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Agency

Office of Policy (2111)
Office of Reinvention (1803)

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February 1999



EPA's Framework for Community-Based Environmental Protection

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

FEB | 1999

OFFICE OF THE
ADMINISTRATOR

MEMORANDUM

SUBJECT: EPA's Community-Based Environmental Protection Framework

TO: Assistant Administrators
General Counsel
Inspector General
Chief Financial Officer
Associate Administrators
Regional Administrators
Staff Office Directors

It has been almost four years since the Agency's senior management came together to give its support to improving the EPA's ability to work with states, tribes and local governments in implementing Community-Based Environmental Protection (CBEP). Since then, the Agency has made enormous progress in integrating the principles of CBEP into its programs' activities, developing effective tools for and providing resources to communities, and identifying places where EPA's efforts can make a difference in helping communities improve the quality of their lives and the environment. CBEP has become and will remain an important element of the Agency's reinvention strategy.

I am particularly pleased with the role that EPA's Regional Offices have played in making the CBEP approach a central feature in the way the Agency conducts its business. Whether it is supporting urban communities such as East St. Louis and the Bronx, facilitating multi-governmental efforts to restore large ecosystems such as the Everglades and Puget Sound, or developing tools such as the Green Communities Toolkit and EPA web sites, Regional Offices have used innovative approaches in creating flexibility in their programs to better respond to the different needs of diverse ecosystems and human communities. CBEP remains a key approach for accomplishing EPA's goals and I look forward to continuing the progress we have made.

Although EPA has made great strides in incorporating the CBEP approach at all levels of the Agency, there is still a great deal that needs to be done in assuring that the Agency is effectively meeting the needs of communities. With this memorandum, I am transmitting "EPA's Framework for Community-Based Environmental Protection." The purpose of the CBEP Framework is to provide EPA with a common policy and planning foundation for implementing the CBEP approach. The Framework is divided into two sections:

- Part I defines what CBEP is, and what it is not, and describes how it relates to other Agency programs, initiatives, and approaches.
- Part II of the CBEP Framework identifies EPA's CBEP goals, describes strategies for achieving these goals, and characterizes basic guidelines for measuring progress and accomplishments.

I am especially proud of the thorough and open process the Agency has used in developing the Framework over the past year and a half. The Office of Policy's Office of Sustainable Ecosystems and Communities (OSEC) played the primary role in coordinating the development of the CBEP Framework. In the true spirit of CBEP, OSEC made every effort to involve all stakeholders - within and outside of EPA - in crafting the Framework. OSEC worked closely with the Agency's CBEP coordinators in providing a number of opportunities - through discussion sessions and written comment periods - for Headquarters and Regional Office managers and staff to provide input on numerous drafts of the Framework. In addition, the Regional CBEP Coordinators' efforts proved invaluable in obtaining feedback on the Framework from state, tribal, and local governments, national associations, and community organizations. As a result of working with our partners in developing the CBEP Framework, I believe that the Agency has a solid policy and planning consensus to build on as we follow through on what we began four years ago.

I have designated the Office of Reinvention as the new focal point at Headquarters for CBEP as of February 1, in order to ensure that future CBEP policy and coordination issues continue to receive attention on an Agency-wide basis. The Office of Reinvention will work with Headquarters and Regional Offices to identify next steps for implementing the CBEP Framework. The Office of Reinvention's assumption of the CBEP coordination role will make it possible for us to complete the reassignment of OSEC staff to the Office of Water to support implementation of the Clean Water Action Plan.

I am encouraged by the accomplishments achieved over the past four years with the CBEP approach. With the CBEP Framework as our guide, I look forward to continuing our successes in protecting human health and providing healthy, sustainable ecosystems for generations to come.



Peter D. Robertson
Acting Deputy Administrator

Attachment (CBEP Framework)

cc: Deputy Assistant Administrators
Deputy Regional Administrators

Acknowledgments

The principal authors and coordinators of EPA's Framework for Community-Based Environmental Protection (CBEP) included Michael Mason (Team Leader) and Amanda Tipton Bassow from the Office of Sustainable Ecosystems and Communities (OSEC). Over the course of the project, OSEC's CBEP Framework Team was managed by Wendy Cleland-Hamnett (Director, OSEC), Leonard Fleckenstein (Acting Director, OSEC), and Gerald Filbin (Acting Director, OSEC's Policy and Coordination Division).

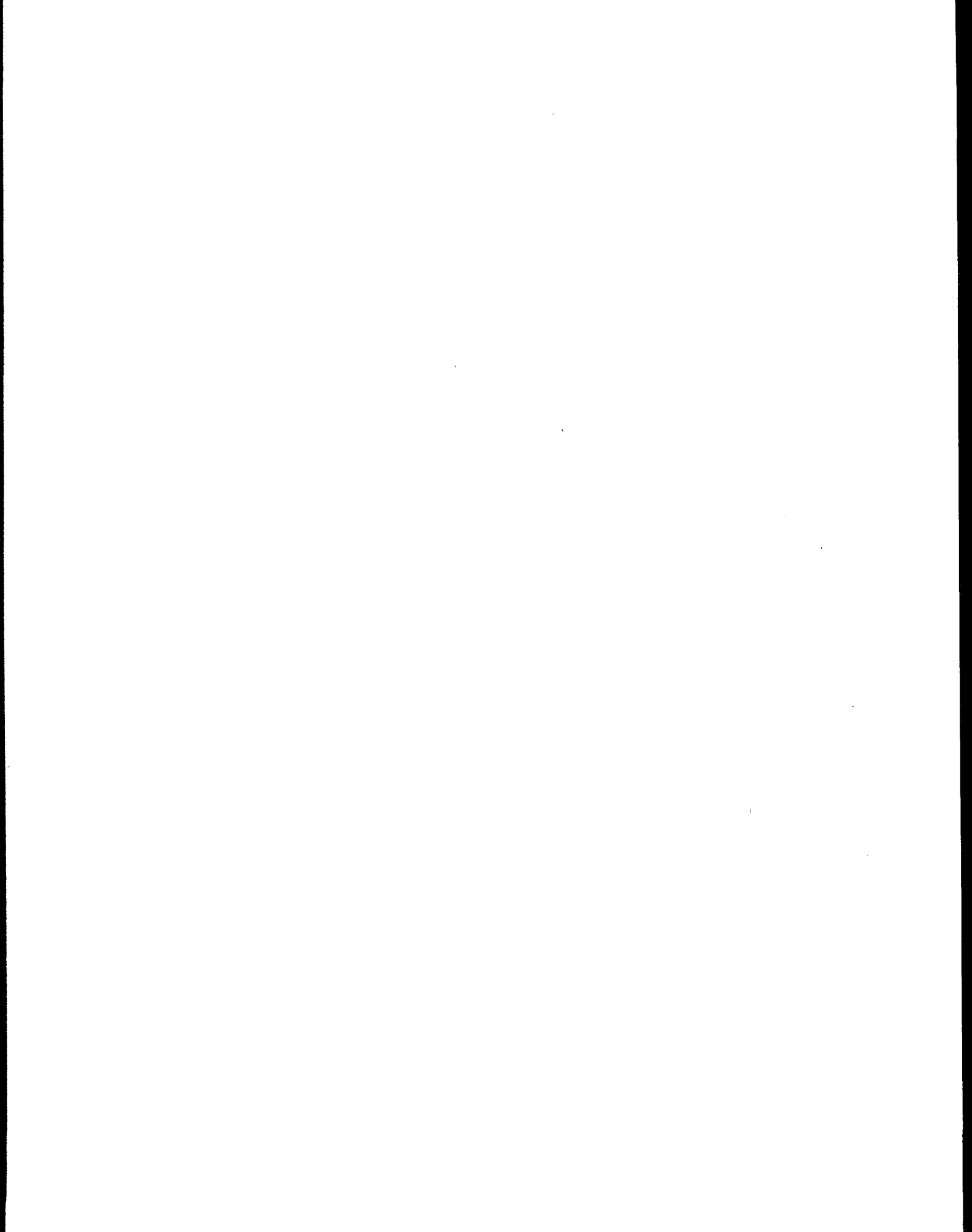
The following additional OSEC members also contributed to this report: Betsy Laroe, Lynn Desautels, Glenn Eugster, Laura Gabanski, Otto Guttenson, Michael Kronthal, William Painter, Heidi Paulsen, Marilyn Smith-Church, and Theresa Trainor.

OSEC relied on the support of the Agency's CBEP Coordinators in providing a number of opportunities—through discussion sessions and written comment periods—for feedback on the CBEP Framework from EPA managers and staff. OSEC would like to acknowledge the assistance of the following past and present CBEP Coordinators: Deborah Harstedt (Region 1); Rabi Kieber (Region 2); Dominique Lueckenhoff; Susan McDowell (Region 3); Grace Dietrick (Region 4); Don Kathan, Marilou Martin (Region 5); Debora Browning, Cynthia Wolfe (Region 6); Kathleen Fenton (Region 7); Karen Hamilton, Nat Miullo, Stacey Erickson, Peter Ismert, Ayn Schmit (Region 8); Debbie Schechter, Stephanie Valentine, Denise Zvonoveck (Region 9); Richard Parkin (Region 10); Paul Rasmussen (OAR); Walter Brodtman (OECA); Tom Tillman (OPPTS); David Klauer, Claudia Walters (ORD); Karen Burgan, Will Bowman, David Nicholas (OSWER); Ben Ficks, Anne Treash (OW); Tom Marshall (OGC); Judith Koontz, Jacques Kapuscinski (OARM); Alex Wolfe, Michael Brody (OPAA); Karen Flagstad (OR); and Danny Gogal (OEJ).

OSEC would also like to acknowledge the valuable comments received from numerous individuals representing EPA's partners in community-based environmental protection. These include representatives from federal, local, tribal, and state governments; national associations; and community organizations. A complete list of non-EPA organizations that commented on the CBEP Framework is included in Appendix I. In addition, the Agency's National Environmental Justice Advisory Council, Local Government Advisory Committee, and Tribal Operations Council provided comments on the CBEP Framework at their regular national meetings.

The photographs on the cover and on pages 2, 13, 16, and 28 are by EPA photographer Stephen C. Delaney.

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Introduction



Over the last 25 years, the United States has seen enormous improvements in environmental quality. Environmental statutes, such as the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, and Superfund legislation, enabled federal, state, tribal, and local governments to target major sources of pollution and to set and enforce national environmental quality standards under each statute—the so-called “command-and-control” approach. The results have been cleaner air, cleaner water, and better waste management.

These successes have been achieved primarily by controlling pollution from major industrial facilities, increasing and improving wastewater treatment, and cleaning up and preventing contamination from hazardous waste sites. These types of “point-source” pollution continue to be environmental threats and should continue to be addressed through appropriate regulatory and enforcement policies. However, many existing and emerging causes of environmental pollution and ecological degradation—polluted runoff, abandoned low-level hazardous waste sites, urban sprawl, and the decline of biological diversity, to name just a few—cannot be addressed effectively only through traditional, compartmentalized, command-and-control approaches.

Many of today’s environmental problems must be addressed by public and private stakeholders coming together within a place or community and taking a holistic and collaborative approach to identifying environmental concerns, setting priorities, and implementing comprehensive solutions. In working together, stakeholders can assess the range of environmental risks and develop solutions that help to sustain social, economic, and environmental well-being.

Community-based environmental protection (CBEP) emphasizes collaborative, holistic environmental decision making tailored to meet the needs of specific communities in their efforts to address the remaining environmental challenges. This document provides EPA with a policy and planning framework for supporting and implementing the CBEP approach.

