



Everyone's Business:

Working Towards Sustainability Through Environmental Stewardship and Collaboration

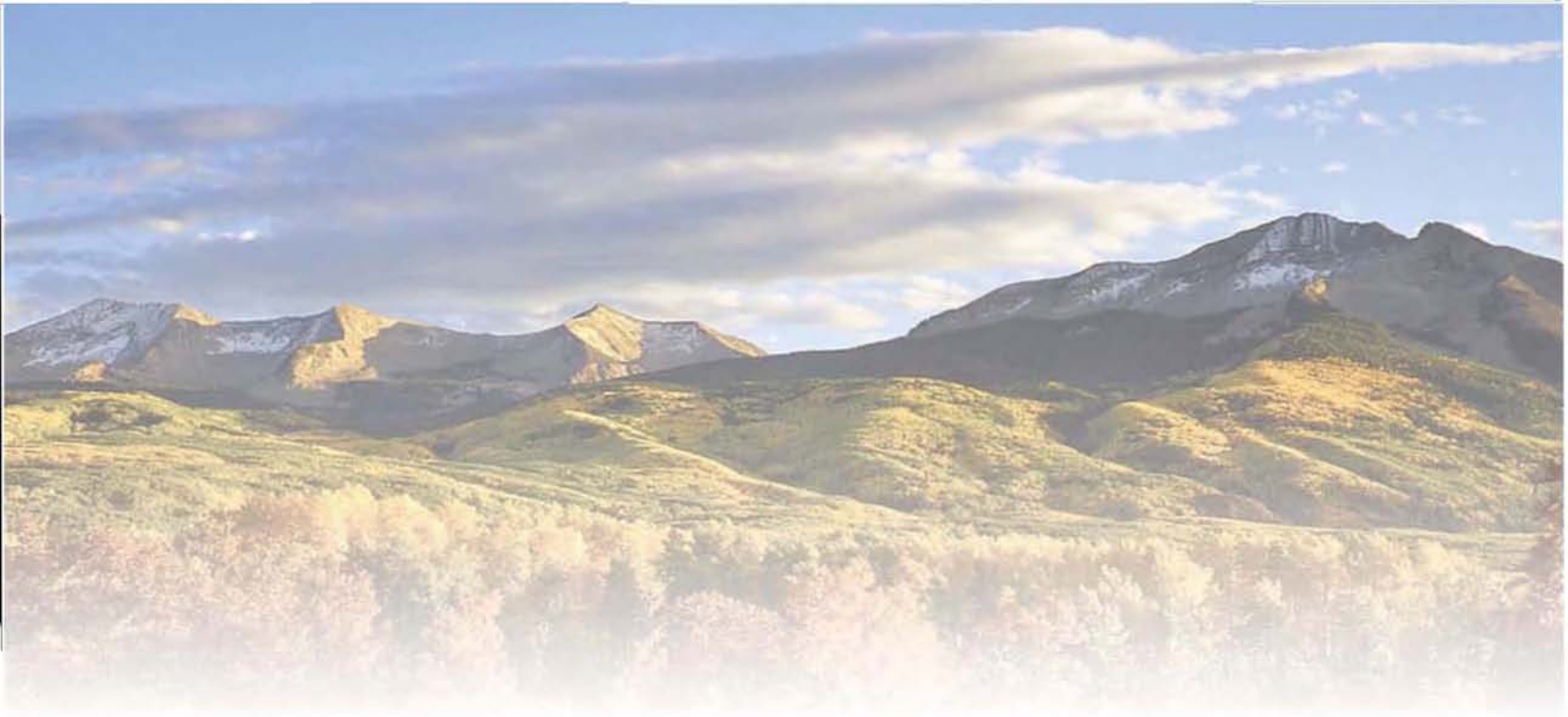
National Advisory Council for
Environmental Policy and
Technology (NACEPT)

March 2008

The National Advisory Council for Environmental Policy and Technology (NACEPT) is an independent federal advisory committee that provides recommendations to the Administrator of the U.S. Environmental Protection Agency (EPA) on a broad range of environmental issues. This report has not been reviewed for approval by the Agency, and hence, the contents of this report do not necessarily represent the views and policies of the EPA, nor of other agencies in the Executive Branch of the Federal Government, nor does mention of trade names or commercial products constitute a recommendation for use. Reports of NACEPT are posted on the EPA Web Site at <http://www.epa.gov/ocem/nacept>.

EPA 130-K-08-001

U.S. Environmental Protection Agency
Office of Cooperative Environmental Management
<http://www.epa.gov/ocem>
March 2008



Everyone's Business:

**Working Towards Sustainability
Through Environmental
Stewardship and Collaboration**

National Advisory Council for
Environmental Policy and
Technology (NACEPT)

March 2008

Photo Credits: The background picture of mountains appearing on the cover and at other places in the report and the three photos in the top row and the three photos in the bottom row of the cover are stock photos available from Dreamstime (<http://www.dreamstime.com>). The photo in the middle row of the cover was taken by Memphis Sierra Club volunteer James Baker (<http://sierraclub.typepad.com/scrapbook/2007/10/wolf-river-harb.html>).



The Honorable Stephen L. Johnson
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Administrator Johnson:

The National Advisory Council for Environmental Policy and Technology (NACEPT) is pleased to transmit the enclosed recommendations and report in response to your charge of May 2006. You asked for the Council's views on how the U.S. Environmental Protection Agency (EPA) might advance its efforts on environmental stewardship and cooperative conservation. Our report, entitled *Everyone's Business: Working Towards Sustainability Through Environmental Stewardship and Collaboration*, advances five key recommendations, supported by specific findings and immediate steps for EPA.

Our key message is straightforward. **EPA should reframe its mission with stewardship as the unifying theme and ethic and strive to become the world's premier stewardship model and catalyst.**

As EPA's Innovation Action Council stated in its November 2005 report, *Everyday Choices: Opportunities for Environmental Stewardship*, "(S)tewardship means taking responsibility for our choices." Stewardship is a systemic approach to addressing the challenge of sustainability—economic, environmental and social. Strong regulatory programs are key tools in fostering responsibility, especially when they are integrated with the full policy toolbox that also includes grants, voluntary partnerships, and information programs. To deliver on this challenge, EPA must invest in building the skills and competencies necessary for stewardship and drive stewardship deep into its organizational culture.

The concept of stewardship is a logical—and timely—step in EPA's ongoing evolution. It is not a new idea. The National Environmental Policy Act (NEPA) of 1969 provides the direction and underlying authority to implement our recommendations. We commend EPA for already doing much to advance stewardship but, as we state in our report, there is much more to do.

Although EPA has a critical role to play in stewardship, its role is only one piece of the overall systemic solution. The success of EPA's stewardship efforts will be determined by the extent to which other institutions and individuals become stewards. Collaborative governance, which engages all stakeholders in the design and direction of environmental policy, is a key strategy toward that end. Working towards sustainability through environmental stewardship and collaboration is indeed everyone's business.

Fully embracing environmental stewardship will not be easy for EPA or the rest of society, but it is one of the best ways to ensure future prosperity. Implementing the full scope of our recommendations will require continuing EPA management attention and a long-term, sustained investment. Paradigm shifts take time and patience as well as strategic implementation. EPA's successful implementation of pollution prevention illustrates how this can be accomplished.

The Council advances these recommendations and makes its findings with a sense of great humility. Over its 37 year history, EPA has provided leadership over and over again for the American people. We appreciate the professional and personal courage you demonstrated in seeking out constructive advice in order to help the Agency to be more effective in surmounting the problems of an increasingly complex and fast-changing world.

Every day individuals and institutions make a myriad of choices that affect the environment for better or worse. Interest in sustainability and environmental stewardship is surging throughout the country and the world. Now is the time for EPA to recast its role to provide the leadership needed for society to reach the next level of environmental quality.

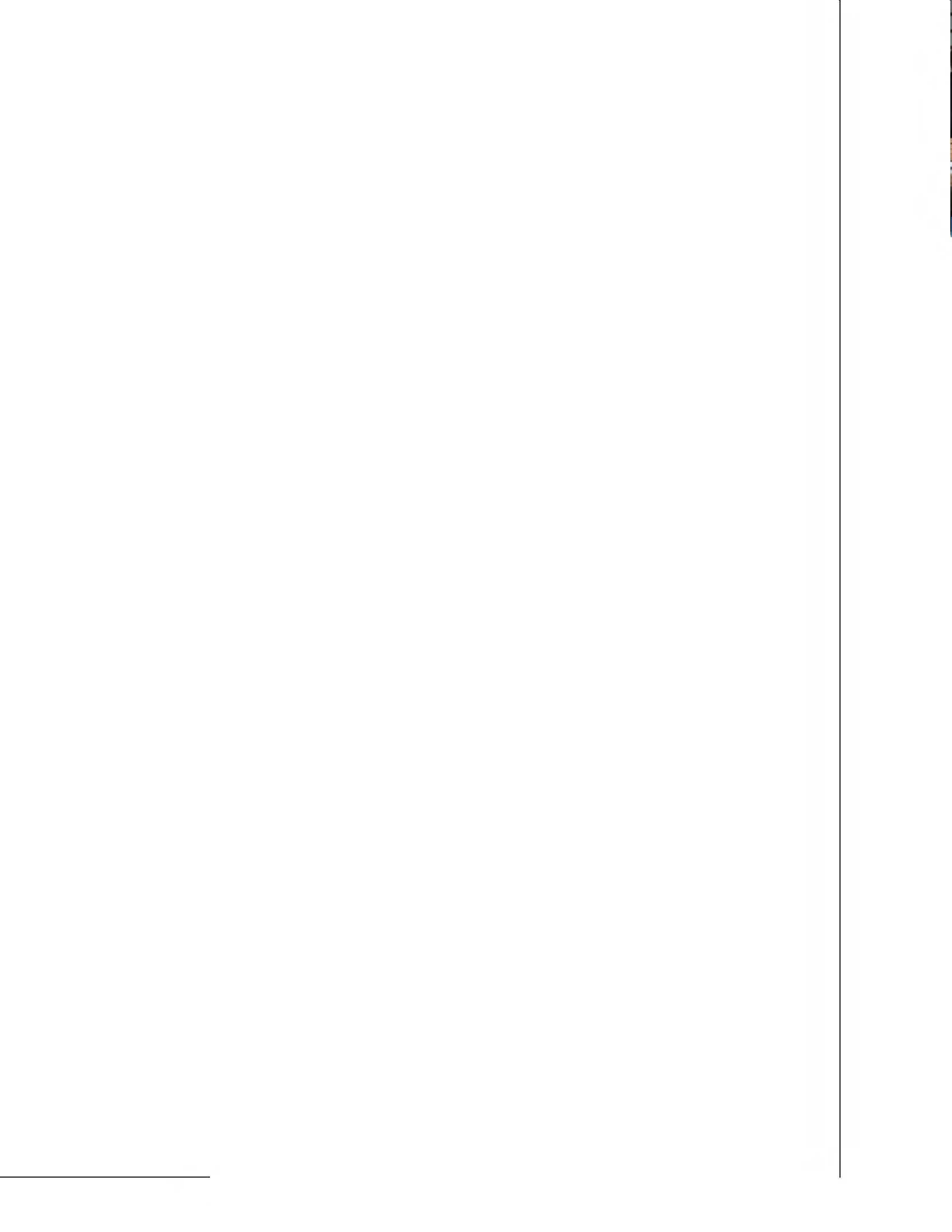
With EPA at the forefront, environmental stewardship that is pursued in a vigorously collaborative manner should be everyone's business. Informed actions by millions of individuals and institutions can truly put us on the path to sustainability. This is the Council's vision and its hope for the future.

I would be happy to brief you in person about this report. I think NACEPT also might be able to be helpful by participating in dialogues with EPA headquarters and regional offices to present the report and seek feedback from Agency managers and staff on what opportunities they see for stewardship and collaboration from their operational vantage points. The Council would welcome the prospect of continuing to assist you and the Agency in your efforts and wants to thank you for the opportunity to provide this report.

John L. Howard, Jr.
NACEPT Chair

Table of Contents

EXECUTIVE SUMMARY	1
Key Recommendations	2
Recommendations, Findings, and Immediate Steps	3
INTRODUCTION	9
Interim Letter	10
Current Opportunity and Challenge	10
DEFINING ENVIRONMENTAL STEWARDSHIP	15
RECOMMENDATIONS, FINDINGS, AND IMMEDIATE ACTION STEPS	17
CONCLUSION	33
APPENDICES	35
Appendix 1: Environmental Stewardship and Cooperative Conservation Workgroup and Acknowledgements	35
Appendix 2: Charge to the NACEPT Workgroup	37
Appendix 3: NACEPT's Interim Advice Letter to Administrator Stephen L. Johnson	43
Appendix 4: Example Opportunities for Environmental Stewardship	46
Appendix 5: Stewardship Traditional and Historical Usage	51
Appendix 6: Alignment of NACEPT Recommendations with <i>Everyday Choices</i>	54
Appendix 7: List of Acronyms	56
ENDNOTES	57





Executive Summary

"I believe that environmental responsibility is everyone's responsibility. The fact is: government can't solve our environmental challenges alone. We need everyone involved."

— EPA Administrator Stephen L. Johnson¹

In May 2006, Administrator Stephen Johnson asked the National Advisory Council for Environmental Policy and Technology (NACEPT) to review the U.S. Environmental Protection Agency's (EPA) recent response to two priorities—environmental stewardship and cooperative conservation. In this concluding report to the Administrator, the Council advances key recommendations, findings, and steps the Administrator and the Agency should take immediately to demonstrate their clear and bold vision of environmental stewardship made possible through a deliberate strategy of collaborative governance involving all sectors of American society.

Our key message is straightforward. **EPA should reframe its mission with stewardship as the unifying theme and ethic and EPA should strive to become the world's premier stewardship model and catalyst.**

As the EPA Innovation Action Council (IAC) stated in its November 2005 report, *Everyday Choices: Opportunities for Environmental Stewardship*², "(S)tewardship means taking responsibility for our choices." Stewardship is a systemic approach to addressing the challenge of sustainability—economic, environmental, and social. Strong regulatory programs are key tools in fostering responsibility, especially when they are integrated with the full policy toolbox that also includes grants, voluntary partnerships, and information programs. To deliver on this challenge, EPA must invest in building the skills and competencies necessary for stewardship and drive stewardship deep into its organizational culture.

The concept of stewardship is a logical—and timely—step in EPA's ongoing evolution. It is not a new idea. The National Environmental Policy Act (NEPA) of 1969 provides the direction and underlying authority to implement our recommendations. We commend EPA for already doing much to advance stewardship but, as we state in this report, there is much more to do.

Although EPA has a critical role to play in stewardship, its role is only one piece of the overall systemic solution. The success of EPA's stewardship efforts will be determined by the extent to which other institutions and individuals become stewards. We need a nation of 300 million environmental stewards, not just approximately 17,000 EPA staff. Collaborative governance, which engages all stakeholders in the design and direction of environmental policy, is a key strategy toward that end. Working towards sustainability through environmental stewardship and collaboration is everyone's business.

Fully embracing environmental stewardship will not be easy for EPA or the rest of society, but it is one of the best ways to ensure future prosperity. Implementing the full scope of our recommendations will require continuing EPA management attention and a long-term, sustained investment. Paradigm shifts take time and patience as well as strategic implementation. EPA's successful implementation of pollution prevention illustrates how this can be accomplished.

Every day individuals and institutions make a myriad of choices that affect the environment for better or worse. Interest in sustainability and environmental stewardship is surging throughout the country and the world. Now is the time for EPA to recast its role to provide the leadership needed for society to reach the next level of environmental quality.

With EPA at the forefront, environmental stewardship that is pursued in a vigorously collaborative manner should be everyone's business. Informed actions by millions of individuals and institutions can truly put us on the path to sustainability. This is the Council's vision and its hope for the future.

