Stakeholder Participation:

A Synthesis of Current Literature



Stakeholder Participation: A Synthesis of Current Literature

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Introduction

Stakeholder involvement in marine protected area (MPA) development and management is a topic of growing interest (National Research Council 2001; Kelleher 1999; Salm, Clark, and Siirila 2000; Wells and White 1995). An important lesson learned from the design and implementation of MPAs around the world is that social factors are the primary determinants of the success of MPAs (Mascia 2003), making stakeholder involvement an essential ingredient. However, most agencies dealing with MPAs are just beginning to learn how to design and conduct effective MPA participatory processes.

Over the past 30 years, public participation not only has produced decisions that were responsive to community interests and values, but also has helped resolve user conflicts, build trust, and educate the public about the environment (Beierle and Cayford 2002). While there is growing awareness of the need for involvement, there is a lack of understanding of the implications of increased involvement, as well as of how to improve the process. According to the National Research Council (1996), there is little systematic knowledge about what works in public participation and deliberation. This lack of information is frustrating in part because there is little to offer managers who want more evidence that involving the public will work (Chess 2000; Balch and Sutton 1995). As policy making continues to evolve, it is critical to understand the role of stakeholder involvement and, in particular, how participatory decisionmaking processes can be improved. This information will inform federal, state, and local agencies that are seeking better ways to fulfill their regulatory mandates while constructively engaging the public in environmental decision making (Beierle 1998).

To that end, this literature review is being conducted to extract lessons from participatory processes across various fields, such as forestry, environmental justice, fisheries, and marine and coastal management, and within both the national and international communities. The report begins with a discussion of the benefits of and challenges to stakeholder involvement, followed by regulatory requirements for participation that often provide the backbone to participatory initiatives. Several aspects of participatory processes are then discussed, including process design, participatory mechanisms now being ap-

plied, and factors to consider before launching into a process. This leads to a discussion on evaluating participatory processes, highlighting the state of the research, as well as research gaps and limitations. The report concludes with a summary of trends seen throughout the literature.

At times, this report clearly focuses on the designation or development phase of the MPA process. However, it is important to note that stakeholder participation is important at all stages of the process, including implementation, ongoing management, and evaluation. The information provided in this report can help MPA managers determine what type of stakeholder participation process and participatory mechanisms may be most appropriate for their individual needs. A complete bibliography provides users with additional resources on the processes or approaches discussed within the report.

A Note about Terminology

Definitions of and distinctions between community, public, and stakeholder can be found throughout the public participation literature, but these terms are not applied consistently (Ashford and Rest 1999). As defined by the National Research Council (2001), the term MPA stakeholder refers to anyone who has an interest in or who is affected by the establishment of a protected area. For instance, MPA stakeholders may include (but are not limited to) fishermen, divers, general public, resource managers, scientists, volunteers, teachers, and tour guides. Furthermore, the term community often includes not only those living next to or relying on resources in need of protection, but also extends to all of those interested in or affected by an MPA designation (Brody 1998; National Research Council 2001; Wells and White 1995). On the other hand, the public includes a broader collection of individuals and groups (Ashford and Rest 1999). For clarity in this document, the term stakeholder is used synonymously with the term community, but is considered a subset of the general public over-

introduction

all. In addition, participation, involvement, and engagement are used interchangeably "to denote a process by which individuals and groups come together in some way to communicate, interact,

exchange information, provide input around a particular set of issues, problems, or decisions, and share in decision-making to one degree or another" (Ashford and Rest 1999).

Stakeholder Participation

Benefits

Kaza (1988) eloquently portrayed the need for stakeholder involvement: "With involvement comes understanding, with understanding comes public support and commitment." Participation by parties with a stake in the resource not only increases the level of understanding and support for marine protection, but also reduces potential conflicts and the need for heavy enforcement (Cocklin, Craw, and McAuley 1998; Gilman 1997; National Research Council 2001; Kaza 1988; Kelleher 1999; Salm, Clark, and Siirila 2000; Wells and White 1995). It is argued that compliance and involvement are interrelated phenomena, and that involvement contributes to compliance through the participation process (Hall 1972 in Jentoft, McCay, and Wilson 1998). The literature reveals that participation enhances compliance because stakeholders are more knowledgeable about, committed to, and supportive of regulations if they had a say in the process.

