

**The Evolution of the Natural Resource Specialist:
A National Park Service Phenomenon**

William R. Supernaugh

Independent Study

Dept. of Parks, Recreation and Environmental Education

Slippery Rock State University

August 25, 1987

The Natural Resource Specialist - also referred to as a Resource Management Specialist - is a professional or para-professional position used by the National Park Service only since the early 1970's. The fact that it exists at all is a commentary on the reorientation of the Service with regard to the way it staffs parks in order to accomplish the basic mission of resource protection. In this instance, the emphasis is on natural resources and their ecological settings rather than on the cultural resources and historical settings also contained within the National Park system of 340+ areas.

Congress established the National Park Service in 1916 as a bureau within the Department of Interior for the purpose of administering the growing number of National Parks and Monuments and charged it with conserving "...the scenery and the natural and historic objects and the wildlife therein...." (12) For the next 20 years or so, there was an increasing emphasis on promoting the growing number of National Parks and regulating the resultant use. The parks were staffed with Park Rangers - providing law enforcement and visitor use management capabilities. Park Naturalists concentrated on the tasks of entertaining and enlightening the visitors who began to arrive in ever growing numbers. Natural history presentations - the nature walk of yesteryear and campfire programs designed to tell people something about the geology, wildlife and tall trees surrounding them - were standard fare for most early park visitors. The keepers of this lore - the Park Naturalists - developed and maintained herbaria, kept bird and

wildlife sighting lists and became quite conversant on different aspects of the ecology and environment in which they worked. Park Rangers were routinely involved in jobs involving the capture and relocation of problem wildlife such as bears, fish stocking in remote backcountry lakes and streams, wildfire suppression, snowpack measurement and stream gaging, trail erosion control and repair, and the eradication of nuisance vegetation such as gooseberry (a vector for white pine blister rust).

Biological investigation was the purview of a growing number of Washington based scientists who conducted "circuit rider" ministrations in parks where notable wildlife issues were identified (18). Under the able leadership of George Wright in the 1930's, a fuller understanding of the ecological relationships between free ranging ungulates and grassland, fire and forest regeneration and predator-prey dependency in large mammals were investigated and the results slowly integrated into National Park Service management policy.

The foundation for the ensuing growth of the natural resource management specialist can be found in "Fauna of the National Parks of the United States" (18). This first volume in what was to become a continuing series of National Park Service monographs on the wildlife and ecological components of National Park Units, pointed out the fallacy of the Service's policy of noninterference with wildlife. Up to the early 1930's, it was felt that protection of wildlife was enough. Time was to prove that some form of management would be

required to overcome problems associated with predator control, habitat destruction, interrupted migration patterns, competition with domestic stock, and poaching. The term "biological engineer" was applied by Dr. Alexander Ruthven (18) for workers in the field of perpetuating natural conditions in the face of human use - a situation which sums up the plight of the National Parks in the early 1930's.

The authors of the Fauna Series No. 1 undertook a privately funded review of the wildlife issues facing the Service. The Preliminary Wild Life Survey, growing out of an idea developed during 1928 - 29 in Yosemite National Park's educational department, received Director Albright's approval and support in 1930. Consisting of Joseph S. Dixon (economic mammologist), George M. Wright (scientific aide in the National Park Service) and Ben H. Thompson (research associate) the Survey was charged to :

1. focus attention on the need to develop a wildlife policy and extend the idea of protection to include a constructive program,
2. assist Park Superintendents in dealing with the immediate animal problems confronting them and,
3. prepare a report on the status of wildlife in parks, identify problems and recommend a long-term management framework for wildlife administration.

An immediate benefit of the Survey group and its initial data was the Director's ability to secure a "field naturalist" and funding for the work of the Survey. The organizational responsibility for this fledgling group was placed in the Service's University of California at Berkley field office for the Branch of Research and Education.

At the conclusion of Fauna Series No. 1, the authors suggest a number of ways to meet a prime function of the National Parks, that is "...to preserve the flora and fauna in the primitive state and, at the same time, to provide the people with maximum opportunity for the observation thereof." (18) Following several recommendations relating to the need to survey each park's habitat and fauna, control exotic species, protect rare predators, establish wildlife carrying capacities, restore extirpated species, reduce human - wildlife conflicts, formulate wildlife administrative plans, the final recommendation reads:

"20. That each park shall develop within the ranger department a personnel of one or more men trained in the handling of wild-life problems, and who will be assisted by the field staff appointed to carry out the faunal program of the Service."