This report focuses primarily on EPA's environmental stewardship activities and opportunities. We begin this report by offering a summary of our key recommendations, findings, and immediate action steps. We then describe NACEPT's work to date in the area of environmental stewardship and the opportunity and challenge before us. We define environmental stewardship as *taking responsibility for our choices* and explore what *taking responsibility* means. With this introduction, we present our recommendations, as well as the reasoning behind them, in greater depth. We conclude with seven appendices. **Appendix 1** provides a list of the Workgroup members and our acknowledgments. **Appendix 2** is a copy of the charge to our Workgroup. **Appendix 3** is our interim advice letter to EPA Administrator Stephen Johnson. **Appendix 4** contains three examples that illustrate opportunities for environmental stewardship and the array of approaches needed to convey the stewardship message. **Appendix 5** is a discussion of the traditional roots of environmental stewardship. **Appendix 6** is a table that shows areas of overlap between our recommendations and those contained in EPA's *Everyday Choices* report. Finally, **Appendix 7** defines the acronyms used in this report.

Key Recommendations

1. **EPA should reframe its mission with stewardship as the unifying theme and ethic.**
2. **EPA should strive to become the world's premier stewardship model and catalyst by integrating regulatory programs, grants, voluntary partnerships, information, in-house operations, and other tools into a common framework.**
3. **EPA should foster stewardship by providing leadership in collaborative governance and participating in partnerships organized by others.**
4. **EPA should systematically invest in the skills and competencies necessary for the Agency's domestic and global leadership in environmental stewardship.**
5. **EPA should drive the ethic and practice of stewardship deep into the culture of the Agency.**

Recommendations, Findings, and Immediate Steps

Recommendation 1	EPA should reframe its mission with stewardship as the unifying theme and ethic.
Finding 1.1	EPA has achieved many successes, but it cannot guarantee and sustain a clean and healthy environment on its own. Environmental stewardship encourages all parts of society to take active responsibility for improving environmental quality and achieving sustainable results. Increased emphasis on the concept of stewardship is a further step in EPA's ongoing evolution.
Finding 1.2	NEPA Section 101 clearly articulates a statutory basis for encouraging stewardship. The laws and executive orders under which EPA operates support and are consistent with encouraging stewardship.
Finding 1.3	Strong regulatory programs are key tools for fostering responsibility, especially when they are integrated with the full policy toolbox that also includes grants, voluntary partnerships, and information programs.
Finding 1.4	Fully embracing environmental stewardship will not be easy but it is one of the best ways to ensure future prosperity.
Finding 1.5	Stewardship and sustainability are related concepts, but quite different in meaning. Environmental stewardship is an ethic and practice of shared responsibility for environmental quality. It is the best means of achieving the environmental component of sustainability, a characteristic of natural and human systems that embodies "the possibility of flourishing forever." ³
Finding 1.6	Working towards sustainability through environmental stewardship and collaboration is everyone's business.
Immediate Step 1.1	The Administrator should convene a committee drawn from across the Agency to redraft EPA's current mission statement and formulate possible commitments to a diverse set of specific national, regional, and local initiatives that exemplify good stewardship practices. The commitments should integrate strong regulatory programs with other tools, such as grants, voluntary partnerships, and information programs. This task could be done as an early step towards the next EPA Strategic Plan.
Immediate Step 1.2	Using multiple channels, including speeches, memos, and informal communications, the Administrator should announce the new mission statement to EPA staff members and request their engagement. The message should underscore that: <i>EPA's challenge lies in using effectively its entire set of tools to get the best environmental results. Fully embracing environmental stewardship will not be easy but it is one of the best ways to ensure future prosperity for all citizens.</i>
Immediate Step 1.3	The Administrator should share and promote the environmental stewardship message with other cabinet-level agencies; Congress; tribal, state, and local governments; as well as private-sector firms, nongovernmental organizations (NGOs), and the American public.

Recommendation 2	EPA should strive to become the world's premier stewardship model and catalyst by integrating regulatory programs, grants, voluntary partnerships, information, in-house operations, and other tools into a common framework.
Finding 2.1	By being an outstanding model in its policies, programs, and in-house operations, EPA can learn first hand what it takes to be a good environmental steward and also can use its visibility to help inspire others to become good environmental stewards.
Finding 2.2	There is a widespread misperception that EPA's primary stewardship tool consists of voluntary partnership programs. The reality is that the Agency has many additional assets to promote stewardship, such as regulatory programs, grants, information, public speeches, and in-house operations. EPA achieves its most effective results when these tools are used in concert.
Finding 2.3	As EPA and others apply various tools of environmental stewardship, everyone must recognize that some efforts will be very successful and others will be less successful. As is often the case with innovation, continuous improvement, experimentation, and tenacity are key.
Immediate Step 2.1	In order to make EPA the world's premier stewardship model and catalyst, the Deputy Administrator should ensure that stewardship is more fully integrated throughout the EPA Strategic Plan and Budget. EPA should set specific benchmarks for implementation of environmental stewardship throughout the Agency and should include stewardship more fully than it is now in all five goals, rather than covering it mainly in Goal 5. When EPA meets the benchmarks, it should celebrate; when it does not, the Agency should redirect its efforts and keep moving forward.
Immediate Step 2.2	Consistent with Immediate Step 1.3, the Administrator should regularly use the platform his office provides to speak to the American public and institutions about their importance as partners in applying environmental stewardship concepts and behavior to enhance the nation's sustainability. The Administrator should offer audiences specific examples of how to be stewards and showcase success stories.
Immediate Step 2.3	The Administrator should communicate EPA's interest in exchanging ideas and information on the best environmental stewardship practices to leaders of foreign environmental agencies. The upcoming Organisation for Economic Co-Operation and Development (OECD) and G8 environmental discussions present initial opportunities to seek such exchanges. EPA should benchmark against other countries and aim to put the United States and EPA in a leadership position.
Immediate Step 2.4	The Office of Administration and Resources Management (OARM) should continue its commendable efforts to make EPA an excellent steward in its in-house operations.

Recommendation 3	EPA should foster stewardship by providing leadership in collaborative governance and participating in partnerships organized by others.
Finding 3.1	Stewardship has taken root in other countries as well as in many states, tribes, communities, and private-sector organizations within the United States. EPA can learn much from these stewardship policies and programs. The principles of collaboration that businesses and others are finding essential also apply to government.
Finding 3.2	Increased complexity of environmental challenges requires that multiple parties be involved in the problem resolution.
Finding 3.3	Collaborative partnerships will give the Agency's stewardship efforts greater impact. EPA can leverage its limited resources by engaging in stewardship efforts organized by others.
Finding 3.4	EPA has proven ability to convene, catalyze, and otherwise support collaborative efforts of others.
Finding 3.5	EPA should be strategic in using collaboration, set clear goals and measures, and evaluate results.
Immediate Step 3.1	The Administrator should ask each Regional Administrator and Assistant Administrator to identify his or her three best examples of collaborative governance in pursuit of stewardship, analyze these examples for lessons learned, and compile these into a report for broad distribution. The Administrator should establish a program to collect data systematically and analyze the successes of priority EPA collaborative efforts.
Immediate Step 3.2	Each program office should set goals with measures of progress and success for each major collaborative effort—in cooperation with collaborators—taking into account cultural, social, and economic benefits along with environmental benefits.
Immediate Step 3.3	Program and regional offices should, when they have the opportunity and resources, join in collaborative efforts in pursuit of stewardship organized by others, particularly when invited.
Immediate Step 3.4	EPA's Office of Human Resources (OHR) should lead the implementation of the Collaboration Training Strategy for the Senior Executive Service (SES) Corps, supervisors and managers, and staff. The training will enhance collaboration and partnering competencies throughout the Agency.
Immediate Step 3.5	As recommended in Immediate Steps 1.3 and 2.2, the Administrator should share and promote the environmental stewardship and collaboration message with other public and private organizations.

Recommendation 4	EPA should systematically invest in the skills and competencies necessary for the Agency's domestic and global leadership in environmental stewardship.
Finding 4.1	Every EPA employee has the potential to be a stewardship ambassador.
Finding 4.2	Although EPA has outstanding scientific expertise, many staff members are not familiar with the principles and tools of stewardship, including collaborative problem solving, nor have they utilized traditional knowledge ⁴ significantly.
Finding 4.3	The pending generational turnover of EPA's workforce presents a compelling opportunity to recruit and equip new employees with skills needed for stewardship and collaborative governance.
Finding 4.4	EPA's substantial information capabilities can be used to help define and encourage others to use responsible environmental practices.
Immediate Step 4.1	<p>The Innovation Action Council (IAC) should work with OHR to appoint a subcommittee to focus on recruiting and training strategies. The subcommittee should review existing strategies and reaffirm or modify them as necessary to build a new generation of EPA employees with collaborative governance and stewardship skills that they are able to use both on the job and in their own personal lives. The new subcommittee should be assigned to:</p> <ul style="list-style-type: none"> • review EPA's Human Capital and Cooperative Conservation Competencies plans and the work of the SES "Stronger EPA" team; • consider the necessary stewardship skills and competencies, including traditional knowledge, and identify gaps that need to be filled to instill stewardship ethic and practices; • reaffirm or recommend EPA recruiting strategy; • recommend a strategy that builds on current efforts for training on stewardship and collaborative governance principles, practices, and expectations with the aim of reaching every employee; • recommend a strategy to recognize and reward stewardship champions as present and future leaders of the Agency; and • lead and support implementation of these strategies.
Immediate Step 4.2	The Deputy Administrator and Assistant Administrators should work with the Assistant Administrator for Administration and Resources Management to determine how best to utilize retired EPA employees effectively to promote the stewardship ethic within the Agency and externally.
Immediate Step 4.3	The Office of the Chief Financial Officer (OCFO) and the Office of Policy, Economics, and Innovation (OPEI) should enhance EPA's evaluation and measurement of the full range of stewardship activities, publicize the results of such analyses inside and outside of the Agency, and highlight success stories.

Recommendation 4 <i>(continued)</i>	
Immediate Step 4.4	The Office of Research and Development (ORD) should strengthen EPA’s research to identify the most effective tools to motivate stewardship behavior in individuals and publicize the results inside and outside of the Agency. Such an effort would directly support ORD’s Sustainability Research Strategy.
Immediate Step 4.5	The Office of Environmental Information (OEI) and the Office of Public Affairs (OPA) should work with the program and regional offices to review and enhance EPA’s information dissemination, disclosure, and educational activities to strengthen the stewardship practices of others.

Recommendation 5 EPA should drive the ethic and practice of stewardship deep into the culture of the Agency.	
Finding 5.1	Stewardship is linguistically difficult because it is both an ethic and a set of practices.
Finding 5.2	Stewardship would benefit from an express set of principles, such as exists with pollution prevention.
Finding 5.3	The way that EPA currently is evaluating its stewardship approaches focuses almost exclusively on its voluntary partnership programs.
Finding 5.4	EPA’s program and regional offices are at the front lines of stewardship and practical innovation.
Immediate Step 5.1	The EPA Administrator and the senior leadership team should clearly and consistently communicate the ethic and practice of stewardship to all employees and establish a learning process to engage all employees in understanding the stewardship ethic and applying stewardship practices. The Administrator also should consider asking the committee suggested in Immediate Step 1.1 to develop a brief set of stewardship principles for EPA.
Immediate Step 5.2	The Administrator should regularly encourage Assistant and Regional Administrators to use stewardship approaches to address program and regional priorities.
Immediate Step 5.3	Consistent with Immediate Step 2.1, the Deputy Administrator should align EPA strategic planning, budgeting, and accountability processes to explicitly address stewardship goals.
Immediate Step 5.4	OHR should establish a new generic performance standard that EPA staff members can use in their individual performance agreements that will recognize and reward superior performance in the service of stewardship.



Introduction

In May 2006, U.S. Environmental Protection Agency (EPA) Administrator Stephen Johnson asked the National Advisory Council for Environmental Policy and Technology (NACEPT or the Council) to review recent EPA efforts to respond to two important priorities—environmental stewardship and cooperative conservation and to make recommendations to the Agency on how it might pursue these priorities most productively. In response, the Council established an Environmental Stewardship/Cooperative Conservation Workgroup to pursue the charge on its behalf. Through the Office of Cooperative Environmental Management (OCEM), EPA assigned a Designated Federal Officer and provided liaison staff members to assist the Workgroup and Council in addressing the charge.

For the environmental stewardship aspect, the Council was directed to *Everyday Choices: Opportunities for Environmental Stewardship*, the path-breaking report from the EPA Innovation Action Council (IAC), comprised of the Agency's most senior career officials. *Everyday Choices* proposes a vision of environmental stewardship for the Agency, identifies those stewardship efforts underway at present and the six most important systems for stewardship, and five means through which EPA could effect stewardship within and outside of the Agency. Specifically, the charge requested the Council's views on whether the vision was appropriate and whether the implications of that vision for EPA action were realistic; whether the identified options or means of effecting stewardship seem on target; and whether the implementation plan directs EPA's attention to the most important opportunities. The charge provided a host of related questions for the Council to consider as it conducted its review and developed its recommendations.

With respect to cooperative conservation, the charge referenced Executive Order 13352, which directs EPA and several other federal agencies to seek out opportunities to work collaboratively, especially at the local level, in using natural resources and protecting the environment. Specifically, the Council was asked to address ways EPA might provide leadership among federal agencies, whether its human resource systems were up to the task of working cooperatively, ideas on innovative ways to engage the public, and advice on strategic approaches that would empower states, tribes, and local communities to initiate more collaborative problem solving.

The Council was asked to direct its response to the Administrator with its findings and recommendations on environmental stewardship and cooperative conservation. Most broadly, the Council was asked to provide its views on how EPA could engage all parts of society in stewardship of the environment and natural resources, a key challenge on the road to sustainable development.

The Workgroup has met face-to-face six times, held more than 30 teleconferences, and conducted numerous interviews of EPA staff. The members of the

Workgroup are listed in [Appendix 1](#). The Workgroup's charge is provided in [Appendix 2](#) of this report.

With its deepest appreciation, NACEPT wishes to acknowledge Administrator Johnson for the spirit of collaboration and the confidence he showed in asking for the Council's views and recommendations on these critical matters. In the same collaborative spirit, we respectfully offer our report and recommendations. While applauding all that EPA has accomplished to date, we believe that it can become even more effective in protecting the environment and safeguarding human health by adopting environmental stewardship as an overarching theme and by becoming truly expert and engaged in collaborative governance in matters significantly affecting the environment.

Interim Letter

In December 2006, NACEPT sent its initial thoughts on environmental stewardship to the Administrator (see [Appendix 3](#)). That letter outlined key questions and several observations made by the Council about environmental stewardship at that stage in our work. Among the points the Council made in the letter were the following:

- The vision of environmental stewardship—“*where all parts of society actively take responsibility to improve environmental quality and achieve sustainable results*”—as proposed by the IAC and endorsed by the Administrator in his foreword to *Everyday Choices* is not only appropriate but echoes the earlier call contained in the National Environmental Policy Act (1969). NEPA states in part that: *(T)he Federal Government, in cooperation with the State and local governments and other concerned public and private organizations, (should) use all practicable means and measures...to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.*⁵
- For such a vision to take hold at EPA, there will need to be a shift in the Agency's organizational culture and such a shift can only occur if EPA's leadership is clear about the urgency and magnitude of the change needed.
- In our view, an enhanced leadership role for EPA in environmental stewardship will require much more than a rebranding of its current voluntary partnership programs. We identified the need for the implementation of the vision of stewardship to include EPA's regulatory programs and, indeed, all of its modes of acting as well as the voluntary partnership programs.

Current Opportunity and Challenge

EPA already has embarked on the journey of environmental stewardship and has made impressive contributions to improving the environment through its stewardship programs. The Agency now has a greater opportunity, however, to announce stewardship as its vision for the future and to engage legions of willing Americans in the effort to enhance environmental quality, use resources wisely, and ensure a more prosperous and just future for all. The vision of stewardship need not stop at our national borders. Today's environmental challenges are

increasingly global in scale and the solutions need to be of a similar scale. We see environmental stewardship as an opportunity to engage a broadening circle of international partners as well as an opportunity for domestic engagement. Regardless of the specific tool selected for action to achieve a given objective, the theme of stewardship should be, we think, the unifying concept.

