving and expanding the current system—not replacing it.

Implications for the Future

Ultimately, the changes underway today will have a profound influence on how our nation's environmental goals and objectives are pursued at the turn of the century and beyond. An improved system that delivers consistently better protection at less cost will have five key attributes (Table 1).

- ***First, it will provide more flexibility with accountability.*** As American companies find themselves operating in an increasingly global marketplace, the ability to make changes to operations without regulatory delay will have a definite impact on their competitiveness. Similarly, an era of rapidly shrinking budgets will force some communities to target limited resources more strategically. Both of these scenarios call for more operational flexibility within the regulatory system. EPA has committed to a variety of actions that cut costs without jeopardizing environmental gains. For example, EPA will continue the reforms it has started in several permitting programs. These reforms reduce permit processing time and lower information requirements in permit application and re-application.
- ***Second, it will allow greater public access to information.*** Rapid advancements in information technology, coupled with the public's interest and willingness to become involved in environmental issues, will increase demands for information. An improved system must focus on improving the quantity, quality, timeliness, and accessibility of environmental information from multiple sources.

Table 1
Changes Underway: A Snapshot of Reinvention

Attribute	Reform Effort	Results
Flexibility with accountability	Common Sense Initiative	Over 40 projects testing industry-by-industry approaches to environmental regulation
	Project XL	Three projects using alternative regulatory approaches
	Brownfields	Over 70 communities cleaning up abandoned, idled, or under-utilized industrial and commercial sites
	Permit Improvements	Streamlined administrative processes, flexible permit approaches (e.g. pollution prevention) and increased public participation
Better public access to information	One-stop reporting	Eleven states developing and testing integrated environmental reporting systems
Strong partnerships	National Environmental Performance Partnership System	Performance Partnership Agreements with nearly half the states
	Voluntary Programs	Over 7,000 companies voluntarily improving environmental performance
Easier compliance with environmental laws	Compliance Assistance Centers	Four centers operating to help small businesses better access and understand environmental requirements
	Environmental Leadership Program	New mechanism to encourage and recognize strong compliance
Less red tape	Line-by-line review of regulations	Total regulatory burden cut by nearly 16 million hours

- ***Third, an improved system will reflect strong partnerships.*** As no single entity can ensure environmental and public health protection, EPA must continue to build a broader, more diverse network of stakeholders to share responsibilities for protecting public health and the environment.
- ***Fourth, it will facilitate compliance with environmental laws.*** Ensuring that companies and communities comply with environmental laws will always be one of EPA's highest priorities. However, it is just as important for EPA to find ways of making compliance easier to achieve. An improved system will provide the regulated community with assistance and compliance information that is more understandable and accessible.
- ***Finally, an improved system for the future will involve less red tape.*** Real gains for protecting public health and the environment come about through work at state and local levels--in manufacturing facilities, around community recycling centers and water treatment plants, and across the rural countryside. Cutting unnecessary, obsolete, or duplicative requirements and paperwork so that those with environmental responsibilities can focus on solving the problems at hand will continue to be an important responsibility for EPA.

EPA is eager to continue experimenting with new tools and approaches for achieving better results in the future. However, the Agency will not allow actions that jeopardize the gains of the past. Reforms will continue to be developed and managed with care. In all cases, we will incorporate strong accountability requirements to guard against failure to meet national standards. Providing strong safeguards will allow the search for innovative solutions to continue without compromising the levels of environmental and public health protection that the American people have come to expect.

EPA's Partners in Change

As EPA strives to create a stronger system for protecting public health and the environment, it cannot act alone. Rather, it must encourage all interested stakeholders—other governmental agencies, business and industry, environmental and public interest groups, and private citizens—to participate in the discussion, design, and implementation of new ideas.

Engaging interested stakeholders as partners in change is important for many reasons.

- ***First, EPA alone does not have all the answers.*** As we proceed with policy and decision making, external stakeholders have different perspectives that can and should be considered. For example, as the front-line implementors of many federal requirements, state environmental officials have insights on what may or may not work well. Similarly, business and industry have strong opinions about how federal environmental policies affect their operations and overall competitiveness nationally and abroad. In order to harness long-term, broad-based support, many diverse views and opinions must be taken into account.
- ***Second, additional partners mean more efficient use of resources.*** In a time when Congress and the Administration are eliminating the federal deficit, it is more important than ever to assure that federal dollars achieve the greatest possible gain. Leveraging resources through partnerships can provide this assurance, and help create mutually beneficial situations for the public and private sectors.
- ***Third, partnerships are critical because some challenges are best addressed at the local level.*** Problems such as controlling polluted runoff require more tailored, community-based approaches that take into account the unique conditions and circumstances surrounding a particular issue or area. In these cases, EPA's most effective course of action is to offer technical tools and financial assistance that empower its local partners.

For these reasons, building and maintaining strong partnerships continues to be one of the Agency's highest priorities. This priority is reinforced by the strong interest that key constituencies have shown in experimenting with new tools and approaches. Indeed, as the following summaries show, EPA is working with key partners to achieve common goals in promising and often unprecedented ways.

Federal Agencies

Among the partners with whom EPA will work most closely are other Federal agencies. EPA's responsibilities for human health and the environment intersect with or support the work of nearly 20 other Federal departments or agencies. For this reason, EPA must work closely with them to ensure that the Agency's resources are directed in a way that complements other Federal initiatives and supports the achievement of our common goals. While the Agency has worked extensively with these agencies in the past, the process of developing this Strategic Plan underscored the importance of strong coordination among agencies with similar or interrelated functions.

Much work remains to be done. Potential areas for interagency activities include developing performance measures for comparable functions, linking target performance levels in cross-cutting programs and identifying and eliminating duplicative program activities. As agencies work in tandem to address these concerns, they will strive to leverage resources, clarify responsibilities and improve the products and services provided to the American public. The attached appendix, "Consultation and External Stakeholder Input," provides EPA's outlook on interagency coordination.

States

State governments have primary responsibility for implementing most environmental programs, carrying out day-to-day activities such as issuing permits, conducting compliance and enforcement programs, and monitoring environmental conditions. A strong and effective state-EPA partnership is, therefore, fundamental to the achievement of EPA's goals and objectives.

EPA and the states have worked as public partners in a number of productive ways. An important milestone in our collaboration was reached in May 1995, when EPA joined forces with the Environmental Council of the States (ECOS) to establish the National Environmental Performance Partnership System (NEPPS). Performance partnerships between EPA and the states represent a new working relationship--one in which EPA and the states determine together what work will be carried out on an annual basis, and how it will be accomplished. Traditionally, the process for addressing environmental and public health priorities has been conducted separately under each of EPA's various statutory authorities. In the past, states have submitted as many as 16 annual work plans and received multiple grants to support their air, drinking water, hazardous waste, and other pollution control activities. Besides promoting a fragmented approach to environmental problems, this traditional process tended to emphasize administrative management and oversight rather than effectively direct efforts to reduce environmental hazards.

NEPPS partnerships give EPA a clearer understanding of actual problems and conditions and encourage states to focus on the issues most in need of attention. They also allow the Agency and the states to reduce time and resources formerly devoted to administrative and oversight activities. Performance partnerships are helping to shape a fundamentally different relationship between EPA and the states. Recognizing their potential advantages, nearly half the states decided this year to put partnerships to the test. This important program is discussed in greater detail in the section entitled, "New Ways of Achieving Our Overall Mission: Key Cross-Agency Programs."

Indian Tribes

EPA understands that we have a trust responsibility to federally recognized tribes across the country. The Agency is committed to working with tribes to assure the protection of human health and the tribal homeland environment in a manner consistent with a government-to-government relationship and our interest in conservation of cultural uses of natural resources. We are working to enhance partnerships with the tribes to address specific environmental and public health goals. These partnerships are discussed in greater detail later in this document, and emphasize the Agency-wide, multimedia nature of our support for tribal implementation and priorities identified in Tribal/EPA Environmental Agreements or other plans.

Local Governments

It is at the local, community, and neighborhood level that environmental problems often originate and must be resolved. Engaging local leaders and communities in the effort to meet future environmental challenges is critical to achieving successful outcomes. EPA realizes that local governments must be empowered to fully realize their stewardship responsibilities, and we are working to ensure that local governments have access to the information, expertise, and resources necessary to build comprehensive, long-term environmental solutions at the local level.

Industry

Just as EPA's relationships with state, tribal, and local governments are evolving, so too are our relationships with industry. After twenty-five years of focusing almost exclusively on across-the-board compliance with environmental standards, the Agency is now offering more tailored approaches that recognize the various levels of environmental performance and commitment that exist within the private sector.

Because small businesses may not always have the staff or resources needed to gain a full understanding of regulatory requirements, a number of EPA efforts now offer assistance. For example, EPA has opened compliance assistance centers to provide companies in four industrial sectors with quicker, easier access to information about how to achieve and maintain compliance. Additionally, a new small business compliance policy encourages businesses to participate in compliance assistance programs, conduct environmental audits, and promptly disclose and correct violations. As an incentive, EPA will waive or reduce penalties for first-time violators as long as there is no criminal activity and no imminent threat to health, safety, and the environment.

The Agency is also developing incentives for companies that are willing and capable of not just meeting, but exceeding, today's national standards. Many companies now have mature environmental management programs, knowledgeable and experienced staff, and access to technological advancements that make such achievements possible. This interest in exceeding requirements is one of the most profound indicators of evolution in environmental and human health protection. It suggests that, in time, our national environmental standards may come to represent a performance floor to maintain, rather than a ceiling to reach.

One way EPA is encouraging better performance is through a variety of voluntary environmental programs offering companies public recognition and certain kinds of assistance in improving their operations. In 1995, over 6,000 participants in voluntary programs saved millions of dollars while helping to:

- Cut toxic pollution by 750 million pounds—the equivalent of 3 pounds for every man, woman, and child in America.
- Eliminate nearly 2 million tons of solid waste.
- Reduce greenhouse gas emissions by preventing over 13 million metric tons of CO_2 emissions.

Public Interest Organizations

EPA works with many stakeholder organizations across the country--environmental, labor, and public advocacy groups-- that play a separate and distinct role in protecting the environment. They often serve as watchdog groups in the workplace and communities, and provide EPA with invaluable information on the concerns of citizens impacted by the policies and decisions made by government. Their members are the eyes and ears of our communities, monitoring activities affecting the health and well-being of their children, families, and neighbors in the places they live, work, and play.

The Public

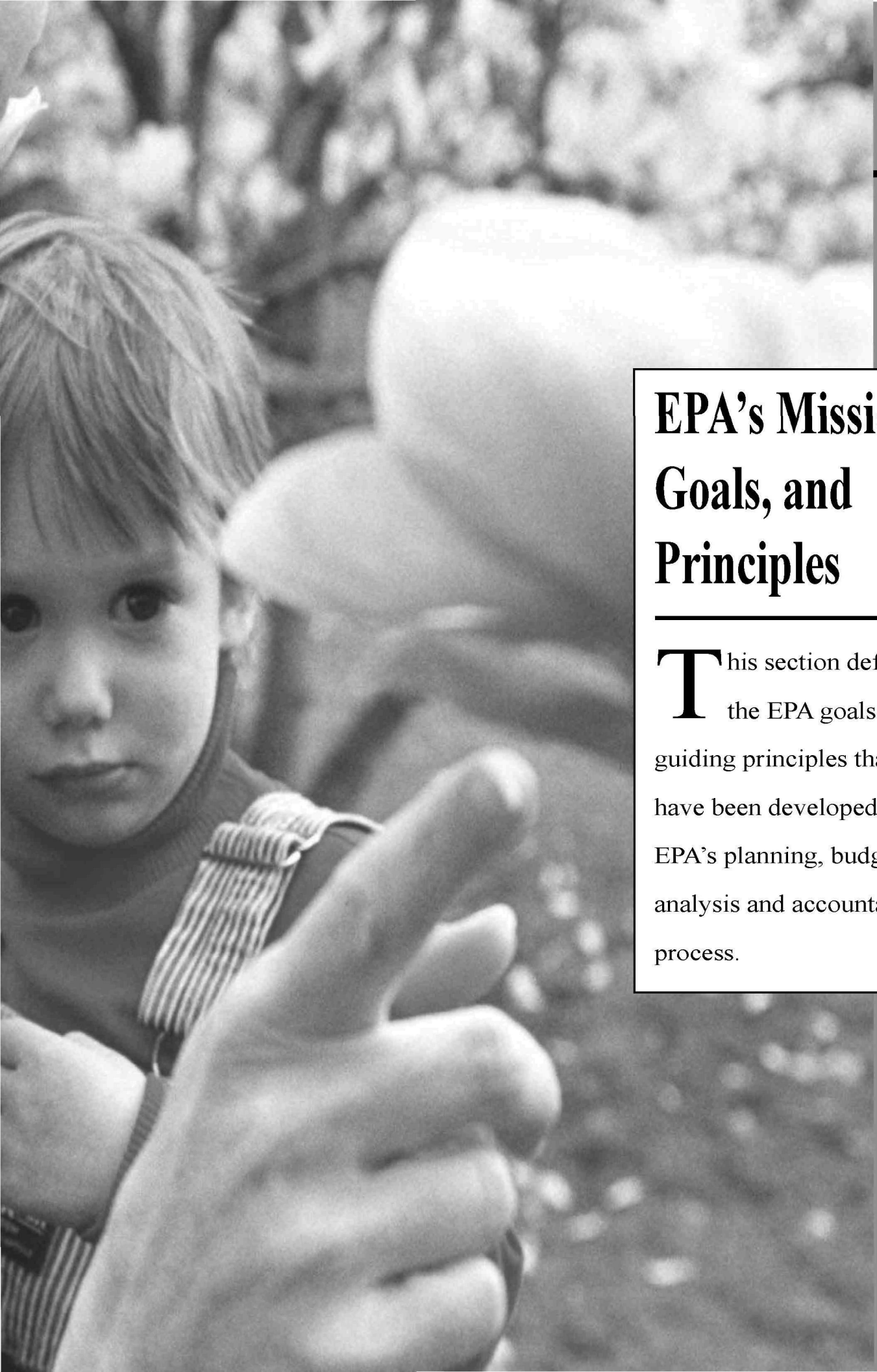
Americans care deeply about the quality of their environment. This widely held concern is evident in the growing number of people and organizations working to improve environmental quality in a variety of ways. Concerned and committed citizens can be found cleaning up abandoned waste sites, planting vegetation and restoring habitat, and promoting recycling in their communities. Citizens also are taking a more active role in environmental decision making—demanding a seat at the table as local, state, and national issues are debated.

Recognizing the value and potential of a well-informed and committed citizenry for affecting positive change, the Agency supports meaningful public involvement in environmental issues. Today, EPA offers community-based tools and financial assistance to empower people at the local level. The Agency is expanding participation in the regulatory process through consensus-based approaches and negotiated rulemaking.

Finally, we are employing new technologies to make information more accessible and relevant to the public. Efforts are underway to make environmental data more timely, more accessible and more understandable, so that it can be used more effectively.

Conclusion

The changing character of EPA's relationships with the public, the regulated community, and other governmental partners has provided many benefits. Collaborative approaches are making possible the expansion of programs to support human health and environmental protection, effectively and with greater efficiency. Best of all, EPA's strategies for the coming years promise to be responsive to the needs of stakeholders because of the steps we have taken to strengthen our alliances with them throughout the planning process.



EPA's Mission, Goals, and Principles

This section defines the EPA goals and guiding principles that have been developed for EPA's planning, budgeting, analysis and accountability process.

EPA's Mission, Goals, and Principles

The mission of the U.S. Environmental Protection Agency is to protect human health and to safeguard the natural environment—air, water, and land—upon which life depends.

EPA's purpose is to ensure that:

- **All Americans are protected from significant risks to human health and the environment where they live, learn and work.**
- **National efforts to reduce environmental risk are based on the best available scientific information.**
- **Federal laws protecting human health and the environment are enforced fairly and effectively.**
- **Environmental protection is an integral consideration in U.S. policies concerning natural resources, human health, economic growth, energy, transportation, agriculture, industry, and international trade, and these factors are similarly considered in establishing environmental policy.**
- **All parts of society—communities, individuals, business, state and local governments, tribal governments—have access to accurate information sufficient to effectively participate in managing human health and environmental risks.**
- **Environmental protection contributes to making our communities and ecosystems diverse, sustainable and economically productive.**
- **The United States plays a leadership role in working with other nations to protect the global environment.**

EPA's mission reflects the will of the American people as expressed through Congress and six successive Presidents. To remain focused on these mandates and to establish guideposts for its employees today and in the future, EPA has defined a series of ten strategic, long-term goals. These goals, together with the underlying principles that will be used to achieve them, will define EPA's planning, budgeting, analysis, and accountability process. In the next chapter, each goal is described in detail.

EPA's Goals

1. Clean Air:

The air in every American community will be safe and healthy to breathe. In particular, children, the elderly, and people with respiratory ailments will be protected from health risks of breathing polluted air. Reducing air pollution will also protect the environment, resulting in many benefits, such as restoring life in damaged ecosystems and reducing health risks to those whose subsistence depends directly on those ecosystems.

2. Clean and Safe Water:

All Americans will have drinking water that is clean and safe to drink. Effective protection of America's rivers, lakes, wetlands, aquifers, and coastal and ocean waters will sustain fish, plants, and wildlife, as well as recreational, subsistence, and economic activities. Watersheds and their aquatic ecosystems will be restored and protected to improve public health, enhance water quality, reduce flooding, and provide habitat for wildlife.

3. Safe Food:

The foods Americans eat will be free from unsafe pesticide residues. Children especially will be protected from the health threats posed by pesticide residues, because they are among the most vulnerable groups in our society.

4. Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems:

Pollution prevention and risk management strategies aimed at cost-effectively eliminating, reducing, or minimizing emissions and contamination will result in cleaner and safer environments in which all Americans can reside, work and enjoy life. EPA will safeguard ecosystems and promote the health of natural communities that are integral to the quality of life in this nation.

5. Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response:

America's wastes will be stored, treated, and disposed of in ways that prevent harm to people and to the natural environment. EPA will work to clean up previously polluted sites, restoring them to uses appropriate for surrounding communities, and respond to and prevent waste-related or industrial accidents.

6. Reduction of Global and Cross-Border Environmental Risks:

The United States will lead other nations in successful, multilateral efforts to reduce significant risks to human health and ecosystems from climate change, stratospheric ozone depletion, and other hazards of international concern.

7. Expansion of Americans' Right to Know About Their Environment:

Easy access to a wealth of information about the state of their local environment will expand citizen involvement and give people tools to protect their families and their communities as they see fit. Increased information exchange between scientists, public health officials, businesses, citizens, and all levels of government will foster greater knowledge about the environment and what can be done to protect it.

8. Sound Science, Improved Understanding of Environmental Risk, and Greater Innovation to Address Environmental Problems:

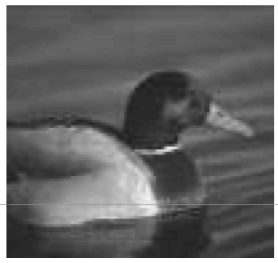
EPA will develop and apply the best available science for addressing current and future environmental hazards, as well as new approaches toward improving environmental protection.

9. A Credible Deterrent to Pollution and Greater Compliance with the Law:

EPA will ensure full compliance with laws intended to protect human health and the environment.

10. Effective Management:

EPA will establish a management infrastructure that will set and implement the highest quality standards for effective internal management and fiscal responsibility.



How Program Evaluations Contributed to the Establishment of the Agency's Goals

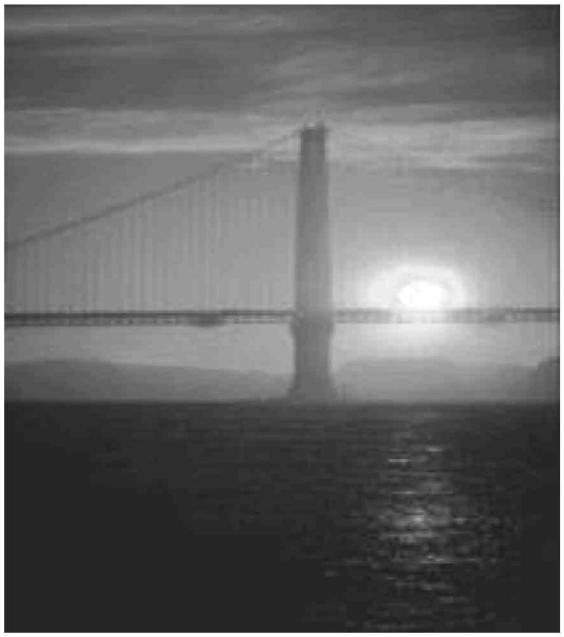
EPA's goals reflect public priorities as articulated by Congress in the form of statutory mandates and authorities for achieving clean air, clean water, waste management and other important national concerns. As such, several Agency goals encompass our activities in support of media-specific achievements under the range of legislation we are charged to implement.

Over the course of the past five years, the Agency also engaged in an intensive effort to develop a set of national environmental goals defined in a draft "Environmental Goals for America" report. This draft report reflected extensive public input and was used as the basis for many of the goals in the Strategic Plan. Evaluative steps EPA took in developing these goals include:

- Examining trends affecting health and ecological risks;
- Assessing the effectiveness of current and foreseeable environmental technologies and programs;
- Conducting research into available information on costs and benefits;
- Conducting scientific analysis to support setting health standards and assessing the likelihood of meeting them; and
- Evaluating stakeholder priorities by consulting with other federal agencies, state/tribal/local governments, and industry and citizen organizations.

In establishing goals for the Agency's Strategic Plan, we evaluated a similar range of stakeholder input on EPA priority areas as a subset of the wider range of human health and environmental protection activities across the federal government.

Other needed achievements in multi-media, cross-program areas and in Agency management processes are outlined in goals that address priorities identified in major evaluations of Agency work. These include studies by the National Academy of Public Administration (NAPA); the National Performance Review (NPR); internal reviews conducted in compliance with the Federal Managers' Financial Integrity Act; and ongoing program evaluations and management reviews. For example:



- Two goals track directly to recommendations of the NPR: Preventing Pollution and Reducing Risk, and Sound Science.
- The NAPA recommendation (from "Setting Priorities, Getting Results" [1995]) that we increase regulatory flexibility in exchange for enhanced performance is reflected in our goal for enforcement, as well as our guiding principles for pollution prevention and common sense, cost-effective solutions to environmental problems.
- Our goals and objectives place appropriate emphasis on high-visibility, high-investment programs that are subject to statutory and other regular reviews by OIG and GAO, such as the Superfund program and resource management activities in general.

These are the goals we have set as we begin the process of strategic planning. Future program evaluations will influence decision making in this area and can help us to sharpen the focus of our goals and objectives.

EPA's Guiding Principles:

In addition to developing a set of goals, the Agency has developed a set of principles intended to guide senior management in making decisions about Agency priorities as well as provide a framework for ways in which the goals and objectives may best be reached in our day-to-day activities.

Reduce Health and Environmental Risks:

We will protect human health and the environment by employing cost-effective risk reduction strategies, based on sound, peer-reviewed science, in our implementation of programs. In making decisions about Agency priorities, we will balance our efforts to reduce ecological risks with our efforts to reduce risks to human health.

Emphasize Pollution Prevention:

We will structure our approaches to create incentives for preventing pollution and the transfer of pollution among air, water, and land. To accomplish this, the Agency will use a mix of tools--including performance standards and economic incentives in setting national pollution controls, as well as voluntary pollution reductions and other innovative alternatives--in furtherance of EPA's goals and objectives.

Emphasize Children's Health:

We will ensure that all standards EPA sets address children's unique vulnerability to health and environmental threats, and we will place emphasis on identifying and assessing environmental health risks that may affect children disproportionately.

Strengthen Partnerships:

We will enhance EPA's partnerships with federal, tribal, state, and local agencies, Congress, private industry, public interest groups, and citizens in order to identify environmental goals and work together to achieve them. Our internal partnership with EPA employee labor organizations will also be critical to our success.

Maximize Public Participation and Community Right to Know:

We will increase the flow of information to the public, enhancing every American's right to know about local environmental hazards and general conditions, and thereby enable people to make informed environmental decisions and participate in setting local and national priorities.

Emphasize Comprehensive Regional and Community-Based Solutions:

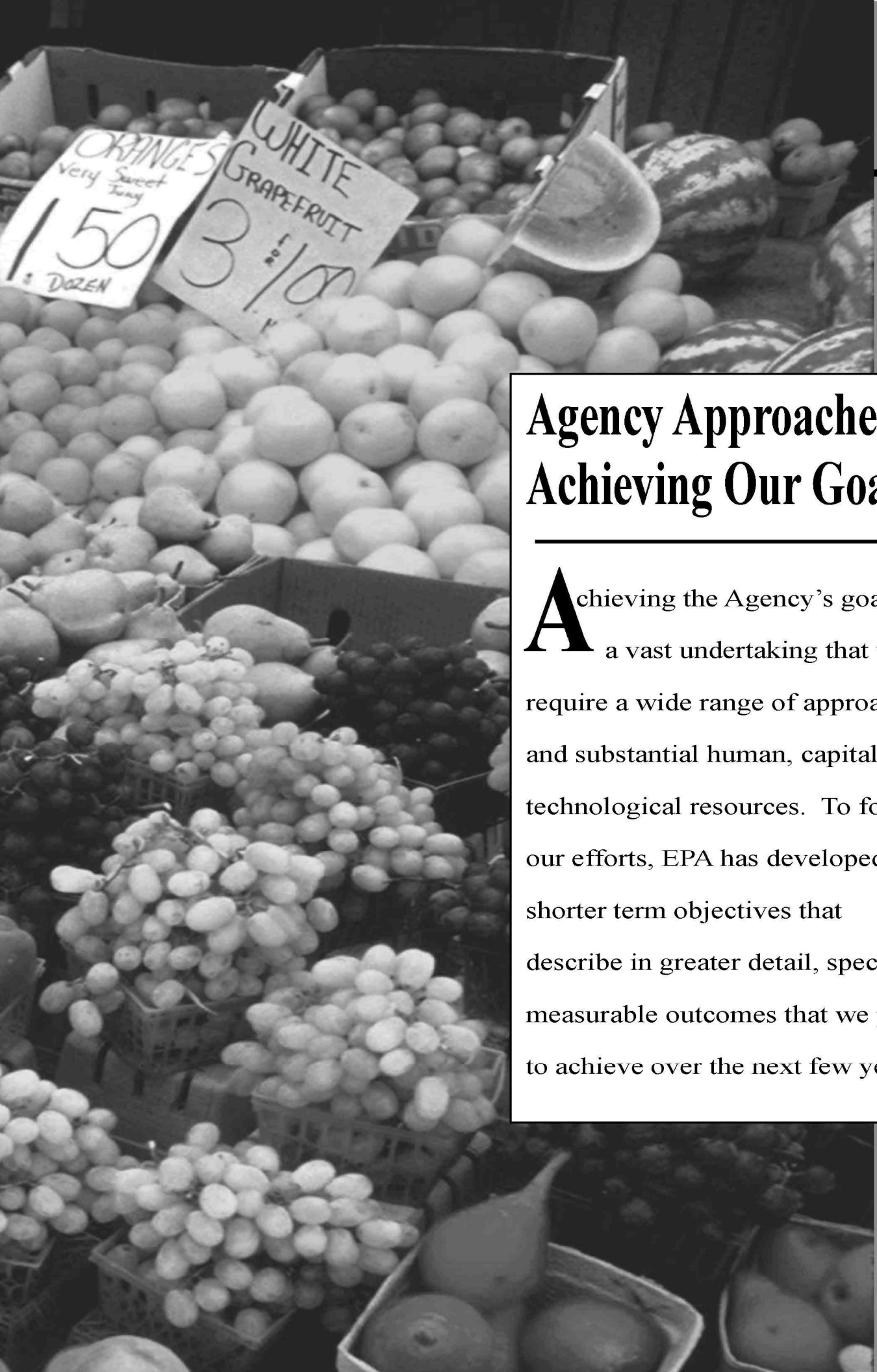
We will structure our approaches to address all forms of pollution simultaneously--in the air, land and water--and do so in a way that confronts environmental problems on a community-wide or regional basis.

Place Emphasis on Indian Country:

We will work with Indian tribes on a government-to-government basis to ensure the protection of the environment and human health in Indian Country, consistent with our trust relationship with tribes and our interest in conservation of cultural uses of natural resources.

Choose Common Sense, Cost-Effective Solutions:

Because a safer, healthier environment goes hand-in-hand with a robust economy, we will fulfill EPA's goals using common sense approaches that consider benefits and costs and seek the most cost-effective ways to integrate our efforts with those aimed at economic growth. We will work to increase environmental stewardship and accountability and get better environmental protection at reasonable cost by incorporating successful innovations into the daily operation of environmental programs.



Agency Approaches to Achieving Our Goals

Achieving the Agency's goals is a vast undertaking that will require a wide range of approaches and substantial human, capital, and technological resources. To focus our efforts, EPA has developed shorter term objectives that describe in greater detail, specific measurable outcomes that we plan to achieve over the next few years.