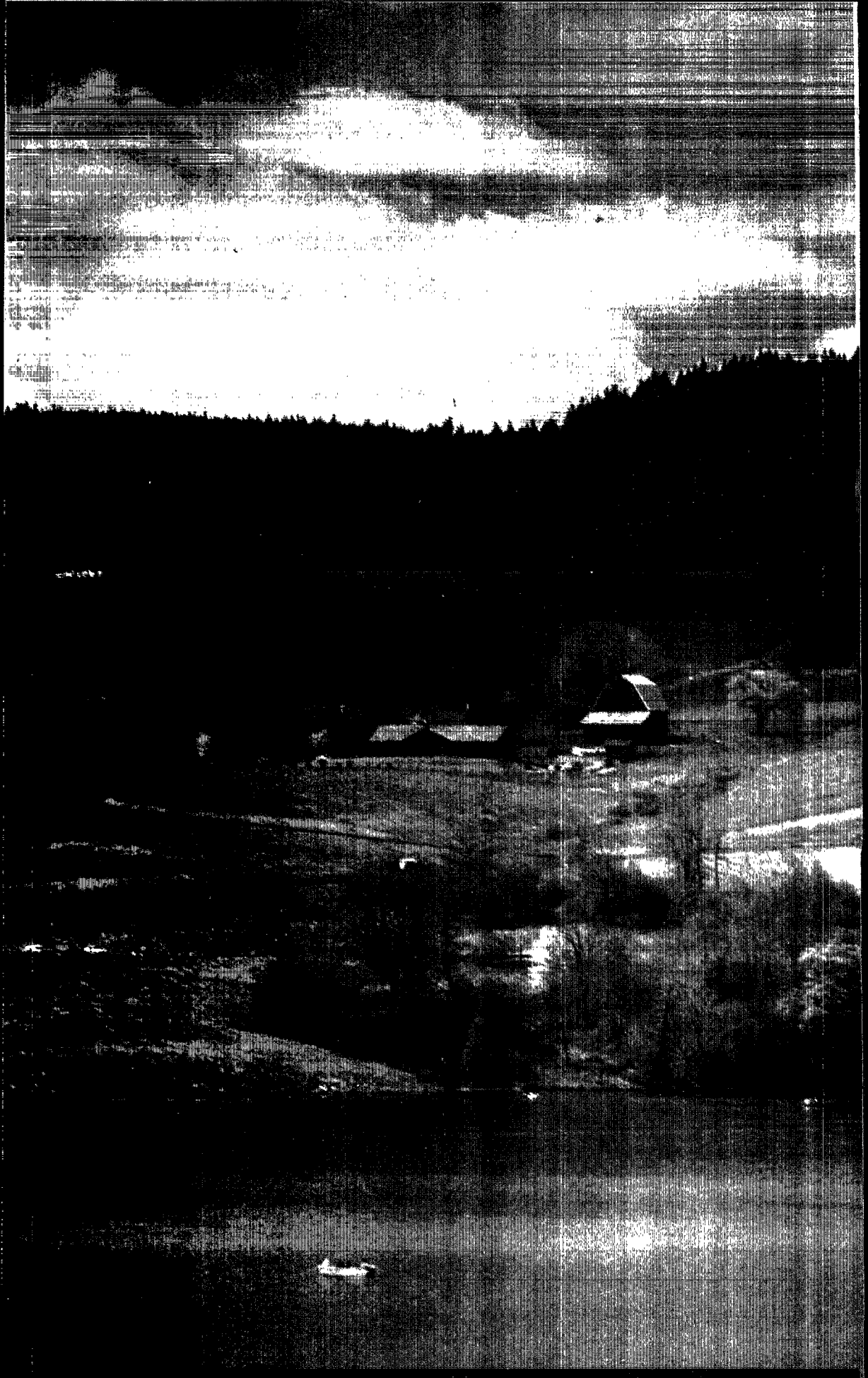
EPA’s Office of Sustainable Ecosystems and Communities (OSEC), within the Office of Policy, played the primary role in coordinating the development of *EPA’s Framework for Community-Based Environmental Protection*.

Over a year and a half, OSEC developed a succession of draft documents based on comments received from EPA and non-EPA reviewers. In the true spirit of community-based environmental protection, OSEC made every effort to involve all stakeholders—within and outside EPA—in crafting the Framework. Reviewers provided comments to the Framework in various formats, including:

- ▶ Facilitated discussion sessions with EPA’s community-based managers, coordinators, and practitioners at Agency Headquarters, selected Regional Offices, and national meetings;
- ▶ A formal Agency-wide review and comment period involving all of EPA’s National and Regional Offices;
- ▶ Meetings with a selected group of the Agency’s senior managers to resolve key issues raised during previous reviews; and
- ▶ A three-month external review and comment period in which the Agency received comments from federal, local, tribal, and state governments; national associations; and community organizations.

As a result of working with its partners in developing the CBEP Framework, EPA has a solid policy and planning consensus for continuing its implementation of community-based environmental protection. This document is designed to provide EPA with the focus and direction it needs to fully engage the CBEP approach over the coming years. It also should help EPA’s stakeholders understand what they can expect from EPA. However, in the end, the success of this approach will depend upon EPA and its stakeholders working together and forming partnerships to identify needs, develop solutions, and effect change.

EPA's Community-Based Approach to Environmental Protection



Definition of Community-Based Environmental Protection

Community-based environmental protection (CBEP) is EPA's term for a holistic and collaborative approach to environmental protection. CBEP brings together public and private stakeholders within a place or community to identify environmental concerns, set priorities, and implement comprehensive solutions. Often called a place-based or ecosystem approach, CBEP considers environmental protection¹ along with human social needs, works toward achieving long-term ecosystem health, and fosters linkages between economic prosperity and environmental well-being. Through CBEP, communities create a vision of environmental health and quality of life and pursue activities compatible with that vision.

Intrinsic to CBEP is an understanding of "community." The definition of community

endorsed by EPA for CBEP efforts includes places and people that are associated with an environmental issue(s). The community may be organized around a neighborhood, a town, a city, or a region (such as a watershed, valley, or coastal area). It may be defined by either natural geographic or political boundaries. The key factor is that the people involved have a common interest in protecting an identifiable, shared environment and quality of life. Any "community" will include a variety of differing values, perceptions, priorities, and complex interrelationships around environmental protection, as well as other issues. CBEP practitioners are encouraged to define and understand the appropriate scope of "community" for each particular place.

Core Principles of Community-Based Environmental Protection

CBEP is implemented in varying ways in different places. By design, CBEP projects have differing attributes to fit the needs of specific places. Although no one description can characterize all CBEP activities, the following key principles can guide EPA's and community stakeholders' efforts to implement the approach.

Focus on a Definable Geographic Area

The boundaries of a geographic area can be based on the natural landscape, such as the land that drains to a river or bay (a watershed) or specific types of ecosystems; or social communities, including urban and suburban neighborhoods; or political subdivisions, such as a town, city, county, or tribal land. For a CBEP approach to be fully effective, the geo-

graphic area should include the area of environmental concern and, whenever possible, the source(s) of the problem(s).

By definition, any geographic area will be embedded in a larger natural system (e.g., a watershed, river basin, ecosystem, or ecoregion). Therefore, CBEP efforts should be aware of the larger context in which their projects occur and, when appropriate, work to coordinate activities with CBEP activities outside their focus area. For example, CBEP projects on the Anacostia River in the Washington, DC, area impact communities downstream in Maryland and Virginia and are impacted by upstream communities in Maryland—all of which are part of the greater Chesapeake Bay watershed. While focusing on the immediate vicinity, the Anacostia group's efforts would be

¹The term "environment" as used in this document refers to the human, built environment, as well as the natural environment. As a result, "environmental protection" includes protecting the quality of human health as well as conserving and restoring natural resources.

CORE PRINCIPLES OF COMMUNITY-BASED ENVIRONMENTAL PROTECTION

- ▶ Focus on a definable geographic area.
- ▶ Work collaboratively with a full range of stakeholders through effective partnerships.
- ▶ Assess the quality of the air, water, land, and living resources in a place as a whole.
- ▶ Integrate environmental, economic, and social objectives and foster local stewardship of all community resources.
- ▶ Use the appropriate public and private, regulatory and nonregulatory tools.
- ▶ Monitor and redirect efforts through adaptive management.

enhanced by coordinating with efforts in neighboring communities, as well as with larger regional efforts.

Work Collaboratively with Stakeholders

The term “stakeholder” is generalized to mean the full range of people who are interested in, are affected by, or could affect activities related to community-based environmental protection efforts. Residents of a place certainly are stakeholders, as are nonresidents who have an interest in the place’s human and natural resources and infrastructure. Potential stakeholders include community members, landowners, tribes, civic and religious organizations, businesses and industry associations, environmental and conservation groups, academic institutions, and governmental agencies at all levels. CBEP requires an open, inclusive decision-making process and emphasizes a

shared responsibility among all stakeholders for implementing all decisions.

Assess the Quality of All Resources in a Place

Many environmental problems today could be better addressed by taking an integrated and systematic approach, assessing the cumulative impacts of various human activities, rather than focusing solely on one pollutant, concern, or natural resource. A basic assumption underlying the CBEP approach is that all the resources in a place—the air, the water, the land, and the living resources—are interconnected parts of a system. The state of science for conducting integrated, systemic assessments sometimes lags behind the regulatory demand for these complex approaches to decision making. As the science evolves, EPA managers and coordinators should openly acknowledge the uncertainties and complexities associated with multimedia approaches and be prepared to explain these uncertainties to stakeholders.

EXAMPLES OF CBEP STAKEHOLDERS

state governments	business owners
tribal governments	business/industry associations
local governments	public health groups
grassroots organizations	academic institutions
environmental groups	cooperative extension programs
religious groups	other federal agencies
civil rights groups	
civic organizations	

Integrate Environmental, Economic, and Social Objectives

The CBEP approach seeks to ensure that decisions are consistent with the related goals of sustainable development²: a cleaner, healthier, more resilient environment; an improved quality of life for all citizens (including an equitable distribution of environmental burdens and access to environmental benefits); and a stable, more efficient economy. For these conditions to be sustainable, CBEP must foster local stewardship of all social, economic, and natural resources in a community.

²No singular definition of “sustainable development” has emerged. However, there is consensus on its fundamental tenets: “a concern for sustainable development counsels long-term horizons consistent with our responsibilities to others, recognition of the interdependence of the economy and the environment, and more comprehensive, integrated approaches to economic development and environmental protection.” [Sustainable Development and the Environmental Protection Agency. EPA Office of Policy, Planning and Evaluation (EPA/230-R-93-005), Washington, DC: June 1993.]

Use the Most Appropriate Tools

CBEP seeks to bring the most appropriate public, private, and nonregulatory tools to bear in a community by integrating regulatory and nonregulatory approaches, along with natural resource planning and management efforts. CBEP enables communities to access a diverse array of existing policy and management approaches (e.g., training and education, assistance agreements, information sharing, and technical assistance) and to develop innovative approaches. This combi-

nation of tools will help forge more effective solutions to community and regional concerns.

Monitor and Redirect Efforts Through Adaptive Management

CBEP is an iterative approach that recognizes the value of innovation and risk-taking. Therefore, projects and partnerships need to be monitored for effectiveness, and CBEP efforts need to be revised and refined when necessary to incorporate lessons learned from experience, new data, and advanced technology.

Steps for Applying the CBEP Principles

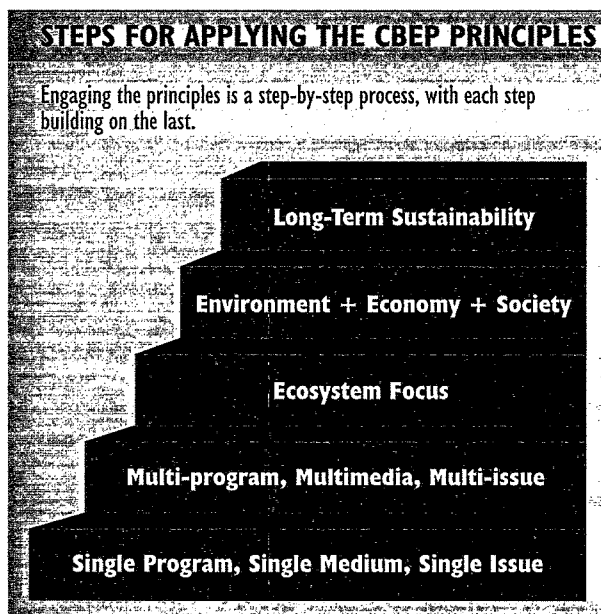
Each CBEP project will not exhibit all of these fundamental principles. The principles are intended to be a guide, pointing to areas for development and directions toward which to grow.

Single Program, Single Medium, Single Issue

On the bottom step, stakeholders may organize and address one or two issues within their community, such as suburban sprawl and the loss of open space, water quality in a particular stream segment, or contaminated soil or poor ambient air quality in an urban neighborhood. Communities may address each issue individually and request assistance from state, local, or federal regulatory agencies to help characterize the problem and implement solutions. EPA may incorporate stakeholder involvement into a single-program, single-medium, single-issue approach to help address the problem. For example, EPA may involve the community in assessing options for remedial action in a Superfund cleanup effort.

Generally, the smaller the geographic scale of a CBEP project, the fewer issues or concerns stakeholders may need to address. For example, an urban neighborhood may be concerned about the water quality of a stream running through the community and may

identify runoff from impervious surfaces as a primary contributor to the problem. In this case, a single source is contributing to the impairment of a single environmental medium. The neighborhood may address this problem adequately; however, without similar efforts to address impacts on water quality upstream or within the entire watershed, there may be a limit on how much water quality will be improved.



Multi-program, Multimedia, Multi-issue

Following this path, a "CBEP project" initially may address a single issue. But after undertaking a comprehensive assessment, a community may need multiple sets of tools and regulatory authorities to address a range of causes.

As the geographic scale of a project becomes larger—from a stream to a watershed, for example—water quality may be affected by multiple pollutant sources and stresses from the surrounding geographic area. As a result, CBEP projects that address an entire watershed or ecosystem will generally require a multimedia, holistic approach to ensure all environmental problems and their sources are adequately addressed.

Moving up from the bottom step, stakeholders begin to realize connections among the issues within their community and the

root causes of their public health or environmental concerns. For example, lack of open space or inadequate riparian zones may be contributing to poor water quality within a stream, or poor air quality could be due to traffic congestion and lack of public transportation. In another case, soil and groundwater contamination from a cluster of abandoned hazardous waste sites could be degrading the water quality of a watershed. Similarly, EPA may become aware of other programs or non-EPA efforts underway in the same place and begin to use a multi-program, multimedia, multi-issue approach to leverage resources through partnerships, and addressing multiple problems simultaneously. In the Superfund example, EPA may seek help from the Air Program Office to address an air deposition problem affecting the site.

CBEP places particular emphasis on ecosystem management, which often includes habitat protection and restoration.



Ecosystem Focus

Eventually, the community may assess issues more systematically, adopting an ecosystem approach. The community and EPA work together, along with other stakeholders to comprehensively assess the quality of their environment and prioritize issues and activities.

