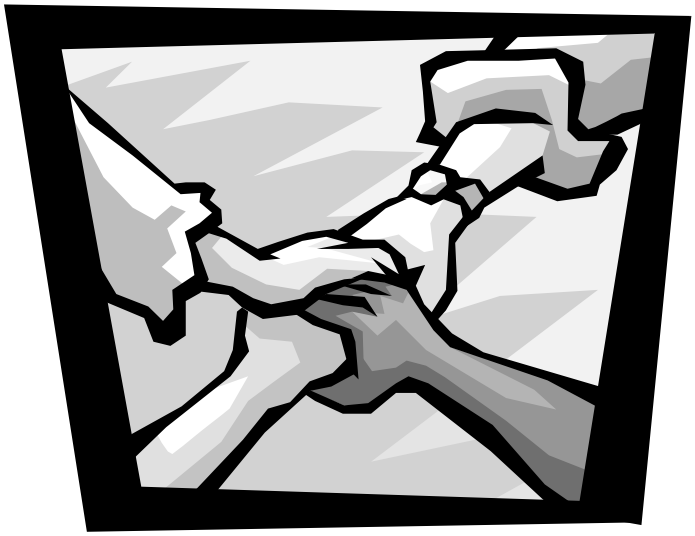
Citizen Participation in Natural Resource Management: A Synthesis of HDRU Research



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Prepared by:

T. Bruce Lauber and Barbara A. Knuth
Human Dimensions Research Unit
Department of Natural Resources
Cornell University

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JOB DESCRIPTION

1. PROJECT TITLE: PUBLIC ATTITUDES TOWARD WILDLIFE AND ITS ACCESSIBILITY

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5. JOB OBJECTIVES:

- Develop a theoretical framework to describe citizen participation, the reasons it is conducted, and its expected outcomes.
- Synthesize existing HDRU research in relation to this framework.
- Summarize recommendations for effective citizen participation practice.
- Identify gaps in our knowledge about citizen participation.

PREPARED BY:

T. Bruce Lauber
Research Associate
Department of Natural Resources
Cornell University

Barbara A. Knuth
Associate Professor
Department of Natural Resources
Cornell University

APPROVED BY:

George F. Mattfeld
Supervising Wildlife Biologist
Bureau of Wildlife (NYSDEC)

John Major
Chief Wildlife Biologist
Bureau of Wildlife (NYSDEC)

EXECUTIVE SUMMARY

The goals of this report were to:

- articulate a theoretical framework for citizen participation that will aid in: (1) the design of citizen participation processes; and (2) the identification of research questions to pursue in the future; and

- summarize past research by the Human Dimensions Research Unit (HDRU) using this framework as a guide.

Democratic theorists may advocate either representative or participatory approaches to government. Acceptance of citizen participation in management implies a participatory approach. We articulate a philosophy of government and public policy making that we believe is a suitable framework for conceptualizing citizen participation. Consistent with this philosophy, we argue that citizen participation should aim for the development of a communal vision of the public good and collective action to try to achieve that good.

Within this framework, various approaches to citizen participation exist, characterized by varying degrees of citizen authority and responsibility. Each approach may be appropriate under different circumstances. These approaches are:

- Expert Authority Approach. Agencies retain full responsibility for decision making and do not consider citizen input during the decision-making process.

- Passive-Receptive Approach. Agencies consider citizen input, but do not actively seek it out.

- Inquisitive Approach. Agencies make systematic attempts to gather citizen input. The agencies retain authority for deciding how to weigh this information.

- Transactional Approach. Agencies facilitate a process in which citizens work together to try to reach agreement on the best management decision.

- Co-management. Stakeholders are involved not just in decision making, but throughout the management process. Agencies work with other stakeholders in partnership.

The appropriateness of each of these approaches depends in part on an agency's purposes for involving citizens. We identified four general purposes for citizen participation:

- Agencies may seek information from citizens (such as information about their needs, desires, beliefs, values, and behaviors) that can help them make management decisions.

- Citizens may help weigh the importance of different types of information and make a judgment about how that information should influence management decisions.

- Agencies may rely on citizens to take action to help meet management objectives.

- Citizen participation may influence the management climate (the social context of natural resource management). It can: (1) improve relationships; (2) increase the capacity of citizens or agencies; or (3) lead to changes in beliefs, attitudes, or behaviors.

Each of these objectives of citizen participation has certain types of processes that contribute to it:

- Agencies rely on measurement processes, such as mail and telephone surveys and soliciting feedback at public meetings, to gather information from citizens to inform management decisions;

- When citizens initiate attempts at providing information to guide decisions, however, they are not faced with the task of measuring something but one of communication of their needs and desires to natural resource managers;

- Deliberation processes are used to involve citizens in making judgments about the implications of available information for decisions.

- If the management climate is the target of citizen participation activities, some type of transformation of people is the goal, whether a transformation of their perspectives, their behaviors, their relationships, or their capacity. Education, which can lead to personal transformation, is the dominant process in these cases.

All of these processes can contribute to stakeholders' willingness to assume responsibility for implementing management actions.

The goals of citizen participation that we have been discussing so far are examples of outcome goals. These goals are intended to encompass the entire range of possible desired outcomes of citizen participation processes. Other types of goals are also possible. Process goals are standards used to judge the quality of citizen participation processes, regardless of the outcomes to which they lead. Process goals are important because achieving these goals can contribute to the attainment of one or more of the outcome goals

We used this conceptual framework to summarize our current state of knowledge from HDRU research about citizen participation. We know that most citizens support citizen participation in natural resource decision making, but disagree as to how much influence citizens should have relative to agencies. Citizens' acceptance of particular participation strategies can be quite varied. However, certain standards are commonly used to judge participation processes:

- the adequacy of opportunities for citizens to participate;

- agency receptivity to citizen input;
- citizens' influence over the final decision;
- the quality of knowledge and reasoning of agency staff;
- the quality of knowledge of citizens who participated in the process;
- whether the process was completed in a reasonable amount of time;
- whether the process was completed for a reasonable cost;
- whether the process led to a stable decision; and
- whether the process led to improved relationships between stakeholders.

Understanding the criteria people use to judge the quality of citizen participation is important because it can help in the design of processes that people will accept. Process perceptions also have been found to influence other important perceptions that citizens hold, including their perceptions of decisions and their perceptions of agencies.

We developed a set of management and research recommendations based on the research incorporated in this synthesis. Our management recommendations include:

- Clearly articulate your purposes.
- Choose an approach and strategies that are compatible with the context and your purposes.
- Design citizen participation processes to build citizen support.
- Communicate about your decision-making processes.
- Educate citizens who will contribute to management decisions.
- Communicate your reasoning to citizens.

Research questions we believe are worth exploring are:

- What citizen participation strategies are most effective for achieving particular objectives?
- How can citizens and other stakeholders be more effectively incorporated in management activities throughout the management cycle?
- What is a good management decision? How well do different forms of citizen participation promote good decisions?

- What causes citizens to support particular citizen participation strategies? How do the particular characteristics of an issue influence support for specific strategies?

- What is needed for a citizen to be well-informed about management? What are the most effective strategies for educating citizens?

- Which stakeholders need to be involved in management in order for particular objectives to be achieved? What methods are most effective for generating citizen involvement? How can we most effectively increase the involvement of non-traditional stakeholders?

- How should input from different types of stakeholders be weighed in reaching a management decision?

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CONCEPTUAL FRAMEWORK FOR CITIZEN PARTICIPATION

Introduction

Citizen participation has been widely advocated and used in natural resource management. It has been a major focus of research, both among human dimensions researchers and social science researchers. Research on citizen participation has tried to:

- identify the outcomes of different approaches to citizen participation (e.g., Stout et al., 1996);
- determine the characteristics of citizen participation processes that influence these outcomes (e.g., Lauber and Knuth, 1997); and
- explore how context influences citizen participation processes (e.g., Landre and Knuth, 1993a; Chase, 2000).

With some notable exceptions (e.g., Renn et al., 1995), however, most writings do not present an explicit conceptual framework for citizen participation. Although many authors identify purposes of citizen participation, these purposes are diverse and not obviously interrelated. They include such goals as promoting fairness, encouraging competent decisions, allowing citizens to hold government accountable, and promoting acceptance of decisions. Several authors have argued that the diversity of reasons for which citizen participation is conducted makes it difficult to implement and evaluate (Rosener, 1978; Kweit and Kweit, 1981; Renn et al., 1995).

The lack of a conceptual framework for citizen participation has impeded the development of a clear and comprehensive set of expectations about citizen participation, including:

- desirable features of citizen participation;
- activities citizen participation should include;
- outcomes that should be expected; and
- when and how evaluation should occur.

A conceptual framework could help practitioners convert implicit, unarticulated expectations of into explicit goals that would guide the design of citizen participation processes. It could help researchers synthesize existing knowledge about citizen participation and identify new research questions to pursue.

The first goal of this report was to propose a conceptual framework for citizen participation in natural resource management. To develop this framework, we:

- offer a vision of the role that government should play in society;
- demonstrate how citizen participation can contribute under this vision of government;
- identify four goals of citizen participation and the types of processes that can help achieve these goals; and
- describe standards used to judge citizen participation processes and outcomes.

