

EPA

Promoting Innovative Approaches to Environmental Protection

A Summary of
Recommendations from the

National Advisory Council for
Environmental Policy and
Technology

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May 20, 1996

To the Reader:

I am pleased to provide you with this report from the National Advisory Council for Environmental Policy and Technology (NACEPT): "Promoting Innovative Approaches to Environmental Protection." This document describes the Council's work and resulting recommendations during FY 1995.

The EPA and many of its programs are undergoing major change as part of the current efforts to reinvent government, and NACEPT has helped the Agency identify new ways of managing environmental protection. One of the newest approaches is the concept of Community Based Environmental Protection (CBEP), a way that long-term ecological, economic and social needs can be integrated to achieve community based environmental management.

The Administrator of EPA asked NACEPT for recommendations in making this management shift. To respond to this request, NACEPT formed three committees charged with:

- Examining the availability, accessibility and use of environmental information in support of CBEP
- Evaluating opportunities for EPA to re-orient its statutory and regulatory authorities to integrate an ecosystem management approach into its decision making processes, and
- Examining the major elements of sustainable economies and the opportunities for harmonizing environmental policy, economic activity, and ecosystem management.

I want to thank Holly Stoerker, Vice-Chair of NACEPT, for her **energy and leadership** during the development of the Council's work **culminating with this report**. I also want to thank the staff of the Office of Cooperative Environmental Management for their excellent support and service to NACEPT.

Sincerely,

Robert L. Rhodes Jr.
Chair, NACEPT

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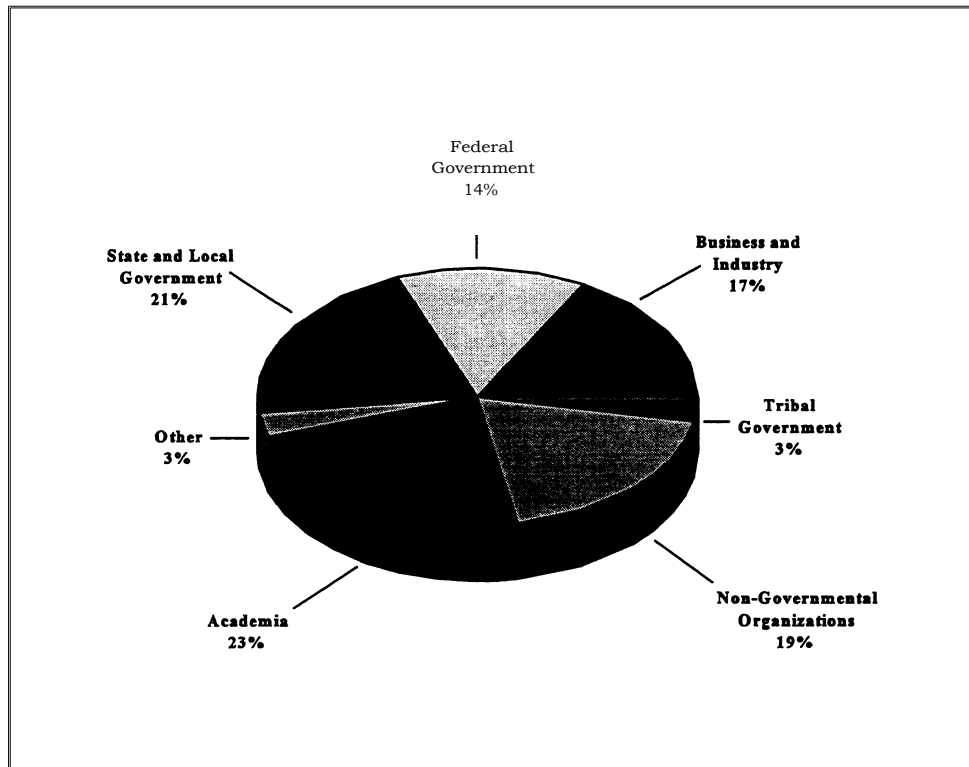
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*The National Advisory Council on Environmental Policy and Technology is an
independent advisory committee to the Administrator of the
U.S. Environmental Protection Agency.
The findings and recommendations of the Council do not necessarily
represent the views of the Environmental Protection Agency.*

ABOUT NACEPT

The National Advisory Council for Environmental Policy and Technology (NACEPT) is a public advisory committee that was first chartered under the Federal Advisory Committee Act (FACA) PL92-463 on July 17, 1988. The Council provides advice and recommendations to the Administrator and other officials of the U.S. Environmental Protection Agency (EPA) on a variety of environmental issues. NACEPT members include senior level officials and experts from a wide range of EPA's constituencies, including business and industry; federal, state, local, and tribal governments; international organizations; academia; and environmental, professional, and labor organizations.

Composition of NACEPT Membership 1995



The Office of Cooperative Environmental Management (OCEM), a staff office within the EPA Administrator's office, provides budgetary support and serves as the executive secretariat for NACEPT. Working with EPA program offices, OCEM assists the Administrator in recommending broad, cross-cutting environmental policy and technology issues for NACEPT consideration.

NACEPT has several standing committees, as well as ad hoc committees formed to address specific issues. Currently, NACEPT has three committees addressing issues related to EPA's Community-Based Environmental Protection initiatives, and one committee that deals with several more narrowly-focused matters. Committees include NACEPT members and other individuals chosen for their expertise and because they represent a group particularly affected by the issue under deliberation: All meetings of NACEPT and its committees are open to the public.

The results of NACEPT's work may be delivered in formal reports, or advice may be provided in the context of meetings with EPA management and staff. All levels of the Agency have interacted with NACEPT at various times, including the Administrator and Deputy Administrator, Assistant Administrators, and Program Office Directors and staff. This interactive format allows NACEPT to provide timely and relevant feedback as the Agency's work proceeds and evolves.

INTRODUCTION

A major focus of NACEPT's work during FY 1995 was providing advice to EPA as it commenced development of its community-based approach to environmental protection. CBEP is a framework whereby communities -- in partnership with local governments, states, federal agencies, and other stakeholders -- identify environmental problems and priorities in specific places, develop management strategies to achieve community objectives, and implement those strategies at the local level.

The Administrator requested that NACEPT concentrate on ecosystem management and the integration of ecological, economic, and social needs that will be required to achieve a community-based approach to environmental protection. In response, NACEPT formed three committees:

The Ecosystems Information and Assessments Committee examined the availability, access, and use of environmental information, and current science and assessment processes to support CBEP.

The Ecosystems Implementation Tools Committee evaluated opportunities for the Agency to reorient the use of its existing statutory and regulatory authorities to integrate CBEP into the Agency's decision-making and identified opportunities for developing partnerships.

The Ecosystems Sustainable Economies Committee examined issues associated with harmonizing economic activity and ecosystem management, and the policies needed to achieve sustainable economies.

NACEPT endorsed CBEP as a valuable framework for an integrated approach to ecosystem management that has great potential for success. Protecting the environment by empowering communities through information, science, and education was viewed as one of the most potentially significant initiatives EPA has started in many years.

Many of NACEPT's recommendations to EPA addressed the changes needed in institutional roles and responsibilities if CBEP is to achieve its full potential. In particular, NACEPT described the need for EPA to play new roles -- as leader, convener, mediator and educator. NACEPT also focused on the need for collaborative partnerships among EPA and other federal agencies, states, local governments, private parties and communities.

NACEPT also provided advice on the tools and resources needed to implement CBEP effectively, including scientific models, data and information, and training. NACEPT described the required characteristics of these tools, and made specific suggestions for ways in which EPA could contribute to their improvement.

Finally, NACEPT provided advice on steps needed to integrate economic and ecosystem management goals, including EPA's role in promoting consensus, issues related to measurement, the design of accounting tools, the use of incentives, and the valuation and modeling of environmental impacts.

In addition to the activities of the CBEP committees, NACEPT's Environmental Information, Economics, and Technology Committee made recommendations to the Agency on the following issues during FY 1995:

Toxics data reporting: NACEPT made recommendations on the redesign of the Toxics Release Inventory (TRI) Form R and provided advice on the selection of industries for expanded coverage of TM.

Radiation cleanup: NACEPT members provided comments on the draft Radiation Site Cleanup Rule.

Effluent guidelines: NACEPT made a number of recommendations regarding access to pollution prevention research, conduct of surveys, long-range plans for identifying candidate industries, review of past experience with effluent guidelines, and development of analytical methods.