Environment + Economy + Society

Finally, the community may begin to address the relationship among economic, quality-of-life, and environmental issues, and to shift its time horizon from solving only the immediate problems to pursuing long-term

sustainability. By taking a holistic approach, EPA can apply its regulatory authorities and/or nonregulatory assistance to help address all the stressors and causes of a community's concerns. In many cases, this will require improved coordination among federal, state, and local environmental and economic development programs to address the multiple causes of a problem.

Certainly all CBEP efforts do not follow this path exactly, and many successful projects may never rise above the first step. However, the principles can serve to guide new and ongoing CBEP projects that may be stuck on one of the lower steps and looking for new directions.

What Community-Based Environmental Protection Is Not

To avoid misunderstandings within EPA and among its partners, it is important to clarify for EPA's programs and activities what CBEP is *not*. It is:

- ▶ *Not regulatory relief or a replacement of regulatory authority and base program activities.* CBEP does not represent a retreat from national goals or standards. A CBEP approach takes advantage of and builds upon EPA's existing media-specific, statutory programs.
- ▶ *Not a separate new program, a special limited initiative, or a pilot project.* CBEP represents a different way of approaching EPA's mission that requires a change in how the Agency does business. It is not limited to one EPA program; rather, it is incorporated into all EPA programs. It is not a newly delegated program to states, and it does not require separate, new funding sources; instead, it is funded through existing programs. And it is not a pilot or demonstration project; in fact, it already has proven effective in many areas of the Agency and is ready to be adopted throughout EPA.
- ▶ *Not focused on one environmental medium, problem, or component of a community.* In the

long run, CBEP does not focus solely on public health or pollution affecting a single environmental medium, but involves all components of an ecosystem. It emphasizes systems-oriented, coordinated action within a place, and requires taking a collaborative approach to addressing a community's concerns.

- ▶ *Not solely doing a better job of community outreach or public relations in traditional EPA single-medium programs.* CBEP is not about stakeholder participation for its own sake. Nor is it about doing a better job of informing stakeholders of decisions that already have been made. Rather, it is about getting useful public participation to inform Agency decisions and developing a shared responsibility to improve environmental decision making and implementation.
- ▶ *Not an abandonment of the best available science (e.g., human health and ecological risk assessments) for environmental decision making.* CBEP is not about replacing science with public opinion. It emphasizes making scientific data and information available to all stakeholders and decision makers so that choices at all levels are better informed.

► *Not intended to disrupt existing state–local or federal–tribal government relationships.* CBEP is not about EPA’s bypassing states to work with local governments. EPA must ensure that states maintain primacy in areas either for which they have been delegated authority or that operate under state statutes. Nor is it about abandoning the federal trust responsibility for tribes. EPA must work in partnership with tribes, states, local governments, and citizens in targeting areas for action, setting priorities, and selecting EPA’s role, and EPA efforts should be coordinated with state and tribal laws, policies, and programs.

► *Not a panacea.* CBEP is not the one solution to all of the country’s remaining environmental challenges. Just as some environmental problems lend themselves more easily to enforcement actions and litigation, others will prove more amenable to a CBEP-type approach. These solutions, along with others, including approaches yet to be explored, should be used where experience shows each can deliver environmental results. As EPA learns from its experiences, it will adapt where and when it makes sense to apply a CBEP approach and/or other approaches.

Why Community-Based Environmental Protection Is Important

In the quarter century since EPA was chartered as a federal agency, the United States has achieved remarkable improvements in environmental quality. These improvements have been hard fought, primarily targeting point-source pollution by setting and enforcing national environmental standards. If the command-and-control approach has proven so successful in improving the quality of air, water, and waste management, why does EPA need the CBEP approach? What are the comparative advantages of CBEP?

The Need: Remaining and Emerging Environmental Challenges

In many cases, progress has revealed additional environmental challenges not addressed by regulatory approaches. Some of today’s most pressing existing and emerging causes of pollution and ecological degradation differ from those of earlier decades, as do their social, political, and economic contexts.

Today’s environmental protection priorities include such problems as polluted urban and agricultural runoff; regional air pollution; abandoned hazardous waste sites; urban sprawl patterns of development; habitat loss; declining biological diversity; global climate change; and the deposition or recycling of pollutants

among air, land, and water. While these challenges vary widely, they have some common characteristics that distinguish them from more familiar environmental problems:

- The sources or causes often are individual behaviors and choices, rather than the actions of a few dozen large corporations.
- The problems are local and unique to a region or area and require tailored solutions, rather than a one-size-fits-all solution.
- The impacts cut across environmental media—air, water, land, and living resources—rather than targeting one distinct medium.
- The economic and social impacts are inextricably linked to the environmental impacts.
- The solutions require an emphasis on pollution prevention, preservation, and planning, rather than end-of-pipe fixes and remediation.

These types of problems cannot be solved using only media-specific, command-and-control approaches.

The Context: EPA's Movement Toward CBEP

The CBEP approach was not invented out of thin air by EPA alone. It has its origins in the concepts of ecosystem management, watershed management, sustainable development, and comparative risk assessment, as well as the Vice President's reinventing government initiative. These pioneering theories and practices, over the past 10-15 years, have explored alternative approaches to environmental protection, examining the role of stakeholder involvement, the relationships among environmental media in ecosystems, and the relationships between the economy and the environment. The development of these concepts has helped EPA to adapt and expand its traditional approaches to environmental protection to meet present and future environmental challenges. The table below summarizes many of the new directions in which the Agency is moving. Many of the new directions help to characterize CBEP, and are the foundation upon which CBEP is being built.

These new directions have resulted in EPA's launching a number of programs and initiatives that support place-based, community-driven efforts to address environmental issues. Examples of these include:

- ▶ *The Brownfields Initiative.* Funded by EPA's Office of Solid Waste and Emergency Response (OSWER), this initiative re-

develops abandoned low-level hazardous waste sites.

- ▶ *Sustainable Development Challenge Grants.* EPA provides seed funds to communities to support sustainable development solutions.
- ▶ *Environmental Justice.* The Agency provides assistance and funding to communities with minority and/or low-income populations that are disproportionately affected by environmental threats or do not have equal access to environmental benefits.
- ▶ *The Watershed Approach.* This community-based approach has watersheds as the geographic unit.

There are a number of similarities and differences among these and other EPA place-based, community-driven programs and approaches. Each is focused on a geographic area and promotes stakeholder participation. Although none of the Agency's place-based approaches includes all of the principles of the CBEP approach on their own, they represent

“BROAD-BASED ACTION IS NEEDED BECAUSE GOVERNMENT ALONE CANNOT ACCOMPLISH LONG-TERM SOLUTIONS TO COMMUNITY PROBLEMS.”

– President's Council on Sustainable Development

NEW DIRECTIONS FOR EPA	
TRADITIONAL APPROACHES	NEW DIRECTIONS
Focus on Single Environmental Medium	Multimedia Focus
Regulatory Emphasis	Regulatory and Nonregulatory Emphasis
Facility Focus	Place-based and Sector-based Focus
Focus on Small Set of Major Sources of Pollution	Focus on Large Set of Smaller and Nonpoint Sources
Emphasis on Human Health	Emphasis on Human and Ecological Health
Comparative Risk	Cumulative Risk
Federal Control	Partnerships with State/Tribal/Local Governments
Success Defined by Activities	Success Defined by Results
Environment in Isolation	Environment + Economy + Society
Focus on Immediate Environmental Problems	Focus on Prevention and Long-term Sustainability

CBEP "OFFERS EPA AN OPPORTUNITY TO ADDRESS THOSE PROBLEMS OVER WHICH IT HAS LITTLE EFFECTIVE AUTHORITY. IF THE AGENCY LISTENS WELL AND PROVIDES USEFUL HELP TO COMMUNITY-BASED PROCESSES, AND IF THE PARTICIPANTS IN THOSE PROCESSES ARE WILLING TO TAKE NATIONAL GOALS SERIOUSLY, THE RESULT CAN BE BETTER LOCAL DECISIONS."

— National Academy of Public Administration

pieces of the larger CBEP puzzle. When these programs and approaches are implemented at

the local level, however, they often begin to move up the "CBEP staircase" and adopt many of the CBEP principles (see page 7). In addition, several projects can be coordinated and integrated within a geographic area and become part of a larger CBEP effort.

For example, a CBEP project may begin as an effort to protect a watershed or address environmental justice concerns surrounding redevelopment of an abandoned waste site. As a local decision-making process progresses, however, a number of fac-

tors—such as an increase in the geographic boundaries of the project or an increase in the diversity of the stakeholders—could result in a coalition of separately funded but related projects. From EPA's perspective, a CBEP project could consist of a coordinated collection of other place-based projects—such as an environmental justice effort or a sustainable development activity—within a fairly large geographic area. The CBEP approach encourages the Agency to coordinate and, where appropriate, integrate its place-based funding and assistance programs and approaches within defined geographic areas.

Movement toward such community-based approaches is not limited to EPA. Various governmental agencies, as well as the public, have increasingly recognized that all resources in a particular place (air, water, land, and living resources) are interconnected parts of a sys-

tem, and they need to be addressed holistically. The White House, the EPA Administrator, and other governmental and advisory organizations have expressed support for this type of an approach in numerous reports and documents.³ In addition, the American public has become more environmentally aware and has become a more active participant in local environmental decision making. With this awareness comes the recognition that each area has unique problems that demand unique solutions. This recognition has been a catalyst for the development of CBEP at EPA.

The Advantages of CBEP

While initially CBEP can be more time-consuming, in the long-run it can be more effective, more efficient, and yield more enduring, sustainable solutions for addressing our more challenging environmental problems (e.g., diffuse sources, localized issues, multimedia impacts) than a strictly regulatory approach. Among CBEP's advantages, it:

- ▶ *Is responsive to unique community characteristics.* CBEP addresses problems where they arise and where the authority and interest to solve them often lies—in communities.
- ▶ *Pools stakeholder resources.* Rather than having a dozen separate organizations pursue distinct environmental goals, CBEP brings those organizations together, to pool resources to achieve common goals.
- ▶ *Minimizes duplicate EPA efforts and efforts that might be at cross-purposes.* CBEP brings different EPA programs together in places to work to find comprehensive solutions.
- ▶ *Builds infrastructure for problem solving.* CBEP helps build a sense of stewardship and community infrastructure for environmental problem solving—a benefit whose value long outlives the initial project.

³*EPA Science Advisory Board's pivotal report, Reducing Risk: Setting Priorities and Strategies for Environmental Protection (1990); the Vice President's National Performance Review report, From Red Tape to Results: Creating a Government That Works Better and Costs Less (1993), which recommended that federal agencies adopt "a pro-active approach to ensuring a sustainable economy and a sustainable environment through ecosystem management"; EPA's five-year strategic plan, The New Generation of Environmental Protection (1994); the National Academy of Public Administration's (NAPA's) report, Setting Priorities, Getting Results: A New Direction for EPA (1995); the White House Interagency Ecosystem Management Task Force's report, The Ecosystem Approach: Healthy Ecosystems and Sustainable Economies (1996); the President's Council on Sustainable Development's report, Sustainable America: New Consensus for Prosperity, Opportunity, and a Healthy Environment: An Agenda for EPA, Congress, and the States (1997); and the Enterprise for the Environment's report, The Environmental Protection System in Transition (1998).*



EPA's Environmental Justice (EJ) program is an example of another place-based approach at EPA that complements and often is a part of a broader CBEP effort. Under the EJ program, the Agency provides assistance and funding to communities with minority and/or low-income populations that are disproportionately affected by environmental threats or do not have equal access to environmental benefits.

EPA's Role in CBEP Efforts

EPA's role in any given CBEP effort may range from nonexistent, to technical assistance, to a leadership role. And the Agency's role may vary greatly in one place over time. The following four interests drive the degree of EPA's involvement in CBEP efforts:

- ▶ *EPA's statutory requirements.* EPA may become involved because environmental standards are not being met. EPA may initiate a CBEP effort or bolster an existing effort to help a community meet regulatory requirements.
- ▶ *Ecological and human health risks.* If a community faces exceptional ecological or human health risks, or if a community has natural resources of national significance, EPA may become involved in a CBEP effort to address the underlying environmental problems and to protect natural resources.

- ▶ *Community needs and desires.* EPA may respond to a community's request for assistance and involvement in a CBEP effort.
- ▶ *Other government roles.* EPA shares its responsibility for environmental protection with tribal, state, and local governments, as well as other federal agencies. The roles these institutions are playing in a community and their need and desire for EPA assistance will influence the role EPA plays.

While EPA may play any combination of roles, depending on the specific situation in a community, it is more likely to take a leadership role if federal statutory requirements are the driving interest, and is more likely to play more of a capacity-building role if a community requests EPA's assistance with an ongoing effort. If state and local programs already exist in a community, EPA will not recreate or take over these programs. Rather, it will work to

support existing efforts by bringing its expertise to bear when it is needed and when EPA represents a distinct value added for the effort. In the end, EPA must work with all of its partners in each community to determine appropriate roles. Following are examples of CBEP efforts in which EPA plays a variety of roles across the continuum.