The second goal of this report was to use this framework to summarize research by the Human Dimensions Research Unit (HDRU). The HDRU has generated a considerable body of literature on citizen participation. Synthesizing this literature in relation to our conceptual framework makes it more accessible and useful. It helps both to identify similar findings of multiple studies and identify fruitful avenues for further research.

The Role of Government in Public Policy Making

Representative and Participatory Democracy

The United States is democracy, but contrasting visions of democracy exist (ACIR, 1979; Chase, 2000). Under representative democracy, citizens participate in government by electing their leaders. The elected leaders make all other decisions and conduct the business of government. Representative democracy, therefore, requires only private action by citizens.

Participatory democracy, on the other hand, requires public action by citizens. Citizens not only elect leaders, but actively participate in policy making with their leaders. Under this vision of democracy, participation does more than put good leaders and policies in place. It is also advocated as a way for citizens to fulfill their potential by working together with other citizens to create a better society.

The widespread use of citizen participation by natural resource management agencies clearly is rooted in a participatory vision of democracy. The specific role citizens should play in management decision making, however, is a complex question with no obvious answer. Defining a role for citizens depends on a clear vision of the role of government. We will, therefore, contrast visions of government and identify the one we think is most appropriate for guiding citizen participation practice

Liberalism and the Role of Government

Government in the United States is rooted in the political philosophy of liberalism. Liberal thought characterizes individuals as independent, self-interested, and with morally equivalent interests. This characterization has shaped the liberal view of the appropriate role of government. Because interests are viewed as morally equivalent, liberalism emphasizes allowing citizens to pursue these interests as they wish, provided they do not interfere with the rights of other citizens to pursue their interests. Thus, the role of government is not to judge which ends it is best for society to pursue. Rather, the state facilitates the process by which individuals and interest groups can pursue their own ends (Lowi, 1979; Gray, 1986; Mulhall and Swift, 1992)

Many arguments for citizen participation are rooted in liberal thought. Numerous authors have advocated citizen participation as a way to allow citizens to pursue their own interests, desires, and preferences. Pateman (1970, p. 14) argued that participation is for the "*protection of . . . private interests*." The U.S. Advisory Commission on Intergovernmental Relations (1979, p. 61) described one of the "*ultimate objective[s]*" of citizen participation as ensuring that "*governmental units respond better to citizens' needs and desires*." Verba and Nie (1972, p. 4) maintained that the purpose of participation is so that government policy can "*match the needs and desires of the populace*." Checkoway and Van Til (1978, p. 36) stated that, in an ideal world, citizen participation should lead to a "*utopia in which interests were clearly articulated and met*." Rosenbaum (1978) stated this reasoning particularly clearly. He argued that citizen participation originated because the "*interests of most citizens were being disregarded*" (p. 45) and that citizen participation mandates "*represent an explicit acknowledgment by legislators and executives that citizens know their own specific interest best and are best suited to defend them in administrative combat*" (p. 52).

The assumption underlying all these arguments is consistent with liberal theory: the role of government is to help citizens meet their interests, desires, and preferences (Reich, 1985; Fiorino, 1989). Government must avoid adopting an agenda of its own and play the role of a neutral facilitator in citizen participation activities. This point was made by Reich (1985, p. 1620):

> *The job of the public administrator, according to this vision, was to accommodate – to the extent possible – the varying demands placed upon government by competing groups. The public administrator was a referee, a skillful practitioner of negotiation and compromise. He was to be accessible to all organized interests while making no independent judgment of the merit of their claims. Since, by this view, the "public interest" was simply an aggregation and reconciliation of these claims, the administrator succeeded to the extent that he was able to placate the competing groups.*

Criticisms of Liberalism

Liberalism has been harshly criticized on several grounds. One of the most common criticisms addresses liberalism's stance of ethical or moral relativism. Liberal theorists tend to characterize all interests as subjective preferences and fail to recognize that some are judgments about what is right or wrong (MacIntyre, 1981; Sandel, 1982; Mulhall and Swift, 1992; Beiner, 1992). Thus, the desire to preserve endangered species is considered equivalent to the desire to have a cup of coffee. Both are simply what someone wants.

MacIntyre (MacIntyre, 1981; Mulhall and Swift, 1992) argued that liberalism's ethical relativism stems from its excessive focus on the individual. Liberalism characterizes citizens as individuals first and members of society second. Many strands of liberalism argue or imply that individuals form their conceptions of good completely independently of each other. If people do form their conceptions of good independently, society has no basis to judge these conceptions; they must simply be accepted as subjective, individual preferences. Consequently, liberalism's stance of ethical relativism is logically connected with its conception of the individual.

Many authors, however, have taken strong exception to the characterization of all interests as subjective preferences (MacIntyre, 1981; Sandel, 1982; Mulhall and Swift, 1992; Beiner, 1992). Beiner (1992, p. 41) argued that this characterization is "*unequal to the way we actually experience the world commonsensically*." We tend to believe some interests are better than others. The desire to preserve endangered species is more important than the desire to have a cup of coffee. Indeed, Pattanaik (1971) and Bezembinder (1989) recognized that some preferences can be unethical.

Sagoff (1988) discussed this issue is detail. He distinguished two types of interests that are often lumped together, preferences and values, and argued that values, not preferences, should serve as the basis of public policy making. Sagoff defines "*preferences*" as what people want for themselves. They are not a good basis for public policy making because they may be "*sadistic, envious, racist, or unjust*" (1988, p.102), or inadequate for numerous other reasons. Many policy-making processes, however, simply treat preferences as exogenous variables, in keeping with liberal theory (p. 11). Sagoff defines "*values*," on the other hand, as a community's belief about what is right. Their holders claim a measure of objectivity for them, thereby legitimating scrutiny by others. Values are not simply exogenous preferences, but are shaped and refined during policy making.

Choosing to base policy on preferences or values has considerable implications for policy-making processes. Sagoff (1988, p. 11) argued that if we want to base policy on shared values, we need to engage in deliberation about what is right or best. If, however, we are content merely to accept citizens' preferences as exogenous and morally equivalent variables, "*a mechanical and mathematical balancing of interests*" held by different citizens is all that is necessary (Sagoff, 1988, p. 11).

These criticisms of liberalism have important implications for citizen participation based in liberal theory. If citizen participation is rooted in the assumption that all citizens' preferences are morally equivalent, government decision makers will attempt to play a neutral role and simply measure and amalgamate these preferences rather than engaging citizens in deliberation about what should be done. This type of process, however, opens the door for policies based on preferences that are rooted in petty prejudices, fleeting whims, incorrect information, or inadequate according to any of a variety of other standards.

Alternatively, some authors have conceptualized the policy-making process as an attempt to define and pursue a "public good" that is more than an amalgamation of individual preferences. Sagoff's (1988) focus on values in policy making is an example of such a vision of the public good. Barber (1984) advanced a similar conception. He denied that the public good is simply an "*aggregate of individual and particular goods*" (p. 171) for many of the same reasons Sagoff offered. Rather, he argued that the public good or public interest is something that is created through community discussion. It arises out of "*social interaction and out of imaginative effort by individuals to see in common*" (p. 171).

Defining the Public Good

If we accept this conception of the public good, we must resolve how to determine what is right or create public interests. This problem may be viewed as an epistemological one. How are we able to achieve knowledge of what is right or good to serve as the basis of public policy? Answering this question has important implications for how public policy decisions should be made and what, if anything, citizen participation can contribute.

Barber (1984) engaged in a lengthy discussion of this question. He believes that the standard concepts of subjectivity and objectivity, which may be useful in discussing some types of knowledge, are not appropriate when discussing knowledge of the public good. Barber argued that knowledge is "*subjective*" if it is the product of private senses or private reason (p. 167). Thus, subjective knowledge is entirely rooted within individuals. Knowledge of the public good is not subjective because concepts of the public good grow out of community discussion and are not entirely rooted within individuals (p. 171).

Barber also argued that the public good should not be considered objective. He stated that knowledge is "" if it exists independently of individuals and can be derived or discovered through observation and reasoning. Because the public good is created through community interaction, however, it does not exist independently of individuals but depends on citizens acting together.

Instead of using these standard terms for describing the public good, Barber argued that knowledge of the public good must be conceptualized differently. From his perspective, the public good is something that is created rather than discovered or derived. Furthermore, knowledge of the public good is always provisional. As society grows and changes, the public good will grow and change, too. Barber believes that judgment and decision are more appropriate terms for conceptualizing the public good than knowledge and truth: "*The challenge here is not how to make correct choices but how to make choices correctly. . . .*" (p. 200).

Rorty's (1991) epistemology is consistent with the work of Barber and Sagoff. Although Rorty, unlike Barber, does not object to using the term "knowledge," he described a way of thinking about knowledge that is able to encompass Barber's perspective on the public good. Rorty's arguments are more general than Barber's or Sagoff's; they apply to any type of knowledge and are not limited to knowledge of the public good. His thinking is directly relevant, however, to Barber's and Sagoff's work.

