



U.S. Department of the Interior
National Park Service
Natural Resource Information Division



Natural Resource Data Management

September 1996

The Natural Resource Inventory and Monitoring (I&M) Program was established to gather information and develop techniques for maintaining the integrity of the ecological communities in the approximately 250 National Park System units with significant natural resources. The details of the program are outlined in *Natural Resource Inventory and Monitoring in National Parks*, available from the address listed below.

Since its inception in 1992, the I&M Program has funded mapping of vegetation, soils, and geologic features; collection of base cartographic data; and compilation of automated park-based bibliographic databases; initiation of several prototype monitoring programs; and development of data management standards and protocols. The fact sheet series of the Natural Resource Information Division provides updated information on the progress in each of these areas.

Natural Resource Data Management

The data management goal of the Inventory and Monitoring (I&M) Program is the development and implementation of multilevel strategies for planning, integrating, and preserving natural-resource data for present and long-term information needs and for National Park Service management. The I&M Program is approaching this goal in several ways: Staff is (1) working with parks to develop uniform data management protocols and tools, (2) developing a servicewide I&M data management and inventory archiving plan, and (3) implementing Internet service via the World Wide Web with up-to-date information on I&M Program activities and accomplishments.

Data Management Protocols

Data Management Protocols were drafted with assistance from park data managers. The document features chapters with instructions for developing and writing a park-based data management plan, a database structure and software for cataloging ongoing and legacy data sets (*Dataset Catalog*), and generalized data handling procedures. The instruction chapter includes sections on the current status of resources, on data management strategies, on data management accomplishments, on activities and goals, and on implementation strategy and budget. The catalog is a database of natural resource data sets that incorporates abbreviated metadata for general use. It is park-based but can be aggregated for servicewide needs. The database was implemented via Microsoft Access with an automated data input form, links to other data and information, and an automated one-page report form. The chapter about procedures includes general guidelines for managing natural-resource data sets. The guidelines are for tasks such as the entry, verification, validation, back-up, and editing of data or for more complex tasks such as the documentation, archiving, and dissemination of data. An appendix features several associated documents and examples.

The draft *Data Management Protocols* is presently under review by park data managers and I&M coordinators. The



final document will be disseminated to the parks. Copies of the latest draft and the *Dataset Catalog* are available by request.

Servicewide I&M Data Management Plan

A plan for efficiently managing and archiving servicewide inventory data and products is currently being developed by I&M staff. Extant and future inventories generate a wide variety of data and require comprehensive planning of protocols and facilities that ensure long-term, efficient flow, archiving, distribution, and retrieval of data.

I&M Internet Service

I&M staff developed a worldwide web home page (<http://www.aqd.nps.gov/nrid/im/index.htm>) that features the *Natural Resource Inventory and Monitoring in National Parks* brochure. The brochure contains general information about the natural-resource inventories and long-term environmental monitoring (LTEM) in the National Park Service. Fact sheets describing the status of each inventory will be added to the web pages in the near future. The pages maintain links to partners and other NPS entities associated with inventory and monitoring. I&M staff is also considering the feasibility of providing on-line access to selected inventory data in the future.

For further information contact:

Dr. Gary Williams
I&M Program Coordinator
National Park Service
1201 Oak Ridge Drive, Suite 350
Ft. Collins, CO 80525
Telephone: (970) 225-3539
e-mail: Gary_Williams@nps.gov
cc: Mail: Williams, Gary

You may also consult our worldwide web page at: <http://www.aqd.nps.gov/natnet>