

Application of an Issue Evolution Model to Wildlife Issues in National Parks

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Introduction

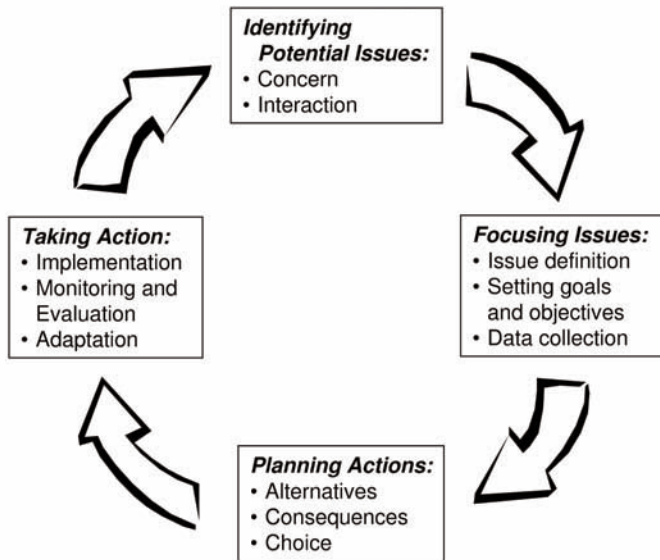
THE OFTEN-QUOTED PURPOSE OF THE NATIONAL PARK SERVICE (NPS) is “to promote and regulate the use of ... national parks ... which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (National Park Service Act, 1916). Within the legally defined boundaries of a particular park, NPS resource managers face the challenge of simultaneously attending to both the conservation and public enjoyment of resources. Adding to this challenge, parks encounter many natural resource management issues,¹ such as those related to wildlife, that are not limited by park boundaries. Among these, human-wildlife interactions can elicit strong positive and negative emotions in people. Park actions affecting wildlife can evoke equally strong and often disparate public reactions. These commonly evolve into public issues as managers deal with the practical aspects of responding to wildlife concerns that extend beyond park boundaries or involve controversial management practices that attract larger regional or national dialogue.

Because of the range and intensity of cognitions about wildlife extant in the American public (Bright, Manfredo, and Fulton 2000; Kellert 1996), wildlife management actions may become the focus of public controversy when any subset of stakeholders² perceives a negative impact³ from a management intervention. This possibility has led many agencies to involve stakeholders more openly in wildlife management⁴ decision-making. Greater public involvement in controversial issues requires managers to apply their understanding of the social and political contexts for management in addition to their knowledge of wildlife biology and ecology. Understanding the sociopolitical factors that fuel the

progression of wildlife issues from vague concerns about human-wildlife interactions into full-blown public issues therefore is of practical value to the wildlife manager.

Policy analysts, public issues educators, and political scientists have long been interested in articulating the process whereby the spark of a concern becomes a fully engulfed public issue. Models have been developed to describe the evolution of public issues and help guide practitioners in issue resolution (Dale and Hahn 1994). Using the model promoted by Hahn (1988), we describe four stages in the evolution of public issues with respect to wildlife, adapted to address wildlife management in national parks (Figure 1).

Figure 1. Issue evolution model in wildlife management (adapted from Hahn, 1988).



- **Identifying potential issues.** Concerns are voiced and activity from concerned individuals increases, although issues are not yet fully formed.
- **Focusing issues.** Issues are formally defined, goals and objectives set, and data collected (laying the groundwork for program evaluation).
- **Planning action.** Potential actions to address issues are identified based on data collected. These are evaluated with respect to variables such as efficacy, social acceptability, and cost.
- **Taking action.** Chosen management alternatives are implemented, evaluated, and adjusted. Activities may be refined as a result of evaluation through monitoring, as an adaptive management strategy.

This model reflects our understanding of emerging ideals of practice with respect to issues education. These ideals include early and frequent dialogue with the public (NPS 2000, 2003a; Wilsdon and Willis 2004), which may be adopted in practice to

varying degrees. In our treatment of the model, we separate NPS and the public to identify potential tension points between natural resource managers and stakeholders, as well as among stakeholders themselves. The four stages are not a prescriptive, step-by-step formula for decision-making, but rather serve as a general guide to help managers reflect on questions such as: Where are we in the public or political “life” of an issue? What steps are needed to reach good decisions about objectives or management actions? Is the outcome likely? How do we know whether we are making progress toward resolving the issue?

Stages of wildlife issue evolution in national parks

Identifying potential issues. This stage is characterized by the emergence of voiced concerns and increased activity from stakeholders (Table 1).