Agency Approaches to Achieving Our Goals[1]

Achieving the Agency's goals is a vast undertaking that will require a wide range of approaches and substantial human, capital, and technological resources. We believe the goals can be reached with our anticipated resources. To focus our efforts, EPA has developed shorter term objectives that describe in greater detail the specific measurable outcomes that we plan to achieve over the next few years. These objectives define how the Agency will spend its resources, and provide a guide for assessing whether or not we are reaching our goals. To ensure that the objectives are the most effective way to focus our resources and activities over the next few years, EPA's senior managers used the following criteria in selecting them:

- *Will they reduce risk to human health and the environment?*
- *Will they help achieve EPA's statutory mandates?*
- *Will they improve the quality and quantity of services delivered?*

With these criteria, EPA has compiled a set of objectives that are key to achieving our goals. The following section describes for each goal: (1) the objectives that were selected to achieve the goal, (2) what will be accomplished by achieving these objectives, (3) how EPA will go about meeting the objectives and (4) Agency plans for measuring our performance.

In the past, EPA has not generally set specific numerical targets such as those embodied in many of the objectives in this Strategic Plan. However, GPRA strongly encourages agencies to establish measurable, quantitative goals and objectives as part of the strategic planning process. Accordingly, in compliance with GPRA, EPA has set numerical targets for a significant number of specific objectives in this Strategic Plan, consistent with EPA's statutory authority to protect human health and the environment and to administer environmental, human health, and other programs. In establishing numerical targets, EPA considered its statutory mandates and authorities and utilized the best available scientific and technical information.

Relationship Between General Goals and Annual Performance Goals

EPA's long-term strategic goals will be used as the basis to establish the Agency's annual performance goals and will be reflected in the day-to-day functions and activities of its managers and staff. The Agency's FY 1999 Annual Plan will describe specific annual performance goals, annual measures of outputs and outcomes, and activities aimed at achieving the performance goals that will be carried out during the year. The Annual Plan will be linked directly to the Agency's budget request and planned program activities. The Annual Performance Reports will track progress towards meeting the goals and objectives in the Strategic Plan.

[1]Statutory and other authorities for EPA's goals are found at the end of this section.

Annual performance goals will reflect the progress that EPA commits to making toward achieving long-term goals and objectives. At least one annual performance goal is being developed for each of EPA's objectives. The annual performance goals will be used by managers to determine how well a program or activity is doing in accomplishing its intended results. The annual performance goals will inform Congress and our stakeholders of the expected level of achievement for the significant activities covered by the objective.

Key External Factors

The ability of the Agency to achieve its strategic goals and objectives depends on several factors over which the Agency has only partial control or little influence. EPA relies heavily on partnerships with states, tribes, local governments and regulated parties to protect the environment and human health. In addition, EPA's success often depends on other Federal agencies that have environmental responsibilities, as well as other countries and international organizations with which the United States shares environmental goals. This plan discusses the mechanisms and programs that the Agency employs to assure that our partners in environmental protection will have the capacity to conduct the activities needed to achieve the objectives. However, as noted, EPA often has limited control over these entities. In addition, much of the success of EPA programs depends on the voluntary cooperation of the private sector and the general public.

EPA's ability to achieve the goals and objectives is also predicated on an adequate level of resources for direct program implementation by EPA as well as for delegated programs. The objectives in this plan are based on current funding levels. If appropriations are lower or different from requested, some objectives may be difficult or impossible to achieve. Other factors that could delay or prevent the Agency's achievement of some objectives include: lawsuits that delay or stop EPA's and/or State partners' planned activities; new or amended legislation; and new commitments within the Administration. Economic growth and changes in producer and consumer behavior, such as shifts in energy prices or automobile use, could have an influence on the Agency's ability to achieve several of the objectives within the timeframe specified.

Large-scale accidental releases (such as large oil spills) or rare catastrophic natural events (such as volcanic eruptions) could, in the short term, impact EPA's ability to achieve the objectives. In the longer term, new environmental technology, unanticipated complexity or magnitude of environmental problems, or newly identified environmental problems and priorities could affect the timeframe for achieving many of the goals and objectives.

GOAL 1: Clean Air

The air in every American community will be safe and healthy to breathe. In particular, children, the elderly, and people with respiratory ailments will be protected from health risks of breathing polluted air. Reducing air pollution will also protect the environment, resulting in many benefits, such as restoring life in damaged ecosystems and reducing health risks to those whose subsistence depends directly on those ecosystems.

Importance of this Goal

Air pollution continues to be a widespread public health and environmental problem in the United States. Air pollution can cause premature death, cancer, long-term damage to respiratory and reproductive systems, and difficulty with breathing. Air pollution also reduces visibility, damages crops and buildings, and is deposited on the soil and in water bodies where it affects the chemistry of the water and impacts resident life forms.

Since 1970, air pollutant emissions have been reduced and significant improvements in air quality have been achieved. However, in 1996, millions of tons of toxic air pollutants were released into the air. Also, approximately 126 million people lived in areas designated as in nonattainment for one or more of the six pollutants for which EPA has established health-based standards.

The problem is national--even international--in scope. Air pollution crosses local and state lines and, in some cases, even crosses our borders with Canada and Mexico. Efforts of many other Federal agencies such as the Department of Transportation and the Department of Energy are critical to achieving the Clean Air goal. Additionally, Federal assistance and leadership are essential for developing cooperative state, local, regional, and international programs to prevent and control air pollution and for ensuring that national standards are met. The national challenge is to continue efforts to reduce the remaining air pollutants that have major impacts on human health and the environment in ways that make both economic and environmental sense.

Objectives

- By 2010, improve air quality for Americans living in areas that do not meet National Ambient Air Quality Standards (NAAQS) for ozone and particulate matter (PM).
- By 2010, reduce air toxic emissions by 75 percent from 1993 levels to significantly reduce the risk to Americans of cancer and other serious adverse health effects caused by airborne toxics.
- By 2005, improve air quality for Americans living in areas that do not meet the NAAQS for carbon monoxide, sulfur dioxide, lead, and nitrogen dioxide.
- By 2010, ambient sulfates and total sulfur deposition will be reduced by 20-40 percent from 1980 levels due to reduced sulfur dioxide emissions from utilities and industrial sources. By 2000, ambient nitrates and total nitrogen deposition will be reduced by 5-10 percent from 1980 levels due to reduced emissions of nitrogen oxides from utilities and mobile sources.

What Will Be Accomplished

Over the next several years, EPA, together with state, local and tribal partners, will continue to reduce risks to human health and protect the environment from a multitude of harmful air pollutants. For example, EPA has promulgated new standards for ozone and particulate matter that are more protective of health than existing standards. Americans will be better protected from currently unknown risks associated with air toxics as current and future research and other efforts produce information that enables EPA to better characterize the risks associated with hazardous air pollutants.

All areas of the country will meet the existing standards for carbon monoxide, sulfur dioxide, nitrogen dioxide, and lead. Significant emission reductions of air toxics will better protect Americans from currently unknown risks associated with air toxics. Visibility in national parks and wilderness areas (Class I areas) will be improved for future generations through the Regional Haze program, and emissions of sulfur dioxide and nitrogen oxides, the primary precursors of acid rain, will be substantially reduced.

The following results are expected to be achieved by air programs:

- By 2010, the air will be safer to breathe for Americans living in areas that exceed the NAAQS for ozone (and all areas will come into attainment by no later than 2012).

- By 2010, the air will be safer to breathe for Americans living in areas that exceed the NAAQS for PM (and all areas will come into attainment by no later than 2012 for PM10 and 2017 for PM2.5).
- By 2010, air toxics emissions will be 75 percent below 1993 levels.
- By 2005, all areas will come into attainment with the NAAQS for carbon monoxide, making the air cleaner to breathe for 43 million Americans.
- By 2005, all areas will come into attainment with the NAAQS for sulfur dioxide, making the air cleaner to breathe for 5 million Americans.
- By 2005, all areas will come into attainment with the NAAQS for nitrogen dioxide, making the air cleaner to breathe for 13 million Americans.
- By 2005, all areas will come into attainment with the NAAQS for lead, making the air cleaner to breathe for 1.4 million Americans.
- By 2005, visibility will improve nationwide. Visibility in national parks and wilderness areas (Class I areas) will improve by 10-30 percent from 1995 levels.
- Emissions of the major precursors of acid rain will be reduced. By 2010, U.S. sulfur dioxide emissions from utilities and industrial sources will be reduced by 10 million tons below the 1980 levels, and by 2000, U.S. nitrogen oxide emissions from utilities and mobile sources will be reduced 2 million tons below 1980 levels.

Strategies for How It Will Be Accomplished

EPA will work closely with our state and local partners, industry, and other Federal agencies to develop a range of strategic approaches to promote clean air. We will develop and implement new strategies to attain standards for ozone, particulate matter, and regional haze, including geographic initiatives where significant transport of pollutants occurs, streamlined approaches similar to that underway in the Permits program, and adequate enforcement and compliance assurance capabilities. We will upgrade and improve air monitoring networks to obtain better data on particulate matter, air toxics in urban areas, ozone in rural areas, and acid deposition. EPA will also establish and foster relationships and projects focused on air-water linkages such as the deposition of airborne pollutants in water.

The Agency will work with and support states and tribes in developing and implementing plans to address air quality problems. We will develop and issue national technology-based standards to reduce the quantity of toxic air pollutants emitted from industrial and manufacturing processes and continue research to determine how effective the technology-based standards are in protecting the public. We will also continue to work with states to improve on-time delivery of permits and to reduce overall permitting costs by means such as streamlining the permit revision process or issuing White Papers designed to reduce the need for permit revisions.

We will develop federal control measures for mobile, stationary and other sources that are regulated at the federal level, such as on- and off-road engines, consumer products, and maintenance coatings. EPA will reduce emissions from mobile sources by focusing on vehicle based solutions, the development of cleaner engine technologies, and cleaner burning fuels.

In addition, EPA will offer state and tribal grants and technical assistance to aid in the development of State and Tribal Implementation Plans to support solutions that meet local needs.

Performance Measures

EPA's clean air objectives focus on improving ambient air quality and visibility, reducing emissions of toxic and other air pollutants, bringing all areas of the country into compliance with national air quality standards, and reducing acid rain.

EPA will measure performance in these areas by: directly measuring concentrations of air pollutants; calculating, directly measuring and estimating emissions of air pollutants; measuring acidic deposition and concentrations in rainfall; measuring visibility; and tracking the number and status of nonattainment areas. Examples of measures and indicators that will be used or reported include:

- Trends in air quality for each of the six criteria air pollutants.
- Number of days when one or more air quality standard is exceeded in the nation's largest metropolitan areas.
- Estimated total quantities of emissions of each of the six criteria pollutants or their precursors.
- Estimated total quantity of air toxics emitted.
- Change in average annual visibility impairment in national parks and wilderness areas (Class I areas).
- Total quantity of sulfur dioxide and nitrogen dioxide emitted by electric utilities.
- Average annual sulfate and nitrate concentrations in rainfall.
- Concentration and dry deposition of sulfate and nitrate particles.
- Number of nonattainment areas and their associated populations that reach attainment and areas that have been redesignated for each of the criteria air pollutant standards.

GOAL 2: Clean and Safe Water

All Americans will have drinking water that is clean and safe to drink. Effective protection of America's rivers, lakes, wetlands, aquifers, and coastal and ocean waters will sustain fish, plants, and wildlife, as well as recreational, subsistence, and economic activities. Watersheds and their aquatic ecosystems will be restored and protected to improve human health, enhance water quality, reduce flooding, and provide habitat for wildlife.

Importance of this Goal

Safe drinking water is the first line of defense in protecting human health. Safe and clean water is needed for drinking, recreation, fishing, maintaining ecosystem integrity, and commercial uses such as agricultural and industrial production. Our health, economy, and quality of life depend on reliable sources of clean water.

All living things need clean water. Waterfowl, fish, and other aquatic life who live in and on the water, as well as plants, animals, and other life forms in terrestrial ecosystems are dependent on clean water. The challenge of maintaining clean water focuses on ensuring that the entire aquatic ecosystem remains healthy.

To achieve this goal, EPA will expand implementation of the watershed approach in carrying out the Safe Drinking Water Amendments of 1996 and the provisions of the Clean Water Act. Protecting watersheds involves participation by a wide variety of stakeholders, a comprehensive assessment of the condition of the watershed, and implementation of solutions based on the assessment of conditions and stakeholder input. The watershed approach enhances the abilities of EPA, its federal partners, states, tribes, local governments, and other stakeholders to implement tailored solutions and maximize the benefits gained from the use of increasingly scarce resources.

Objectives

- By 2005, protect human health so that 95 percent of the population served by community water systems will receive water that meets drinking water standards, consumption of contaminated fish and shellfish will be reduced, and exposure to microbial and other forms of contamination in waters used for recreation will be reduced.
- Conserve and enhance the ecological health of the nation's (state, interstate, and tribal) waters and aquatic ecosystems -- rivers and streams, lakes, wetlands, estuaries, coastal areas, oceans, and groundwater -- so that 75 percent of waters will support healthy aquatic communities by 2005.
- By 2005, pollutant discharges from key point sources and nonpoint source runoff will be reduced by at least 20 percent from 1992 levels. Air deposition of key pollutants impacting water bodies will be reduced.

What Will Be Accomplished

EPA established the objectives listed above to capture the progress expected toward the goal of clean and safe water. Together, the objectives form an integrated vision of continued progress toward the goal. EPA's efforts will ensure that progress toward one objective contributes to progress toward another. For example, reducing point and nonpoint source pollution will contribute to improved water quality leading to healthier aquatic communities and safer drinking water. The following accomplishments are anticipated in the course of meeting our objectives.

Drinking Water

While most drinking water is very safe, occasional violations of pollutant standards are of concern because of the large number of people that can thereby be exposed to toxic chemicals or microbiological contaminants. The greatest risks posed by such contamination of public drinking water supplies are to sensitive populations such as children, and adults with compromised immune systems. For the 240 million Americans whose drinking water comes from public water systems, EPA's work in partnership with states, tribes, local governments, and water suppliers will improve drinking water safety and provide better information about local drinking water quality. By 2005, the population served by community water systems providing drinking water that meets all existing health-based standards will increase to 95% from a baseline of 81% in 1994. EPA will issue standards to protect public health for an additional ten high-risk contaminants (e.g., disinfection byproducts, arsenic, and radon) by 2005. Compliance with new standards will be high.

As a step toward improving drinking water safety, all states will assess the quality of the rivers or other waters that are used as sources for drinking water. By 2005, 60 percent of the population served by community water systems will receive their water from systems with source water protection programs in place which include assessments and, as necessary, specific protection activities. Further, the percentage of waters designated by states and tribes for drinking water supply use that will provide safe drinking water after treatment will increase. To increase protection of community water supplies from contamination by shallow injection wells, the injected volumes to those wells will be reduced by 25% from 1995 levels by 2005. Also, EPA is putting a new emphasis on ensuring that all members of the public receive the information they need to protect themselves against significant sources of risk from drinking water.

Edible Fish and Safe Recreation Waters

Many Americans enjoy fishing, swimming, and boating, and many get their livelihood from these activities. Protecting Americans from exposure to unhealthy levels of contaminants in waters where such activities occur is a high priority. Exposure to contami-

nated water can cause serious illness. These types of exposure pose a special risk to children, women of child-bearing age, subpopulations who fish for food or sport or who use public bathing beaches or waters for recreation, and people with compromised immune systems. There is significant uncertainty about the extent of exposure through fishing and recreation, and EPA will work to improve the understanding of this issue. By 2005, consumption of contaminated fish and shellfish will be reduced, exposure to microbial and other forms of contamination in waters used for recreation will be reduced, and the percentage of waters attaining the designated uses protecting the consumption of fish and shellfish and the designated recreational uses will increase.

Surface Water and Groundwater

Over the last 25 years, the nation has made a great deal of progress in cleaning up waters polluted by major dischargers such as sewage treatment plants and industrial facilities. However, state reporting indicates that broad-based surface water and groundwater quality problems remain. In addition, the growing problems of habitat alteration and destruction, hydro-modification, emerging threats from exotic species, and other ecosystem changes complicate efforts to attain and sustain a healthy water environment. In coming years, EPA will focus on the most critical remaining threats, while ensuring that achievements made to date in protecting and improving water quality and aquatic habitat are maintained. By 2005, the efforts of EPA and its partners to restore and protect watersheds will result in 75% of waters supporting healthy aquatic communities.

Wetlands

Wetlands provide critical habitat for fish and wildlife, help maintain water quality by filtering pollutants, and provide flood control by absorbing water as it runs off the land. Today, less than half of the wetlands originally found in this country remain. Halting the net loss of wetlands and moving toward a net gain is integral to accomplishing the goal of clean and safe water. By 2005, the work of federal, state, tribal and local agencies, the private sector, hunting and fishing organizations, and citizen groups will result in an annual net increase of 100,000 acres of wetlands.

Point Source and Nonpoint Source Pollution

EPA and its partners have made much progress in reducing pollutant discharges from "point sources" (fixed facilities and runoff discharge pipes such as storm drains); however, point source pollution from a variety of sources including Combined Sewer Overflows (CSOs), Publicly Owned Treatment Works (POTWs), and industrial facilities continues to impair water quality. By 2005, annual point source loadings from CSOs, POTWs, and industrial sources will be reduced by 30% from 1992 levels.

Nonpoint source pollution is a major cause of surface water impairment that has been inadequately addressed by the clean water programs of the past 25 years. Runoff from urban areas, agriculture, and silvicultural operations contributes significantly to the nonpoint source problem. By 2005, nonpoint source sediment and nutrient loads to rivers and streams will be reduced. Erosion from cropland, used as an indicator of success in controlling sediment delivery to surface waters, will be reduced by 20% from 1992 levels.

In addition to pollutants that are deposited directly into the water from a water discharge pipe or flow off the land as nonpoint source runoff, airborne pollutants (including nitrogen and mercury) that are deposited in water resources are a growing source of concern for their impairment of water quality. By 2006, water quality will be improved by reducing by 50-75% releases of targeted persistent toxic pollutants that contribute to air deposition, and reducing deposition of nitrogen by 10-15% from 1980 levels.

Strategies for How It Will Be Accomplished

Achieving clean and safe water is dependent on the day-to-day work undertaken by states, tribes, local governments, and private organizations. EPA will continue to provide tools, guidance and funding to states, tribes and local governments to enhance their ability to carry out their daily responsibilities for protection of the nation's water resources. Research will strengthen the scientific basis for drinking water standards development, will result in the development of effective beach evaluation tools, and will enhance understanding of the structure

and function of aquatic systems through the development of improved aquatic ecocriteria. Further, EPA will appropriately target enforcement and compliance assurance resources to ensure that the goal of safe and clean water is met. The actions that are required as a result of specific enforcement will contribute to achieving clean and safe water in particular communities. Additionally, EPA will continue to cooperate with other federal agencies that share the responsibilities for various water quality, wetland protection, erosion control, and human health programs, including the U.S. Geological Survey, U.S. Fish and Wildlife Service, U.S. Department of Agriculture (including the U.S. Forest Service), National Oceanic and Atmospheric Administration, the Centers for

Disease Control, and the U.S. Army Corps of Engineers. EPA anticipates that beyond its Federal, state, tribal, and local government partners, numerous other stakeholders will play an important role in accomplishing this goal.

Watershed Approach

Although the nation has made substantial progress over the past 20 years toward its water goals, the challenges of the 21st century will require a different approach to environmental protection. The principal remaining threats do not involve discrete facilities and conveyances, but derive from the activities of citizens in general. Full involvement of stakeholders at all levels of government, the regulated community, and the public is fundamental to the watershed approach. Therefore, EPA must engage and motivate all citizens to be responsible and contribute to enhancing and protecting their own rivers, streams, lakes, wetland areas, and estuaries. EPA will highlight the major needs of each watershed, and draw on the natural concern that people have for the waters around which they live, work and play.

To help EPA and its partners strategically target efforts toward the most pressing problems, EPA will continue to develop and refine tools that help identify and address problems on a watershed basis. One such tool is the Index of Watershed Indicators (IWI). IWI will enable users to simultaneously assess a variety of problems within a watershed and measure progress over time in improving the overall condition of the nation's watersheds. Information on individual watersheds can be accessed through the Internet program "Surf Your Watershed" at <http://www.epa.gov/surf>.

Drinking Water Protection

The Safe Drinking Water Act Amendments of 1996 chart a new and challenging course for EPA, states, tribes, and water suppliers. In keeping with the watershed approach, EPA will expand the source water protection program by developing program guidance, providing technical and other support to states and tribes on source water protection and assessment, and conducting extensive outreach to involve water systems, local governments, interested groups, and the public. EPA will continue to set drinking water safety standards and provide technical assistance and other support to states and tribes, with an emphasis on establishing new standards for microbiological contaminants, disinfectant and disinfection byproducts, and other pollutants identified as posing potentially high risks.

Drinking Water Compliance

At the same time that EPA sets new drinking water standards, EPA will work with states, tribes, local governments, and water suppliers to increase compliance with existing standards, with an emphasis on the following strategies:

- Continue to manage the Drinking Water State Revolving Fund and other funding mechanisms to provide safe and reliable drinking water.

- Assist small systems to build or strengthen their technical, financial, and managerial capacity.
- Manage an operator certification program to ensure that every water system operator can perform certain key compliance functions.

To ensure that consumers can readily obtain and understand information pertaining to the safety of their own drinking water supplies, and any special circumstances that might affect them or their families, EPA will ensure that "right-to-know" reports are available for all customers of public water systems.

Edible Fish and Safe Recreation Waters

The states and tribes have primary responsibility for protecting their residents from the health risks associated with contaminated noncommercially caught fish and wildlife and recreational waters. Human health risks, including risks to sensitive populations such as children, and subsistence and recreational anglers, will be abated through development of appropriate criteria and through enhanced fish tissue monitoring, risk assessment, and development of fish, shellfish, and wildlife consumption advisories. EPA will establish improved safety guidelines and pollution indicators so that local authorities can monitor their recreational waters in a cost-effective way and close them to public use when necessary to protect human health. For beaches, EPA's three-part plan is to strengthen beach standards and testing, improve the scientific basis for beach assessment, and develop methods to inform the public about beach conditions. By identifying and informing the public of human health risks and providing the tools needed to address those risks (including consistent national guidance, methods, and monitoring/sampling protocols), EPA can help improve the ability of states, tribes, and local communities to protect their residents from this type of exposure.

Water Quality Standards and Criteria

Continued development of scientifically-based, defensible water quality standards and criteria, and monitoring progress in attaining these standards, is critical to states', tribes', and EPA's ability to enhance or maintain the quality of lakes, rivers, streams, wetlands and coastal waters. EPA will support risk characterization, priority setting, implementation of standards and criteria, and risk management by states and tribes on a watershed basis. EPA will work with tribes to implement government-to-government provisions, establish final water quality standards for waters under tribal jurisdiction, and address restoration and protection of subsistence harvest areas. States and EPA will make significant progress toward completing all needed Total Maximum Daily Loads (TMDLs) for impaired U.S. waters (TMDLs assess the water body's capability to carry pollutant loads while meeting designated uses). EPA will work with states and tribes to improve implementation of TMDL programs establishing the analytical basis for watershed-based decisions regarding the need for additional pollution reduction where standards are not being met.

Wetlands

EPA will work with federal, state, tribal, and local partners on protection and community-based restoration of wetlands. In addition, EPA, in coordination with the Corps of Engineers and the Natural Resources Conservation Service of the U.S. Department of Agriculture, will work to avoid, minimize, and compensate for wetland losses through Clean Water Act Section 404 and Farm Bill programs.

Point Source Pollution

To maintain progress in these areas, EPA will continue to develop and revise national effluent guideline limitations and standards. These regulations are the basis for permits that protect water quality. The Agency will continue to manage the Clean Water State Revolving Fund program and other funding mechanisms to provide clean and safe water. The Agency will work to streamline and simplify development of effluent guidelines and implementation of the National Pollutant Discharge Elimination System (NPDES) permit program, using revised performance measures geared toward ecological and human health outcomes. Performance measures will be revised in partnership with states and tribes. A major effort will continue to reorient and coordinate all parts of the point source program on a watershed basis, with emphasis on those watersheds where these sources cause substantial water quality impairment. EPA will work with a variety of stakeholders to reduce nutrients and pathogens that enter the nation's waters from animal feeding operations.

Urban runoff is a leading cause of water quality problems; urban runoff causes beach closures and shellfish bed closures in coastal areas. While some types of urban runoff come from nonpoint sources, discharges from storm drains, sanitary sewers, and combined sewers are point source discharges. Controlling these sources of pollution will be a major priority for EPA's point source control programs in the coming five to ten years. All Phase I stormwater sources (large industrial facilities and construction sites greater than 5 acres) will be covered by permits. All Phase II stormwater sources (selected municipal facilities and construction sites less than 5 acres) will be covered under a comprehensive regulatory program, including permits. All 950 CSO communities will be in compliance with technology-based requirements or will implement long term CSO control plans, and loadings of key pollutants (BOD and TSS) will be reduced by 30% from 1994 levels. The State Revolving Fund program will be well-capitalized in all 50 States and Puerto Rico, providing for approximately $2.0 billion per year in new loan activity.

Nonpoint Source Pollution

EPA will work with states and tribes to characterize risks, rank priorities. and implement a mix of voluntary and regulatory approaches through state nonpoint source management programs. States will revise their nonpoint source programs to reflect all nine key program elements agreed to with EPA. These elements include explicit goals, strong working partnerships, identification of waters impaired by nonpoint source pollution and a process for addressing these waters, and efficient and effective management of the State's nonpoint source program (for more details on all nine elements, see *Nonpoint Source Program and Grants Guidance for Fiscal Year 1997 and Future Years,* May 1996, U.S. EPA). States will implement coastal nonpoint source programs that are approved by EPA and the National Oceanic and Atmospheric Administration, as required by the Coastal Zone Act Reauthorization Amendments. EPA will work with the U.S. Department of Agriculture to promote implementation of Farm Bill programs consistent with state nonpoint source management needs and priorities. These efforts will emphasize stakeholder involvement to bring together those with interests in a given watershed to determine the approaches that best suit the water quality needs of their area.

EPA will assess options to strengthen controls on sources of nitrogen deposition, mercury, and other toxics and make recommendations for voluntary and regulatory actions. EPA will conduct technical transfer workshops for water programs in states and local governments on managing air deposition effects.

Mine discharges also cause significant water quality problems in many areas, and EPA will work with other federal agencies, states, and tribes to focus more effort on controlling these sources. EPA will better coordinate its resources to promote more effective controls for pollution in other media that affects water quality.

Targeted Geographic Initiatives

EPA will support targeted geographic initiatives to protect areas covered by the National Estuary Program, the Chesapeake Bay, the Great Lakes, the Gulf of Mexico, South Florida and the Everglades, and the Northwest Forests. (The Great Lakes are included under Goal 6, Reduction of Global and Cross Border Environmental Risks.) Emphasis in these areas provides the opportunity to bring heightened federal agency involvement to bear in critical ecosystems.

Performance Measures

A combination of program output and environmental outcome measures will be used to measure progress towards meeting the clean water goal. Emphasis will be placed on measuring at the outcome level wherever possible and feasible. At the same time, a continuing need for a limited number of output measures is recognized. Output measures will be periodically reviewed to ensure that they are linked to environmental outcomes and, if they are no longer linked, they will be altered, dropped, or replaced. Having a mixture of environmental outcome measures and program output measures facilitates making decisions about changes to program implementation. If the intended environmental results are not being achieved, program activity accomplishments need to be evaluated in order to make decisions about changes in program emphasis, direction, and resource allocation.

Development of output and outcome measures for evaluating progress in restoring and protecting the nation's water resources has been underway for the past several years. A multi-year, multi-agency effort resulted in the development of 18 key indicators of water quality in June 1996. To track state progress, a set of core performance measures has been developed in partnership with the states for use in EPA-state agreements.

Two examples of performance measures for the clean and safe water goal are:

- Reduction in number of pounds of conventional and toxic pollutants discharged by key point sources.
- Number and percentage of community drinking water systems (and population served) with one or more violations of health-based requirements during the year.

GOAL 3: Safe Food

The foods Americans eat will be free from unsafe pesticide residues. Children especially will be protected from the health threats posed by pesticide residues, because they are among the most vulnerable groups in our society.

Importance of this Goal

The abundance, affordability, and wholesomeness of America's food supply depend in part upon the safe use of pesticides during food production, processing, storage, and transportation. Before any pesticide can be used legally, the law requires EPA to conclude that its use will not lead to unreasonable adverse effects, and that any food residues resulting from its use are reasonably certain to cause no harm. Nonetheless, pesticide application--especially when pesticides are misused--can sometimes lead to residues which could result in adverse health effects. EPA coordinates its food-safety program with the United States Department of Agriculture (USDA) and the Food and Drug Administration (FDA), who monitor pesticide residues in meat and other foods, collect authoritative data on patterns of food consumption, and protect food from microbiological contamination.

Objectives

- By 2005, the risk from agricultural use of pesticides will be reduced by 50 percent from 1995 levels.

- By 2005, use on food of current pesticides that do not meet the new statutory standard of "reasonable certainty of no harm" will be substantially eliminated.

What Will be Accomplished

A large number of pesticides approved for use on food have been classified as potential human carcinogens or may cause other serious adverse health effects at high levels of exposure. These high hazard pesticides are our highest priority, and we must aggressively minimize dietary exposure to them. By 2005, EPA expects to achieve a 50 percent reduction in risk posed by agricultural use of these pesticides, by doubling the annual rate of registrations for safer new chemical pesticides and biopesticides from 1995 levels and by encouraging a systematic transition toward lower-risk pesticides and pest management practices.