Rorty agrees with Barber that when we pursue knowledge we are not pursuing a correspondence between knowledge and reality. Rather, he argued that such a conception of knowledge is useless because we can never gain access to reality unencumbered by our senses and existing thoughts to test whether our knowledge does indeed correspond to it. Rorty advocates "pragmatism" as an epistemological stance. Pragmatists think of knowledge, not as representing reality, but as providing us with "*habits of action for coping with reality*" (Rorty 1991, p.1).

Pragmatism is distinct from relativism. Relativism maintains that truth depends on the perceiver and that all knowledge claims are equally valid. Pragmatism maintains that truth is not a useful concept and that knowledge claims may be judged better or worse depending on how well they allow us to cope with reality.

At the root of Rorty's thinking is the recognition that we must judge knowledge claims within the framework of our previously existing set of beliefs. He uses the term "*ethnocentric*" to describe this constraint. Being "*ethnocentric*" means that it is impossible for us to step outside of ourselves to judge the validity of knowledge claims. Consequently, rather than aiming for "*truth*" in our knowledge, the best that we can do is to aim for "*solidarity*" with others about what is legitimate knowledge within our existing web of beliefs. Although we can always strive to better inform the knowledge about which we have solidarity, we can never claim to have determined the truth.

The parallels between Rorty and Barber are straightforward. Both distinguish knowledge from truth. In fact, neither believes that it is possible to aim for truth in the pursuit of knowledge. Rather, both view knowledge as something that is created rather than discovered and believe that the quality of knowledge can only be judged by informed agreement. Knowledge, therefore, is always provisional. As a community changes, knowledge will also change.

Because Rorty's perspective on knowledge is consistent with Barber's perspective on the public good, Rorty's concept of "*solidarity*" is useful for evaluating how knowledge of the public good is created. The policy-making process may be viewed as a process of a community attempting to reach solidarity or informed consensus about what the public good is and acting on that knowledge. The ultimate goal of this process is not simply to create a vision of the public good but to realize this vision.

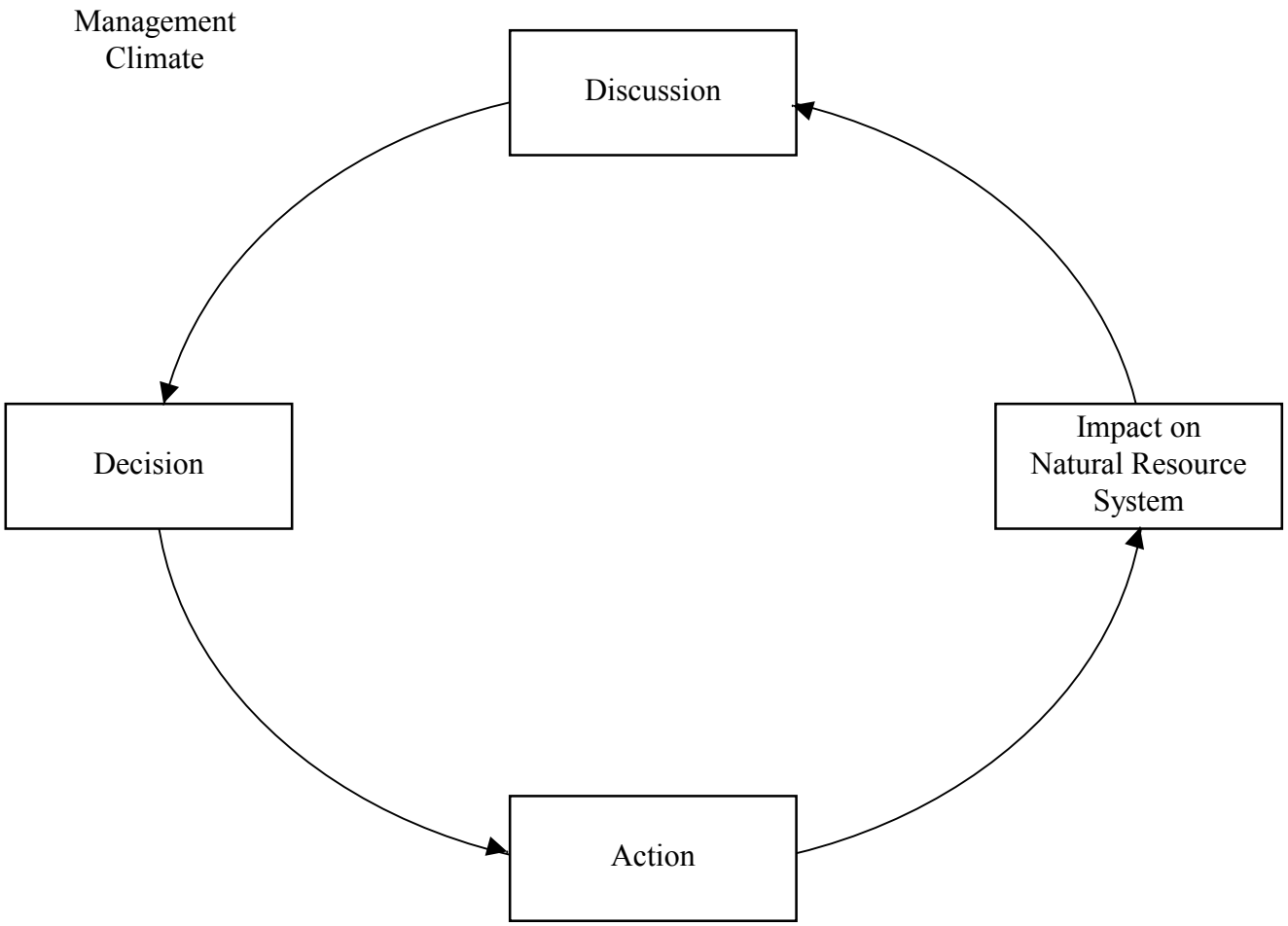
We can apply this thinking to a simplified version of the natural resource policymaking and management process (Figure 1). Discussion within a community strives for a conception of the public good, which is represented in a policy or management decision. This decision serves as the basis for collective and/or individual action with the goal of some type of impact on a natural resource system. Discussion continues within the community as the action is evaluated and conceptions of the public good are refined.

The Role of Citizen Participation

Approaches to Citizen Participation

In the preceding section, we advocated a particular vision of the role of government. We now will explore how agencies can constructively incorporate citizen participation under this vision. Since we characterized management decisions as representations of the public will and argued that the public will can only be created through community discussion, some role for citizens in management is clearly required. This role, however, may take different forms. For example, citizens participate only indirectly in the deliberation that occurs in state legislatures. Nevertheless, this deliberation can result in representations of the public will in the form of mandates that guide natural resource management agencies.

Figure 1. Simplified representation of natural resource policy making and management process.



Arnstein (1969) recognized that citizen participation efforts vary in the amount of control given to citizens and identified different "*rungs*" on a "*ladder of citizen participation*" characterized by increasing citizen power. Chase et al. (2000) outlined a similar range of approaches to citizen participation in natural resource management:

- Expert Authority Approach. Agencies retain full responsibility for management decisions and do not consider citizen input during the decision-making process.

- Passive-Receptive Approach. Agencies consider citizen input, but do not actively seek it. Those citizens who have input into decision making are those who take the initiative to contact agencies.

- Inquisitive Approach. Agencies make systematic attempts to gather citizen input through public meetings, surveys, or other methods. The agencies decide how to weigh this input as they make policy decisions.

- Transactional Approach. Agencies facilitate a process in which citizens work together to try to reach agreement on the best management decision. Thus, citizens help decide how to weigh different stakeholders' perspectives in decision making.

- Co-management. Stakeholders are involved not just in decision making, but throughout the management process. Under other approaches, agencies specify a particular and limited role for other stakeholders. Under co-management, agencies work in partnership with local government, nongovernmental organizations, and other stakeholders. Together they decide the appropriate role each stakeholder should play in the management process.

