

**Five Year Strategic Plan  
for  
Improving the Natural Resources Program  
of the  
National Park Service**

**I. Introduction**

The 357 units of the National Park System represent a diverse collection of lands and resources, among which are the finest examples of natural areas in the country. The National Park Service must become one of the world's premier agencies in managing natural resources if it is to successfully fulfill its mandate to manage and preserve these resources in perpetuity. In addition, it has been suggested that the agency's most important contribution to society may eventually be its research and long-term data sets, which can help the nation understand the changes occurring in the biosphere.

It is an immense challenge to preserve park natural resources in the face of increasing population growth and the attendant development of adjacent lands. The task is complicated even further by predicted global change effects, increasing air and water pollution, increasing visitation and recreational use, and continued incursions by non-native species. Under these conditions, the National Park Service can only hope to successfully meet its objectives through a natural resources program that is scientifically based, professionally staffed, adequately funded, and supported by a long-term commitment from park management and the American public. Given its enormous responsibility, can the Service settle for anything less than the best in-house research and resources management capabilities available?

The ability of the NPS to fully accomplish its mission is not yet adequately developed. Significant improvements and advancements in the agency's natural resources program structure, commitment, tools, and techniques are required. This document outlines a 5-year plan of action for improving the National Park Service's natural resources program. This plan is designed to make significant improvements in the ability of the NPS to manage resources, train its professional staff, and respond to natural resource issues that arise. As these actions are implemented, management and public support for the natural resources program will be increased, long-term monitoring will be institutionalized, and the program will become more professional and effective. Also importantly, park and regional base funding for preserving natural resources will be increased to levels that reflect identified needs and NPS data management abilities will be modernized. Furthermore, employees will be better trained and more professionally qualified and career ladders will be clarified and strengthened. The successful accomplishment of these actions will better prepare the

National Park Service to face the significant natural resource management challenges of the future.

## II. The Natural Resource Program

There is a strong interdependence among natural and cultural resources management, research, interpretation, maintenance, and law enforcement in the National Park Service. The activities of one function often have significant impacts on the others. However, because of the complexity of the issues at hand, the focus of this document is limited to the traditional areas of natural resources management and research. The implementation of any actions proposed in this plan will be carefully coordinated across all functions and at all levels of the organization to ensure maximum effectiveness.

The definition of the natural resources program which guided the preparation of this document was a modified version of the expanded definition contained in NPS-77. Our working definition, listed below, encompassed the four main tasks of the natural resources program, which are to know, restore, maintain, and protect.

The natural resources program is the function by which the NPS strives to understand natural processes and human induced effects; mitigate any potential or realized effects; monitor for ecosystem trends; and protect existing ecosystems from further human induced effects.

As shown in Figure 1, the NPS natural resources program consists, in broad terms, of two synergistic components: research and natural resources management. In some cases, NPS organizational units reflect the close relationship between these two components by combining them under one division. In other cases, they are managed as distinct but carefully coordinated functions. In many parks, the research component is fulfilled by a Cooperative Park Studies Unit at a nearby university rather than by staff stationed in the park. Furthermore, in practice, there is not always a clear distinction between what is research and what is resources management. Resource monitoring, for example, contains elements of research even though it is largely a resources management function. Regardless of how these two functions are covered in a given unit, it should be clear that one component without the other results in a program that is incomplete.

In addition to the two broad, interrelated components of research and resources management, there are also functional responsibilities at three organizational levels, namely, the Washington Office (WASO), the 10 regional offices, and the 357 park units. The natural resources program will also be incomplete without a strong and balanced execution of assigned responsibilities at each of the three levels of the organization. As the diagram shows, WASO responsibilities are mostly in the

resource policy formulation and broad programmatic research areas. Regional offices have nearly equal responsibilities in the policy and technical support areas. The parks are almost exclusively involved with the applied tasks of problem oriented research and hands-on resources management.