EPA will focus its efforts on implementation of the Food Quality Protection Act of 1996 (FQPA), which amends both of EPA's principal pesticide regulatory authorities. The centerpiece of our work to implement the Act is a comprehensive reassessment of legally permissible levels of pesticide residues, or "tolerances." FQPA mandates that no pesticide residue will be permitted when there is less than "a reasonable certainty that no harm" will occur from exposure to that residue. This new standard requires the Agency to revise its risk-assessment practices to ensure adequate protection of the health of children and other vulnerable subpopulations, and to reconsider some 9,700 tolerances for specific pesticide residues approved before the passage of FQPA. By 2005 EPA expects to have substantially completed this "reassessment" of tolerances, and thereby to have confirmed the safety of the tolerances which remain and to have disallowed all pesticide uses that may leave residues that exceed levels for which there is a reasonable certainty no harm will ensue from human exposure. This means:

- By 2002, reregistration decisions will be completed for all pesticide active ingredients subject to registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and all products containing those active ingredients will be reregistered by 2004.
- By 2005, ninety percent of the reassessment of pesticide residue tolerances mandated by FQPA will be completed.

Strategies for How It Will be Accomplished

EPA takes a two-pronged approach to safeguarding the food supply from the potential hazards of pesticides and other chemicals. We ensure that all newly registered agricultural pesticides will not harm human health or the environment. At the same time, we encourage reduced agricultural use of particularly hazardous pesticides first registered before contemporary data requirements and assessment techniques were developed. This reduction will result from a broad transition toward reduced-risk pesticides and pest management practices, including new biological agents which can substitute for chemical ingredients with a toxic mode of action. In this EPA is supported by a variety of USDA programs encouraging integrated pest management.

Most of EPA's food-safety activities aim to ensure the safety of the approximately 400 currently registered active pesticide ingredients in agricultural use. These efforts include:

- "Reregistration" of currently-registered pesticides to ensure their ingredients meet contemporary safety standards.
- "Special review" of pesticides that are suspected of posing unreasonable environmental or human health risks.

- Review of the 9,700 existing tolerances and the phase-out of use of pesticides found not to meet the new standard.
- Tolerance reviews and reregistration activities entail critical review of current risk assessment practices, in particular to ensure adequate protection for children. To this end, EPA research activities will pursue the development of new tools to better characterize exposures (including consideration of cumulative exposures described above) and overall risks, as well as research on the best ways to encourage improved consumer choices.

Performance Measures

Performance measures for the safe food goal are of two kinds. First there are measures of program outputs--like registrations, reregistrations, and tolerance reassessments. Many of these measures are already in place; as the 1996 Food Quality Protection Act is implemented, additional output measures are being created for the new activities required by that act.

The second kind of measure is a measure of use of selected pesticides, as a surrogate for more direct measurement of the risk posed by those pesticides. Pesticide risk is complex--rooted in the hazards posed by the pesticide (such as neurotoxicity, or the ability to cause cancer), but also dependent on how, where, and how often the pesticide is used, what happens to it after it is used, what populations are exposed to it, how they are exposed, how often, and at what levels.

The challenge of direct measurement of pesticide risk has not yet been met, but we are working with stakeholders to develop better measures, and will incorporate them as soon as their merit is demonstrated. For the time being, however, aggregate use of pesticides of particular concern, based on data from existing sources of production data and estimates of agricultural use, is the best type of measure available to us.

GOAL 4: Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems

Pollution prevention and risk management strategies aimed at cost-effectively eliminating, reducing, or minimizing emissions and contamination will result in cleaner and safer environments in which all Americans can reside, work and enjoy life. EPA will safeguard ecosystems and promote the health of natural communities that are integral to the quality of life in this nation.

Importance of this Goal

EPA seeks to manage environmental risks to communities, homes, and workplaces, and to protect the environmental integrity of ecosystems, by a mix of regulatory programs with alternative approaches to achieve results at less cost and in more innovative, sustainable ways. Rather than "end of the pipe" controls, preventing pollution at the source is our strategy of first choice. (Where pollution prevention at the source is not a viable alternative, the Agency will employ waste minimization, disposal and remediation in a cost effective manner.) These efforts will be directed towards the greatest threats, such as those in our communities, homes, schools and workplaces that have significant impact on our most sensitive populations such as children, the elderly, and individuals with chronic diseases.

Recognizing the accomplishments made by regulatory and voluntary programs alone, significant environmental risks remain where Americans reside, work, and enjoy life. The country faces several remaining challenges, amenable to a combination of innovative pollution prevention approaches and ongoing risk-management programs.

Over 75,000 chemicals are in commerce today, with an estimated 2,000 new chemicals and 40 genetically engineered microorganisms introduced annually. These include potentially toxic chemicals which may present risks to workers, non-target organisms, and natural resources. Of particular concern is lead. While lead has been phased out in gasoline and banned in house paint, exposure is still a major concern, especially in disproportionately impacted urban communities. Recent data from the *National Health and Nutrition Examination Survey* (NHANES) show almost a million children under the age of six still have unhealthy blood lead levels. Elevated blood lead levels are associated with intelligence quotient deficits, learning disabilities, and other ailments. The primary source is the estimated 65 million homes that still contain old lead paint that can be released during normal wear and tear and renovation activities.

An estimated 20 to 30 million Americans have asthma, leading to the death of approximately 4,000 people per year. There exists a higher prevalence of asthma among children, especially children in low-income and minority communities, than among adults. In addition to ozone and particulates, evidence shows that significant contributing factors to the number and severity of asthma attacks are indoor allergens (particularly dust mites, fungi, and roaches) and second-hand cigarette smoke.

The Resource Conservation and Recovery Act (RCRA) hazardous waste minimization program focuses on chemicals, rather than waste streams, to enable and encourage multimedia waste minimization. Specifically, it focuses on the most persistent, bioaccumulative, and toxic chemicals (PBTs). PBTs are of great concern regardless of how they are managed. Reducing the presence of these chemicals will lead to safer chemical substitutions and manufacturing processes, eliminate some occupational exposures to certain chemicals of concern and, in general, result in safer communities. A major objective is to reduce the amount of pollution generated annually in order to protect human health and the environment, through encouraging material substitution and manufacturing process changes and by encouraging the safe recycling of wastes. Our primary focus is source reduction, eliminating where possible the generation of high-risk wastes. If source reduction is not possible, recycling reduces the amount of waste that must be managed through treatment and disposal; recycling also increases the recovery of valuable finite natural resources.

Finally, EPA places particular priority on working with Indian tribes on a government-to-government basis to improve environmental conditions in Indian country, consistent with our trust relationship with tribes and the nation's interest in conservation of cultural uses of natural resources.

Objectives

- By 2005, public and ecosystem risk from pesticides will be reduced through migration to lower risk pesticides and pest management practices, improving education of the public and at-risk workers, and forming "pesticide environmental stewardship" partnerships with pesticide user groups.
- By 2005, the number of young children with high levels of lead in their blood will be significantly reduced from the early 1990's.
- By 2005, of the approximately 2,000 chemicals and 40 genetically engineered microorganisms expected to enter commerce each year, we will significantly increase the introduction by industry of safer or "greener" chemicals which will decrease the need for regulatory management by EPA.
- By 2005, fifteen million more Americans will live or work in homes, schools, or office buildings with healthier indoor air than in 1994.
- By 2005, reduce by 25% (from 1992 level) the quantity of toxic pollutants released, disposed of, treated, or combusted for energy recovery. Half of this reduction will be achieved through pollution prevention practices.
- By 2005, EPA and its partners will increase recycling and decrease the quantity and toxicity of waste generated.
- By 2003, 60% of Indian Country will be assessed for its environmental condition, and Tribes and EPA will be implementing plans to address priority issues.

What Will Be Accomplished

Pesticides

In addition to ensuring the safety of America's food supply (see Goal 3), the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) mandates that EPA control unreasonable risks of pesticides to human health and the environment in general. EPA establishes the conditions of registration, marketing and use of non-food use pesticides as well, so as to address adverse effects to workers, non-target organisms (especially endangered species) and natural resources (e.g., groundwater and ecologically important surface waters). Non-food use products include medical and household disinfectants, wood preservatives, household pest and lawn care products. The Agency will address risks from non-food use pesticides through a combination of activities, such as chemical information gathering, testing, risk screening, risk assessment, and voluntary and regulatory risk management actions. By 2005, EPA expects to achieve a cumulative 50 percent reduction from 1995 levels in adverse health effects caused by pesticide poisoning; provide adequate notification protection for endangered species potentially affected by pesticides on all pesticide labels; assure that all pesticide handlers and farm workers have been adequately trained in the safe handling, use and disposal of pesticides; and implement agreements with 80 pesticide user groups to use integrated pest management (IPM) techniques. EPA's objective to reduce the risks associated with agricultural chemicals (see Goal 3, above) by 2005 will result in an accompanying 50% decrease in use of pesticides that have high potential to leach into groundwater or to cause significant acute toxicity to fish and wildlife.

Toxic Chemicals

The Toxic Substances Control Act (TSCA) likewise mandates that EPA control unreasonable risks of chemicals in commerce. We will work to develop an enhanced, more efficient and streamlined program, while minimizing administrative, record-keeping, and regulatory burdens on the chemical industry. A comprehensive strategy will be developed to systematically screen all chemicals in commerce and to identify those believed to be used safely and those that warrant concern. These chemicals will be classified by hazard endpoint based on available information. In screening the 75,000 chemicals in commerce, emphasis will be placed on identifying persistent bioaccumulative chemicals and endocrine-disrupting chemicals. EPA will encourage chemical manufacturers to prevent release of these chemicals to the environment.

Lead Poisoning

Significant progress has been made in reducing the levels of lead in the air from gasoline, from cans containing food, and in children's toys to prevent lead poisoning. EPA will work to eliminate the adverse physical effects of lead poisoning through an active urban intervention, education and enforcement initiative.

Pollution Prevention

Efforts will be made to prevent harmful chemicals from entering commerce, to place restrictions on their usage in the market, and to encourage industries to introduce safer chemicals. The Agency also will promote changing from the current chemical-by-chemical risk assessment and management method to more productive streamlined operations by dealing concurrently with all

chemicals in the same categories or use sectors. The non-food pesticide programs will ensure that these substances do not pose a threat to human health or the environment and that they are handled in a safe manner. In addition, the following specific milestones are expected to be met by 2005:

- One hundred percent of the states will have strong, effective, operating pollution prevention programs.
- Each Executive Branch department and agency will have an effective program that is designed to help its personnel identify and purchase environmentally preferable products and services, and to have established goals as required by the Federal Acquisition, Recycling, and Waste Prevention Executive Order.
- Sixty percent of manufacturing industries will have adopted voluntary environmental management systems, including environmental accounting and materials management practices.

- There will be a 20 percent increase in the use of cleaner technologies in certain targeted industries.

Voluntary environmental management programs are adopted by business when seen as economically beneficial. The role of EPA is to provide information and voluntary incentives to help create awareness of these benefits. The adoption of cleaner technologies is often driven by economics as much as regulatory strictures for some sectors, and the Agency's Design for the Environment program for those sectors is geared toward providing information to encourage the adoption of clean technologies.

Indoor Air

Achieving healthier indoor environments is another priority for EPA. This priority will be accomplished through a reduction in public exposure to radon, environmental tobacco smoke and other indoor air pollutants through direct mitigation, a better educated and informed public, and buildings that are better designed, constructed and maintained. In addition, the following expected milestones will be met by 2005:

- 17 million homes will be tested for radon levels; 700,000 homes with high radon levels will be mitigated; and one million new homes will be built with radon-resistant construction techniques.
- The proportion of households in which children 6 and under are regularly exposed to smoking will be reduced from 27 percent in 1994 to 15 percent.
- Five percent of office buildings will be managed with good indoor air quality practices consistent with EPA guidance.
- Fifteen percent of the nation's schools will adopt good indoor air quality practices consistent with EPA guidance.

Waste Minimization

RCRA calls for EPA to provide national leadership in reducing the amount of waste generated and to improve the recovery and conservation of materials through recycling. EPA's programs focus on all waste: hazardous waste, non-hazardous industrial waste, and municipal solid waste. EPA will reduce the toxicity of waste by focusing on reductions in persistent, bioaccumulative and toxic chemicals (PBTs). The quantity of waste also will be

reduced and, where waste is generated, EPA will encourage and facilitate increased recycling. This three-pronged effort--reduce toxicity, reduce quantity, increase recycling--will preserve natural resources and reduce reliance on treatment and disposal. Specific accomplishments include the following:

- By 2005, recycling, including composting, will divert at least 35 percent of municipal solid waste from landfilling and combustion.
- By 2005, the most persistent, bioaccumulative, and toxic chemicals in hazardous waste streams will be reduced by 50 percent from the 1994 baseline.
- By 2005, the amount of hazardous waste safely recycled will increase by 25 percent.
- By 2005, the amount of per capita generation of municipal solid waste will be reduced to 4.3 pounds per day.

Tribal Environmental Programs

EPA will work with all Federally-recognized tribes, establish an environmental presence in Indian country, develop and implement a framework for conducting comprehensive tribal environmental assessments, and complete Tribal/EPA Environmental Agreements or other plans that identify joint priorities for improving human health and the environment.

Strategies for How It Will Be Accomplished

EPA performs its responsibilities in concert with the U.S. Consumer Products Safety Commission (CPSC), which has general jurisdiction over the safety of household products, and the Occupational Safety and Health Administration (OSHA), for workplace safety.

The primary tools used by EPA to lower risks from pesticides are its registration and reregistration programs. Coupled with enhanced public education and appropriate labeling, accelerated approval of safer alternative pesticides can contribute to reduced risk to the environment, workers, homeowners and consumers.

Other potentially dangerous chemicals are regulated under the Agency's New Chemicals Program and Existing Chemicals Program which are mandated under the Toxic Substances Control Act.

The Existing Chemicals Program assesses and manages risks associated with commercial chemicals and develops necessary related chemical hazard data. EPA will move away from emphasis on evaluating chemical risks based on new information and move towards a more planned and comprehensive screening of the risks of the 75,000 chemicals now in commerce. This systematic approach will identify chemicals that are believed to be manufactured and used safely, as well as chemicals that may pose risks to humans and the environment, providing a "Toxics Agenda" for the nation that identifies those chemicals in need of further attention.

By assessing new chemicals before they are manufactured or imported, the New Chemicals Program actively carries out EPA's preferred strategy of preventing pollution before it can occur. The program also supports development of safer chemicals by minimizing or eliminating regulatory burdens on new chemicals that replace riskier substances already in the marketplace. The Agency also will make information about chemical hazards and exposures developed during the data gathering, risk screening, and testing program more available to the public, thus promoting the "right-to-know" ethic.

EPA will continue to set national goals and criteria for exposure to lead, build on existing educational programs, and directly focus efforts at the community level. The newest and most effective demonstrated approach to health and environmental risks is aggressive multimedia urban education and pest management intervention programs. These projects combine the efforts of EPA with those of states, municipalities, and tribal governments. Working in concert with public health agencies such as the Centers for Disease Control and the National Institutes of Health, risks from pesticides and pesticide misuse, new chemicals, microorganisms, lead, and indoor air pollutants can be significantly reduced.

Our strategies to improve indoor environments are to use education and outreach to inform the public; to complement other agencies' work, using partnerships to promote behavioral changes and the use of technology-based practices that improve air quality; and to continue to research and improve the science upon which recommended actions are based.

The Hazardous and Solid Waste Amendments of 1984 directed EPA to reduce the volume and toxicity of hazardous waste. EPA and its partners developed the

Waste Minimization National Plan (WMNP) to provide a framework for achieving this mandate. EPA has several efforts underway to support implementation of the WMNP, including: identifying and prioritizing PBTs, linking PBTs with RCRA wastes, and developing measurement methodologies.

EPA is revising the regulatory framework for hazardous waste recycling to provide simpler definitions and regulations, focus regulatory controls on materials that may pose a hazard to human health and the environment, and remove disincentives that cause industry to choose disposal over safe recycling.

National efforts to manage municipal solid waste (MSW) have focused on the integrated solid waste management approach, a concept introduced by EPA in 1988. Integrated waste management requires a coordinated mix of strategies, with preference given to source reduction and recycling. EPA and states, tribes, and local governments work together to foster source reduction and recycling through voluntary programs (e.g., WasteWi$e), economic incentives for solid waste management services that promote greater source reduction and recycling (e.g., unit based pricing), and support of waste-based industries (e.g., increase procurement of goods made from recycled materials). EPA also is working with its partners to identify the best approaches to encourage recycling of non-hazardous industrial waste.

Performance Measures

Pesticides and Toxic Chemicals

Pesticides measures will include selective pesticide use reductions, alternative pesticides registered, grower partnerships implemented, workers trained, and poisonings reported.

New chemicals measures will include the number of new chemical submissions, number of new chemical risk management actions (bans, withdraws, consent orders), and number of safer and “greener” new chemicals (e.g., those that are less toxic, lower exposure, more energy efficient, generate less--or less toxic--waste, or have similar attributes). Existing chemical measures will focus on the number of chemicals screened, number of chemicals reviewed and believed to be "safely used," and number of testing actions. Pesticides measures will include selective pesticide use reductions, alternative pesticides registered, grower partnerships implemented, workers trained, and poisonings reported.

Pollution Prevention

Measures will include the number of alternative safer chemicals or processes introduced; the quantity of toxic chemicals manufactured, used, recycled, and released into the environment; the amounts of reductions in these quantities that are attributable to the adoption of pollution prevention practices; and the types and amount of human health and environmental effects information available for highest risk chemicals. Progress in encouraging businesses to incorporate preventive approaches into environmental decision making will be measured by participation in Agency sponsored voluntary programs, in implementation of sound environmental management systems and pollution prevention facility plans, and in adoption of environmental accounting systems. The effectiveness of state prevention programs can be measured by the amount of technical assistance provided; the effectiveness of this assistance in encouraging the adoption of pollution prevention approaches; the number of permits, regulations and supplemental environmental projects that reflect pollution prevention approaches; and the integration or coordination of the state pollution prevention program with related environmental and business assistance programs.

Lead Poisoning

Measurement of reduction in children's blood lead levels due to EPA activities will be accomplished by the National Center for Health Statistics through the National Health and Nutrition Examination Survey. EPA will use the results of this long-term study to estimate the effect of regulations and other programmatic activities on the reduction in children's blood lead levels.

Indoor Air

We will estimate by evaluating information concerning: 1) the number of schools and commercial buildings that implement good indoor air quality practices; 2) the results of private sector and CDC surveys on smoking; and, 3) the number of homes tested and mitigated for radon and new radon resistant homes.

Waste Minimization

EPA's performance measures for waste minimization were designed to provide a limited set of data that reflect the nation's most important waste management program priorities. Other types of environmental program and fiscal data will be needed to maintain effective program management. EPA will work with state partners to develop a set of environmental indicators that will provide outcome measures. The following are examples of current performance measures.

- Decreases in the quantity of waste generated and toxicity of waste generated, and increases in recycling of waste.
- Reduction in municipal solid waste landfilled and combusted.
- Reduction in per capita generation of municipal solid waste to 4.3 pounds per day.

Tribal Environmental Programs

- In the near term, measures will include the number of tribes with environmental programs, the extent of our understanding of environmental conditions in Indian country, and which tribes have developed plans for addressing priority environmental issues.
- Once we have established a baseline for environmental conditions in Indian country, we will also measure improvements in environmental conditions.
- Number of Tribal/EPA Environmental Agreements (TEAs) completed.
- Number of environmental assessments conducted on tribal lands.
- Number and percentage of tribes with environmental programs or infrastructure that are capable of conducting environmental assessments.

GOAL 5: Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response

America's wastes will be stored, treated, and disposed of in ways that prevent harm to people and to the natural environment. EPA will work to clean up previously polluted sites, restoring them to uses appropriate for surrounding communities, and respond to and prevent waste-related or industrial accidents.

Importance of this Goal

Improper management of wastes can lead to fires, explosions, and contamination of air, soil, and water. A frequent result of improper hazardous waste disposal is the contamination of groundwater--the source of drinking water for nearly half of all Americans. At some sites, toxic vapors from evaporating liquid wastes or chemical reactions contaminate the air. Pollutants such as metals and organic solvents can damage vegetation, endanger wildlife, and harm the health of people who live in nearby communities. Toxic and hazardous substances, including radioactive waste, deposited on land often are carried far from their source by air, groundwater, and surface water runoff into streams, lakes, and rivers where they accumulate in the sediments beneath those waters.

Management techniques for wastes include recycling, land disposal, and combustion. Different types of waste require different means of treatment and disposal--what is suitable for one waste might not be suitable for another. Decisions about cleanup must be made with community, human health, and environmental concerns in mind. EPA efforts to achieve this goal center on protecting human health and the environment by applying the fastest, most effective waste management and cleanup methods available, while involving affected communities in the decision-making process.

Cleaning up abandoned or under-used industrial land and supporting new business growth is the focus of the brownfields program. The term "brownfields" denotes abandoned, idle or under-used industrial or commercial sites where expansion or redevelopment is complicated by real or perceived environmental contamination. Over 450,000 such properties are thought to exist. Accomplishment of the brownfields objective will demonstrate that economic, environmental and social goals can be integrated such that economic growth can improve, rather than diminish, environmental quality.

Objectives

- By 2005, EPA and its partners will reduce or control the risks to human health and the environment at over 375,000 contaminated Superfund, RCRA, UST and brownfield sites. (Total comprises 1,200 NPL and 480 non-NPL sites; 2,475 RCRA facilities; 370,000 LUST cleanups initiated or completed; and 1,500 brownfield properties.)
- By 2005, over 282,000 facilities defined by RCRA Subtitles C, D, and I, the Oil Pollution Act (OPA), the Emergency Planning and Community Right to Know Act (EPCRA), and the Clean Air Act, section 112(r), will be managed according to practices that prevent dangerous releases to the environment. (Total comprises 14,000 RCRA facilities [Subtitles C and D]; 264,000 USTs [RCRA Subtitle I]; and 4,200 oil facilities.)
- By 2005, EPA and its partners will have the capability to successfully respond to 100 percent of known emergency actions at facilities defined under the Oil Pollution Act (OPA) and the Emergency Planning and Community Right to Know Act (EPCRA), to reduce the risk to human health and the environment.

What Will Be Accomplished

By meeting the objectives stated above, EPA will have made significant progress toward achieving our goal of promoting better waste management, restoring contaminated waste sites, and preventing waste-related or industrial accidents. EPA will continue to regulate existing waste management practices by facilities defined under RCRA, OPA, and EPCRA. By doing so, we will reduce the risk of human health and environmental exposures from hazardous waste, non-hazardous industrial waste, and municipal solid waste. Using strategies such as the "cradle-to-grave" waste management framework, the Agency will prevent the creation of "new" Superfund sites. By 2005, EPA and states will prevent dangerous releases to air, soil, and groundwater at 90% of hazardous waste, 90% of non-hazardous industrial waste, and 100% of municipal solid waste facilities in states. Human exposures will be controlled at 95% of RCRA high priority contaminated hazardous waste facilities, and releases to groundwater will be controlled at 70% of these facilities. The Agency will reduce emissions of dioxins and furans, particulate matter, and acid rain gases from hazardous waste combustion facilities by 90, 50, and 50 percent, respectively, from levels emitted in 1994. Also by 2005, EPA will add 2800 facilities to those in compliance with the spill prevention, control, and countermeasure provisions of the OPA, and 1400 additional facilities will be adequately prepared to respond to oil spills as measured by approved response plans.

Improper waste management and disposal pose a threat to those living in nearby communities and result in costly clean ups. EPA's commitment to restoring contaminated sites in partnership with states and the community will reduce greatly the effect of uncontrolled releases on local populations and sensitive environments. By 2005, we will initiate or complete clean up at 370,000 sites where groundwater or soil has been contaminated by petroleum releases from USTs. By 2005, the Agency will complete construction at 1200 sites on the NPL in a cost effective and timely manner, and complete cleanup at 480 other sites not on the NPL. Note that the new measure for removal completion is clean up with no further action necessary, rather than the traditional measure which counted stabilization rather than final clean up. Improper disposal also refers to radioactive waste, and by 2005, the amount of the nation's radioactive waste managed under

the purview of the Atomic Energy Act and not meeting EPA's disposal standard will be reduced by 1.2 percent.

To minimize the risk to human health and the environment that occurs from emergencies such as accidental chemical releases and oil spills, EPA and its partners will increase their capabilities to prevent and respond quickly to these incidents, and leverage potentially responsible party (PRP) resources to conduct or fund responses to the maximum extent possible. Of the facilities submitting a Risk Management Plan, the Agency will work to increase the percentage of facilities that have reduced their chemical risks. Of the facilities where accidents have been investigated by EPA, we will work to increase the number of facilities that act on the investigation recommendations.

The brownfields pilot program has demonstrated that cleaning up abandoned or under-used contaminated land and supporting new business growth can have significant payoffs. Building on the pilot program, EPA will continue to combine federal, state, local and private sector efforts to restore contaminated property to economic reuse and reduce clean-up costs. By 2005, EPA will sign 300 cooperative agreements for assessments at brownfields properties, and will perform targeted site assessments in 100 cities with brownfield properties and sign 300 cooperative agreements to capitalize revolving loan funds to clean up approximately 1500 brownfield properties. In some cases, parties interested in developing such properties are concerned about the presence of environmental contamination and the attendant potential liabilities (including Federal Superfund liability). Addressing liability barriers through the brownfields program by issuance of comfort/status letters or prospective purchaser agreements in appropriate instances will facilitate sustainable redevelopment of these properties.

Strategies for How It Will Be Accomplished

- Assess more than 9,000 additional sites, including brownfields, to determine whether they meet the criteria for federal Superfund response actions.
- Prevent, minimize or mitigate significant threats at Superfund sites by conducting more than 300 removal actions per year.
- Maximize potentially responsible parties' (PRP) participation in conducting or funding response actions while promoting fairness in the enforcement process, and recover costs from PRPs when EPA expends Trust Fund monies.
- Work with the surrounding communities and the public to improve their direct involvement in waste management and cleanup.
- Enhance the role of the states and tribes in implementation of waste programs and State and tribal voluntary cleanup programs.
- Continue brownfields outreach to communities and other stakeholders. Leverage actions by other federal agencies (such as HUD), state, local, and tribal governments and private enterprise to accelerate assessment and remediation of properties. Remove liability barriers at brownfield properties by issuance of prospective purchaser agreements or comfort/status letters in appropriate instances. Provide incentives and support for voluntary cleanup programs to further the objective.
- Implement the Agency's Hazardous Waste Minimization and Combustion Strategy including the revised standards for hazardous waste incinerators and cement kilns that burn hazardous waste.
- Focus on controlling human exposures and groundwater releases at RCRA facilities designated as high priority for corrective action.
- Continue to implement RCRA regulatory program to identify and address the highest risk wastes, taking into consideration the operating costs imposed.
- Support state and tribal efforts to design and implement risk-based corrective action programs that help to reduce the backlog of UST sites with confirmed releases waiting to be addressed, and to enforce the 1998 UST leak detection and upgrade standards.
- Ensure that 400 additional facilities per year will be in compliance with the spill prevention, control and countermeasure provisions of oil pollution prevention regulations.

- Ensure that 200 additional facilities per year will be adequately prepared to respond to oil spills as measured by approved response plans prepared in compliance with statutory and regulatory requirements.
- Investigate jointly, with OSHA, major chemical accidents to determine their cause, and recommend actions for further prevention.
- Support states, tribes and Local Emergency Planning Committees in implementing chemical accident prevention programs.
- Reduce risks of radiation exposure through increased education and outreach; development of federal guidance on human exposure assessments; assistance to states and other federal agencies in radiological emergency response; and field monitoring expertise, mobile radioanalysis and dose assessment capabilities.

Performance Measures

EPA's performance under this goal will be measured according to progress made in achieving milestones that the waste and emergency response program offices have set for the years 1999 through 2005. The performance measures were designed to provide a limited set of data which reflect the nation's most important waste management and emergency response program priorities. Since they were not intended to cover every activity or task undertaken by the states and EPA, other environmental program and fiscal data will be needed to maintain effective program management. The following are examples of performance measures:

- Number of site clean ups initiated and/or completed up where groundwater or soil is known to be contaminated by petroleum from abandoned refinery waste sites and underground storage tanks (USTs).
- Controls put in place to prevent dangerous releases to air, soil, and groundwater from waste facilities.
- Number of RCRA sites with controls in place to prevent human exposures and control groundwater releases.
- The number of oil spills that EPA monitors and responds to.
- Number of USTs equipped to meet the requirements for leak detection and upgrading.
- Number of Superfund emergency time-critical and non-time-critical removal response actions, and the number of construction completions at Superfund NPL sites.
- Number of sites at which targeted site assessments for brownfield properties are completed.
- Number of brownfield properties cleaned up, and number of successful conversions of brownfield properties to economic reuse.

GOAL 6: Reduction of Global and Cross-Border Environmental Risks

The United States will lead other nations in successful, multilateral efforts to reduce significant risks to human health and ecosystems from climate change, stratospheric ozone depletion, and other hazards of international concern.