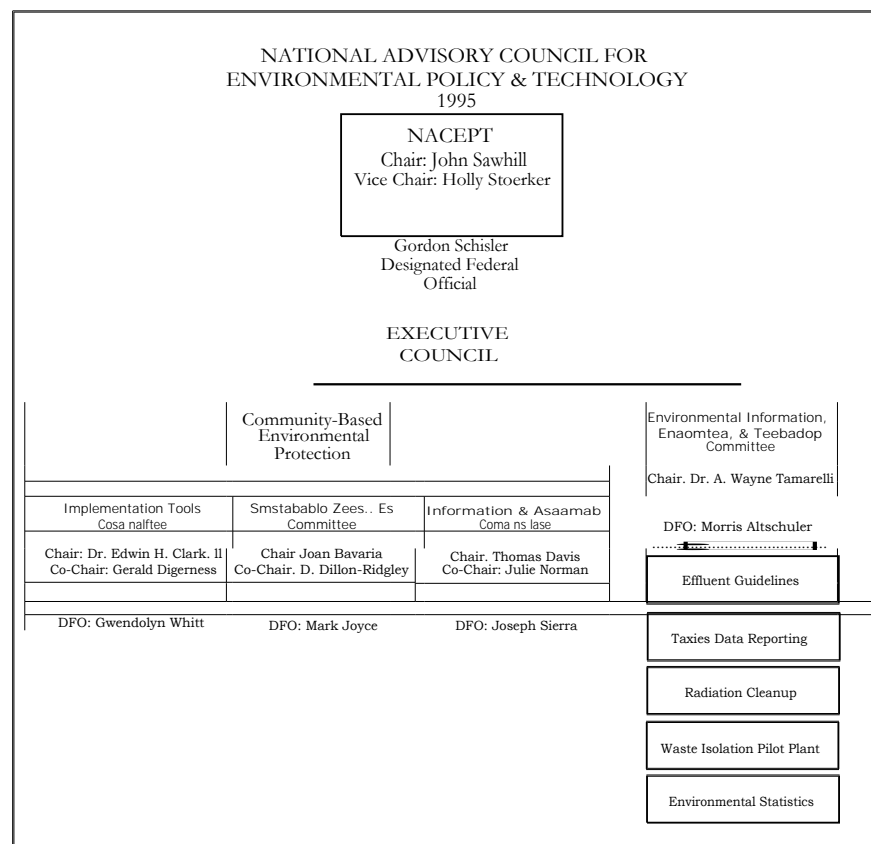
Waste Isolation Pilot Plant (WIPP): NACEPT made recommendations on three major issues related to EPA's oversight of environmental performance by the Department of Energy at the WIPP: the design of release limits, the role of passive institutional controls, and the use of peer review.

Environmental statistics: NACEPT recommended that EPA establish a Center for Environmental Statistics and that the US/Mexico Border Environmental Statistics effort be elevated to program status.

SUMMARY OF NACEPT RECOMMENDATIONS

This report summarizes NACEPT's recommendations to the Agency during FY 1995. The first section summarizes NACEPT's recommendations concerning CBEP, made by the three CBEP committees shown below. These recommendations were provided to EPA senior management and program office staff, and as input to the Agency's Senior Leadership Council for its February 1995 meeting.'

The second section discusses recommendations concerning topics other than CBEP. These recommendations were made by the Subcommittees of the Environmental Information, Economics, and Technology Committee; the topics addressed include toxics data reporting, radiation site cleanup, effluent guidelines, the Waste Isolation Pilot Plant, and environmental statistics.



' The Senior Leadership Council (SLC) is chaired by the Deputy Administrator and is comprised of the Agency's Deputy Assistant Administrators and Deputy Regional Administrators. The focus of the SLC's February 7, 1995 meeting was to reach agreement on the components for CBEP, a conceptual framework, and the next steps necessary for the Agency to move forward in implementing CBEP.

RECOMMENDATIONS OF NACEPT'S CBEP COMMITTEES

The following is a summary of NACEPT's key findings and recommendations concerning CBEP. This summary combines the work of all three committees, and is organized by topic. Summaries of individual committee recommendations can be found in Appendices A, B and C. The initial sections describe the CBEP approach and NACEPT's role in CBEP.

Community-Based Environmental Protection (CBEP)

EPA's traditional media-based programs have achieved significant improvements in environmental quality over the past twenty-five years. However, we continue to discover new sources of stress on the environment that threaten precious ecological resources: Declines in the salmon populations in the Pacific Northwest, decreases in Chesapeake Bay oyster stocks, threats to water quality from excessive nutrient runoff, and losses of wetlands and grasslands to development all point to the need for new approaches to protecting natural resources. EPA has recognized that even if perfect compliance with all its existing regulations were achieved, these disturbing trends might not be reversed, and that a new paradigm is needed to ensure protection of our ecosystems.

Community-based environmental protection (CBEP) is a new approach for identifying environmental problems, setting priorities and forging solutions through an open, inclusive process that is driven by places and the people who live in them. It differs fundamentally from EPA's program-based efforts, which focus on more narrowly-defined environmental problems and attempt to structure national solutions.

The Agency's Ecosystem Management Task Force² met in Edgewater, Maryland on March 5, 1994 to develop a vision and strategy for a "place-driven" approach to ecosystem protection. The purpose of this meeting was to discuss how the Agency could respond to a growing public mandate to address human health and ecological concerns within an economic, social and geographic context. The consensus was that a fundamental reorientation of the Agency is needed to address the strategic environmental priorities of the Nation. The Edgewater Consensus³ is an agency-wide plan for

² The Ecosystem Management Task Force was formed in 1994 to lead the Agency's ecosystem protection efforts. Members of the task force included the Assistant Administrators of the Office of Water, the Office of Administration and Resources Management, and the Office of Policy Planning and Evaluation, with support from senior agency managers from both headquarters and the regional offices.

³ See the Task Force's report, *Toward a Place-driven Approach: The Edgewater Consensus on an EPA Strategy for Ecosystem Protection* (March 15, 1994).

ecosystem protection, and serves as a framework for the Agency's implementation of ecosystem management.

This mandate has led to the development of EPA's CBEP approach. This approach recognizes the need to integrate efforts to promote healthy ecosystems, healthy economies and healthy people. CBEP provides a framework and a process within which a variety of community economic and environmental goals can be achieved.

A central premise of the community-based approach is the reorientation of government activities based on the issues faced by particular ecosystems and the economies they support. This involves "changing the unit of work" from single-media program mandates to the more holistic, multi-media imperatives of a specific place. Success will require greater integration and teamwork among environmental agencies, natural resource departments, and commerce, trade and economic development programs.

A second key premise of CBEP is the need to work in partnership with stakeholders. EPA needs to enhance its collaboration with public and private partners -- including other federal agencies, states, tribes and local governments, land managers, businesses, environmental groups, and community groups -- to realize the potential of CBEP.

A third premise is the need for appropriate tools to support implementation of a community-based approach. Information is the key to empowering communities. EPA must work to improve and integrate the information it gathers, make it more accessible, and forge a stronger link between the Agency's scientific community and the information technology community. EPA must also provide leadership for public education and outreach programs to explain the importance of ecosystem protection to the public.

NACEPT'S Role In CBEP

During FY 1995, NACEPT and its committees devoted a substantial portion of their work to advising EPA in the development of the CBEP approach. Following the March 1994 Edgewater meeting, the Administrator asked NACEPT to make ecosystem management a priority for its work, and to concentrate on how long-term ecological, economic and social needs can be integrated to achieve a community-based approach to environmental management. The Agency recognized that it cannot be involved in every community where environmental protection needs to be addressed, nor should it be. NACEPT was therefore asked to consider how EPA can best stimulate and support CBEP efforts in the many places where it will not be directly involved.

To respond to these requests, NACEPT formed three committees with the following charges:

Ecosystems Information and Assessments Committee

To examine the availability, access, and use of environmental information in support of place-based ecosystem protection, as well as examining how science could be brought to bear in supporting CBEP.

Ecosystems Implementation Tools Committee

To evaluate opportunities for EPA to re-orient the use of its existing statutory and regulatory authorities to integrate an ecosystem management approach into the Agency's decision-making processes, and identify opportunities to develop partnerships.

Ecosystems Sustainable Economies Committee

To examine the defining elements of sustainable economies and the opportunities for harmonizing environmental policy, economic activity, and ecosystem management.

Throughout FY 1995, these NACEPT committees and their working groups met with EPA program office managers and staff to discuss and present recommendations on various topics related to CBEP. This report summarizes the recommendations made by NACEPT in these various forums. Many of the committees' recommendations are being incorporated into the development of the Agency's CBEP strategy.

General Findings and Conclusions

The NACEPT committees endorsed the concept of community-based environmental protection as a highly productive addition to the environmental protection efforts of the Agency and the Nation.⁴ CBEP provides the integrated local approaches needed to resolve composite, multimedia and nonpoint source environmental and ecosystem problems. It adds flexibility, efficiency and effectiveness to the existing efforts of regulatory agencies and their customers.

NACEPT made the following general observations about the design of CBEP:

- EPA should apply a broad definition of "place" or "community" -- to include a watershed, a spatially-defined ecosystem, or even an area defined by jurisdictional boundaries that may support marshaling of local community efforts.
- CBEP is not a panacea. It provides an integrated framework and a mechanism for coordination with public and private sector partners, but cannot wholly replace other programs.

CBEP should supplement and enhance, but not replace, current media-specific regulations and standards.

Other integrative Agency programs -- such as the Common Sense Initiative, Environmental Justice, and Pollution Prevention -- must continue.

