



1996 PARK SCIENCE FEATURE ARTICLES IN SUMMARY

BY GENERAL SUBJECT



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ECOSYSTEM MANAGEMENT

- The National Park Service took a step toward ecosystem management by participating in an ecological stewardship workshop in Tucson, Arizona (2):13-14. With a book planned as a product, the gathering generated many reflections on the meaning of ecosystem management to this agency (2):15.
- Further evidence that ecosystem management is beginning to come of age was the review of the Keystone Center meeting in Colorado on this holistic management approach (1):10.
- Members of Partners in Flight, the international program for the conservation of neotropical migratory songbirds, convened a workshop in late 1995 and began drafting a conservation plan aimed at building consensus and consistency among the many disparate working groups that make the program fly (1):11,19 (logo, top).
- National Biological Service research scientists Gary Davis and Bill Halvorson released their timely book, *Science and Ecosystem Management in the National Parks*, an argument for the continuation and application of science and monitoring in parks (2):5.

RESTORATION

- Just 3 years after restoring a portion of Kenilworth Marsh in Washington, D.C., park resource managers noted the return of the Long-billed Marsh Wren, a positive indication of corrected wetland function (4):9.
- Lincoln Boyhood National Memorial, Indiana, applied grant funds to an ambitious reforestation project that returned native hardwoods to two meadows near the park visitor center (4):28-29.

RESOURCE ASSESSMENT

- Threatened by landslides resulting from over saturated perched aquifers, Hagerman Fossil Beds National Monument, Idaho, undertook a landslide factor assessment procedure to identify likely new areas of impact to fossil resources. Armed with new information, the park established a monitoring program and adjusted their excavation priorities to safeguard the fossils most at risk (2):20-23.
- Hydrologists from the Natural Resource Program Center described a simple field technique for assessing the condition of riparian-wetland areas, the first stage in restoring the proper function of wetlands (4):22-24.

GIS

- Geographic information systems proved invaluable in mapping the fire perimeter, locating and assessing damage to sensitive resources, and tracking restoration efforts during the Vision wildfire at Point Reyes National Seashore, California (4):25-27,29 (bottom photo, left).

INVENTORY & MONITORING

- Surveys at Gates of the Arctic National Park and Preserve, Alaska, revealed that the candidate threatened plant *Aster yukonsensis* was more common than previously known (2):18-19 (middle photo, left).
- Investigators intensively studied desert rock pool systems in Capitol Reef National Park, Utah. The effort resulted in sound baseline data and knowledge of more than twice as many aquatic species as previously recorded (3):14.
- Researchers at Sleeping Bear Dunes National Lakeshore, Michigan, enumerated many of the problems, issues, and compromises they encountered in maintaining a water quality monitoring program. Among the challenges were continuity in field personnel, gaps in information, and funding for consistent sampling (3):19-21 (top photo, left).

CONFERENCES

- Yellowstone National Park (Wyoming, Montana, and Idaho) hosted a popular conference exploring the ecology and conservation of predatory mammals (1):14-15. The park also convened a 4-day symposium on the biodiversity, ecology, and evolution of hot water organisms where managers, academicians, and biotech companies discussed the contributions to society of biologically diverse, publicly owned resources (1):12-13,19. Similarly, Yellowstone investigated access and property rights to genetic resources at an international conference (4):12-13.
- Held in Boise, Idaho, the Tall Timbers Fire Ecology Conference explored the ongoing shift in the paradigm of fire management from suppression to prescription (4):11,30.

ADMINISTRATIVE ADJUSTMENTS

- Agency restructuring and downsizing shifted resources from central offices to parks, erased familiar planning processes, complicated communication, and reduced technical support; it also increased cooperation in the field, empowered superintendents, and left resource managers pondering how to make the changes work to the benefit of natural resource preservation (1):24-28.
- A National Biological Service ecologist examined the continuing need for science-based management of parks and the dynamic relationship between the National Biological Service and the National Park Service (2):10-12. The report also forecast the merger of the National Biological Service with the U.S. Geological Survey (2):11.

RESEARCH

- Research at Apostle Islands National Lakeshore, Wisconsin, pointed to low food availability as a primary cause of reduced bald eagle reproduction in the park and vicinity (3):22-23,26.
- Trampled incessantly by millions of urban park visitors, turfgrass must be matched to the intended use and climate to hold up under these pressures (3):30-31. Research conducted on the National Mall in Washington, D.C., suggested many specific improvements for parks in the use of this utilitarian natural resource (3):27-29.
- Necessitated by road construction, Glacier National Park, Montana, and several cooperators investigated the regenerative capabilities of native conifers and herbaceous species. The information will help the park and a neighboring experimental forest to plan for optimum recovery of native vegetation following such disturbances (1):20-21.