Importance of Goal

Ecosystems and transboundary pollutants do not respect international boundaries. As a result, unilateral domestic actions of the U.S. are inadequate to achieve some of EPA's most important environmental goals. Reduction of global and cross-border environmental risk is important because of the significant risks to the U.S. that originate in other countries and undermine U.S. investments in environmental protection. Achieving our environmental goals requires us to work with other countries to address external sources of pollution impacting human health and the environment of our nation. Conversely, the U.S. also holds itself responsible for preventing or minimizing the impacts of transboundary pollution originating here.

EPA's continued leadership is necessary to build the international cooperation and technical capacity that are essential to prevent harm to the global environment and ecosystems that we share with other nations. A coordinated international response is needed to confront the climate change threat, depletion of the stratospheric ozone layer, transboundary circulation of toxics, and other environmental issues significant to the interests of the United States. Continued leadership by the U.S. and EPA is necessary in building the international cooperation and technical capacity needed to successfully address these issues in a manner that provides efficient and sustainable long-term solutions. Where the accomplishment of U.S. environmental goals requires the cooperation of other countries, EPA works with the Department of State, other Federal agencies, states, tribes, and non-governmental organizations to ensure that U.S. environmental interests are appropriately addressed.

Objectives

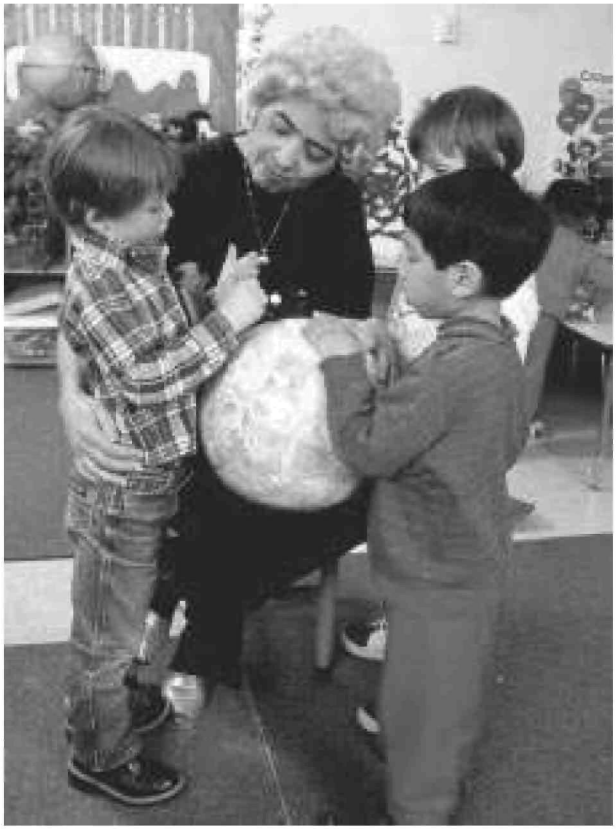
- By 2005, reduce transboundary threats to human health and shared ecosystems in North America consistent with our bilateral and multilateral treaty obligations in these areas, as well as our trust responsibility to tribes.
- By 2000 and beyond, U.S. greenhouse gas emissions will be reduced to levels consistent with international commitments agreed upon under the Framework Convention on Climate Change, building on initial efforts under the Climate Change Action Plan.
- By 2005, ozone concentrations in the stratosphere will have stopped declining and slowly begun the process of recovery.
- By 2005, reduce the risks to U.S. human health and ecosystems from selected toxics that circulate in the environment at global and regional scales consistent with international obligations.
- By 2005, the United States will prevent significant degradation of the marine and polar environments, consistent with U.S. obligations under relevant international agreements.
- By 2005, increase the application of cleaner and more cost-effective environmental practices and technologies in the U.S. and abroad through international cooperation.

What Will Be Accomplished

The principal accomplishment of EPA's international efforts will be to reduce risks to human health, the environment, and quality of life both within the U.S. and on a global level.

EPA's Climate Change program will continue efforts to achieve stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous interference with the climate system. Recognizing that no single country can resolve the problem of global climate change, EPA is engaged in many activities to facilitate international cooperation. To this end, EPA is actively participating in international research, applied analysis, assessment efforts, and efforts to develop and implement global climate change strategy, and is providing financial and technical assistance to developing countries to facilitate development of mitigation and sequestration strategies.

On the domestic side, EPA's Climate Change programs will continue to focus on minimizing the global impacts of greenhouse gas emissions originating in the U.S. Programs will promote voluntary partnerships, provide technical assistance and promote activities at the state and local levels that enhance future GHG emission reductions. The programs will help transform markets and stimulate investments in energy efficient products and technologies that reduce the need for greater electricity-generating capacity. EPA will also continue to participate in the Partnership for a New Generation of vehicles that involves a federal/domestic automobile industry partnership to develop "leapfrog" technology to triple automotive fuel economy and reduce carbon dioxide emissions by 67 percent, while maintaining vehicle performance and affordability.



To protect the earth's ozone layer, EPA will continue to implement and enforce rules controlling the production and emission of ozone-depleting compounds, and the use of alternative chemicals to curtail ozone depletion. In addition, EPA, along with other industrial countries, will continue to provide support to the efforts of developing countries to find alternatives to ozone-depleting chemicals.

To reduce risks from persistent organic pollutants and selected metals that circulate in the environment at global and regional scales, EPA is working with the Department of State and other countries to negotiate the phase-out and control of certain chemicals that continue to pose environmental risks from their use and production in other parts of the world. We are also working to reach agreement on import and export requirements applicable to certain chemicals, an expansion of pollutant release and transfer registers (PRTRs), and the harmonization of chemical testing, assessment, and labeling procedures.

To reduce environmental and human health risks along the U.S./Mexico Border, EPA is working with the border states and Mexico to meet ambient air quality standards for several air pollutants in seven areas currently failing to meet national air quality standards. In addition, EPA is working to increase water infrastructure, reduce hazardous waste disposal, and put in place chemical accident contingency plans in 10 of the 14 Sister Cities along the U.S./Mexico Border.

Working with Canada, we are moving to reduce the level of toxic substances in the Great Lakes, reduce sulphur dioxide and nitrogen oxide emissions that cause acid rain, and protect shared ecosystems along our northern border. Recognizing that activities in Mexico, Canada, and the United States impact environmental conditions beyond the immediate border areas and that free trade requires compatible environmental practices, we

are also working to establish such practices across North America.

EPA will continue to take a leadership role in the development of international systems resembling the Toxics Release Inventory (TRI) and will assist nations in furthering "right-to-know" legislation and public access to environmental information. EPA will also work to achieve an integrated and mutually supportive approach to international trade and environmental policies. This approach reflects the Agency's commitment to sustainable development and relies on cooperation on environmental standards with our major trading partners. International cooperation in environmental research and policy development will increase cost effectiveness of selected U.S. environmental protection programs.

To prevent significant degradation of the marine environment, EPA, working with the Department of State, NOAA, and other Federal agencies, expects to conclude a regional agreement addressing land-based marine pollution in the Wider Caribbean. The Agency is also working to raise international marine pollution standards through the International Maritime Organization and the United Nations Environment Program.

Recognizing our national interest in the Arctic as an ecosystem we share with other nations, the U.S. is also working with the Russian Federation to achieve a 25 percent reduction in the number of high-level radioactive sources in Northwest Russia with the potential for near-term release into the Arctic environment.

Key targets to be achieved in the international area include the following.

- By 2005, atmospheric concentrations of the ozone-depleting substances CFC-11 and CFC-12 will have peaked at no more than 300 and 570 parts per trillion, respectively, and with the exception of HCFCs and very limited "essential uses," no more ozone-depleting substances will be produced in the U.S.
- By 2005, help to ensure that at least 75 developing countries will have reduced their production and consumption of CFCs by 50 percent.
- By 2000, CCAP implementation throughout the Federal government will reduce annual U.S. greenhouse gas emissions by 75 million metric tons of carbon equivalent (MMTCE). The programs will lead to greater annual reductions of between 115 and 140 MMTCE by 2005.
- By 2010, the air will be safer to breathe in areas along the US/Mexico border that exceed one or more of the National Ambient Air Quality Standards, and all areas will attain the standards within the timeframes described in Goal 1 - Clean Air.
- By 2005, disposal rates of hazardous waste in the U.S./Mexico Border Area will be reduced by 8 percent and chemical accident contingency plans will be in place in 10 of the 14 pairs of sister cities along the Border.
- By 2000, the population in the U.S./Mexico Border Area that is served by adequate drinking water, wastewater collection and treatment systems will increase by 7 percent through the design and construction of water infrastructure .
- By 2005, formal delisting of three of the 31 U.S. toxic hot spots in the Great Lakes; reduction in the number of Great Lakes fish advisories; a plan of action to expand cooperation to reduce ground level ozone and particulate; confirmation of elimination of sources of five bioaccumulative pesticides that enter the Great Lakes Basin by 1998; reduction of 10 million tons of utility and industrial SO2 emissions from 1980 levels by 2010; utility and mobile source NOX emission reduction of two million tons from 1980 levels by 2000; a 90 percent reduction in high-level PCBs used in electrical equipment by 2006; 50 percent reductions in the deliberate uses and releases of mercury resulting from human activity.
- By 2000, complete: North American action plans on PCBs, chlordane and DDT; a protocol on persistent organic pollutants and heavy metals (through the UNECE Convention on Long Range Transboundary Air Pollution); a legally binding global convention outlining requirements for the export and import of selected chemicals (commonly referred to as Prior Informed Consent (PIC)); and by 2005, complete a global convention on selected persistent organic pollutants and develop an international network for monitoring mercury emissions.
- By 2005, increase the cost-effectiveness of selected U.S. environmental protection programs by 20 percent and complete training and information

materials for application in key countries or regions of the world.

Strategies for How It Will Be Accomplished

EPA uses a variety of approaches to achieve its international objectives, including:

- Implementing formal bilateral and multilateral environmental agreements with key countries, executing environmental components of key foreign policy initiatives, and, through the Department of State, engaging in regional and global negotiations aimed at reducing risks via formal and informal agreements.
- Cooperating with other countries to ensure that domestic and international environmental laws, policies, and priorities are recognized and implemented and, where appropriate, promoted within the multilateral development assistance and trading system.
- Cooperating with other federal agencies, states, business, and environmental groups to promote the flow of environmentally sustainable technologies and services worldwide; multilateral collaboration in coordinating environmental policies and implementing cooperative research and development programs; and international technical assistance, training, information exchange, and other capacity-building programs.
- Implementing a strategic plan on "Environmental Security" with the Department of Defense and the Department of Energy.
- Continuing domestic and international efforts to limit the production and use of ozone-depleting substances and to develop safe alternative compounds.
- Demonstrating and promoting public/private partnership programs that reduce greenhouse gas emissions.

Performance Measures

The global and transboundary environmental risks addressed in this goal vary in geographic scale as well as the nature of the problems being addressed in the six objectives found under the goal.

The first objective encompasses specific outcomes for our immediate border areas with Canada and Mexico. Performance measures in this area will often identify intermediate steps in our cooperative efforts with Canada and Mexico in meeting environmental outcomes that must be achieved over several years. Examples include water infrastructure completed in the U.S./Mexico Border Area, establishment of air emission inventories, and degree of program completion.

Objectives two, three, four, and five outline U.S. objectives for protection of the global commons as well as U.S. interests in reducing the risks associated with toxics that circulate in the environment at global and regional scales. Relevant performance measures will include changes in concentrations of the appropriate stressors. Performance measures relating to our efforts to prevent degradation of the marine environment and the reduction of transboundary toxics focus largely on sequential progress to be made in specific multilateral negotiations.

Objective six covers a broad range of technical cooperation and environmental policy programs supporting environmental security interests of the United States as well as improved efficiency in our domestic programs. Specific performance measures will include indicators of improved environmental management in key countries, improvements in U.S. environmental programs derived from foreign programs, and successes in sustaining positive environmental gains in the expanding trade and environment agenda.

GOAL 7: Expansion of Americans' Right to Know About Their Environment

Easy access to a wealth of information about the state of their local environment will expand citizen involvement and give people tools to protect their families and their communities as they see fit. Increased information exchange between scientists, public health officials, businesses, citizens, and all levels of government will foster greater knowledge about the environment and what can be done to protect it.

Importance of this Goal

Providing all Americans with access to sound environmental information and informing and involving the public in our work are essential parts of a comprehensive approach to protecting the environment. This goal is based on the premise that all U.S. citizens have a "right to know" about the pollutants in their environment--including the condition of the air they breathe and the water they drink, as well as the health effects of the chemicals used in the food and products they buy. Such a premise is especially significant for minority, low-income, and Native American communities that suffer a disproportionate burden of health consequences from poor environmental conditions. As U.S. citizens they need to receive adequate knowledge of and representation in public policy and environmental decision-making processes.

Access to environmental information also helps make American citizens involved and informed environmental decision makers, and promotes creative and lasting solutions to environmental problems. Citizens who are well-informed can better understand the environmental impacts of their own activities, the relative severity of environmental risks, the opportunities for preventing pollution, and the uncertainties and complex trade-offs that underlie many environmental decisions. This is critical in developing sustainable solutions that all stakeholders--industry, agriculture, government, and the public--will support and carry out.

Objectives

- By 2005, EPA will improve the ability of the American public to participate in the protection of human health and the environment by increasing the quality and quantity of general environmental education, outreach and data availability programs, especially in disproportionally impacted and disadvantaged communities.
- By 2005, EPA will improve the ability of the public to reduce exposure to specific environmental and human health risks by making current, accurate substance-specific information widely and easily accessible.
- By 2005, EPA will meet or exceed the Agency's customer service standards in providing sound environmental information to federal, state, local, and tribal partners to enhance their ability to protect human health and the environment.

What Will Be Accomplished

The principal accomplishment will be to empower state, local, and tribal governments and the American public by providing citizens with information to enable them to make informed decisions regarding environmental issues in their communities. The quality and quantity of general environmental education, outreach and data availability programs will be increased, and EPA will expand the content of our data holdings, improve the quality and usability of the data, and ensure the data are widely available through the Internet and other sources.

Through empowering people with information, the following accomplishments are also expected:

- By 2005, through improved technology, we will increase the accessibility and opportunities for all Americans to learn about environmental issues, including Internet access to comprehensive environmental information on the watershed in which they live including the environmental condition, the stressors, and the environmental health threats.
- By 2005, 95 percent of customers will be satisfied with the timeliness of the Agency's responses to Freedom of Information Act (FOIA) requests, executive correspondence, and other information requests.
- By 2005, 90 percent of all customers from small, disadvantaged, and minority-owned businesses will be satisfied with the timeliness and quality of the assistance provided by the Office of Small and Disadvantaged Business Utilization.
- By 2003, make 100 percent of EPA's non-confidential environmental data available and accessible to the public in a user-friendly manner and provide integrated information to support comprehensive environmental protection approaches such as EPA's Community-Based Environmental Protection Program (CBEP).
- By 2003, provide user-friendly public access to comprehensive environmental performance information, including enhanced access in disproportionally impacted and disadvantaged communities.
- By 2003, EPA will have developed and enhanced an electronic system that will allow the public and EPA stakeholders to access regulatory requirements, EPA policy, guidance, and significant site-specific interpretations via the Internet.
- By 2000, every person served by a community water system will have access to a consumer confidence report that contains information about the system's source water and the level of contaminants in the drinking water and will be able to use this information to secure safe drinking water and make personal decisions about their own health.

Strategies for How It Will Be Accomplished

The Agency will use a variety of strategies focused on the three objectives for this goal. Critical to the success of these strategies will be cooperation and collaboration with all potential partners, including federal, state, tribal, and local governments, educational institutions, nonprofit organizations, and businesses.

- Increase education, outreach, and data availability programs.
- Support and encourage user-friendly environmental education programs of state and local governments, schools and universities, and community and non-profit organizations.
- Build stronger partnerships and promote increased coordination with other governmental organizations and the private sector.
- Cooperate with other countries to advance common goals for environmental education.
- Provide the public, especially disproportionately impacted and disadvantaged communities, with clear information about regulatory requirements and improve access to environmental data.
- Provide information and tools for communities to make decisions.
- Create a Center for Environmental Information and Statistics (CEIS) to provide citizens with information on drinking water quality, air quality, beach contamination, and shellfish contamination.
- Continue to expand the coverage of pollutants, pollution sources, and data elements in EPA's Toxics Release Inventory, and ensure compliance with reporting requirements.
- Make all non-confidential information and data at EPA available to the public, and expand access to information through libraries, schools, and health departments.
- Expand the Agency's baseline information about the health and environmental effects of products and chemicals, through enhanced data gathering and testing activities.

- Integrate environmental data interpretation and statistics.
- Exchange sound environmental data with all of our partners.
- Engage in more frequent dialogue with state, local and Indian tribal governments, and improve the exchange with them to produce more sound environmental data and tools.
- Consolidate information and reduce duplication of information provided to EPA under a variety of statutory and regulatory authorities.
- Improve electronic access to information by significantly expanding the type and amount of information available on the Internet.
- Continue international collaboration on developing health and environmental effects data.
- Ensure citizen access to the compliance and enforcement records of regulated facilities so that communities can easily monitor whether these companies are in compliance with environmental laws and permit conditions.

Another strategy is contained in the President's Environmental Monitoring for Public Access and Community Tracking (EMPACT) Initiative. This initiative includes other federal agencies and will focus on improving data collection and data quality and on deploying new technologies for real time and automated measurement, monitoring, and information delivery. EMPACT will be targeted to the 75 largest metropolitan areas in the U.S.

Performance Measures

The success of the Right-to-Know programs is ultimately determined by the increased understanding of our environment among all stakeholders, thereby enabling them to make decisions and take actions in helping to solve the nation's environmental problems, particularly at the community level. EPA is playing a major role in educating and providing the data and tools tailored to the needs of various stakeholders. Measures to assess our progress in achieving this goal focus on three areas--information access, stakeholder awareness, and the improved environmental conditions in targeted areas. We assume there is a cause-effect relationship among the three. Since there are many actions outside EPA's control, we would want to choose the measures aimed at EPA's actions. For example, we will assess the number of people who access EPA information and whether they find the information useful; the level of awareness of our information among various stakeholder groups, as measured by surveys and other instruments; and the improvement of environmental conditions in targeted areas, including reduced releases of toxic chemicals.

GOAL 8: Sound Science, Improved Understanding of Environmental Risk, and Greater Innovation to Address Environmental Problems

EPA will develop and apply the best available science for addressing current and future environmental hazards, as well as new approaches toward improving environmental protection.

Importance of This Goal

Science enables us to identify the most important sources of risk to human health and the environment, and by so doing, informs our priority-setting, ensures credibility for our policies, and guides our deployment of resources. It gives us the understanding and technologies we need to detect, abate, and avoid environmental problems. This goal recognizes that science provides the crucial underpinning for EPA decisions and challenges us

to apply the best available science and technical analysis to our environmental problems and to practice more integrated, more efficient, and more effective approaches to reducing environmental risks.

It is clear that, in the future, environmental problems will be dealt with in a different manner than they are today. In moving towards this future, EPA has adopted a two-tiered strategy. On one level, EPA is working to strengthen those features of the current system that have proven to be effective. At a second level, EPA is designing and testing fundamentally new tools and approaches that take advantage of new scientific knowledge and technological advancements, a growing ethic of environmental stewardship, the need to cut waste and increase efficiency and similar opportunities as they arise in society. These new tools and approaches are largely industry-based, place-based, and performance-based.

Objectives

- Research for Ecosystems Assessment and Restoration: By 2008, provide the scientific understanding to measure, model, maintain, or restore, at multiple scales, the integrity and sustainability of ecosystems now and in the future.
- Research for Human Health Risk Assessment: By 2008, improve the scientific basis to identify, characterize, assess, and manage environmental exposures that pose the greatest health risks to the American public by developing models and methodologies to integrate information about exposures and effects from multiple pathways.
- Research to Detect Emerging Risk Issues: By 2008, establish capability and mechanisms within EPA to anticipate and identify environmental or other changes that may portend future risk, integrate futures planning into ongoing programs, and promote coordinated preparation for and response to change.
- Research for Pollution Prevention and New Technology for Environmental Protection: by 2006, develop and verify improved tools, methodologies, and technologies for modeling, measuring, characterizing, preventing, controlling, and cleaning up contaminants associated with high priority human health and environmental problems.
- By 2005, EPA will increase the number of places using integrated, holistic partnership approaches, such as community-based environmental protection (CBEP), and quantify their tangible and sustainable environmental results in places where EPA is directly involved.
- By 2005, EPA will increase the number of opportunities for and applications of sector-based approaches to environmental management by 150 percent over 1996 levels.
- By 2005, Regions will have demonstrated capability to assess environmental conditions in their Region, compare the relative risk of health and ecological problems, and assess the environmental effectiveness of management action in priority geographic areas.
- Conduct peer reviews and provide guidance on the science underlying Agency decisions.

What Will Be Accomplished

EPA's research program will measurably increase our understanding of environmental processes and our capability to respond to and solve environmental problems. During the past decade, significant concerns have been expressed about the adequacy of the Agency's ability to assess risks--not only to human health, but also to ecosystems. Research will lead to greater certainty in assessing and comparing environmental risks. Our aim is to reduce major areas of uncertainty in our analyses of risk and to minimize reliance on default assumptions. In order to accomplish this, we will develop improved exposure

assessments that identify environmental exposures posing the greatest health risks to the American public and will increasingly use biologically-based methodologies. We will demonstrate improved knowledge of current ecosystem conditions and the most critical stressors affecting these conditions, as well as deliver improved capabilities to interpret what these conditions imply in terms of immediate and future risks. This will provide strengthened capability to determine the condition of the environment and its responses to alternative management strategies at local, regional, and national scales. This will also lead to better technologies to manage and restore ecosystems.

We will also build institutional capacity to forecast and prepare for emerging problems. To prevent damage to both human and ecosystem health, it is critical to detect, describe, evaluate, and mitigate or eliminate stressors before damage occurs. We plan to improve capacity and technology to monitor and model stressors and effects. We plan to encourage the rapid acceptance and implementation of improved environmental technology by assessing and verifying the performance characteristics of commercially ready technologies and by making those assessments available for consideration by a variety of potential technology users. This will help provide proven, cost-effective technologies and approaches to prevent or manage environmental problems.

The Agency plans to strengthen the science base of the Regions by increasing their capacity to monitor and measure environmental conditions. We also plan to strengthen our overall quality of science by significantly enhancing peer review in the Agency and by seeking guidance from the Science Advisory Board, leading to more defensible environmental decisions.

Since scientific quality and cost-effectiveness are generally increased through collegial interaction, the Agency plans to increase its "partnering" with other Agencies and organizations, especially in joint efforts through the National Science and Technology Council, and in more frequent collaboration with NASA, NSF, and DOE. Similar synergistic benefits are sought through joint participation in the peer review of Agency documents and positions by advisory committees from different departments and agencies.

Regional geographic initiatives are targeted towards high priority locations with both high health or ecosystem risks and significant potential for risk reduction. We will continue to implement multimedia solutions, using integrated partnership approaches, to address air, water and toxic waste problems and achieve living resource protection. Our efforts will promote state-of-the-art environmental management and serve as incubators and developers of innovative approaches to environmental policy making. Through Community-Based Environmental Protection, EPA will increase the number of places using innovative, multimedia approaches to enable local partnerships to address high risks. Through such programs as the Common Sense Initiative, the Agency will implement Sustainable Industry sector-based policies and programs. These new approaches will likely become the predominant form of environmental protection in the next century, and lead to greater acceptance of new environmental technology.

Most of these objectives will not be fully met until a decade has passed. However, as the science moves forward, various research sub-products are created that will be incorporated into EPA's decision-making process.

Strategies for How It Will Be Accomplished

EPA has several strategies to strengthen its science base and to develop innovations in environmental protection. The Agency has implemented a risk-based research planning process to use risk assessment and risk management as principal priority-setting criteria. EPA conducts annual research program reviews to both evaluate the status and accomplishments of its research and determine strategic planning priorities. To better draw upon the expertise of the environmental academic community, EPA created the Science to Achieve Results (STAR) Program of peer reviewed, mission-driven extramural grants. The Agency is also working with the National Research Council to identify emerging environmental issues for which we must begin planning the necessary research.

Reinvention of environmental protection involves rethinking specific steps of the regulatory process, such as setting standards and writing regulations, issuing permits, collecting environmental reports about pollution, providing assistance to help business comply with the law, and conducting enforcement actions. Among our newer integrated and innovative strategies for environmental protection are the place- and facility-based approaches of the Community-Based Environmental Protection (CBEP)

strategy, and sector-based strategies such as the Common Sense Initiative (CSI). CBEP is a way for EPA to work with knowledgeable and committed governments, organizations and individuals in specific communities and to benefit from their knowledge of their local environmental problems. CBEP can also provide flexibility to achieve more environmental protection in a more cost-effective manner. Similarly for industries, sector strategies such as CSI are designed as integrated, multimedia approaches. CSI works to tailor efforts to the particular characteristics of a particular industry, leading to more cost-effective environmental protection. EPA's reinvention agenda includes opportunities for testing innovative approaches to getting environmental results through programs such as CSI, Project XL, and One-Stop Reporting. EPA, working with state environmental programs, will adopt specific reforms for each part of the regulatory system based on successful results from these experimental programs.

EPA is promoting more cost-effective environmental protection by working with stakeholders to identify and overcome barriers, such as the lack of credible, independent performance data, that limit the entrance of new technologies into the environmental marketplace. Finally, because our decisions on rulemaking, policies, and actions to protect human health and the environment invariably rely on environmental measurements, the Agency will continue to implement its mandatory Quality Assurance Program. This program will ensure that all environmental measurements produced or funded by the Agency are of a level of quality suitable for their intended use.

Performance Measures

As environmental problems are better defined, and prevention and clean-up technologies are improved and evaluated, it will become easier to measure and demonstrate cheaper environmental protection. The various community, facility and sector-based approaches that provide flexibility for voluntary local initiative and innovation, and are tailored to the specific needs of a place or an industry, should improve decision-making, avoid conflict between competing uses and lead directly to more cost-effective environmental protection.

Over that period of time, specific outputs have been identified, such as models, tools, local capacity, cross program and sector partnerships, published reports and guidelines and demonstration projects. Certain tangible environmental outcomes related to the environmental health, vitality and quality of specific ecosystems or geographic regions and reduced emissions for facilities and sectors will be measured.

Scientific research involves efforts whose outcomes are inherently difficult to measure. Nevertheless, in addition to specific measures to track our success in meeting research objectives, we also have identified more general science performance criteria, including quality, relevance, and impact on decision making. Against these criteria, the following goals and measures will serve to evaluate the results of our research program.

Quality

The performance goal is for EPA's research science to advance the state of the science or make new contributions. Performance measures include:

- Endorsement by peer review and other impartial, outside reviewers.
- Demonstrated leadership of EPA scientists as evidenced by invitations to participate in conferences and conduct reviews.
- Publication of results in appropriate, peer-reviewed journals.
- Adoption of EPA-developed approaches or methodologies as models.
- Awards/recognition for research contributions.

Relevance

The performance goal is for EPA's research to successfully meet the needs of users of the results. Performance measures include:

- Research addresses critical knowledge issues within EPA's mission.
- Research findings provide the information necessary for EPA users to meet statutory requirements and other policy needs.
- EPA's decision-making options are informed and supported by quality science.
- Quality of science in EPA decisions is not challenged or withstands such challenges.

- EPA research findings are incorporated into new research.

Impact on Decision Making

The performance goal is for EPA's research organization to transfer information, findings, and results effectively to users, partners, and the public. Performance measures include:

- Technical results are disseminated in a timely way to users.
- Research is communicated appropriately in formats accessible to a variety of audiences and users in their decision making.

For specific objectives under the sound science goal, the following illustrates an appropriate performance goal and measure:

- By 2005, decision makers and the public will be able to monitor, assess and interpret the degree to which land cover has changed over time.
- The value added by the Science Advisory Board (SAB) will be measured by increased customer satisfaction, decreased time for report production and Agency responses to SAB recommendations.

Goal 9: A Credible Deterrent to Pollution and Greater Compliance with the Law

EPA will ensure full compliance with laws intended to protect human health and the environment.

Importance of This Goal

Protecting the public and the environment from risks posed by violations of environmental requirements is, and always has been, basic to EPA's mission. Many of America's environmental improvements over the last 25 years are attributable to a strong set of environmental laws and an expectation of compliance with those laws. EPA's strong and aggressive enforcement program has been the centerpiece of efforts to ensure compliance, and has achieved significant improvements in human health and the environment. To meet the challenges presented by the continuing, serious, and complex environmental problems EPA faces and the changes in the type and scope of activities and entities regulated, EPA must continue to use and develop a broader range of solutions. To this end, EPA is developing additional tools and capabilities for ensuring compliance through assistance and incentives to the regulated community.

By ensuring compliance through an array of traditional and innovative approaches EPA is working to mitigate and avoid risks to human health and the environment, help the regulated community understand and fully comply with

environmental requirements, punish violators and deter future violations, level the economic playing field for law-abiding companies, and ensure that the price of goods and services reflects true cost.

Objectives

Through its credible deterrent goal, EPA seeks to ensure full compliance with laws intended to protect human health and the environment. Within the framework of this goal, our objectives are as follows:

- Identify and reduce significant non-compliance in high priority program areas, while maintaining a strong enforcement presence in all regulatory program areas.
- Promote the regulated communities' voluntary compliance with environmental requirements through compliance incentives and assistance programs.