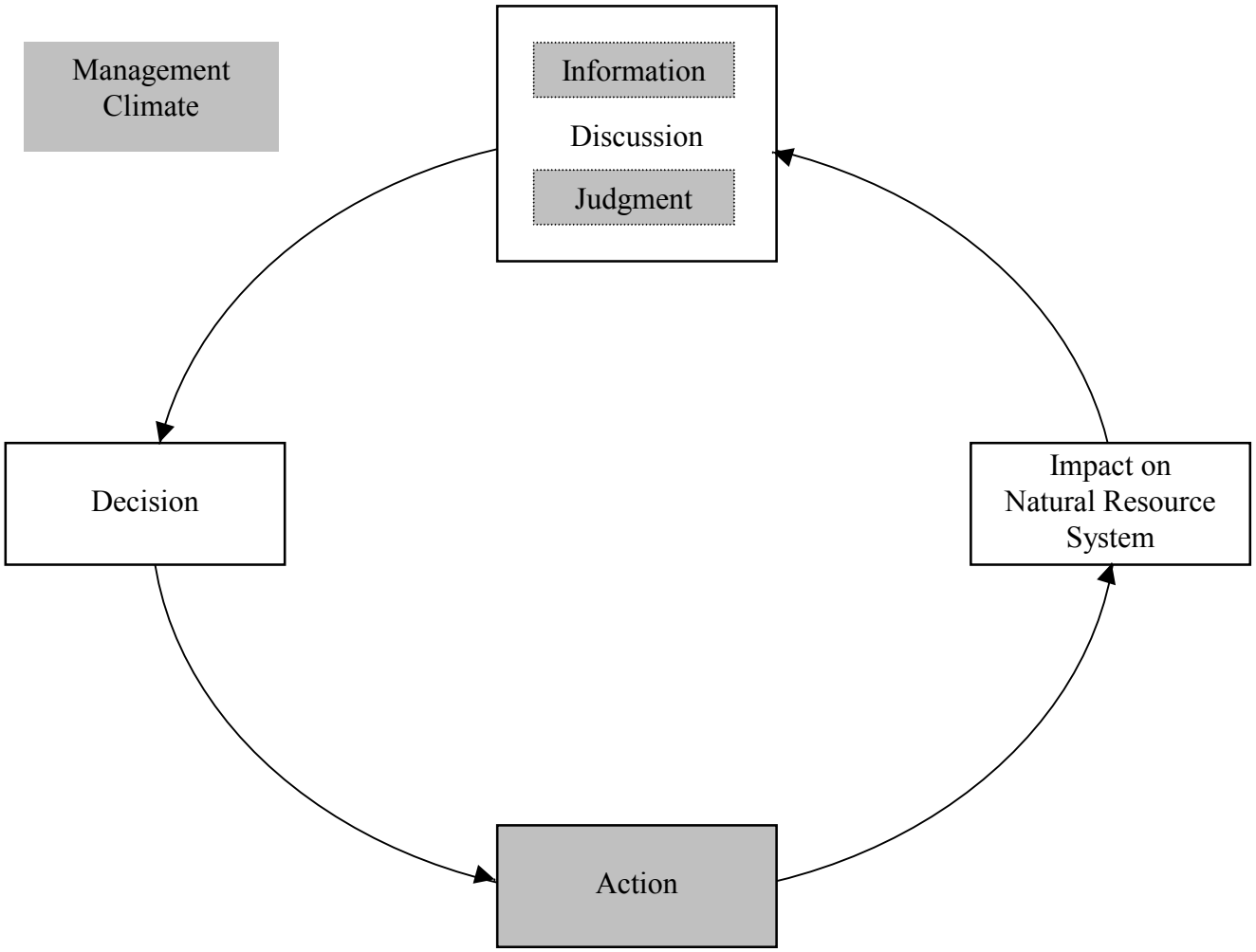
Chase et al. (2000) argued that these 5 approaches form a logical continuum over which the relative influence of citizens and agencies over management varies – from total agency control under the expert authority approach to broad power sharing under co-management.

Purposes of Citizen Participation

Each approach to citizen participation may be appropriate in some situations. The objectives an agency hopes to accomplish through citizen participation are one important consideration in choosing an approach.

The objectives that citizen participation can help meet can be characterized according to the types of impacts that citizens can have on the policy-making process (Figure 2). Often, citizen participation is intended to influence policy or management decisions (or other decisions in the policy process, such as evaluative decisions about an action that was carried out). Citizens can influence decisions by supplying information to agencies (e.g., information about their desires, beliefs, and behaviors). Information alone, however, does not make a decision. Someone must weigh or evaluate that information and make a judgment about how it should influence decisions. Citizens may play a role in this judgment process.

Figure 2. The role of citizen participation in natural resource policy making and management.



Citizen participation can also influence action. In more complex resource management scenarios, agencies may not have the capacity to take all actions necessary to accomplish management objectives. In these cases, they may rely on local government, nongovernmental organizations, or individual citizens to carry out necessary management actions.

Sometimes citizen participation is implemented to improve the management climate (the social context of natural resource management). Citizen participation can: (1) improve relationships between stakeholders (which can increase their ability to work together toward management objectives); (2) increase the capacity of citizens or agencies to participate constructively in management (by providing them with skills, experience, or knowledge); or (3) change beliefs, attitudes, or behaviors (to help management processes occur more smoothly). Schusler and Decker (2000) point out that community-based management requires a positive management climate.

We will briefly discuss each of these objectives: improving information; improving judgment; improving action; and improving the management climate.

Improving Information. Providing information about citizens is an important objective of citizen participation. Brown and Decker (1979) showed how information about farmers' tolerance of deer could contribute to deer management decisions in the Lake Plains region of New York. Wildlife managers tried to keep deer numbers low in this region because they believed more deer would cause intolerable agricultural damage. Brown and Decker's survey, however, revealed that farmers had a higher tolerance for deer and agricultural damage than managers had assumed. They argued that this information could justify a larger deer population in the Lake Plains region at that time[1]. Information about citizens' desires, beliefs, and behaviors can contribute to better management decisions in many other ways, too.

Improving Judgment. Sometimes information about citizens' perspectives does not clarify decision making, but complicates it. Stout et al. (1994) discussed deer management scenarios in which diverse stakeholders hold strong and conflicting viewpoints. Even when managers understand citizens' perspectives in these scenarios, judging how those perspectives should influence deer management decisions is difficult. Decision makers face the unenviable task of choosing which citizens' desires will be satisfied and which will not. The potential for decisions that are unacceptable to some stakeholders is high under these conditions.

Stout et al. (1994) argued that in such situations, it may benefit agencies to involve citizens in recommending a decision that balances the concerns of all interested stakeholders. They present one through which citizens can help recommend management decisions – the citizen task force model in which diverse stakeholders work directly with each other, deliberate policy alternatives, and seek a mutually acceptable management decision.

Improving Action. Making a decision is only one component of management; decisions need to be implemented. Sometimes implementation requires stakeholder participation. For example, the New York State Department of Environmental Conservation (DEC) has struggled

[1] More than twenty years later, that larger deer population has increased to the point of causing unacceptable problems to many stakeholders.

with how to manage deer in suburban Irondequoit, New York. A citizen task force recommended reducing the deer herd through a selective culling program and conducting research on deer contraception, but DEC had neither the funding nor the staff to carry out these actions, and local government laws and regulations needed to be modified before these actions could take place. Consequently, an interagency task force, consisting of representatives of state and local government agencies, was organized to oversee deer management in Irondequoit. The task force assigned responsibility to ensure implementation of management actions. Stakeholder involvement was evidenced by participation of: (1) police officers from the Town of Irondequoit to implement the selective culling program; (2) citizen volunteers to monitor deer involved in the contraception research; (3) university researchers to carry out the contraception research; and (4) local government to fund implementation of the program.

Improving the Management Climate. We portrayed natural resource management as a process through which a community defines the public good and acts to make that public good a reality. Because these are social processes, they are influenced by the social context in which they occur. Characteristics of people and their interrelationships can facilitate these processes or inhibit them. Sometimes citizen participation is intended to transform people and their interrelationships to improve management. We identified four ways in which citizen participation can influence the management climate: (1) transforming beliefs or attitudes; (2) changing behaviors; (3) improving relationships between stakeholders; and (4) increasing the capacity of people to contribute to management.

Stout and Knuth (1995) evaluated an agency communication plan intended to influence citizens' beliefs and attitudes. The agency had been struggling with how to manage deer outside of Rochester, New York, in an area in which citizens held diverse attitudes about deer management. The agency eventually convened a citizen task force to recommend deer management objectives and strategies. Because the task force involved few citizens, however, a communication plan was developed to target the entire community. The goals of the plan were to increase citizens' knowledge about deer management options and to build support for task force recommendations. Influencing beliefs and attitudes in this way would ease implementation of the management decision after it was reached.

Decker and Connelly (1990) described a way citizen participation could influence behavior. They argued that agencies were being forced to address a wider variety of deer management scenarios than they had traditionally. To continue to manage deer effectively, agencies would need hunter compliance with new rules. Decker and Connelly argued that to gain this compliance, hunters need to be educated as to how their participation in hunting could and should contribute to the betterment of society. Often, compliance with rules and regulations is important if policies are to be implemented successfully. Using citizen participation to influence behavior, therefore, can be a critical component of improving the management climate.

Stout and Knuth (1994) considered the impact that citizen participation could have on relationships between stakeholders. They evaluated the impacts of a citizen task force that had been convened to develop deer management recommendations in Irondequoit, New York. Even though the task force contained individuals with strong differences in opinion, they found that serving on the task force improved relationships between task force members and between task

force members and the management agency. Although constructive relationships do not directly contribute to management decisions, they may be a necessary precondition for productive discussion about the issue to take place. They also may be necessary for an agency to implement management actions.