- EPA will need to reorganize many of its current functions to reflect a multi-media, place-based approach. The Agency should consider a matrix management approach to support CBEP, and should explore new assignments for agency experts that will encourage an integrated, place-based perspective.
- EPA should guard against letting budget pressures undermine progress on CBEP.

⁴ The term "community-based" replaced an earlier term, "place-based." NACEPT has adopted the new terminology in this report, but expressed reservations about potential misunderstandings that may arise with use of "community-based." In particular, NACEPT members were concerned that the new terminology would be inappropriately thought of as applying only to human habitats or as connoting only relatively small geographic scales.

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- Implementation of a CBEP approach should occur within an operational framework or sequence of steps:
 1. Determining baseline conditions;
 2. Determining the desired end-state;
 3. Preparing and implementing a management plan;
 4. Monitoring and evaluation; and
 5. Modification to the management plan, as required.

Each phase should involve collaboration among the key stakeholders in the affected communities.

New Roles and Responsibilities for EPA

In most instances, states and local agencies, local nonprofit organizations, and/or landowners and land managers will carry out CBEP -- not EPA. EPA will often not be the lead agency, but instead must assume the roles of partner, convener, and facilitator. In these new roles, NACEPT recommended that EPA:

- Take a leadership role in encouraging the use of CBEP approaches by:
 - Conducting scientific assessments to promote consensus on environmental needs;
 - Promoting stewardship and a long-term vision of environmental and economic sustainability; and
 - Promoting technology and data transfer to support local CBEP efforts.
- Promote a cultural change from media-based management to CBEP, both within the Agency and outside, by
 - Effectively communicating the CBEP vision, goals and desired outcomes;
 - Providing training to all employees; and
 - Enhancing coordination and collaboration with various stakeholders.

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- Promote the use of mediation and negotiation to solve environmental problems.
 - Offer flexibility in its programs to complement, and not hinder, appropriate state and local CBEP initiatives.
 - Advocate national environmental goals, maintain strong national standards, and conduct scientific research to support those standards.
 - Develop a place-based enforcement program.
 - Provide traditional enforcement where necessary to ensure compliance with the law and to maintain national consistency.
 - Coordinate federal programs and activities that support CBEP.
 - Establish connections between EPA research grants to academic institutions and local CBEP efforts.
 - Develop guiding principles for a community-based approach to ecosystem management, and disseminate them to its partners.

Building Partnerships and Promoting Consensus

Public participation is intrinsic to the success of a community-based approach. Community members need to take ownership and responsibility for the health of their communities. Involving communities and enhancing their ability to contribute to decisions will enhance prospects for long-term success. NACEPT recommended that EPA take the following actions to encourage effective partnerships and promote consensus:

- Promote effective public participation:
 - Encourage public participation and buy-in from the outset;
 - Make initial investments to identify key constituencies, engage them in dialog, and form the required partnerships;
 - Develop a map of locations with active community groups, as an aid to identifying active stakeholders;
 - Identify and resolve gaps in representation; and
 - Honor the role of valid representatives and organizations already in existence.

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- Focus efforts on communities that are "willing" but not yet "able" to adopt CBEP.
 - Collaborate with other federal agencies, state governments, tribal organizations, businesses, community organizations and the general public.
 - Work with national NGOs and local grassroots organizations to shape new directions, advocate reforms, and communicate new themes to a broad audience.
 - Develop broader methods of valuing ecosystems and their components.
 - Identify examples where public participation in community environmental assessments has been successful (such as Sustainable Seattle and Oregon's State Clean Water Strategy).

Science, Data and Education to Support CBEP

A comprehensive evaluation of the available tools to support CBEP was beyond NACEPT's capabilities. However, NACEPT made a number of recommendations for actions EPA can take to support implementation of CBEP. NACEPT recommended that EPA:

- Take a leadership role in expanding the ecological knowledge base:
 - Develop and refine more integrated measurement metrics.
 - Encourage recognition that uncertainty and unpredictability is inevitable, and should not prevent taking action to address impacts.
- Develop a "tool chest" inventory:
 - Evaluate existing tools for their relevance to CBEP;
 - Describe how they can be accessed and used;
 - Provide adequate documentation;
 - Identify impediments to using existing tools within a CBEP context, and specific ways to overcome those impediments.

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- Provide technical assistance and training opportunities to states, tribes and local groups on the use of CBEP tools.
 - Develop a Handbook of CBEP Methods for local use, which describes the CBEP vision and provides a methodology and framework for implementing the approach.

Separate but integrated and complementary handbooks may be needed for government versus community audiences.

EPA should consult with community-based practitioners to develop a practical and useable handbook.

- Involve hands-on users in the design, testing, and evaluation of CBEP tools and programs by:

Adopting successful collaborative models, such as the USGS National Spatial Data Infrastructure and the Federal Geographic Data Committee;

Attending users' conferences; and

Maintaining diverse participation in user committees and conferences -- perhaps by seeking philanthropic funding for users with limited resources.

- Improve the link between science and local problem-solving by:

Providing a clearinghouse of case histories of successful community actions;
Supporting pilot projects that improve the link between science and problem-solving; and

Focusing more scientific effort on linking the use of geographic information systems and modeling.

- Develop multi-media, multi-dimensional models to support place-based ecosystem protection, including both small- and large-scale models:

Develop means to disseminate the methodologies used in existing large-scale models (e.g., for the Great Lakes and Chesapeake Bay).

Encourage sharing of small-scale community/site models as they are developed.

Create incentives for private market development and distribution of models.

- Develop an education program with the theme "Take Care of Your Place," presenting the need for local involvement and describing appropriate methods and data sources.

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- Develop and deploy multi-disciplinary teams to assist communities in assessing environmental problems and developing management strategies.
 - Consider realigning EPA's laboratories as multi-disciplinary research institutions, with expertise on specific geographic locations.
 - Make it a priority to get EPA data out and available for use:

Place highest priority on those unique data sets that no other source has the capability to collect (e.g., facility identifier/location data);
Provide data on national trends, as context for evaluating local conditions;
Avoid letting concerns about scale and accuracy delay dissemination of data;
Promote established technologies such as GIS and Remote Sensing;
Allow stakeholders and communities to determine what data is useful to them; and
Provide locational identifiers to ensure compatibility of EPA data with standard geographic information systems.

- Develop innovative strategies for disseminating data:

Continue development of the Government Information Locator Service (GILS);
Promote access through local library Internet connections, the American Research Libraries, a resource room in Washington, and/or Regional Offices;
and
Distribute information via diskettes or CDs, or through direct connection with EPA resources.

Integrating Economic and Environmental Goals

"Sustainable economies" allow the current generation's needs to be met without reducing the stock and value of the environmental capital available for future generations. CBEP provides the framework for integrated consideration of economic and environmental outcomes that will promote sustainability. NACEPT identified several issues that it felt were essential to successful integration of economic activity and ecosystem protection. While many of these issues are not the primary responsibility of EPA, the Agency should exercise a leadership role in this area. EPA should:

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- Promote the integration of ecological and economic modeling, including:
 - Expanding economic measures to reflect broader values; and
 - Working with other Federal agencies to integrate economic models with ecosystem level measurement, analysis and models.
 - Promote the development of improved methods for valuing ecosystems:
 - Promote research on the value of service flows from natural resources; and
 - Help coordinate the research efforts of natural scientists, social scientists, and economists by working to improve communication among the disciplines.
 - Encourage the use of improved accounting methods, including:
 - National Income Accounting that tracks depreciation of the Nation's environmental assets;
 - Full Cost Accounting methods that reflect environmental costs in corporate decision-making; and
 - Agency accounting practices that improve incentives for state and local governments.
 - Help develop a more complete understanding of the environmental impacts of incentive policies, as well as new opportunities to use incentives to achieve environmental goals, including:
 - Environmental impacts of taxes and subsidies;
 - Unintended environmental impacts of regulations;
 - Allocation of resources to the highest-risk issues;
 - Voluntary initiatives and rewards for progressive approaches to environmental protection;
 - Environmental impacts of property rights regimes; and
 - Environmental impacts of trade policies.

RECOMMENDATIONS OF OTHER NACEPT COMMITTEES

In addition to ad hoc committees convened to address emerging issues, NACEPT has standing committees which are responsible for providing information and advice on topics of continuing interest. Currently, NACEPT has one standing committee -- the Environmental Information, Economics, and Technology Committee.

Environmental Information, Economics, and Technology Committee

The Environmental Information, Economics and Technology Committee is a newly reorganized Committee under NACEPT, whose major current responsibility is oversight and review of the activities and products of its five Subcommittees. The five Subcommittees are the Environmental Statistics Subcommittee, the Radiation Clean-up Subcommittee, the Waste Isolation Pilot Plant, the Toxics Data Reporting Subcommittee, and the Effluent Guidelines Task Force. Membership of the Committee consists of members (predominantly the Chairs) of the Subcommittees. The major subject areas covered by the Subcommittees are data gathering and reporting, radioactive waste storage and clean-up, and effluent guidelines and pollution prevention.