Thus, the pattern of personnel management decisions and an organizational framework is set for the next fifty years.

The second volume of the Fauna Series, devoted to Wildlife

Management in the National Parks (17), contains a passage describing the extensive modification of wildlife numbers and habitat at Grand Canyon National Park following the lion - deer management policies of the 1920's. A wildlife management plan is suggested and the article goes on to call for the assignment of a "wildlife ranger, a portion of whose duties will be the study and investigation of local wildlife problems and wildlife administration." This 1934 recommendation clearly grew out of the suggested strategy presented in the 1933 volume.

The situation did not vary much over the next 35 years. Park Naturalists continued to make observations and maintain records on park fauna and flora. Parks with significant wildlife issues frequently assigned a Ranger to wildlife duties (7) which consisted largely of activities which included population trend and size estimates, habitat "improvement" such as creating water sources for desert bighorn sheep, removing problem animals - particularly bears, stocking fish and forest insect and disease control.

Occasionally, a Park Ranger with an interest in natural history would undertake a significant survey such as a herbarium collection. A letter from Colonial National Historical Park Superintendent Elbert Cox however, reveals that such efforts were not always appreciated, particularly in areas of the National Park System established to commemorate historical events (3). The recommendations of the Wright, Dixon, Thompson Fauna Survey were not yet universally applied. A Washington Office comment on

Superintendent Cox's letter (1) reveals a lack of policy and posed an unanswered question of, "How far should we go in a study of the natural sciences in such places (as historical areas)?"

It is not clear where the term natural resources management first arose in the discussions of the National Park Service. The 1963 "Leopold Report" (10) discusses the need to recognize the complexities of park ecosystems and the diversity of management procedures necessary to preserve them. While calling for expanding the Service's research efforts to prepare for future management and restoration programs and emphasizing the need to have every phase of wildlife management and habitat manipulation under the control of biologically trained National Park Service personnel, the term "resources management" is never mentioned.

By 1964, however, the Service had adopted the concept of resource management in its Statement of Management Principles. It states that Congress has assigned the National Park Service a vital mission in the total conservation effort - said mission is "to manage the resources of the National Park System...(emphasis added). It is ...a resource managing agency." (6)

The ability of the Service to understand and manage the resources under its control however, was seriously questioned in that same year by the Conservation Foundation. The interim report on the study (4) discusses the evolving National Park Service policy on the control of public use of Parks. Echoing the Leopold Report's

admonition to recognize the complexities of park ecosystems, the Study states, "We have had the uncomfortable feeling in the course of our work that such members of the National Park Service as may have a high ecological awareness are not taking a significant part in the formulation of policy. They should be brought to the ultimate council table."

The Service moved slowly into the area of the trained professional with responsibility for the overall administration of a natural resources management program at the park level. The National Academy of Sciences, at the request of Interior Secretary Udall, undertook a major study of the research capabilities of the Service. Their report, released in 1963, pointed out many deficiencies in the existing system (8). Their findings included the conclusion that the Service had "failed to insure the implementation of research in operational management." The Report emphasizes that the preservation of the "natural resources" of the National Park System is an obligation to the world community. The conclusion is reached however that unless drastic steps are taken immediately, there is a strong possibility that several if not all of our parks will be reduced to a state totally different from that for which they were preserved. Recommendations include the establishment of a strong mission oriented research program. It further suggests that the National Park Service must manage to some degree its lands, and plans based upon resource information must be, "implemented by adequate and competent personnel, properly organized, motivated and supported financially." (8)

Edward C. Stone, a professor of ecology at the University of California, Berkley, writing in Science opined that the National Academy of Sciences report did not go far enough in recognizing the need for professional specialists at the operational level who would be responsible for carrying out the manipulative steps recommended by the research staff (9). His description of the role of a "vegetation-preservation specialist" might well have served as the basis for jobs which came into being in the 1980's. Stone would have the specialist be competent to understand research, evaluate research findings, translate research into manipulative techniques based on an understanding of the local ecology and be able to collect basic ecological data where it is absent. The application of this specialty would be appropriate to fire management, wildlife management and forest preservation. He ends his article by identifying the need to train and "infiltrate" specialists in this "new profession" into the administrative ranks of the National Park Service.