What Will Be Accomplished

EPA's enforcement and compliance responsibilities are outlined in provisions of 15 environmental statutes, and most of the Agency's international activities can be tied to seven international agreements. The accomplishment of EPA's environmental goals depends on a strong enforcement and compliance assurance program, with active involvement of other Federal agencies and its state, tribal, local and other national government partners, to encourage appropriate behavior by the regulated community.

The enforcement and compliance assurance program has made important contributions through vigorous application of environmental laws. By identifying and addressing violations of environmental statutes and regulations during the period covered by this plan, the enforcement and compliance assurance program will work toward continuous improvement in compliance with standards, permits and other requirements established by the program offices to mitigate and avoid environmental problems and the associated risk. Over the next few years, we intend to complete baseline measurement data for use in measuring changes in key indicators of compliance appropriate to designated high priority portions of the regulated community and will set targets as appropriate. Given the scope of its responsibilities and the large and diverse universe of private, public, and federal facilities regulated under the various statutes, the Agency also will work to maximize its effectiveness by strategically targeting its enforcement and compliance activities to address the most significant risks to human health and the environment and to address disproportionate burden on certain populations, in keeping with EPA's environmental justice responsibilities. Risk-based and related criteria will be applied during program planning, implementation and evaluation.

Because government resources are limited, maximum compliance cannot be achieved without the active efforts of the regulated community to police itself. Over the course of this plan, EPA will assist regulated facilities in improving their compliance and environmental performance by encouraging the use of targeted compliance assistance tools, such as routine environmental auditing for compliance and the development and use of environmental management systems. The Agency also intends to pursue more vigorously the use of compliance incentives as a means of encouraging regulated entities to voluntarily discover, disclose and correct violations before they are identified by the government for enforcement investigation and response. By increasing its communication with the regulated community, the Agency will position itself to identify incentives and promote the benefits of its auditing policies, compliance assistance tools and voluntary environmental management systems programs. Additional specific results anticipated include:

- Implementation of international commitments and U.S. government priorities for enforcement and compliance cooperation with other countries consistent with national environmental and foreign policy goals.
- Increased use of injunctive relief provisions and supplemental environmental projects to achieve environmental restoration and cleanup.
- Increased number of violations reported and subsequently corrected through self-disclosure by the regulated community over the 1997 level.
- Review of significant proposed federal actions (programs, projects, regulations, and proposed legislation) to determine their likely environmental effects and seek remedy of the actions that are environmentally objectionable.

Strategies for How It Will Be Accomplished

EPA will implement a range of strategic approaches to achieve improved compliance through the consistent and effective application of compliance and enforcement tools. EPA's current strong, traditional core enforcement program will continue. In addition, we will improve the Agency's ability to define high priority (e.g., sectors, media priorities, federal facilities, and ecosystems) portions of the regulated community, develop comprehensive baseline data on the nature and extent of compliance problems, and set challenging targets for improving compliance. Criteria for defining the high priority areas will include those involving high environmental risk, disproportionately exposed populations, or high rates of noncompliance, and those that otherwise present a need to maintain a visible enforcement presence.

By increasing the use of injunctive relief provisions and Supplemental Environmental Projects (SEPs), EPA hopes to gain significant environmental benefits in conjunction with the settlement of enforcement cases. This is consistent with the Agency's growing emphasis on the environmental benefits of its activities.

State, tribal and local governments bear much of the responsibility for ensuring compliance, and EPA will work with them and other Federal agencies to promote environmental protection. Further, EPA will cooperate with other nations to enforce and ensure compliance with international agreements affecting the environment. These activities also ensure a level economic playing field in an increasingly global trading system.

In addition, the Agency will work toward expanding current efforts to improve compliance through incentives and assistance activities. Effective compliance assistance assures that environmental standards are clear and understood by the regulated community (including federal facilities) and the public. EPA will work to establish baseline information for targeted sectors of the regulated community and analyze root causes for compliance problems. In recognition of the substantial role played by the states in informing the regulated community of their responsibilities, sector-specific compliance assistance centers and other tools will be used and evaluated for effectiveness in increasing the understanding of, and compliance with, program requirements. Also, the Agency will pursue compliance incentives to encourage regulated entities to voluntarily discover, disclose and correct violations. These compliance incentives include audit and compliance management programs and partnerships between government and industry, such as the Environmental Leadership Program. Further, the Agency will provide technical assistance and training to other federal, state, and tribal officials to enhance their effectiveness in managing enforcement and compliance assurance programs.

Performance Measures

The Agency continues to work on new approaches for measuring results and impacts of enforcement efforts. The enforcement and compliance program is moving to complement the traditional enforcement output measures with environmental outcome measures. Recent work on the Case Conclusion Data Sheets and compliance assistance activities have yielded environmental outcome data to build upon. Through another effort, the Office of Enforcement and Compliance Assurance National Performance Measures Strategy, EPA is striving to develop a range of measures that reflect the broad spectrum of enforcement and compliance activities, the degree to which they protect human health and the environment, and industry compliance with applicable laws. When this process is completed, performance targets will be set using compliance indicators appropriate to the program and particular universe of regulated facilities involved. The set of indicators could include rates of significant noncompliance, repeat violators, timely and appropriate actions taken, economic benefits recovery, pollutant reductions in high risk areas, and compliance assistance results. There will be involvement from EPA, states and other stakeholders in identifying, evaluating and selecting these indicators.

Additionally, on the international front, EPA has developed performance measures for enforcement and compliance cooperation with Mexico. Under the Cooperative Enforcement and Compliance provisions of the U.S.-Mexico Border XXI program, both countries will develop environmental indicators (both outputs and outcomes) to measure compliance in the border area.

Goal 10: Effective Management

EPA will establish a management infrastructure that will set and implement the highest quality standards for effective internal management and fiscal responsibility.

Importance of this Goal

Efforts under this goal support the full range of Agency activities for a healthy and sustainable environment. Agency management provides vision and leadership within the Agency, nationally and internationally on matters relating to the Agency and conducts policy oversight for all Agency programs. The effectiveness of EPA's management approaches will determine, in large measure, how successful we will be in pursuit of the other goals identified in this Strategic Plan. Sound management principles, practices, results-based planning and budgeting, fiscal accountability, quality customer service, rational policy guidance and careful stewardship of our resources are the foundation for everything EPA does to advance the protection of human health and the environment. Agency management systems and processes will be supported by independent evaluations that promote operational integrity and economic, efficient and effective programs, so that we can obtain the greatest return on taxpayer investment .

Objectives

- The Office of the Administrator and Deputy Administrator will provide vision and leadership (within the Agency, nationally and internationally) as well as executive direction and policy oversight for all Agency programs.
- EPA will provide the management services, administrative support and facility operations necessary to achieve its environmental mission and to meet its fiduciary and workforce responsibilities.
- EPA will provide a quality work environment that considers employee safety and security, building operations, utilities, facilities, new construction, repairs, and pollution prevention, within Headquarters and nationwide.
- EPA will provide audit and investigative products and services, all of which can facilitate the accomplishment of its mission.

What Will Be Accomplished

Accomplishments under this goal relate primarily to improvements in the Agency's internal management infrastructure and processes. EPA's plans for the coming years build on our past achievements in the areas of resource management, systems development, and facilities enhancement, and will include full implementation of an integrated planning, budgeting, analysis and accountability system.

Strategies for How It Will Be Accomplished

To provide a strong foundation for our environmental and human health strategies, our managerial accomplishments will include:

- Investment in EPA employees, through training, education and other means, to ensure that the Agency's workforce is of the highest caliber and is fully prepared to deliver national leadership and expertise in environmental protection.
- Implementation of automated and streamlined human resources processes for increased efficiencies in hiring and placement of staff with the scientific and technical skills necessary to sustain effective environmental protection programs.

- Construction of new facilities, and establishment of state-of-the-art laboratories, providing the tools essential to researching innovative solutions to current and future environmental problems and enhancing our understanding of environmental risks.
- Reduction of our reliance on cost-plus, level-of-effort contracting in favor of performance-based service contracting.
- Enhancements to contract management information systems. By improving the quality and availability of information on the status and use of resources, we can assure that we acquire the best quality goods and services in support of Agency objectives.
- Resolution of material weaknesses previously identified in the area of grants closeouts, to reinforce the integrity of our assistance programs.
- Implementation of the best practices identified government-wide by the General Accounting Office (GAO) for information resources management, and integration of information technology investments with the Agency's overall strategic planning process, to keep EPA in the vanguard of federal agencies with respect to the quality and utility of our data systems.
- Support for electronic reporting by our highest-volume submitters, to reduce their reporting burden and facilitate EPA's acquisition of key information relative to environmental conditions across the country.
- Provision of audit and investigative products and services by the independent Office of the Inspector General to assist the Agency in accomplishing its mission and improve the performance and integrity of its programs and operations and reduce the risk of loss from fraud and other improprieties.

Performance Measures

EPA will measure performance under the Effective Management goal by tracking progress in three major areas. First, specific milestones will be established with respect to automation efforts supporting Agency administrative reforms and process improvements that contribute to more efficient ways of doing business. Second, customer service measures will enable us to gauge increases in customer satisfaction--both internal and external to the Agency--in terms of quality and timeliness of services. Third, we will assess EPA's success in achieving statutory requirements pertaining to Agency management including the Chief Financial Officers Act, the Government Management Reform Act, the Clinger-Cohen Act and the Federal Acquisition Regulations. These measures will include reporting requirements, such as receiving unqualified audit opinions (which EPA hopes to achieve each year beginning with our FY 1997 Annual Financial Statements) as well as assessments of systems management.

For all performance measures relevant to this goal, we anticipate that primary data sources will be EPA management information systems and targeted customer surveys. In FY 1999, we expect to develop baseline information, where necessary, to enable us to track progress more precisely in future years. In time, the traditional management focus on output measures will shift towards broader outcome-oriented measures, such as measures to demonstrate specific operational improvements and efficiencies in Agency programs.

Addendum

Statutory or Other Authority, Directives, or Obligations for Specific Objectives

GOAL 1 -- Clean Air

Objective 1

Clean Air Act (CAA) (42 U.S.C.7401-7671q)

Toxic Substances Control Act (TSCA) (15 U.S.C. 2601-2692)

Objective 2

CAA, TSCA

Objective 3

CAA, TSCA

Objective 4

CAA, TSCA

GOAL 2 -- Clean and Safe Water

Objective 1

Clean Water Act (CWA) (33 U.S.C. 1251-1387)

Safe Drinking Water Act (SDWA) (42 U.S.C. 300f-300j-26)

Toxic Substances Control Act (TSCA) (15 U.S.C. 2601-2692)

Objective 2

CWA

Endangered Species Act (ESA) (16 U.S.C. 1531-1544)

National Environmental Policy Act (NEPA) (42 U.S.C. 4321-4370d)

TSCA

Great Lakes Water Quality Agreement

Treaties with Indian tribes

1971 Ramsar Convention on Wetlands

Objective 3

Clean Air Act (CAA) (42 U.S.C.7401-7671q)

CWA, TSCA

GOAL 3 -- Safe Food

Objective 1

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 U.S.C. 136-136y)

World Trade Organization Agreements

Objective 2

Federal Food, Drug, and Cosmetic Act (FFDCA) section 408 (21 U.S.C. 346a)

FIFRA

World Trade Organization Agreements

GOAL 4 -- Preventing Pollution in Communities, Homes, Workplaces and Ecosystems

Objective 1

Endangered Species Act (ESA) (16 U.S.C. 1531-1544)

Federal Food, Drug, and Cosmetic Act (FFDCA) section 408 (21 U.S.C. 346a)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 U.S.C. 136-136y)

Objective 2

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. 9601-9675)

Safe Drinking Water Act (SDWA) (42 U.S.C. 300f-300j-26)

Toxic Substances Control Act (TSCA) (15 U.S.C. 2601-2692)

Objective 3

FIFRA, TSCA

Objective 4

Clean Air Act (CAA) (42 U.S.C. 7601-7671q)

TSCA

Objective 5

CAA

Clean Water Act (CWA) (33 U.S.C. 1251-1387)

Emergency Planning and Community Right-to-Know Act (EPCRA) (42 U.S.C. 11001-11050)

Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)

Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901-6992k)

TSCA

Objective 6

PPA, RCRA, TSCA

Objective 7

CAA, CERCLA, CWA, EPCRA, ESA, FIFRA

Indian Environmental General Assistance Program Act

National Environmental Policy Act (NEPA) (42 U.S.C. 4321-4370d)

RCRA, SDWA, TSCA

Treaties with Indian tribes

GOAL 5 -- Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response

Objective 1

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. 9601-9675)

Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)

Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901-6992k)

Objective 2

Clean Water Act (CWA) (33 U.S.C. 1251-1387)

Oil Pollution Act (OPA) (33 U.S.C. 2701-2761)

RCRA

Objective 3

CERCLA

Clean Air Act (CAA) (42 U.S.C. 7601-7671q)

CWA

Emergency Planning and Community Right-to-Know Act (EPCRA) (42 U.S.C. 11001-11050)

OPA, RCRA

GOAL 6 -- Reduction of Global and Cross-Border Environmental Risks

Objective 1

Clean Air Act (CAA) (42 U.S.C. 7601-7671q)

Clean Water Act (CWA) (33 U.S.C. 1251-1387)

Emergency Planning and Community Right-to-Know Act (EPCRA) (42 U.S.C. 11001-11050)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 U.S.C. 136-136y)

Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)

Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901-6992k)

Toxic Substances Control Act (TSCA) (15 U.S.C. 2601-2692)

V.A., H.U.D., and Independent Agencies Appropriations Acts

Water Quality Act of 1987 section 510

North American Agreement on Environmental Cooperation (NAAEC)

U.S./Canada Agreements on Arctic Cooperation

U.S./Mexico Agreement Establishing a Border Environmental Cooperation Commission and a North American Development Bank

1909 Boundary Waters Agreement

U.S./Canada Great Lakes Water Quality Agreement

1997 Great Lakes Binational Toxics Strategy

1983 La Paz Agreement on US/Mexico Border Region, Annex 2, Article 3

1989 U.S./Mexico Agreement on Mexico City

1989 US/USSR Agreement on Pollution

1991 U.S./Canada Air Quality Agreement

Treaties with Indian tribes

Border XXI

Objective 2

CAA

Framework Convention on Climate Change

Pollution Prevention Act of 1990

Objective 3

CAA, TSCA

1987 Montreal Protocol on Ozone Depleting Substances

Objective 4

CAA, CWA, FIFRA, PPA, RCRA, TSCA, NAAEC

1996 Habitat Agenda, paragraph 43bb

Objective 5

Ocean Dumping Act (33 U.S.C. 1401-1445)

PPA

Convention on International Trade in Endangered Species

Washington Agreement on Land-Based Sources of Marine Pollution

1972 London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter

Objective 6

EPCRA, PPA

North American Free Trade Agreement

World Trade Organization Agreements

GOAL 7 -- Expansion of Americans' Right to Know About Their Environment

Objective 1

Clean Air Act (CAA) (42 U.S.C. 7601-7671q)

Clean Water Act (CWA) (33 U.S.C. 1251-1387)

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. 9601-9675)

Emergency Planning and Community Right-to-Know Act (EPCRA) (42 U.S.C. 11001-11050)

Environmental Education Act

Federal Advisory Committee Act (FACA) (5 U.S.C. App.)

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) (7 U.S.C. 136-136y)

Freedom of Information Act (FOIA) (5 U.S.C. 552)

Paperwork Reduction Act of 1995 (44 U.S.C. 3501-3520)

Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)

Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901-6992k)

Safe Drinking Water Act (SDWA) (42 U.S.C. 300f-300j-26)

Toxic Substances Control Act (TSCA) (15 U.S.C. 2601-2692)

North American Agreement on Environmental Cooperation

Objective 2

Federal Food, Drug and Cosmetic Act, Section 408 (21 U.S.C. 346A)

CWA, EPCRA, FIFRA, PPA, RCRA, SDWA, TSCA

Objective 3

CWA, EPCRA, FACA, FIFRA, FOIA, PPA, RCRA, SDWA

TSCA , CERCLA

GOAL 8 -- Sound Science, Improved Understanding of Environmental Risk, and Greater Innovation to Address Environmental Problems

Objective 1

Clean Air Act (CAA) (42 U.S.C. 7601-7671q)

Clean Water Act (CWA) (33 U.S.C. 1251-1387)

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. 9601-9675)

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) (7 U.S.C. 136-136y)

Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901-6992k)

Toxic Substances Control Act (TSCA) (15 U.S.C. 2601-2692)

Objective 2

CAA, CERCLA, CWA

Safe Drinking Water Act (SDWA) (42 U.S.C. 300f-300j-26)

TSCA

Objective 3

CAA, CWA, RCRA

Objective 4

CAA, CERCLA, CWA

Federal Technology Transfer Act (15 U.S.C. 3710a et seq.)

FIFRA

Patent Statute (35 U.S.C. 100 et seq.)

PPA, RCRA, SDWA, TSCA

Objective 5

CWA

Emergency Planning and Community Right-to-Know Act (EPCRA) (42 U.S.C. 11001-11050)

PPA, RCRA, SDWA, TSCA

Objective 6

CAA, CWA, EPCRA, FIFRA, PPA, RCRA, SDWA, TSCA

Objective 7

CAA, CWA, EPCRA, PPA, RCRA, SDWA, TSCA

Objective 8

CAA, CWA

Federal Advisory Committee Act (5 U.S.C. App.)

FIFRA, RCRA, SDWA, TSCA

GOAL 9 -- A Credible Deterrent to Pollution and Greater Compliance with the Law

Objective 1

Clean Air Act (CAA) (42 U.S.C. 7601-7671q)

Clean Water Act (CWA) (33 U.S.C. 1251-1387)

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. 9601-9675)

Emergency Planning and Community Right-to-Know Act (EPCRA) (42 U.S.C. 11001-11050)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 U.S.C. 136-136y)

Ocean Dumping Act (ODA) (33 U.S.C. 1401-1445)

Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901-6992k)

Safe Drinking Water Act (SDWA) (42 U.S.C. 300f-300j-26)

Toxic Substances Control Act (TSCA) (15 U.S.C. 2601-2692)

North American Agreement on Environmental Cooperation

1983 La Paz Agreement on US/Mexico Border Region

Objective 2

CAA, CERCLA, CWA, EPCRA

Federal Facility Compliance Act

FIFRA, ODA

Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)

RCRA, SDWA

Small Business Regulatory Enforcement Fairness Act of 1996 (5 U.S.C. 601 note)

TSCA

Executive Order 12088, "Federal Compliance with Pollution Control Standards"

Executive Order 12856, "Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements"

GOAL 10 -- Effective Management

Objective 1

42 U.S.C. 2000e-16

Administrative Procedures Act (5 U.S.C. Chapter 5)

Civil Rights Act of 1964

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. 9601-9675)

Objective 2

Government Performance and Results Act

Chief Financial Officers Act (31 U.S.C. 901-903)

Civil Service Reform Act of 1978 (5 U.S.C. Chapter 3)

Clinger-Cohen Act (Public Law 104-106)

Competition in Contracting Act (41 U.S.C. 253 et seq.)

Contract Disputes Act (41 U.S.C. 601 et seq.)

Federal Claims Collection Act (31 U.S.C. 3711 et seq.)

Federal Financial Management Improvement Act of 1996 (Title VIII of 1997 Treasury, Postal Service and General Government Appropriations Act)

Federal Grant and Cooperative Agreement Act (31 U.S.C. 6301 et seq.)

Federal Managers Financial Integrity Act of 1982 (31 U.S.C. 3512)

Federal Records Act (44 U.S.C. 3101 et seq.)

Paperwork Reduction Act of 1995 (44 U.S.C. 3501-3520)

Objective 3

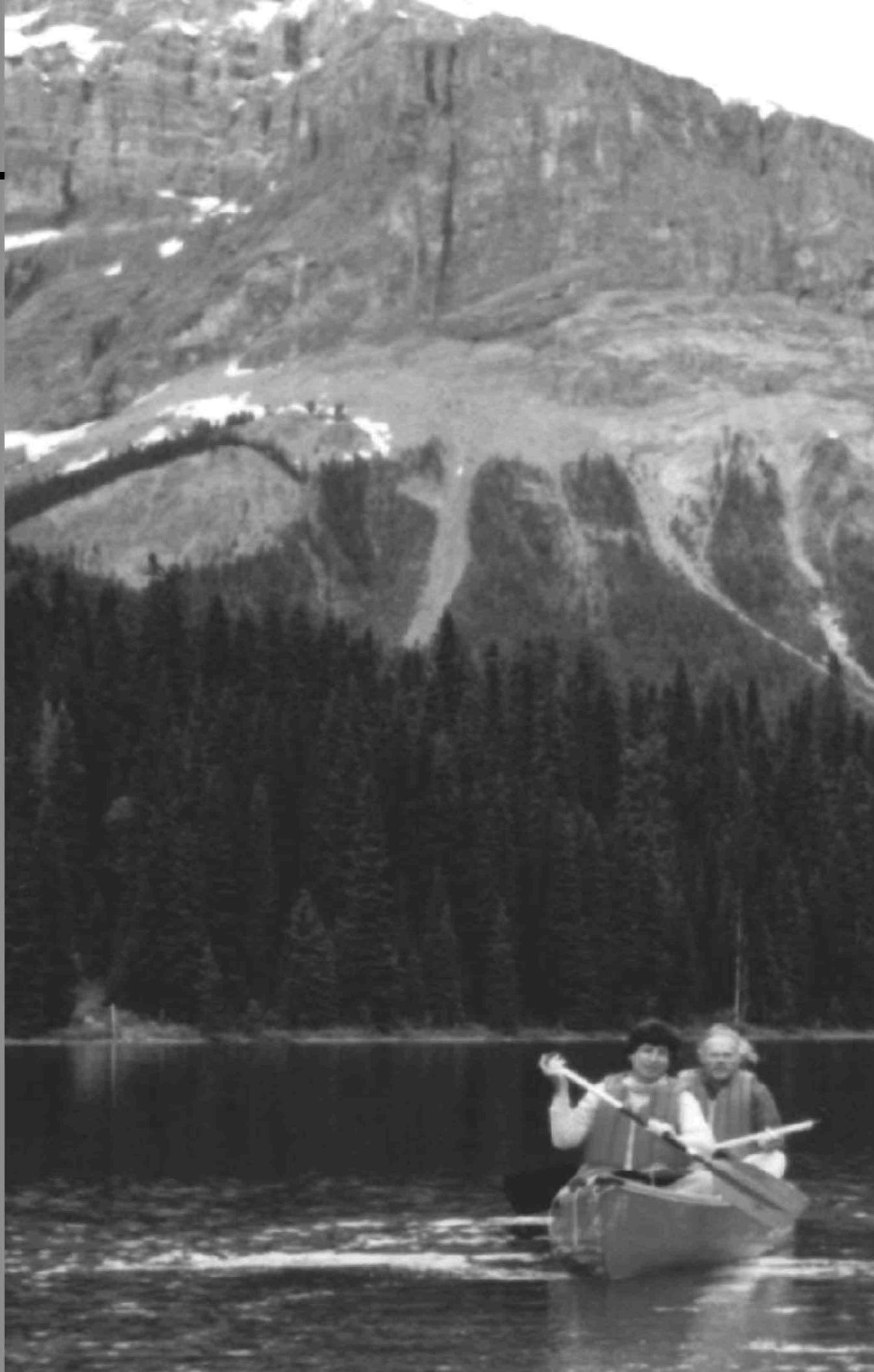
Federal Property and Administrative Services Act (40 U.S.C. 471 et seq.)

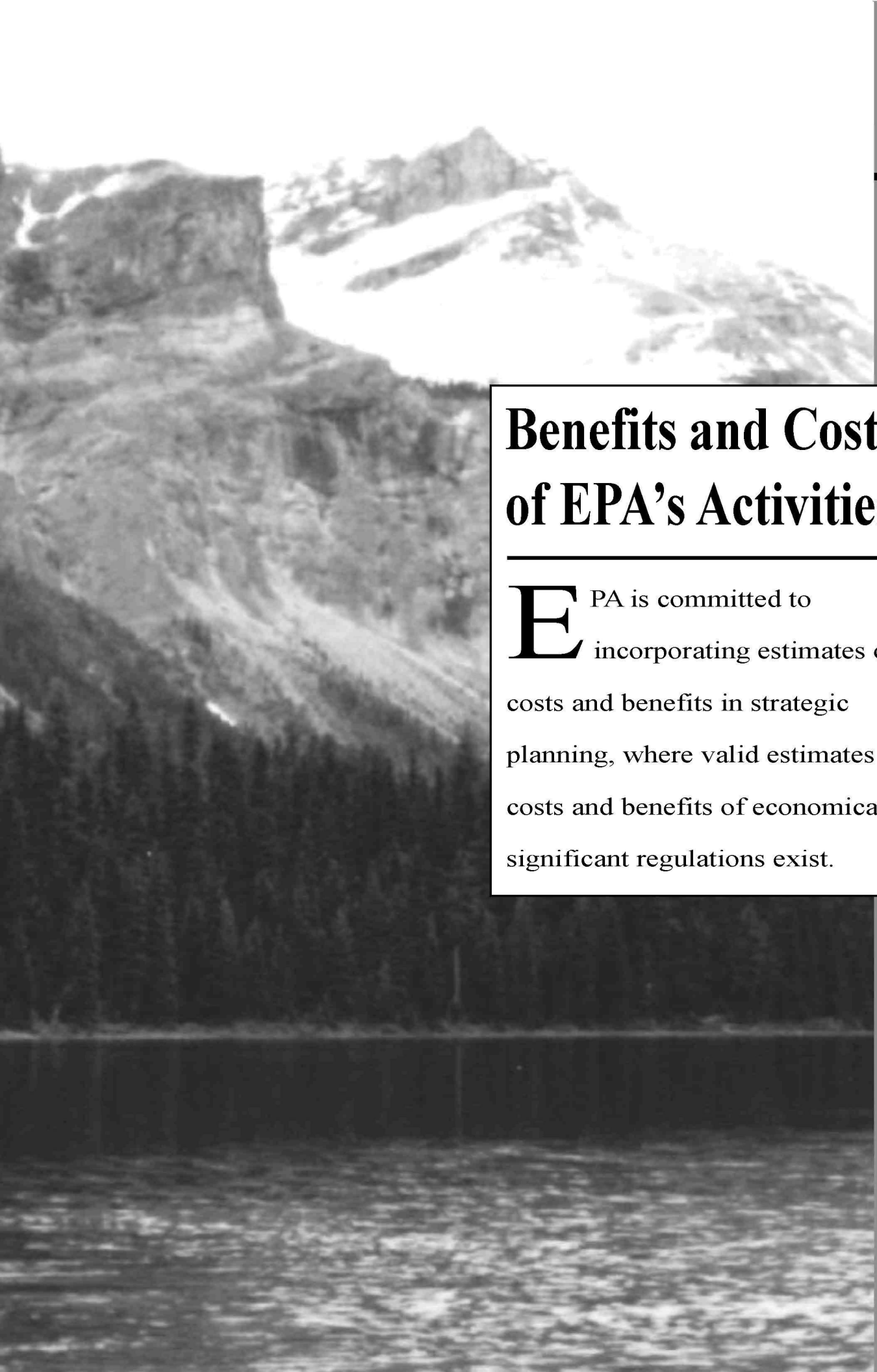
Public Buildings Act (40 U.S.C. 601 et seq.)

V.A., H.U.D., and Independent Agencies Appropriations Act

Objective 4

Inspector General Act of 1978, as amended (5 U.S.C. app.)





Benefits and Costs of EPA's Activities

EPA is committed to incorporating estimates of costs and benefits in strategic planning, where valid estimates of costs and benefits of economically significant regulations exist.

Benefits and Costs of EPA's Activities

A safer, healthier environment goes hand-in-hand with a robust economy. For environmental protection and sustained economic growth to occur together requires the use of common sense approaches that favor the most cost-effective ways to achieve our goals. EPA is committed to seeking the most cost-effective approaches by incorporating estimates of costs and benefits in strategic planning, where valid estimates of costs and benefits of economically significant regulations exist. This section: (1) describes how EPA generally considers benefit and cost information in its work; (2) provides some examples of retrospective and prospective analyses that EPA has done or is planning to do; and (3) discusses the significant costs and benefits associated with the Agency's goals that are presented in this Plan.

Consideration of Benefits and Costs

In setting its goals and developing specific policy instruments to achieve the goals, the Agency uses the best available science and economic analysis. All public policy decisions require consideration of several types of information and are made on the basis of multiple criteria. Economic efficiency, equity, institutional and legal feasibility, and risk tradeoffs represent some of the criteria that may be incorporated into policy discussions. Benefit-cost analysis is used to inform decision makers about the efficiency effects of alternative options. Benefit-cost analysis is an important tool used to organize information and clarify the potential effects of alternative decisions.