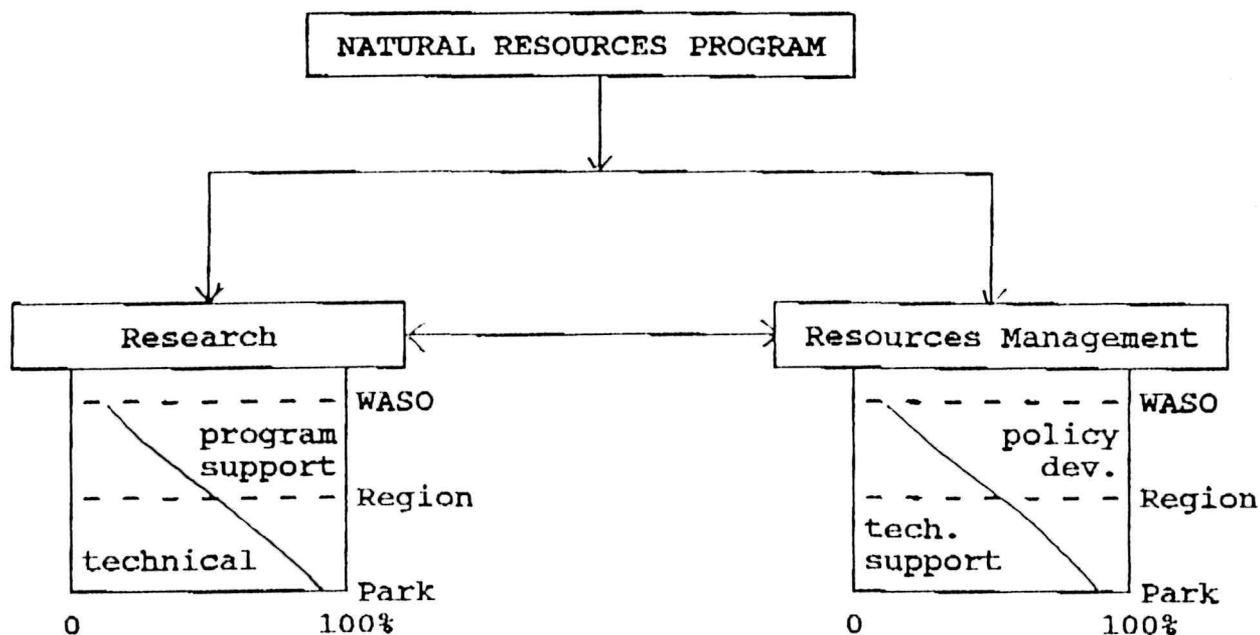


Figure 1: Diagram showing the two basic components of the NPS Natural Resources Program and the primary responsibilities at each of the three levels of the organization.

### III. Implementing the Plan

Listed in the pages that follow are four goals and related objectives and tasks. The four goals are as follows, 1) provide structure and continuity to natural resources management and research in the parks, regions and WASO; 2) provide a scientific foundation for managing natural resources; 3) increase the usefulness of natural resources data for managing parks; and 4) promote an adequate understanding of and support for the NPS natural resources management and research program. Under each goal are several objectives. Under each objective are several items that represent the specific actions that will be taken during the execution of this plan. These steps must each be accomplished if we are to satisfy our agency mandate and fulfill public expectations of our stewardship.

1. Provide Structure and Continuity for Natural Resources Program in the Parks, Regions, and WASO.

A. Identify natural resources program responsibilities.

1. Prepare role and function statements for resources managers and research scientists at the park, regional, and national levels.
2. Define natural resources responsibilities for line managers at the park, regional, and national levels.
3. Develop performance standard elements for line managers and resource professionals that reflect necessary accountability for their stewardship as identified in the role and function statements.

B. Develop organization, staffing, and budget.

1. Develop appropriate organizational structures for resources management and research to ensure consistency among WASO, regions, and parks.
2. Develop organizational and staffing plan for resources management and research at the various organizational levels.
3. Identify appropriate professional qualifications for natural resources management and research personnel in the NPS.
4. Develop clearly defined career ladders for natural resources professionals in the NPS.
5. Develop a budget initiative that is sufficient to address Resource Management Plans' issues and needs.

C. Develop and implement an internal control process to maintain program integrity.

1. Develop standards and procedures to ensure that natural resources programs are developed and implemented in a logical, systematic fashion.
2. Develop and implement a natural resources budget tracking system.
3. Develop and implement natural resources program tracking procedures (performance standards, standard operating procedures, operations evaluation procedures, management control reviews, technical

program evaluations) to ensure that researchers develop management oriented scientific information, communicate such information to managers, and the managers use this scientific information in appropriate ways in decision making.

4. Review Service's internal control schedule to ensure that appropriate natural resource program items are included.

2. Provide a Scientific Foundation for Managing Natural Resources.

A. Identify natural resource issues and needs.

1. Complete and distribute the Natural Resources Management Guideline (NPS-77).
2. Develop a series of technical handbooks or manuals to provide more detailed guidance on natural resource management practices, as a follow-up to NPS-77.
3. Develop revised and improved Resources Management Plans for each park using the new Servicewide instructions by December, 1993.
4. Update the Servicewide Natural Resources Assessment and Action Program Report by December, 1994.
5. Complete development of a computer program that meets Natural Resources Management Plan data needs at park, regional, and WASO levels.