EPA's draft *2007 Report on the Environment* underscores the urgency of EPA's stewardship task.⁶ This report seeks to identify answers to key questions about the status and trends of the environment. Many, perhaps a majority, of the factors chosen to illustrate the status of national ecological and human health are **not** directly addressed by any EPA regulatory mandate. Thus, the *Report on the Environment* reveals that EPA is highly **dependent** on the successful engagement of other elements of society for improving environmental quality and public health. In other words, the report underscores the fact that EPA needs the help of many other institutions and individuals to accomplish its mission.

A few specifics from the *Report on the Environment* will illustrate these points:

- **Groundwater.** Thirty times more extensive than surface water volume, groundwater is the chief source of drinking and agricultural water in the United States. EPA has no control over withdrawals and can exercise only limited regulatory authority on application of pesticides and fertilizers and the disposal of toxic materials that can leach into groundwater resources.
- **Water Supply.** Much groundwater is, for practical purposes, a nonrenewable resource. The development of new sources of energy through technologies such as biofuels will consume vast quantities of water.⁷ Congress has yet to authorize any federal agency the responsibility for water supply planning.
- **Air Quality.** The number of U.S. homes with indoor air quality problems from radon was double the rate of those remediated. This means more Americans than ever are at risk from adverse impacts of radon exposure, a problem the EPA staff and the Science Advisory Board described as one of the top items of the Agency's unfinished business nearly two decades ago. Congress has not given EPA any regulatory authority so prevention and remediation depend on the Agency's ability to influence the actions of others outside of EPA.
- **Land Use Changes.** A huge factor in health of surface and ground waters, air quality, and ecosystems, the extent of developed land increased at twice the rate of U.S. population growth in the latest period measured (1982-2002). EPA has very limited regulatory authority to affect the location, design, use, or timing of development; exceptions include a couple of Clean Water Act sections, some Clean Air provisions, and contaminated site clean-up authorities. The ability to forestall most new problems (including sediment and additional nutrients, CO₂ releases, and criteria air pollutants caused by the combination of land disturbance and such accompanying aspects as more vehicles and impervious surfaces) lies outside of EPA's regulatory purview.
- **Ecosystems or Ecological Condition.** Although EPA has an important regulatory foothold in toxic substance regulation and over wetlands conversion, the Agency lacks any control over forestry conversion or land cover gener-

ally. Thus, for example, the Agency must rely on stewardship or other institutions to affect decisions on biofuels production that would greatly expand corn-based ethanol production at the expense of stressed regional water resources and the ecosystems that rely upon them.

A reader of the *Report on the Environment* is left with the compelling impression that among EPA's most powerful tools are its ability to provide accurate public information, motivate changes in behavior from individuals to institutional actors, and being creative in its use of regulation to move all parties to a higher position on the scale of environmental quality. The same points emerged from several examples of environmental stewardship that we studied: a cotton shirt, an office building, and a river (see "Examples of Environmental Stewardship Opportunities" on [page 13](#) and [Appendix 4](#)). Stewardship, in short, seems essential for the Agency to generate new environmental gains. The critical role of stewardship motivates this report.

Working towards sustainability through environmental stewardship and collaboration is everyone's business. The short title of our report, *Everyone's Business*, is explicitly meant to invoke the seminal work of prior EPA reports and similarly advance the Agency's efforts along the path to sustainability. EPA's groundbreaking 1987 report, *Unfinished Business*⁸, and the EPA Science Advisory Board's follow-up 1990 report, *Reducing Risk*⁹, highlighted the risks of environmental problems and how we should be addressing those problems through risk-based management, which can be achieved only through strategic, comprehensive efforts by all of us working together—governments, universities, businesses, and concerned citizens (see "Learning From the Past: EPA's Experience in Adapting New Management Ideas" on [page 19](#) of this report for further discussion). EPA's 2005 stewardship report, *Everyday Choices*¹⁰, recognized that every day, we each make choices that impact our own and others' quality of life, health, and environment. Environmental stewardship follows risk-based management as an important next step in the ongoing evolution of environmental protection.

Examples of Environmental Stewardship Opportunities

The Workgroup developed several examples of environmental stewardship to provide a snapshot of the opportunities that exist in every day contexts. Virtually everyone can relate to these examples and begin to understand the various opportunities for stewardship that we have to make a difference in our world. These examples are described in more detail in **Appendix 4**.

Cotton Shirt—There are many environmental stewardship opportunities associated with growing and manufacturing cotton products as well as with cleaning cotton shirts during their life cycle. These opportunities include purchasing t-shirts made with organic cotton, which is grown without synthetic fertilizers, pesticides, herbicides, insecticides, or defoliants; developing manufacturing processes that require less water; using cold water to wash t-shirts, which decreases the energy demand; purchasing shirts that need as little care as possible (can be washed in cold water and do not require tumble drying); and purchasing Energy Star washers.

Office Building—The opportunities for environmental stewardship relate principally to building location, design and construction, and operation and maintenance. Buildings can be sited and designed to conserve energy, to maximize the uses of passive and active solar energy, and to assure maximum natural water infiltration and flows. Smart Growth principles can be applied to site selection (e.g., locating near public transit). During construction, durable materials can be obtained locally and from deconstructed buildings, and products that may impact indoor air quality can be avoided. In operating and maintaining a building, the opportunities include seeking green-sourced power, installing solar panels, using natural pest control techniques, supplying collection systems for recycling, maintaining the HVAC system at peak operating capacity, installing motion and photo-sensor lighting switches, and using energy efficient lighting.

River—The principal environmental stewardship opportunities focus on reducing water usage and protecting water quality. Homeowners can install low-flow showerheads and toilets, fix leaks and drips, and maximize onsite infiltration and use of technologies such as rain collection barrels and rain gardens. Farmers can prevent livestock from entering the river; grow climate-appropriate, disease-resistant crops that eliminate or minimize the need for irrigation and pesticides/herbicides; and minimize the use of fertilizers and pesticides and avoid overspray into aquatic areas. Farmers, landscapers, and forestry managers can install and maintain riparian buffers of native species and use swales to control wet weather flows. Additional stewardship opportunities include restoring streams enclosed in culverts or pipes to daylight (helps eliminate bacteria in watersheds) and preserving/restoring natural stream meanders and pools. With respect to river recreational use, the opportunities include maintaining boat motors in good repair, exercising care in filling gasoline storage containers, keeping gasoline storage in a catchment basin, and navigating at lower speeds near erodible or otherwise sensitive shorelines.



Defining Environmental Stewardship

The idea of taking responsibility is central to stewardship. In its 2006-2011 Strategic Plan, for example, EPA refers to environmental stewardship as “the sense of responsibility and ownership that goes with not only meeting, but exceeding, existing regulatory requirements.”¹¹ According to *Everyday Choices*, “stewardship means taking responsibility for our choices.”¹² NACEPT endorses this definition.

But what does *taking responsibility* mean? Because responsibility is so central to the idea of environmental stewardship, it is worth stepping back to consider this question. Philosophers since the time of Aristotle have grappled to define *taking responsibility*. Shifting through this long and extensive literature, three themes emerge. First, taking responsibility requires that people see themselves as agents whose choices and actions make a difference in the world. They are “*response-able*,” that is, able to respond and bring about a response.¹³ EPA touches upon this idea in its 2006-2011 Strategic Plan when it writes of stewardship as a sense of ownership. Taking responsibility means owning the consequences of one’s actions.

Second, those who take responsibility acknowledge that they may be blamed or praised for their actions; that they may fairly be *held responsible*. Part of taking responsibility is accepting that it is appropriate for others to expect certain behaviors. Those who take responsibility understand that their actions are the “fair target” of the reactions of others.¹⁴

The third condition for taking responsibility is that the first two conditions be based on evidence.¹⁵ People must see that their actions have an impact in the world. People must experience blame or praise for their actions. Taking responsibility must be based on actual experience, not some theoretical concept.

These three conditions for taking responsibility help clarify the meaning of environmental stewardship. Environmental stewardship implies that people take ownership of the environmental consequences of their actions. They acknowledge that others have the right to review and evaluate the impact of their actions upon environmental quality. In addition, they experience direct evidence of the consequences of their actions, both in terms of the environmental harms and benefits they cause as well as the judgments of others. Stewardship thus points to the central role of information in informing choices, assessing consequences, and changing behavior.

Stewardship and sustainability are related concepts, but quite different in meaning. Stewardship is an ethic and practice of shared responsibility for environmental protection. EPA is on a journey from pollution control, to pollution prevention, to stewardship, to sustainability. Stewardship can be seen as the foundation of a bridge that takes us into the realm of sustainability. The process of

taking responsibility for the environmental consequences of our actions through ownership, acknowledgement, and change contributes to sustainability. Stewardship focuses on a set of environmental behaviors and the role of evidence in informing our choices. It is fundamental to sustainability, but sustainability encompasses a broader set of ideas and actions. Sustainability is a characteristic of living systems that embodies “the possibility of flourishing forever.”¹⁶

Recommendations, Findings, and Immediate Action Steps

1. EPA should reframe its mission with stewardship as the unifying theme and ethic.
2. EPA should strive to become the world’s premier stewardship model and catalyst by integrating regulatory programs, grants, voluntary partnerships, information, in-house operations, and other tools into a common framework.
3. EPA should foster stewardship by providing leadership in collaborative governance and participating in partnerships organized by others.
4. EPA should systematically invest in the skills and competencies necessary for the Agency’s domestic and global leadership in environmental stewardship.
5. EPA should drive the ethic and practice of stewardship deep into the culture of the Agency.

Recommendation 1	EPA should reframe its mission with stewardship as the unifying theme and ethic.
Finding 1.1	EPA has achieved many successes, but it cannot guarantee and sustain a clean and healthy environment on its own. Environmental stewardship encourages all parts of society to take active responsibility for improving environmental quality and achieving sustainable results. Increased emphasis on the concept of stewardship is a further step in EPA’s ongoing evolution.
Finding 1.2	NEPA Section 101 clearly articulates a statutory basis for encouraging stewardship. The laws and executive orders under which EPA operates support and are consistent with encouraging stewardship.
Finding 1.3	Strong regulatory programs are key tools for fostering responsibility, especially when they are integrated with the full policy toolbox that also includes grants, voluntary partnerships, and information programs.
Finding 1.4	Fully embracing environmental stewardship will not be easy but it is one of the best ways to ensure future prosperity.
Finding 1.5	Stewardship and sustainability are related concepts, but quite different in meaning. Environmental stewardship is an ethic and practice of shared responsibility for environmental quality. It is the best means of achieving the environmental component of sustainability, a characteristic of natural and human systems that embodies “the possibility of flourishing forever.” ¹⁷

Recommendation 1	<i>(continued)</i>
Finding 1.6	Working towards sustainability through environmental stewardship and collaboration is everyone’s business.
Immediate Step 1.1	The Administrator should convene a committee drawn from across the Agency to redraft EPA’s current mission statement and formulate possible commitments to a diverse set of specific national, regional, and local initiatives that exemplify good stewardship practices. The commitments should integrate strong regulatory programs with other tools, such as grants, voluntary partnerships, and information programs. This task could be done as an early step towards the next EPA Strategic Plan.
Immediate Step 1.2	Using multiple channels, including speeches, memos, and informal communications, the Administrator should announce the new mission statement to EPA staff members and request their engagement. The message should underscore that: <i>EPA’s challenge lies in using effectively its entire set of tools to get the best environmental results. Fully embracing environmental stewardship will not be easy but it is one of the best ways to ensure future prosperity for all citizens.</i>
Immediate Step 1.3	The Administrator should share and promote the environmental stewardship message with other cabinet-level agencies; Congress; tribal, state, and local governments; as well as private-sector firms, nongovernmental organizations (NGOs), and the American public.

Our recommendations flow from our understanding of the meaning of stewardship. As noted above, stewardship and sustainability are related concepts, but quite different in meaning. Environmental stewardship is an ethic and practice of shared responsibility for environmental quality. EPA has achieved many successes, but it cannot guarantee and sustain a clean and healthy environment on its own. Environmental stewardship encourages all parts of society to take active responsibility for improving environmental quality and achieving sustainable results. Strong regulatory programs are key tools in fostering responsibility, especially when they are integrated with the full policy toolbox that also includes grants, voluntary partnerships, and information programs.

Fully embracing environmental stewardship will not be easy but it is one of the best ways to ensure future prosperity. Implementing the full scope of our recommendations will require EPA to make a long-term, sustained investment and provide continuing management attention. Paradigm shifts take time and patience as well as strategic implementation. EPA’s successful implementation of pollution prevention illustrates how this can be accomplished. By incorporating environmental stewardship into all of its activities, EPA will move closer to helping the United States achieve sustainable outcomes across a wider range of activity. Effective stewardship is as challenging for EPA as it is for all elements of society, but unless stewardship practices become more widespread, the goal of protecting American environmental quality and achieving a high quality of life will lie beyond society’s reach. EPA has successfully articulated new management ideas in the past (see “Learning From the Past: EPA’s Experience in Adapting New Management Ideas” on [page 19](#)). Increased emphasis on the concept of stewardship is a further step in EPA’s ongoing evolution.

Our view is consistent with the statutes and executive orders that provide the basis for EPA's authority. As noted in our December 22, 2006, letter to Administrator Johnson (see [Appendix 3](#)), NEPA Section 101 clearly articulates a statutory basis for stewardship. The laws and executive orders under which EPA operates support stewardship concepts. For example, the Congressional declaration of policy and goals for the 1972 federal Clean Water Act Amendments¹⁸ exhorts the nation to achieve fishable and swimmable rivers, streams, and other surface waters for both nonpoint and point pollution sources. Together with the regulatory requirements of the Act are roles for EPA to collect and disseminate information, fund wastewater treatment facilities, provide grants for planning, conduct watershed assessments, and undertake many other actions working with tribes, states, and local governments as well as a host of other parties to achieve the fishable/swimmable goal. Writing to the Chairman of the Council on Environmental Quality on August 24, 2007, EPA's General Counsel noted, "(W)e conclude that EPA's enabling statutes and cross-agency laws provide a strong framework for using collaborative approaches with partners, stakeholders, and the public to protect human health and the environment."¹⁹

LEARNING FROM THE PAST: EPA'S EXPERIENCE IN ADAPTING NEW MANAGEMENT IDEAS

EPA has a rich history on incorporating cutting-edge ideas into its overall management approach. Risk-based management, pollution prevention, and the watershed approach are a few examples of past successes. With each of these efforts EPA fundamentally changed the Agency's approach to environmental protection and its decision-making processes. These frameworks gave managers a different way to set priorities, direct management energies, involve multiple stakeholders, and achieve environmental successes.

Each of these approaches had several common elements that led to their success. Top-level political leadership reinforced the importance of these efforts through multiple channels. Externally, the Agency's political appointees consistently built these concepts into their speeches, discussions with elected officials, and consultations with state and tribal partners. Internally, these concepts were included in EPA's strategic plan, reflected in the allocation of resources, and included in the Agency's performance management and awards systems. An expectation was created that the Senior Executive Service (SES) Corps, and other Agency managers, would find innovative ways to promote these concepts both inside and outside the Agency. Management encouraged staff to be leaders and to explore ideas. EPA made substantial investments of funds and time to train managers and staff in these new principles. Performance reviews by the Deputy Administrator and testimony to Congress included these management concepts. Where possible, EPA also encouraged the use of these tools internationally. In short, EPA used all possible tools to inculcate these approaches into the management fabric of the Agency, its state and tribal partners, the regulated community, and other stakeholders.

Increased emphasis on the concept of stewardship is a further step in EPA's ongoing evolution. The techniques that were successful in the past could once again be used to infuse this ethic into a national and international approach to environmental protection.