Green Communities

EPA Region 3's Green Communities Assistance Kit is an example of a capacity-building tool that emphasizes holistic planning and is accessible to all communities. The kit walks communities through four stages of planning:

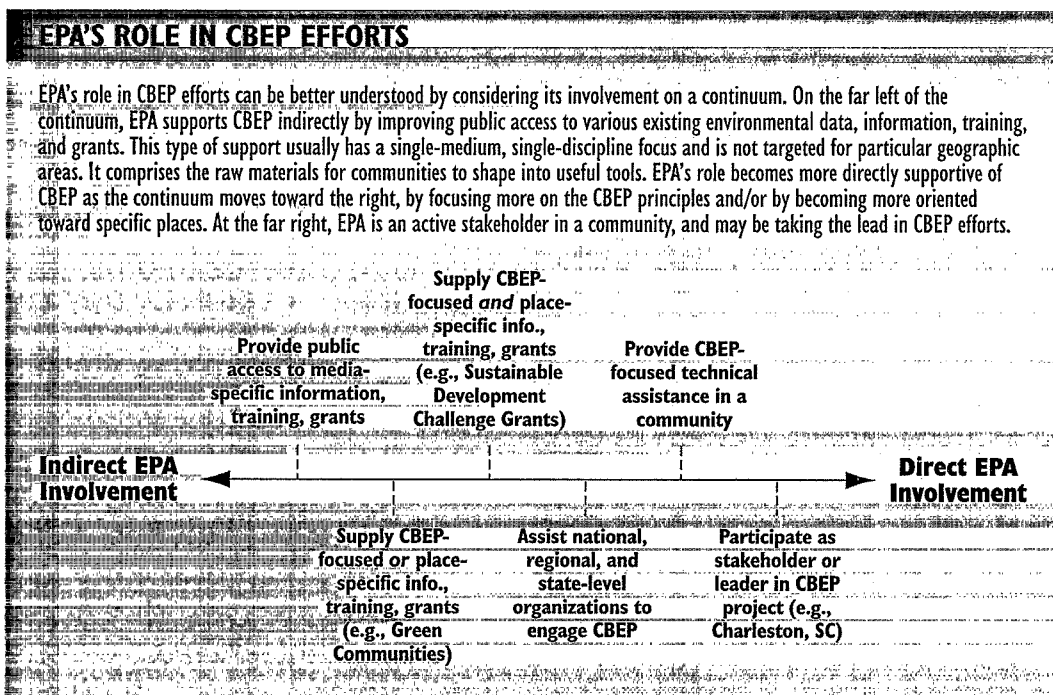
- ▶ *Stage 1:* Where are we going? → Trend analysis
- ▶ *Stage 2:* Where do we want to be? → Vision statement
- ▶ *Stage 3:* How do we get there? → Action plan
- ▶ *Stage 4:* Let's go! → Implementing the plan

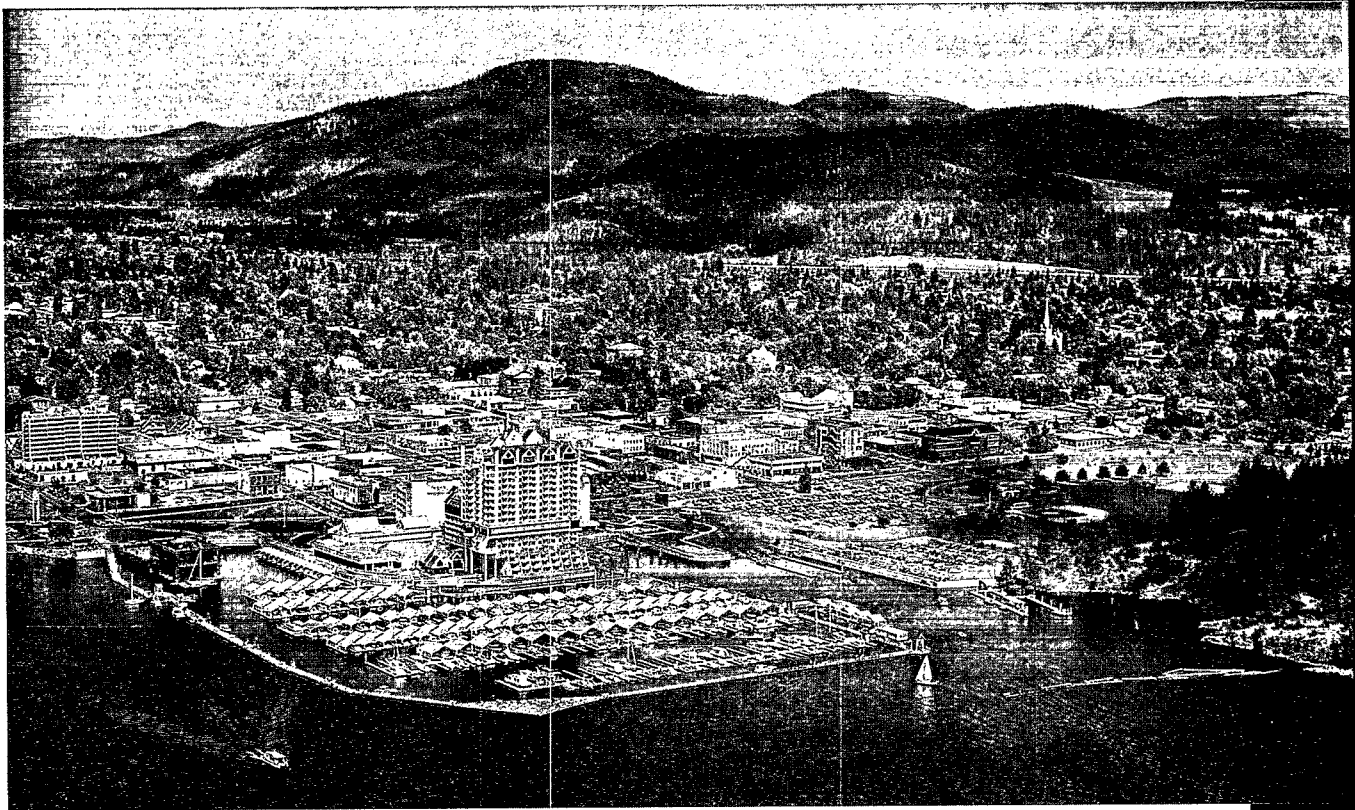
A basic checklist is provided for conducting a community self-assessment, including identifying community values, delineating the boundaries of the community planning area, compiling an inventory of natural and human-made features (including sensitive areas and cultural resources), determining problem areas and opportunities, locating the "sphere of influence" of problem areas, evaluating the effectiveness of facilities and infrastructure, making linkages between economics and the environment, and demonstrating land-use trends. The kit is available by mail and on the Region's Web site and is being pilot tested in York, Pennsylvania.

Sustainable Development Challenge Grants

EPA's Sustainable Development Challenge Grant program is an example of a capacity-building tool that is both CBEP-focused and place-specific. The program is designed to challenge communities to match EPA seed funds with private and public investments to develop and implement community-based environmental programs using a sustainable development approach.

The funded projects are to be designed by community stakeholders to ensure that those





The Coeur d'Alene Basin restoration effort in Idaho originally was initiated by the Idaho Department of Environmental Quality, the Coeur d'Alene Tribe, and EPA Region 10. It has grown to include local governments, additional tribes, community groups, timber and mining interests, as well as other state and federal agencies. This group is successfully combining regulatory tools (e.g., total maximum daily load and Superfund) and nonregulatory tools (e.g., technical assistance) to address a range of water quality concerns.

with the best insight into the problems and opportunities are involved in creating community-based sustainable development solutions. EPA encourages approaches that are transferable or projects that can be replicated in other communities. Successful proposals under the challenge grant program should become self-sustaining at the end of the project period, without ongoing reliance on EPA funds. In 1998, EPA awarded about \$5 million in grants to 45 different communities.

EPA Leadership in Charleston, SC

EPA has played a leadership role in Charleston, South Carolina, because its interests initially were driven by a single program's statutory requirements. Originally a former wood-treating facility brought Region 4's Superfund program to the Charleston/North Charleston area. The program provided a

grant to hire a community technical advisor for the site's cleanup.

As the community became more involved, EPA helped to organize a Community Advisory Group (CAG), and the CAG expanded its reach to comprehensively assess and prioritize the environmental problems in the community. In the process, the CAG has involved a wide range of neighborhood associations; federal, state, and local government partners; environmental and civil rights groups; and academic institutions, among others. What began as an EPA-initiated, single-program effort has grown into a true partnership among a wide range of stakeholders who are working together to improve the environmental conditions and the overall quality of life in the Charleston/North Charleston community.

EPA's Community-Based Environmental Protection Goals and Strategies



EPA's Community-Based Environmental Protection Goals

EPA's mission is "to protect human health and to safeguard the natural environment—air, water, and land—upon which life depends." CBEP is one approach that can help the Agency fulfill this mission.

Because CBEP is an approach, or way of doing business, and not a separate program, the specific goals of EPA's authorizing statutes and related base programs (i.e., Air, Pesticides and Toxics, Solid and Hazardous Waste, and Water) are also EPA's CBEP goals. By adopting the CBEP approach, the Agency is supporting the implementation of EPA's Strategic Plan, as submitted to Congress in September 1997 under the requirements of the Governmental Performance and Results Act (GPRRA). (See Appendix II for a complete description of EPA's mission, goals, and guiding principles, as described in the Strategic Plan.)

The CBEP approach also supports a number of the guiding principles characterized in

the Strategic Plan, especially "emphasizing comprehensive regional and community-based solutions," as described in Chapter 3 of the Plan. Other Strategic Plan principles supported by the CBEP approach include reducing health and environmental risks, maximizing public participation, applying sound science, and strengthening partnerships.

Because CBEP is a cross-cutting approach, it does not lend itself easily to tracking under any one program-specific goal. Nor does it fit neatly under any one of the guiding principles. Rather, CBEP supports each of the goals, in various combinations at various times, depending on the characteristics of specific projects. Achieving all of EPA's statutory mandates and base program goals, however, still would not produce a sustainable environment, economy, and quality of life. Therefore, the Agency has developed specific goals for CBEP.

EPA'S CBEP VISION AND GOALS

EPA's vision for CBEP is to support communities' efforts to use, protect, and restore natural resources—land, air, water, and biodiversity—in ways that help ensure long-term ecological, economic, social, and human health benefits for ourselves and future generations. EPA's goals to achieve its CBEP vision are fourfold:

- ▶ Achieve environmental results consistent with EPA's mission and base program goals, as stated in EPA's authorizing statutes and Strategic Plan.
- ▶ Address environmental concerns and issues that are not addressed under traditional federal regulatory approaches, such as urban sprawl, urban and agricultural runoff, and loss of biological diversity.
- ▶ Help communities develop the tools and capacity necessary to be stewards of their human and natural resources.
- ▶ Coordinate and integrate EPA's programs and activities to increase the Agency's effectiveness in supporting sound community environmental decision making.

EPA's CBEP Implementation Strategies

EPA, through its Headquarters and Regional Office activities and programs, will try to realize its goals for CBEP by employing three principal strategies:

- ▶ Reorient EPA programs to better support CBEP.
- ▶ Build external capacity.
- ▶ Work directly with stakeholders in places.

While each of the strategies emphasizes different aspects of the Agency's approach to CBEP, EPA should strive to incorporate each of the six core CBEP principles into its application of each strategy. Some of the principles are seemingly most applicable to working directly with stakeholders; however, it is important to bear the principles in mind when working to reorient the agency and to build external capacity as well. The principles can guide and focus the work under these strategies so that it fully supports CBEP. For example, reorienting efforts should strive to make the Agency more responsive to the needs of specific geographic areas, and capacity building should include helping communities navigate the regulatory process, as well as making non-regulatory tools available. Perhaps most important, a full range of stakeholders should be involved in helping EPA to develop and implement each of the strategies, from identifying EPA policies that hinder CBEP activities, to assessing community needs, to selecting places in which EPA will be directly involved.

Reorient EPA Programs to Better Support CBEP

In taking a CBEP approach, EPA is hoping to improve the effectiveness of its nationwide environmental programs and regulations. Therefore, EPA must work to integrate the CBEP principles into all Agency programs. EPA should build upon existing programs and initiatives within the Agency that already may incorporate a number of key principles of CBEP, such as the brownfields initiative, the watershed approach, and the environmental justice program. The Agency should reorient its traditional programs to better support and facilitate a CBEP approach by revising policies and rules, developing better lines of communication among programs, identifying and supporting CBEP research needs, and establishing education and training programs for EPA staff. In doing so, EPA must engage in conversations with its stakeholders to help identify and prioritize areas for improvement, and to develop the most appropriate solutions.

The Agency's senior management should support and participate in the development of CBEP policies, plans, and projects. All of EPA's senior managers need to demonstrate a clear, strong commitment to community-based environmental protection. EPA Headquarters' senior managers should demonstrate leadership at the national level and show dedication to supporting Regional Office CBEP efforts.

EPA should integrate CBEP principles, goals, and measures of progress into all areas of the

CORE PRINCIPLES OF COMMUNITY-BASED ENVIRONMENTAL PROTECTION

- ▶ Focus on a definable geographic area.
- ▶ Work collaboratively with a full range of stakeholders through effective partnerships.
- ▶ Assess the quality of the air, water, land, and living resources in a place as a whole.
- ▶ Integrate environmental, economic, and social objectives and foster local stewardship of all community resources.
- ▶ Use the appropriate public and private, regulatory and nonregulatory tools.
- ▶ Monitor and redirect efforts through adaptive management.