Focusing issues. When issues develop to this stage, the nature of the issue typically is formally defined, goals and objectives are set for wildlife management, and data

CONCERN	
<i>Concerns surface about overabundance, scarcity, or behavior of wildlife in a park. Recognition develops that concerns are not simply harbored by one or a few individuals.</i>	
NPS	Public*
Park managers or other employees begin to identify impacts associated with the presence / absence / behavior of wildlife on park management objectives. Concerns may emerge as topics of discussion among colleagues.	Park visitors, members of gateway communities, scientists, other natural resource managers, special-interest groups, and/or other stakeholders begin to identify impacts from presence / absence / behavior of wildlife in a park. Concerns may be voiced informally to park employees.
* We use “public” as a term of convenience to refer to a variety of stakeholders and affected interests, as well as the general public.	
INTERACTION	
<i>Some people with concerns about wildlife seek support from one another and inform officials of their concerns. At this early stage, differing views about the nature of the concerns often are expressed and likely remedies are suggested. The potential for controversy becomes apparent. Interaction among individuals also leads to the realization that a quick fix does not exist and sets the stage for issue definition.</i>	
NPS	Public
Groups of natural resource managers, rangers, interpreters, or other park employees may meet to assess the extent and nature of their wildlife concerns; regional or Washington Office consultation may be sought. Consensus or differing views as to the nature and severity of concern may emerge among NPS employees.	Park managers may start receiving official complaints from the public. Letters to the editor may appear in the local newspaper as the concern becomes increasingly “public.” Inquiries may be received from congressional offices responding to constituent complaints. Grassroots interest groups may form. Established groups may show interest in the concerns expressed by some stakeholders.

Table 1. The “identifying potential issues” stage of the model.

are collected, laying groundwork for effective program evaluation. Ideally, park managers and stakeholders work together to discover areas of commonality and differences; input from non-vocal stakeholders is actively sought (Table 2).

Planning action. If research does not show negative impacts of wildlife on park management objectives, interpretive programs that explain the situation may be implemented to improve correlation between public perception and scientific analysis.

ISSUE DEFINITION	
<i>General agreement on issue definition forms among a critical mass of park managers and/or stakeholders, although each group may hold different opinions about the best way to proceed. The value of identifying common fundamental objectives to guide discussion, analysis, and decisions becomes evident. To continue towards possible action by the NPS, issues are defined in terms of impacts to park resources as described in enabling legislation, policy, or park planning documents.</i>	
NPS	Public
General agreement is sought among park representatives about the nature of the impacts of wildlife on park management objectives or the park's relationship with stakeholders. NPS representatives help the public understand park priorities and federal planning processes.	General agreement is sought within various segments of the public about the nature of wildlife impacts on their community, visiting experience, or personal interests. Through dialogue with the NPS, stakeholders determine whether their concerns fall under NPS jurisdiction.
SETTING GOALS AND OBJECTIVES	
<i>Specific management goals and objectives are defined, with an emphasis on understanding perspectives of the various stakeholder groups and identifying common purpose. Effective communication is critical to clearly understand the interests underlying stakeholder positions. Desired conditions are identified.</i>	
NPS	Public
Park managers articulate wildlife needs and interests in terms of park goals mandated in enabling legislation and defined in park planning documents (e.g., in relation to "desired conditions"). Park managers explain mandated processes and research needs to facilitate accomplishing necessary objectives.	Stakeholders articulate their needs and interests with respect to impacts of wildlife (e.g., through early planning sessions similar to public scoping activities).
DATA COLLECTION	
<i>Biological and sociological data are collected to document whether and how wildlife significantly prevent the park from meeting management objectives.</i>	
NPS	Public
Park staff, partners, and/or contractors typically conduct biological and sociological studies and analyze wildlife impacts with respect to defined objectives.	The public is informed about data collection. Stakeholders and partners also may develop complementary studies in communities bordering the park.

Table 2. The "focusing issues" stage of the model.

If research reveals that wildlife is preventing the park from fulfilling management objectives, park managers likely begin internal dialogue and discuss potential alternatives with respect to applicable NPS policy. Initial, informal analysis of alternatives (as in developing resource stewardship plans) may reveal the need to consider more controversial alternatives that legally require formal stakeholder involvement processes in compliance with the National Environmental Policy Act (NEPA, 1969). Regardless of compliance requirements, at this stage managers and stakeholders typically discuss alternative actions and analyze consequences, with respect to both short- and long-term management goals and objectives. Park managers consider stakeholder input when selecting the preferred alternative for implementation. New alternatives may become apparent through discussion of consequences or evaluation of the different choices. Emphasis is placed on effective communication, public participation, and creative thinking (Table 3).

Taking action. This stage involves implementation, evaluation, and adaptation of the chosen management alternative(s). Evaluation is aided by clear goals and objectives. Activities may be refined as a result of progress evaluation, informed by data acquired through monitoring. Modifications or fine-tuning of management activities may occur as part of an adaptive management strategy (Table 4).