We recommend the following immediate steps. The Administrator should convene a committee drawn from across the Agency to redraft EPA’s current mission statement and formulate possible commitments to a diverse set of specific national, regional, and local initiatives that exemplify good stewardship practices. This task could be done as an early step towards the next EPA Strategic Plan. Using multiple channels, including speeches, memos, and informal communications, the Administrator should announce the new mission statement to EPA staff members and request their engagement. The message should underscore that: **EPA’s challenge lies in using effectively the entire set of tools to get the best environmental results. Fully embracing environmental stewardship will not be easy but it is one of the best ways to ensure future prosperity.** In addition, the Administrator should share and promote the environmental stewardship message with other cabinet-level agencies; Congress; tribal, state, and local governments; as well as private-sector firms, NGOs, and the American public.

Recommendation 2	EPA should strive to become the world’s premier stewardship model and catalyst by integrating regulatory programs, grants, voluntary partnerships, information, in-house operations, and other tools into a common framework.
Finding 2.1	By being an outstanding model in its policies, programs, and in-house operations, EPA can learn first hand what it takes to be a good environmental steward and also can use its visibility to help inspire others to become good environmental stewards.
Finding 2.2	There is a widespread misperception that EPA’s primary stewardship tool consists of voluntary partnership programs. The reality is that the Agency has many additional assets to promote stewardship, such as regulatory programs, grants, information, public speeches, and in-house operations. EPA achieves its most effective results when these tools are used in concert.
Finding 2.3	As EPA and others apply various tools of environmental stewardship, everyone must recognize that some efforts will be very successful and others will be less successful. As is often the case with innovation, continuous improvement, experimentation, and tenacity are key.
Immediate Step 2.1	In order to make EPA the world’s premier stewardship model and catalyst, the Deputy Administrator should ensure that stewardship is more fully integrated throughout the EPA Strategic Plan and Budget. EPA should set specific benchmarks for implementation of environmental stewardship throughout the Agency and should include stewardship more fully than it is now in all five goals, rather than covering it mainly in Goal 5. When EPA meets the benchmarks, it should celebrate; when it does not, the Agency should redirect its efforts and keep moving forward.
Immediate Step 2.2	Consistent with Immediate Step 1.3, the Administrator should regularly use the platform his office provides to speak to the American public and institutions about their importance as partners in applying environmental stewardship concepts and behavior to enhance the nation’s sustainability. The Administrator should offer audiences specific examples of how to be stewards and showcase success stories.

Recommendation 2	<i>(continued)</i>
Immediate Step 2.3	The Administrator should communicate EPA’s interest in exchanging ideas and information on the best environmental stewardship practices to leaders of foreign environmental agencies. The upcoming Organisation for Economic Co-Operation and Development (OECD) and G8 environmental discussions present initial opportunities to seek such exchanges. EPA should benchmark against other countries and aim to put the United States and EPA in a leadership position.
Immediate Step 2.4	The Office of Administration and Resources Management (OARM) should continue its commendable efforts to make EPA an excellent steward in its in-house operations.

Stewardship requires EPA to use every tool in its toolbox. The toolbox includes environmental regulations, standards, and permits. It includes grants, technical assistance, and educational programs, as well as mandatory approaches and voluntary partnership approaches. All of these tools are necessary, but none on its own is sufficient. It is the combination of tools thoughtfully aligned to support the development of environmental stewardship across businesses, federal and other levels of government, individuals, and globally that creates major environmental quality improvements. It would be the rare instance in which one tool on its own could accomplish any significant environmental quality improvement objective.

There is a widespread misperception that EPA’s primary stewardship tool consists of voluntary partnership programs. The reality is, however, that the Agency has many additional assets to promote stewardship, such as regulatory programs, grants, information, public speeches, and in-house operations. EPA achieves its most effective results when it uses these tools in concert. Environmental regulation is the Agency’s most powerful stewardship tool. EPA’s ability to foster stewardship comes primarily from the major environmental statutes and the system of environmental regulation, standards, and permits that it has promulgated to achieve the goals laid down in law. EPA’s environmental permitting requirements call upon facilities to take responsibility for the environmental consequences of a defined set of behaviors. Such requirements mandate facilities, for example, to take responsibility for their wastewater effluent by installing best available technology, or to take responsibility for the air pollution from their products by meeting fuel efficiency standards. Environmental rules require facilities to collect and share information about the environmental consequences of their behavior and hold them to account through inspections and the possibility of fines. Environmental regulation, and associated standards and permits, define facilities’ responsibilities directly and explicitly: facility managers must take responsibility for certain aspects of their behavior under penalty of law.

EPA’s voluntary partnership programs extend the Agency’s reach and complement its regulatory tools. Although programs such as SunWise Schools, Performance Track, Climate Leaders, and Energy Star, to name just a few, do not carry the authority of mandatory regulation, they address a broader array of consequences. Such programs should not be viewed as alternatives to regulatory programs, but rather as complementary tools to be applied in tandem and integrated with other environmental tools.

EPA's authority to prevent pollution relies on a mix of approaches and exemplifies what we mean by an integrated approach to stewardship. EPA's authority to require pollution prevention is established by statute. For example, under Section 13106 of the Pollution Prevention Act, EPA requires each facility that files an annual toxic chemical release form to provide a toxic chemical source reduction and recycling report (which is clearly designed to encourage pollution prevention). In addition, EPA uses its authority under the Resource Conservation and Recovery Act (RCRA) Section 6927 to require RCRA regulated facilities to describe their waste reduction programs and to perform inspections to determine whether such programs are actually in place. In addition, EPA has developed numerous voluntary partnership programs that encourage facilities to prevent pollution, such as Waste-Wise. Although voluntary partnership programs extend stewardship in important ways, voluntary tools must be seen in the broader context of how EPA accomplishes major environmental quality improvements. Region I's integration of compliance, incentive, and innovation tools, described in "EPA Region I's Experience Integrating Policy Tools" on [page 23](#), provides a further example of how EPA can use all of its tools to promote stewardship.

We can analyze available environmental policy tools based on whether EPA's involvement is direct or indirect. Some tools, such as the Agency's permit system, involve EPA in direct one-on-one interaction with a single facility. Other tools, such as the Executive Order on Cooperative Conservation, involve the Agency in discussions with groups of organizations simultaneously in which its involvement is more diffuse. We also can analyze tools based on the source of EPA's influence. Some tools rely on EPA's statutory authority or financial resources, while others draw on its expertise and credibility. Such distinctions may be more meaningful than the labels mandatory and voluntary, which focus on a single aspect of a tool—whether or not it has a regulatory basis—but neglect other important characteristics.

The Administrator should communicate EPA's interest in exchanging ideas and information on the best environmental stewardship practices to leaders of foreign environmental agencies. The upcoming meetings of the Organisation for Economic Co-Operation and Development (OECD) and the G8 environmental discussions present near-term opportunities to initiate such exchanges. EPA should benchmark against other countries, corporations, states, tribes, and other federal agencies, and aim to put the United States and EPA in a leadership position.

In order to make EPA the world's premier stewardship model and catalyst, the Deputy Administrator should ensure that stewardship is more fully included throughout the EPA Strategic Plan and Budget and should set specific benchmarks for EPA's implementation of environmental stewardship throughout the Agency. Stewardship should be more integrated than it is now into all five goals, rather than covered mainly in Goal 5. It will be important for EPA to celebrate success when it achieves benchmarks. It is equally important to recognize that the Agency is on a path of innovation and learning from experimentation. EPA should strive for continuous improvement and to learn from what works and what does not, but should not turn back from its path of supporting stewardship.

The Administrator should regularly use the platform provided by his office to speak to the American public and institutions about their importance as partners in applying environmental stewardship concepts and behavior to enhance the nation's sustainability. The Administrator should offer audiences specific examples of how to be stewards and showcase success stories.

By being an outstanding model in its own policies, programs, and in-house operations, EPA can learn first hand what it takes to be a good environmental steward and also can use its visibility to help inspire others to become good environmental stewards. EPA has taken the lead among federal agencies to conform to ISO 14001, the environmental management systems standard, and has shown the way towards a smaller environmental footprint by buying green power from electrical generating and distribution companies, changing its vehicle fleet to include more hybrids and other high mileage cars, and certifying some of its regional buildings to the U.S. Green Building Council's LEED standard. All these steps and more exemplify Mahatma Gandhi's admonition, "You must be the change you wish to see in the world." Example is a powerful means of educating and inspiring, and EPA should continue to model stewardship behavior. Moreover, the Agency can share with the public not only the completed projects but the information about costs, suppliers, practical difficulties, and actions that resolved any problems.

EPA REGION I'S EXPERIENCE INTEGRATING POLICY TOOLS

For the past 5 years, EPA Region I (New England) has integrated traditional enforcement tools with beyond-compliance approaches in its efforts to protect the environment. Region I's efforts illustrate what we mean by using "all the tools in the toolbox." In its work to address environmental impacts from colleges and universities, for example, Region I has combined enforcement with a broad range of compliance assistance efforts that have motivated universities to initiate new practices and management systems that address their environmental impacts comprehensively. The goal of these efforts, according to Region I, "is to have facilities be responsible for their own environmental performance."²⁰

One key element in Region I's approach has been to encourage colleges and universities to develop environmental management systems (EMS). The region has prepared an EMS guide to help these educational institutions identify and address all of their environmental impacts, whether or not they are subject to regulation. It also has created a Best Management Practices catalogue of practices for universities that it considers sustainable. Following Region I's enforcement action, the Massachusetts Institute of Technology developed the Virtual Environmental Campus, a Web-based tool for improving environmental performance in cafeterias, dormitories, and other parts of the university usually exempt from much scrutiny from regulators. It is the mix of approaches, including enforcement, assistance incentives, and innovation, that we find most appropriate and beneficial for promoting stewardship.

Recommendation 3	EPA should foster stewardship by providing leadership in collaborative governance and participating in partnerships organized by others.
Finding 3.1	Stewardship has taken root in other countries as well as in many states, tribes, communities, and private-sector organizations within the United States. EPA can learn much from these stewardship policies and programs. The principles of collaboration that businesses and others are finding essential also apply to government.
Finding 3.2	Increased complexity of environmental challenges requires that multiple parties be involved in the problem resolution.
Finding 3.3	Collaborative partnerships will give the Agency's stewardship efforts greater impact. EPA can leverage its limited resources by engaging in stewardship efforts organized by others.
Finding 3.4	EPA has proven ability to convene, catalyze, and otherwise support collaborative efforts of others.
Finding 3.5	EPA should be strategic in using collaboration, set clear goals and measures, and evaluate results.
Immediate Step 3.1	The Administrator should ask each Regional Administrator and Assistant Administrator to identify his or her three best examples of collaborative governance in pursuit of stewardship, analyze these examples for lessons learned, and compile these into a report for broad distribution. The Administrator should establish a program to collect data systematically and analyze the successes of priority EPA collaborative efforts.
Immediate Step 3.2	Each program office should set goals with measures of progress and success for each major collaborative effort—in cooperation with collaborators—taking into account cultural, social, and economic benefits along with environmental benefits.
Immediate Step 3.3	Program and regional offices should, when they have the opportunity and resources, join in collaborative efforts in pursuit of stewardship organized by others, particularly when invited.
Immediate Step 3.4	EPA's Office of Human Resources (OHR) should lead implementation of the Collaboration Training Strategy for the Senior Executive Service (SES) Corps, supervisors and managers, and staff. The training will enhance collaboration and partnering competencies throughout the Agency.
Immediate Step 3.5	As recommended in Immediate Steps 1.3 and 2.2, the Administrator should share and promote the environmental stewardship and collaboration message with other public and private organizations.

On August 26, 2004, President George W. Bush issued Executive Order 13352, calling upon federal agencies to implement environmental protection laws in a manner that "facilitates cooperative conservation." The order defined cooperative conservation as "actions that relate to use, enhancement, and enjoyment of natural resources, protection of the environment, or both, and that involve collaborative activity among federal, state, local, and tribal governments, private for-profit and nonprofit institutions, other nongovernmental entities and individuals."

The key word in this definition is collaborative. The President's Cooperative Conservation order grows out of recognition that an increasing percentage of public goals cannot be accomplished by government acting alone. In the environmental area, in particular, increasing complexity requires the active engagement of multiple parties. Another term that captures the meaning of cooperative conservation is *collaborative governance*. Collaborative governance is a way of acting in which each party shares responsibility for deciding the means by which policy goals will be achieved, as well as particulars of the goals.²¹

The ethic and practice of stewardship can be realized only if EPA works collaboratively with others. Collaborative partnerships will give the Agency's stewardship efforts greater impact. In the pursuit of stewardship, each set of actors offers unique and critical contributions. We have argued that EPA's role is important and clear. It develops regulations and standards that require private-sector managers to take responsibility for certain unintended consequences of their activities. It offers technical assistance and financial resources to those who need help. It gathers and disseminates information to inform others' choices. In addition to these responsibilities, EPA can and does serve as a convener and catalyst for collaboration.

The private sector's role in stewardship is equally critical. In addition to complying fully with environmental regulatory requirements, private-sector managers make choices every day about the goods and services they will bring to market. Each of these choices may generate environmental consequences or benefits. Private-sector managers possess special knowledge about how their processes work and where opportunities for environmental improvement lie. For stewardship to take root and grow, EPA must tap the influence and insights of private-sector managers. The Agency can learn much from the policies and programs that these organizations have enacted.

NGOs have important perspectives and capabilities to offer as well. As protectors of the public good, these organizations possess unrivaled legitimacy. They frequently offer thoughtful and creative ideas, and they have access to large networks of organizations and individuals that collectively can influence policy agendas. It is hard to imagine recycling campaigns, energy conservation initiatives, or watershed protection programs working at all without the ideas and resources of grassroots organizations.

Tribes and tribal organizations have special insights to bring to the movement toward stewardship. As explained in [Appendix 5](#), the ethic and practice of stewardship is deeply rooted in tribal cultures and everyday routines. We have much to learn from tribal traditions, and collaborating with tribes in stewardship programs should be an Agency priority.

State and local governments often are innovators of collaborative governance. Frequently, this is because they are closer to the people of their communities, they are in tune with citizens' values, and they are able to devise creative mechanisms to engage citizens in cooperative endeavors. EPA has the opportunity to leverage its resources by working with state and local governments to involve individual citizens, businesses, schools, organizations, and others in actions that extend the practice of stewardship. EPA also should seek to learn from state and local experiences.

The role of individuals has not received systematic attention in EPA planning. Most often we think of the role of individuals in their private capacities as home-

owners, consumers, travelers, and so forth. The collective impact of decisions by individuals in these capacities is profound. These decisions also form the backdrop for another set of decisions by individuals. Although the Agency is charged with regulating the behavior of facilities, facilities are run by individuals and ultimately the footprint of the facility is determined by individuals' decisions. The range of decisions affecting that footprint is vast. It includes business decisions, such as what products or services to offer, what inputs and suppliers to use, and what customers to target. It includes operating decisions such as what physical plant to build or acquire and what technologies to use. It includes decisions about management practices such as who to hire and how employees are trained, who reports to whom, and how performance is evaluated. It includes decisions about values and commitments, such as whether environmental performance is central to the organization's identity or more of an afterthought. The role of individuals is paramount in small businesses whose activities may be subject to little if any regulatory oversight.

Working separately, sectors may compete with each other or duplicate efforts. They may blame each other when activities are not as effective as they had anticipated. Working collaboratively, these actors can offer innovative solutions that build on each others' competencies. They can access greater technical know-how, financial resources, knowledge, and channels of engagement. Their actions become legitimate and influential. Collaborative approaches to stewardship increase the possibility that policies will be effective, innovative, and integrated. Collaboration is not appropriate, however, for every situation. EPA should be strategic in using collaboration, set clear goals and measures, and evaluate results.

In this context, there are great opportunities for collaboration between government agencies at the federal, tribal, state, and local levels. EPA does collaborate with many of these agencies, but there are many more opportunities waiting. The capabilities of these agencies are far greater than they would be otherwise when they combine their expertise and authorities.

