

Scientists, Superintendents Differ On Researchers' Role in RM Region

By Katherine P. Kitchell and Rosemary Nichols

In a recent study of the effectiveness of the National Park Service science program conducted in the Rocky Mountain Region, both scientists and park managers with scientists in their parks commented extensively on who should supervise a park's research program and the critical role of the park scientist. Three questions dominated expressed concerns:

To what extent should park scientists contribute to resource management and other non-research activities?

Rocky Mountain scientists and superintendents agreed about the researchers' responsibility to conduct and publish their own research, but disagreed about the appropriate degree of involvement of research personnel in resource management. As Table 1 indicates, some scientists were more willing to assume non-research duties than others.

Some superintendents thought that reviewing resource-related reports and extramural research proposals were appropriate activities for park scientists. Others needed assistance with writing and reviewing resource management plans and thought that scientists should provide it. Both superintendents and scientists recognized that assignment of research personnel to non-research tasks often led to conflict between them and reduced job satisfaction for scientists. Superintendents, however, did not share the scientists' view that their use as consultants jeopardized their professional development.

Should park research programs and scientists be controlled by superintendents?

Due to the potential for their being detailed to resource management, Rocky Mountain Region field

scientists, who have reported to superintendents or assistant superintendents since the 1984 decentralization of the science program, contended that park scientists should be independent of park managers. Scientists felt that placing research personnel under the authority of superintendents resulted in a research program characterized by crisis management and research priorities that reflected the superintendents' personal preferences.

According to some scientists, transfer of park superintendents resulted in changes of research direction and emphasis and the termination of projects underway.

From the scientists' perspective, among the disadvantages of greater control of field research by superintendents was that superintendents regarded attending professional meetings and seeking recognition by other scientists as unimportant. Park scientists thought that, without superintendents' support for seeking professional recognition and attending professional meetings, they could not meet the performance standards for scientists specified in the National Park Service's research grade evaluation process.

Superintendents supported their supervisory authority, citing responsiveness to management needs, avoiding controversy, and the ability to program research like construction or maintenance as advantages. In contrast to scientists, superintendents thought that supervision of scientists by the regional or Washington offices allowed scientists to work on projects of interest to them rather than park priorities. From the superintendents' perspective, regional office control of research personnel jeopardized field-level managers' commitment to research.

How can superintendents and scientists

Table 1. Park scientists' responsibilities: areas of agreement and disagreement between superintendents and the scientists themselves.

Both scientists and managers **strongly agreed** that scientists should:

- Conduct management-oriented research
- Provide professional consultation on resource decisions
- Review documents related to resource management issues
- Convey constraints on research in parks to non-Park Service scientists
- Place *their own* research results in the management context
- Compile and synthesize technical information
- Publish their research results

Some managers and scientists **agreed** that scientists should:

- Supervise contract research
- Write resource management plans
- Review resource management plans
- Evaluate proposed resource management actions
- Review *others'* research proposals and research results
- Strive to establish a respected professional reputation
- Place *others'* research results in the management context

More managers than scientists thought that scientists should:

- Review documents related to resource management issues
- Evaluate *others'* proposals and research results

More scientists than managers thought that scientists should:

- Identify and define research problems
- Seek peer recognition

Some scientists and **no** managers believed that scientists should:

- Make presentations at professional meetings
- Compete for scientific honors and awards

be made more responsive to each other's needs?

Basing research conducted on the priorities set in a park's resource management plan was suggested as a solution to managerial concerns about park research meeting management needs. Scientists believed that the consistent use of the research grade evaluation process would encourage higher productivity and research quality, but felt that the process may need to be modified to enhance responsiveness of researchers to management priorities.

The current research personnel evaluation process requires that scientists be rated according to their research assignments, qualifications, supervision received, originality, and research contributions. Evidence of attainment may include technical publications, reports to management, awards and peer recognition, or an evaluation of a scientist's work by a recognized authority in his field.

Several interviewees suggested resolving the question of control over scientists assigned to parks by adding to a scientist's research grade evaluation a performance standard evaluating his responsiveness to his park's research needs. Such a standard could be identified by a superintendent in cooperation with the scientist and regional science staff through the resource management planning process. The existing elements of the research grade evaluation process would encourage and support the professional development of scientists, while the addition of standards for responsiveness to management needs would result in more accurately targeted research programs.

Both scientists and superintendents suggested that holding park superintendents accountable for the support of research and of scientists in their parks could resolve the problem of superintendents' assigning scientists to non-research tasks. Accomplishing this, it was suggested, might require rewriting the position descriptions for superintendents as well as adding an emphasis on successful communication with scientists to the selection and promotion of superintendents.

Kitchell, a research assistant in the Department of Forest Resources at Utah State University at the time of this study, is now Park Ranger - Resource Management at Canyonlands National Park. Nichols is a consultant on public lands policy with particular interest in the national parks.

Table 2. Attitudinal and professional differences between park managers and scientists.

Dimension	Managers	Scientists
Values	Agency and societally based Include political feasibility	Professionally based Exclude non-rational considerations such as politics
Knowledge	Generalized	Specialized
Objectives	Practical and political Serving the public Implementing policy	Theoretical and factual Searching for "truth" Answering research questions
Reward Systems	Based upon actions Output-oriented	Based upon thought and ideas Process-oriented
Orientation to:		
Time	Highly constrained at times Short-term view Focused on the day-to-day	Rarely constrained Long-term view Focused on futures (e.g., ecosystem changes)
People	Emphasis on interaction with others	Emphasis on working independently
Research	Applied research preferred Often needed immediately	Basic research often preferred Many projects require multi-year study