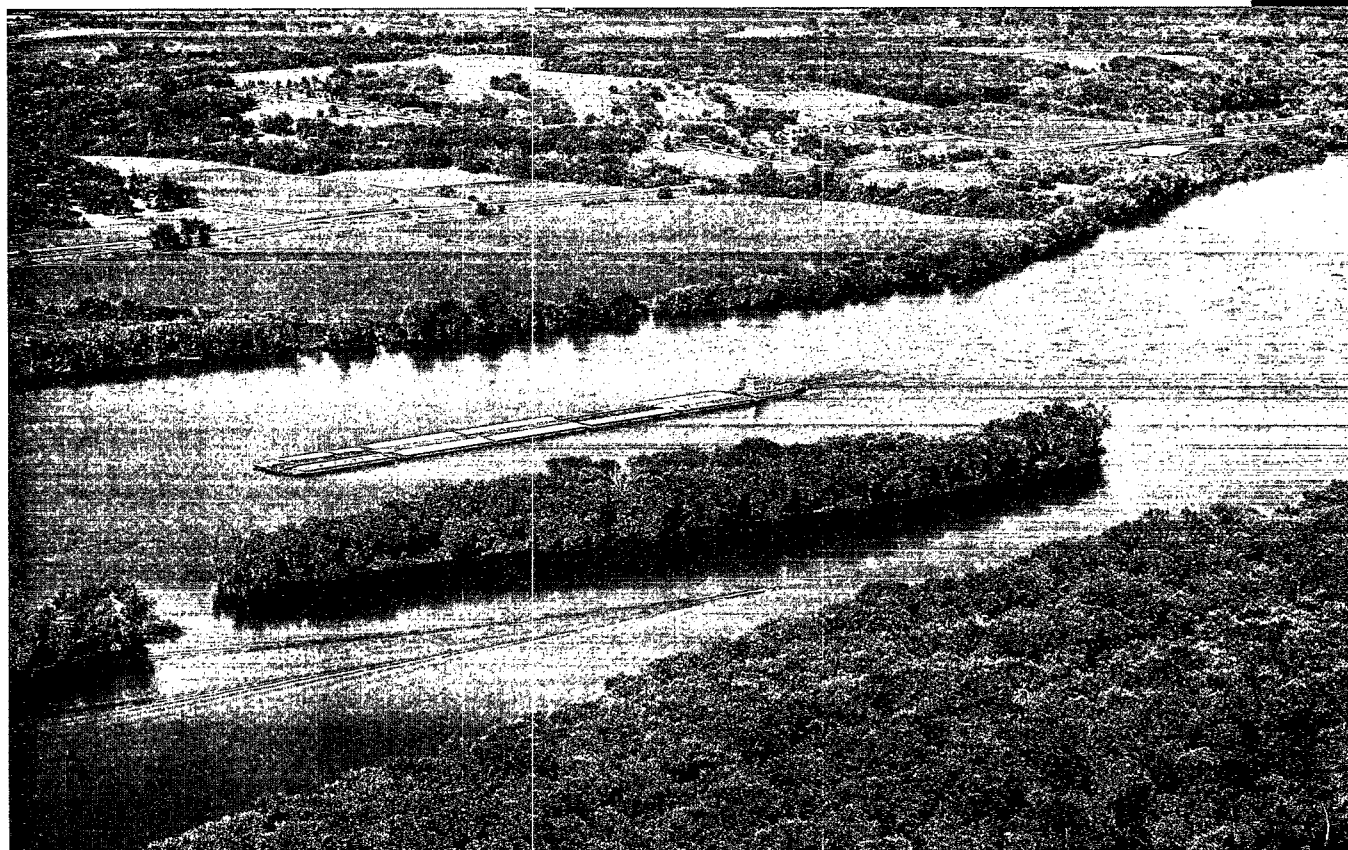
Agency's business. CBEP principles, goals, and indicators should become a basic part of each program's planning, budgeting, and implementation systems. The Agency should take advantage of current oversight mechanisms and other relationships with state environmental and natural resource agencies as effective tools for integrating CBEP within their programs.

National Program Managers (NPMs) and Regional Offices should agree to work together to ensure that all EPA programs are engaged in a CBEP approach to achieve both program goals and place-specific goals. A more focused approach through Headquarters and Regional collaboration will help engage NPMs more directly in the CBEP approach and ensure that Regional Office projects and activities clearly relate to Agency goals.

Finally, EPA should work with states, tribes, and across Agency programs in developing joint CBEP goals, principles, strategies, and measures of performance that will be incorporated into EPA-State/Tribal Performance Partnership Agreements and grants.

Each Regional and Program Office should assess its current programs and policies to determine ways to improve the effectiveness of EPA's delivery of its services within places and its external capacity-building efforts for CBEP. EPA's work in places will require a greater emphasis on effective coordination and enhanced flexibility in the way the Agency allocates its resources. For example, EPA should improve the coordination of targeting and reporting responsibilities among the Agency's place-based programs

Under the umbrella of the Lower Mississippi Valley Ecosystem Restoration Initiative, EPA Regions 4 (Atlanta) and 6 (Dallas) are working together in Mississippi, Tennessee, Arkansas, and Louisiana to address a host of water quality and habitat concerns within the Mississippi Delta, while at the same time promoting sustainable economic development. Some examples of projects include the development of wetlands protection and restoration strategies and tools, and implementation of agricultural best management practices.



(e.g., Sustainable Development Challenge Grants, Regional Geographic Initiative, Environmental Justice). EPA should also evaluate funding options for CBEP and develop options for increasing funding flexibility for multimedia, multi-program work.

EPA MUST WORK IN TANDEM WITH THE STATES TO DEVELOP A PROCESS TO RESOLVE CONFLICTS THAT ARISE WHEN EPA AND STATE GOALS DIFFER.

EPA should develop a process for resolving conflicts with state environmental agencies regarding CBEP priorities. Both state environmental agencies and EPA are committed to protecting human health and the environment, but they may not always agree on methods to achieve their

goals or share priorities regarding CBEP projects. EPA must work in tandem with the states to develop a process to resolve conflicts that arise when EPA and state goals differ. This resolution process will be paramount in any EPA-state partnership.

The Agency should build staff skills and expertise to implement CBEP through training, hiring new staff, and/or obtaining greater access to outside experts. Although the Agency already has a great deal of experience and expertise to build on, EPA needs to strengthen and broaden its CBEP-related skills and tools—especially in areas of stakeholder involvement and holistic planning and assessment—to be as effective as it can be. CBEP will require the Agency to make a greater investment in human resources in order to ensure that it has the necessary skills and expertise to assist communities effectively.

The Agency should improve staff skills and expertise through: (1) more training in areas of social science, such as group facilitation and building consensus, cultural sensitivity, systems thinking, economics, goal setting, and communicating ecological issues; and (2) hiring new staff, developing new career tracks, and obtaining greater access to outside experts, like economists, sociologists, cultural anthropologists, Geographic Information System (GIS) specialists, risk assessors, and mediators.

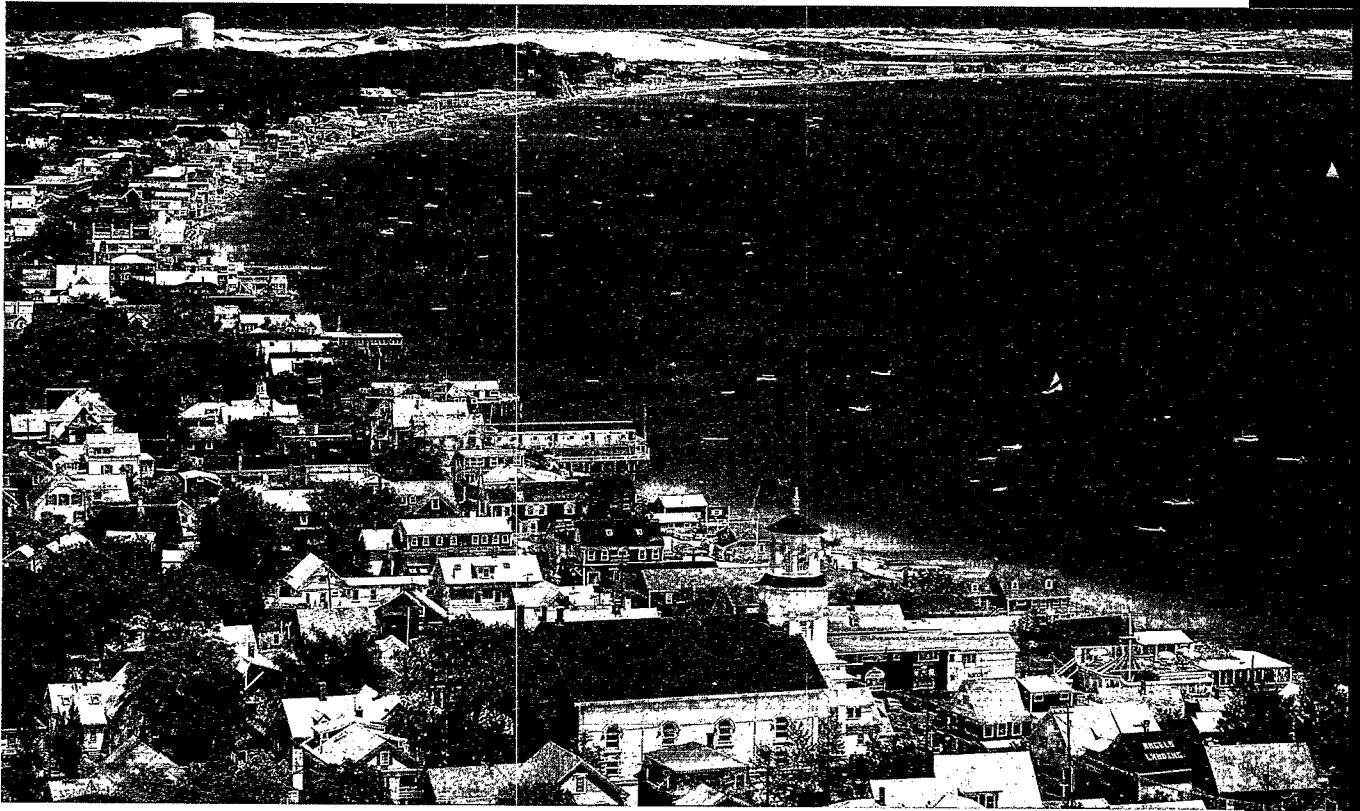
The Agency should provide the scientific foundation to support CBEP activities by making greater investments to develop, enhance, and transfer scientific information and technology. In the CBEP approach, public agencies, private organizations, and citizens monitor and evaluate environmental, social, and economic conditions holistically on various geographical scales. These groups need specific data and information, criteria or benchmarks, guidance materials, training, and other technical tools to make sound environmental decisions affecting their communities. New tools and models that can integrate diverse amounts of data and information (e.g., population, income levels, landscape cover, land use, biological diversity, multi-chemical exposure, comparative risk) and simulate the results of community planning scenarios are required. In addition, tools and information are needed to identify, target, and plan work in priority places. Communities also need measures and indicators of environmental, social, and economic conditions to evaluate progress toward meeting their human health and ecological objectives.

To meet these needs, senior management should support efforts under way by the Office of Research and Development to (1) identify potential Agency CBEP science (i.e., research and technology) activities; (2) characterize the existing Agency CBEP science activities; (3) determine what additional science activities are needed; (4) integrate the science activities into the Agency's research planning process; and (5) design, develop, disseminate, and assist in the application of Agency CBEP science support products (e.g., tools, models, guidance, technical support, training).

Build External Capacity

EPA cannot be directly involved in every community in the country, nor should it be. It can, however, help to build the capacity of others to engage in CBEP activities. EPA must help communities improve their abilities to address environmental issues and pursue sustainability on their own, with little or no direct EPA involvement.

Rather than concentrating all of its resources in one place, the Agency can reach



The Massachusetts Bays Program is a community-based partnership of more than 300 people from 49 coastal communities around Massachusetts and Cape Cod Bays, as well as citizen advocacy organizations, scientists, educators, businesses, and government officials. They have committed to opening shellfish beds, reducing toxics, and ensuring no net loss of salt marsh and wetlands habitat.

thousands of communities, sometimes as a catalyst, helping to resolve technical problems, or can provide information. This strategy allows EPA to maximize the potential environmental benefits of the CBEP approach. Capacity building also affords the Agency an opportunity to learn from its partners.

Capacity-building efforts at all levels are necessary to maximize the opportunities for CBEP. Some roles are less labor intensive or can reach a larger audience (e.g., providing access to existing data), while others are more relevant to a particular audience (e.g., technical assistance). In addition, it is essential that EPA engage communities in identifying the most needed and most appropriate tools before it begins developing them. The following strategy suggests ways EPA can improve and maximize capacity building when it assumes less direct roles than being a full stakeholder in a community.

EPA should build capacity in those organizations, groups, and individuals who can and will engage the CBEP approach in places. Because CBEP activities often are bottom-up endeavors, these external parties include citizens, community groups, nonprofit organizations, associations, businesses and industries, as well as local, state, and tribal governments.

EPA's capacity-building tools should reflect and promote the CBEP principles in order to maximize their potential benefit to communities.