B. Develop and implement a program of natural resources inventories in parks.

1. Assess the current state of natural resources inventory information in parks.
2. Complete and publish a guideline for conducting natural resources inventories in parks (NPS-75).
3. Develop and implement a strategy for conducting natural resources inventories in parks.

C. Develop and implement NPS natural resources monitoring and evaluation program.

1. Develop monitoring and evaluation program strategy.
2. Implement prototype park monitoring and evaluation program in at least eight parks by 1996.

D. Develop adequate training and educational opportunities for natural resources personnel.

1. Identify, develop, and establish options for expanded professional development opportunities for NPS natural resources personnel.

2. Reevaluate resources management trainee program and recommend needed adjustments.
- E. Strengthen the NPS natural resources research program.
1. Develop and execute an implementation plan based on the recommendations of the National Academy of Sciences report of their evaluation of the NPS research program.
  2. Evaluate the adequacy of the network of Cooperative Park Study Units to meet the identified natural resources management, research, and training needs of the Service.
- F. Establish a professional quality control process for the natural resources program of the NPS.
1. Review and strengthen the research grade evaluation process to ensure that managers are provided with top quality research results.
  2. Develop and implement a peer review process for manuscripts that result from NPS research.
  3. Assess status of systems and procedures for ensuring the transfer of scientific information to natural resource managers and decision makers.
  4. Implement new standards and procedures where needed to improve the effectiveness of transfer of scientific information to managers.
  5. Develop and implement an operations evaluation or "combined program review" process for NPS research and resources management programs in parks, CPSUs, regions, and WASO.
- G. Strengthen the natural resources publication program.
1. Analyze and determine expected workload for NPS science publications program over next 5 years.
  2. Provide needed resources at all appropriate organizational levels to meet editorial workload.
  3. Require publication of natural resources data in NPS reports and concurrent publication of hypothesis-based research results in the open, peer-reviewed literature.

3. Maximize Utility of Natural Resources Data in Managing Parks.
  - A. Integrate natural resources data bases for resource and program management.
    1. Identify the needs, sources (including other agency data bases), and uses of data bases for natural resource management and research activities at the park, region, and WASO levels.
    2. Identify actions (including coordinated opportunity with other agencies) needed to provide necessary data in formats which improve their usefulness.
    3. Prepare and distribute handbooks, procedures, standards, etc., on data base construction activities.
    4. Evaluate data management approaches to identify appropriate data management technology, techniques, and procedures for NPS use.
    5. Develop data management procedures to integrate natural resources data bases at all organizational levels.
    6. Establish data management standards for inclusion in scopes-of-work or research designs to ensure the development of consistent and useable information.
    7. Develop budget initiatives to provide resources necessary to satisfy data management needs of NPS (hardware, software, and staff).
  - B. Develop adequate capability to use information management technology for managing natural resources data.
    1. Provide technical direction, expertise, coordination, consultation, and guidance on the selection, installation, and use of software and hardware.
    2. Develop models and applications to help understand and assess alternative solutions for park resource management issues.
  - C. Develop minimum standards for collecting natural resources data.
    1. Assess the common data collection needs and activities in the NPS.

2. Develop a series of natural resources data collection handbooks on standard operating procedures for selected resource topics.
3. Develop instructional materials on data collection techniques.

4. Promote a Better Understanding of and Support for the NPS Natural Resources Management and Research Program.
  - A. Develop a reporting system for program activities and natural resource conditions.
    1. Develop template options for a State-of-the-Park report as a part of the Inventory and Monitoring program.
    2. Develop procedures to integrate the State-of-the-Park report into Resources Management Plan updates, applying first to target parks and Inventory and Monitoring Program funded parks.
    3. Work with Interpretation at the park level to develop a one page brochure from the State-of-the-Park report for distribution to park visitors.
    4. Develop triennial regional and national "State-of-the-Parks" reports based on an analysis and synthesis of park-level reports.
  - B. Support interpretive programs and displays highlighting natural resources.
    1. Work with Interpretation to develop interpretive programs addressing natural resources issues.
    2. Biennially produce an educational video on multi-regional resource issues facing many parks in the System.
    3. Investigate the status of National Park magazine proposal and opportunities to utilize such a magazine and other popular "external" publications to inform the public about natural resource issues.
  - C. Develop adequate understanding, cooperation, and partnership with public and private organizations and individuals.
    1. Develop adequate WASO, regional, and park funding and staffing capabilities to establish and coordinate partnerships.
    2. Develop procedures to implement FY 92 challenge cost-share program in a manner that facilitates accomplishing park research and resources management objectives.