THE SCIENTIFIC METHOD

- National Park Service contaminant specialists Roy Irwin and Lynnette Stevens pointed out some of the pitfalls of pseudoreplication, a problem not uncommon in ecology research where findings can mistakenly be applied too broadly. Researchers must pay especially close attention to true replication of results in drawing valid conclusions (2):28-31.

PARK SCIENCE

- An index of *Park Science* articles published in 1995 (like this one) reminded readers of the variety and complexity of natural resource problems we face and the equally innovative solutions matched to the task of resource preservation (4):29-31.
- The MAB Notes column in this publication changed its focus in 1996 from reports on the activities of the Man and the Biosphere National Committee to biosphere reserve parks. Along those lines, the Mammoth Cave Area Biosphere Reserve, Kentucky, reported on its progress with groundwater protection due, in part, to the biosphere reserve designation (3):12-13.

NEW TECHNIQUES

- Cape Cod National Seashore, Massachusetts, shared its experience with FACA, the Federal Advisory Commission Act, and negotiated rule making as resource and visitor management tools to resolve an ongoing contentious issue—off-road vehicle use on park beaches (2):1,16-17,21 (top photo, right).
- The National Park Service tested and adopted a new process for awarding construction project funds based partly on the benefits such work brings to natural resource preservation (4):19-21,30.

PROFESSIONALIZATION

- Participants in the Natural Resource Trainee Program of the 1980s and early 1990s spoke out about the positive effect the course had on the professionalization of resource management in the National Park Service (3):1,16-18 (bottom photo, right).

INFORMATION MANAGEMENT

- National Park Service biologist Stephen Fettig detailed a method for locating and retrieving biological information over the Internet for users of the NPS cc:Mail e-mail system. An indication of how commonplace World Wide Web technology is becoming, this report seems dated after just one year as more NPS staff connect directly to the Internet (1):1,16-19 (illustration, top).

ECONOMICS

- Social scientists detailed a technique for assessing regional economic contributions from national park system units to local area economies (2):24-26. In the hands of a superintendent, this knowledge facilitates better integration of park goals and resource preservation purposes in the planning activities of park gateway communities (2):26-27.

EDUCATION

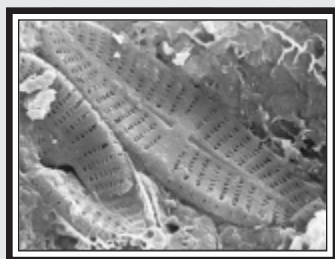
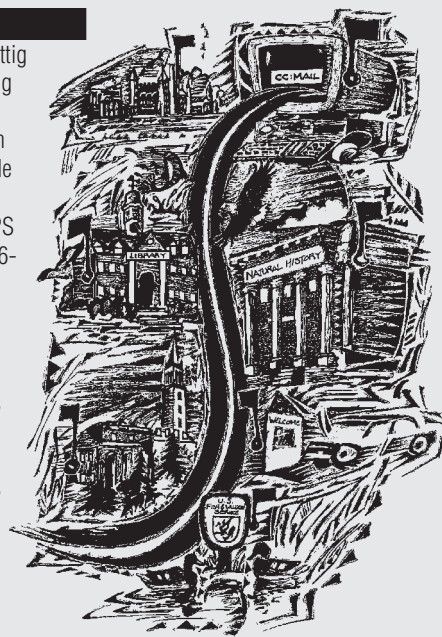
- The rapidly growing *Leave No Trace* program imparts low-impact camping and travel skills and a wildland ethic to park users and provides managers with an educational solution for reducing visitor impacts to natural areas (3):24-26.

NEW INFORMATION

- Often overlooked in resource management planning and activities, butterflies and moths provide numerous benefits to parks. A survey of northeastern United States national parks, state parks, and national wildlife refuges reflected a growing interest in the management of these insects (4):1,16-18.

PALEONTOLOGY

- With the help of a scanning electron microscope, researchers journeyed into the micron-sized world of fossil diatoms, redwoods, and sediments that existed 35 million years ago at Florissant Fossil Beds National Monument, Colorado, and revealed a rich geological history of Lake Florissant (1):22-23 (middle photo, right).
- Paleontologists and resource managers at Curecanti National Recreation Area, Colorado, excavated Late Jurassic dinosaur remains little known from the region. The new discoveries thrust paleontological resources into the limelight for this park and increased our knowledge of the distribution of dinosaurs during this time (4):14-15.



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