

A Manager Looks At What Science Can Do

Editor's Note: Perhaps nowhere has the sometimes stormy marriage between science and management been better described than it was four years ago by James B. Thompson — then associate regional director for management and operations in the Pacific Northwest Region. In a message sandwiched in slices of light wry, Thompson told a Park Service gathering how a manager (himself) sees the contributions of "these diverging subspecies" and how they can be made to function together in managing park resources. Here is a lightly edited version of the 1977 message with a 1981 postscript from Thompson, now Deputy Regional Director for the Rocky Mountain Region.

By James B. Thompson

During the past several years as a park manager, I haven't enjoyed a harmonious and rewarding relationship with scientists studying park resources. Perhaps the most rewarding involved the management of what may be the world's smallest vertebrate habitat — that of the Devil's Hole pupfish. This critter was endangered because its habitat was being destroyed by a subsistence farming operation in Nevada conducted by an absentee landlord in Mississippi.

The culmination of cooperative efforts of park management and scientists was the simultaneous success of an experimental species recovery plan and a decision by the U.S. Supreme Court in favor of the pupfish, which is also the precedential case for Federal reserved water rights for underground water. At the New Orleans science conference you may have seen Dr. James Deacon's 3-screen extravaganza on this subject; I was as proud of that presentation as Jim was!

But at that same meeting I was shaken to learn that scientists and managers do not coexist peacefully, let alone function cooperatively. As I wandered from session to session, hearing more about "us and them," I resolved to explore what bad traits I had been blissfully overlooking among scientists and what shortcomings managers intrinsically possess to the irritation of scientists.

Having been repeatedly told that week that my friends were in fact my enemies, I have subsequently learned that others were wiser than I, and that in fact we can NOT get along. For those of you who have failed to NOT get along, perhaps I can help you perceive problems where none now exist.

If park managers wish to manage scientists, and scientists wish to manage parks, problems WILL arise. And if such subliminal or hidden agendas exist, it may be useful to explore the differences and characteristics that natural selection has decreed to distinguish scientists and managers, and how these diverging subspecies might be brought to bear on the problem of managing park resources.

My task today is to relate to scientists a manager's view of the Resources Management Plan. I have been employed in the past as a scientist in both government and industry. I have also had the responsibility of managing four different areas of the NP System, including archeological, historical and natural areas. However, a scientist friend recently told me, "All you managers

are alike!" Apparently in transition from scientist to manager one loses all the virtues of the scientist (objectivity, scientific methodology, etc.), and begins making bad decisions he never would have made before.

I might interject here that some researchers I have known hold "right thinking" to be a substitute for objectivity and a philosophical premise as a substitute for scientific method. These approaches to research are decision-oriented rather than data-oriented, yet the manager must either accept them or make a "wrong" decision. In fact, the manager serves more than the wishes of the scientist, the local people, conservationists and user groups. He soon learns that he cannot please all of these some of the time, nor some of these all the time.

The manager arrives at this sorry state in roughly the following manner: If he is fortunate he has available a resources management specialist who is, in fact, a generalist, and a research scientist who is, in fact, a specialist. A specialist is one who knows a great deal about very little and goes on learning more and more about less and less until he knows everything about nothing. A generalist, on the other hand, starts out knowing very little about a great deal and goes on learning less and less about more and more until he knows nothing about everything. A manager is a person who presumably starts out knowing quite a bit about quite a lot and ends up knowing nothing about anything, due to his reliance on specialists and generalists.

Another definition is that specialists are people who come to these meetings, give their papers and leave. Generalists come to these meetings, give their papers and stay. Managers come to these meetings and sit in the back of the room.

I have been appalled by the unfamiliarity shown by NPS managers and scientists alike with the actual policies of NPS toward resources management. Some characterizations are more reflective of conservationist periodicals than of the actual policies derived from the Leopold report. (*Wildlife Management in the National Parks*, Leopold, et. al., 1963.) Take such a divergence of viewpoints of right thinkers and the uninformed, combine them with the inability of managers to make right decisions, and obviously some vehicle must be found for bringing together the disciplines of science, the legal requisites, the managerial responsibilities and capabilities, and the public review of both policy and method.