Extending the model

The stage-to-stage progression of public issues depicted in the model is an approximation of how many public issues evolve, but issue evolution often is not a linear process. In fact, recent application of the Hahn model to ten cases of suburban deer

management revealed that issues often progressed in a start-and-stop fashion, advancing but then reverting back to earlier stages of the cycle (Raik, Siemer, and Decker 2004). This phenomenon often is related to the disparity in knowledge and understanding of various stakeholders, a situation that may be overcome using strategic communication. For example, when natural resource managers and/or various stakeholder groups are not at the same phase of the cycle, communication between groups can improve alignment to assure that all parties understand the issue in the same way before progressing to the next phase. Improving stakeholder understanding, attitudes, and input at all phases of the cycle is a key activity in this approach. Yet, because the NPS ultimately is responsible for its natural resource management decisions, dialogue between managers and stakeholders technically is not required at all phases of issue evolution. Varying degrees of stakeholder involvement, perhaps especially in early stages, may partially explain why public wildlife issues do not always evolve in a linear fashion.

Under NEPA, NPS managers are required by law to include public input only when a park proposes or approves an action whose impacts on the human environment are significant enough to warrant an environmental impact statement (EIS); i.e., when the issues have reached the phase of “planning actions” (Figure 2). Reaching consensus or formal agreement with the public during action planning is not legally mandated, and courts have upheld NEPA as imposing only procedural requirements, preventing uninformed, rather than socially unacceptable, agency action (*Robertson v. Methow Valley Citizens Council 1989*). Operating strictly under this approach, the

ALTERNATIVES	
<i>Different actions to meet objectives are suggested and discussed within the framework of NPS policy guidelines. Discussion of alternatives may amplify public controversy and may be challenging for park managers. Clear goals and objectives are key in addressing alternatives.</i>	
NPS	Public
Park managers explain potential alternatives to stakeholders. Education and interpretation help the public understand the feasibility, appropriateness, and efficacy of alternatives.	Through informal and/or formal processes, stakeholders help evaluate different alternatives and offer additional solutions based on their own interests and needs.
CONSEQUENCES	
<i>Consequences of proposed actions are evaluated on criteria, including: environmental, cultural, and social impacts; effectiveness; costs and benefits; and trade-offs of each alternative. NPS and different stakeholders are likely to have different perspectives on costs and benefits.</i>	
NPS	Public
Park managers have an understanding of the biological, cultural, and sociological consequences of each alternative. Education and interpretation are important in helping the public understand costs and benefits of each alternative.	Stakeholders have an understanding of any management alternatives that might affect them or require their involvement. Stakeholders communicate concerns and help evaluate which alternatives are feasible to implement.
CHOICE	
<i>As park managers and stakeholders approach making a choice, they deliberate about which alternative(s) to adopt. New alternatives may be discovered in this process. Final decisions rest with the park managers, but chosen alternatives are more likely to meet with public support in the long run if stakeholder input is considered.</i>	
NPS	Public
Park managers are ultimately responsible for the alternative(s) chosen for implementation in the park, ideally considering both stakeholder interests and coordinated, complementary management activities by partners outside the park in the final decision.	Stakeholders typically seek to make their interests known in the evaluation process. Land owners, local communities, or other public agencies may decide to undertake management activities in areas bordering the park.

Table 3. The "planning action" stage of the model.

IMPLEMENTATION	
<i>Actions are taken as part of a wildlife management program.</i>	
NPS	Public
The NPS is responsible for implementation of management activities in the park and establishing a plan that includes periodic public notice of progress.	Stakeholders may decide to undertake complementary management activities in communities or on public lands bordering the park.
MONITORING AND EVALUATION	
<i>The impacts of wildlife management actions are monitored and assessed. Evaluation is a vital component for assessing progress and key to fine tuning and adjustment.</i>	
NPS	Public
Park staff monitor and evaluate the effects of wildlife management actions throughout each iterative action in the program's implementation.	The public is kept informed throughout the monitoring and evaluation process. Opportunities to include stakeholders in monitoring and evaluation are encouraged.
ADAPTATION	
<i>Activities are modified based on the outcomes of monitoring and evaluation, perhaps as part of a formal adaptive management strategy.</i>	
NPS	Public
Wildlife management actions are modified as necessary throughout the program's implementation based on the outcomes of evaluation.	Public input is included in any substantial subsequent decisions about modifying or even continuing the management program.