The following is a summary of the FY 1995 objectives and recommendations of the five Subcommittees. More detailed descriptions of the Subcommittees' recommendations are provided in Appendix D.

Toxics Data Reporting Subcommittee

The Toxics Data Reporting Subcommittee was established to provide advice to the Agency on the Toxic Release Inventory (TRI), under section 313 of the Community Right-to-Know Act. The Subcommittee held one meeting this year, and made recommendations to the Environmental Assistance Division of the Office of Prevention, Pesticides and Toxic Substances on the redesign of Form R for the TRI, and on expansion of the list of industrial sectors to be covered in TRI.

Recommendations on TRI addressed- reporting underground injection and secure landfills releases to the environment, and the need for separate sections on the form for releases to the environment for other wastes.

No consensus was reached on the selection of new industries to be covered by TRI. However, two basic models were suggested for the selection of new industries: one based on the significance of releases and the other based on economic factors.

Radiation Cleanup Subcommittee

The Radiation Cleanup Subcommittee provides advice to the Agency on the management of radioactive waste disposal. The Subcommittee did not meet in 1995. However, Subcommittee members provided comments on a draft of the Radiation Site Cleanup Rule. These comments addressed land use issues, consideration of local statutes and cultural needs, and the need to consider other regulations in developing the rule.

Effluent Guidelines Task Force

The Effluent Guidelines Task Force was established under the terms of a consent decree with the Natural Resources Defense Council and the Environmental Defense Fund. It provides the Agency with advice on ways to promote pollution prevention and to consider other media in the development of effluent guidelines. The Task Force held three meetings in 1995, and made recommendations to the Office of Science and Technology of the Office of Water on the following topics:

- Pollution prevention: EPA should work with other appropriate entities to develop an integrated data base on pollution prevention research.
- EPA should design its effluent guidelines surveys in cooperation with industry and limit the number of questions to minimize reporting burdens, and should provide for electronic transfer of survey responses.
- EPA should analyze past experience with effluent guidelines, to inform future development of guidelines.
- EPA should develop long-range plans that identify candidate industries for effluent guidelines development.
- EPA should encourage and support the development of improved analytical methods.

Waste Isolation Pilot Plant Subcommittee

The Waste Isolation Pilot Plant (WIPP) Subcommittee provides advice to the Agency on implementation of the WIPP Land Withdrawal Act.⁵ One Subcommittee meeting was held in FY 1995, and the Subcommittee provided advice and feedback on three aspects of the compliance criteria rule:⁶

Release limits: The Subcommittee concluded that the difference between two options being considered for defining the point in time from when release limits would be applied is small compared with overall uncertainty levels.

Passive institutional controls: The Subcommittee commented on the potential benefits of surface markers in reducing intrusion and on the extent to which credit should be given for the use of markers.

Peer review: The Subcommittee endorsed the use of peer review in the compliance application process, and made several recommendations on the scope of that review.

Environmental Statistics Subcommittee

The Environmental Statistics Subcommittee provides advice to the Agency on the availability of federal statistics, the use of the data to measure environmental progress, and the development of environmental and economic indicators of progress. During FY1995, the Subcommittee recommended that the Agency establish a Center for Environmental Statistics and made specific suggestions about the Center's functions and organization. In addition, the Subcommittee recommended that current efforts to collect environmental data on U.S./Mexico border issues be institutionalized and elevated to programmatic status.

⁵ The WIPP is a potential site, located in Carlsbad, NM, for disposal of transuranic waste and transuranic mixed wastes generated during the manufacture of nuclear weapons.

⁶ This rule will be used by EPA to certify whether the WIPP complies with the Agency's final radioactive waste disposal regulations.

Appendix A

NACEPT ECOSYSTEMS INFORMATION AND ASSESSMENTS COMMITTEE FY1995 Activities and Recommendations

The Ecosystems Information and Assessments Committee (EIAC) was asked to "... examine the availability, access, and use of environmental information in support of place-based ecosystems protection, as well as examining how science could be brought to bear in support of CBEP implementation."

Three committee meetings were held during FY95. The Committee met with Agency program office representatives to discuss and provide comment on current and planned CBEP activities. The Committee also provided input on CBEP implementation strategies for EPA's Senior Leadership Council Meeting in February 1995. Some of the Committee's discussions centered around current activities, such as EPA's efforts to develop an on-line environmental information service (the Government Information Locator Service or GILS). Other discussions provided comment and advice on development of an overall information and science strategy to support CBEP. Many of the Committee's recommendations have already been incorporated into EPA's developing science and information dissemination strategies.

EPA's ROLE IN CBEP

The Committee endorsed CBEP as a basis for organizing EPA's programs.

The Committee concluded that, if CBEP is to succeed, EPA needs to consider reorganizing many of its current functions to reflect more accurately a multi-media, place-based management process.

CBEP must enhance rather than replace existing single-media regulations and standards.

The Committee also included a note of caution: the Agency's current single-media approach has had various successes over the years and should not be cast aside. The Agency should begin building an appropriate management infrastructure to support CBEP efforts. These efforts should be aimed at enhancing, not supplanting, its current single-media structure. EPA must implement the CBEP approach as the next step in environmental protection: going beyond the current focus on chemical contaminants to biological protection as the next logical step.

EPA needs to develop science and information tools that can be used by community stakeholders whether or not EPA is directly involved.

The Committee concluded that EPA's current Science and Information Strategies are on the right track. If communities are to succeed in implementing CBEP, the Agency needs to provide as many of the required tools as possible, as well as providing technical and scientific expertise to support their use. CBEP reflects the trend toward less direct federal involvement and more community/local empowerment. By supporting of use of CBEP, EPA will form a closer relationship with communities, albeit in a new role.

EPA needs to take on new roles to support implementation of CBEP.

Traditionally, the federal government has assumed a lead role in many inter-governmental or governmental/ community partnerships. As the Agency moves toward a community-based approach, it must recognize that leadership may be -- indeed, may already be -- provided by private industry, states, local governments, or other federal agencies. EPA's role in implementing CBEP will vary with the needs of each community or site. In addition to its traditional regulatory and enforcement role, EPA may be called on to act at various times as:

- | | | |
|--------------|---------------|---------------|
| • Leader | • Planner | • Facilitator |
| • Funder | • Broker | • Planner |
| • Coach | • Participant | • Catalyst |
| • Encourager | • Educator | |

EPA should consider a Matrix Management approach for supporting CBEP.

The Committee encouraged EPA to assign its employees to positions that broaden their experience and points of view. For example, staff in media programs might be assigned Regional responsibilities, and staff in the Region might be assigned to a specific media-based program or a broad multi-media, multi-program initiative like the Common Sense Initiative. While some people might perceive such assignments as a threat, experience in private industry indicates that this process contributes to professional development and makes programs more successful.

CBEP initiatives must not be sacrificed to budget exigencies.

Streamlining in the face of shrinking budgets should not result in sacrificing of innovative approaches. CBEP has great potential for improving environmental protection by empowering communities through information, science and education. EPA must find some way to protect and preserve key segments of this program.

CONSTITUENCY INVOLVEMENT AND BUY-IN

Collaboration with other federal, state, local, tribal, public, and business organizations is required.

A CBEP approach cannot be implemented without direct involvement and acceptance from the sites' communities. Public participation and buy-in must be part of the planning process while the project is still on the drawing board. Initial investments need to be made in identifying key constituencies, engaging them in dialog, and forming a partnership with them, if this concept is to work. EPA cannot and should not do it alone.

General public participation is critical to the success of a community-based approach.

EPA should stress, at all levels, the importance of public buy-in and participation, as well as forming partnerships with government and business organizations. Encouraging the general public to take ownership and responsibility for their local environment, and involving them in decision-making from the beginning, will enhance the prospects for long-term commitment and success.

Environmental assessments should include public participation. EPA should identify models where this participatory process has worked.

Along with a sound scientific process, valid research, and quality information/data, the success of any environmental assessment is also predicated on the public's willingness to accept the findings of that process. EPA should explore efforts such as Sustainable Seattle and Oregon's State Clean Water Strategy, as examples of successful public participation in environmental assessments.

EPA should include stakeholders in the design, testing, and evaluation of CBEP.

It is critical to have hands-on users of all kinds, including industry, local governments, and grass-roots groups, engaged in a formal feedback process. The Agency should follow examples such as:

USGS's National Spatial Data Infrastructure (NSDI): Once a provider of data, USGS now facilitates dialog among players, and in many cases reinforces what is done at local levels. USGS promotes a common process, procedure, and standards throughout state councils, across geographic information user groups, and across grass-roots associations that are engaged data collection activities.

Federal Geographic Data Committee (FGDC): Grants awarded to States support networking with their local constituents and Regional Workshops.

EPA should also attend users' conferences for the information and methods related to CBEP. These conferences are a good way to learn how place-based/community-based programs are implemented and supported in practice. Conferences also maintain a sense of momentum and enthusiasm among users, and encourage continual improvement in data and methods based on practical experience.