As immediate steps, the Administrator should ask each Regional Administrator and Assistant Administrator to identify his or her three best examples of collaborative governance in pursuit of stewardship, analyze these examples for lessons learned, and compile these into a report for broad distribution. The Administrator should establish a program to collect data systematically and analyze the successes of priority EPA collaborative efforts. Each program office should set goals with measures of progress and success for each major collaborative effort—in cooperation with collaborators—taking into account cultural, social, and economic benefits along with environmental benefits. Regional offices should, when they have the opportunity and resources, join in collaborative efforts in pursuit of stewardship organized by others, particularly when invited. EPA's Office of Human Resources (OHR) should implement the Collaboration Training Strategy for the Senior Executive Service (SES) Corps, supervisors and managers, and staff. The training will enhance collaboration and partnering competencies throughout the Agency.

Recommendation 4	EPA should systematically invest in the skills and competencies necessary for the Agency’s domestic and global leadership in environmental stewardship.
Finding 4.1	Every EPA employee has the potential to be a stewardship ambassador.
Finding 4.2	Although EPA has outstanding scientific expertise, many staff members are not familiar with the principles and tools of stewardship, including collaborative problem solving, nor have they utilized traditional knowledge ²² significantly.
Finding 4.3	The pending generational turnover of EPA’s workforce presents a compelling opportunity to recruit and equip new employees with skills needed for stewardship and collaborative governance.
Finding 4.4	EPA’s substantial information capabilities can be used to help define and encourage others to use responsible environmental practices.
Immediate Step 4.1	<p>The Innovation Action Council (IAC) should work with OHR to appoint a subcommittee to focus on recruiting and training strategies. The subcommittee should review existing strategies and reaffirm or modify them as necessary to build a new generation of EPA employees with collaborative governance and stewardship skills that they are able to use both on the job and in their own personal lives. The new subcommittee should be assigned to:</p> <ul style="list-style-type: none"> • review EPA’s Human Capital and Cooperative Conservation Competencies plans and the work of the SES “Stronger EPA” team; • consider the necessary stewardship skills and competencies, including traditional knowledge, and identify gaps that need to be filled to instill stewardship ethic and practices; • reaffirm or recommend EPA recruiting strategy; • recommend a strategy that builds on current efforts for training on stewardship and collaborative governance principles, practices, and expectations with the aim of reaching every employee; • recommend a strategy to recognize and reward stewardship champions as present and future leaders of the Agency; and • lead and support implementation of these strategies.
Immediate Step 4.2	The Deputy Administrator and Assistant Administrators should work with the Assistant Administrator for Administration and Resources Management to determine how best to utilize retired EPA employees effectively to promote the stewardship ethic within the Agency and externally.
Immediate Step 4.3	The Office of the Chief Financial Officer (OCFO) and the Office of Policy, Economics, and Innovation (OPEI) should enhance EPA’s evaluation and measurement of the full range of stewardship activities, publicize the results of such analyses inside and outside of the Agency, and highlight success stories.

Recommendation 4	<i>(continued)</i>
Immediate Step 4.4	The Office of Research and Development (ORD) should strengthen EPA’s research to identify the most effective tools to motivate stewardship behavior in individuals and publicize the results inside and outside of the Agency. Such an effort would directly support ORD’s Sustainability Research Strategy.
Immediate Step 4.5	The Office of Environmental Information (OEI) and the Office of Public Affairs (OPA) should work with the program and regional offices to review and enhance EPA’s information dissemination, disclosure, and educational activities to strengthen the stewardship practices of others.

Interest in environmental protection throughout the country and the world is surging. There is growing recognition that we live in a global community and that everyone’s actions impact the planet. This upswing in interest is reflected in many actions—by organizations and individuals making socially responsible investments, businesses promoting corporate social responsibility, communities adopting green building policies, and individuals making environmentally informed purchases. There now is an opportunity, some would say an imperative, for EPA to recast its role and continue to provide the leadership needed to reach the next level of environmental performance.

Every EPA employee has the potential to become a stewardship ambassador. As EPA employees go about their jobs, they can build stewardship into their conduct inside and outside the office. In the workplace, EPA employees can work cooperatively with others with the understanding that each tool in the toolbox has a contribution to make to environmental protection. EPA employees can value stewardship projects initiated by others and lend their expertise and resources. Outside the workplace, they can make decisions about where to live, what to consume, whether to use public transportation or drive to work, whether to drive to work alone or in a carpool, how warm or cool to keep their homes, and how to maintain their yards with stewardship in mind.

EPA’s scientific expertise is outstanding in many ways, but the Agency has not yet begun systematic research to identify the most effective tools for stewardship. The Agency knows relatively little about what motivates individuals’ stewardship behavior, for example. EPA has relied on strict science and incorporates traditional knowledge only rarely, despite the significant insights that could be gained from traditional sources.

Throughout its history, EPA has benefited by the extraordinary human capital it has been able to attract and retain, but many experienced employees are reaching retirement age after full careers of service at the Agency. Although these seasoned employees will take with them much experience, incoming newly hired employees offer EPA an opportunity to develop a new workforce for the new types of environmental challenges. Many of these new employees will come to EPA with credentials that will enable them to be champions of stewardship, and they may naturally embrace collaboration and learning as the drivers of stewardship. A formal training program, however, should be established to instill a common language and set of skills to support the stewardship efforts. We note that during its history, whenever there is a major paradigm shift at EPA, an accompanying Agency-wide rollout of supporting training regimes takes place. For example, pollution prevention, risk management, and risk communication all

have benefited by coherent training programs backed up by adequate budgets. Stewardship will require a comparable effort.

EPA can use its substantial information capabilities to help define and encourage others to use responsible environmental practices. Measurement is a cornerstone of defining and managing human interaction with the environment. It is integral to stewardship because it provides information people need in order to take responsibility. EPA already collects and has access to information that helps those in government, the private sector, nonprofit organizations, and individuals make connections between actions and environmental consequences. Although EPA's measurement activities are significant, much more work needs to be done to develop reliable and comprehensive outcome metrics. Available data, while more accessible and integrated than in the past, are still limited. They tell us little about the impact of policies geared to improving land use management, natural resource consumption, or other areas not addressed by federal environmental regulation. Government does not require facilities to report how much energy or water or other inputs they consume, despite the degradation caused by the depletion of these resources. Many facilities are not subject to environmental reporting requirements at all because of their sector or size, yet the impacts of their practices and products on environmental quality may be significant.²³

As immediate steps, we recommend that EPA's Innovation Action Council work with the Office of Human Resources to appoint a subcommittee to focus on recruiting and training strategies. The subcommittee should review existing strategies and reaffirm or modify them as necessary to build a new generation of EPA employees with collaborative governance and stewardship skills that they are able to use both on the job and in their own personal lives. The new subcommittee should be assigned to:

- review EPA's Human Capital and Cooperative Conservation Competencies plans and the work of the SES "Stronger EPA" team;
- consider the necessary stewardship skills and competencies, including traditional knowledge, and identify gaps that need to be filled to instill stewardship ethic and practices;
- reaffirm or recommend EPA recruiting strategy;
- recommend a strategy that builds on current efforts for training on stewardship and collaborative governance principles, practices, and expectations with the aim of reaching every employee; and
- recommend a strategy to recognize and reward stewardship champions as present and future leaders of the Agency; and
- lead and support implementation of these strategies.

In addition, the Deputy Administrator and Assistant Administrators should work with the Assistant Administrator for Administration and Resources Management to determine how best to utilize retired EPA employees to promote the stewardship ethic within the Agency and externally. The Office of the Chief Financial Officer (OCFO) and Office of Policy, Economics, and Innovation (OPEI) should enhance EPA's evaluation and measurement of the full range of stewardship activities, publicize the results of such analyses inside and outside of the Agency, and

highlight success stories. The Office of Research and Development should strengthen EPA’s research to identify the most effective tools to motivate stewardship behavior in individuals and publicize the results inside and outside of the Agency. Such an effort would directly support ORD’s Sustainability Research Strategy. The Office of Environmental Information (OEI) and Office of Public Affairs (OPA) should work with the program and regional offices to review and enhance the Agency’s information dissemination, disclosure, and educational activities to strengthen the stewardship practices of others.

Recommendation 5	EPA should drive the ethic and practice of stewardship deep into the culture of the Agency.
Finding 5.1	Stewardship is linguistically difficult because it is both an ethic and a set of practices.
Finding 5.2	Stewardship would benefit from an express set of principles, such as exists with pollution prevention.
Finding 5.3	The way that EPA currently is evaluating its stewardship approaches focuses almost exclusively on its voluntary partnership programs.
Finding 5.4	EPA’s program and regional offices are at the front lines of stewardship and practical innovation.
Immediate Step 5.1	The EPA Administrator and the senior leadership team should clearly and consistently communicate the ethic and practice of stewardship to all employees and establish a learning process to engage all employees in understanding the stewardship ethic and applying stewardship practices. The Administrator also should consider asking the committee suggested in Immediate Step 1.1 to develop a brief set of stewardship principles for EPA.
Immediate Step 5.2	The Administrator should regularly encourage Assistant and Regional Administrators to use stewardship approaches to address program and regional priorities.
Immediate Step 5.3	Consistent with Immediate Step 2.1, the Deputy Administrator should align EPA strategic planning, budgeting, and accountability processes to explicitly address stewardship goals.
Immediate Step 5.4	OHR should establish a new generic performance standard that EPA staff members can use in their individual performance agreements that will recognize and reward superior performance in the service of stewardship.

Stewardship is linguistically difficult. It does not convey one explicit meaning, but evokes different things in different contexts. In common conversation, the term stewardship often does not resonate. It is two things: an ethic, and a set of practices or behaviors. As yet, there is no set of widely recognized stewardship principles as there is for pollution prevention, for example. Stewardship would benefit from an express set of principles. To address these challenges, EPA needs to engage the Agency and others in a conversation about what stewardship means. Clearly, it is more than the Agency’s voluntary partnership programs, yet discussions about stewardship often focus on non-regulatory initiatives exclusively.

EPA’s management systems and organizational structures must support stewardship. Environmental stewardship cannot be an idea housed within one or

more offices within EPA headquarters, but rather it must be an ethic that permeates all offices, programs, and products. Because the regional offices have the closest connections to state, tribal, local, and community partners and stakeholders, they represent the front lines for environmental stewardship and innovation. Although some regional office personnel were involved in developing *Everyday Choices*, there needs to be additional guidance and instruction from headquarters to the regions with regard to implementing environmental stewardship.

EPA's Deputy Administrator has ongoing discussions with EPA Assistant and Regional Administrators regarding selected program and regional priorities. These discussions should include environmental stewardship measures for the program and regional offices. Managers in the program and regional offices pay attention to the performance measures that are applicable to them. If environmental stewardship is going to be implemented at the program and regional office level, performance measures need to be developed that incorporate environmental stewardship concepts.

Environmental stewardship measures should be developed so they are applicable and important to managers in the program and regional offices. Strategies for accomplishing that include having environmental stewardship measures relate to specific programs and incorporating environmental stewardship requirements into job descriptions. If environmental stewardship is going to be integrated into the Agency's planning and management systems, it will need to be promoted at the career level in the program and regional offices. Career personnel in the program and regional offices are sensitive to recognition programs. Assistant and Regional Administrators should be encouraged to include promotion of environmental stewardship as a category for internal recognition programs. Such action will make supporters of environmental stewardship opinion leaders in the program and regional offices.

EPA's employees do not have to be tasked with implementing environmental stewardship inasmuch as they are all highly motivated with regards to implementing the Agency's mission. EPA does, however, need to train its staff members to think beyond their traditional roles and find new ways to promote environmental stewardship. Environmental stewardship concepts should be added into regional and program trainings as well as those offered by training centers. EPA staff should be encouraged to offer advice and referrals to other EPA programs for stewardship opportunities. The Agency should consider adding environmental stewardship skills and knowledge as a criterion in the hiring process.

As immediate steps, the EPA Administrator and senior leadership team should clearly and consistently communicate the ethic and practice of stewardship to all Agency employees and establish a learning process to engage all employees in understanding the stewardship ethic and applying stewardship practices. The Administrator also should consider asking the committee convened to redraft EPA's current mission statement (Immediate Step 1.1) to develop a brief set of stewardship principles for EPA. The Administrator should regularly encourage Assistant and Regional Administrators to use stewardship approaches to address program and regional priorities. The Deputy Administrator should align EPA strategic planning, budgeting, and accountability processes to explicitly address stewardship goals, and OHR should establish a new generic performance standard that EPA staff members can use in their individual performance agreements that will recognize and reward superior performance in the service of stewardship.



Conclusion

The Council advances its recommendations and makes its findings with a sense of great humility. Over its 37 year history, the U.S. Environmental Protection Agency has provided leadership over and over again for the American people. We thank the current Administrator, Stephen Johnson, for having the professional and personal courage to seek out constructive advice and criticism in order to help shape the Agency in ways to be more effective for the problems it faces in today's increasingly complex and fast-changing world.

It is a world in which humankind's imprint can be discerned with greater and disturbing clarity. From our rivers to the skies, from our largest cities to the most remote corner of the globe, we now can see the impact of human activity on our planet. At the same time, we see the incredible creativity and compassion of humanity in many areas, including increased agricultural production, innovative and increasingly efficient energy generation, and a world of amazing new technologies. Because the problems that obstruct the road to sustainability are largely of human origin, we believe humans hold the key to their solution. We hold great hope that EPA, by consciously reframing its mission around the stewardship theme, can be a major catalyst for a change in the way in which people regard both their environment and their responsibility for its health. Each day, individuals and institutions make a myriad of choices that affect the environment for better or worse. With EPA at the forefront, environmental stewardship carried out in a vigorously collaborative manner should be everyone's business. The aggregate of more informed actions by millions of individuals and institutions can truly put us on the path to sustainability. This is the Council's vision and its hope for the future.

Appendix 1: Environmental Stewardship and Cooperative Conservation Workgroup and Acknowledgements

Workgroup Members

Ms. Detrich (Dee) B. Allen (2006)
General Manager
Environmental Affairs Department
City of Los Angeles

Dr. Paul Anastas (2007)
Director
Center for Green Chemistry and
Engineering
Yale University

Ms. Cindy Angelelli (2006)
Managing Director
Environment, Health & Safety
Global Issue Strategy
Duke Energy Corp.

Mr. Arthur (Butch) L. Blazer (2006)
State Forester
New Mexico Forestry Division

Mr. Joel Bolstein (2006 and 2007)
Partner
Environmental Law Practice Group
Fox Rothschild LLP

Mr. Robert Gruenig (2007)
Senior Policy Analyst
National Tribal Environmental Council

Mr. Stan Laskowski (2007)
*Retired EPA
Lecturer/Advisor*
Masters of Environmental Studies
Program
University of Pennsylvania

Mr. Erik Meyers (Co-Chair 2006 and
2007)
Vice President
Sustainable Programs
The Conservation Fund

Ms. Jennifer Nash (Co-Chair 2006 and
2007)
*Director, Regulatory Policy Program
Executive Director, Corporate Social
Responsibility Initiative*
Center for Business and Government
John F. Kennedy School of
Government
Harvard University

Mr. Frank Stewart (2006)
Interim Executive Director
Southeastern Division
StEPP Foundation

Mr. Daniel Williams (2006)
Architect/Planner
Daniel Williams Architect

Workgroup Members from Other EPA Advisory Committees

Mr. John Wise (2007)
Retired EPA
Environmental Financial Advisory Board

Ms. Melanie Worley (2006-2007)
*Local Government Advisory
Committee*
Douglas County (Colorado)
Commissioner
Board of County Commissioners

NACEPT Chair

John L. Howard, Jr.
Partner
Vinson & Elkins, LLP

Designated Federal Officer

Ms. Sonia Altieri
*Office of Cooperative Environmental
Management (OCEM)*
U.S. Environmental Protection Agency

Acknowledgements

NACEPT Chair John Howard provided valuable insight, suggestions, and guidance to the Workgroup throughout the course of our work. The Council and Workgroup acknowledge with great appreciation the tireless assistance provided by Designated Federal Officer (DFO) Sonia Altieri, and Office of Policy, Economics, and Innovation (OPEI) liaisons Derry Allen and Pat Bonner, all from the EPA staff. They identified and provided vital background documents, helped identify staff to interview on topics related to the charge, organized meetings and conference calls, and otherwise provided indispensable assistance to the process.

