

Wildlife Management in the National Park System:

The Self-Regulation Theory Revisited

The National Park Service, specifically Mike Soukup, Associate Director for Natural Resources; Dan Huff, Chief Scientist, Rocky Mountain Field Area; Mary Foley, Chief Scientist, Northeast Field Area; and Ron Heibert, Chief Scientist, Midwest Field Area organized a discussion on "Wildlife Management in the National Park System: The Self-Regulation Theory Revisited." The discussion took place on Tuesday evening, August 13, at the Ecological Society of America meetings in Providence, Rhode Island. It was attended by about 70 individuals.

The purpose of the discussion was to present information on different facets of the natural regulation problem using examples from selected parks and then to allow the audience to discuss and debate these issues. The purpose of the discussion was to begin to develop a dialogue with the scientific community and to seek input and understanding of the differences between wildlife management approaches undertaken by the National Park Service and those of other agencies.

Three papers were presented to provide background information and one paper provided a synthesis. The background papers dealt with a specific park/species, and the authors were asked to address the following questions.

1. Using your species/park as an example: how does NPS wildlife management policy conflict with the management objectives of other public resource managers?
2. If necessary, can thresholds for

management intervention be established in order to effectively manage your species?

3. In terms of your case example: Is the scientific base adequate to make and implement effective management decisions?

Rolf Peterson (Michigan Technological University) presented a paper entitled "Wolf-moose interaction in Isle Royale National Park: What's 'natural regulation' got to do with it?". He reviewed the two hypotheses underlying the natural regulation approach as they applied to moose in Isle Royale National Park—these being that moose do exhibit density-dependent self-regulation and that wolves do not limit the population growth of this prey species. He showed how, over the 38 years of study on Isle Royale, conclusions regarding these hypotheses have varied, and it is only now that a fairly clear picture is emerging. This is that density-dependent responses in moose have been insufficient to stabilize

population growth and that wolves do influence moose population growth. Thus he concluded that both of the natural regulation hypotheses must be rejected. He also speculated on management intervention in the event of the extinction of wolves on the island, concluding that reintroduction was a policy, rather than a scientific issue.

Brian Underwood with William Porter (Syracuse University) presented a paper entitled "Of elephants and blind men: Deer management in the U. S. National Parks." They outlined the historical changes in white-tailed deer populations in the U. S. They contrasted management goals of the National Park Service which tends to focus on population process, with state agencies which tend to focus on population size. They argued that establishing thresholds for management intervention in terms of ecological integrity was difficult, not because of the science but because management goals were poorly defined. Finally they implied that like blind men in the parable of the title, state agencies and public groups perceive the actions taken by an individual park as representing the whole of National Park System policy. They felt the National Park Service can no longer afford a management program that is composed of an amalgamation of actions taken by individual parks. Instead it needs a coherent national policy encompassing the broad dimensions of deer management.

Dan Huff with John Varley (Yellowstone National Park) pre-

sented "Natural regulation revisited: The case for Yellowstone's northern range." They discussed the controversy over elk management that has followed the park virtually since its inception. They summarized recent studies on the northern range that have shown that the grasslands are productive, with some areas exhibiting enhancements in productivity as a result of grazing stimulation, and that it is difficult to find evidence for overgrazing. They concluded by voicing concern that the experiment in natural process management be allowed to run its course and not be prematurely interrupted by changes in management.

Gerald Wright (University of Idaho Cooperative Park Studies Unit) provided an overview of how wildlife management has evolved in the National Park Service. Management has evolved from intensive, species-specific, and highly interventionist management efforts, to, over the last 30 years, less and less human interference with the natural processes of park ecosystems. Wright then synthesized the contents of the three papers in terms of their responses to the three questions asked of the presenters. It is clear that National Park Service policies are different from those of state agencies and conflicts can and have occurred because of this. One reason for this is that state and other federal agencies have focused on ways to manage populations with more control, whereas the National Park Service has done just the opposite. Establish-

ing thresholds for intervention in the cases presented, as in situations in other parks, is difficult, not necessarily because of the lack of scientific information but because such thresholds imply management goals. Goals in turn rely on value judgments. It can be argued that the National Park Service has not yet adequately defined its management goals for wildlife in parks. With the exception of Isle Royale, it was the consensus of the papers that in most cases, there is still an inadequate scientific underpinning to support management intervention that might be used to deal with over-abundant populations.

Following the papers a question-and-answer session with the audience ensued which provided an opportunity for members of the audience to present additional points of view. The discussion was lively and extensive. Several members of the audi-

ence pointedly disagreed with National Park Service management policies, particularly at Yellowstone, and felt that population controls were overdue in order to restore a healthy ecosystem. In their opinion, many areas in Yellowstone were seriously degraded because of heavy ungulate use. Particular emphasis was given to the restoration of aspen stands and riparian areas. Obviously no consensus on this issue was reached, but the dialogue was healthy and constructive.

Few questions were raised regarding the management policies at Isle Royale. Likewise, even though many in the audience were presumably eastern ecologists, National Park Service white-tailed deer management policies received little scrutiny.

I feel the session achieved its goal of opening a dialogue with the scientific community over controversial management issues in the National Park System.