The Resource Management Plan is such a vehicle, with an added dimension — that of coping with matters of monetary significance. Such matters must be placed in the perspective and context of their longterm impacts on both resources and policy. If the RMP is sufficiently flexible it can cope with such items without their overwhelming the purposes of the park and sound longterm management.

What we do in managing park resources must, like the actions of any public servant, be based on law. Legislation established each park for particular purposes. Another body of law, including the Antiquities Act, the National Park Act, and others, establishes the

framework of National Park policy.

The evolution of an RMP starts with the "Statement of Management" document, which reviews the legislative purposes of the park and applies NPS policy to these purposes. The result is a set of management objectives.

The next step is to inventory the natural and cultural resources of the park and then to analyze the status of each resource.

The difference between status and management objective is the definition of a resource management problem.

At this point we introduce a range of alternative solutions, including the identification of research needed to determine status, expand or evaluate alternatives, etc. This then, is the framework for an environmental assessment for internal and public review.

Following this step, alternatives are selected and recast in a resources management plan. The plan is a public document, but it is, most importantly, a guide to park managers that provides both longrange direction and shortrange "how to do it."

The superintendent is ultimately responsible for the stewardship of the natural and cultural resources of the park, whether or not he has the capability to manage them properly. Therefore, the RMP must be the guiding hand for the superintendent and his successors to bring continuity to the resource management process.

In my opinion, format is the least important and most discussed element of an RMP. Scientists and managers have argued it for years, set and changed standards, guidelines, etc. Yet each park is unique, established for unique purposes. It may contain historic zones where not only historic fabric is to be preserved, but associated natural resources are managed to perpetuate the historic scene. It may contain natural zones where natural resources are managed to perpetuate the natural processes as they functioned prior to the intervention of technological man. The manager is responsible for all these resources, without regard to programmatic and disciplinary subdivision of government offices, natural and social sciences, etc.

The format should be that which best facilitates the management of the particular park's particular resource problems. I am not arguing against separate treatment of natural zones, historic zones, research needs, program and budget requirements. Rather I argue for maximum flexibility for the manager to frame his own management tool and for recognition by others that THAT, primarily, is what the resource management plan is.

P.S. The above comments were made during a regional science conference in 1977. Much was impromptu observation made during the conference and added to my subject. I've been asked to update my views. My subject was resource management plans, but I was really talking about communications, and I still am. I was, and am, endorsing, as an essential part of our jobs, an active pursuit of continuing constructive

dialogue. If my tone is more somber, it is partly because it is easier to be glib in a stand-up routine. But it is also because our situation has changed significantly. Yet your ability to work as a team, to communicate and cooperate, have not kept pace.

Economic and political worldwide changes have affected park science needs. It sounds pretentious, but it's true. Just a few years ago, we were focusing much of science on basic data for planning and single resource issues. But world-wide economic problems, resource and energy demands have thrown us into a more defensive posture; i.e., protecting park resources and values from threats to their very existence. Most such situations have very little lead time, the other side has its homework done, and managers will react with extremely limited enthusiasm to the news that the answer they want will take five years of data gathering!

In addition, resource managers find themselves confronted with scientific and technological issues which are unfamiliar and will require unfamiliar responses. Every park manager must view research not only as a management tool, but as a litigation weapon – a weapon not just to be used, but also to be faced!

This dramatic shift in priorities and content vastly increases the need for frequent and continuing dialogue between managers and scientists. Neither can we assume, as we did 5 or 10 years ago, that environmental conservation is regarded by the general public as a morally superior philosophy that will stand ahead of economic and other demands. Park scientists and managers need to be together – down in the trenches.

In 1977 I regarded the resource management plan as a basic vehicle for that dialogue. But today's circumstances also dictate a need for a broader range of dialogue between scientists and managers – a dialogue which assures that both are reading society's signposts and can mutually see that those signposts have placed us on some new roads to some uncertain places.

In its simplest and most profound form, that dialogue needs to consider "where are we and what are we going to do?" The challenge to each of us is to find the vehicles for that dialogue, use them, and make sure that they continue to serve that purpose.