National Park Service
Centers for Environmental Innovation
Workshop Proceedings

Sustainable development is not a goal, not a condition likely to be attained on earth, as we know it. Rather, it is like freedom or justice, a direction in which we must strive, along which we search for a life good enough to warrant our comforts.

- Peter Raven

Background

Sustainability has been an integral part of America's national parks since the National Park Service (NPS) was established. Today, however, parks are faced with problems caused by a century of industrial progress that have not been solved. Compounding these problems, environmental issues have gone from local ones, to regional ones, and now global ones. Now, more than ever it is essential that the NPS expand their influence and provide a role in the shift towards more sustainable living.

With sites covering 83 million acres that include diversity in landscapes and waterscapes unparalleled; with 300 million visitors per year and innumerable teaching opportunities, our national parks can lead the governments growing commitment to showcase sustainable technologies and practices.

A Vision of Sustainability

Creating a more environmentally stable future for parks and people requires some vision of what it might look like. What efforts can the NPS take to demonstrate global environmental leadership for the

protection of natures function and diversity. Can we develop this vision in our parks.

Providing global environmental leadership will require the NPS to build substantially upon the sustainability efforts of the past. To begin this process, the NPS will create *Centers for*

Environmental Innovation (CEI) to further seed sustainability in the culture of the NPS.

These will be park areas where research, development, demonstration and appreciation of sustainable practices occur. They will be national models for increasing knowledge of the best environmental, sustainable, and conservation practices and products that advance the NPS mission. Once underway, they will provide a vision of what sustainability looks and feels like.

To be the leaders in the implementation of sustainable practices, people managing Centers for Environmental Innovation need to know what they and other sustainability leaders are accomplishing. Thus, internal and external benchmarking will take place to drive acceleration past initial learning curves and to stimulate and diffuse information more rapidly.

These benchmarking efforts will be performed against the world's best sustainability efforts. Benchmarking will be viewed as a form of partnering, with the world's best experts, as well as the parks communities and concessionaires, collaborating to achieve this vision.

Providing environmental leadership and direction towards sustainability requires breakthroughs in knowledge, thinking and technology. Centers for Environmental Innovation will thus focus on educating staff and park partners on ways to save energy and use renewable energy sources, to construct buildings more sustainably, to transport people more efficiently and sustainably, to more intelligently purchase things and stop over - depletion of natural resources. They will provide a conduit to the public for this vital information, and by communicating their successes, will bring sustainability into the lives of all that work with them and visit them.

Of most importance, these sites will serve as catalysts to instruct and inspire people with concepts and values of sustainability. Through education and interpretative programs, individuals who visit these parks will be inspired to change their behavior, if only a little.

Expectations for Participating Parks

Organizational Commitment

The challenge of becoming a place for environmental innovation will include fundamental changes in ways that park business is conducted. Products and services chosen and operations implemented will need to be assessed in terms of their costs and benefits to the environment. Every park employee and program will have a role and place in this effort.

It will require inclusion of sustainability concepts in all decision-making processes. Employee performance standards will need to be drafted for sustainability. Standard operating procedures will need to be revised. Interdisciplinary teams will need to be formed and subject matter experts will need to be found or developed. Key points-of contact will need to be identified to participate in the network of parks that are working to become Centers for Environmental Innovation.

Taking Risks

Implementation of innovative environmental practices and technologies will require parks to try new things and sometimes fail in the process. An action plan will generally guide park projects and programs, but flexibility and change will be the key words. This will require a continuous search for new products, technologies and practices.

Potential partners will be continually be sought for sustainability expertise, as well as funding and other resources, but partnerships, like technology will need to be adaptable. Like changing technology, potential partnerships emerge as the sustainability industry grows and academia and non- profit groups become more sophisticated in this area.

Sharing Information

Parks will be expected to educate others and be open to scrutiny by the public and other agencies. Park environmental compliance and sustainability data will need to be collected and results published. This will include developing case studies about park efforts and holding workshops for community and partners.

Sharing information with other parks will be vital through the use of the CEI network; an Internet clearinghouse; electronic bulletin boards and annual reports. Parks will need to create demonstrations and multimedia learning opportunities for visitors. They will publicize and attract media attention to their efforts.

Measuring our Success

If our sustainability efforts are to be accepted and duplicated elsewhere, cause and effect will need to be demonstrated and meaningful measures of performance derived. Current measures of environmental protection include waste diversion, air and water quality, environmental compliance rates and others. Centers for Environmental Innovation will need to meet all objectives and targets established by environmental law or regulation. Most of these actions will be measured through the performance of energy and environmental audits.

Fewer measurement metrics exist, however, to link our actions to our impacts. It is these that must be developed. The establishment of metrics to measure sustainability may include pollutant emissions measurement, life-cycle assessments of purchased products, ecosystem impacts and regional habitat loss, among others.