When designing and evaluating specific regulatory options for significant actions, the Agency generally devotes considerable attention to the study of economic costs and benefits of proposed actions. EPA primarily uses benefits and costs measures for two purposes: First, the Agency is involved in integrated, comprehensive assessments of entire environmental programs, such as the retrospective benefit-cost analysis required by Section 812 of the Clean Air Act Amendments of 1990. The report *The Benefits and Costs of the Clean Air Act, 1970-1990* is expected to be issued later this year. The Agency has also commenced the prospective benefit-cost analysis required under Section 812 of the Clean Air Act Amendments of 1990. Also, to assist in preparing for reauthorization of environmental legislation, EPA may prepare economic analyses to assess costs and benefits. A recent example can be found in the 1994 report *President Clinton's Clean Water Initiative: Analysis of Benefits and Costs.*

Second, the Agency continues to be committed to analyzing of costs and benefits of specific regulations as called for by Executive Order (E.O.) 12866. When EPA actions are expected to impose significant costs on the private sector (or on a particular industry), EPA conducts an analysis of the costs, benefits, and other anticipated economic impacts of the action. EPA is committed to assessing the costs and benefits of its significant programs and to adopting cost effective requirements to the extent permitted by law. EPA fully complies with the requirements of E.O. 12866 to develop economic information on the benefits and costs of each of its new economically significant regulations. EPA also prepares economic analyses for other reasons, such as those instances where authorizing statutes call for the preparation of economic information to support the regulatory development process. Within the past 18 months, EPA has prepared over 30 economic analyses to accompany its regulatory and policy development programs. This information will continue to be prepared in accordance with the procedural and timing requirements in the E.O. and under applicable statutes, and will be used to support the regulatory

development process. Economic information developed for this purpose will be available and used to support the GPRA process at EPA.

The Agency and public have frequently cited data on the aggregate costs of existing programs, represented in the 1990 EPA study entitled *Environmental Investments: The Cost of A Clean Environment.* Although that report did not directly estimate the costs to meet the specific goals established here, the overall cost estimates provided a general indication of the magnitude of pollution control expenditures in the United States in the late 1980s, and forecasted through the 1990s. At the time of its release in 1990, the report estimated that expenditure by industry, government and households in the late 1980s was on the order of $100-120 billion (in 1990 dollars). Total U.S. costs were projected to increase to a new total of approximately $170 billion to $200 billion by the year 2000 (reported in 1990 dollars).

An important factor not reflected in forecasted costs contained in the 1990 report is that since its release, new environmental legislation and other modifications to the regulatory agenda have been introduced that seek to achieve environmental protection goals more cost-effectively. These programs and policies are not captured in the 1990 report's forecasts, thereby adding additional uncertainty to these figures. As a result of changes in policies, and with the advent of several new benefit-cost analyses of Agency programs and regulations, the Agency is taking steps to update its base of information on the national costs and benefits of environmental protection programs.

In addition to technological advances, another phenomenon affecting long-run compliance costs is the ability of the regulated community to develop more cost-effective methods of meeting regulatory requirements. While in practice this effect is difficult to quantify separately from the effects of technological change, the combined effects on pollution abatement and control costs can be incorporated into regulatory compliance cost forecasts by applying an assumed rate of productivity growth arising from both sources. Exaggerated compliance cost estimates also can arise from a failure to understand the nature of economic costs (at the margin), as distinct from engineering or accounting costs. Perhaps the most common error of this type occurs in the treatment of overhead, which is often calculated at average rather than marginal cost. Attributing the average rate to new expenditures overstates the true incremental cost of regulatory compliance, since most support activities represent largely fixed costs. Other common errors of this type arise in the treatment of transfer payments like taxes, and in the case of factors purchased in markets that are less than competitive at prices higher than cost.

Despite committing substantial effort to this type of analysis, it is also fundamentally difficult to articulate the full array of economic benefits that result from preventing and controlling pollution. In concept, the benefits of less pollution can be defined as improvements in human health and the environment, including reductions in damages to plants, animals, materials, and other quality-of life attributes. For example, to evaluate the benefits of reaching an objective for decreased pollutant releases, one must document a complex sequence of analytic steps to arrive at an assessment of the impacts. Important prerequisites to estimating benefits include a clear scientific understanding of the linkage between an activity or condition and its effects on human health and the environment; scientifically based estimates of the incremental effects of these linkages, such as dose-response relationships, expressed in forms compatible with economic analysis; and assessments of the value of such effects. The assessments of risks from pollutants released to the environment, the measurement of the consequences to persons and natural life exposed to these pollutants, and the quantification of the values associated with these changes, are but some of the challenges facing EPA as we attempt to quantify the benefits of taking action. The analysis of benefits intends to cover the entire spectrum of benefits, from those that can be assigned a dollar value to those that can only be described qualitatively, and from those that are direct and immediate to those that are remote in distance or time. The bringing together of disparate types and forms of information is among the most useful features of performing cost-benefit analyses.

Consequently, the benefits and costs of the goals in this Plan cannot, in most cases, be measured with precision. Existing information on costs and benefits of individual EPA regulations does not provide complete coverage of all of the actions needed to achieve the goals and objectives described in the Plan. Many of the costs and benefits that may be associated with these goals either are very difficult to quantify or cannot be represented in monetary terms. It is difficult to quantify costs in any sort of reliable way when the specifics of implementation

technologies and the nature of implementing regulations are unclear. Even when action options have been decided, very large uncertainties in the estimates of both costs and benefits remain.

Recognizing these limitations, the Agency examines to the best of its ability the benefit and cost information as individual regulatory options are developed, to inform decisions about the creation of new initiatives or changes in existing programs in the pursuit of its stated goals and objectives. If the regulatory actions necessary to achieve an objective cannot be justified, EPA will need to reconsider that objective prior to establishing programs and regulations. Over time, the particular objectives and numeric targets will evolve as better information is developed, allowing a more complete assessment of the benefits and costs. The continuing process of information collection and analysis will serve as the basis for refinement of the goals and objectives.

Analyses by Goal

For each of the strategic goals where the Agency anticipates significant impacts, we provide examples of the types of EPA actions for which we expect significant impacts. For each example, EPA has characterized the costs and benefits as we know them today. In some cases, we discuss significant rules that have already been promulgated because their implementation is an important component in achieving EPA's strategic goals and they demonstrate EPA's commitment to performing benefit-cost analysis.

Clean Air

The Office of Air and Radiation (OAR) estimates both costs and benefits of regulations that are determined to be economically significant under Executive Order 12866. These analyses are prepared for the proposed rule and then updated to reflect the requirements of the final rule. Generally speaking, OAR evaluates three classes of benefits: qualitative, quantitative and monetizable. In this framework, OAR monetizes those benefits for which sufficient information is available relating the pollutant reductions resulting from an action to monetizable changes in quality of life, presents information on quantifiable changes in health or environmental values, and discusses qualitatively those benefits OAR can neither quantify nor monetize.

Monetizable benefits that OAR considers include human health benefits, such as: reduced mortality and morbidity from the inhalation of pollutants; reduced cancer incidence rates; and reduced respiratory irritation and disease. The benefits from these reduced health effects arise from fewer deaths, lower hospital admissions, improved worker productivity and attendance, and fewer episodes of coughing and airway restrictions. OAR also monetizes welfare benefits from improved crop yields; reduced damage to grass, flowers, trees, shrubs, fruits, and vegetables; reduced deposition of acidic elements into water bodies, and improved visibility. When there is insufficient information to place a monetary value on a portion of the benefits, OAR provides a discussion of the expected (quantified) reductions for these pollutants. Qualitative discussions are presented for pollutants for which OAR does not have enough scientific or economic data to quantify, as well as some unquantified health effects categories, or esthetic changes (e.g., odor, building soiling and damage).

OAR's estimates of compliance costs include capital investment for the purchase of pollution control equipment or to alter production processes, annual operation and maintenance costs, monitoring and inspection costs, and administrative costs (e.g., reporting and record keeping). OAR also measures any savings in the cost of production that may result from a regulation. Examples of cost savings include reduced energy usage, the recovery of usable product, and the reduced cost of raw materials used in the production process. These cost estimates are used together with other economic information to evaluate the economic impacts that result from the imposition of pollution control requirements on an industry or other economic entities such as communities. Examples of economic impact measures include changes in social welfare, price or rate increases, decreases in production, job losses, facility closures, firm failures, and specific effects on small business.

The list below identifies the regulations that OAR is developing, or will soon start to develop, that are likely to be considered economically significant -- that is, they result in annual costs to affected parties of $100 million or more or have other significant impacts. All of these regulations have the potential to be assessed in terms of the costs and benefits they create, with both aspects of the analyses available for public review at proposal and promulgation. The specific regulations that OAR has

projected for possible development during the period covered by this Strategic Plan include the following:

1. Review of National Ambient Air Quality Standards (NAAQS)

Under the requirements of the Clean Air Act to review each NAAQS every 5 years, the following NAAQS are targeted to be reviewed in the listed year to determine whether they adequately protect human health and the environment. This review involves collecting and analyzing the most current studies on the health and environmental effects of these pollutants. As a result of this review, a decision is made to revise or reaffirm the existing standard. If a revision to the NAAQS is proposed, it has the potential to be considered economically significant. However, until the review is conducted and a decision is made to revise or reaffirm, significance of the estimates of costs and benefits is not known. The standards that will be reviewed to determine if they should be revised are for the Carbon Monoxide (1999), SO2 and NO2 (2001), and Ozone and Particulate Matter (2002) Standards.

2. Iron and Steel Foundries Maximum Achievable Control Technologies Standard

Development of a technology-based standard to control air emissions from iron and steel foundries. These foundries make metal castings by pouring molten metal into a cavity. These castings are used in virtually every industry. Because of the number of facilities, this rule potentially could be economically significant. This rule is scheduled for promulgation by November 15, 2000. Since this rule is in the pre-regulation development phase (data gathering phase), costs and benefits cannot yet be calculated.

3. Miscellaneous Organic National Emission Standards for Hazardous Air Pollutants

Development of a technology based standard to control air emissions from Miscellaneous Organic Chemical Production Processes which consist of 21 source categories (e.g., Carbonyl Sulfide, Hydrazine, Photographic and Rubber Chemicals, Paints and Adhesives). Because of the number of source categories and facilities, this rule could potentially be economically significant. This rule is scheduled for promulgation by November 15, 2000. Since this rule is in the pre-regulation development phase (data gathering phase), costs and benefits cannot yet be calculated.

4. Large Spark-Ignition Non-Road Engines

OAR currently has no regulations affecting spark-ignition (SI) nonroad engines above 25 hp. OAR plans to assess the need for emission standards and the appropriate levels and implementation dates of these standards. This evaluation will begin in FY1998. Costs and benefits will be determined as part of any rulemaking undertaken to promulgate standards. At this time, OAR has no cost or benefit figures because no decision has been made regarding the need for or the stringency of standards for large nonroad SI engines.

5. Tier III Particulate Matter on Non-Road Diesel Engines

OAR plans to evaluate the need for, and, if warranted, promulgate more stringent particulate matter (PM) standards for nonroad diesel engines. Information gathering for the evaluation will take place beginning next year and a final rule is expected in 2001. New standards will likely be made effective concurrent with the planned Tier 3 emission standards for other pollutants in 2006-2008. Costs and benefits will be determined as part of the rulemaking process in 2001. At this time, OAR has no cost or benefit figures because no decision has been made regarding the need for or the stringency of Tier 3 PM standards.

In pursuing its environmental goals, OAR is committed to using flexible implementation approaches that will achieve needed pollution reductions at the lowest possible cost. Such approaches include use of emissions trading and other market-based methods, incentives for new pollution-control technology, and federal/state partnerships that both help the states find cost-effective solutions and give them the flexibility to

design their own programs. These flexible approaches will build on recent OAR market-based successes such as the ground-breaking Acid Rain and Stratospheric Ozone programs, as well as fruitful partnerships such as the Ozone Transport Assessment Group (OTAG) and the Grand Canyon Visibility Transport Commission. Perhaps the most far-reaching use of such flexible approaches is planned for EPA's new air quality standards for ozone and particulate matter, which will be implemented with extensive use of both emissions trading and federal/state partnerships to address the long-standing problem of interstate pollution transport.

Clean Water

The Office of Water (OW) estimates both costs and benefits of regulations determined to be economically significant regulations under E.O. 12866. These analyses are prepared for the proposed rule and then updated to reflect the requirements of the final rule. Generally speaking, OW evaluates three classes of benefits - qualitative, quantitative and monetizable. In this framework, OW: monetizes those benefits for which sufficient information is available relating the pollutant reductions resulting from an action to monetizable changes in quality of life; presents information on quantifiable changes in health or ecological values; and discusses qualitatively those benefits OW can neither quantify nor monetize (e.g., the aesthetics of clean water).

Monetizable benefits that OW considers include human health benefits of fish and water consumption; recreational benefits associated with boating, fishing, and swimming; and values for people not directly using the water (non-use or existence values). Quantifiable benefits include measurable changes in plant and animal populations and species abundance. Qualitative benefits include discussions of expected reductions in some health effects, esthetic changes (odor, color) and changes in biotic communities.

OW's estimates of compliance costs include both capital investment and operation and maintenance costs. OW also typically estimates the economic impacts that result from the imposition of compliance costs on an industry or set of entities, which may include facility closures, firm failures, job losses and price or rate increases. Specific examples of the benefit and cost analyses that will be developed during the next few years are presented below.

1. Disinfection By-Products, Stage I

This proposed rule addresses a subset of drinking water by-products that are believed to cause long term human health problems. When the rule was proposed on July 29, 1994, OW estimated the compliance costs to be $1.04 billion. OW's estimate of the benefits extends from a low range of $359,000-$867,000 to a high range of $3.59 billion-$8.67 billion. OW expects to finalize this rule in November 1998.

2. Interim Enhanced Surface Water Treatment Rule

This proposed rule addresses microbial risks to drinking water system. This rule was proposed on July 29, 1994. At proposal, the rule's estimated costs were $393 million. The estimated benefits range from $1.2 billion to $1.5 billion. OW expects to finalize this rule in November 1998.

3. Great Lakes Water Quality Guidance

This rule establishes numeric criteria for human health, aquatic life and wildlife in the Great Lakes basin. The final rule was issued on March 23, 1995. The guidance's estimated costs range between $60 million and $380 million. OW did not estimate total benefits for this rule. However, OW conducted three case studies to compare costs and benefits. For the Fox River and Saginaw River case studies, benefits exceeded costs. For the Black River case study, costs were greater than benefits.

4. Metal Products and Machinery (MP&M) Effluent Guidelines, Phase I

Proposed on March 29, 1995, this rule addresses the discharge of toxic pollutants to our Nation's surface waters and to publicly owned treatment works. The estimated costs are $160 million. The estimated benefits for the MP&M rule range between $69.6

million and $206.5 million. OW is planning to combine Phase I and Phase II of this industry into one rule, propose requirements for the combined industry in October 2000 and issue the final rule in December 2002.

Safe Food

EPA's Office of Pesticide Programs (OPP) develops few regulations that create economically significant effects. The vast majority of OPP's regulatory actions deal with registration of new pesticides and reregistration and modified registrations of existing pesticides. Occasionally, OPP will pursue suspensions or cancellation of currently marketed pesticides.

The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) is a risk/benefit balancing statute so costs of compliance, risk reduction characterizations, and impacts to users are considered for significant registration decisions and rules. EPA evaluates the risks and benefits in a public interest finding for conditional registration of new active ingredients which would permit earlier use of the products. Grower benefits also are considered for emergency exemptions. OPP has recently pursued activities to reduce costs for registrants of pesticides. Registration process improvements have accelerated the consideration of current field data, such as percent of crop treated, application rates and methods, and pesticide monitoring residue levels, before requesting expensive studies.

Preventing Pollution and Reducing Risk

The use of pollution prevention strategies to achieve the goal of preventing pollution in communities, homes, workplaces and ecosystems enables the efficient reduction of pollution by allowing flexibility in choice of approach. Moving away from command and control regulatory approaches, pollution prevention strategies afford companies the advantage of meeting pollution reduction goals in ways that are most cost-effective and appropriate to their individual situation, allowing them to remain competitive in their industry. Capital investment in pollution prevention technologies is potentially less costly than mandated control technologies because industry can choose the technology that best meets its needs both in terms of pollution reduction and cost; unnecessary regulations that are costly to industry and society are avoided. State of the art technologies, such as "greener" chemicals, expand choices available to users of these chemicals allowing them to free up resources to maintain a competitive edge both domestically and internationally. Companies achieving their goals are likely to receive positive public and industry recognition that can translate into increased business.

By meeting pollution goals via pollution prevention, risk management and remediation strategies, research and innovation in more efficient and cost-saving technologies and strategies are encouraged. New industry and economic growth may be stimulated. International competitiveness can be enhanced as companies redirect resources away from inefficient uses.

By decreasing pollution in communities, homes, workplaces, and ecosystems, society will benefit from reduced exposures to toxic chemicals and thus, enhanced human and environmental well-being. This translates into decreased health care costs, such as for treatment of childhood lead poisoning and asthma-related illnesses. Addressing these health concerns may also contribute to increases in worker productivity and reductions in worker absenteeism that result from individual and family illness.

Safe handling and use of pesticides as well as the use of genetically engineered organisms can protect the

environment, for instance, avoiding contamination of water and soil and loss of wildlife and recreational value of the natural environment. Decreases in the amount and toxicity of waste can offer similar benefits, as well as free up resources spent in waste clean-up for use elsewhere. Addressing the most toxic and/or persistent and bioaccumulative chemicals of hazardous waste helps to target only pollutants with the greatest contribution toward risk, thus efficiently protecting human health and the environment while freeing up resources (public and private) to address other environmental problems.

The Groundwater State Management Plan (SMP) Rule is an example of innovative environmental regulation. This Rule is designed to protect groundwater from contamination of pesticides at levels that pose unreasonable risk to human health and the environment. This Rule will delegate primary decision-making authority for specific groundwater protection actions to the affected states and EPA Regions. As such, the Rule *per se* does not authorize any specific regulatory decisions and, therefore, will not directly impose these costs. While this Rule has considerable flexibility to allow states and Regions to address local problems, EPA will provide the basic cost/benefit parameters for states to apply to case specific regulatory strategies.

The Agency's Regulatory Impact Assessment for the proposed SMP rule estimated potential economic impacts to agricultural users and consumers at approximately $250 million per year if states and Regions elect to impose widespread pesticide use restrictions. The states and Regions can determine an appropriate action based on the available information about the costs and benefits associated with alternative actions. We anticipate that the expected benefits associated with any action taken will outweigh the costs, and that this net benefit will also compare favorably to those corresponding to alternative actions. Because decisions are made on a case-by-case basis, the Agency is unable to estimate what the costs and benefits of these future decisions will be since it does not know the scope and magnitude of present and future groundwater contamination.

Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response

The Office of Emergency and Remedial Response (OERR) is conducting analyses of environmental, health and economic benefits arising from remediation of hazardous waste sites under CERCLA (Superfund). Many of the studies will be based on extensive data being collected for the more than 430 National Priority List (NPL) sites where construction has been completed. Individual analyses will focus on the benefits of avoiding chronic and acute human health problems; increases in property values; redevelopment benefits (e.g., jobs, income, taxes); and benefits to industry, small businesses; and communities. Some of these analyses are already underway. For the remainder of FY 1997, EPA will continue to support interagency efforts to develop a new, standard cost-reporting format, called the Work Breakdown Structure (WBS). Cost data recording using the WBS format will be entered into the Historical Cost Analysis System (HCAS) database. Both the WBS and HCAS will help EPA assess Superfund cleanup costs and improve future Superfund cleanup cost estimates. EPA will set up a structure for this project and will evaluate current data sources. Data collection is scheduled to commence in FY 1998. Data analysis is scheduled to commence in the middle of FY 1998.

The Office of Solid Waste is conducting a comprehensive assessment of the environmental, health, and human welfare benefits deriving from implementation of regulatory and non-regulatory programs under Subtitles C and D of the Resource Conservation and Recovery Act (RCRA). The project will include review of benefits assessments previously conducted for RCRA and other environmental programs, identification and review of methodologies for assessing benefits, evaluation of advantages and disadvantages of these methodologies, and implementation of the selected benefits assessment methodology. The RCRA benefits project will be conducted in phases, including planning, data collection, data analysis, and publication of results. The planning phase will result in a bibliographic list of relevant studies and analyses, a literature review, alternative methodologies for conducting the project, and a data collection plan. The

planning phase will be completed by the end of September 1997. Specific outputs and schedules for the other phases have not been finalized.

An example of a specific rule that the Agency plans to promulgate to achieve its waste management goal is the Corrective Action Rule for Solid Waste Management Units. The rule would provide a broad procedural and protectiveness framework for remediation at RCRA treatment, storage, and disposal facilities. As the majority of States are authorized for corrective action, the program is predominantly implemented at the State level; this rule would provide a Federal baseline with which State programs must comply. The corrective action rule was proposed in 1990, and is scheduled for promulgation in late 1998.

The total costs for as many as 5,800 facilities requiring corrective action are estimated at $16.7 billion or less than $300,000 per facility. The Agency evaluated the costs for three additional regulatory options (two options which are less stringent than the proposed rule requirements, and one which is more stringent). These options were designed to cover a range of alternatives with estimated total costs ranging from $9.1 billion to $57.3 billion. The Agency also examined six types of benefits of the proposed corrective action rule, including human health risk reduction, averted water use costs, nonuse benefits, effects of facilities on residential property values, and increases in facility values. In addition, the Agency examined ecological threats existing under baseline conditions. While a host of issues surround these benefit measures and how they compare with the compliance costs, the Agency believes that benefits outweigh the costs, and thus intends to move forward with a final rule. Prior to issuing a final rule, the Agency plans to perform further analysis of the social impacts.

The Chemical Emergency Preparedness and Prevention Office (CEPPO) has prepared a comprehensive cost-benefit analysis of the Accidental Release Prevention Requirements rule for Risk Management Programs (RMPs) under Section 112(r) of the Clean Air Act Amendments of 1990. The analysis compares the costs of alternative regulatory approaches with the benefits of preventing accidental releases of hazardous substances. CEPPO was able to reduce the initial cost burden imposed by the proposed rule by 67 percent through streamlining, building on existing regulatory requirements, and scaling new requirements to the level of complexity and hazards. The benefits include a reduction in damages or costs associated with accidental releases of hazardous substances, including threats to human health (death or injury), responses to these threats (evacuations, sheltering in place), threats to the environment, and economic damages (lost production, property damages, and litigation). The analysis revealed that the benefits of RMPs administered by CEPPO outweigh the costs imposed by the rule.

Reduction of Global and Cross-Border Environmental Risk

Many of the objectives spelled out under Goal #6 (specifically, preservation of health and the environment in the Arctic, toxic risk reduction, marine pollution, cleaner and more cost-effective environmental practices and technologies, and some components of the U.S./Canada program) fall below the $100 million economically significant cost threshold. Listed below are several international programs with significant effects that will be pursued by EPA during the next several years.

1. U.S./Mexico Border

Given the non-regulatory nature of EPA's work along the U.S./Mexico border, the Agency has not conducted any supporting benefit-cost analysis. However, during the NAFTA negotiations in 1993, various governmental and non-governmental organizations estimated the total costs for environmental infrastructure needs (including drinking water systems, wastewater collection and treatment, and solid waste disposal) at $6 to $8 billion over the ten-year period (1993-2003). These investments will help address the critical need to provide safe drinking water, acceptable treatment and disposal of sewage, and adequate solid waste practices in the Border region.

2. U.S./Canada

The total cost of EPA's Acid Deposition Control Program under Title IV of the Clean Air Act is estimated at $2.4 billion per year beginning with full

implementation in the year 2010. An EPA study issued in November 1995, *Human Health Benefits From Sulfate Reductions Under Title IV of the 1990 Clean Air Act Amendments,* estimates the total annual value of the health benefits in the United States (in 1994 dollars) resulting from Title IV's sulfate reductions. The study estimates the value to be between $3 billion and $11 billion in 1997, and between $12 billion and $40 billion by 2010.

3. Stratospheric Ozone Depletion

The phaseout of ozone-depleting substances under the Montreal Protocol (and associated regulations implemented by EPA under the Clean Air Act Amendments of 1990) was designed to occur over many years, beginning in 1989 and resulting in the elimination of production and import of many ozone-depleting substances by January 1, 1996. The long-term economic benefits to the United States of preventing deaths from skin cancer and avoiding other health and environmental damage by phasing out the production and import of ozone-depleting substances are estimated to be dramatically significant over the time period 1989 to 2075 compared with costs of the program.

Expansion of Americans' Right to Know About Their Environment

EPA has placed increased emphasis on enhancing Americans' right to know about information concerning our food, drinking water, air, homes and communities. Improving the access to and quality of environmental information allows the public, government agencies, and industry, to make more efficient decisions. EPA is committed to developing and making easily available environmental and public health information throughout its programs. With exception of the Toxic Release Inventory (TRI), the Agency expects few right-to-know initiatives to impose significant costs on the public.

The Toxic Release Inventory (TRI), created by Congress under the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986, is the cornerstone of EPA's right to-know efforts. TRI requires manufacturers to report air, water, and land releases of more than 600 designated toxic chemicals to EPA each year. Manufacturing facilities are also required to report on shipments of waste off-site for treatment or disposal, as well as on their pollution prevention activities, on-site waste treatment, and chemical recycling. With TRI data, concerned citizens, local communities, and government can work with local industrial facilities to better understand toxic chemical release, to reduce those releases, and to improve chemical storage and handling practices.

TRI data has helped companies interested in reducing their releases to adopt pollution prevention strategies, including redesigning production processes to improve efficiencies and create less waste. Among the industrial sectors that have achieved the greatest reductions in TRI chemical releases between 1988 and 1993 are the chemical industry, with reductions of more than one billion pounds, or 44 percent; the electrical utility industry which reported reductions of 86 million pounds, or 69 percent; and the primary metals manufacturing industry, whose total releases fell by 237 million pounds, or 42 percent between 1988 and 1993. In 1997, the Agency greatly enhances the level of TRI information available to society by expanded TRI reporting to additional industries. The result will be an additional 42,500 reports from 6,600 facilities every year.

More than 90,000 TRI reports are submitted each year by more than 25,000 facilities. TRI compliance costs industry $352 million each year for completing and submitting reports for the more than 600 chemicals on the TRI. EPA recently implemented changes to the program which resulted in annual savings of approximately $38 million (including savings to EPA of $2.2 million in administration costs). EPA spends $13.6 million each year to administer the TRI. The recent expansion to additional industrial sectors is estimated to cost $226 million in the first year, dropping to $143 million per year thereafter.

Because TRI -- with its emphasis on the power of information instead of command and control regulation -- has proven to be a successful tool, EPA is applying the right-to-know concept in other areas. In 1997 EPA launched the Center for Environmental Information and Statistics (CEIS) to provide the public with easy access to understandable information on drinking water quality, air quality, beach contamination and other environmental

conditions. A key component of CEIS is to integrate the Agency's existing environmental data, increasing their efficiency and utility to the public, as well as to the Agency and other governmental entities.

Another component of EPA's right-to-know strategy is the Environmental Monitoring for Public Access and Community Tracking (EMPACT) initiative. Collaborating with other federal agencies, EMPACT will improve data collection and integration and foster the development of more effective environmental monitoring technologies. EMPACT is a community-based right-to-know effort that will target real-time, automated environmental information delivery to at least the 75 largest metropolitan areas in the country.

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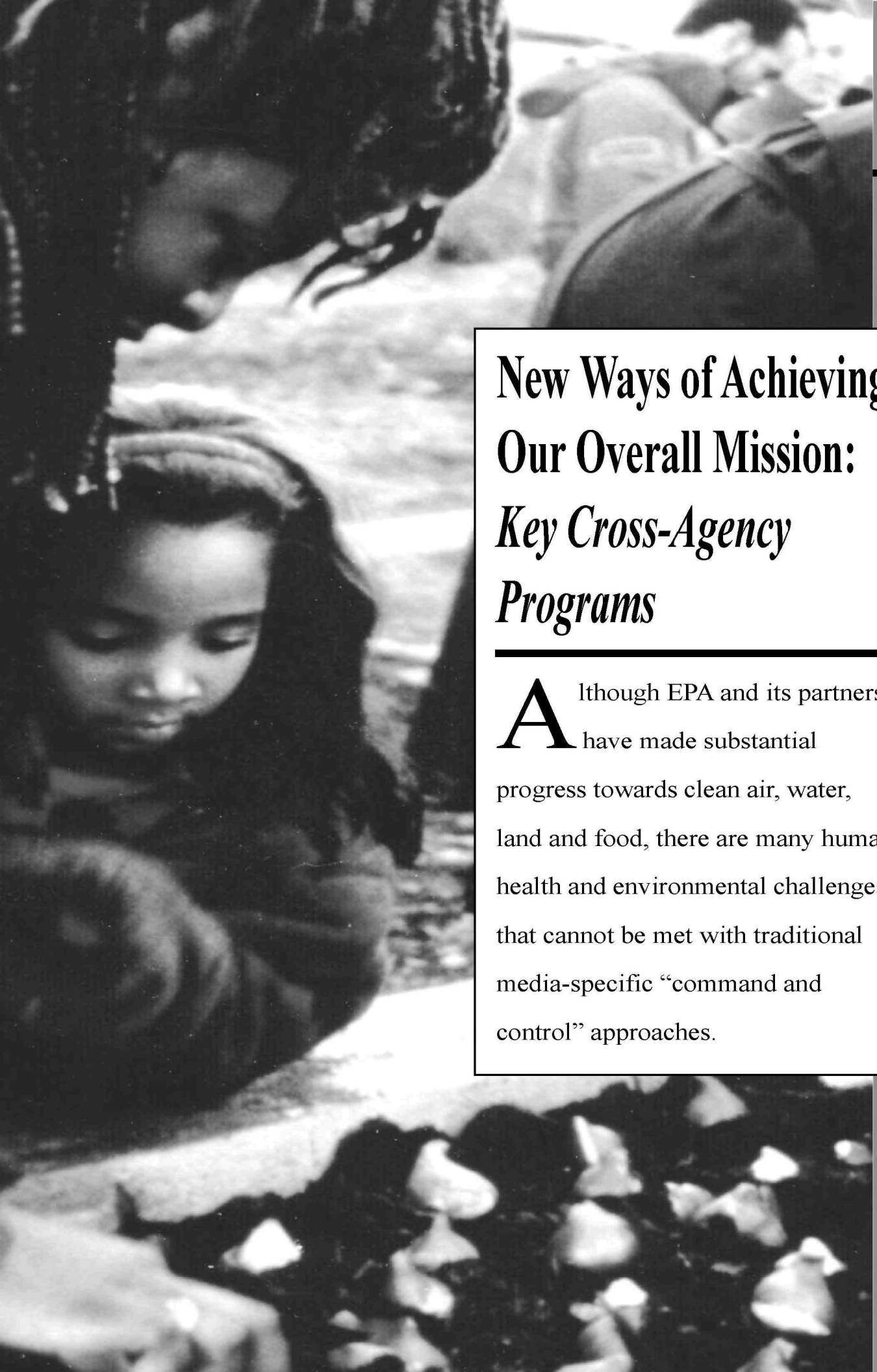


New Ways of Achieving Our Overall Mission: *Key Cross-Agency Programs*

Although EPA and its partners have made substantial progress towards clean air, water, land and food, there are many human health and environmental challenges that cannot be met with traditional media-specific "command and control" approaches.