Participation also leads to increased legitimacy. If participants feel the process was fair and their inputs were used, it will ultimately enhance their compliance. In fact, it has been demonstrated that the perception of legitimacy is linked to the participants' views of the fairness of the process (Sutinen and Kuperan 1999). Furthermore, participants who view the process as legitimate generally feel a strong obligation to comply with the results, even if the mandates contradict their self-interests (Sutinen and Kuperan 1999).

Clearly, an essential aspect of the participation process is that stakeholders view their involvement as meaningful and as making a difference (Pirk 2002). Meaningful participation occurs when people see that their contributions to the process have helped shape a decision. Such participation can be fostered by enhancing stakeholders' participation in the generation and application of information, providing opportunities to increase their sense of worth, and strengthening their ability to meet concerns and deal with changes throughout the process. Brody, Godschalk, and Burby (2003) suggest that information empowers the public to become involved in and make an impact on the planning process. Pomeroy (1995) maintains that only an empowered community can address both the need for

economic development and the conservation of natural resources. In the end, resource conflicts may be diminished, access rights distributed more effectively, management initiatives better implemented, and resources better managed when stakeholders are more involved in management initiatives (Pomeroy 1995).

Besides the benefits of increased compliance and reduced conflict, stakeholders should be involved because they have rights (formal or informal) in the coastal marine ecosystem, as well as useful knowledge about the natural and cultural marine environment. Utilizing local knowledge increases the likelihood that a proposed site will cater to the needs of the people relying most on the resources being protected and helps ensure that issues are identified and addressed before a site becomes established by law. Such an approach builds a sense of ownership over the proposal and fosters an appreciation for the habitat or ecosystem being protected (Kelsey, Nightingale, and Solin 1995; Salm, Clark, and Siirila 2000). In many instances, the result is long-term marine protection based on partnerships between resource users and administrative officials. By actively participating, stakeholders are more likely to acknowledge the benefits of a protected area, take credit for the designation, and support and enforce the regulations they establish (Brechin and others 1991; Brody, Godschalk, and Burby 2003; Cocklin, Craw, and McAuley 1998; Fiske 1992; Gilman 1997; Kelleher and Kenchington 1992; Salm, Clark, and Siirila 2000; Wells and White 1995).

Challenges

It is important to acknowledge that while stakeholder involvement can help establish marine protection that accommodates the interests of those with a stake in the resources, it will not always lead to strict levels of protection or successful resource management (Brody 1998). Potential issues with stakeholder involvement may include delays in decision making, increased expenses, tension among stakeholder groups, and lack of consensus. Participatory process-

es are complicated by a number of context and capacity-based factors that may lead to delays in decision making. Furthermore, MPAs are multidisciplinary in nature, requiring diverse interests to be involved. This may mean that conflict management is necessary to overcome tension among stakeholder groups. The complexity of these processes is also influenced by the level of involvement or role of stakeholders in decision making. It may be a challenge to hear from all stakeholders and deal with the amount of input received, as well as divergent opinions expressed.

Simply put, participatory processes are not an easy undertaking. However, while increased participation demands more resources and effort at the initial stages of MPA planning, this work can also save in the long run by increasing the likelihood that the plan will be approved, implemented, and enforced (Brody, Godschalk, and Burby 2003; Kelleher and Kenchington 1992). Stakeholder participation has a number of benefits, but the process must be seen as fair and legitimate by stakeholders.

requirements

Regulatory Requirements for Participation

Public participation is an important and often mandatory part of environmental decision making. In many cases, legislation has been an effective tool to increase public participation (Pirk 2002). Beginning in the late 1960s, almost every piece of environmental legislation contained requirements for public participation (Creighton 1999). Federal agencies are now required to encourage public participation and to provide access to all information in keeping with the Right-to-Know Act, the Freedom of Information Act, and the Sunshine Act, to name a few. States also provide for public participation in a variety of ways. However, participation requirements in most state participation mandates are vague, outdated, and general (Brody, Godschalk, and Burby 2003), providing little guidance to those looking to develop participation programs.

Legislation has made it necessary to gain public comment before decision making, but while having minimum requirements has been successful in some circumstances, it has also caused problems by leading agencies to ask "what are the legal requirements?" instead of "what level of public participation do we need to achieve our objectives?" (Creighton 1999). Furthermore, it has become clear that on controversial issues, in particular, just following the minimum legal requirements does not necessarily result in stakeholder acceptance of agency decisions. For these reasons, it may be beneficial for coastal and marine managers to involve the public to a greater extent than that required by law.