EPA uses three broad tools to build external capacity: (1) data and information, (2) training and technical assistance, and (3) grants. These tools should:

- ▶ be relevant at the community level and, when possible, be tailored for specific places or for specific types of problems;

- ▶ be understandable and available to a broad range of stakeholders;
- ▶ include information on cross-media issues; and
- ▶ include economic and social, as well as environmental, information.

Examples include EPA Region 3's Green Communities Assistance Kit; the Office of Policy's *Community-Based Environmental Protection: A Resource Book for Protecting Ecosystems and Communities*, which provides an overview of tools and approaches available to communities interested in pursuing ecosystem management and sustainability; and the Office of Policy's *Community Cultural Profiling Guide*, which describes various methods for identifying a community's cultural values and analyzes how those values impact a community's relationship with the environment.

The Agency should assemble and deliver data and information in ways that effectively inform the community-based decision-making process, motivate the Agency's constituencies to protect the environment, and support performance measurement. EPA has been working toward improved public access to useful environmental information. The "Expansion of Americans' Right to Know About Their Environment" is a separate EPA goal in the Agency's Strategic Plan. With sources like the Toxic Release

Inventory and Enviro-facts on the EPA Web site (<http://www.epa.gov>), which provide access to a range of existing EPA databases, EPA works to arm the public with information about their local environment.

EPA needs to continue to improve the accessibility of existing environmental information to a broader range

of stakeholders. To this end, EPA should develop strategies to improve information collection, sharing, and use for communities, giving special attention to providing usable and

accessible EPA programs' data and information to the public and communities, and to forging stronger information-sharing partnerships with external organizations (e.g., federal agencies, states, tribes, other governmental entities, nongovernmental organizations, universities, and other information providers).

Work Directly with Stakeholders in Places

In addition to reorienting its programs and building state, tribal, and local capacity, EPA, primarily through its Regional Offices, should work directly with stakeholders in designated priority places. For the purpose of this Framework, "working directly with stakeholders" implies hands-on involvement by EPA: (1) as a leader among stakeholders or (2) as an active but equal stakeholder within a place, during the planning and implementation of a CBEP effort. In either role, EPA may provide direct and substantial assistance (e.g., placing Agency employees within a community, or providing funding, technical assistance, and/or data and information) to other stakeholders within a place. This section offers some minimal guidelines for Regional Offices in developing a process for targeting and working in priority places.

EPA Regional Offices should work with states to establish systematic methods for identifying and targeting priority places for the Agency's direct involvement. To support this targeting, Regional Offices should have access to adequate resources, training, and expertise for using GIS and other tools for mapping and assessing community-level and regional data. States often have a unique knowledge about their regions, and many have developed extensive databases of environmental indicators and have used GIS to map the resources in their areas. EPA should take advantage of these resources, collaborating with state agencies to develop methods and identify priority places.

EPA should continue working in those places that already have been selected as priorities for direct EPA involvement. Any process for targeting new priority places should include collecting and assessing information under the key targeting categories and

EPA MUST HELP COMMUNITIES IMPROVE THEIR ABILITIES TO ADDRESS ENVIRONMENTAL ISSUES AND PURSUE SUSTAINABILITY ON THEIR OWN, WITH LITTLE OR NO DIRECT EPA INVOLVEMENT.

SUGGESTED PROCESS FOR TARGETING PLACES FOR EPA'S DIRECT INVOLVEMENT

KEY CATEGORIES/QUESTIONS

SUGGESTED CRITERIA

Need for an EPA Role

Will the area be significantly enhanced by direct EPA assistance, and does it need or require EPA Regional-level attention and resource focusing?

- Resources are of national significance.
- Area requires a multimedia effort.
- Area has transboundary concerns.
- Community needs are currently unfulfilled.

Level of Ecological/Human Health Risk

Are the risks to humans and natural resources exceptional?

- Ecosystems are at particular risk or of particular importance.
- Area poses exceptional risk to human health.
- Impacts on minorities or low-income groups are disproportional.

Likelihood of Success of EPA Efforts

Will the Agency's involvement produce tangible short-term and long-term results?

- Community capacity and readiness.
- Availability of Agency resources.

criteria outlined in the table above. EPA Regional Offices *are not* required to adopt any of the suggested criteria within each of the three categories, and no single category is more important than another. Regions are only encouraged to work with states to develop targeting processes that include each of the three categories. (Appendix III contains an expanded version of the table above.)

Other decision methods may be used to further refine the list of projects or geographic areas (e.g., weighting schemes, the desired balance of rural and urban ecosystem types and problems, and the number of states represented). EPA and the states should work together to refine the selection process, negotiating specific selection criteria when necessary.

Each EPA Regional Office should develop place-specific plans or strategies that establish the Region's objectives, roles, and milestones. Once EPA Regional Offices have selected their priority places for direct Agency involvement, each Region should develop place-specific plans or strategies that establish its objectives,

roles, and milestones. These plans should be developed in coordination with the plans and priorities of EPA regional and national programs, states, tribes, federal agencies, and regional and local organizations. Wherever possible, EPA's place-specific plans should be linked to Agency program goals and objectives identified in the Strategic Plan. (See Appendix II.)

The CBEP approach often requires EPA to have multi-year commitments with stakeholders within specific places. EPA Regional Offices should try, to the greatest extent possible, to dedicate and use their resources on a multi-year basis so they can respond to the needs of the community and build trust in the Agency's commitment among stakeholders. (Appendix IV includes descriptions of suggested supporting information for a plan's elements.)

SUGGESTED PLAN ELEMENTS

Background and Reason for Selecting the Place

Performance Goals and Measures

Description of EPA Role and Nature of Involvement

Resource Allocations and Milestones

Monitoring and Evaluation of Results

Measuring and Tracking EPA's CBEP Performance

The Agency must be able to demonstrate the progress it makes toward realizing its CBEP goals. EPA recognizes the difficulty in developing measures that are sufficiently flexible to reflect local and regional variation in objectives, but still reflect progress toward EPA's national CBEP goals. The Agency also recognizes that most CBEP activities require years before they can demonstrate actual environmental results. Therefore, performance measures must be capable of measuring *progress toward* EPA's CBEP goals as well as *achievement* of those goals.

The Agency must strive to answer three basic questions about CBEP performance:

- ▶ How much progress is EPA making in coordinating and integrating its programs and activities to increase its effectiveness in supporting community environmental decision making?
- ▶ Is EPA helping communities to develop the tools and capacity necessary to be stewards of their human and natural resources?
- ▶ Is CBEP achieving environmental results consistent with EPA's mission and base program goals, and addressing environmental concerns and issues not addressed under traditional federal regulatory approaches?

Through an extensive public involvement process, the Tahoe Regional Planning Agency (TRPA) has identified nine priority issues that represent the Tahoe Basin's vision of environmental health and quality of life. Working with a stakeholder group and with funding from EPA's Region 9, the TRPA has identified indicators and is developing a monitoring program to track progress on these issues.



CATEGORIES FOR MEASURING CBEP PERFORMANCE

EPA'S CBEP GOALS	PERFORMANCE MEASUREMENT CATEGORIES	PERFORMANCE MEASUREMENT SUBCATEGORIES
<p>Goal 1</p> <p>Coordinate and integrate.</p>	<p>EPA Activity Measures</p> <p>These measures enable EPA to gauge progress in the acceptance and use of CBEP approaches within EPA.</p>	<ul style="list-style-type: none"> • Efforts to reorient EPA programs. • Efforts to build the capacity of others. • Efforts to participate directly in places.
<p>Goal 2</p> <p>Help communities.</p>	<p>Community Capacity Measures</p> <p>These measures track changes in a community's capacity to engage CBEP activities and demonstrate the effectiveness of EPA's efforts to build capacity in places where it is not directly involved.</p>	<ul style="list-style-type: none"> • Community infrastructure. • Governance. • Knowledge of and disposition toward the environment.
<p>Goal 3</p> <p>Achieve environmental results consistent with EPA's base program goals.</p> <p>Goal 4</p> <p>Address environmental concerns and issues not addressed under traditional federal regulatory approaches.</p>	<p>Outcome Measures</p> <p>These measures track the environmental (including human health), economic, and social/cultural results of CBEP work in places. In addition to measures tracked under EPA's Strategic Plan, they emphasize ecological results and measures that focus on sustainability.</p>	<ul style="list-style-type: none"> • Single environmental medium and human health stressors and conditions. • Ecological stressors and conditions. • Economic stressors and conditions. • Social/cultural stressors and conditions.

Regional and Program Offices should measure, track, and report CBEP performance. To demonstrate answers to these questions, EPA should use the three categories of performance measures in the above table, which shows how each category tracks to EPA's CBEP goals and specifies performance measures within each category. (See Appendix V for more details.)

EPA's Regional and Program Offices should track office-wide activity measures. In addition, Regional Offices should track community capacity and outcome measures in CBEP priority places; however, specific measures and indicators should be tailored to the specific characteristics, goals, issues, and objectives in each priority place. *The specific performance measures should not be prescribed.*

CBEP performance measurement should be coordinated with and integrated into existing

Agency accountability systems. In addition to being a valuable management tool, performance measurement is mandated by Congress. Under the Government Performance and Results Act (GPRA), all federal government programs and initiatives are being asked to measure progress and results toward achieving goals and objectives, as described in agencies' strategic plans. In addition, EPA also negotiates Core Performance Measures with the states to track performance for the Agency's delegated programs.

While the Agency is interested in tracking its own performance in using the CBEP approach, and not necessarily that of its state partners, any measurement system should be consistent with the state-EPA accountability system to enhance the ability to share and compare performance information. CBEP is a cross-cutting approach, however, and may not lend itself easily to program-specific tracking

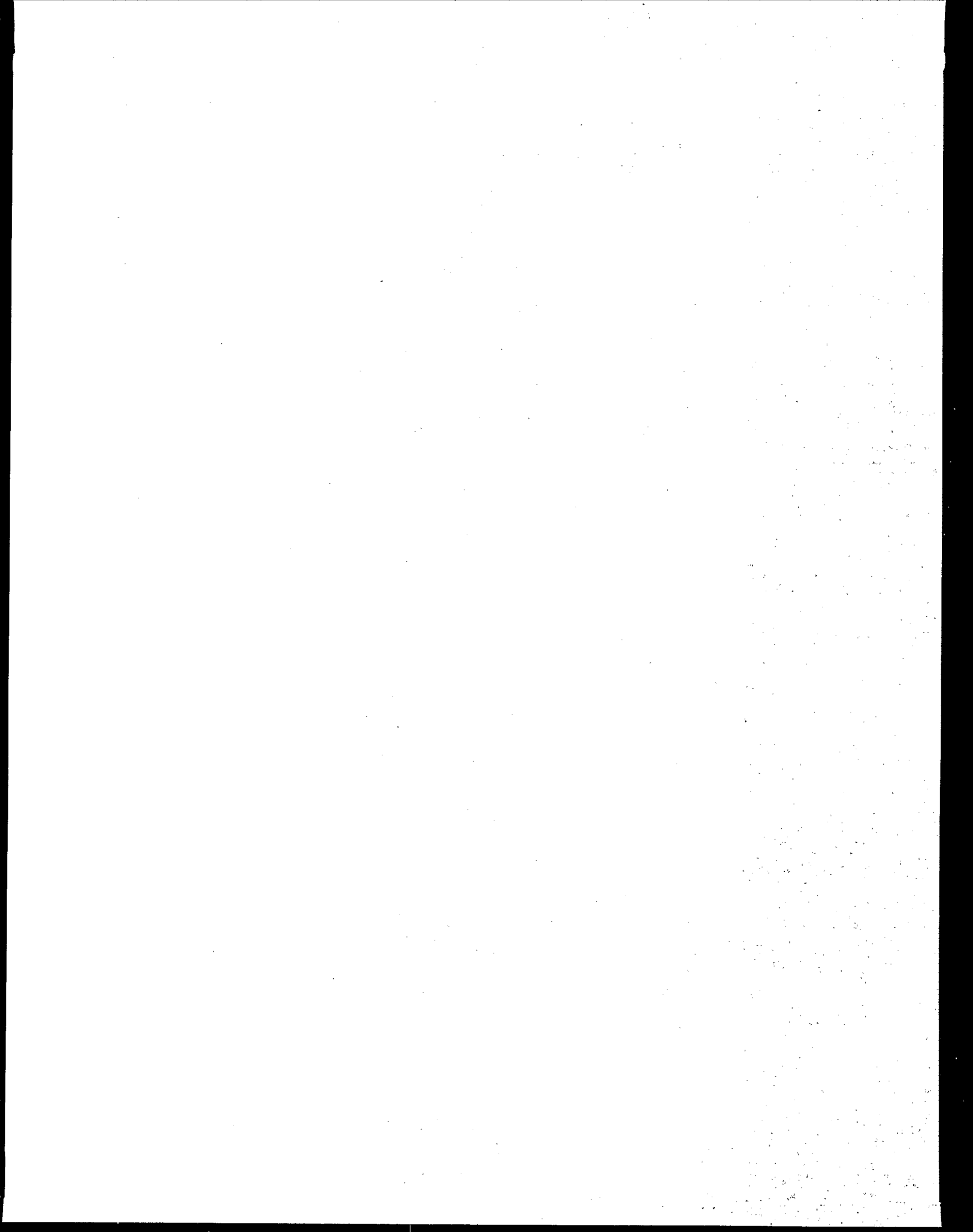
under typical governmental accountability systems. EPA should conduct an analysis of how cross-cutting agency strategies, like CBEP and other place-based approaches, should be tracked and reported under the Agency's accountability system.