To provide useful feedback, users' conferences need to include all user groups. However, requiring all attendees to pay for participation can create a skewed distribution of constituents. Not all state, local government, NGOs, and grassroots organizations can afford to attend conferences. EPA should consider seeking philanthropic partners to support conferences, and using funding from these sources to maintain diversity in participation.

EPA should develop an education program with the theme "Take Care Of Your Place."

This general awareness program should address such basic topics as "What is the concept of CBEP?", "How can a CBEP effort be organized?", and "What is a watershed?" The awareness programs could be developed in partnership with other current educational programs. Many secondary school programs, such as those in Detroit and Dallas, are currently involved in "Take Care Of Your Place" efforts.

EPA should consider development of "Institutional Role Models" as part of its CBEP program.

Role models educate, motivate, and use peer pressure positively. Programs like OSHA's Voluntary Protection Program and EPA's own Project XL are examples of role model efforts with good potential. Similar role model *efforts* fit very well within the theme of "Take Care Of Your Place", and identifying and publicizing CBEP success stories would be a low-resource commitment for the Agency.

EPA should develop a Handbook of CBEP Methods for local stakeholder use.

This handbook should include: a clear statement of the CBEP vision; a framework for implementing CBEP; description of information/data and science needs; methods for identifying and involving stakeholders; and the effects of national and local policies. Users of this handbook may include citizens, entrepreneurs, scientists, academics, legislatures, professionals (planners), and the regulated community (industry). EPA should consult with community-based practitioners by convening a CBEP "Specialist" meeting or symposium, to ensure that the handbook is practical and useable.

EPA should develop a separate CBEP Handbook for environmental agency use.

This handbook should be consistent with the stakeholder handbook, but targeted to a government audience -- initially EPA, and ultimately state and tribal governments. This handbook should educate program office staff on the concepts of "place-based" management, and lay out explicit rules for government participation in CBEP efforts.

SCIENCE IN SUPPORT OF CBEP

EPA should take steps to create stronger, shorter links between science and local problem-solving.

EPA can "enlarge the pipeline" between science and decision-making in the following ways:

Communicate case-histories through a clearinghouse: This would cut down on duplication of effort at the local level, and would provide models of the application of scientific methods in CBEP programs.

Emphasize the practical application of methods to decision-making at every level (local, county, state, etc.): For example, Toxic Release Inventory data and GIS technology to analyze it are available. However, most analysis tools currently available address single points, and do not look at cumulative releases for a community as a whole. Local decision-makers need help using and understanding TRI data. Other methods and data sources need more support for application to decision-making as well.

Consider supporting local pilot projects: EPA could support specific projects in different geographic regions which test and demonstrate application of descriptive science to local problem-solving. Evaluating the results of these experiments would help the Agency identify methods and applications it should support with funding more widely. EPA's Science Strategy seems to have the flexibility to support such an effort.

Focus more scientific effort on making science methods useable in decision-making: For example, EPA should promote research on the combined use of GIS and modeling tools. EPA has indicated that these tools lack a unifying principle now. Development of a framework for relating time and geography would improve the usefulness of these tools in CBEP applications.

EPA needs to develop multi-media, multi-dimensional models for application to different scales.

As work continues on large-scale ecosystem models such as the Chesapeake Bay, Great Lakes, and Gulf efforts, EPA should develop a method for disseminating the information to interested parties. The Agency should provide information on the methodologies used to develop the assessment models, the technology used, and the methods used to engage partners. These efforts provide useful models for similar efforts in other locations.

EPA should also foster the development and sharing of models to support much smaller place-based efforts. The processes used in large-scale efforts may not be appropriate to small community/site projects. As EPA identifies successful methods employed at the smaller sites, it should also develop the means to disseminate this information.

EPA should create incentives for private market distribution of modeling products.

Development of effective tools requires moving from abstract, difficult-to-use, poorly-documented technical processes to clear, user-friendly, well-documented products. EPA should encourage thinking of modeling as a product rather than solely as a technical process. In particular, EPA needs to determine how to get some of their current modeling efforts into private market mechanisms. Getting modeling products into the marketplace will encourage development of standards, improvement in methods, and more effective dissemination of products by commercial suppliers.

EPA should develop and deploy multi-disciplinary teams to assist communities in CBEP efforts.

Teams of experts can assist communities with initial assessments and the development of CBEP strategies. The teams can draw on staff from EPA's laboratories, where development of risk assessment expertise is already on-going. Experts' experience on such teams will contribute to their ability to make scientific tools useful and relevant, as well as providing valuable support to client communities.

EPA should consider realigning its laboratories as multi-disciplinary, "place-oriented" research institutions.

Since EPA's laboratories are already geographically scattered across the country (e.g. Athens, GA; Corvallis, OR; Las Vegas, NV; etc.), it would be possible for each laboratory to house a multi-disciplinary team specializing in those geographic areas. The laboratories could be designed as Centers of Excellence for place-based environmental assessments and ecosystems management.

INFORMATION ACCESS AND DISSEMINATION

EPA should adopt and foster the use of FGDC Standards.

EPA needs to adopt and use the standards of the Federal Geographic Data Committee (FGDC) as a "rallying point," to ensure that the many disparate data coordinating activities of government are in fact being properly coordinated.

The Committee acknowledges the value and importance of the National Data Service Program proposed by EPA.

The Agency should be sure that the program is carefully planned and coordinated with Federal Geographic Data Committee (FGDC) members and others that have data dissemination plans. As part of this effort, EPA should consider the following priorities:

Making accessible those unique data sets that no other agency has the capability to collect (i.e. facility identifier/location data).

Providing data on national trends that helps communities put data on local conditions in context.

EPA should make it a high priority to get its data out and available for use.

Concerns about scale and data accuracy can become barriers and even excuses to avoid getting information out to communities. EPA should give stakeholders and communities the benefit of the doubt. If data are made available, local people can in fact make sense of, integrate, and interpret the data on a scale that makes sense to them and their problems. At a minimum, EPA should avoid being a barrier to wider use of the data. Communities should make their own decisions about what the data are worth and about how much effort should go into making them useable.

EPA should support development of skills and expertise in communities, through intermediaries.

The goal should be a "democratization" of expertise, where intermediaries are used to pass on skills and knowledge. The effort should draw on existing expertise, with EPA encouraging and coordinating outreach and training. EPA could help to train intermediaries such as libraries, community-based organizations, some schools, and universities. In addition, EPA should consider implementing a small grants program and developing inexpensive videos or CD-ROMS that teach people how to use available data.

EPA should evaluate new trade secrecy policies.

Claims of confidentiality can be a barrier to dissemination of data, which hinders communities' ability to implement CBEP programs effectively. EPA should evaluate alternative trade secrecy policies that would establish the presumption that data will be disseminated unless it is shown that disclosure would cause significant business harm.

EPA should develop a map of geographic areas that have active community groups working on CBEP.

Identifying who is active in communities will assist in the process of identifying stakeholders for specific CBEP efforts, especially where "hot spots" of high environmental concern are identified.

Development of EPA's Government Information Locator Service (GILS) should be continued.

GILS is a good example of EPA's efforts to get information out to the public. To further development of GILS, EPA should consider:

Promoting access through local library Internet connections, and through the American Research Libraries, which include research libraries at major universities.

Providing public access to EPA databases at a physical location in Washington, with support staff available.

Using the Regional Offices as a distribution channel.

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Appendix B

NACEPT ECOSYSTEMS IMPLEMENTATION TOOLS COMMITTEE FY1995 Activities and Recommendations

The Ecosystems Implementation Tools Committee (EITC) was convened to evaluate opportunities for EPA to reorient its statutory and regulatory responsibilities to integrate a place-based, now termed "community-based" approach to environmental protection (CBEP) into its decision-making process, and to identify opportunities for the Agency to develop partnerships with state and tribal co-regulators and local resource management agencies.

The Committee met in both full sessions and workgroup sessions during FY 1995. In its first meeting in September 1994, it identified the following questions as a framework for responding to the Agency's charge:

- What is EPA's role in place-based management?
- What are the relevant tools in existing programs?
- What impediments exist to the use of the tools?
- Who else has a role and the tools for place-based management?

In January 1995 the Committee prepared an interim report for the Agency's Senior Leadership Council. The report addressed EPA's shift to place-based management and the role EPA should play, and suggested a five-step process for implementation of CBEP. In a later phase of its deliberations, the Committee determined that a comprehensive evaluation of EPA's tools to identify which were best-suited to CBEP needs was beyond NACEPT's capacity.

EPA'S ROLE IN CBEP

The Committee concluded in general that a place-based approach would be a highly productive addition to the environmental protection efforts of the Agency and the nation. It provides the integrated approaches needed to resolve the composite multi-media and nonpoint source environmental/ecosystem problems evident throughout the nation. It also adds flexibility, efficiency and effectiveness to the existing environmental protection efforts of regulatory agencies and their customers.