New Ways of Achieving Our Overall Mission: Key Cross-Agency Programs

Although EPA and its partners have made substantial progress towards clean air, water, land and food, there are many human health and environmental challenges that cannot be met with traditional media-specific "command and control" approaches. For example, it has been demonstrated that children, American Indians, and minority and low income individuals suffer disproportionately from adverse health effects caused by some environmental conditions. Likewise, not all areas of the country have the same environmental problems or need the same kind of solutions. To address these specific needs as we move forward over the next five years, the Agency has created a number of innovative multimedia programs that rely on the active participation of the affected communities to reduce specific human health and environmental risks in the most effective manner. Similarly, improved customer service has been targeted as an important program that integrates all of our efforts under each of the 10 goals to satisfy our customers and stakeholders.

Specific human health, environmental and customer service commitments for these programs are identified within the objectives or activities under each of the 10 Agency Goals. However, because these cross-Agency programs are critical to achieving our mission, we have chosen to highlight and describe them in this chapter.

The key cross-agency programs covered in this section are:

- Health Risks to Children
- National Environmental Performance Partnership System
- Community-Based Environmental Protection
- Indian Programs
- Customer Service
- Environmental Justice

HEALTH RISKS TO CHILDREN

The Children's Health Protection Program and Its Goal

Administrator Browner announced EPA's National Agenda to Protect Children's Health from Environmental Threats in September 1996, and established a new Office of Children's Health Protection (OCHP). The purpose of EPA's new office is to make the protection of children's health a fundamental goal of public health and environmental protection in the U.S.

Why Protecting Children's Health is Important

Children today face significant and unique health threats from a range of environmental hazards. They are often more heavily exposed and more vulnerable than adults to toxins in the environment. This includes risks from asthma-exacerbating air pollution, lead-based paint

in older homes, treatment-resistant microbes in drinking water, and persistent chemicals that may cause cancer or induce reproductive or developmental changes. Children's developing immune and nervous systems can be highly vulnerable to disruption by toxins in the environment, and the consequences may be lifelong.

What Will Be Accomplished

The Agency will work with our partners, especially those in the Department of Health and Human Services, to ensure that children receive the protection they need and deserve, and to help our nation fulfill its obligation to protect future generations. EPA will:

- Ensure that EPA health standards are protective of children, beginning with a review of five of the most significant current EPA standards, and subsequently establishing procedures for review of new standards as they are developed.
- Coordinate children's health issues across the Agency by establishing a new EPA Board on Children's Environmental Health that will assure integration of EPA activities affecting children, and by working with the Agency's Science Policy Council, Regulatory Policy Council, and program and regional offices to coordinate regulatory and other actions that affect children's health.
- Conduct research needed to establish new policies on children's susceptibility and exposure to pollutants to ensure that EPA uses the best information in developing protective measures for children. EPA researchers will work with other federal agencies and academic institutions to identify and expand research on children's health. EPA will develop new, comprehensive policies that address children's cumulative and simultaneous exposures to environmental health threats, and will develop a research agenda on children's environmental health issues.
- Expand EPA's "Community Right-to-Know" and environmental education activities to better cover children's health issues. EPA will carry out a "Family Right-to-Know Initiative" to expand access to vital information about environmental pollution and children's health, so that families can make informed choices concerning their children's exposure to environmental risks.
- Implement the President's 1997 Executive Order to Protect Children from Environmental Health and Safety Threats. EPA will ensure that new policies, programs, activities, or standards address the unique risks to children presented by environmental health or safety threats.
- Ensure the implementation of the 1997 Declaration on Children's Environmental Health. This Declaration, agreed to by the environment ministers from the G-7 countries and Russia, makes the protection of children's environmental health a high environmental priority within each participating nation.

How It Will Be Accomplished

EPA will promote children's health protection in the following ways:

- Conduct a review of existing standards as candidates for revision in order to identify at least five standards to better address children's health issues.
- Improve the regulatory system by making consideration of children's health protection an intrinsic part of the process of developing regulations.
- Provide input on research budgets, ensure independent peer review of cross-Agency science agendas, and improve linkages between basic research and public health and environmental policies that affect children.
- Serve as an advocate for children's risk issues.
- Identify and expand scientific research on child-specific susceptibility and exposure to environmental pollutants so that the best information can be employed in developing protections for children.
- Provide parents, teachers, and environmental and health professionals with information so they can take individual responsibility for protecting their children from environmental health threats in their homes, schools, and communities.

- Encourage and assist program and regional offices in forging links with external partners and communities on children's environmental health policy issues.

NATIONAL ENVIRONMENTAL PERFORMANCE PARTNERSHIP SYSTEM (NEPPS)

NEPPS and Its Goal

Most of the nation's environmental laws envision a strong role for state governments in implementing and managing environmental programs. As state environmental authority and management capacity have grown over the past two decades, EPA has delegated primary responsibility to states for implementation of many day-to-day environmental program activities such as issuing permits, conducting compliance and enforcement programs, and monitoring environmental conditions. Direct administration of environmental programs by states, with EPA oversight to ensure compliance with federal statutes and achievement of national objectives, has brought about significant environmental improvement throughout the country. In short, state performance is fundamental to the achievement of EPA's goals and objectives.

Why NEPPS is Important

During the past two decades, environmental and human health protection programs have grown in size, scope, and complexity. Many environmental problems transcend media boundaries, and solutions may require innovative, cross-media approaches. However, traditional media-specific grants for air, water, hazardous waste, and other pollution control activities provide limited flexibility for states to try integrated approaches. Meanwhile, some EPA oversight practices resulted in duplication of effort, burdensome reporting, and unproductive relationships. EPA and states came to recognize that existing arrangements for implementing environmental programs were not as efficient and effective as they could be.

It is within this context that EPA and state officials began a collective effort to reinvent the EPA-state working relationship. After two years of collaboration, EPA and state leaders reached an important milestone in May 1995, when they agreed to establish the National Environmental

Performance Partnership System (NEPPS). Many of the concepts embodied in performance partnerships that had been discussed for years--such as giving states a stronger role in priority setting, focusing scarce resources on the highest priorities, and tailoring the amount and type of EPA oversight to an individual state's performance--were pulled together into a workable, understandable framework. Implementation of performance partnerships began in FY 1997 after an initial pilot year.

The President's "performance partnership" reinvention initiative, announced in February 1995, provides for increased flexibility in how a program is run in exchange for increased accountability for results. In accord with this initiative, EPA has a new performance partnership grant authority that is a critical tool for implementation of the new approach to EPA-state relations. Under this authority, states can now combine funds from multiple EPA grants to address their highest environmental priorities across all media; link program activities more effectively with environmental goals and program outcomes; and carry out innovative pollution prevention, cross media, ecosystem, and community-based strategies.

What Will Be Accomplished

The objectives of the National Environmental Performance Partnership System (NEPPS) are to:

- Target activities where they are likely to achieve the greatest environmental and human health benefits, based on an assessment of environmental conditions and needs.
- Change the way we evaluate environmental and human health programs by increasing the use of actual measures of environmental and health conditions, achieving a better balance with traditional program activity measures.
- Expand the number and type of protection strategies available to include more integrated and flexible approaches such as pollution prevention, ecosystem management, and cross media permitting and compliance assurance.
- Promote greater collaboration in solving environmental problems whereby states and EPA work together more effectively, taking advantage of the relative strengths of each partner.
- Tailor the amount and type of EPA oversight to the strengths and needs of individual states, with less EPA engagement in more experienced states and more involvement in states with developing programs.
- Understand the results of protection efforts, inform the public about environmental and human health conditions and the strategies for resolving remaining problems, and foster public involvement.

How This Will Be Accomplished

EPA will, in collaboration with the States:

- Develop policies, guidance documents, and training materials as needed to enhance EPA and state capacity to implement elements of the performance partnership system.
- Negotiate performance partnership agreements with states that define the roles and responsibilities of both EPA and states.
- Award performance partnership grants to interested states, providing for flexibility in how environmental programs are carried out with increased accountability for results.
- Continue to refine and use improved measures of environmental and program performance and strive to reduce the state reporting burden.
- Foster EPA and state efforts to make environmental and human health information more available and understandable to the public.
- Evaluate and report nationally on progress in meeting the goals and objectives of performance partnerships.

COMMUNITY-BASED ENVIRONMENTAL PROTECTION

Summary of the Community-Based Environmental Protection Program and Its Goal

Community-based environmental protection (CBEP) is a main tenet of the Agency's strategy for "reinventing" its approach to environmental protection by considering environmental problems across organizational and legislative boundaries. CBEP is a multimedia approach (sometimes called a "place-based" or ecosystem approach) that helps communities identify environmental problems,

set priorities, and forge solutions through an open, inclusive process. It integrates environmental protection with human needs, considers long-term ecosystem health, and fosters linkages between economic prosperity and environmental well-being. It encourages communities to create their vision of environmental health and quality of life and to stimulate human activity compatible with that vision.

CBEP has been implemented in varying ways in different places, but it usually includes the following: identifying the geographic area that is the focus of environmental protection efforts (commonly using natural boundaries or ecological features); involving diverse stakeholders in developing a vision, goals, priorities, and strategies; assessing the local ecological, human health, economic, and socio-cultural aspects of the community that relate to the environment; developing a plan to improve these conditions in a sustainable manner; and taking actions to address the place based problems and goals. These actions include a wide array of voluntary, technical, educational, and regulatory activities. CBEP also incorporates monitoring conditions, evaluating results, and redirecting efforts through adaptive management.

The overall goal of CBEP is to protect, restore, and sustain the quality of the nation's land, air, water, and living resources--in each place as a whole--in ways that help ensure long-term social, economic, ecological, and human health benefits for ourselves and future generations.

Why CBEP is Important

In the quarter-century since EPA was established, the U.S. has achieved remarkable improvements in environmental quality as a result of federal, state, tribal, and local actions to reduce the level of pollutants in the nation's air, water, and on land. However, these pollutants continue to threaten public health and the environment, and the causes of environmental pollution and ecological degradation today are different from earlier decades--as is the social, political, and economic context in which they occur. These changes require new and innovative solutions to environmental problems.

Today, environmental protection focuses on nonpoint source water pollution, region-wide air pollution, restoration and redevelopment of hazardous waste sites, urban sprawl, habitat loss, biological diversity, global climate change, and the exchange of pollutants among air, land, and water. Traditional, media-specific "command-and-control" approaches alone will not solve these intractable problems. Government agencies and the public increasingly recognize that all resources in a particular place--air, water, land, and living resources--are interconnected parts of a single system that need to be addressed as a whole at the local level. Not all areas of the country have the same problems or need the same kind of solutions. Effective solutions to environmental problems require the involvement of members of the community to develop the goals and monitor progress toward improving the quality of their lives and environment. Past experiences that demonstrate the success of place- or community-based environmental protection include Congressionally mandated programs (National Estuary Program, Great Lakes, Clean Lakes, Chesapeake Bay) and EPA initiatives and approaches (Regional Geographic Initiative, watershed approach).

What Will Be Accomplished

Through CBEP, communities will be empowered to address their environmental, economic, and social needs using effective partnerships, improved communication, and greater access to high quality data, information, and tools. EPA objectives for CBEP include:

- Identifying and reducing environmental stressors that affect human health and quality of life.
- Preventing fragmentation and degradation of habitat and restoring its quality.
- Sustaining biodiversity and healthy ecosystem processes at a regional scale.
- Maintaining vibrant, livable, and economically diverse human communities.
- Incorporating community and stakeholder goals and values in the design and implementation of environmental protection initiatives (especially in disproportionately impacted and disadvantaged communities).
- Increasing the number of communities achieving

tangible environmental outcomes through the CBEP approach.

- Incorporating CBEP goals, objectives, principles, strategies, and performance measures into all EPA, state, and tribal policies and program activities.

How It Will Be Accomplished

EPA will promote its CBEP approach through three principal strategies:

(1) Reorienting and Building the Capacity of EPA Programs for CBEP. EPA will implement policy and rule revisions, establish education and training programs, identify and leverage resources, and use other appropriate measures to integrate the principles of CBEP into all Agency programs.

(2) Building External Capacity. EPA will improve community and public access to environmental, economic, and societal data, information, tools, and training for CBEP. In addition, EPA grants will serve as a catalyst for state, tribal, and local CBEP efforts.

(3) Working in Priority Places. EPA will be involved directly with stakeholders through the community-based approach in high-priority locations.

In taking a CBEP approach, EPA will improve the effectiveness of our environmental programs and regulations. Community-based environmental protection will be implemented through the following actions:

- Integrating geographically the delivery of our services and programs, such as issuing permits and integrating program-specific data.
- Looking beyond our current statutory authorities and programs to address problems that cannot be solved by our traditional regulatory approach.
- Creating the flexibility to respond to the needs of diverse ecosystems and human communities and help communities reach informed decisions.
- Assessing and managing aggregate data on the quality of air, water, land, and living resources in a locality.
- Ensuring that our programs and activities promote sustainable human, economic, and ecological communities.
- Increasing our efficiency and effectiveness by building partnerships with other federal, state, tribal, and local government agencies; leveraging resources; and developing better ways of informing, assisting and involving the public we serve.

INDIAN PROGRAM

The EPA Indian Program and its Goal

The EPA Indian Program involves significant cross-Agency and multimedia activities designed to ensure that EPA's Trust responsibility to federally-recognized tribes is carried out by assuring the protection of human health, and the tribal homeland environment, in a manner consistent with a government-to-government relationship and conservation of cultural uses of natural resources.

Importance Of The Indian Program

The responsibilities of the Indian program include protecting the health of the millions of Indians and non-Indians residing within Indian Country borders, addressing the environmental needs of 562 tribal nations, and safeguarding the natural environment--air, water, and land--of Indian Country. The responsibility held by EPA is critical. American Indians have the worst health statistics

in the country and, overall, environmental conditions of tribal homelands are substandard. Environmental mitigation in tribal communities is significantly behind that of non-tribal communities. It is imperative that EPA enhance its partnership with the tribes and work with tribes to identify and achieve environmental goals.

What Will Be Accomplished

Key objectives within this process are:

- Achieve adequate environmental infrastructure within tribal homelands throughout the country.
- Complete the Tribal/EPA Environmental Agreements. These agreements contain the tribal environment baseline assessment, tribal environmental priorities identified by the tribal government, and EPA's and tribes' commitments to achieve these priorities.
- Implement fully the 1984 EPA Indian Policy Statement.
- Increase significantly the number of tribes implementing environmental programs.
- Implement environmental programs (federal or tribal) within tribal homelands that meet needs established by tribal environmental baseline assessments.
- Build capacity and adequate internal mechanisms to help tribes implement environmental programs and, in the absence of tribal implementation, establish means for EPA implementation.
- Establish a mechanism, in partnership with tribal and state governments, to resolve transboundary issues.

How It Will Be Accomplished

These objectives can be met through a combination of:

- Increased tribal capacity-building efforts.
- Greater implementation of environmental programs within tribal homelands.
- Expanded education for EPA employees regarding tribal environmental issues.
- Increased technical assistance and training for tribal environmental program managers.
- Continued cross-Agency, multimedia coordination of Indian program activities by the American Indian Environmental Office.
- Improved coordination with tribes to achieve environmental goals and priorities identified by tribal governments in the Tribal/EPA Environmental Agreements.

ENVIRONMENTAL JUSTICE

Environmental Justice and Its Goal

Although EPA has made significant progress in achieving healthier, sustainable environments, we recognize that environmental programs during the past two decades may not always have benefitted all communities or all populations within a community equally. Many minority, low income, and Native American communities have raised concerns that they suffer a disproportionate burden of health consequences due to the siting of multiple pollution sources in their communities. Environmental programs do not adequately address these disproportionate exposures to pesticides, lead or other toxic chemicals at home and on the job. In addition, these communities seem to lack adequate knowledge and representation in public policy and environmental decision-making processes. The goals of the environmental justice program are to ensure that all people, regardless of race or income, are protected from disproportionate impacts of environmental hazards and that the most affected communities have adequate opportunities to participate in environmental processes.

The Importance of Environmental Justice

In 1994, President Clinton issued Executive Order 12898, which required "each Federal Agency to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health and environmental effects of its programs, policies and activities on minority populations and low-income populations." EPA was designated as the lead agency accomplishing this.

What Will Be Accomplished

To meet our environmental justice objectives, EPA will:

- Ensure that communities most disproportionately impacted by toxic releases and hazards receive fair and equal protection under environmental laws.
- Encourage citizens in adversely impacted communities to become fully engaged in environmental decisions affecting them.
- Achieve source reductions in high risk communities.

How it Will be Accomplished

EPA over the next five years will:

- Develop and enhance existing tools to identify communities most disproportionately impacted by toxic releases and hazards.
- Reduce toxic releases and hazards by eliminating sources of pollution and targeting specific activities to reduce toxic exposure, increase enforcement, and cleanup high risk communities.
- Enhance community participation in environmental programs by increasing education, technical, and financial assistance to high risk communities and assessing the effectiveness of communication and participation strategies.
- Evaluate the effectiveness of communities in identifying local environmental issues and participating in the decisions affecting them.
- Continue collaboration and coordination between EPA and other federal agencies, and expand partnership opportunities for addressing environmental justice issues.
- Integrate environmental justice issues into program operations, Regional Memoranda of Agreement, and State Performance Partnership Agreements.

CUSTOMER SERVICE PROGRAM

The Customer Service Program and its Goal

EPA seeks ways to provide better customer service as defined by Executive Order 12862, "Setting Customer Service Standards," signed by President Clinton in 1993. EPA's Customer Service Program (CSP) was created to improve the Agency's ability to achieve its mission of protecting human health and the environment by serving the public, industry, state and local agencies, and other customers more efficiently and effectively.

To achieve this goal, the Agency has developed "Rules of Customer Service" that address professionalism, telephone and correspondence response, public involvement, and dealing with partners in service delivery. Customer service standards also are provided to guide activities associated with permitting, rulemaking, enforcement and compliance assistance, partnership programs, public access, research grants, state/tribal and local grants, and pesticides registration. By 2003, all EPA staff will receive needed training and will have achieved the customer service standards that apply to their work.

Importance of Improving Customer Service

Implementing the CSP will establish stronger connections between our employees and their customers, encourage input on what our customers need and value, and improve how we do our work. Listening to customers' needs and opinions will shift our focus to products and services, their outcomes and value to the public, and the quality and value we provide. Over time, shifting to a customer focus will help us reduce dissatisfaction with government and improve efficiency. In essence, good customer service is important because it promotes activities that create efficiency in meeting environmental goals and establishes a culture that not only builds public trust, but also verifies the reasons we are here.

As EPA becomes more focused on customers, we will seek ways to improve staff skills, promote better use of program evaluation and measurement tools, and recognize opportunities to learn from our partners and customers. With customers as our focus, EPA can improve communication and information systems, and train staff to be fully responsive to customer needs. As we improve relationships with our regulatory partners, the public, industry, and others, EPA can expect to reduce complaints, increase trust in the Agency, and improve staff morale.

What Will Be Accomplished

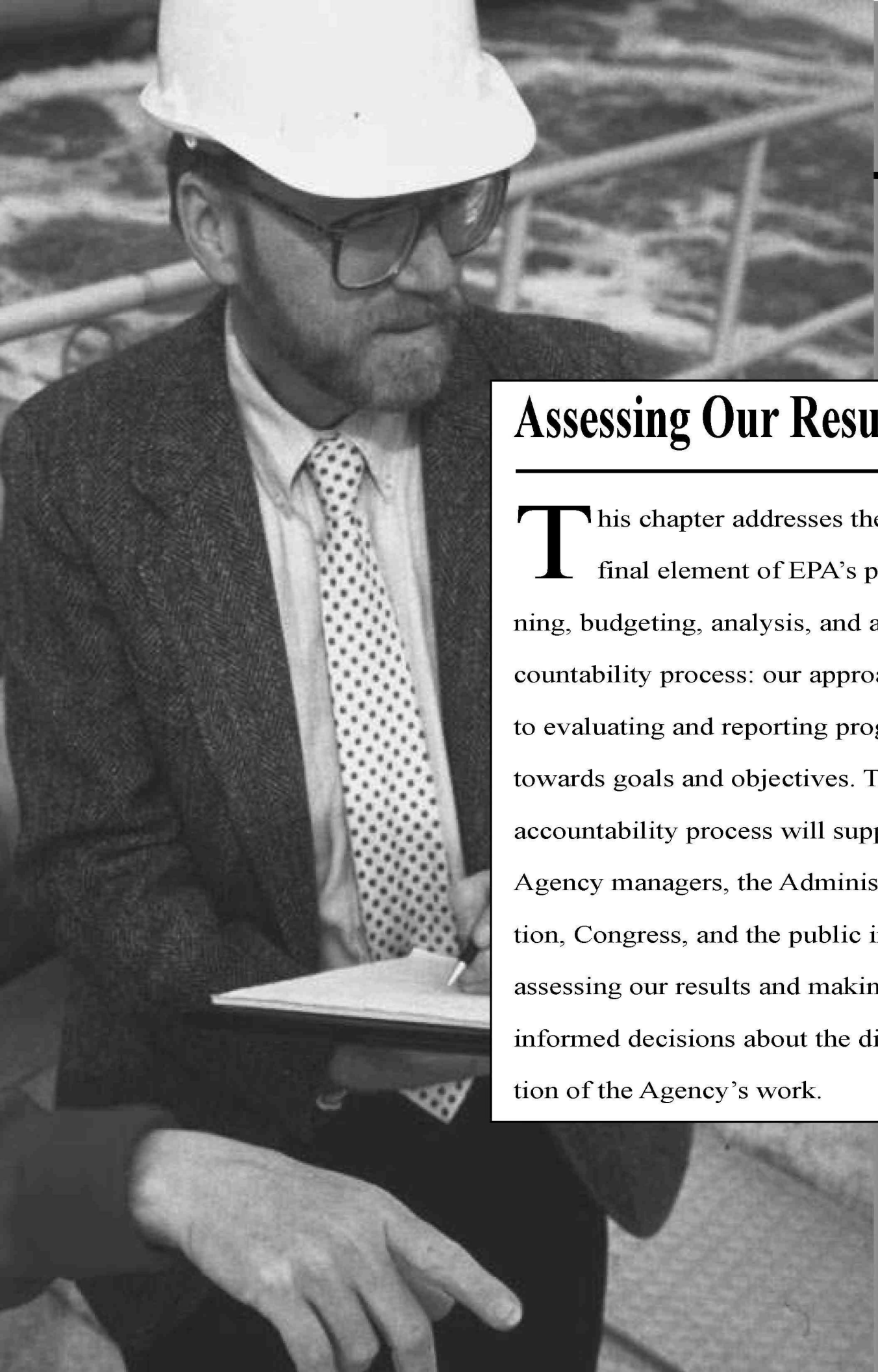
The customer service strategy is centered upon five objectives:

- Helping all EPA employees understand the importance and substantial benefits of improving service to the public.
- Providing employees with goals and guidelines for improvement and involving them in eliminating barriers to achieving standards.
- Training to build capacity, achieve the standards, and apply effective customer-service skills.
- Developing measurement and tracking systems to document improvements in service.
- Learning how to increase satisfaction with our services and our treatment of customers.

How It Will Be Accomplished

To achieve these five objectives, EPA will disseminate information about the standards, their potential impact, and the importance of their implementation. Cross-Agency groups of employees who deal with the public will identify problems and solutions as we implement the new standards. A customer service suggestion e-mail box has been established, and a customer service skills training program is planned. Customer satisfaction surveys will be used to obtain feedback, and their results will be shared widely with employees so they can better meet customer needs. Through a network of other federal agencies and outstanding customer service organizations in the private sector, EPA will identify, adopt, and adapt "best practices" to our own processes.

New Ways of Achieving Our Overall Mission: Key Cross-Agency Programs



Assessing Our Results

This chapter addresses the final element of EPA's planning, budgeting, analysis, and accountability process: our approach to evaluating and reporting progress towards goals and objectives. The accountability process will support Agency managers, the Administration, Congress, and the public in assessing our results and making informed decisions about the direction of the Agency's work.

Assessing Our Results

This chapter addresses the final element of EPA's planning, budgeting, analysis, and accountability process: the Agency's approach to evaluating and reporting progress towards goals and objectives. The accountability process will support Agency managers, the Administration, Congress, and the public in assessing program results and making informed decisions about the direction of the Agency's work. Sections of this chapter describe how EPA and its partners will: (1) document progress in terms of annual accomplishments and longer-term environmental results; (2) conduct program evaluations; (3) and communicate information to the public about the state of the environment. The Agency is committed to accomplishing these objectives while reducing reporting burdens on industry and the public.

An effective accountability process not only provides feedback on the success of specific programs, but also introduces a higher level of integrity into planning and budgeting by holding managers responsible for performance. By analyzing actual performance and costs, the Agency can make better estimates so that planning and budgeting become more accurate and reliable. Using a business analogy, the accountability process provides a way for decision makers to determine return on public investments and weigh investment options.

The accountability process will involve annual program performance reports, longer-term assessments of progress towards strategic objectives, and program evaluations. Annual reports will track whether activities and short-term accomplishments take place as planned, documenting financial investments and results data in one report. The annual performance goals in the annual report specify how our longer-term objectives are expressed in the day-to-day activities of our programs. Annual performance goals are expressed in terms that allow comparisons between planned and actual performance. Over time, we will assess how much cleaner the air, water, and land are becoming, and how much risks to human health and ecosystems are being reduced. Program evaluations will provide a detailed examination of relationships between activities and results for a given program. This will help EPA to document strategies that have worked well or, if timely progress is not being made, to analyze what is not occurring as expected and decide how we may need to change strategies.

What Will Be Accomplished

EPA will implement a prototype of an integrated planning, budgeting, analysis, and accountability system in FY 1999. The Agency will produce its initial performance report in March 2000.

Strategies for Meeting the Above Accomplishment

- *We will work with internal and external stakeholders to design the accountability system.*
- *The design will identify/incorporate linkages to other Agency accountability efforts.*
- *We will rely, as much as possible, on existing sources of environmental data and determine whether the data are adequate to evaluate program effectiveness.*
- *In evaluating programs, we will explore ways to incorporate risk reduction and consideration of costs into setting Agency priorities.*
- *We will continuously foster development of outcome oriented performance measures.*
- *EPA will include external assessments of Agency efforts to better inform our self-evaluations.*

Performance Measures

The key to EPA's accountability system will be developing sound performance measures: results or activities we will track to determine whether we are making timely progress towards our objectives. The objectives vary in the types of outcomes they address. Most focus on environmental results, but some address activities and services, such as improving cost effectiveness and customer focus in providing assistance or information to the public, states, tribes, and local governments. A critical step will be to develop practical performance measures for all our strategic objectives.

There will be trade-offs in selecting the most cost-effective measures; for example, in obtaining accurate information on environmental results while avoiding unreasonable reporting burdens for states or regulated entities. In recent years, we have invested in better systems for collecting and analyzing environmental data, and more work is planned to provide the data needed to assess performance as required by GPRA.

Need for Performance Measures Along Continuum from Activities to Results

EPA and its partners will need various types of measures, ranging from tabulations of annual activities to reports on environmental quality and health and ecological effects. Environmental performance measures are often described as being arrayed along a "continuum," from activity measures at one extreme to ultimate health and ecological effects at the other. The less expensive measures typically are activity measures and less direct environmental indicators. The most direct indicators reveal more about environmental results, but can be expensive and technically difficult to collect.