In the meantime, EPA still must measure the environmental results attributed to the CBEP approach, as stated in EPA's Strategic Plan. CBEP performance tracking and reporting should be compatible with the GPRA and the Core Performance Measures whenever possible to minimize potential duplicate reporting and to ensure that results attributable to CBEP are accounted for.

The Agency should develop and/or access data sources with information scalable to the local level, especially focusing on data that can be

used to measure ecosystem health and environmental sustainability. Because CBEP is place-based and focuses on ecosystem health and environmental sustainability, in addition to EPA's traditional environmental media focus, the Agency will need to develop or access new kinds of data to support CBEP performance measurement. In many cases, data sources already may exist with state and local governments and nonprofit organizations, and EPA may only need to find the right data-sharing partners. In other cases, the Agency may need to develop strategies for collecting new types of data. EPA should conduct a data needs assessment for measuring CBEP performance, including strategies to improve information collection, sharing, and use, and an assessment of funding needs for CBEP data collection.

Through CBEP, EPA can help communities create a vision of environmental health and quality of life and pursue activities that will achieve that vision. The ultimate success of this approach will depend upon EPA and its stakeholders working collaboratively and forming partnerships to identify needs, develop solutions, and effect change. With the CBEP Framework as a guide, EPA can look forward to continuing its successes in protecting human health and providing healthy, sustainable ecosystems for generations to come.



Appendices



I. Reviewers of the Framework

CBEP Grassroots/Community Organizations

Alliance for the Chesapeake Bay
Business Council for Sustainable Development
(Gulf of Mexico)
Charleston/North Charleston Community
Advisory Group
Maine Environmental Priorities Project
Massachusetts Bay Program
The Mountaineers (Seattle, WA)
New Hampshire Comparative Risk Project
Pacific Rivers Council (Eugene, OR)

Local Governments

Alamo Area Council of Governments (TX)
City of Austin (TX)
City of Tulsa (OK)
City of Watsonville (CA)
Columbus Health Department (OH)
Grant Soil and Water Conservation District
(Silver City, NM)
Local Government Commission
(San Francisco, CA)
Region Council of Rural Counties
(Sacramento, CA)
Seattle City Council (WA)

State and Regional Governments

Alaska Department of Environmental
Conservation
California Resources Agency, Community
Economic Revitalization Team
Florida Environmental Protection Commission
Georgia Department of Natural Resources
Louisiana Department of Environmental Quality
Maryland Department of the Environment
Massachusetts Department of Environmental
Protection
Nevada Department of Environmental Quality
Ohio Environmental Protection Agency
Oregon Department of Environmental Quality
South Dakota Department of Environment and
Natural Resources
Tennessee Department of Environment
and Conservation
Tennessee Valley Authority
Utah Department of Environmental Quality
Washington Department of Natural Resources
Wisconsin Department of Natural Resources

National Environmental Organizations

Environmental Defense Fund
Natural Resources Defense Council
Resources for the Future
The Wilderness Society

Tribes

Cheyenne River Sioux
Citizen Potawatomi Nation
Coeur d'Alene Tribe, Tribal Natural Resource
Department
Fort Peck Tribes: Assiniboine and Sioux
The Kaw Nation of Oklahoma
Lac du Flambeau Tribe
Pueblo of Jemez, Department of Resource Protection

Other Federal Agencies

Economic Development Agency
Interagency Ecosystem Management Coordination
Group
U.S. Army Corps of Engineers, South Atlantic
Division
U.S. Fish and Wildlife Service
U.S. Forest Service
U.S. Geological Survey, Biological Resources Division

Associations, Academic Institutions, and Think Tanks

American Industrial Health Council
Association of State and Interstate Water Pollution
Control Administrators
Association of State Wetlands Managers
California Urban Environmental Research and
Education Center
Canaan Valley Institute
Council of State Governments
Environmental Council of the States, CBEP
Committee
Green Mountain Institute for Environmental
Democracy
International City-County Management Association
Joint Center for Sustainable Communities
National Academy for Public Administration
National Association of Conservation Districts
National Association of Counties
U.S. Conference of Mayors
University of Connecticut, Cooperative Extension
System
Western Center for Environmental Decisionmaking

II. EPA's Strategic Plan: Mission, Goals, and Guiding Principles

Mission

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.

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 the 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.

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. The principles include:

- ▶ Reduce Health and Environmental Risks
- ▶ Emphasize Pollution Prevention
- ▶ Emphasize Children's Health
- ▶ Strengthen Partnerships
- ▶ Maximize Public Participation and Community Right to Know
- ▶ Emphasize Comprehensive Regional and Community-Based Solutions
- ▶ Place Emphasis on Indian Country
- ▶ Choose Common-Sense, Cost-Effective Solutions

Source: EPA Strategic Plan. EPA, Office of the Chief Financial Officer (EPA/190-R-97-002), Washington, DC: September 1997.

III. Suggested Process for Targeting Places for EPA's Direct Involvement

EPA should continue working in those places that already have been selected as priorities for direct EPA involvement. Any process for targeting new priority places should include collecting and assessing information under the key targeting categories and criteria outlined in the table below. EPA Regional Offices *are not* required to adopt any of the suggested criteria within each of the three categories, and no single category is more important than another. Regions are only encouraged to work with states to develop targeting processes that include each of the three categories.

SUGGESTED PROCESS FOR TARGETING PLACES FOR EPA'S DIRECT INVOLVEMENT	
KEY CATEGORIES/QUESTIONS	SUGGESTED CRITERIA
<p>Need for an EPA Role</p> <p>Will the area be significantly enhanced by direct EPA assistance, and does it need or require EPA Regional-level attention and resource focusing?</p>	<ul style="list-style-type: none"> • Area includes resources of national or international significance (e.g., the Everglades), as designated by the U.S. Congress, the United Nations, or an appropriate government agency or organization; • Area requires a concerted multimedia, multi-programmatic effort, or an extraordinary effort from one or a few EPA media programs; • Area demonstrates transboundary (multi-state or international) concerns (e.g., the Rio Grande); and/or • Community needs and/or environmental concerns are currently unfulfilled by other governmental agencies, stakeholder groups, or other EPA efforts.
<p>Level of Ecological/Human Health Risk</p> <p>Are the risks to humans and natural resources exceptional?</p>	<ul style="list-style-type: none"> • Ecosystems are threatened, degraded, seriously impaired, or important to the maintenance of biodiversity and major ecological corridors (e.g., flyways supporting migratory bird populations in the Great Plains); • Area poses exceptional risk to human health (e.g., high PCB contamination in sediments); and/or • Environmental effects are disproportionately felt by minority populations and/or the economically disadvantaged and subsistence groups (e.g., dependent upon fish for food).
<p>Likelihood of Success of EPA Efforts</p> <p>Will the Agency's involvement produce tangible short-term and long-term results?</p>	<ul style="list-style-type: none"> • Scale and clarity of the area's geographic boundaries; • Community capacity and readiness (e.g., existence of an established community infrastructure for environmental decision making, quality of environmental partnerships and leadership); • Public interest and partnership support for technical, financial, and information assistance; and/or • Availability of Agency resources.

IV. Suggested Elements and Supporting Information for Place-Specific Plans

Once EPA Regional Offices have selected their priority places for direct Agency involvement, each Region should develop place-specific plans or strategies that establish its objectives, roles, and milestones. These plans should be developed in coordination with the plans and priorities of EPA regional and national programs, states, tribes, federal agencies, and regional and local organizations. Wherever possible, they should be linked to Agency program goals and objectives identified in the Strategic Plan. (See Appendix II)

SUGGESTED ELEMENTS AND SUPPORTING INFORMATION FOR PLACE-SPECIFIC PLANS

SUGGESTED PLAN ELEMENTS

SUGGESTED SUPPORTING INFORMATION

Background and Reason for Selecting the Place as a Regional Priority

- Ongoing efforts within the priority place by EPA and other partners (e.g., EPA program funding and activities, risk assessments, and studies).
- Reasons for selecting the place as a priority (e.g., criteria met, selection methods used).
- Major sources, stressors, and issues related to human health and the environment (e.g., loss of habitat, nutrient enrichment, metals mining and ore processing).

Performance Goals and Measures

The environmental conditions being measured may not change significantly on an annual basis and may represent conditions that are only marginally affected by direct EPA actions. The goals and measures for priority places should be developed with partners and stakeholders.

- Short- and long-term activity, human health, environmental, and sustainability goals (e.g., restore depressed shellfish and wildlife stocks to sustainable levels).
- Short- and long-term measures and indicators used to gauge progress toward achieving goals (e.g., trends in the size of depressed stocks).

EPA Role and Nature of Involvement

- Alternative public and/or private action, if any, to EPA involvement, and how EPA involvement will make a difference.
- Extent and type of services/activities EPA will provide.
- Appropriate level of responses to place-specific projects.
- Essential partnerships and minimum/optimum requirements for collaboration.
- Project assistance time periods and goals for successful project initiation, execution, and closure.
- Supplementary sources of funding, services, and information.

Resource Allocations and Milestones

- Resource allocation identified for CBEP activities.
- Guidance and milestones for providing funds, technical assistance, information to communities and other service providers.

Monitoring and Evaluation of Results

Regional Offices will redirect EPA funding and activities when necessary to continue the Agency's contribution to progress in a meaningful and substantive direction.

- Process to be used for periodic assessment of progress in achieving EPA's outputs and outcomes.

V. Examples of CBEP Performance Measures

The following examples of performance measures are intended to improve the understanding of each measurement category. They may serve as a starting place for developing Region- and place-specific measures, to be used like a menu—a Region or priority place may select from each list those measures that are appropriate for them. Regions are not, however, limited by these examples in any way. The lists are not intended to be exhaustive, do not reflect the “right” number of measures, and do not define the scope and range of the categories.

CBEP GOAL I Coordinate and integrate EPA's programs and activities to increase its effectiveness in supporting sound community environmental decision making.		
CATEGORY OF PERFORMANCE MEASURES RELATED TO CBEP GOAL I: EPA ACTIVITY MEASURES		
Because it often takes years for environmental results to materialize, activity measures are necessary to gauge the level of CBEP implementation. These measures will tell us how much and what kind of “CBEP” is happening.		
SUBCATEGORIES OF ACTIVITY MEASURES	SPECIFIC EXAMPLES OF ACTIVITY MEASURE SUBCATEGORIES	
<p>Reorienting EPA Programs to Better Support CBEP</p> <p>This category should include measures of organizational change that improves EPA's ability to work across Program Offices and Regions, adopt multimedia approaches, develop effective partnerships, and deliver appropriate services to support CBEP activities. It also should include activities that develop EPA staff expertise in CBEP (e.g., training, hiring practices), as well CBEP tools for EPA use in communities.</p>	<ul style="list-style-type: none"> breakdown of financial resources (e.g., grants/IAG, contract, travel) directed toward CBEP activities hours of CBEP-related training for EPA staff and management projects for which innovative organizational structures or cross-program or cross-division partnerships were established to accommodate cross-media work 	<ul style="list-style-type: none"> partnerships developed with organizations outside of EPA to leverage resources and/or expertise resources and expertise leveraged through established partnerships with organizations outside EPA # of IPAs and details established for the specific purpose of supporting CBEP work # of CBEP-related staff for whom CBEP duties have been included in the PERFORMS system
<p>Building External Capacity</p> <p>This category should include measures of the availability and range of EPA's CBEP tools, customer satisfaction with those tools, as well as the diversity among types of stakeholders using the tools (e.g., states vs. tribes vs. community nonprofits).</p>	<ul style="list-style-type: none"> # of users of selected CBEP tools (e.g., training, resources, informational materials) customer satisfaction with EPA tools and information systems 	<ul style="list-style-type: none"> # and characteristics of projects in which EPA initially took a lead, but later became community-led # of states entering into NEPPS agreements that include CBEP language and CBEP-related performance measures
<p>Working Directly with Stakeholders in Places</p> <p>This category should include the range and types of places in which EPA is working, the range and types of issues being addressed, and the extent to which each project is embracing the CBEP principles. These measures should be expressed as raw numbers and as a percentage of the total.</p>	<ul style="list-style-type: none"> projects defined by geographic area, and the breakdown by type (e.g., political jurisdiction, subwatershed, watershed, ecosystem, ecoregion) projects involving federal, state/tribal, local government, and community stakeholders projects using a cross-media (i.e., air, water, waste, and pesticides/toxics) approach 	<ul style="list-style-type: none"> projects involving economic and/or sociocultural goals projects pursuing goals that were established through a collaborative process involving stakeholders projects focusing on each of a range of issues or landscapes (e.g., development issues, watershed restoration, Superfund site cleanup/restoration, threatened species, water quality and quantity)

CBEP GOAL 2

Help communities develop the tools and capacity necessary to be stewards of their human and natural resources.

**CATEGORY OF PERFORMANCE MEASURES RELATED TO CBEP GOAL 2:
COMMUNITY CAPACITY MEASURES**

These measures will track changes in a community's capacity to engage CBEP activities. In addition to providing a profile of a community's capabilities, they will demonstrate the effectiveness of EPA's efforts to build capacity in the communities where it is not directly involved. These measures should be expressed as changes from the previous measurement cycle or from a baseline.