¹ The Committee expressed its concern to the Agency regarding the change in terminology from place-based to "community-based." While understanding that the fundamental concept of "place-based" was not changed, the Committee believes that these terms have different meanings to different people. In particular the term community-based can be thought of as pertaining only to human habitats, and as connoting relatively small geographic scales. The Committee prefers the more general term "place-based" and uses it synonymously with the term "community-based" in its recommendations.

The Committee believes that to successfully implement a place-based or CBEP approach, EPA must promote a paradigm shift and a cultural change from media-based management to CBEP. EPA can accomplish this by effectively communicating its vision, goals, and desired outcomes. This includes providing direction and training to all employees on the principles and key components of CBEP, and enhancing coordination and collaboration with various stakeholders.

The Committee recommended using a broad definition of "place" because the place may often be a watershed, a spatially-defined ecosystem, or even a spatial entity defined by particular environmental concerns (e.g., a jurisdictional boundary) where local community empowerment can marshal a comprehensive approach to environmental problems.

The place-based approach should provide an integrated framework for addressing many problems, and a mechanism for coordination and integration with other public and private sector partners. However, it cannot wholly replace other programs. The Common Sense Initiative, Environmental Justice, and Pollution Prevention programs must continue as other integrative approaches for the Agency. Many media-specific and statute-based programs must also remain as key dimensions of the Agency's operations.

The Committee made a number of recommendations for roles and actions EPA should undertake to implement the CBEP approach.

EPA must support and assist the organizations responsible for managing places.

In most instances, states and local agencies, local nonprofit organizations, and/or other landowners or land-managers will carry out place-driven environmental management. EPA will not always be the lead agency in implementation, but instead may assume the roles of partner, convener, and facilitator.

EPA must develop partnerships with state, local, and tribal agencies and private organizations that have developed or are seeking to develop place-based initiatives.

In these partnerships, EPA must offer flexibility in its programs to complement and not hinder appropriate state and local level CBEP initiatives. EPA must also encourage its state partners to develop partnerships with regional and local governments and private organizations, so that all levels of government and willing private partners are working cooperatively toward mutually-desired environmental goals.

The states and localities may need support from EPA for research, analysis and innovation enforcing regulatory programs.

This may include developing or assisting with the development of quantitative measures of ecosystem health and capabilities, landscape modeling and applications, relative costs and technological feasibility of achieving desired end states, and other tools necessary to good ecosystem management.

EPA should advocate national environmental goals and focus its efforts on the coordination of federal programs and activities designed to implement place-driven environmental protection programs.

Local communities need to receive a consistent federal message when developing and implementing their programs. EPA can encourage the use of CBEP approaches by conducting scientific assessments and developing consensus on environmental needs; acting as the Nation's environmental conscience -- promoting stewardship and a long-term sustainability perspective; and promoting technology and data transfer that can be useful to local leaders of place-driven initiatives.

EPA should promote the development of flexible pilot programs to demonstrate alternative approaches to traditional regulation and enforcement, and serve as a clearinghouse for the dissemination of information on both successful and unsuccessful approaches.

EPA should provide traditional enforcement when necessary to ensure compliance with the law and to maintain national consistency.

EPA must maintain strong national standards and conduct scientific research to support those standards.

To ensure consistency in implementation, EPA should develop principles and themes for a "place driven" approach to ecosystem management.

While some of them may be self-evident to the Agency, the guiding principles must be stated explicitly and disseminated to its partners.

STEPS FOR IMPLEMENTING CBEP

There are five basic steps or phases that are generally recognized as the fundamental components of a CBEP process. These progressive phases offer a useful framework for thinking about the role EPA can play in CBEP. EPA's role may differ in each step. In some, EPA's function may be more prominent or appropriate than in others.

1. Determining Baseline Conditions involves identifying and delineating the appropriate ecological boundaries and components of the "place" in relationship to the resource issues and opportunities identified by the "local" stakeholders.

The assessment should include the characteristics and status of natural resources, socioeconomic situations, and environmental conditions. The ecological profile should identify environmental stressors and their impacts on the place and its population.

It is important to assure that this process includes all stakeholders and attempts to identify common community values and concerns. Specifically, EPA should work in cooperation with states, local parties, tribal stakeholders, other federal agencies and the private sector in collecting, arranging, and sharing data as baseline information. EPA's data should have locational identifiers to insure that they are compatible with standard geographical information systems.

2. Determining the Desired End-State involves developing a vision to determine what is desired, and conducting a sustainability analysis to determine what is feasible.

Based on knowledge of the baseline conditions, the "local" stakeholders articulate their vision and goals for the future ecological and socioeconomic health of their "place." Strong public participation is needed to develop a vision designed to protect and/or identify the socioeconomic benefits of natural systems for present and future generations. A sustainability analysis is conducted to determine whether the goals are attainable or sustainable, whether the natural system can support the goals, and if not, whether there are alternative goals that are attainable and sustainable within the constraints of the natural system.

EPA's role regarding determining "desired end-states" is to keep local stakeholders mindful of national environmental goals (e.g., fishable and swimmable waters) to the extent that such goals exist and are pertinent to the specific environmental problems of the place or community. In addition, EPA's data and understanding of causal relationships can be reflected in the sustainability analysis.

3. Preparing and Implementing a Management Plan allows the stakeholders to analyze options and select strategies for achieving the resource protection and/or restoration goals articulated by the collective sustainable vision for their "place."

It is important to include local, state, and relevant federal agencies in the development of the management plan, because they will often be responsible for assisting with its implementation.

Although EPA may not directly implement the management plan, the Agency may have a variety of tools at its disposal to assist others in implementation; for example, the authorities which EPA delegates to states under the Clean Water Act for NPDES permitting or nonpoint pollution control projects. Enforcement actions are an example of how EPA may have a more direct role to play. Nevertheless, it should be recognized that the tools which EPA has at its disposal are only part of a broader array of options that could be considered to implement an agreed-upon management plan.

4. **Monitoring and Evaluation:** In this step, it is important to determine whether the management efforts are achieving the objectives and desired conditions. If they are not, new management strategies should be identified.

Again, all stakeholders should participate in the monitoring and evaluation process as appropriate. EPA should support monitoring and evaluation by providing scientifically-sound evaluation tools such as environmental indicators. The Agency should also ensure that goals are met as part of its compliance activities.

5. **Modifications to the Management Plan:** New strategies should be identified and employed if the monitoring and evaluation results show that goals are not being achieved.

Modifications may be needed if resource conditions fail to improve or if socioeconomic benefits are not realized. As part of this process, EPA must be willing to develop alternative management solutions, propose statutory changes, and/or make administrative changes to its own management tools, if they prove to be ineffective or unworkable.

USE OF EXISTING EPA TOOLS

EPA's "tools" include a variety of programs, authorities, research initiatives, and data bases -- all of which contribute to the Agency's environmental protection mission. In some instances, EPA's traditional tools are not particularly well-suited for CBEP. Some may need to be modified or supplemented to better meet the needs of CBEP. This may be due in part to specific legislative or policy constraints. In other cases it may be that the Agency has not yet explored creative new approaches.

The Committee made the following recommendations concerning EPA's existing management tools:

EPA Should Make Tools Place-Based.

Many existing tools were not originally designed for use within a CBEP framework. Some tools are more useful than others where the emphasis is on place and on locally-driven goals and choices. Rather than creating entirely new tools (authorities, regulations, programs, etc.), EPA should:

Identify tools that are currently relevant to CBEP and describe how they can be used;

Evaluate the remaining tools to identify impediments to using them within a CBEP framework, and identify specific ways to overcome the impediments;

Ensure that tools are readily available to and useable by community-based groups, by providing adequate documentation and technical assistance; and

Inform potential users and EPA staff about the availability of tools to support CBEP efforts.

EPA Should Compile a "Tool Chest" Inventory.

The inventory should include a description of each tool, an explanation of its potential application in a CBEP context, and basic information on how users can access the tool. The inventory should address tools for each of the five implementation steps outlined above. Although a detailed review of the Agency's Tools Inventory Report was not conducted, the Committee believes that many of the tools described appeared to be very specialized and limited, and their direct relevance to CBEP efforts was sometimes unclear. Furthermore, some tools appearing to have the greatest potential for assisting in these efforts seemed to be in the conceptual stage or under development.

IMPLICATIONS FOR EPA

While EPA may have the lead or be an active partner in some CBEP efforts, most often it will not have direct involvement. It has been estimated that this may be the case 80 percent of the time. The Committee believes that EPA can best leverage its resources through partnerships and by strategically choosing opportunities. The Committee utilized the following criteria to evaluate options and identify the most effective strategies:

- Is it affordable? (Zero budget impact)
- e Is it workable? (Can it be done quickly?)
- Can it be done without legislative action?
- Will it have broad geographic impacts?
- Will the environmental impact be felt relatively quickly?
- Is there low resource demand by users?
- Is EPA the best or most appropriate provider?
- Will it contribute to lasting change?