Responding to several forces unrelated to the call for strengthening its natural resource management capabilities, the National Park Service implemented a major change in its personnel management policies in 1969. New classification and qualification standards were approved by the Civil Service Commission, which separated Historians from the uniformed ranks of Park Rangers and Technicians. Within the Park Ranger series, herein after referred to as the 025 series, there were two fields of specialty, the Interpreter (formerly Park Naturalist) and the Protection Ranger.

The latter recognized the growing attention to law enforcement responsibilities of the Service and the former was in keeping with the move to emphasize the human side of people management. Interpreters were to become proficient in communication and media skills while Protection Rangers improved their knowledge of crime prevention, detection and the criminal justice system. Recruitment for the two disciplines moved away from the traditional background in biological science, forestry or wildlife management to ones including social science, police science and criminology.

As the Service put its energy into upgrading its abilities to deal with people and people problems, the environmental revolution of the late 1960's and early 1970's created an extensive body of law and regulation which the National Park Service was charged both with implementing and following. The need to assign responsibility and create a focal point within more complex parks became apparent once the Service's managers recognized that their obligations extended beyond that of the wildlife ranger's duties or keeping up the natural history observation and record keeping system. In addition to the already identified workload factors of wildlife, soil, fire and vegetation management, came the requirements for air, water, acid precipitation, integrated pest management, backcountry/wilderness use, compliance - with the National Environmental Policy Act, Clean Air, Clean Water, Endangered Species, Wetlands Protection Acts, Executive Orders, and more.

Large parks with complex resource programs had, by 1973-1974,

begun to create new coordinating positions which were to serve as staff advisors to the Superintendent or the Chief Ranger. The latter position was often retitled as the Chief of Resource Management and Visitor Protection, in recognition of the two primary areas of responsibility. The Park Naturalist and Wildlife Ranger designations had given way to a position with much broader responsibility, generally filled by a person with a varied, biologically oriented background. Training for this growing cadre of Natural Resource Specialists or Resource Management Specialists was still largely on-the-job and catch-as-catch-can.

By 1978, the Washington Office of the Park Service had undergone a reorganization which combined the functions of natural science research and natural resource management into a single office under an Associate Director for Science and Technology. Thus, several of the recommendations of the National Academy of Sciences Report and the Leopold Report were coming to realization (8, 10). Wauer (16) quotes Assistant Secretary of the Interior Herbst as stating that as a first step, the Park Service will be emphasizing the development of sound resource management programs with scientific resource managers at the site to serve as liaison between the scientists and land managers. Despite the progressive views of the Service and the verbal support of the Department, by 1980 (11) the situation appeared grim. The numbers of personnel were judged to be inadequate to respond to the number of issues, training for resource managers was poor, there was an inadequate understanding of the complex nature of issues, and support for natural resource management

activities was lacking from the National Park Service directorate and the Congress (13).

The State of the Parks Report to Congress (11) further delineated the deficiencies in the Service's ability to respond to its problems. It pointed out for example, there were a total of about 300 personnel Servicewide (3.2% of the Park Service employees) in the combined fields of scientific research and study, natural and cultural resources management. This included a high number of people - primarily park rangers - with varying amounts of background and training who may be working in the resource management field as a collateral duty, as well as a number of aides and technicians.

The following year, at the request of Congress, the Service submitted its plan for mitigating the deficiencies it had so boldly exposed to the public eye in the State of the Parks Report. The Prevention and Mitigation Strategy (13) included a request for approximately \$1 million to fund a Natural Resources Management Specialist Training Program for 30 additional Specialists to be added to the parks each year. A multi-phased training program for existing personnel in natural resources was also described, and initiated using training funds and programs already available to the Service. Congress, in response to the Service's plea, appropriated approximately \$1.2 million in 1982, allowing the National Park Service to initiate the Trainee program in August, 1982.

The Service followed up the initial 37 trainees with an

additional 23 Resource Manager trainees in October, 1984. Prior to the completion of their training in September, 1986 the Regional Directors voted in January, 1986 to essentially discontinue the Trainee program for future years (5). This was done largely due to the inability to obtain additional funding and personnel ceiling to accommodate the trainees in the target parks beginning October 1, 1986. As a result, salary and ceiling was transferred from the Washington based training program to permit the trainees to enter into their target assignments. This action precluded the hiring of a new class of trainees as Washington could no longer cover the payroll of a third class of Trainees.