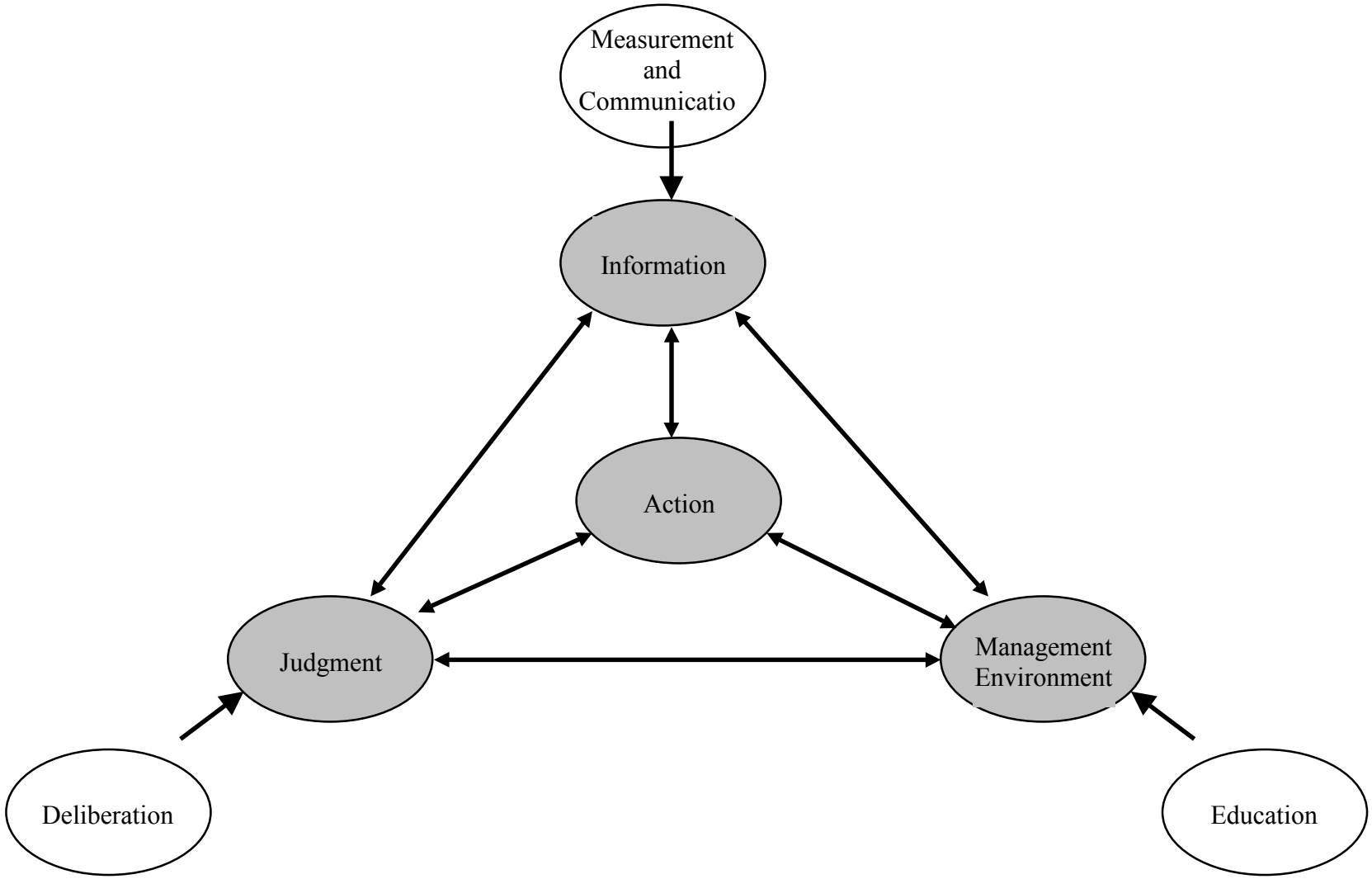
Citizen participation also may be used to influence the capacity of citizens and agencies to participate in management. In other words, it can contribute to the ability of stakeholders to take part in the discussions leading up to decisions or the implementation of those decisions. Improving capacity could involve changing: (1) attitudes (e.g. increasing trust and willingness to participate in a decision-making process); (2) knowledge (e.g. understanding of the consequences of a management action); (3) skills (e.g. experience negotiating with stakeholders with different interests); or (4) organizational structure (e.g. establishing an office within an agency to address stakeholder concerns). Landre and Knuth (1993b) evaluated the success of consensus-based citizen advisory committees for water resources planning in the Great Lakes Basin. One of their conclusions was that the committees were of great educational value to participants. They argued that this education could prove invaluable by increasing the capacity of citizens and communities to contribute to other decision-making processes in the future.

Citizen Participation Processes

Each of these objectives of citizen participation has certain types of processes that contribute to it (Figure 3). When agencies attempt to gather information about citizens to inform decision making, they rely on processes that involve measurement, such as mail and telephone surveys and soliciting feedback at public meetings. When citizens initiate attempts to provide information to decision makers, they are faced with the task of effective communication to managers. When citizen participation is used to improve judgment, citizens are incorporated in a process of deliberation, or reasoned discussion of the merits of different options. If the management climate is the target of participation activities, some type of transformation of people is the goal, whether a transformation of their perspectives, their behaviors, their relationships, or their capacity. Education, which can lead to personal transformation, is the dominant process in these cases. All of these processes can contribute to stakeholders' willingness to implement management actions.

In many citizen participation programs, there are multiple goals and multiple processes used to achieve these goals. Managers may want to gather input, involve citizens in deliberating about the best action to take, and build support within a community for whatever action is chosen. In such cases, both the goals and the processes used to achieve them may overlap. For example, a public meeting may be used both to gather input and to educate citizens about each others' perspectives. Thus, a single citizen participation strategy may be able to meet multiple goals. Nevertheless, separating citizen participation goals and processes conceptually can help clarify purposes for citizen participation efforts.

Figure 3. Relationship between citizen participation processes and outcomes.



Outcome and Process Goals

The goals of citizen participation we have been discussing so far are what we call "*outcome goals*." These goals are intended to encompass the range of possible desired outcomes of citizen participation processes: decisions based on sufficient information, decisions based on sound judgment, effective and efficient implementation of actions, and a higher quality management climate.

Other types of goals, however, have been discussed or alluded to in the literature. For example, Lauber and Knuth (1999) described 9 goals that citizens held for a citizen participation process. Citizens judged the process by whether it achieved these goals regardless of the outcomes to which the process led. These goals were:

- citizens should have adequate opportunity to participate;
- the agency should be receptive to citizen input;
- citizens should be able to influence the final decision;
- agency staff should possess sufficient knowledge and display sound reasoning;
- citizens participating in the process should possess sufficient knowledge;
- the process should be completed in a reasonable amount of time;
- the process should be completed for a reasonable cost;
- the process should lead to a stable decision; and
- the process should improve relationships between stakeholders.

Most of these goals are not important in and of themselves. They are important because they can contribute to attaining one or more outcome goals. For example, achieving these goals could contribute to a decision based on high quality information about citizens' perspectives. "*Process goals*," therefore, are desired attributes of citizen participation processes that contribute to one or more outcome goals.

The distinction between outcome and process goals is not always sharp. For example, we identified improved relationships as an outcome goal because improved relationships may be a desired outcome of citizen participation. On the other hand, improved relationships can also make it easier for managers to gather input from citizens. Therefore, improved relationships also can be considered a process goal.

Conclusions

In this section, we conceptualized citizen participation as a way to help define and pursue the public good. We described a range of approaches to citizen participation that may be

appropriate under different circumstances, and in which the relative control by citizens and agencies varies. We identified a number of goals of citizen participation, which may be used to guide citizen participation practice. These goals include both outcome goals (what agencies or citizens hope to achieve through citizen participation) and process goals (desired characteristics of citizen participation processes that relate to their ability to achieve outcome goals).

In the next section, we will use this theoretical framework to describe our current state of knowledge about citizen participation – discussing what HDRU research has helped us learn about how people judge both the quality of citizen participation processes and the quality of citizen participation outcomes.

HDRU RESEARCH ON CITIZEN PARTICIPATION

What is a Good Citizen Participation Process?

Support for Citizen Participation

Enck and Brown (1996) argued that citizen participation processes and outcomes should be considered separately, and, in the previous section, we pointed out that goals for citizen participation processes and outcomes were related but distinct. Numerous researchers have explored how people judge the quality of citizen participation processes, and this research yields insights into standards for evaluating such processes.

Most citizens support citizen participation in natural resource management (Chase et al., 1999a; Chase et al., 1999b; Chase and Decker, 1998; Siemer et al., 2000), but they hold varying opinions about how much influence citizens should have relative to agencies. Indeed, we earlier presented a spectrum of approaches to citizen participation, each characterized by a different degree of influence of citizens relative to agencies. We argued that each approach may be suitable under some circumstances.

Because diverse beliefs exist about how much influence the public should have in decision making, acceptance of particular citizen participation procedures can be varied. For example, the New York State Department of Environmental Conservation (DEC) uses citizen task forces to help establish deer management policies. Stakeholders with varied interests are organized into task forces that help set local deer population objectives and, on occasion, suggest deer management strategies. Citizen task forces are widely supported by most people who have participated in them (Pelstring, 1998), but the level of support varies in different contexts. Researchers have found that:

- 90% of task force participants believed that the task force approach should continue to be used (Stout, et al., 1994); but

- only 50% of task force participants in suburban Irondequoit, New York believed that task forces were a good way to set deer management policy (Stout and Knuth, 1994).