OPERATIONS AND MANAGEMENT

Given these criteria and the interest in pursuing strategies that will enable EPA to address the estimated 80 percent of cases where it will have no direct involvement, the Committee made the following recommendations:

EPA should integrate various media approaches and management structures to cultivate cross-media thinking and action.

It is important for EPA staff to be knowledgeable in the different media. For example, a cross-trained employee writing program specifications should be aware of the implications the specifications would have on other program regulations and the possible conflicts that might arise. This will yield both greater environmental gains and greater efficiencies and flexibility.

To effect a paradigm shift from media-based to place-based thinking, EPA should develop innovative means of communicating and training both internally and externally. Training should avoid overly-simplistic cookbook techniques. The Agency should require training of all program professionals on the principles and science of ecosystem management and on the key components of CBEP.

EPA should develop a place-based enforcement program.

The Agency's enforcement tools have been an issue of particular concern to the Committee and are illustrative of the type of tools that may be most challenging to adapt to CBEP. EPA's efforts to create Supplemental Environmental Projects (SEPs) and use them to assist CBEP efforts is a good example of the changes needed.

EPA should establish connections between research grants to universities and colleges and local CBEP efforts.

The Agency should make an effort to ensure that funds provided to academic institutions located in areas where CBEP efforts are underway are designed to address some of the outstanding information needs.

PARTNERSHIPS

The Committee made the following recommendations about formation of partnerships and EPA's role in them:

EPA should emphasize CBEP in its established partnerships with states.

State natural resource, land management and environmental protection agencies are the primary means of "delivering" many of the tools to facilitate CBEP efforts. Many of EPA's authorities are delegated to and administered by the states. In addition, the states are frequently the laboratories of innovation where creative new approaches are explored. They have closer and often unique relationships with their communities, and can empower local communities to act. They can also create sub-state or regional environmental management districts.

EPA should work with NGOs to implement CBEP.

In many communities, local grassroots organizations are the catalysts for action and change. Nationally, NGOs can be valuable partners in shaping new directions, advocating reforms, and communicating new themes to broader audiences.

EPA should expand its grants program to provide matching CBEP grants to local partners and communities.

EPA should focus on communities that are "willing" and make them "able"

Different levels of ability and interest exist. Some communities are neither willing nor able to assume responsibility for the management efforts associated with CBEP. Others are moving ahead aggressively and bringing substantial resources to bear. Still other communities have a mixture of willingness and ability. In a climate of diminishing resources, EPA must focus its efforts in areas where they will have the most impact -- in communities where significant interest already exists (the "willing") but where the resources (either technical ability or funding) are scarce ("unable").

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Appendix C

NACEPT ECOSYSTEMS SUSTAINABLE ECONOMIES COMMITTEE FY1995 Activities and Recommendations

The Ecosystems Sustainable Economies Committee (ESEC) was asked to "... broadly examine the defining elements of sustainable economies and opportunities for harmonizing environmental policy, economic activity, and ecosystem management." The Committee identified several issues that it felt were essential to successful integration of economic activity and ecosystem protection. Many of the issues that the Committee identified are not the primary responsibility of the U.S. Environmental Protection Agency. Nevertheless, the Committee has concluded that EPA must exercise a leadership role to help bring consensus to these areas, and to integrate sustainability into the conscious decision-making processes of all stakeholders.

The Committee considered issues in three broad categories -- Consensus-building, Measurement and Expanding the Knowledge Base, and Incentives -- but felt that two issues were over-arching -- Scale and Population. All of the issues in the three broad categories occur at different levels of organization -- local, regional, national, and global -- and many environmental problems occur because of incompatible incentives across different scales. As ecosystems are multi-scale, a multi-scale approach to place-based environmental management must be developed that integrates, rather than isolates, these differing scales. A growing world population and economic activity will stress ecosystems beyond their carrying capacity unless more sustainable economic systems are developed.

CONSENSUS-BUILDING

Ecological systems are integrated with other systems. To manage these diverse systems as a whole, all stakeholders that represent different parts of these various systems must be engaged in a consensus-building process. More stable, cost-effective policies should result if consensus-building approaches prevent conflict from occurring.

EPA as Convener: Although EPA must maintain and exercise its authority to protect the environment through regulatory means when necessary, the Agency must also develop and expand its use of mediation, negotiation, and advocacy to avoid and solve environmental problems.

Ecosystem Valuation: Different constituencies and stakeholders have different measurement systems for valuing the various components of ecosystems. The consensus-building process needs to incorporate the opinions of all stakeholders. In addition to refining models for economic valuation, EPA must also work with other agencies to develop non-monetary ecosystem valuation models. EPA's national goals need to be stated explicitly to facilitate linkages with the development of environmental indicators and place-based ecosystem valuation efforts.

Property Rights Regimes and Public Interest: The historical dichotomy between public and private property rights needs to be bridged and considered in the context of long-term sustainability. There are responsibilities attendant on those who are given various kinds of property rights, and the legitimacy of all stakeholders and their interests must be recognized in the consensus-building process.

Integration of National, State, Regional, and Local Planning: Gaps and overlaps in jurisdictional representation need to be identified and resolved, and valid representatives and organizations that are in existence should be honored. EPA should become involved as a convenor and consensus-builder when there is a need to identify problems and implement solutions.

Education and Outreach: Education and outreach are essential to consensus-building and negotiated settlements. EPA must address all spectrums of populations in its outreach efforts, and should use a variety of communication technologies to facilitate informed discussion.

MEASUREMENT AND EXPANDING THE KNOWLEDGE BASE

As EPA makes greater use of consensus-building and more decentralized place-based and participatory decision-making approaches, the Agency needs to assume a leadership role in expanding the ecological knowledge base. The development and refinement of more integrated measurement systems is critical to effective risk assessment and risk management.

Uncertainty and Unpredictability: We have come to acknowledge that we cannot quantify environmental impacts with high precision because of the complex nature of the systems with which we are dealing. With this acknowledgment, we must also accept a shift in the burden of proof, and take prudent steps to minimize the effects of estimated impacts, rather than waiting until detrimental environmental impacts have occurred.

Integrated Ecological and Economic Modeling: Economic measurements need to reflect broader values that have not been incorporated in the past. EPA should work with other Federal agencies to insure that economic models are integrated with ecosystem-level measurement, analysis, and modeling.

Ecosystem Valuation: Various techniques are used to monetize the service flows that come from natural resources. While methodologies to estimate costs are well developed, techniques to monetize benefits are not. EPA should work with other agencies to convene panels and develop research agendas to address these gaps. These efforts should examine ecosystem services and their valuation, and help establish links between natural scientists, social scientists, and economists. ,

Accounting ("green" and other): Accounting is a way for both the public and private sector to keep score and measure progress. What is counted, and how it is counted, is critical to educated discussion, planning and decision-making in both government and business.

- **National Income Accounting** -- Current National Income Accounts do not track depreciation and depletion of the nation's environmental assets, which prevents informed discussion of the allocation of tax expenditures and tax revenues. EPA should work with other Federal agencies to develop a consensus on properly valuing and accounting for environmental assets in our National Income Accounts.

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- Full Cost Accounting ⁷ We need to measure the full cost of the depletion of environmental assets in the corporate context as well as the national context. This applies for financial accounting, managerial accounting, and capital budgeting methods. EPA should determine where it can assume a leadership role to help change accounting systems so that the environmental costs of corporate decisions are accurately reflected. EPA should also examine its own internal accounting practices to assess the effects they have on the behavior of state and local governments.

INCENTIVES FOR SUSTAINABLE ECONOMIES

The use of incentives to further various policy goals is well-accepted, and can be very effective. The environmental impacts of these incentives are not well understood, however. Nor are incentives widely used to further environmental goals. EPA should help develop a more complete understanding of the environmental consequences of different policy incentives, and develop new ways to use incentives to promote environmental protection.

Better Regulation: Regulation can sometimes cause unanticipated or undesirable effects. Attempts to address one environmental problem may exacerbate others, or disproportionate resources may be diverted to dealing with lower-risk issues. EPA should structure its regulatory efforts to achieve the greatest overall health and environmental benefit at the least cost. Enforcement should be targeted at the highest risk problems to achieve the greatest net benefit.

Voluntary Initiatives: Voluntary initiatives can play an important role in encouraging creative and progressive approaches to environmental protection. Greater use of voluntary initiatives would also allow EPA to divert resources from traditional enforcement and inspection activities to consensus-building. Voluntary initiatives should be structured to reward progressive actions by both creating incentives and removing disincentives. EPA should recognize voluntary initiatives that are already in existence and work to expand them, rather than creating entirely new programs. EPA must encourage the development of monitoring, measurement, and auditing metrics that track environmental impacts rather than process-oriented actions.

Tax Policy and Subsidy: Tax policies and subsidies have at times had detrimental environmental consequences. EPA needs to develop the analytic capability to communicate the environmental impacts of both taxes and subsidies, as well as the income-generating effects, incentive effects, and distribution effects of any tax policy.