The Workgroup also would like to thank two senior EPA officials who served on the Innovation Action Council committee for the *Everyday Choices* report and who offered valuable insights to the Workgroup on several occasions: Jay Benforado and Stan Meiburg. Thanks also are due to other EPA officials for their assistance: Chris Bliley, Katherine Dawes, Dona DeLeon, Luke Hall-Jordan, Matthew Hoagland, Noel Jamison, Christina Kakoyannis, Bill Long, Juliana Madrid, Nat Miullo, Jeff Morin, Stephen Perkins, and Wendy Reed. Finally, the Workgroup thanks Olivia Barton Ferriter (U.S. Department of the Interior) and Juliana Birkhoff (RESOLVE) for their assistance. The following graduate students from the University of Pennsylvania developed background papers for this report: Donna Moffett, Marguerite Murray, Andrea Mules, Lauren Kurtz, and Ikechukwu Onukogu.

We are indebted to Rafael DeLeon, the Director of the Office of Cooperative Environmental Management (OCEM) and his staff at EPA. This report would have not been possible without the support of OCEM. Thanks.

Charge to the National Advisory Council for Environmental Policy and Technology (NACEPT) for a Project on Environmental Stewardship and Cooperative Conservation

May 12, 2006

I. Background

The Administrator has requested that the National Advisory Council for Environmental Policy and Technology (NACEPT) review recent EPA efforts on two important and closely related priorities—Environmental Stewardship and Cooperative Conservation—and make recommendations on how EPA can pursue these priorities most fruitfully.

1. Environmental Stewardship

On November 9, 2005, the EPA Innovation Action Council (IAC), a group of the most senior career officials from each headquarters and regional office, submitted a report to Administrator Stephen L. Johnson, *Everyday Choices: Opportunities for Environmental Stewardship*. Several state officials also participated.

In the Administrator's charge to the IAC on May 9, 2005, he noted that "in addition to operating effective regulatory and enforcement programs, EPA is gaining substantial experience with stewardship approaches – including voluntary programs, market incentives, recognition and leadership programs, pollution prevention, environmental education, information and collaborative problem solving. Although these stewardship efforts are designed to produce environmental results, EPA can improve their effectiveness with a more unified strategy and with clear goals and priorities." With this in mind, he asked the Innovation Action Council to "(1) Explore and better define EPA's vision of environmental stewardship and the role of stewardship in the future of environmental protection; (2) Assess EPA's current environmental stewardship activities to determine effectiveness and opportunities for improvement; and (3) Recommend options and priorities for how EPA, in partnership with states and tribes, can encourage stewardship that addresses environmental priorities and achieves results.

The IAC established a committee with broad membership from around the Agency and representatives from the Environmental Council of the States to undertake the project. In addition to its own research, the committee drew on the wisdom of a number of experts and stakeholders. The IAC's report:

- **Proposes a vision for environmental stewardship at EPA.** "As our population and economy continue to expand, the U.S. can accelerate environmental progress while simultaneously strengthening our global competitiveness. In short, we have exciting opportunities to create a more sustainable future in this country and with our partners around the world. However, this bold goal cannot be accomplished by government alone; rather it requires the active engagement of all people. To this end, we have a vision of environmental stewardship—where all parts of society actively take responsibility to improve environmental quality and achieve sustainable results."

- *Indicates that EPA has a number of environmental stewardship efforts underway*, and that there is opportunity to develop them further.
- *Identifies six important natural resource systems* for which sustainable outcomes should be sought: air, ecosystems, energy, land, materials and water. It also identifies four key audiences for the stewardship message: individuals, companies, communities and government organizations.
- *Suggests five major categories of options for EPA* to enable and encourage environmental stewardship among the key audiences:
 1. Focus on priority environmental problems where stewardship has greatest potential
 2. Engage individuals in environmental stewardship
 3. Showcase best practices and accomplishments
 4. Lead by example
 5. Mainstream stewardship in EPA decision processes

The Administrator accepted the report and wrote a Preface in which he states:

“This report outlines what I believe is the next step in an ongoing evolution of policy goals from pollution control to pollution prevention and sustainability. It also reflects an important reality – that while the Environmental Protection Agency (EPA) and our state partners share responsibility for bringing about our nation’s environmental progress to date, we have not done so alone....Over the coming months, we will discuss the report’s recommendations and expand our efforts to make stewardship an inherent part of how we achieve our mission. Environmental stewardship will help us build upon our nation’s existing environmental efforts and ensure we, as a nation, are able to provide our children a safer, healthier environment, and a more economically vibrant future.”

The IAC is initiating a series of activities that respond to the report. As it engages in this task it is clear that the agency can benefit from outside advice on the challenges and opportunities that it faces.

2. Cooperative Conservation

In August, 2004, President Bush signed Executive Order #13352 entitled “Facilitation of Cooperative Conservation.” The Order directs the Departments of Defense, Interior, Agriculture, Commerce and the Environmental Protection Agency to work with the Council on Environmental Quality and each other to implement laws relating to the environment and natural resources in a manner that promotes cooperative conservation, with an emphasis on local involvement.

The Order defines Cooperative Conservation as “actions that relate to use, enhancement, and enjoyment of natural resources, protection of the environment, or both, and that involve collaborative activity among federal, state, local and tribal governments, private for-profit and nonprofit institutions, other non-governmental entities and individuals.”

To advance the spirit and objectives of the order, the White House Council on Environmental Quality (CEQ) convened a Conference on Cooperative Conservation in August, 2005. Over 1300 leaders from across the nation con-

vened in St. Louis to generate innovative ideas to strengthen conservation partnership and promote citizen stewardship.

In May 2005, Senator Inhofe, Chair of the Environment and Public Works Committee, and Congressman Duncan, Subcommittee Chair of the Water Resources and Environment Committee, introduced The Good Samaritan Clean Watershed Act on behalf of the Administration and EPA. The legislation removes the potential liability for volunteer organizations willing to restore watersheds affected by acid drainage from hard rock mines. The legislation is follow-up to an administrative initiative announced by EPA Administrator Johnson at the St. Louis Conference.

By August 2006, EPA will provide its input to the CEQ annual report to the President on progress made in implementing EO 13352.

Since January 2006, CEQ has coordinated an interagency Task Force among the above five agencies to implement recommendations from the White House Conference. The following four areas constitute the framework for action that each agency is addressing:

1. Develop the capacity needed to hire and train federal employees in a manner that promotes greater collaboration. Recognize and reward outstanding partnership and collaboration achievements.
2. Further cooperative conservation through administrative, regulatory and legislative improvements.
3. Utilize communication, outreach and public education as a mechanism for increased stakeholder participation in cooperative conservation.
4. Develop tools and mechanisms for agencies and their partners to assist collaborative efforts in achieving desired outcomes.

EPA activities and commitments to implement the Draft Action Plan to date include:

- ***Collaboration and Partnering Competencies:*** An essential building block in the effort to expand the use of Cooperative Conservation among each of the five agencies is an Action Plan—EPA’s was submitted to OPM and CEQ on March 31, 2006—to build knowledge and capacity in collaboration and partnering, and to foster collaborative leadership at all levels by elevating collaboration skills in hiring, training, and recognition of personnel. Pursuant to the Administrator’s charge in the Plan, the Human Resources Council, the National Partnership Council, and the Innovation Action Council reviewed the plan. In concert with the other Cooperative Conservation agencies, EPA consulted about the appropriate scope and definition of competencies with outside experts on collaborative problem-solving, some of whom facilitated the White House Conference.

EPA also established an internal system for recognizing excellence in collaboration in 2006 and presented its first awards in 2007.

- ***EPA Leadership of and Participation in Cooperative Conservation Activities:*** EPA is leading and participating on several Cooperative Conservation working groups, focusing on:
 - Potential FACA barriers to collaboration and possible legislative solutions.

- Innovative ways to engage the public in federal decision making (both regulatory and non-regulatory – i.e., regulatory negotiation and e-rulemaking).
- A user’s guide to legal authorities related to cooperative conservation.
- Expansion of environmental conflict resolution capacity.
- Creating and promoting market-based incentives (EPA is sponsoring 2 workshops on the effective use of trading in March and May, 2006).

The Agency has also recently sponsored a workshop on use of regulatory negotiation with DOI. Areas of interest to conference attendees where workgroups have not yet been formed include creating a more outcome based approach to cooperative conservation, development of scientific data and information to support cooperative conservation, and measurement and monitoring.

II. Some Questions EPA is Confronting on Environmental Stewardship and Cooperative Conservation

1. For what types of environmental problems and conditions can environmental stewardship and Cooperative Conservation approaches be most useful?
2. How should EPA approach the task of enabling the Agency to focus more effectively and regularly on sustainable outcomes? How might we sharpen the way we approach the six sustainable outcomes cited in the *Everyday Choices* report?
3. How can EPA best approach the major external parties which it needs to reach – individuals, business, communities and government organizations? In particular, how can EPA best reach individuals and states? As the White House Conference challenged us, what are the most promising, productive opportunities to change EPA’s culture to emphasize the achievement of our mission through collaboration and partnerships with other stakeholders?
4. How can EPA measure progress and success better for sustainability and environmental stewardship and Cooperative Conservation and what new information do we need to develop? In this connection, how can EPA better involve partners and stakeholders to develop clear goals, objectives, and criteria for measuring progress and success?
5. To build more trusting relationships with partners and stakeholders on environmental stewardship and Cooperative Conservation, how can we best ensure that outreach and information sharing are effective, communications are clear and consistent, and decision-making processes are inclusive and transparent?
6. How can EPA move to a comprehensive agency-wide strategy on environmental stewardship and Cooperative Conservation? What else can EPA do to improve the internal clarity of its role in these areas? In particular, how can EPA do this given the nature of its organization, culture, statutes, appropriations and so forth?
7. Concerning issues of human resources and capacity building, how can EPA best build the collaborative competencies of its staff? What are the key competencies and how should they be defined?
8. Where are the best opportunities for EPA to work with other federal agencies on environmental stewardship and Cooperative Conservation?

Should we pursue collaborations on a selective opportunity basis or should we develop a strategy for a more systematic approach?

9. What (if any) related issues concerning legislation does EPA need to consider?

III. Charge to NACEPT

EPA requests NACEPT to provide assistance as follows. NACEPT's advice and views would be most helpful if supplied to the Agency within approximately 12 months of receiving this charge.

1. Review *Everyday Choices: Opportunities for Environmental Stewardship*, plus the associated Implementation Plan. The review should address the following questions:
 - Is the vision of environmental stewardship appropriate and is what it implies for the focus and role of EPA realistic?
 - Is the evaluation of EPA's current environmental stewardship activities on target?
 - Do the five sets of options for EPA that are described appear to include the most important opportunities, both overall and individually?
 - Does the Implementation Plan direct EPA's attention to the most important opportunities?The review should also address at least the first four questions in Part II above, plus any of the other questions in Part II that NACEPT decides to address.
2. Evaluate EPA's activities in support of the interagency Cooperative Conservation Action Plan. Consider in particular EPA's efforts in the following areas, as well as any questions in PART II above that NACEPT is able to address:
 - Human resource systems
 - EPA leadership of Cooperative Conservation efforts
 - Innovative ways to engage the public in federal decision making
 - Strategic approaches to empower states/local communities to initiate more collaborative problem solving (i.e. incentives, community environmental management systems)
3. Write a report to the Administrator describing NACEPT's findings and recommendations relating to items 1 and 2 above. The report should address what EPA needs to do to meet the challenges of sustainability and stewardship of our natural resources by all parts of society, and of increasing collaborative decision-making by EPA.

In this report NACEPT may also choose to reflect on related general issues and how they may affect the Agency's mission, roles, and future directions, including:

- The changing nature of environmental challenges, our evolving understanding of their origins and consequences, and the expanded goals that many members of society are adopting, especially concerning sustainability, and the greater realization of participatory democracy through stakeholder and public inclusion in governmental decision-making.
- The results of NACEPT's other recent assignments (energy and environment, water infrastructure, new technologies, and innovative partnerships and approaches).

- Some related activities at EPA, e.g., partnership/voluntary program coordination and the Sustainability Research Plan.

The report could be loosely modeled on the EPA Science Advisory Board's 1990 report, *Reducing Risk: Setting Priorities and Strategies for Environmental Protection*, in which the SAB reviewed the Agency report, *Unfinished Business: A Comparative Assessment of Environmental Problems*, and made recommendations to the agency on implementation.

Appendix 3: NACEPT's Interim Advice Letter to Administrator Stephen L. Johnson



National Advisory Council for Environmental Policy and Technology

December 22, 2006

The Honorable Stephen L. Johnson
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Initial Thoughts on Environmental Stewardship

Dear Administrator Johnson:

In May 2006, you asked the National Advisory Council for Environmental Policy and Technology to review and offer advice on EPA's efforts to advance environmental stewardship and cooperative conservation. This letter reflects the Council's initial thoughts about EPA's environmental stewardship initiatives. While we have yet to turn to cooperative conservation in any detail, we did want to convey our initial impressions and pose some questions about the Agency's embrace of environmental stewardship.

The National Environmental Policy Act, passed more than 35 years ago and before the Environmental Protection Agency was established, proclaimed the following bold vision of environmental stewardship for the Federal Government and America:

[T]he Federal Government, in cooperation with the State and local governments and other concerned public and private organizations, [should] use all practicable means and measures ... to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

The vision of environmental stewardship proposed by EPA's Innovation Action Council in its report, *Everyday Choices: Opportunities for Environmental Stewardship*, incorporates this NEPA stewardship vision and explains how it can apply in addressing early 21st century issues:

As our population and economy continue to expand, the U.S. can accelerate environmental progress while simultaneously strengthening our global competitiveness. In short, we have exciting opportunities to create a more sustainable future in this country and with our partners around the world. However, this bold goal cannot be accomplished by government alone; rather it requires the active engagement of all people. To this end, we have a vision of environmental stewardship – where all parts of society actively take responsibility to improve environmental quality and achieve sustainable results.

NACEPT applauds and supports this vision. Over the past several months, NACEPT has met with EPA management and career professionals to discuss the IAC report and your charge to the Council. NACEPT has established a Workgroup of Council members (chaired by Erik Meyers and Jennifer Nash) to take the lead in shaping recommendations. The membership of the Workgroup is diverse, representing local and state government, business, law and architectural professions, academia, and conservation organizations. We have held a number of working sessions, in person and via teleconference, of the Workgroup and the full Council. From these discussions have emerged several points of consensus and a few questions.

First, the IAC report announces a vision of an enhanced role for EPA in promoting environmental stewardship. While, again, we concur with the vision, we have some questions about implementation. Will EPA's new emphasis on stewardship require new activities and programs or, instead, will the Agency reframe existing activities and programs? In either case, will new resources be required? If new resources will be needed to pursue the vision, does the Agency envision a reallocation within the existing overall budget or would it seek increased funding in order to address environmental stewardship?

In our view, environmental stewardship will require a shift in EPA's organizational culture and a shift in the cultures of other institutions as well. We acknowledge that cultural change is difficult to achieve and may take many years. Our view is that such a shift can occur when there is an acknowledgement that business as usual is no longer sufficient or efficient. From reading the *Everyday Choices* report, NACEPT concludes that EPA acknowledges and supports societal changes that embody stewardship. However, we are uncertain as to the Agency's views on the urgency or magnitude of the changes necessary.

To help EPA career professionals appreciate the need for change and to help the public and various stakeholders embrace stewardship behavior, EPA will need to be more specific on the estimated time frame. Although some may believe that successfully making the major shift to environmental stewardship is likely to take at least a generation to realize, the Council believes much can (and should) be accomplished now. Motivating an agency of 18,000, let alone a nation of many interests, will require a clear signal that all elements of society need to share in the effort to achieve environmental quality, economic improvement, and social equity at home and abroad.