The following sections provide a brief summary of basic legal requirements for public participation at the national and state levels. Coastal and marine managers can use this information as a foundation to build on when designing and conducting a participatory process.

National Level

Administrative Procedures Act (APA)

This act is the principal statute governing public participation in environmental decision making and encompasses the provisions of the Freedom of Information Act, the Privacy Protection Act, and the Government in the Sunshine Act.

Federal agency rule making is governed under this act. To propose a new rule or amend an existing one, an agency must

- 1) Develop a notice of the proposed regulation, including the time, location, and nature of the rule-making proceedings (i.e., agency process for formulating, amending, or repealing a rule), the legal authority under which it is proposed, and a description of the terms and major issues involved;
- 2) Publish the proposal in the Federal Register;
- 3) Allow the public 30 to 60 days to comment; and
- 4) Address the public comments in a final rule making published in the Federal Register.

National Environmental Policy Act (NEPA)

Under this act, federal agencies are required to prepare a detailed environmental impact statement (EIS) for all proposals that are "major Federal actions significantly affecting the quality of the human environment." If the action requires an EIS, the agency must

- 1) Publish a notice of intent in the Federal Register to inform the public that an EIS will be prepared, and to formally announce the beginning of the scoping process;
- 2) Prepare and distribute a draft EIS;
- 3) Receive and respond to public comments on the draft EIS; and
- 4) Prepare and distribute a final EIS containing the agencies' responses to comments received, as well as the preferred alternative.

An EIS must include an examination of the environmental impacts of the proposed rule, documentation of any unavoidable adverse environmental effects, and an alternatives analysis including a "no action" alternative. Although NEPA requires agencies to take a look at the environmental consequences of their actions, it does not obligate them

requirements

to choose the most environmentally sound alternative. For example, when the Florida Keys National Marine Sanctuary was going through the process of determining the size, shape, and location of the Tortugas Ecological Reserve, an EIS was produced and published to describe and differentiate between the various reserve options.

National Marine Sanctuaries Act and Magnuson-Stevens Fishery Conservation and Management Act

A number of environmental statutes relevant to the management of marine protected areas (MPAs) contain additional provisions for public participation. For instance, the National Marine Sanctuaries Act requires that within 30 days of issuing a notice of a proposed national marine sanctuary area, an agency must hold at least one public hearing in the coastal areas that will be affected. In addition, the Magnuson Act requires the Fisheries Management Councils to conduct public hearings to provide for public participation in the development or amendment of fishery management plans, whether these plans include specific MPA proposals or not.

Coastal Zone Management Act

The public participation requirements of this act include the following:

- Each state coastal management program must provide opportunities for public participation in all aspects of the program (i.e., public notices, opportunities for comment, nomination procedures, public hearings, technical and financial assistance, public education).
- Public hearings must be announced at least 30 days in advance, and all relevant agency materials must be made available to the public for review beforehand.

For example, Section 315 of the Coastal Zone Management Act establishes the National Estuarine Research Reserve (NERR) System. As a result, these basic participation requirements will apply to the establishment and management of every NERR site throughout the United States.

State Level

States provide for public participation in a variety of ways. All states have basic statutes about open meetings and open records. (For more information about state freedom of information statutes, visit www.missouri.edu/~foiwww/citelist.html.) In addition, some states have adopted general public participation statutes modeled after federal statutes such as the APA and NEPA. (For more information about states that have environmental planning requirements similar to NEPA, visit http://ceq.eh.doe.gov/nepa/regs/states/states.cfm.) Finally, some states provide for public participation in particular situations through individual state statutes. The following are example excerpts from three state public participation regulations related to coastal and marine management.

California Coastal Act of 1976 (California):

The act declares that "the public has a right to fully participate in decisions affecting coastal planning, conservation, and development; that achievement of sound coastal conservation and development is dependent upon public understanding and support; and that the continuing planning and implementation of programs for coastal conservation and development should include the widest opportunity for public participation."

Aquatic Preserve Act of 1975 (Florida):

This act requires "public notice and public hearing in the county or counties in which the proposed preserve is to be located" before a resolution formally setting aside such areas can be adopted. Because this act formally established the Florida Aquatic Preserves Program, these participation requirements apply to any new aquatic preserve sites; however, no new sites have been established since the 1980s.

Coastal Area Management Act of 1974 (North Carolina):

"Public notice, opportunity for public comment, and agency review shall be required for all development within the Primary Nursery Areas or Outstanding Resource Waters areas of environmental concern."