Director Mott was not satisfied with this decision and in July of 1986 the Director approved a one year training program which was initiated using either encumbered positions or park and regional office funds and personnel ceiling. These 20 trainees began their training cycle in October, 1986 and will complete it in September 1987, returning to their host park as resource managers on a full or collateral basis.(5)

Attempts to strengthen the role of the natural resource specialist continue. An effort was begun in 1986 to convert Resource Specialists from the Park Ranger 025 series to the Biologist 401 series. The latter has a positive education requirement - a degree in one of the biological sciences or qualifying work experience which may be substituted - and is considered to be a "professional" series because of it (14). Career ladders now exist from General Schedule

(GS) Grade 5 to 13 with many provisions for crossover to and from other series paths (15) including management.

As training continues for both encumbered resource management positions and the Resource Manager Trainee program, the Service will improve its ability to recognize and prescribe for problematic situations. The Service still has critics such as Alston Chase (2) who feel it has taken too long to accomplish too little. Government reports (5) substantiate that the National Park Service has not been able to continue several resource management programs originally set out in the Strategy for Prevention and Mitigation (13) of Threats identified in the State of the Parks Report (11). The National Park Service does however, have in place 80 additional resource management specialists - positions which did not exist in 1980. There is a clearly identified role for the park natural resource specialist and efforts are continuing to strengthen and improve the ability of the park resource staff to carry out George Wright's wish for the Service to inventory its resources, plan for their protection and manage for changing ecological conditions. The key to successfully achieving this objective by the end of this decade will rest with the Natural Resource Managers of each of the units of the National Park System.

REFERENCES CITED

1. Burns, N. J. 1941. Internal memorandum to Dr. C. P. Russel, dated March 17, 1941. 1pp.
2. Chase, A. Playing God at Yellowstone: The Destruction of America's First National Park. Boston: Atlantic Monthly Press, 1986.
3. Cox, E. 1941. Internal memorandum to the Director, dated March 12, 1941. 1pp.
4. Darling, F. F. and N. D. Eichorn. 1964. Man and Nature in the National Parks. The interim report on the study. The Conservation Foundation. 12pp.
5. GAO. 1987. Limited Progress Made in Documenting and Mitigating Threats to the National Parks. (CED-87-36). 64 pp.
6. Hartzog, G. B. 1964. Internal memorandum from Director to All Field Offices dated May 15, 1964. 7pp.
7. Olsen, G. C. 1986. A History of Natural Resources Management within the National Park Service. Unpublished Masters Thesis, Slippery Rock University of Pennsylvania. 378 pp.
8. Robbins, W. J. 1963. A Report by the Advisory Committee to the National Park Service on Research. National Academy of Sciences - National Research Council. 156pp.
9. Stone, E. C. 1965. Preserving Vegetation in Parks and Wilderness. Science. 150: 1261 - 1267.
10. USDI. NPS. Wildlife Management in the National Parks. Washington, Government Printing Office, 1969.
11. USDI. NPS. State of the Parks - 1980: A Report to the Congress. Washington, National Park Service, 1980.
12. USDI. NPS. United States Code, Titles 16 and 18. Washington, Government Printing Office, 1983.
13. USDI. NPS. 1981. State of the Parks: A Report to the Congress on a Servicewide Strategy for Prevention and Mitigation of Natural and Cultural Resources. 95pp.
14. USDI. NPS. 1987. Park Ranger GS-025 Classification Supplement and Explanatory Memorandum. 37 pp.
15. USDI. NPS. 1987. Career Management Concept. 27 pp.
16. Wauer, R. H. The Role of the National Park Service Natural Resources Manager. Seattle: National Park Service, 1980.

17. Wright, G. H. and B. H. Thompson. Fauna of the National Parks of the United States: Wildlife Management in the National Parks. Fauna No. 2. Washington: Government Printing Office, 1935.
18. Wright, G. H., J. S. Dixon and B. H. Thompson. Fauna of the National Parks of the United States - A Preliminary Survey of Faunal Relations in National Parks. Fauna No. 1. Washington: Government Printing Office, 1933.