Trade Policies: Environmental problems have global effects, and trade policies affect national and international protection efforts. EPA must develop the analytic capacity to assess the environmental impacts of trade policies. The Agency must also become involved in trade policy negotiations, to help craft consensus-driven agreements that will achieve both environmental protection goals and free-trade objectives.

ECOSYSTEMS SUSTAINABLE ECONOMIES COMMITTEE

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Appendix D

NACEPT ENVIRONMENTAL INFORMATION, ECONOMICS, AND TECHNOLOGY COMMITTEE FY1995 Activities and Recommendations

This appendix describes the FY 1995 activities and recommendations of the five Subcommittees of the NACEPT Environmental Information, Economics, and Technology Committee.

TOXICS DATA REPORTING SUBCOMMITTEE

The Toxics Data Reporting Subcommittee was established to provide advice to the Agency on the Toxic Release Inventory (TRI), under section 313 of the Community Right-to-Know Act. Its membership includes representation from government and non-governmental organizations, private industry, environmental groups, health officials, labor officials, and state government. The Subcommittee held one meeting this year.

The Subcommittee made recommendations to the Environmental Assistance Division of the Office of Prevention, Pesticides and Toxic Substances on the redesign of Form R for the TRI, and on expansion of the list of industrial sectors to be covered in TRI.

The group unanimously agreed that underground injection and secure landfills should be reported on Form R as releases to the environment. Releases to the environment should be reported separately from other wastes. Finally, separate sections should be devoted to wastes that are recycled versus those that are combusted for energy recovery or treatment.

No consensus was reached on the selection of new industries to be covered by TRI. However, two basic models were suggested for the selection of new industries:

- Model A: Select industries with significant releases:

Reporting by these industries will help communities with emergency preparedness.
These industries are able to monitor and report release data.
The total number of added facilities reporting will not overwhelm the TRI system.
These industries have a reasonable capacity to reduce releases.

- Model B: Select industries based on economic factors (cost to EPA and industry):

Data should be reported as a percentage of total releases of TRI chemicals.
The risk and cost associated with each industry's releases should also be reported.

RADIATION CLEANUP SUBCOMMITTEE

The Radiation Cleanup Subcommittee provides advice to the Agency on the management of radioactive waste disposal. The Subcommittee's membership includes representation from non-governmental organizations, private industry, academia, and state government. The members are recognized experts in the policy and technical aspects of radioactive waste management and cleanup.

The Subcommittee did not meet as a group in 1995. However, the Subcommittee members provided comments on a draft of the Radiation Site Cleanup Rule. These comments addressed land use issues, consideration of local statutes and cultural needs, and the need to consider other regulations in developing the rule. After lengthy intra- and inter-agency negotiations, this rule has been sent to the Administrator for approval prior to review by the Office of Management and Budget.

EFFLUENT GUIDELINES TASK FORCE

The Effluent Guidelines Task Force is required under a consent decree with the Natural Resources Defense Council and the Environmental Defense Fund. It provides the Agency with advice on methods for promoting pollution prevention and incorporating consideration of other media in the Effluent Guidelines program.

The Task Force held three meetings in 1995. It is currently addressing the criteria for selecting industries for regulation, looking at cross-media opportunities with a goal of zero discharge, and pretreatment of effluent. The Task Force made the following recommendations to the Office of Science and Technology of the Office of Water:

- EPA and other appropriate entities should aggregate all of the data on pollution prevention research (by EPA and various stakeholders) into one readily-accessible data base.
- For any survey related to effluent guidelines, EPA should review the need for individual questions to keep the number of questions to a minimum. Development of questionnaires in cooperation with industry was encouraged. In addition, EPA needs to develop a method for electronic transfer of survey responses.
- EPA should initiate an analysis of the 51 effluent guidelines, and the experience gained from this effort should guide future development of guidelines.
- The Office of Water, in conjunction with the Office of Research and Development, should develop long-range plans identifying candidate industries for effluent guidelines development.
- EPA should encourage and support new analytical methods for pollutants of concern that recognize and work to decrease inter-laboratory variability, and that allow for detection at lower concentrations.

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- EPA should develop approved analytical methods across media, including drinking water, wastewater, hazardous waste, and air, to encourage consistency and reduce conflicting variability.

WASTE ISOLATION PILOT PLANT SUBCOMMITTEE

The Waste Isolation Pilot Plant (WIPP) Subcommittee provides advice to the Agency on issues related to implementation of the WIPP Land Withdrawal Act. The Act gives EPA the responsibility of overseeing many of DOE's activities at the WIPP and insuring that these activities comply with environmental laws.'

One Subcommittee meeting was held in 1995. The Subcommittee provided advice to EPA officials on issues surrounding the development of the compliance criteria rule. This rule will be used by the Agency to certify whether the WIPP complies with EPA final radioactive waste disposal regulations. A full report on the Committee's recommendations will be available in early 1996.

The following is a summary of the Subcommittee's recommendations to the Agency during FY 1995:

Release Limits: The Agency selected two options for the fixed point in time to be used in calculating the release limits (zero years from the time the repository is sealed, or 100 years after the repository is sealed), and asked for the Subcommittee's advice on which option would be more appropriately applied to the WIPP. The majority of the Subcommittee believed that the difference between the two starting points is small compared with the overall uncertainty levels associated with the size and nature of the waste inventory. Those who had an opinion favored using 100 years as the starting point for calculating the release limits. The Subcommittee also noted that it would be useful to express the release limits and any differences in release limits in a risk framework.

Passive Institutional Controls (PICs): The Agency asked the Subcommittee whether credit should be given for the use of passive institutional controls at the WIPP. The Subcommittee made the following observations and recommendations:

- Markers may increase advertent intrusion, but should decrease inadvertent intrusion as long as they endure and are understood.
- Surface markers are needed now for compliance application purposes, but will probably not be constructed until the repository is closed
- Markers are perceived to be beneficial, but there is no clear quantitative way of estimating a credit for them against the drilling rate.
- The Subcommittee was split regarding credit for PICs and thought that if credit were to be allowed, it may be more sensible to assume that PICs delay the onset of intrusion rather than reducing the frequency of intrusion. Any such delay should be limited to a few hundred years.

' The WIPP is a potential site, located in Carlsbad NM, for disposal of transuranic wastes and intransuranic mixed waste generated during the manufacture of nuclear weapons.

Peer Review: The Agency asked the Subcommittee how to revise six critical program area guidelines in order to establish a consistent rationale for the use of peer review. The Subcommittee made the following observations and recommendations:

- Peer review is an essential element in the compliance application process.
 - Sensitivity analysis is a useful tool in establishing areas requiring peer review. The analysis should flow from performance assessment (PA), and appropriate aspects of PA must also be peer reviewed.
 - DOE should be required to prepare a document summarizing previous peer reviews on WIPP-related matters as an essential first step in EPA's review of the adequacy of past peer reviews on sensitive issues.
 - Peer review to insure that the selected models are an appropriate representation of physical reality is necessary. Peer review should address such questions as "Has the correct model been selected?" and "What is the difference in uncertainty when selecting one model over another?"
- ~ Peer review of QA programs and plans is not necessary; conformance to the QA requirements is adequate to control the QA process.

ENVIRONMENTAL STATISTICS SUBCOMMITTEE

The Environmental Statistics Subcommittee represents a broad spectrum of statistical information users and producers. It provides advice to the Agency on what federal statistics are available, how the data are used to measure environmental progress, and how EPA can best develop appropriate environmental or economic indicators to track, quantify, and report on the state of the environment.

The Subcommittee held one meeting this year. It made recommendations on the following topics:

Center for Environmental Statistics: EPA should establish a Center for Environmental Statistics whose principal mission would be to develop statistical information needed to make and assess environmental policies. The Subcommittee recommended that the Center perform a number of specific roles, including:

- Setting priorities for collecting statistics;
- Developing statistical frameworks and analytical models to help guide the development of indicators;
- Linking physical and chemical measures with social and economic information;
- Analyzing statistics and data for critical issues that face the Agency;
- Acting as an advisory service to other parts of the Agency on environmental monitoring, data collection and processing;

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- Coordinating with other parts of the Agency, federal government, the states and other countries;
 - Working with ORD to assess and review the use of statistical methods;
 - Improving the accessibility of EPA environmental statistics; and
 - Developing a number of more highly visible statistical products.

The Subcommittee suggested that the Center should be located in EPA's Office of Policy Planning and Evaluation or be integrated in a separate office of statistics and information, and that it be advised by a standing committee of experts.

US/Mexico Border Environmental Statistics: The Subcommittee recommended that the current US/Mexico border effort be institutionalized, elevating it to programmatic status. It recommended that planning should be coordinated with the Office of International Activities, the Regions and program offices, and that the data base be expanded to include local, state and Mexican data. Finally, it recommended the development of a methods document to show how to combine data from EPA data bases.

ENVIRONMENTAL INFORMATION,
ECONOMICS, AND TECHNOLOGY COMMITTEE

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