The lower support in Irondequoit may be because Irondequoit is heavily suburbanized area and deer management is particularly controversial there.

Support for other citizen participation techniques also varies with: (1) the management context; and (2) the stakeholders judging the process. For example, Siemer and Decker (1990) reported that a series of public meetings held by the DEC were less satisfactory to nontraditional groups than to traditional constituencies such as hunters.

Criteria for Judging Citizen Participation

Given that support for citizen participation techniques can vary, it is important to understand how people evaluate these techniques. In a preceding section, we listed 9 criteria that Lauber and Knuth (1999) reported citizens used to judge a citizen participation process. These

criteria were developed in a study of citizen participation in moose management decision making and may or may not apply in other contexts. In our literature review, however, we found that these criteria serve as a useful framework for summarizing past findings of how people perceive citizen participation processes. We will use it to organize past findings from HDRU research on citizen participation, grouping the 9 criteria into 4 categories: fairness; wisdom; efficiency; and stability.

Fairness. The first criterion that influences whether people view a decision-making process as fair is whether adequate opportunity has been provided for people to participate. Numerous research findings support the importance of this criterion.

Providing adequate opportunity for participation depends, first of all, on determining who should be involved. Several authors have argued for the inclusion of all important stakeholders (Enck and Brown, 1996; Stout and Knuth, 1994). The concept of which stakeholders are "important" has expanded in recent decades from traditional clients (e.g., hunters in wildlife management) to anyone affected by or interested in management (Decker et al., 1996).

Identifying the important stakeholders in a given context is not straightforward, however, and citizens and/or agency staff may disagree on this point (Chase et al., 1999a; Chase and Decker, 1998; Lauber and Knuth, 1996):

- In the village of Cayuga Heights, New York, residents believed that it was important to consider the perspective of residents in deer management decisions, but not deer hunters, village visitors, and nonresidents from New York State (Chase et al., 1999a).

- Residents of Evergreen, Colorado thought that stakeholders who enjoyed elk should have the greatest influence in elk management, while those who experienced elk-related problems were less important to involve (Chase and Decker, 1998).

- Both interested citizens and agency staff disagreed about who should be involved in moose management decisions in northern New York State (Lauber and Knuth, 1996). In particular, different opinions existed about whether to involve: (1) New York State residents who did not live in northern New York; and (2) animal welfare advocates.

We believe a universal answer about which stakeholders to involve in management is neither possible nor desirable because the choice of stakeholders should depend both on the purposes of involvement and contextual factors (Chase et al., 1999b). However, Enck and Brown (1996) suggested several guidelines for stakeholder selection, including:

- involve stakeholders with a broad range of attitudes;

- involve stakeholders with different types of input to offer;

- involve traditionally underrepresented groups;

- involve groups that have polarized views;

- involve both "power brokers" and those other than "power brokers;" and
- involve stakeholders who can block the implementation of a decision.

Even after stakeholder groups are selected, involving them may be difficult. Many citizens do not want to be involved in management (Enck and Brown, 1996). Some will not offer opinions, even through convenient opportunities such as mail surveys (Stout and Knuth, 1995). Nontraditional stakeholders are particularly challenging to involve (Lauber and Knuth, 1996) because they do not have established channels for communicating with agencies. On the other hand, nontraditional stakeholders may be very important to involve (Enck and Brown, 1996) because they can provide a unique perspective on management issues.

Agencies may need to rely on multiple citizen participation strategies to involve all important stakeholders (Decker et al., 1996; Chase et al., 1999b). Some useful methods still tend not to engage a representative group of affected citizens. Public meetings typically reach only a narrow cross-section of the public (Siemer and Decker, 1990); meetings are more likely to attract people with strong opinions.

The citizen task forces New York State uses to set deer management policies do not represent all stakeholders equally. Pelstring (1998) showed that task force membership was biased toward hunters; the proportion of task force members who hunt is much greater than in the general population. This bias is partly related to how participants are selected; wildlife managers have easiest access to citizens with consumptive interests in wildlife. The bias is probably exacerbated by the difficulty in recruiting and retaining non-hunters as task force members.

Several strategies have been suggested to improve the involvement of underrepresented stakeholders. Publicizing opportunities for participation with underrepresented groups may help (Siemer and Decker, 1990). Enck and Brown (1996) suggested that asking organized groups to select representatives to engage in participation processes may be easier and more successful than trying to recruit individuals.

Citizen participation processes also may be made more representative by improving the quality of involvement. Enck and Brown (1996) argued that citizen input should be incorporated early and often in management decision making. For some strategies, such as meetings, unreasonable time constraints can reduce the opportunity for important concerns to be discussed (Siemer and Decker, 1990)[2]. Siemer and Decker (1990) recommended dividing meeting participants into small groups so that all attendees have a chance to provide input. Lauber and Knuth (1996), on the other hand, contended that splitting people into small groups can prevent citizens from learning from the broad cross-section of stakeholders that attend meetings.

Collecting input from all important stakeholders is not enough, however; agencies must actually consider it. A second criterion which influences the perceived fairness of citizen participation is the receptivity of agencies to citizen input. When agencies appear receptive to input, stakeholders are more likely to believe decision-making processes are fair. For example,

[2] Although reasonable time constraints may be necessary to keep meetings focused and efficient.

the New York State Department of Environmental Conservation (DEC) held a series of public meetings to solicit public opinion about its wildlife programs. Some characteristics of the meetings that impressed citizens included DEC's willingness to listen, DEC's concern, and DEC's willingness to dialogue (Siemer and Decker, 1990).

Conversely, if citizens do not think agencies are receptive to their input, they perceive citizen participation processes as less fair. Stout et al. (1994) found that only a small number of participants were dissatisfied with the use of citizen task forces to set deer management policies in New York State. Those who were dissatisfied tended to be hunters. These hunters believed that DEC was using the task forces to force hunters to accept deer population objectives they did not want, rather as a sincere effort to gather and respond to citizen input.

A related criterion that influences the perceived fairness of decision making is how much influence citizens have over management decisions. Although Chase et al. (1999a) found diverse stakeholder opinions about how much influence citizens should have over decisions, the expectation of some influence is widespread. Because this expectation exists, agencies should communicate clearly how citizens will shape decisions (Lauber and Knuth, 1996; Stout and Knuth, 1994). If people are uncertain about what will be done with their input, they may perceive citizen participation as less fair (Siemer and Decker, 1990). Indeed, Stout et al. (1994) reported that some citizen task force members withheld judgment about the value of the task force process until they were sure what would be done with the recommendations the task force developed.

Because citizens want their input to have real influence, agencies may need to plan for the implementation of decisions early in the decision-making process (Enck and Brown, 1996). In suburban wildlife management contexts, management actions often require cooperation between state government and various local government agencies. If cooperation between these agencies is not established early, implementation of actions sought be citizens may be impossible. Even sincere efforts to involve the public may be perceived as failures if this occurs.

Wisdom. We grouped the second set of criteria used to judge participation processes under the category "Wisdom" (Lauber and Knuth, 1996). The first criterion in this category was whether management agencies exhibited sufficient knowledge and sound reasoning. Stakeholders are concerned about the knowledge and reasoning reflected in: (1) proposed management actions; (2) the design of decision-making processes; and (3) final management decisions. Consequently, agencies should communicate clearly to citizens why certain proposals are made, why certain decision-making processes are adopted, and why certain decisions are reached.

The quality of knowledge of citizens who participate in decision making also influences perceptions of decision making (Lauber and Knuth, 1996). Although what it means for a citizen to be "knowledgeable" is not well-defined, it may include both: (1) technical knowledge; and (2) an understanding of the perspectives of other stakeholders (Lauber, et al., 1997; Pelstring, 1998). A lack of knowledge can put constraints on the benefits citizen participation can provide. Siemer and Decker (1990) argued that if people who attended public meetings did not receive enough information in advance, their ability to offer constructive input about an issue was limited.

Therefore, helping stakeholders understand management issues and the biological and social consequences of their input is important (Enck and Brown, 1996). Citizen participation strategies that emphasize interaction between stakeholders with diverse perspectives can be effective education tools (Lauber and Knuth, 1996; Landre and Knuth, 1993b). When people are forced to deliberate with others with whom they disagree, they must question and refine their own assumptions and knowledge. A better management decision can be the result. For example, citizen task forces have been successful at educating their members about wildlife management and other stakeholders' views (Pelstring, 1998).

The educational value of task forces is limited, however. Pelstring (1998) reported that because task forces contain a disproportionate number of hunters, the opportunities for participants to learn from each other is constrained. Furthermore, the educational benefits of task forces are available only to the small number of people who serve on them. Effective strategies are needed for educating a cross-section of the public. Although these strategies need further development, Loker and Decker (1995) argued that a research-based understanding of stakeholders' beliefs about an issue can serve as the basis of educational efforts.

Efficiency. Although the efficiency of citizen participation (in terms of time and cost) is a concern to some, we are aware of little research that has focused on efficiency. Various suggestions for improving the efficiency of citizen participation, however, have arisen out of past work:

- Siemer and Decker (1990) argued that the focus of public meetings should be narrow if citizen participation is to be maximally effective.