[Note: Special thanks to the Sea Grant Law Center for providing specific regulatory information.]

Process Design

Management Approaches

Management regimes are influenced by the ecological, cultural, and political contexts of the region in which they are established. In general, the literature has recognized two contrasting approaches to marine resource protection. Traditionally, a "top-down" model dominated approaches to area-based resource protection, where scientific investigation led the process of identifying and designating specific areas (Brody 1998; Kelsey, Nightingale, and Solin 1995). This model is an approach to planning that typically entails a centralized government imposing regulations or laws on resource users. This model can lead to controversy or opposition because stakeholders are not formally brought into the designation process and as a result have little understanding of, or support for, a site proposal (Brody 1998). Top-down designation processes may produce "paper parks" in which natural and cultural resources continue to degrade because enforcement measures are ineffective and there is little compliance with rules and regulations (Brody 1998; Gilman 1997).

In contrast, a "bottom-up" approach to resource protection emphasizes a need to acknowledge local values and perspectives, as well as to adapt designations to prior use patterns (Fiske 1992; Brechin and others 1991). This model is an approach to planning that typically combines scientific knowledge with traditional knowledge of the users to understand and accommodate how they rely on the resources (Graham and others 1992). Involvement by those who rely on the resource being protected is often considered a desirable approach because it incorporates stakeholder interests in the final designation, and creates a sense of responsibility for protecting marine resources (Brody 1998). For that reason, a "bottom-up" approach to planning, design, and implementation of MPAs offers the best opportunity to develop plans with stakeholder support (Brody 1998; Cocklin, Craw, and McAuley 1998; Gladstone 2000; Luttinger 1997; Russ and Alcala 1999; Suman, Shivlani, and Milon 1999).

However, depending on the circumstances, an effective process may be neither entirely "bottom-up" nor "topdown." To combine strategic scientific and resource management objectives with the need to promote stakeholder participation, recognition is growing for the need to combine these "top-down" and "bottom-up" approaches (Kelleher and Recchia 1998). For that reason, the ideal may be a management approach that is government-driven ("top-down") but that heavily involves stakeholders ("bottomup") (Jones, Burgess, and Bhattachary 2001; Kelleher and Kenchington 1992; Kelleher and Recchia 1998).

Another management approach that has emerged during the last decade, particularly within fisheries management in the international community, is co-management. This is an approach that aims to achieve joint responsibility and authority for resource management through cooperation between the government and resource users. The amount of responsibility and authority held at the local level will ultimately depend on site-specific conditions. In some cases, the authority is equally shared between government entities and resources users, while in other cases authority is shared between two government entities. Determining what kind and how much responsibility and authority should be allocated to the local level is typically influenced by the history and politics of a region (Pomeroy 1995). Therefore, the planning and implementation of these arrangements may require the development of new legal, administrative, and institutional arrangements to complement contemporary political, economic, social, and cultural structures (Pomeroy 1995).

Although research on co-management is still relatively new, this approach has been described by some as an inclusionary, consensus-based approach to resource management. One important element is that it stresses negotiation rather than litigation as a means to resolve conflict. Ultimately, the effectiveness of this approach depends on the strength of the local organization, its ability to enforce institutional arrangements (Pomeroy 1995), and its ability to speak with one voice (Jentoft and McCay 1995). Co-management can serve as a mechanism for both resource management and community and economic development by promoting partici-

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pation in actively solving problems and addressing needs (Pomeroy 1995). Similarly, this approach can act as a "social leveler" where fishermen, tourist business operators, and local politicians interact on the same level and are empowered to make decisions (Gell and Roberts 2002). In this way, comanagement regimes may be a means of achieving or strengthening legitimacy (Sutinen and Kuperan 1999).

Decision-Making Continuum

For participatory processes in general, decision making occurs along a continuum marked by four levels of participation (see Table 1 on the following page). Note: A continuum implies that there are no sharp boundaries between the different levels. At one end of the continuum, stakeholders are not involved in decisions or activities. At the other end of the continuum, initiatives are originated and fully controlled by the stakeholders. In between these extremes are various models of shared control that present different opportunities for and degrees of stakeholder participation. As a result, as one moves along the continuum, there is a gradual shifting of responsibility and authority for management to stakeholders. The four levels of participatory decision making have been characterized as follows (NOAA Coastal Services Center 2000):

Level I – This level of participatory decision making is made solely by the management authority/agency, and stakeholders are only informed about the decision after it has been made. This level includes information-giving activities such as newsletters, presentations at meetings, briefing media through press releases, advertising through posters, and radio announcements.