We believe that creating an enhanced EPA role in environmental stewardship will entail much more than simply rebranding its current voluntary programs. NACEPT discussions to date agree that important roles for EPA in stewardship will include supporting other actors and removing obstacles to stewardship and sustainable action. EPA can also provide leadership by modeling behavior, actions, and attitudes to provide illustrative case studies from which others can learn and emulate.

However, another important message of *Everyday Choices*, with which we strongly agree, is that EPA cannot achieve the goal of environmental stewardship working on its own. At this point in our review, NACEPT is unclear what specific activities EPA envisions for building support for stewardship among all sectors of society—public and private organizations, communities, and individuals. We are also unclear on which EPA programs and activities the Agency believes fit under the stewardship heading and which do not. We expect to examine these implementation questions during the coming months in order to make additional observations and recommendations to you in 2007.

Second, as EPA moves to embrace environmental stewardship more fully, it should consider how it will assess the effectiveness of these efforts. As a preliminary matter, EPA's evaluation of its stewardship efforts is likely to require new measures of system effectiveness. We suggest that these may be more outcome-related than output measures, such as, for example, viewing stewardship efforts as they simultaneously affect the community, economy, and environment—a systems approach.

Positive improvements in environmental quality in a region or the nation as a whole, as reflected in EPA's *Report on the Environment*, may be among the best metrics, although establishing the causal link between such improvements and EPA's stewardship activities would be difficult. Internally, we believe that EPA will need to begin by examining current employee job descriptions, performance plans, office performance, and interdependence of staff and program requirements to assess the degree to which stewardship is incorporated, including whether stewardship is encouraged or inhibited.

Third, it is essential that the Agency be perceived as encouraging others to become stewards and assume responsibility within their spheres of influence and control, while continuing to maintain its robust regulatory role. We observe that EPA's traditional environmental regulatory role has contributed and continues to contribute to sustainability and a higher quality of life. We would expect the proposed greater emphasis on environmental stewardship will help the Agency be even more effective in the years ahead. The IAC report contains hints that the Agency can integrate stewardship into its regulatory actions, and we concur that this integration would be valuable.

The Workgroup and Council's next steps in responding to your charge will be to look at how the Agency can best:

- Implement the IAC environmental stewardship recommendations;
- Reach out and engage individuals in environmental stewardship;
- Implement its commitment to cooperative conservation; and
- Involve other types of stakeholders in environmental stewardship and cooperative conservation.

We appreciate the opportunity to provide these initial reflections on the environmental stewardship portion of your charge to NACEPT. By acknowledging the need to embrace and promote environmental stewardship, EPA also acknowledges the dynamic and interdependent natures of the environment, economy, and society. We applaud the Agency for working to advance environmental stewardship and cooperative conservation, and we look forward to submitting our report to you in 2007.

Respectfully submitted,

/Signed/

John L. Howard, Jr.
Chair

cc: Erik Meyers, Workgroup Co-Chair
Jennifer Nash, Workgroup Co-Chair
Marcus Peacock, Deputy Administrator
Charles Ingebretson, Chief of Staff
Ray Spears, Deputy Chief of Staff
Jay Benforado, Director, National Center for Environmental Innovation
Derry Allen, Counselor, Office of Environmental Policy Innovation
Rafael DeLeon, Director, Office of Cooperative Environmental Management
Sonia Altieri, NACEPT Designated Federal Officer

Appendix 4: Example Opportunities for Environmental Stewardship

Our hypothetical case studies—a cotton shirt, an office building, and a river—provide in summary fashion, a snapshot of the opportunities for stewardship in every day contexts. Virtually everyone owns at least one cotton t-shirt, we are familiar with many types of buildings from homes to office buildings and many other places in between, and the experience of a stream or river is familiar again to virtually everyone. It is with these examples that we begin to look more closely at the opportunities for stewardship to make a difference in our world.

The Cotton Shirt Example

A cotton shirt helps illustrate opportunities for stewardship in the manufacturing process, in maintaining a product that we use everyday, and in thinking about how it is produced.

Background. Cotton is grown on more than 90 million acres in more than 80 countries worldwide. The United States is the second largest cotton producer after China. In 1997, the 18 cotton growing states in the United States grew enough cotton to make 9 billion t-shirts.²⁴ Because U.S. cotton makes up 40 percent of world exports, there is a good chance that even t-shirts bearing a “made in China” label are made from cotton grown in the United States. The U.S. Government provides cotton farmers more than \$1 billion/year in subsidies.²⁵

Opportunities for Stewardship in Growing and Manufacturing Cotton Products. Conventional cotton growing uses approximately 25 percent of the world’s insecticides and more than 10 percent of the pesticides.²⁶ To illustrate, it takes one-third of a pound of toxic chemicals to produce one conventional cotton t-shirt. Seven of the top 15 pesticides used on cotton are “possible or known carcinogens.”²⁷ One key stewardship opportunity is to purchase a t-shirt made with organic cotton. Organic cotton is grown without synthetic fertilizers, pesticides, herbicides, insecticides, or defoliants.²⁸ This is not a utopian option; major apparel manufacturers such as Patagonia, Nike, Timberland, and Cutter and Buck have been incorporating organic cotton into their product lines.

Manufacturing a cotton shirt, whether of conventional or organic cotton, requires large volumes of water throughout the manufacturing process, which includes spinning, weaving, scouring, and sizing. All of these processes require flushing the threads or fabric with water at one point or another. As water supplies come under increasing demand, another stewardship opportunity lies with manufacturers to devise an improved process using less water. Assuming that the decrease in water would lessen both economic and environmental costs, the manufacturing innovator could realize advantages in the marketplace.

Opportunities for Stewardship in Cotton T-Shirt Life Cycle. Beyond manufacturing lie even greater opportunities to apply stewardship concepts. Cleaning cotton garments uses more energy than cleaning polyester because cotton must be washed frequently at high temperatures and generally requires tumble drying and ironing. Sixty percent of the carbon emissions generated by a cotton t-shirt comes from the 25 washes and tumble dryings it will require during its useful life, according to a Cambridge study.²⁹ One study performed for the American Fiber Manufacturers Association found that consumer use and maintenance of the product had a greater environmental/energy impact than product manufacture. Life span (number of times a garment could be worn) and laundering practices

produced the greatest environmental impacts. Opportunities for stewardship exist in using cold water to wash the t-shirt that would reduce the need for water heating and improving efficiency of home laundering machines, thus decreasing energy demand.

Choice of Stewardship Approaches. In terms of environmental stewardship, there are a number of everyday choices that can be made in relation to a cotton shirt. Although EPA has a role in regulating the toxicity in pesticides and herbicides used in the growing of conventional cotton, the market may send more powerful signals. EPA can work with other institutions to describe authoritatively the environmental footprint of cotton and provide information about a benign and effective substitute, organic cotton. Ultimately, consumers decide and need to make purchasing decisions based upon better information.

Because wear is a critical component of the environmental footprint of a cotton shirt, consumers can purchase shirts that need as little care as possible (e.g., easy care). In addition, consumers can purchase shirts that can be washed in cold water without the need for tumble drying—and make the decision to follow recommended directions to use cold water in washing these items. These are all stewardship choices with little connection to a regulatory role. Pricing of power (electric or gas) provides one avenue of influencing consumer choice.

To the extent laundering is required, consumers can choose to purchase Energy Star appliances. An Energy Star washer uses 18-25 gallons of water per load compared to 40 gallons for a standard washer. If a cotton shirt will be washed 25 times before it is discarded, the water savings could be as high as 550 gallons if an Energy Star Washer is used to wash that cotton shirt.³⁰ Manufacturers of washing machines can be encouraged to provide labels on the machines describing how much energy can be saved by washing garments in cold versus hot water. About 90 percent of the energy consumed to wash a cotton shirt is for heating the water.³¹ A person using a standard clothes washer, doing five loads of laundry a week, would save 155 kWh and 517 pounds of CO₂ per year if they switched from hot water to cold water.³² Moreover, hot water is needed only to clean a cotton shirt if it is greasy or heavily soiled. This information can be provided at the point of sale and/or on the machine to allow better choices. Again, information provided by EPA creates both added market opportunities for manufacturers and the basis for consumers to make improved stewardship choices on several levels.

The New Building Example

This case study illustrates the opportunities for environmental stewardship considerations to be interwoven into siting, design construction, operation and maintenance, and end of use. The list is not meant to be exhaustive but illustrative. Environmentally beneficial results that could be achieved by applying these stewardship approaches include: energy consumption reduction, improved indoor air quality and lighting, and minimization of off-site stormwater impacts.

Location. The architect, builder, potential owners, and local governmental officials have a number of aspects related to a proposed location for a building that will have major consequences for its environmental footprint, both immediate and longer term. The building's placement on a site should involve considering orientation to sun during full year and daily cycle. Lot orientation can maximize passive and active solar considerations and will drive the building's energy footprint.

Other site level considerations include potential impact on water resources: avoid placement over source water, in floodplain, wetlands, or riparian zone. For greater stewardship, employ strategic, green infrastructure assessment and thinking to assure connected habitat not just for its human inhabitants but for wildlife and to assure maximum natural water infiltration and flows. In addition to energy use, water, and wildlife, there are opportunities to apply Smart Growth principles to building site selection. These considerations could include locating near available public transit, maximizing pedestrian and bike access, giving preference to a location with established infrastructure, and reusing a brownfield or another previously developed site. Although some of these choices may involve EPA using its regulatory authority—for example, preventing the location of buildings in floodplains or wetlands—generally the opportunities are informational, building public-private partnerships, model projects, and funding and/or recognition programs.

Design and Construction. Not just the site, but design choices and materials offer an exceptional set of opportunities to exercise stewardship and lighten the environmental footprint of a building. Climatic considerations, in addition to solar exposure, need to be addressed in a building's orientation and design. Energy efficiency can be addressed by design features that maximize use of natural convection and lighting that cool, ventilate, and illuminate interior spaces to the extent possible. On the exterior, minimize surface parking and other paved surfaces; maximize onsite water infiltration in landscaping, using native species, and building design such as onsite cisterns, rain barrels, or green greens. Further considerations address human health issues. Many conventional finishes, products, and furnishings may have indoor air quality impacts from off-gassing and odors.

For construction purposes, the use of durable materials that can be obtained locally will reduce the environmental impact. There also may be opportunities to reuse materials from deconstructed buildings. During construction, local governments typically regulate impacts such as dust, sediment, water, and noise but going beyond the minimum can create a positive opportunity for the project developer.

Operation and Maintenance. Yet another set of opportunities are present with the building's operation and maintenance. One such opportunity is to seek green-sourced power and/or to sell power to the grid in peak sunny times if solar panels have been installed. Natural pest control techniques can minimize use of pesticides and toxins inside the new structure.

Building management can encourage recycling of any and all recyclable materials by supplying appropriate collection systems and markets. Management should maintain the HVAC system at peak operating capacity to assure supply of healthful air and combat ventilation system-borne illnesses. To cut down on unnecessary power consumption, the building should install and keep in working repair motion and photo-sensor lighting switches. Instead of using convention incandescent lighting, opt for compact fluorescent light bulbs (CFL) and even light emitting diode (LED) lighting options, as the latter become commercially viable technology. Finally, the building can provide facilities for bicycle commuters and encourage commuting via public transit or by walking.

These actions point to research, testing, model applications, information sharing, and partnership approaches for EPA to support stewardship choices. More directly, the Agency might provide incentive funding, and participate in product

standards development and the development of some health standards for indoor exposures.

End of Useful Life. Buildings tend to have relatively short life spans in the United States. One way to effectively minimize their footprint over time is to support adaptive reuse of structures. Alternatively, reuse of deconstructed materials and recycling sites for new and greener buildings help lighten the footprint of buildings on the environment.

The River Example

One way to approach river stewardship (assuming responsibility for environmental integrity, protection, and improvement and acting accordingly upon that assumption of responsibility) is by thinking about the usage of a river for different human purposes, directly and indirectly, and the actor(s) using it for each such purpose. Desirable outcomes include: maintenance of natural flow régime, maintenance or restoration of water quality, maintenance of habitat functions for naturally occurring species, and avoidance of human-induced flooding.

Consumptive Uses and Impacts. Home and apartment owners use water for consumptive needs and personal hygiene. Stewardship behaviors include installation of low-flow showerheads and toilets and promptly fixing leaks and drips. Showers and baths should be monitored and excessive water use should be eliminated. Externally, owners can maximize onsite infiltration and use of available technology such as rain collection barrels, rain gardens, and disconnected downspouts.

For farmers and landscape specialists today, water is an increasingly critical element. Best management practices (BMPs) and the strategic conservation approach of green infrastructure assessment and planning underlie many specific stewardship choices; green infrastructure assessment can inform the watershed community and users of essential needs for maintaining a healthy watershed and BMPs offer guidance, if not standards, for specific actions involving water use. For instance, specific stewardship actions for farmers might include fencing to prevent livestock from getting into the stream or river, growing climate-appropriate crops to eliminate the need for irrigation, and not mining (using) groundwater for crop production. To preserve the health of the river's waters, farmers must assure that, if used, fertilizers and pesticides are applied only at appropriate times and in minimum amounts and that overspray into aquatic areas is avoided, especially during spawning season. The better stewardship choice would be to seek disease resistant varieties or change crops to eliminate the need for pesticides/ herbicides.

Farmers, landscapers, and forestry managers should consider installing and maintaining riparian buffers of native (tree or grass) species. Using locally native species of trees and grasses for highway, street, and yard landscaping can help minimize the need for added water. Swales and other low impact design can hold and control wet weather flows to avoid the sharp peaks and drops of urban streams.

Another key stewardship practice is to restore streams enclosed in culverts and pipes to daylight. This practice helps eliminate a significant source of bacteria in watersheds and provides other benefits as well. Natural stream meanders and pools need to be preserved. Restoring riparian twists and bends will provide for more natural river flows and support habitat for vital aquatic species.

For industrial and commercial users, stewardship opportunities abound to reshape processes to reduce or recycle or eliminate water in the production of products or services, e.g., electricity. Water also is used, thus diverted from surface water supplies such as local rivers, for cooling, washing, and landscaping. There is some considerable overlap with building design and operational considerations, such as low flow toilets and waterless urinals that can provide clear means of expressing stewardship in the industrial sector. Industrial users also have opportunities on occasion to remove unnecessary dams and water obstructions and permit the management of corporate lands as natural areas to the maximum extent possible.

Non-Consumptive Impacts. Just as there are a variety of consumptive uses of a river, there are many non-consumptive ones. For example, recreational boating use involves powered craft and a wide variety of sailing, rowing, and paddling boats. Millions of people use the nation's rivers and streams for boating recreation. Simple lessons of stewardship applied during these outings will help pass on such experiences unimpaired to future generations. Among stewardship practices is to keep boating motors in good repair and to exercise care in filling gasoline storage containers. Spilled into the water or on shore near waters, gasoline and oil create environmental hazards and threaten wildlife. Simple measures such as keeping gasoline storage in a catchment basin away from shoreline and navigating at lower speeds near erodible or otherwise sensitive shorelines help provide a margin of protection for these sensitive environments.

Landowners can help maintain healthy riparian marshes, mangroves, and other natural buffers that not only help environmentally but add to the beauty of river recreation. What happens on land always affects the quality and quantity of surface and ground water. Stewardship opportunities are present across the watershed to assure that nonpoint discharges such as solid or liquid waste, road salts, and sediment are not washed into storm sewers or dumped directly into the river or stream. Although Clean Water Act protections prohibit most direct discharges, nonpoint or diffuse discharges away from the stream are in the aggregate of equal or greater importance to stream health. Landowner or local government actions that keep water onsite, such as using swales instead of pipes, disconnecting downspouts, and constructing rain gardens, will help reduce the nonpoint pollutant load on rivers and streams. Planting native (xeric where appropriate) plants and minimizing or avoiding use of fertilizers and pesticides altogether will help keep the river healthy. For landowners, local and state agencies, and corporations, the opportunity to maximize forest and woodland cover provides the best opportunity to improve stream quality, flow, and overall health because forest land cover is optimum for water quality.