- Landre and Knuth (1993a) concluded that attention to logistical difficulties in citizen participation could have a substantial, but sometimes unappreciated, influence on their success.

- Stout and Knuth (1994) and Siemer and Decker (1990) found that competent facilitation improved the quality of citizen participation. Facilitation can improve both the efficiency and the substantive outcomes of citizen participation processes.

Stability. Some stakeholders judge participation processes by whether they lead to stable outcomes. Management decisions are the most obvious outcome of decision making, but several other important outcomes also arise. These include improved relationships, increased knowledge, greater capacity of communities to address resource management issues, and more. Because this category of criteria for judging citizen participation processes is concerned with outcomes, we will discuss findings related to these in a subsequent section on citizen participation outcomes.

The Importance of Perceptions of Citizen Participation Processes

Understanding the criteria people use to judge the quality of citizen participation can help in the design of processes that people will accept. Positive process perceptions, in turn, influence:

- perceptions of the decisions that arise from the processes (Lauber and Knuth, 1997; Lauber and Knuth, 1999); and

- perceptions of the agencies responsible for the processes (Lauber and Knuth, 1996; Stout and Knuth, 1994).

Because perceptions of decision-making processes have such ramifications, agencies may benefit by communicating with the public not only about the decisions it must make, but also about the processes it will use to make those decisions (Lauber and Knuth, 1997; Siemer and Decker, 1996). Indeed, the public is largely unaware of many DEC citizen participation efforts, such as the use of citizen task forces in deer management (Stout and Knuth, 1995; Pelstring, 1998). Increased awareness of these processes can help to maximize the benefits that citizen participation can provide.

What are Good Citizen Participation Outcomes?

Early in this report, we identified the principal outcomes sought through citizen participation. In this section, we will summarize research that has helped us understand how citizen participation can lead to these outcomes.

Making Better Management Decisions

Promoting better management decisions requires a conception of what a good decision is (Lauber and Knuth, 1998). Enck and Brown (1996) observed that no widely used conception of a good decision exists. It is beyond the scope of this report to propose and defend such a conception. For our purposes, we contend that a good management decision must be based on: (1) adequate information; and (2) sound judgment. Research has found that citizen participation can contribute to achieving both of these objectives.

Improving Information for Decisions. Citizen participation can gather information that can improve the quality of decisions. Siemer and Decker (1990), in an evaluation of public meetings, reported that citizens who attended valued the opportunity to contribute information to wildlife management decision making. They also argued, however, that the opportunity for citizens to provide information could have been improved if attendees had received background material before the meeting took place.

Some methods are more appropriate than others when gathering information from citizens is a goal. Lauber and Knuth (1996) evaluated a citizen participation process designed to help make moose management decisions and found that citizens who responded to a telephone survey were less knowledgeable about moose management than people who attended public meetings or wrote letters to the agency. The lack of knowledge of telephone survey respondents limited the usefulness of information they could provide. Lauber and Knuth (1996) concluded that methods that allowed for interaction between diverse stakeholders could refine citizens' viewpoints and improve the quality of information collected.

The quality of information citizens can contribute is also affected by which stakeholders become involved in the process. Enck and Brown (1996) argued that agencies need to involve

citizens with different types of input to offer, traditionally underrepresented groups, and polarized groups to maximize the benefits of citizen participation. Following such recommendations will help to increase the diversity of information that citizen participation processes can collect.

Improving Judgment. We have argued that information alone does not always make decision making easier. An agency could collect information on public attitudes in an effort to ensure that a management decision will be acceptable to the public. Yet the agency might find that no matter what decision is made, not all stakeholders will accept it. Under such circumstances, decision making requires weighing the importance of information collected (Carpenter et al., in review; Decker, et al., 1996). Citizen participation can help in this process. Citizens with diverse views can help to choose the criteria that should be used to weigh different types of input. Ideally, sounder judgments about the most important decision-making criteria will result.

A recent controversy over black bear management in Colorado illustrates this point (Loker, et al., 1994). The public in Colorado was very interested in bear hunting practices; the use of dogs and bait to hunt bear and hunting bear during the spring while females were nursing their cubs were controversial. The Colorado Division of Wildlife recommended an end to the spring hunt because of data demonstrating overwhelming public opposition to this practice. The Colorado Wildlife Commission, which had decision-making authority, rejected this recommendation, placing greater weight on the opinions of its traditional hunting constituents than on the public at large. Citizens' groups had the issue put up to a vote through a ballot initiative, and all 3 bear hunting practices were overturned, suggesting faulty judgment on the part of the Wildlife Commission.

The problem here is a common one in natural resource management decision making. Even when faced with the same information, different stakeholders can believe different decisions are best. The manner in which available information is weighed during decision making depends on the interests and values of the decision makers. In this case, the judgment of the Wildlife Commission was poor because it represented and responded to interests and values that were much narrower than those of the public at large. Loker et al. (1994) suggested that broadening representation on the Wildlife Commission could help to avoid such problems in the future.

The difficulty in appropriately weighing input from different stakeholders has been noted in other cases, too. Stout et al. (1994) pointed out that using the preferences of the general public to set deer population objectives (as reflected by a survey) contained an implicit bias. Relying on such data reflects an implicit choice to place an equal weight on the perspectives of all stakeholders. Although this weighting scheme is defensible, other weighting schemes are also defensible. For example, managers could weigh more heavily the interests of stakeholders who are most affected by deer management decisions.

In general, citizens may perceive agencies as being biased toward particular values or lacking knowledge about non-biological considerations in management (Gigliotti, et al., 1992). Although values can not be eliminated in decision making, efforts can be made to ensure that

multiple values are considered. One way to do this is by having diverse stakeholders decide how to weigh various types of social and biological information as management decisions are made.

Some approaches to citizen participation provide this type of opportunity. Citizen task forces may allow stakeholders to meet some of their individual goals (Landre and Knuth, 1993b), but also educate participants about management issues and other stakeholders' perspectives (Landre and Knuth, 1993b; Lauber and Knuth, 1997). The result can be a decision that effectively balances various interests. To achieve this goal, citizen participation requires communication strategies that encourage understanding and compromise between stakeholders (Decker, et al., 1996).

Improving the Management Climate

We have argued that decisions are not the only important outcomes of citizen participation (Stout et al., 1996). In fact, Stout et al. (1996) showed that the same decisions might be reached through different types of processes, but that the other outcomes of these processes might make some preferable to others. If decision-making processes improve the management climate, they can contribute to the efficient implementation of management decisions. We noted that citizen participation can influence 4 principal components of the management climate: beliefs and attitudes; behaviors; relationships; and capacity.

Beliefs and Attitudes. Citizens' beliefs and attitudes can mean success or failure for management. If citizens understand and support management actions, those actions stand a greater chance of succeeding. Citizen participation can improve understanding of management issues. For example:

- Siemer and Decker (1990) determined that public meetings could be valuable opportunities for citizens to gain information about management issues.

- Enck and Brown (1996) found that citizen participation could help stakeholders to recognize both positive and negative impacts of wildlife.

- Stout et al. (1996) reported that deer management task forces educated their members about biology and management. However, Pelstring (1998) showed that these task forces did not contain a representative cross-section of the public and so could not increase understanding of deer and management issues among the public at large. In fact, Pelstring (1998) found that 98% of New York State residents were not even aware these task forces existed. The transformation of beliefs and attitudes that can occur on task forces, therefore, is a benefit limited to a tiny percentage of stakeholders affected by a particular issue.

Citizen participation can also increase support for decisions (Lauber and Knuth, 1997). The New York State deer management citizen task forces have built support for deer population objectives (Stout and Knuth, 1994). Although task forces do not always reach consensus on these objectives, most have led to decisions that could be accepted by most citizens (Stout and Knuth, 1994). Furthermore, task force members have usually been satisfied with the process,

perceiving it as fair and open and believing that their own goals have at least partially been met (Stout and Knuth, 1994). Such positive attitudes towards decisions and decision-making processes builds a solid foundation for management, although only among a small number of people.

Stout and Knuth (1995) reported on a communication program used to build support among the public for agreements reached through a citizen task force. The program produced slight but significant increases in the acceptability of options recommended by the task force. Although this study showed that citizen participation could influence public opinion within an entire community, it pointed to the difficulty of doing that on a large scale. Stout et al. (1996) argued that one reason that public opinion is hard to change on a large scale is because individuals' opinions are usually formed over a long period of time. It may, therefore, take considerable time and effort to change these opinions. While this time and effort may be reasonable to expend on the small number of people who serve on a citizen task force, it is not practical to work on this kind of scale within a community.

Several recommendations have been made, however, about how to build public support for decisions. All stakeholders who have the power to block decisions should be involved in citizen participation efforts (Bleiker and Bleiker, 1995; Enck and Brown, 1996). Community power brokers are often valuable to include in decision-making processes for this reason, but their inclusion also may have disadvantages. Power brokers may not be representative of their community and may even disrupt citizen participation processes (Enck and Brown, 1996). Pelstring (1998) recommended using the mass media to inform the public when smaller, more intensive citizen participation efforts, such as citizen task forces, serve as the centerpiece of decision-making processes.