Level II – This level of participatory decision making is made by the management authority/agency after input is obtained from stakeholders. This level includes consultative activities such as public meetings, workshops, or task groups. Often these consultative activities will be used in conjunction with information-giving activities described above.

Level III – This level of participatory decision making involves stakeholder discussions and decisions on a course of action. However, at this level, the stakeholders are unable to act until they

receive approval from the management agency. At this level, information-giving activities are used to start the process, followed by collaborative activities such as advisory committees or joint planning teams.

Level IV – This level of participatory decision making applies to situations in which the stakeholders have been given the authority to make decisions and implement action plans without having to seek final approval from a management agency.

It is also important to consider how various participatory mechanisms will fit into process design (see "participatory mechanisms" section below). Depending on the goal of participation, participatory mechanisms will fit into this decision-making continuum in different ways. For instance, the lower levels (i.e., levels I and II) involve top-down communication strategies and a one-way flow of information, whereas the higher levels (i.e., levels III and IV) are characterized by dialogue and two-way information exchange (Rowe and Frewer 2000). It is also likely that more knowledge-based decisions will require lower levels of involvement, whereas more value-based decisions will require deliberation and discussion (Rowe and Frewer 2000). To that end, participatory processes cannot be prescribed without knowing the goals and content of decision making (Caribbean Natural Resources Institute 1999); one process design will not fit all situations. Managers need to evaluate what level of participation is appropriate to their situation and plan accordingly.

Borrini-Feyerabend (1997) made several observations about the continuum. First, laws and regulations may not sanction a location along the continuum. It is thought that management control can be exercised in many ways, and not all are explicitly mandated. Second, stakeholder participation in an initiative should be tailored to fit the unique needs and opportunities of each context, historically and sociopolitically. Therefore, there is no "best" place to be along the participation continuum. Third, no matter where an initiative or process is "set" along the continuum, its position may change depending on what is appropriate for a particular phase of the process (i.e. designation, implementation, or evaluation) and depending on contextual circumstances. For instance, changes in political, socioeconomic and ecological factors provoke changes to institutional settings or management practices, and, in turn, affect the circumstances (and needs) for stakeholder participation.

process design

Table 1: Participatory Decision-making Continuum

Management Aç	gency Controlled	Stakeholder	· Controlled
I Management agency has authority, makes the decision, and then informs the stakeholders • Telling • Directing • Management agency is accountable and responsible • Management agency is in control • Stakeholders are told about, but not involved in decision making	II Management agency gathers input from the stakeholders before deciding Selling Coaching Stakeholder input is gathered as part of the process Stakeholders are consulted and may have input into the decision	III Stakeholders decide and recommend actions for the agency to implement Participating Facilitating Accountability is shared Stakeholders provide decision to management agency, who then develops an action plan and implements the decision	IV Stakeholders decide and act to implement Delegating Liaisoning Stakeholders are ac countable and responsible Stakeholders can set direction and take action without approval Stakeholders implement decision

(Source: NOAA Coastal Services Center 2000, modified from Bens 2000)

Experience from the Caribbean region in participatory planning and management also supports the observation that the level of participation achieved at any given time is governed by a number of factors, including institutional capacity, educational levels, leadership, and access to facilitation skills (Caribbean Natural Resources

Institute 1999). Clearly, understanding that various factors are influential in successful (or unsuccessful) public participation is an important underpinning to the design of participation programs. (Note: Influencing factors are discussed in detail in a later section.)

Participatory Mechanisms

With an increasing emphasis placed on involving stakeholders in decision making, and the evolution of a wide range of participatory processes, it is important to be knowledgeable about the various mechanisms of participation used in different situations. During the 1970s and 1980s, the public's role in environmental decision making was typically limited to commenting on proposed rules, reviewing environmental impact statements, and contributing input through a relatively small number of Federal Advisory Committees, which are committees that have been established to advise various agencies in the federal government. More recently, however, involvement has expanded to employ more deliberative forms of participation such as public hearings and meetings, citizen advisory committees, citizen juries and panels, and negotiated rule making. The literature provides substantial information on the relative value and limitations of these various mechanisms (Ashford and Rest 1999; Beierle and Cayford 2002; Chenoweth, Ewing, and Bird 2002; Chess and Purcell 1999; Creighton 1999; Fiorino 1990; Graham and others 1992; Pirk 2002), as summarized below.