Terminology for Performance Measures

Measures of actions taken by EPA are referred to here as "activity measures," which correspond to "output" measures as defined in GPRA. Actions taken by others in response to EPA's activities are one type of "outcome" as defined in GPRA, and impacts on environmental quality, human health, and ecosystems are another type of "outcome." EPA and state environmental agencies distinguish the two: activities of other entities in response to EPA are "program outcomes," while measures of changes in environmental conditions are "environmental indicators." Environmental indicators can be further categorized into less direct indicators—air, water, or terrestrial pollutant levels—and more direct indicators, such as human health effects or conditions of plant and animal life.

Developing Better Performance Measures

In general, we will be able to report immediately on the activities accomplished to support our objectives. Initially, we will be unable to report "outcome" measures for all objectives. For some objectives with environmental outcomes, this will require advances in environmental monitoring or data analysis. EPA, the states, other federal agencies, and academia have made significant efforts recently to catalog existing environmental data and fill data gaps to improve the national information base on environmental quality and impacts on health and ecosystems. This is a continuing process, and we will draw on the best measures available at the time.

To meet the obligation under GPRA, EPA is involved in ongoing efforts to develop information necessary to accurately evaluate Agency progress in achieving each of its strategic goals and objectives. The Agency is evaluating information resources relative to information needs and priorities at the national, regional, state, and community levels. Activities in this area include developing descriptive profiles and conducting peer reviewed statistical assessments of twenty-five national environmental databases maintained by EPA; developing an Agency-wide monitoring strategy to link future environmental monitoring with the Agency's strategic goals and objectives; and

identifying, evaluating and implementing the most promising advanced environmental monitoring and information communication technologies.

Data gaps and data quality issues related to performance measures are being identified to guide federal, state, industry, academic and community investments in improving information. For example, the Executive Steering Committee for Information Resources Management has allocated funds for specific projects targeted at filling data gaps in program offices' abilities to report on "environmental results." Some individual program offices are investing in initiatives to improve collection and availability of environmental data.

EPA and its partners also need to develop further performance measures for objectives that lack direct environmental results. For such objectives, we will develop measures reflecting the important results or outcomes that are to be accomplished. These may address a wide range of factors, such as creating specified, quantifiable products, measures of customer satisfaction, quality of services provided, or timeliness of processes performed for customers, partners and the public.

Through the Agency's Planning, Budgeting, Analysis and Accountability process, the Agency will work with its partners to continuously evaluate the availability and quality of data to track progress in achieving EPA's strategic goals and objectives. The Planning, Budgeting, Analysis and Accountability process will enable the Agency to assess the practicality and feasibility of collecting environmental data for strategic performance evaluation and make appropriate adjustments in monitoring and reporting strategies and performance goals.

Performance Measures Developed Jointly with the States/Tribes

EPA's national program priorities are reflected in the Headquarters/Regional memoranda of agreement (MOA). The MOAs contain commitments negotiated between headquarters and the regions, thereby establishing the scope of activities to be carried out. The regions, in turn, use the national priorities to align their negotiations with the states. As indicated earlier, state governments have primary responsibility for implementing most environmental programs. While some EPA responsibilities, such as preparing regulations and providing technical support, require work not directly linked to state activities, our success in meeting our objectives will depend largely on programs carried out by the states, tribes, and other partners in environmental protection.

To provide a common basis for tracking progress and establishing commitments between the states and EPA, the Agency joined forces with the Environmental Council of the States (ECOS) to establish the National Environmental Performance Partnership System (NEPPS). Under this system, EPA and the states negotiate overall goals and objectives to include identifying "core performance measures." These agreements will communicate the primary activity outputs, programmatic outcomes, and environmental outcomes expected from work under authorities delegated to the states by EPA. In addition, other state organizations will work with EPA to develop performance measures. Over time, as some environmental data become more widely available, EPA will continue efforts to decrease reporting on activities, and to increase the focus on environmental results. We expect "core measures" to be included in most state/EPA work plans and related agreements, unless special circumstances dictate otherwise. The Agency is also working to enhance partnerships with the tribes to address specific environmental and human health goals, objectives, and performance measures.

Reviews of Progress Towards Strategic Goals and Objectives

Annual Performance Reports

To support the accountability process, a variety of reports will provide performance and cost information to Agency managers, the Office of Management and Budget, Congress, and the public. The first will be the annual performance progress report for FY 1999. EPA will issue this initial report no later than March 31, 2000. It will document performance accomplishments compared to annual "performance goals" established in the Annual Performance Plan. The annual performance goals will be target levels for key performance measures that represent progress towards each strategic objective, resulting from investments made in FY 1999. The report will identify any cases where annual performance goals have not been met and explain the reasons why they have not been met. For example, performance goals may not have been reached due to unforeseen external events, or because incorrect assumptions were made about the effort needed for some tasks. The report will discuss any corrections or changes in approach needed to address failures to meet annual performance goals, and describe any actions already taken by EPA to get back on track.

Beginning with the FY 2000 annual report, all annual reports will include retrospective descriptions of performance results from previous years, until the FY 2002 and subsequent reports, which will present data for the three previous years.

Program Evaluation

In addition to annual performance reports, EPA will prepare periodic reports of progress towards our strategic goals and objectives. Since many of the strategic objectives set forth targets for measurable environmental results,we will analyze data and report on environmental status and trends. This will include trends in pollutant emissions. For the most part, the Agency will emphasize true environmental indicators: the amounts of air, water, and land sites in conditions that meet applicable environmental quality standards. When possible, we will also report the degrees to which human health or ecological conditions are being protected. In some cases, Agency Inspector General, General Accounting Office and management integrity findings will be considered in assessing program performance.

The reports of progress towards strategic objectives will show whether we are achieving intended results. For some programs, we will conduct intensive program evaluations to analyze relationships between activities being conducted and environmental results. Criteria for selecting programs to evaluate will include the importance of the environmental issues being addressed, and whether programs are on schedule to meet their objectives. If timely progress is being made, the evaluations will help show what is working and why. If not, we will examine the relationships among EPA, states, regulated entities, and others, and the changes in pollution emissions, other stresses, and ultimate environmental impacts of these stresses to determine why. Studies of cause and effect can be complex, and answers may not always be found. Detailed analyses may help us develop more effective approaches to reducing environmental impacts. In other cases, these analyses may result in new research to determine why assumptions about relationships between stresses and impacts did not prove accurate when pollution reduction or cleanup activities were put into practice, and to develop better approaches for the future.

Evaluations will look at different ways to meet objectives.

This will include:

1) examining the effectiveness of program actions and need for mid-course corrections;
2) assessing appropriateness of the environmental indicators used and determining whether advances in science have made better ones available;
3) identifying factors beyond our control that affect performance; and
4) determining whether target levels and times stated in the objective are reasonable.

The results of program evaluations will influence annual performance plans for subsequent years. If performance goals need revision, new or modified performance goals will be designed and incorporated into the relevant annual plans, with associated modifications to performance measures as needed.

Integrating the Accountability System with Cost Accounting Standards

Two key activities in building a strong accountability system will be changes in how EPA structures its budget and the adoption of the recently issued Federal Accounting Standards Advisory Board's (FASAB's) cost accounting standard. To integrate management processes more fully, EPA will work closely with the Office of Management and Budget and Congress to develop a budget structure that parallels the goals and objectives identified in this strategic plan. This link between performance measures and resources will serve as the basis for annual performance reporting.

To comply with the FASAB standard, EPA's Chief Financial Officer will ensure that cost accounting is implemented to support EPA program managers and the public by producing information that is timely, useful, and accurate, and related directly to planning, accountability, and decision making. Cost information will be coordinated with the new planning and budgeting structure, and cost information will be integrated into accountability reports.

Internalizing GPRA Requirements within the Agency

Accountability for achieving results needs to permeate the organizational fabric of EPA, from top management to each staff employee. Management will aggressively communicate EPA's goals and objectives throughout the Agency to ensure that employees clearly recognize how they contribute to the Agency mission. Of equal importance, employees also will be held accountable for program results. To accomplish these ends, EPA will create direct linkages between its human resource activities and the achievement of the objectives in the Agency's Strategic Plan. For example, performance, awards, and recognition programs need to provide incentives to employees and reward groups and individuals who are having a discernible impact on the goals and objectives in the plan.

As the Agency continues to automate, streamline, and reengineer its procedures, the knowledge, skills, and abilities required by EPA employees to perform the Agency's work will change. Specialized recruitment and training, as well as process retooling, may be necessary in order to build and sustain a workforce capable of achieving the results envisioned in EPA's goals and objectives.

Coordination with Other Reporting Responsibilities

Where appropriate, EPA will integrate GPRA reporting with other reporting requirements. These include reports relating to financial management and fiscal integrity responsibilities, as well as other public information activities for financial, management, and accountability. EPA will provide comprehensive assessments of our financial investments and adherence to financial and management standards, when combined with reports of environmental outcomes accomplished.

Financial and Management Reporting

To the extent possible, EPA will integrate annual performance reports with financial accountability reporting, including requirements of the Chief Financial Officers Act, the Government Management Reform Act (GMRA), the Federal Managers Financial Integrity Act, the Federal Financial Management Improvement Act, the Inspector General Act, the Prompt Payment Act, and the Debt Collection Act, as well as the report on Civil Monetary Penalties. The goal will be to link performance and cost information more closely to provide the public and Congress with a snapshot of Agency operations. The final format for the combined reporting will be based on recommendations currently being developed by the Chief Financial Officers Council.

State of Environment Reports and Electronic Data Access

In addition to GPRA reports documenting the environmental outcomes of our programs, EPA will continue to provide the public with reports and electronic databases concerning the overall state of the environment. A number of such reports are produced by EPA under the Clean Air Act, Clean Water Act, and other legislation. In

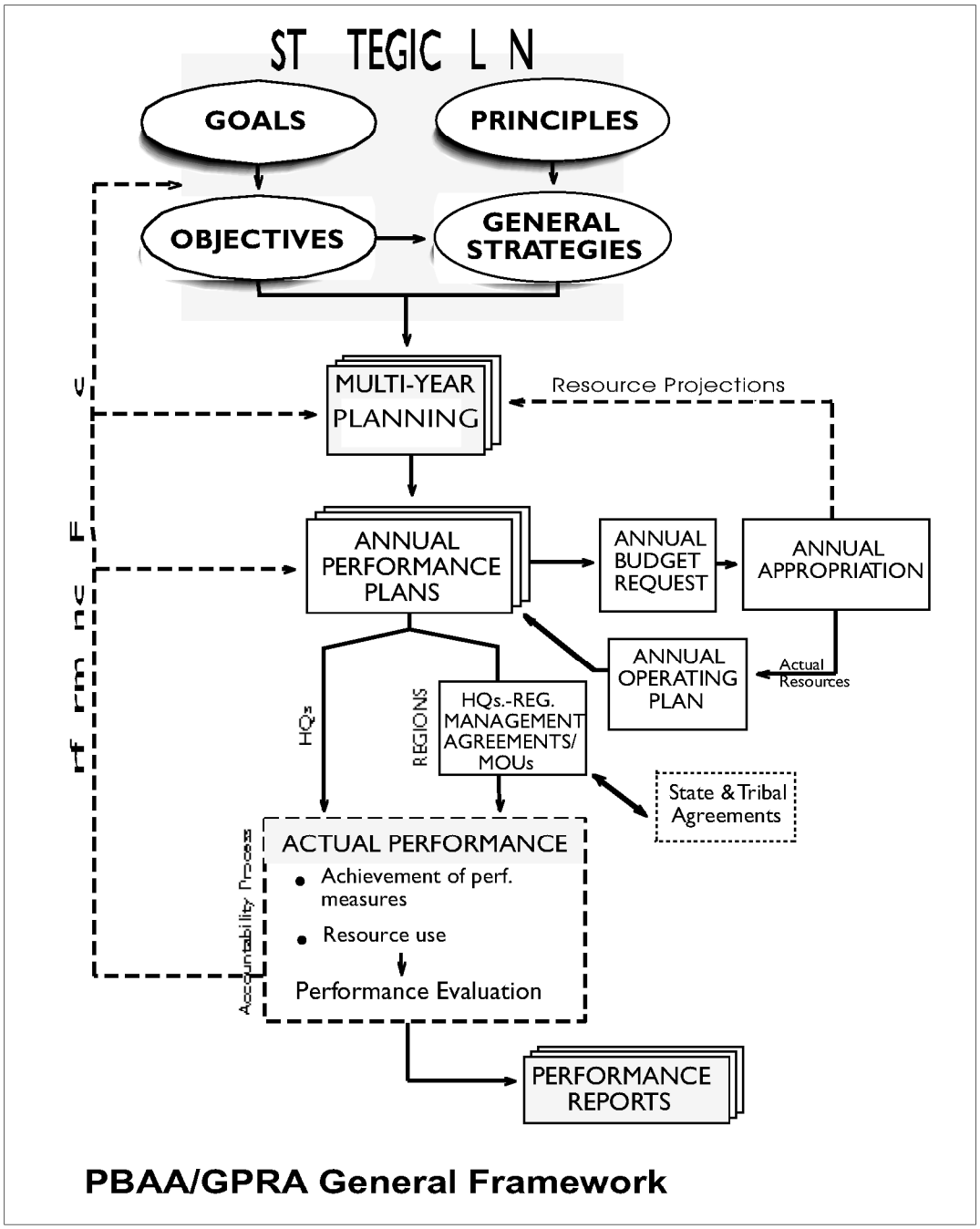
recognition of the important responsibility to support public access to comprehensive environmental information, EPA has recently established a Center for Environmental Information and Statistics (CEIS).

CEIS plans to produce periodic State of Environment Reports as well as enhance electronic public access to EPA's data. Environmental databases are maintained for a variety of purposes throughout EPA. These functions will not be taken over by CEIS, nor will they be integrated into a single reporting system. However, under the accountability process, EPA will ensure that members of the public seeking access to EPA data will obtain it in formats readily interpreted by general users.

Appendix A: How the Strategic Plan Connects to Other Agency Documents

EPA's new Planning, Budgeting, Analysis and Accountability process is composed of several steps that are linked in the following way:

Step (1) **The Strategic Plan**—This plan states EPA's mission. It lays out: (1) long term environmental goals; (2) a set of guiding principles providing a common set of considerations that will be used in making decisions; (3) specific shorter-term objectives the Agency will meet in achieving the goals. As required under GPRA, EPA will update this plan every three years.



PBAA/GPRA General Framework

Step (2) **Multi-Year Planning**--EPA's programs will conduct multi-year planning efforts based on the Strategic Plan goals. This planning step will describe how each national program will link its annual activities and short-term outcomes to the attainment of our long-term environmental goals.

Step (3) **Annual Performance Plans and Budget Request**—Annual performance plans will be prepared for each objective and serve as the basis for budget decisions. Annual Performance Plans will describe annual performance goals, measures of outputs and outcomes and the activities aimed for achieving these goals. Based on the Annual Performance Plans, EPA will develop an annual budget request for all Agency programs. Once Congress approves a final appropriation for the year, the annual plans will be revised and the resources allocated accordingly.

Step (4) **Performance Evaluation and Reports**—Performance Evaluation Reports, required by GPRA six months after the end of the fiscal year, will assess the progress EPA has made toward achieving its goals and will report on the Agency's success in accomplishing its annual performance goals.

Fully achieving the goals of the PBAA approach will take a long-term commitment from EPA. All Agency managers will be integrally involved in setting priorities, making yearly investment decisions and ensuring that program goals that reflect our customer's needs will be achieved. With the development of this Strategic Plan, EPA has a framework for use in the future, thus making the EPA effective in meeting the needs of the American people.

Appendix B: Congressional Consultation and External Stakeholder Input into the EPA Strategic Plan

The Government Performance and Results Act (GPRA) requires federal agencies to consult with Congress and to solicit and consider the views and suggestions of those entities potentially affected by or interested in such a plan.

With respect to the Congress, EPA held briefings in February 1997 for Members of the House and Senate, their staffs, and Committee staffs on the Agency's framework and process for developing the Strategic Plan. Meetings were held in April and June to discuss specific areas of Congressional interest. Drafts of EPA's mission statement, goals, and objectives were provided in April and May, and a draft Strategic Plan was provided on July 1, 1997. The Agency participated in consultation meetings with Congressional staff on the Strategic Plan in July, August, and September. EPA provided written material to the following Members and participated in meetings with Congressional staff as indicated below.

House of Representatives

Honorable Thomas J. Bliley, Jr.
Honorable George E. Brown
Honorable Dan Burton
Honorable John D. Dingell
Honorable Robert Livingston
Honorable George Miller
Honorable James L. Oberstar
Honorable David Obey
Honorable F. James Sensenbrenner, Jr.
Honorable Bud Shuster
Honorable Henry A. Waxman
Honorable Don Young

Senate

Honorable Max Baucus
Honorable Robert C. Byrd
Honorable John H. Chafee
Honorable John Glenn
Honorable James M. Inhofe
Honorable Ted Stevens
Honorable Fred Thompson

Committee Staff

House of Representatives

Appropriations
Commerce
Government Reform and Oversight
Resources
Science
Transportation and Infrastructure

Senate

Appropriations
Budget
Environment and Public Works
Governmental Affairs

★★★★★

EPA also conducted a broad outreach program that sought the views and perspectives of its constituencies. EPA provided a series of strategic plan development documents, as well as the draft Strategic Plan to the following organizations for review and comment, and held discussions with many organizations [indicated with a D]. In addition to the stakeholders listed below, the Agency's National Program Managers (NPMs) and Regional Offices have also worked to secure involvement from their specific constituents (e.g., states, tribes, other organizations).

BUSINESS, INDUSTRY, & PUBLIC POLICY ORGANIZATIONS

Business Roundtable **[D]**
Friday Forum **[D]**
National Advisory Council for Environmental Policy & Technology (NACEPT) Reinventon Criteria Committee **[D]**
Corporate Environmental Enforcement Council (CEEC) **[D]**
Enterprise for the Environment (E4E) **[D]**
Coalition for Effective Environmental Information (CEEI) **[D]**

National Academy of Public Administration (NAPA)
US Chamber of Commerce
National Federation of Independent Business
Chemical Manufacturers Association **[D]**

ENVIRONMENTAL AND PUBLIC INTEREST GROUPS *

Environmental Defense Fund **[D]**
Greenpeace
Sierra Club
National Resources Council of America
Resources for the Future
American Oceans Campaign
US Public Interest Research Group
World Resources Institute
World Wildlife Fund
Nature Conservancy
Clean Water Action
Clean Water Network
Environmental Information Center
Environmental Working Group
Friends of the Earth
American Lung Association
Environmental Law Institute **[D]**
National Audubon Society
National Fish and Wildlife Council
Children's Defense Fund
Natural Resources Defense Council **[D]**
Sierra Club Legal Defense Fund
Union of Concerned Scientists
American Rivers
Center for International Environmental Law
Center for Marine Conservation **[D]**
OMB Watch **[D]**
Trout Unlimited
Ducks Unlimited
Wildlife Habitat Council
River Network
American Public Health Association **[D]**
American Farmland Trust **[D]**
National Wildlife Federation

* All were invited to participate in discussions with EPA on the draft Strategic Plan

STATE & LOCAL GOVERNMENTS

Environmental Council of the States (ECOS) **[D]**
National Association of State Departments of Agriculture
Association of State and Territorial Health Officials
Local Government Advisory Committee **[D]**

TRIBAL GOVERNMENTS

EPA Tribal Operations Committee (includes representatives from 19 Tribal Governments) **[D]**

OTHER FEDERAL AGENCIES

In addition to the departmental level, in some cases information was also provided to and received from agency and bureau levels of the department)

Department of Agriculture
Department of Commerce
Department of the Interior
Department of Health and Human Services
Department of Energy
Department of Justice
Department of Transportation
Department of the Treasury
Consumer Product Safety Commission
Federal Emergency Management Agency
National Aeronautics and Space Administration
Nuclear Regulatory Commission
National Science Foundation
National Oceanic and Atmospheric Administration
Food and Drug Administration
Bureau of Land Management

Department of Labor
Department of Defense
Department of State
Department of Housing and Urban Development
Army Corps of Engineers
Small Business Administration
Office of Science and Technology Policy
General Services Administration
Fish and Wildlife Service
US. Geological Survey
Occupational Safety and Health Administration
General Services Administration
Federal Energy Regulatory Commission
Tennessee Valley Authority
U.S. Information Agency
U.S. AID
Office of the U.S. Trade Representative

APPROACH TO INTERAGENCY COORDINATION

As part of the process for developing this Strategic Plan, the Agency initiated steps to begin to work closely with those Federal agencies with whom EPA shares responsibility for setting standards and managing programs to improve human health and the environment.

Although time restricted efforts to explore the full range of issues with other Federal agencies during the development stage of this Strategic Plan, the actions taken will help to establish long-term efforts to address any inconsistencies, conflicts or redundancies among Federal programs as identified both in future Strategic Plans and annual performance plans.

The steps to engage other Federal agencies in the development of this Strategic Plan included following the directions outlined by the Chief Financial Officers' Council's GPRA Implementation Committee's Bulletin on Stakeholder Outreach and Interagency Coordination of Strategic Plans. Among EPA actions were:

- issuing a formal request for comment to Federal agencies on goals and milestones for EPA's National Environmental Goals Project. Many Federal agencies participated in the development of these goals, which served as a starting point for EPA's strategic planning efforts;
- reviewing 9 other agency and several bureau-level interim strategic plans for possible conflicts or overlaps with EPA's plan. While few issues required immediate resolution due to the general nature of the language in the strategic plans, this review will serve as a starting point for dialogue with other Federal agencies for the joint development of performance measures and resolution of program management issues;
- soliciting comments from other Federal agencies on EPA's preliminary plan outline, goals and objectives (May 22, 1997) and subsequently the full Agency draft Strategic Plan (July 1, 1997). Input received from other agencies has been incorporated into this plan;
- sharing information and working with several interagency groups on GPRA-related issues. These groups include the Research and Development Roundtable, the Natural Resources Performance Management Forum and the Interagency Regulatory Reinvention Forum; and
- reviewing the final drafts of 21 Federal agency plans in conjunction with the OMB clearance process.

CROSS-CUTTING AREAS BETWEEN EPA AND OTHER FEDERAL AGENCIES

The chart below identifies, by EPA goal, which areas of our plan require greater integration and review with other Federal agency efforts.

Department/Agency	GOAL									
	1	2	3	4	5	6	7	8	9	10
Agriculture		■	■	■		■	■	■		
Army Corps of Engineers	■	■								
Commerce	■	■						■		
Consumer Product Safety Commission	■			■						
Defense		■			■	■				
Energy	■	■			■		■	■		
Federal Energy Regulatory Commission	■	■		■	■			■	■	
FEMA		■	■		■		■			
General Services Administration										■
Health & Human Services	■	■		■			■	■		
Interior	■	■		■			■	■		
Justice					■				■	
Labor	■			■						
NASA	■				■	■		■		
National Science Foundation		■					■	■		
Nuclear Regulatory Commission	■	■			■				■	
OSTP	■	■						■		
SBA				■						
State		■				■				
Transportation	■	■		■				■		
Treasury--International						■				
TVA	■	■		■						
USAID				■		■				
USIA						■		■		
USTR						■				

Goal 1: Clean Air

Goal 2: Clean and Safe Water

Goal 3: Safe Food

Goal 4: Preventing Pollution and Reducing Risk in Communities, Homes, Workplaces and Ecosystems

Goal 5: Better Waste Management , Restoration of Contaminated Waste Sites, and Emergency Response

Goal 6: Reduction of Global and Cross-Border Environmental Risks

Goal 7: Expansion of Americans' Right to Know About Their Environment

Goal 8: Sound Science, Improved Understanding of Environmental Risk, and Greater Innovation to Address Environmental Problems

Goal 9: A Credible Deterrent to Pollution and Greater Compliance with the Law

Goal 10: Effective Management

SUMMARY OF KEY COMMENTS ON STRATEGIC PLAN

The Agency received over 800 comments on the draft Strategic Plan in writing and orally during discussions with stakeholders and Congress. Key comments are listed below.

Comment	*Response*
1. Objectives should be quantifiable.	1. The Agency agrees. In many cases the subobjectives, which are a level of detail below the objective, are where the measurable target is stated. Further, the performance goals in the Annual Performance Plan will contain quantifiable targets. However, for many of the objectives, EPA recognizes that it will take time to develop accurate target estimates (i.e., in some cases EPA needs to first establish a performance baseline). EPA will continue to work on this issue as the Agency develops its Annual Performance Plan and updates the Strategic Plan.
2. The structure of the Strategic Plan should be simplified. The number of elements in the current plan are confusing.	2. EPA will work to improve the clarity of the plan. However, EPA feels strongly that the elements in the plan provide important information related to the Agency's values and commitments. For example, the principles represent important guidance to be used by Agency managers as they make decisions and the cross-cutting program areas are important programs that transcend many of the goals and do not fit neatly into a single goal.
3. Distinguish between goals and objectives that are mandatory & those which are discretionary.	3. In compliance with GPRA, EPA has set numerical targets for a significant number of specific objectives in this Strategic Plan, consistent with EPA's statutory authority to protect human health and the environment and to administer environmental, human health, and other programs. In establishing numerical targets, EPA considered its statutory mandates and authorities and used the best available scientific and technical information. The Strategic Plan also notes specific statutory authorities for each objective.
4. Goals should be an expression of environmental outcomes, and organizational/programmatic efforts should be classified as implementation tools.	4. While EPA agrees that the plan could be structured as the comment suggests, the Agency has decided to keep the current structure at this time for several reasons. These include: 1) many of the activities in the "tools" goals (sound science, pollution prevention, enforcement and compliance, and effective management) are cross-media in nature and, while contributing to the overall mission of the Agency, cannot be

broken down into specific media goals; 2) the "tools" goals are important "goals" in and of themselves for EPA and need to be highlighted; and 3) the Agency believes that retaining these goals is responsive to the spirit of GPRA.

5. The Plan should prioritize among goals and objectives.

5. EPA agrees that the Plan should provide the vision and direction that the Agency plans to take over the next five years. The Agency does prioritize its activities in the annual planning and budgeting process as it redirects emphasis and resources into high priority areas. As to setting priorities among the goals, the current enabling statutes under which the Agency operates do not lend themselves to flexibility in setting priorities among the environmental goals.

6. EPA should commit to a strategy that uses risk assessment to prioritize environmental risk management decisions.

6. The Agency currently uses risk assessment, as well as other factors, to make risk management decisions. In Goal 8--Sound Science--EPA commits to providing improved risk assessment capabilities. EPA intends to use risk assessment, along with other criteria, for making decisions in the annual planning and budgeting process.

7. The plan should identify a strategy for increasing and improving the quality of information relating to environmental outcomes.

7. The Agency is involved in an ongoing process to identify and develop the information needed to accurately evaluate Agency progress in achieving each of its goals and objectives. Because monitoring programs and data collection are expensive and can potentially impact our partners and stakeholders, the Agency is identifying and evaluating current sources of information that can be used to measure performance. EPA will use this analysis of the data as a basis for program investments in information collection and analysis. A brief discussion of this issue has been included in the Strategic Plan.

8. The Plan should contain measurements of off-budget costs. Efficiency should be a stand-alone goal.

8. EPA has included a section in the Plan on the "Benefits and Costs of EPA's Activities" to address this issue. The Agency believes that section provides the best information available at this time. EPA disagrees with the recommendation to establish a "stand-alone goal regarding efficiency," because it is a principle that is inherent in all of our goals.

9. Cross-cutting programs should be directly related to strategic goals and objectives.

9. The cross-cutting program areas transcend many of the goals and do not fit neatly into a single goal. The Agency has clarified the relationship of these programs to the goals in the Strategic Plan.

10. The current Plan does not include a description of how the performance goals of the Annual Performance Plans will be related to the general strategic goals and objectives.	10. The Strategic Plan has been revised to include a general discussion of the relationship between the annual performance goals and the general strategic goals and objectives.
11. EPA should include performance measures relating to its efforts to work with States to achieve environmental goals.	11. EPA has expanded the discussion of the states' role in implementing environmental programs (see pages 12 and 82-83). In addition, the performance measures relating to state implemented programs are included in the Annual Performance Plan.
12. The Plan should include a discussion of the responsibilities of the Regions in achieving the goals and objectives.	12. EPA has included a discussion of the Headquarters/Regional memorandum of agreement (MOA) process which lays out the expectations and responsibilities of the Regions in implementing the programs and activities needed to achieve the goals and objectives (see page 94).
13. EPA's plan should integrate the environmental objectives of the National Environmental Goals and the National Environmental Performance Partnership System (NEPPS) to make a uniform set of environmental objective.	13. EPA's Strategic Plan is largely based on the work done over the last several years on the National Goals project. EPA will continue to work with its state partners to assure that the NEPPS core measures are integrated into the Agency's strategic planning process.
14. EPA's Plan should explain how it is to be integrated with related policy areas (e.g., transportation, energy, agriculture).	14. EPA is working with other Federal agencies to identify cross-cutting policy areas and programs that need to be integrated with EPA policies and programs. A discussion of this issue is included in the Strategic Plan. In addition, all of EPA's program offices work on a regular basis with other Federal agencies to assure that our activities are consistent with, and integrated into, the related policies and programs of other agencies.
15. The Plan should include strategies for internalizing the Results Act requirements within the Agency.	15. The Strategic Plan includes a discussion of this issue and identifies the actions EPA is taking to internalize the requirements of the Results Act.

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This Plan can also be found at EPA's Internet homepage <**http://www.epa.gov**>.