This example illustrates again that, although traditional EPA and state regulations are vital to the health of a river, there are many other aspects of watershed health that are either not regulated or involve a myriad of sources, potential users, and choices. The downstream benefits accruing from greater EPA leadership on stewardship can hardly be overstated.

Appendix 5: Stewardship—Traditional and Historical Usage

NACEPT has articulated the meaning of stewardship as an ethic of shared responsibility to protect our environmental health, the integrity of our natural resources and ecosystem services; and in so doing, safeguard the interests of future generations. Thus, stewardship serves as a framework for how to place people—with our social, cultural, economic, and environmental norms—into the larger context of Nature.

Stewardship is an ethic of respect for the inherent values of healthy natural systems; and it is a set of practices that sustain those benefits for current and future generations. Stewardship is thus embodied as both an **ethic** (a set of beliefs and values) and as a **practice** (a set of behaviors). The ethical and practical aspects of stewardship operate to reinforce each other—the ethic informs the practice and the practice enriches the ethic.

Rather than superimpose a new mental framework on society, we can gain considerable insight by looking at traditional and historical usage—how antecedent societies viewed their responsibility to Nature. By examining and understanding the cultures and lifestyles of the past, EPA can gain the confidence to become the leader of environmental stewardship.

Stewardship values and norms can be found in the context of traditional indigenous cultures (the Native American). Stewardship values and norms also are found in the evolving American view of people’s relationship to the land.

Traditional Cultures³³

Indigenous peoples manifest many cultural values and norms that give expression to the notion of stewardship. This is profoundly so, despite the ubiquitous stereotypes depicting Native Americans as living in harmony with Nature in a peaceful, serene, and apparently static existence. A simplified recitation of such values and norms follow:

- Traditional values are encompassed within the notion of **traditional ecological knowledge**; an understanding of Nature that has resulted from generations of interacting with the environment and using its bounty.
- Indigenous peoples exhibit a **reverence for place**; a geographic/spatial reference that orients people with their land and gives them a sense of history, rootedness, and belonging.
- Traditional cultures maintain a guiding ethic of **interdependence and reciprocity**; a holistic view of people’s relationship with their natural environment.
- Native Americans have traditionally used **custom** to regulate the use of their environment for present and future generations.
- Indigenous peoples see their environment as a **renewable resource and life-support system** to be conserved for posterity, such that avoidance of waste and responsible use of resources became guiding principles.
- Indigenous peoples often bond together as a **community** with the ethic of responsibility and respect, to each other and to future generations.

From these limited examples of indigenous peoples' values and norms—traditional ecological knowledge; a reverence for place; interdependence and reciprocity with nature; valuing renewable resources; and the ethic of responsibility and respect for community—the origins and basis for our current notion of stewardship begin to become apparent.

Evolving American Thinking on Stewardship

Early in the history of European-American society, guided by Judeo-Christian teachings of “man’s dominion over Nature,” we viewed our natural environment as vast, limitless, and boundless. We viewed it as an external system (outside of humankind) that provided resources for people’s use and as a repository for our waste products. This view has shifted significantly over time with the development of an American land ethic and the growth of modern environmentalism.

The following examples illustrate the profound shift over time of American thinking:

- An American vision of land use emerged with John Muir’s ethic of responsibility, which focused on environmental conservation.³⁴ Muir’s views included an ecological land ethic in which Muir believed that land is a temple, and that land has an aesthetic and spiritual value to be protected.
- Aldo Leopold, in his essay “The Land Ethic,” held that man was an intrinsic part of nature; that man had a duty of respect for the natural community. Leopold rejected the economically expedient use of land, and instead asserted that we must consider what is ethically and aesthetically right. (“A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.”)³⁵
- Theodore Roosevelt embraced conservation of the land (albeit for game management, forest yield, and recreational opportunities) by setting aside and protecting millions of acres of land under federal jurisdiction. This conservation movement has been sustained to this day.
- Franklin Delano Roosevelt, in his New Deal, continued to support conservation efforts focused on soil erosion, wildlife management, water quality, agriculture, and forestry. Federal systems were developed to regulate the use of the nation’s natural resources. The conservation ethic was merged with federal regulatory authority to create the legal underpinnings of the modern environmental era.
- In the 1960s, 1970s, and beyond, federal and state laws were enacted to control and abate pollution, and to attain national standards of environmental quality. Nongovernmental organizations proliferated to advocate (and litigate) for a variety of environmental ends: wilderness, open space, land conservancies, wildlife and endangered species, forest and range management, pollution controls, environmental justice, and community right-to-know. All of these efforts have coalesced into the modern environmental era.

From these limited examples of the evolution of American thought, the ethic of responsibility emerges and the modern notion of stewardship takes shape.

The National Environmental Policy Act

Comparing the ethics exemplified by indigenous peoples with the evolution of an American conception of a land ethic, one can distill and appreciate the traditional and historical roots of stewardship. The merger of indigenous peoples' ethics, values, and norms with the evolution of American environmental management is found in the seminal purposes of the National Environmental Policy Act (NEPA) of 1969. NEPA was written broadly to encompass the philosophy of stewardship and to create mechanisms to implement and monitor its provisions.

“The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment or biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the nation...”³⁶

Today, some 37 years later, NEPA remains highly relevant and increasingly important as society strives to rediscover and inculcate the values and norms of indigenous peoples; and to integrate the evolution of American thinking about conservation, regulation, and people's responsibility to the integrity of ecosystems into an overarching framework of stewardship.

As we strive to understand and accept the traditional and historical roots of stewardship and to embrace a community-wide consensus of stewardship as our moral and ethical compass for our path forward, we can be inspired by the Iroquois' decision-making criterion:

“Will this be to the benefit of the seventh generation?”

Appendix 6: Alignment of NACEPT Recommendations with *Everyday Choices*

In numerous instances, there is a commonality between the recommendations set forth in our report and the ideas and proposals set forth in Chapter 3 of *Everyday Choices*. Although many of our recommendations are consistent with those in *Everyday Choices*, NACEPT’s view is that EPA should not only embrace the challenges and opportunities set forth in *Everyday Choices*, it must act immediately and boldly to take advantage of the changing public mood regarding the willingness to take collective and individual action to ensure a sustainable environment.

<i>Everyday Choices</i> (EPA)	<i>Everyone’s Business</i> (NACEPT)
Encourage EPA staff to reach out locally to promote stewardship practices. (Section 3.2.1)	Every EPA employee has the potential to be a stewardship ambassador. (Recommendation 4, Finding 4.1)
EPA should set bold public goals and lead by example. (Section 3.3.1)	EPA should strive to become the world’s premier stewardship model and catalyst... (Recommendation 2)
EPA should encourage stewardship behavior in EPA employees. (Section 3.3.3)	The pending generational turnover of EPA’s workforce presents a compelling opportunity to recruit and equip new employees with skills needed for stewardship and collaborative governance. (Recommendation 4, Finding 4.3)
Top EPA team must “walk the talk” and reinforce consistent environmental stewardship messages. (Section 3.4.1)	EPA should drive the ethic and practice of stewardship deep into the culture of the Agency by clearly and consistently communicating the ethic and practice of stewardship to all employees... (Recommendation 5, Immediate Step 5.1)
EPA should train all staff on environmental stewardship principles, responsibilities and opportunities. (Section 3.4.2)	The Innovation Action Council should work with the Office of Human Resources to appoint a subcommittee to focus on recruiting and training strategies... (Recommendation 4, Immediate Step 4.1)
EPA should incorporate environmental stewardship as a priority in staff accountability systems. (Section 3.4.3)	OHR should establish a new generic performance standard ... that will recognize and reward superior performance in the service of stewardship. (Recommendation 5, Immediate Step 5.4)
EPA should encourage stewardship in communities. (Section 3.6)	The Administrator should regularly encourage Assistant and Regional Administrators to use stewardship approaches to address program and regional priorities. (Recommendation 5, Immediate Step 5.2)
EPA should partner with other countries to share experiences about product stewardship. (Section 3.7.6)	The Administrator should communicate EPA’s interest in exchanging ideas and information on the best environmental stewardship practices to leaders of foreign environmental agencies. (Recommendation 2, Immediate Step 2.3)

Everyday Choices (EPA)	Everyone's Business (NACEPT)
EPA should set clear environmental stewardship goals and objectives. (Section 4.1.3.1)	Each program office should set goals with measures of progress and success for each major collaborative effort—in cooperation with collaborators—taking into account cultural, social, and economic benefits along with environmental benefits. (Recommendation 3, Immediate Step 3.2)
EPA must develop a coherent message by explaining what stewardship means and how it fits into the mission. (Section 4.2)	EPA should reframe its mission with stewardship as the unifying theme and ethic. The Administrator should share and promote the environmental stewardship message with other cabinet-level agencies; Congress; tribal, state, and local governments; as well as private-sector firms, nongovernmental organizations, and the American public. (Recommendation 1, Immediate Step 1.3)
Regional Plans can present an opportunity for articulating the use of environmental stewardship approaches to achieve ongoing programmatic outcomes. (Section 4.4.3.2)	The Administrator should regularly encourage Assistant and Regional Administrators to use stewardship approaches to address program and regional priorities. (Recommendation 5, Immediate Step 5.2)
EPA should submit budget proposals to advance environmental stewardship. (Section 4.4.5)	The Deputy Administrator should align EPA strategic planning, budgeting, and accountability processes to explicitly address stewardship goals. (Recommendation 5, Immediate Step 5.3)
EPA should strengthen environmental stewardship through environmental education. (Section 4.6.3)	The Office of Environmental Information and Office of Public Affairs should work with the program and regional offices to review and enhance information dissemination, disclosure, and educational activities to strengthen the stewardship practices of others (Recommendation 4, Immediate Step 4.5)

Appendix 7: List of Acronyms

BMP	Best Management Practices
CEQ	Council on Environmental Quality
CFL	Compact Fluorescent Light Bulb
DFO	Designated Federal Officer
EMS	Environmental Management System
EPA	U.S. Environmental Protection Agency
G8	Group of Eight Nations (Canada, France, Germany, Italy, Japan, Russia, United Kingdom, and United States)
IAC	Innovation Action Council
LED	Light Emitting Diode
NACEPT	National Advisory Council for Environmental Policy and Technology
NEPA	National Environmental Policy Act
NGO	Nongovernmental Organization
OARM	Office of Administration and Resources Management
OCEM	Office of Cooperative Environmental Management
OCFO	Office of the Chief Financial Officer
OECD	Organisation for Economic Co-Operation and Development
OEI	Office of Environmental Information
OHR	Office of Human Resources
OPA	Office of Public Affairs
OPEI	Office of Policy, Economics, and Innovation
ORD	Office of Research and Development
P3	People, Prosperity, and the Planet
RCRA	Resources Conservation and Recovery Act
SES	Senior Executive Service

ENDNOTES

- 1 Speech to the American Iron and Steel Institute, October 25, 2006. (Available on the Web at <http://www.epa.gov/stewardship>)
- 2 U.S. Environmental Protection Agency. *Everyday Choices: Opportunities for Environmental Stewardship*. Washington, DC: Environmental Protection Agency, 2006, 19 pp. (Available on the Web at <http://www.epa.gov/epainnov/pdf/rpt2admin.pdf>)
- 3 Ehrenfeld J. *Beyond Sustainability: Why an All-Consuming Campaign to Reduce Unsustainability Fails*. Available from ChangeThis at <http://changethis.com/25.03.BeyondSustain>.
- 4 Traditional knowledge is described in [Appendix 5](#) of this report.
- 5 U.S. Environmental Protection Agency. *EPA's Legal Framework Supports Collaboration*, 2007, 18 pp. (<http://www.cooperativeconservation.gov/library/EPALegalauthorities082407.pdf>)
- 6 The NACEPT Workgroup reviewing the *Report on the Environment Highlights Document* was still deliberating when the Council approved this report.
- 7 The first three NACEPT advice letters on biofuels raise the issue of impact of biofuel production on water supplies and water quality.
- 8 U.S. Environmental Protection Agency. *Unfinished Business: A Comparative Assessment of Environmental Problems*, 1987.
- 9 U.S. Environmental Protection Agency Science Advisory Board. *Reducing Risk: Setting Priorities and Strategies for Environmental Protection*, 1990.
- 10 U.S. Environmental Protection Agency. *Everyday Choices: Opportunities for Environmental Stewardship*. Washington, DC: Environmental Protection Agency, 2006, 19 pp. (Available on the Web at <http://www.epa.gov/epainnov/pdf/rpt2admin.pdf>)
- 11 U.S. Environmental Protection Agency. *2006-2011 EPA Strategic Plan, Charting Our Course*. Washington, DC: Environmental Protection Agency, 2006, 129 pp.
- 12 U.S. Environmental Protection Agency. *Everyday Choices: Opportunities for Environmental Stewardship*. Washington, DC: Environmental Protection Agency, 2006, 19 pp. (Available on the Web at <http://www.epa.gov/epainnov/pdf/rpt2admin.pdf>)
- 13 The idea that taking responsibility embodies the three components described here is taken from Fischer JM, Ravizza M. Taking responsibility (Chapter 8). In: *Responsibility and Control: A Theory of Moral Responsibility*. Cambridge: Cambridge University Press, 1998, pp. 207-239.
- 14 *Ibid*, p. 211.
- 15 *Ibid*, p. 213.
- 16 Ehrenfeld, *op. cit.*
- 17 Ehrenfeld, *ibid.*
- 18 See 33 USC §1251 (Federal Water Pollution Control Act).
- 19 See "EPA's Legal Framework Supports Collaboration, at <http://www.cooperativeconservation.gov/library/EPALegalauthorities082407.pdf>.
- 20 Environmental Protection Agency. *Office of Environmental Stewardship 2003 Annual Report*. EPA-R-04-001, February 2004. (Available on the Web at <http://www.epa.gov/enforcementandassistance/reports/pdfs/oesannual2003.pdf>)
- 21 Donahue JD, Zeckhauser R. Public-private collaboration. In: Moran M, Rein M, Goodin RE, eds. *Oxford Handbook of Public Policy*. Oxford: Oxford University Press, 2006.
- 22 Traditional knowledge is described in [Appendix 5](#) of this report.
- 23 For a fuller discussion of EPA's information capabilities and needs, see National Research Council. 2005. *Decision Making for the Environment*. Panel on Social and Behavioral Science Research Priorities for Environmental Decision Making. G.D. Brewer and P.C. Stern, eds. Washington, DC: The National Academies Press.
- 24 This information was supplied by the Organic Consumers Association. See <http://www.organicconsumers.org/clothes/background.cfm>.
- 25 "The World in a T-Shirt," <http://www.npr.org/templates/story/story.php?storyId=4620285>.

- 26 "Cotton and the Environment," http://www.ota.com/organic/environment/cotton_environment.html.
- 27 "Why Organic Cotton," http://www.feelingbold.com/PoP_Organic.cfm.
- 28 "Green is In," *Impressions Magazine*, January 2004.
- 29 "Fast Clothes" versus "Green Clothes," <http://www.ihf.com/articles/2007/01/24/business/clothing.php?page=2>.
- 30 See http://www.energystar.gov/index.cfm?c=clotheswash.pr_clothes_washers.
- 31 From Madison Gas and Electric (MG&E) home page, <http://www.mge.com/home/appliances/laundry/>.
- 32 *Ibid.* MG&E provides an interactive calculator and chart for measuring the individual and collective energy savings.
- 33 Generally derived from the excellent article by Rebecca Tsosie, "Tribal Environmental Policy in an Era of Self-Determination: The Role of Ethics, Economics, and Traditional Ecological Knowledge," *Vermont Law Review*, 1996.
- 34 Fox S. *John Muir and His Legacy: The American Conservation Movement*. Boston, MA: Little Brown and Co., 436 pp., 1981.
- 35 Leopold A. The land ethic. In: Leopold L, ed. *A Sand County Almanac*, 1949. (Available on the Web at <http://home2.btconnect.com/tipiglen/landethic.html>)
- 36 The National Environmental Policy Act of 1969, as amended (Pub. L. 91-190, 42 U.S.C. § 4321).