Public hearings and meetings are more traditional forms of public participation and are often used in conjunction with public notice and comment. Frequently required by law, meetings and hearings are open forums for information exchange, where agencies announce and defend proposals, and the public learns about issues and expresses opinions. These forums are designed to foster direct communication between agencies and stakeholders, allow the dissemination of information, and provide a forum in which views of stakeholders can be heard. While agencies are under an implicit obligation to review information received at these forums, there is not a commitment to shared decision making. Furthermore, these forums tend to occur late in the decision-making process and may be dominated by organized interests or outspoken individuals, which may limit meaningful discussion. Some recent MPA processes have made an effort to overcome these challenges by holding public hearings early in the process and structuring them as round-table discussions to avoid grandstanding.

Citizen advisory committees and groups provide advice to agencies on particular issues. These groups learn about issues, propose and analyze potential solutions, and formulate a set of recommendations over the course of regular meetings, often over years. (Note: Citizen advisory committees may be ongoing, providing advice to an established protected area over time, or they may be temporary, such as a working group formed to discuss a new MPA designation or a newly identified resource threat.) These committees have defined and consistent membership, where participants are selected based on specific characteristics or to represent a constituency group. In contrast to public meetings, advisory committees facilitate discussions among various stakeholders. Therefore, much of the work behind such groups is managing interactions among participants, who bring diverse interests to the table. The role of the advisory committee members should be to communicate to the constituencies they represent and to the lead agency. These committees frequently seek consensus, which requires opposing interests to work together to come to a common and acceptable solution. While these committees provide a better opportunity for in-depth discussion and consensus building than traditional public hearings, they may have limited inclusiveness and limited authority to make final decisions.

Citizen juries and review panels can also be used to develop recommendations around a specific issue. Participants, who are typically selected at random from the community, hear testimony from technical experts and stakeholders and have an opportunity to question them before deliberating and voting on recommendations. This approach helps balance expert advice with community values. However, if a majority-rules approach is used, it may overwhelm minority interests involved.

Negotiated rule making and mediation processes are also increasingly popular methods for reaching consensus. They are generally facilitated processes, where the agency participates as an interested party in meetings over a period of time. They provide opportunities for learning and shared decision making. However, since these processes typically include representatives of organized interests,

they do not necessarily allow for direct participation by the general public, and they may be inappropriate for decisions affecting fundamental social values or choices.

Besides the participatory mechanisms already listed, there are a number of other mechanisms that have been recommended in the literature as useful when obtaining information from, or providing information to, stakeholder groups. For instance, public opinion surveys, community forums, facilitated workshops and meetings, visioning, focus groups, and charettes have all been recommended for obtaining information from stakeholders (Brody, Godschalk, and Burby 2003). Some of these mechanisms have been used more extensively than others. Focus groups, for instance, are used frequently to discuss specific subjects, but visioning and charettes are not as common. Visioning is a public participation technique, typically used at the beginning of a planning process, to develop goals and objectives (or "themes") around a particular issue. These themes are then compiled into a "vision statement." In addition, a charette is a short, intense, collaborative process that is usually used to design projects, plan communities, or build consensuses. Still other participatory mechanisms have been recommended as effective methods for providing information to stakeholders. These include educational workshops, presentations to community groups, newsletters, brochures, Web sites, videos, newspaper inserts, and public service announcements (Brody, Godschalk, and Burby 2003).

The range of participatory mechanisms described above demonstrates that choosing a mechanism can often be a choice between information sharing and deliberation. With that in mind, the purpose behind utilizing various participation mechanisms will ultimately be determined by process goals, situational variables, and possible legal constraints (English and others 1993). If goals include resolving conflict and building trust, then utilizing information sharing mechanisms alone may not be sufficient.

