

Is RT and E Species Management Itself a 'Threatened' Candidate?

By Jeff Marion and John Karish

The Endangered Species Act of 1973 directs all Federal agencies to "seek to conserve endangered species and threatened species . . ." In accordance, NPS "Management Policies" states that "The Service will identify all threatened and endangered species within park boundaries and their critical habitat requirements . . . Plant and animal species considered to be rare or unique to a park shall be identified also and their distribution within the park mapped. Management actions for their protection and perpetuation shall be incorporated into the natural resources management plan." The latest revision of these policies further defines threatened and endangered species to include not only federally listed species, but also federal candidate species and state and locally listed threatened, endangered, rare, declining, sensitive, or candidate species that are native to and present in the parks.

These policy directives raise the question "Are we doing our job?" Clearly, we must begin with comprehensive surveys of all the rare, threatened and endangered (R, T&E) species within park boundaries. A recent survey of park managers, conducted by Frances Kennedy for the National Parks and Conservation Association (NPCA), suggests that many parks have not completed R, T&E surveys and therefore lack information essential to the management of these species and their critical habitats. In Volume 7 of the recent NPCA plan for the NP System (*Investing in Park Futures: A Blueprint for Tomorrow*), it is recommended that an additional \$10 million in appropriations be sought to research and compile a standardized, Servicewide inventory of all listed species.

In this paper we share what we consider to be an effective approach to inventorying R, T&E species and managing R, T&E information. Such surveys require specialized expertise often lacking in many parks and regions. In the Mid-Atlantic Region these surveys have been accomplished through cooperative agreements with the State Natural Heritage Programs (SNHP's). The organization, goals, and capabilities of The Nature Conservancy/State Natural Heritage Programs are covered in the accompanying article by Robert Chipley.

Managing Rare, Threatened and Endangered Species Data

Comprehensive and up-to-date R, T&E information is essential to park managers if they are to provide the protection these species require. The information must be accessible at the park level for consideration in park planning and operational activities. Several information management approaches available to parks are described below.

The Threatened, Endangered, and Exotic (TEX) species module in NPS COMMON now contains general information on most federally listed threatened and endangered species occurring in NPS units and is accessible to all parks by computer modem. However, this database does not include federal candidate or state listed species, or detailed species- and park-specific information, such as the locations, size, and status of populations.

As described in the **Park Science** Computer Corner, Summer 1987, a dBASE III database modeled after the TEX module was to be developed so that individual parks could manage R, T&E data on microcomputers, allowing parks the ability to input additional information as necessary. It is uncertain at this time when or if such a database will be developed. Parks may choose to develop their own R, T&E databases.

The U.S. Fish and Wildlife Service has compiled a body of information on all federally listed species in

a database known as ESIS (refer to **Park Science** Computer Corner, Summer 1987).

Information requests to USFWS must identify the counties in which the park is located.

The Natural Heritage Program databases described in the accompanying article are the oldest, most comprehensive (includes all federal and state R, T&E species), and most complete (in terms of parameters) of any in existence. The databases include detailed location and habitat information, as well as the characteristics, numbers, condition, and status of each element occurrence. As field surveys and herbaria/museum searches are conducted, species occurrences are routinely mapped and input to the database . . . a valuable source of information for parks.

By contacting the appropriate State Natural Heritage Program, a park can establish a protocol for obtaining the latest available information on R, T&E species occurrences within park boundaries. The first request for available information from a SNHP should be accompanied by a map showing current park boundaries and major inholdings. SNHP's first record rare species locations on USGS 7 1/2' topo maps and then enter various parameters, including land ownership, from the map into the database. Thus it is essential that the SNHP has park boundaries accurately delineated on their maps; otherwise species occurrences on park lands may not be recorded as such in the database. Mapped and computer database information on park R, T&E species, such as rankings and population data, can then be requested. This information will be most complete if the R, T&E field survey and record search has been conducted for the park by the SNHP.

Parks with large numbers of R, T&E species, or groups of parks, may wish to consider an even closer involvement with The Nature Conservancy (TNC). The NPS Southeast Regional Office recently entered into a Cooperative Agreement with TNC to open a SNHP data center at Great Smoky Mountains NP. Data from the Tennessee, North Carolina, and Tennessee Valley Authority SNHP's has been downloaded into the park's data center for ready access by park resource managers and scientists. A second SNHP is being planned to serve several of the South Florida park units. Park resource managers may consider cooperative monitoring efforts with SNHP personnel. SNHP staff have standardized procedures and forms for monitoring and can serve as a resource in cooperative efforts or in training NPS staff for monitoring. SNHP staff also are available for review and consultation in park planning and construction work.

Rare, Threatened and Endangered Species Surveys

The first R, T&E surveys in the Mid-Atlantic Region began in 1985 with the SNHPs of Pennsylvania, New Jersey and New York for Delaware Water Gap NRA and the Upper Delaware Scenic and Recreational River. Surveys start with a Request For Proposal (RFP) describing the survey objectives, work to be accomplished, and products. The cooperator responds with a proposal addressing the RFP and outlining a budget. In the Mid-Atlantic Region, depending on available funding, surveys have been conducted on both an individual park and statewide basis. We have found that both the contracting and survey work (searching the literature and herbaria records, for example) are more efficiently carried out when all parks in a state are done concurrently.

The objectives included in our most recent RFP are to: (1) identify records, occurrences, and status of plant and animal species and vegetative communities listed by state and federal agencies as rare, threatened, or endangered within, adjacent to, or potentially occurring in the specified park(s); (2) field survey and verify locations of recorded occurrences; (3) field survey potential habitat locations for new occurrences of rare species or communities likely to be present; and (4) record and map all historical and extant rare species and community locations according to standard SNHP methods and procedures.

Survey work begins with the SNHP obtaining maps showing current park boundaries and all major inholdings. Cooperators identify and search all appropriate herbaria, museums, collections, and scientific literature for records of R, T&E occurrences within or adjacent to the park. Field surveys are conducted to inventory and verify recorded occurrences and to gather information on site locations, population numbers and condition, habitat and site requirements, degree of endangerment, known or suspected threats, management recommendations and other items on standard Heritage Program forms, maps and databases.

A report is prepared describing the project's study methods, accomplishments, findings and recommendations. Information from the record and field searches is then summarized for each historically recorded and extant species and community in the park and for those elements adjacent to the park that may potentially occur in the park. This includes the species' or community's locations and distribution, habitat requirements and restrictions, federal and state listing or rarity status, and rarity within the park; the significance of the park's population in relation to its state (and, if possible, national) distribution or range; the degree of endangerment and known or suspected threats; and recommendations for monitoring, protection and management actions and procedures.

The park(s) also are provided with maps locating all critical areas in and adjacent to the park. SNHP field survey forms, element abstracts and state and global ranking forms, and summaries of Heritage element occurrence records.

Finally, Heritage personnel are asked to accompany a park Resource Management staff member to each existing and important historical field location to identify visually the location and species or community of interest. Photographs of rare species located during the field surveys also are required to aid in future identification and for use by Park Interpretive programs.

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