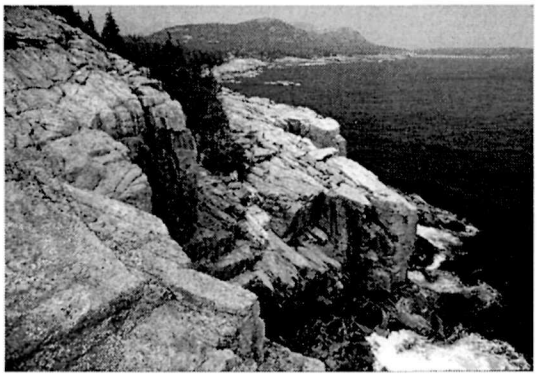
Park specific goals will need to be established by consulting with outside entities and partners like the Department of Energy, the Environmental Protection Agency, and others. In addition to the performance indicators above, measurement may also include whether park sustainability outreach/education programs exist or the extent of local community and/ or government involvement.

Measurement may include the number of project failures and/ or projects that made it to fruition or include the number of sustainable projects/ ideas attempted. The transferability and innovation of projects may be tracked or the number of partnerships entered into. Some parks will attempt to become a comprehensive sustainability system, while others may be specialists in certain areas.

The goal will be to move towards sustainability by self-measurement and examination. This will reinforce the NPS mission by showcasing our commitment to sustainability.

Tools and Resources Needed

Parks will require considerable support during the transition to places where environmental innovation and sustainability flourish. Perhaps the most important of these will be advocacy for the effort by all levels of management. Additionally, we will need to notify our regulators, the public



And employees about this effort so they can support it.

Technical support will also be needed. Technical advisors may come from academia, industry, or from national laboratories, among others, but will be linked to the park action plan. Park mentors may be established with corporations or other advocacy groups who are demonstrating sustainability in their organizations.

A centralized information management system will be required to collect case histories and other data that will allow parks to readily find sources of technical and financial information. This system must be linked to other federal, state and industry information sources. It must encourage exchanges; park to park and park to public. It should contain a list of key contacts and subject field experts for technical assistance.

While many of the expected changes anticipated at parks will require no cost to implement, increased funding may be required to facilitate the implementation of some innovative projects. Some of these resources may come from partnerships, however, for this to fully succeed, sustainability criteria will need to be incorporated for evaluating projects through repair – rehabilitation, cyclic, line item, and other funding sources.

In most cases, the difference between implementing sustainable projects is a cost that can be recovered over a short period of time, but is not available up-front. It will be important to look at the entire life cycle of a project to determine appropriate up-front costs.

Developing Park Action Plans

To develop park action plans, it will be necessary to view the overall process in a phased approach. In the first phase, it will be necessary to establish comprehensive staff awareness of the effort through training programs. Next, parks will then need to conduct a baseline environmental performance analysis of their operations. Following this, they will establish a clear vision and plan with established goals and priorities. Lastly, they will begin implementing the action plan based upon the priorities given.

Sustainability Awareness Training

For the entire park to be engaged in the effort, the entire park staff must have a comprehensive understanding of the effort. This will require staff training at all levels, as well as the training of suppliers and concessionaires.

The goal of the training should be a deepening knowledge of ecology and the environment, as well as park - based

examples that make sense of the sustainability effort. The training must use hands-on study of specific park methods and activities that employees can pursue.

Baseline Environmental Performance

To answer the question; what does your organization look like today, parks will analyze current operations in terms of environmental compliance and their overall movement to more sustainable operations. Standardized NPS energy and environmental auditing protocols, along with protocols developed for evaluating other sustainability progress will be used to determine baseline conditions.

Creating the Park Action Plan

With park staff knowledgeable and baseline environmental assessments complete, the process of developing the park vision and action plan will begin. This will require a workshop/ charretting process whereby park staff defines what their operations would look like in a more innovative and sustainable context. This will also include the development of a list of park-specific stakeholders who would participate in this process, including concessionaires, community and suppliers.

Workshop participants will begin by defining their long – term vision. Individuals will be encouraged to set goals that are ambitious for their program or work area and may require substantive changes. This will be followed by listing measures that could be taken in programs whether or not they are realistic in the short – term. Finally, park staff will list the actions that can be taken immediately.

For each sustainability strategy that is developed, partners and technical assistance specialists will be researched for potential use. Partners may come from non-profits, from academia, or from industry. Partners may come from international places or from the local community. The key will be to link partners and technical specialists to goals and strategies developed in the plan.

After the action plan is established it will be important to benchmark the vision against other efforts occurring in the NPS and potentially worldwide. Specifically, this research will focus on the emerging sustainable technologies and practices that industry and academia are developing. Partners may play a key role in this process. The action plan should be considered a fluid document that will change as new information emerges.

Implementation

Parks will be encouraged to move systematically through their processes and plan by making investments that provide benefits in the short term. Building needed momentum, overcoming initial resistance and earning credibility for more systemic efforts will be the goal.

As implementation proceeds, it will be critical that visitor interpretive projects accompany each project, despite the size or complexity. The ultimate objective of the effort is for the public to learn to live with the environment. Through interpretation, the parks will demonstrate that practicing sustainability results in multiple resource

savings, such as water, soil, trees and money.

It is expected that this will be a multi-year effort that will require determination and flexibility to complete. Ultimately, however, this effort will help bring resource protection, education and operations together and establish a clear relationship between sustainability and quality of life