Gigliotti et al. (1992) argued that efforts may need to be made to influence attitudes and beliefs about other stakeholders in order for productive discussion to take place. Their research revealed that, although New York State Bureau of Wildlife staff members and New York State county legislators tended to have similar world views on environmental issues, the county legislators perceived that the world views of these two groups were different. Mistaken assumptions such as these can have profound effects on the dialogue that takes place between stakeholders. Therefore, citizens may need to be educated about each other before or during discussion of management issues.

Several recommendations have emerged from past research about how to influence beliefs and attitudes:

- Lauber et al. (1997) argued that it is important to analyze existing beliefs and attitudes, identifying differences between stakeholders, before designing educational efforts. If agencies understand points of disagreement, they can more effectively educate citizens, not by trying to provide them with a single "correct" viewpoint, but by helping them understand how other viewpoints differ from their own.

- Loker (1996) concluded that managers need to recognize that people get information from different sources. Reaching all stakeholders, therefore, requires managers to pay attention to the media they use.

- Lauber and Knuth (1996) stressed that communication needs to inform the public about the ways that decisions are made and not just the biological and social considerations relevant to specific decisions.

- People want different types of information about management issues. For nuisance wildlife issues, those with concerns about a species are more likely to want pragmatic and economic information. Those with positive interests in the species, however, are more likely to want information about how to increase their interest in the species (Loker, 1996).

Behaviors. Several studies have argued for trying to influence behavior. Enck and Brown (1996) concluded that citizen participation could and should be used to make citizens change agents in their communities, and Stout and Knuth (1994) found that citizen task forces were effective vehicles for doing this. Decker and Connelly (1990) contended that education could encourage deer hunters to contribute to management goals by making them more accepting of regulatory changes that would improve DEC's ability to control the size of the deer herd. Beyond these studies, however, we are aware of little research on how citizen participation can help influence citizens' behavior.

Relationships. Citizen participation can benefit relationships. Landre and Knuth (1993b) reported that involving polarized groups in the same process can improve relationships between them – including relationships between citizens and agencies. Indeed, citizen task forces have been found to improve perceptions of deer management and management agencies (Stout and Knuth, 1994; Stout et al., 1994; Stout et al., 1996), particularly among those stakeholders who did not have preexisting opinions about agencies (Stout et al., 1994). Other types of citizen participation also improve citizens' perceptions of agencies. However, the influence of participation varies according to the type of strategies (meetings, telephone survey, or writing letters) in which citizens participated (Lauber and Knuth, 1997).

Loker (1996) concluded that agencies may need to direct attention to improving relationships in regions where management issues are not currently present, but are expected in the future. Such work could lay the groundwork for future citizen participation aimed at achieving consensus decisions after issues had arisen. For citizen participation to produce consensus, attention to interpersonal conflicts (Siemer and Decker, 1990) and relationships (Landre and Knuth, 1993a) is needed. Laying the groundwork in this way could be effort well spent by the time issues arise.

Capacity. Citizens' capacity to contribute to resource management may increase during their participation. Indeed, it may be necessary for their capacity to increase if citizen participation is to be successful (Lauber and Knuth, 1996). Citizens may be educated about both management issues and the processes for addressing those issues. Citizen task forces have been shown to educate members about deer biology, management, policy making, and other

stakeholders (Stout and Knuth, 1994; Landre and Knuth, 1993b; Stout et al., 1996). All these aspects of education are relevant to the task force members being able to contribute to a sound management decision.

Recommendations

We developed management and research recommendations based on the research incorporated in this synthesis.

Management Recommendations

Clearly articulate your purposes. Citizen participation is used for many different purposes. Without clear articulation of the reasons for using citizen participation, people can make different and conflicting assumptions about what those purposes are. These assumptions can make citizen participation hard to implement effectively and efficiently. Consequently, it is critically important to delineate the purposes of a citizen participation program in advance. We developed a list of citizen participation objectives in this synthesis to serve as an aid in articulating purposes.

Choose an approach and strategies that are compatible with the context and your purposes. Just as there are many different reasons for using citizen participation, there are also different citizen participation approaches and strategies. Citizen participation approaches and strategies should be logically linked with the objectives managers are trying to achieve and the context in which they are trying to achieve them. Although this sounds obvious, it is easy to overlook. Some strategies may excel at achieving certain objectives, but may be poor at achieving others. For example, citizen task forces may help to make high quality management decisions that are compatible with the interests of diverse stakeholders, but, by themselves, will do little to build support for a decision within a community.

Design citizen participation processes to build citizen support. Although the purposes of citizen participation vary, building and maintaining support for management programs will almost always be a concern. Citizen participation programs are some of the most accessible opportunities for citizens to interact with management agencies, and the ways that citizens perceive these programs are closely related to how they perceive agencies. Therefore, agencies can benefit by designing citizen participation programs that citizens will perceive favorably. We identified criteria that citizens use to judge decision-making and citizen participation processes.

Communicate about your decision-making processes. Regardless of how well a citizen participation program is designed for collecting and using citizen input, citizens can not perceive it favorably if they are not aware of it. Therefore, agencies can benefit by communicating not only about management issues, but about how they will consider input and make decisions about these issues.

Educate citizens who will contribute to management decisions. Both citizens and agencies want good management decisions. If citizens participate in decision making – and if

one of the goals of decision making is to produce high quality decisions – some effort at educating or informing citizens will be necessary.

Communicate your reasoning to citizens. In many decisions, particularly controversial ones, not all stakeholders will have all their interests satisfied. Even in such cases, however, understanding why an agency has made a certain decision can improve acceptance of that decision. Describing this reasoning in agency communication to the public, therefore, is an important part of citizen participation processes.

Research Recommendations

What citizen participation strategies are most effective for achieving particular objectives? This synthesis helped to identify the purposes for which citizen participation is used. Little systematic research has been done, however, on what strategies are most effective for achieving each purpose. Answering this question in different contexts will help researchers to understand citizen participation better and help managers to use it more effectively.

How can citizens and other stakeholders be more effectively incorporated in activities throughout the management cycle? The growing emphasis on more participatory approaches to management, such as co-management, requires a role for citizens beyond helping to make decisions. An increasing tendency toward participatory action research (incorporating citizens in the process of conducting biological or social science research) is a reflection of this emphasis. Similarly, citizens and other stakeholders may be involved in the overall design of decision-making processes (including the development of citizen participation strategies). Much citizen participation research has focused on improving processes for incorporating citizen input in decision making. Research also needs to focus on how to involve citizens effectively in other stages of the management cycle.

What is a good management decision? How well do different forms of citizen participation promote good decisions? Although in this synthesis we argued that a good management decision should be based on good information and judgment, we sidestepped the question of the characteristics that a good decision should have. Researchers, managers, and other stakeholders need to develop at least a provisional set of criteria for identifying good decisions, and then conduct research to evaluate whether and how well citizen participation promotes good decisions.

What causes citizens to support particular citizen participation strategies? How do the particular characteristics of an issue influence support for specific strategies? In this synthesis, we listed criteria that researchers had found to influence citizens' perceptions of the quality of citizen participation and decision making. These criteria were based on one context-specific study. Although we reported findings from a variety of studies that supported the importance of these criteria, a more systematic effort to identify the criteria that people use to judge citizen participation and decision making in different contexts would be worthwhile. This effort would also help us begin to identify how the context-specific characteristics of issues influence the support for different types of citizen participation strategies.

What is needed for a citizen to be well-informed about management? What are the most effective strategies for educating citizens? Although we argued for educating citizens who will contribute to management decisions, we did not provide a coherent theory of what it means for a citizen to be "well-informed." Such a theory would be useful to guide both research and practice. For researchers, it would help establish a set of expectations about the kind of characteristics citizens' reasoning about management issues should have. These expectations could be used to evaluate the success of different strategies for educating citizens effectively.

Which stakeholders need to be involved in management in order for particular objectives to be achieved? What methods are most effective for generating citizen involvement? How can we most effectively increase the involvement of non-traditional stakeholders? We pointed to the importance of including diverse stakeholders in citizen participation efforts. We were unable, however, to offer research-based recommendations regarding which specific stakeholders should be included in different contexts, although we reported results demonstrating that people have different beliefs about which stakeholders it is important to include. The importance of including certain stakeholders will depend, in part, on the objectives one wants to achieve. Exploring the types of stakeholders which need to be included to achieve certain objectives would, therefore, be worthwhile. This work could then lead to research to identify the most effective means for involving stakeholders – particularly hard to involve, non-traditional stakeholders.

How should input from different types of stakeholders be weighed in reaching a management decision? In many contexts, different stakeholders will support different management alternatives even after attempts to develop community consensus are made. In these situations, decision makers must weigh or balance the importance of the input received in reaching a decision. Several approaches could guide this weighing – managers could develop criteria prioritizing input from people with particular types of stakes in advance of decision making; citizens could develop their own weighing criteria during their participation on a citizen task force, etc. Although we do not anticipate that a universally applicable approach to weighing input is desirable or possible, research could help managers make decisions on weighing input by exploring the various outcomes of different approaches to weighing input in different contexts.

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