**SUBCATEGORIES OF COMMUNITY
CAPACITY MEASURES**

**SPECIFIC EXAMPLES OF COMMUNITY
CAPACITY MEASURE SUBCATEGORIES**

Community Infrastructure

This category attempts to measure a community's ability to organizationally and structurally support CBEP efforts. It should track the community's formal organizations and alliances, as well as its informal partnerships. It also should track the level of public participation in community activities, and the community's access to and use of CBEP tools (e.g., environmental data, technical experts).

- membership in environmental/conservation/wildlife organizations
- # of public/private partnership efforts to protect the environment
- # of participants in environmental volunteer activities

Environmental Awareness

This category attempts to measure the general level of awareness and understanding of environmental issues in the community, as well as the relative importance of these issues to community members.

- amount of class time devoted to environmental curriculum in local schools
- # and % of residents who list environmental health as a component of a better quality of life.
- # and % of environment-related articles in local media
- # of art exhibits/shows featuring nature, animals, etc.

Governance

This category should gauge the ability of government institutions to address a community's environmental concerns, the relative importance government institutions assign to environmental issues, as well as the level of public participation in local governance.

- # of joint projects among municipal, county, and state governments
- government spending on environmental issues

CBEP GOALS 3 AND 4

Achieve environmental results consistent with EPA's mission and base program goals, as stated in EPA's authorizing statutes and Strategic Plan. Address environmental concerns and issues not addressed under traditional federal regulatory approaches, such as urban sprawl, urban and agricultural runoff, and loss of biological diversity.

CATEGORY OF PERFORMANCE MEASURES RELATED TO CBEP GOALS 3 AND 4: OUTCOME MEASURES

These measures will track the actual environmental (including human health), economic and social/cultural outcomes or results of CBEP work in places. In addition to measures tracked under EPA's GPRA (Government Performance Results Act) Strategic Plan, emphasis will be given to ecological results and measures that focus on sustainability. These measures should be expressed as changes from the previous measurement cycle or from a baseline.

SUBCATEGORIES OF OUTCOME MEASURES

Programmatic, Media-Specific, Environmental and Human Health Outcomes

This category should include measures of progress toward EPA Program Office goals, such as air and water quality indicators and levels of soil and food contamination.

- emission reductions for each criteria air pollutant
- emissions of air toxics (organic and inorganic chemicals, heavy metals)
- # of people in clean air nonattainment areas
- average annual visibility impairment in national parks and wilderness areas
- population served by community drinking water systems violating health-based requirements
- ground and surface water pollutants

Ecological Outcomes

This category does not track single-medium pollutants that contribute to ecosystem degradation and poor human health, but rather the effects of pollution and other causes on the stability and viability of urban and natural ecosystems.

- plant and animal diversity (compared to a reference condition)
- population and/or health of selected "indicator" species
- degree and rate of fragmentation of ecosystem by types
- number of species experiencing reduced range

Economic Outcomes

This category should include measures of changes in economically motivated activities and outcomes that impact the environment, such as resource consumption, investment patterns, employment patterns and characteristics, transportation policy, and land-use policy.

- land use/cover
- human migration and dispersal patterns (also social)
- % of development within five minutes of stores, transit, etc.
- % of population living in urban areas (also social)
- energy consumption by use, per capita (also social)

Social and Cultural Outcomes

This category should include measures of social and cultural pressures and outcomes that directly impact the environment, such as human settlement patterns, individual energy use, environmental justice issues, and recreational opportunities.

- # and % of people exposed to toxins, by ethnicity and income
- # and % of people with access to adequate sanitation, trash pick-up/disposal
- # and % of population served by wastewater treatment

SPECIFIC EXAMPLES OF OUTCOME MEASURE SUBCATEGORIES

- population served by community drinking water systems exceeding lead action levels
- fish consumption advisories
- biological integrity
- species at risk
- wetland acreage
- water meeting designated uses
- contaminated sediments
- nonpoint-source sediment loadings from cropland
- marine debris
- number and level of pesticide residues found in food
- pesticide use (agricultural, household, and commercial)
- % reduction in wastewater flows
- hazardous waste generation
- municipal waste per capita
- indoor radon levels
- blood lead levels
- amount of hazardous waste managed by type of method
- brownfield properties cleaned up and converted to economic reuse
- amount of solid waste landfilled, recycled, or incinerated.

- number of native species (aquatic, terrestrial, plant) at risk
- river and stream miles designated as healthy, using Biological Integrity Assessments
- number of fish kills and number of fish killed
- eutrophication conditions in estuaries, lakes, and reservoirs
- % of assessed water bodies with healthy biological communities
- average seasonal soil nutrient content by location
- biotic/ecosystem assessment indices (e.g., Index of Biological Integrity)
- rate of topsoil loss per year

- ratio of renewable resource energy extracted vs. amount generated
- # jobs dependent upon resource extraction (also social)
- materials use per capita; per output (also social)
- total and per capita water supply withdrawal
- ratio of timber harvest to timber growth
- ratio of amount of raw resources exported vs. value-added exports
- vehicle miles traveled per capita per year (also social)
- transportation fuel consumption per capita (also social)
- modes of transportation to work (also social)
- % of commuters living within 30 minutes of work (also social)

- % of population within 1/2 mile of green/open space
- miles of maintained walking, hiking, biking trails per 1,000 residents
- # of people engaging in outdoor recreation
- # and % of residents who consider their community beautiful
- # and % of people who express pride in their community and environment
- perceived quality of life

Sources of Example Measures

USEPA, OW, *Environmental Indicators of Water Quality in the United States*. EPA 841-R-96-002. Washington, DC. 1996.

USEPA, "Core Performance Measures for FY 1998, as developed by the National Program Managers in collaboration with State Environmental Commissioners." August 1997.

State Environmental Goals and Indicators Project, *Environmental Indicator Technical Assistance Series: Volume One—Catalog of Environmental Indicators*. Florida Center for Public Management, Tallahassee, FL. October 1996.

USEPA, *EPA Strategic Plan*. EPA/190-R-97-002. Washington, DC. September 1997.

Sustainable Development Indicators Group, "Proposed 1997 Sustainable Development Indicators: Indicators Inventory." Interagency Working Group on Sustainable Development Indicators, Council on Environmental Quality. October 1996.

Hart, Maureen, *Guide to Sustainable Community Indicators*. Ipswich, MA: QFL/Atlantic Center for the Environment. 1996.

VI. Glossary of Terms

biological diversity (biodiversity) The variety of living organisms from all sources, including terrestrial, marine, and other aquatic ecosystems and ecological complexes of which they are part. It considers diversity at all levels, from genetic variants within a species, to the variety among species and higher taxonomic levels, as well as the variety of ecosystems in which they live. [USAID Strategy for Biodiversity Conservation, 1995.]

brownfields Abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination. EPA's Brownfields Initiative is designed to empower states, communities, and other stakeholders in economic development to work together to prevent, assess, safely clean up, and sustainably reuse brownfields. [EPA Office of Solid Waste and Emergency Response home page, URL: <http://www.epa.gov/swerosps/bf/index.html>]

community In general, community includes components and attributes of social interaction, common ties, mutual satisfaction of needs, and shared territory or place. More specifically, individuals may define and understand what is meant by community in any particular situation. As such, any "community" includes a variety of differing values, perceptions, priorities, and complex inter-relationships around environmental protection as well as other community-based issues.

community-based environmental protection (CBEP) EPA's term for a holistic and collaborative approach to environmental protection that brings together public and private stakeholders within a place or community to identify environmental and public health concerns, set priorities, and forge comprehensive solutions. Through CBEP, which is often called a place-based or ecosystem approach, stakeholders consider environmental protection along with human social needs, work toward achieving long-term ecosystem health, and foster linkages between economic prosperity and environmental well-being.

comparative risk Generally, comparative risk refers to the process of estimating the risks (human health, ecological, and/or quality of human life) of various environmental problems, and prioritizing the problems and their management based on the level of risk each poses. Comparative risk at EPA also refers to a specific technical assistance program. Under the program, comparative risk is "a cross-media problem assessment and planning effort that can be applied at the federal, state, local, or watershed level.... [T]he process brings together diverse stakeholders to reach consensus on which environmental problems pose the most risk to human health, ecosystem health, and quality of life; and to develop consensus on an action plan to reduce those risks." ["EPA's Comparative Risk Projects: Bridging Science and Public Values." EPA, Regional and State Planning Division: June 1997.]

ecosystem A dynamic complex of plant, animal, and microorganism communities and their non-living environment interacting in a functional unit. [EPA's *Agency-wide Strategic Plan: A New Generation of Environmental Protection*, July 1994.]

environmental justice EPA defines environmental justice as the "fair treatment for people of all races, cultures, and incomes, regarding the development of environmental laws, regulations, and policies." Over the last decade, attention to the impact of environmental pollution on particular segments of our society has been steadily growing. Concern that minority populations and/or low-income populations bear a disproportionate amount of adverse health and environmental effects led

President Clinton to issue an Executive Order in 1994 focusing federal agency attention on these issues. EPA responded by developing an Environmental Justice Strategy.

Geographic Information Systems (GIS) GIS comprise software and hardware systems that relate and display collected data in terms of geographic, or spatial, location. The ability of GIS to quickly overlay new information on top of existing base data and to display it in color on a computer screen is helping users conduct analyses and make decisions related to geology, ecology, land use, demographics, transportation, and other domains in ways never before possible. For example, in searching for a safe site for a landfill, a researcher may direct the computer to overlay a regional elevation map with data on various types of soil. The soils data, in turn, can be removed or overlaid still further, say, with data on groundwater. [“Book of the Year (1995): Earth Sciences: OCEANOGRAPHY: Mapmaking: Redrawing the Boundaries.” Britannica Online.]

Government Performance and Results Act (GPRA) A statutory framework, enacted by Congress in 1993, to change and improve management of the federal government. The GPRA seeks to shift the focus of federal management and decision making away from a preoccupation with activities that are undertaken to a focus on the results of those activities as reflected in citizens’ lives. Specifically, the Act requires executive agencies to prepare multi-year strategic plans (including mission, goals and objectives, and strategies), annual performance plans, and annual performance reports. [The Government Performance and Results Act: 1997 Governmentwide Implementation Will Be Uneven. U.S. General Accounting Office (GAO/GGD-97-109): June 1997.]

multimedia Environmental media are the building blocks of our environment—the air, water, land, and living resources. Most of EPA’s major programs are organized around individual environmental media. This organizational structure often means that each office only concerns itself with issues as they relate to one medium. When EPA uses the phrase “multimedia,” it is referring to an approach where multiple environmental media are assessed and addressed simultaneously and in a coordinated fashion. For example, when air pollutants are deposited into surface water, the Offices of Air and Water might work together, using a multimedia approach, to solve their combined problems.

National Environmental Performance Partnership Systems (NEPPS) A set of basic principles jointly developed by EPA and states. These principles include increased use of goals and indicators, self-assessments, differential oversight, public outreach, and joint evaluations. A key element of NEPPS is the development of Environmental Performance Agreements, sometimes called Performance Partnership Agreements, which are broad strategic documents containing joint statements of priorities and goals negotiated between states and EPA Regions.

Regional Geographic Initiative (RGI) RGI began in 1991 as EPA’s Regional Offices completed comparative risk assessments of environmental problems to estimate risks to human and ecological health. The problems were evaluated and prioritized to identify risks that were not being addressed, wholly or in part, by existing national environmental programs. The Regions proposed addressing these complex and cross-jurisdictional problems by using a geographic-based, multimedia approach. In 1994, an RGI fund was established to support these efforts.

risk assessment and risk management Each environmental problem poses some possibility of harm to human health, the ecology, the economic systems, or the quality of human life. That is, each problem poses some environmental risk. Risk assessment is the process by which the form, dimension, and characteristics of that risk are estimated, and risk management is the process by which the risk is reduced. [Reducing Risk: Setting Priorities and Strategies for Environmental Protection. EPA Science Advisory Board, Washington, DC: September 1990.]

stakeholders The variety of people interested in a particular place, such as individual residents and landowners, civic and religious organizations, businesses and industry associations, environmental and conservation groups, and governmental agencies at all levels.

sustainable communities Communities that pursue sustainable development (see definition below) at the local level. They are “cities and towns that prosper because people work together to produce a high quality of life that they want to sustain and constantly improve.” [*Sustainable America: A New Consensus for Prosperity, Opportunity, and a Healthy Environment for the Future*. President’s Council on Sustainable Development, Washington, DC: February 1996.]

sustainable development The most widely used definition of sustainable development comes from the United Nations World Commission on Environment and Development, which in 1987, defined it as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” Beyond this no singular definition has emerged; however, there is consensus on its fundamental tenets: “a concern for sustainable development counsels long-term time horizons consistent with our responsibilities to others, recognition of the interdependence of the economy and the environment, and more comprehensive, integrated approaches to economic development and environmental protection.” [*Sustainable Development and the Environmental Protection Agency*. EPA, Office of Policy, Planning and Evaluation (EPA/230-R-93-005), Washington, DC: June 1993.]

watershed approach A coordinating framework for environmental management that focuses public- and private-sector efforts to address the highest-priority problems within hydrologically defined geographic areas, taking into consideration both ground and surface water flow. [*Watershed Approach Framework*. EPA, Office of Water (EPA/840-S-96-001), Washington, DC: June 1996.]