Table 4. The "taking action" stage of the model.

public is asked for input on alternative solutions to NPS-defined issues, goals, and data. Although managers may have addressed each of the earlier phases in depth through internal NPS scoping, there is no guarantee that members of the public have reached the same level of understanding of the issue, or share NPS perspectives about reasonable solutions. The Department of the Interior recently addressed this discrepancy by issuing requirements that interested community members be offered training in both community-based planning

and the NEPA process (U.S. Office of Environmental Policy 2003). Nevertheless, public input processes that meet NEPA's procedural requirements frequently have resulted in court challenges to EISs. Lawsuits may result in a return to early phases of the issue evolution cycle, requiring parks to reassess the nature of the problem and appropriate solutions, as in the case of deer management at Cuyahoga Valley National Park (NPS 2003b).

The federal government is placing greater emphasis on including stakeholders

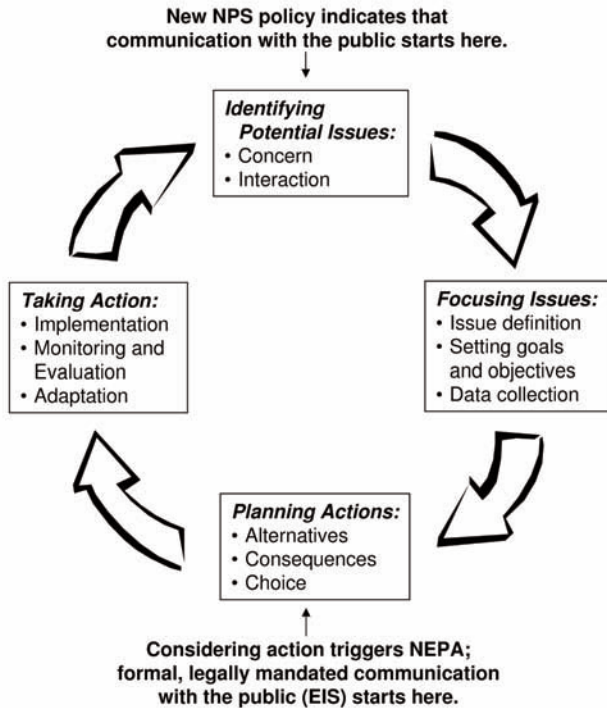


Figure 2. Policy implications for communication with respect to the issue evolution Model. “New policy” includes *Management Policies 2001* (NPS 2000) and *Director’s Order #75A* (NPS 2003a).

in policy-making from the beginning of, and continuing throughout, the issue evolution cycle (Figure 2), a practice known as “up-stream” public engagement (Wilsdon and Willis 2004). Recent NPS policies explicitly call for active, on-going public participation in the planning process (NPS 2000), re-emphasized in a Director’s Order:

The purpose of this Director’s Order (DO) is to articulate our commitment to civic engagement, and to have all National Park Service (NPS) units and offices embrace civic engagement as the essential foundation and framework for creating plans and developing programs.... This philosophy means that we do more than meet the minimum legal requirements for public involvement in our decisions and

activities. It means a regular, natural and sustained level of interaction with people, both from within and outside the NPS. This, in turn, will enhance our ability to achieve our mission, which is conserving park resources unimpaired for the enjoyment of present and future generations (NPS 2003a:1–2).

Engaging the public early on may help managers establish a common foundation for constructive discussion of alternatives when the planning phase is reached. Utilizing a model such as the one outlined above may assist thinking about complex wildlife issues by encouraging attention to each element in the issue evolution progression. Park managers who incorporate such thinking into their practice are likely to be

well poised to engage stakeholders in learning, deliberation, and, eventually, decision-making. Managers may find that educating stakeholders about wildlife issues and engaging them as part of the analysis of the

management situation, as well as during development of solutions, enhances public acceptance and effectiveness of wildlife management practices in NPS units.

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Endnotes

1. An “issue” is a statement that can be acted upon (Kent and Preister 1999).
2. “Stakeholders” are individuals who will be affected by, or will affect, wildlife management (Decker et al. 1996; Decker, Brown, and Siemer 2001). NPS sometimes refers to people who meet this definition as “interested parties”; however, we use the term “stakeholder” as it is more widely applied in the natural resource management profession. The term “stakeholder” should not be confused with “special-interest group” or with only those people cognizant of their stake (especially in planning activities), as it is possible for someone who may be affected by wildlife management decisions and actions to be unaware of the consequences, or for someone who will not be directly affected by management decisions to show a genuine interest.
3. “Impacts” are the socially determined important effects of events or interactions involving wildlife, humans and wildlife, and wildlife management interventions, and are defined broadly in terms of human values with respect to wildlife (Riley et al. 2002). Perceptions of impacts also are affected by the context in which they occur, with social norms relevant to that context influencing the interpretation of events and interactions (Zinn et al. 1998; Decker, Jacobson, and Brown, in review).
4. We use the term “wildlife management” broadly to include planning, decision-making, and actions where wildlife is the primary focus of the management goal, and management of wildlife enables achievement of objectives for other resources. Management actions also may include interventions solely directed towards people to affect human-wildlife interactions.

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