Unfortunately, participatory mechanisms are often used simply in recognition of the need to involve the

public in some way, assuming that involvement is an end in itself, rather than a means to an end (Wiedemann and Femers 1993; Rowe and Frewer 2000). However, effective and meaningful participatory processes require skilled application of appropriate methods (Caribbean Natural Resources Institute 1999). To that end, agencies should consider utilizing participatory mechanisms with problem-solving capabilities in combination with mechanisms that involve a broad range of stakeholders to ensure that communities are broadly canvassed. This is not to suggest that traditional mechanisms, such as public hearings, be abandoned, but rather that they be supplemented with workshops, committees, Web sites, focus groups, charettes, surveys, and other participatory techniques. In fact, using a combination of participatory mechanisms has been shown to generate the highest level of participation (Beierle and Cayford 2002; Brody, Godschalk, and Burby 2003; Cocklin, Craw, and McAuley 1998). Opportunities to share ideas and views in an informal setting also seem to encourage stakeholder participation (Brody, Godschalk, and Burby 2003).

Besides the mechanisms for public participation in decision making, there are a number of ways to engage the public throughout ongoing management efforts, particularly with MPAs. For instance, volunteers, either as individuals or groups (e.g., citizen advisory committees), are an integral component of many MPA programs. Volunteer activities can range from monitoring to collecting natural or social science data, and to education and outreach efforts. Federal MPA sites, such as national marine sanctuaries and national estuarine research reserves, often have official volunteer programs already established, as do many state MPA sites. Local initiatives also rely heavily on volunteers for activities such as monitoring and enforcement.

Factors to Consider During Process Design

When undertaking a decision-making process, steps toward initial process design typically include assessing history of the community (e.g., successes and failures, stakeholder dynamics), setting goals, selecting stakeholder participants, and establishing process structure. It is also essential to clarify from the beginning what issues are under consideration, who will make the final decisions, and why and how stakeholders are being involved. Those charged with designing a process are also wise to build in flexibility, since participation is thought to be a learning experience wherein both participants and planners need to reflect upon the experience and feed those insights back into the design so the process can be improved over time (Webler, Tuler, and Krueger 2001).

However it may evolve, process design must be tied to the goals and objectives identified for the participation process (McCool and Guthrie 2001). Increasing knowledge, building consensus, improving agency decisions, generating acceptance of agency actions, increasing trust, and empowering stakeholders are some examples of participation goals identified in the literature (Chess 2000). An agency's participation goals may range from gathering information about stakeholder values to getting advice from stakeholders, or to engaging them in the decision making itself. The process at any given time may have multiple participation goals (English and others 1993). In fact, according to Brody, Godschalk, and Burby (2003), the more participation goals and objectives emphasized, the greater the level of participation obtained from a range of stakeholder groups.

When stakeholders see an opportunity to genuinely impact decision making, they are more likely to participate in the process. Furthermore, the literature suggests that participants who believe the process is good are more likely to accept and endorse its outcomes. With that in mind, it is desirable for process design to meet the needs and desires of the participants. Common sense suggests that decisions that reflect stakeholder values and are made through processes that reduce conflict and

mistrust should be easier to implement (Beierle and Cayford 2002). That said, the realization of true participation in decision making is difficult. There are a number of factors that need to be considered before launching into any process that influence the potential for effective participation and successful implementation.

Context

Contextual factors need to be taken into account. When initiating a stakeholder participation process, it is important to be mindful of the history within that community by recognizing local conditions (e.g., the dynamics between stakeholder groups). Since every community is unique, it is necessary to be sensitive to individual situations and dynamics. This includes being culturally sensitive, because many communities will have multiple cultures. Besides cultural considerations, it is necessary to consider social, political, economic, and gender dimensions affecting various stakeholder groups.

It is also important to learn from past successes and failures. For instance, it may be important to identify a community's past experience with, or perceptions of, government agencies before a process is conducted. Rarely does stakeholder involvement begin with a clean slate; instead, it may be preceded by a history of litigation or distrust, which may present barriers if left unaddressed (English and others 1993; Hough 1988).

Attitudes, perceptions, and beliefs among the various stakeholder groups may need to be discerned because ultimately these will influence trust. Establishing trust between parties is considered a prerequisite to successful conflict management (Hough 1988). The variety of attitudes, perceptions, and beliefs may be particularly important to identify before a process is designed in order to appropriately contend with differences during the process. While conflict in resource management decisions is unavoidable, it does not have to dominate a process.

There may also be an existing structure for public involvement that needs to be taken into account, including what may be lost or gained if the existing structure is altered (English and others 1993). For instance, the underlying authorities and legislation (or lack thereof) may influence not only the basic structure of the pro-

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cess (i.e., where each process is located along the decision-making continuum), but also how various factors play out within the process itself.

Capacity

When initiating a stakeholder participation process, it is important to be aware of the capacity of both the agency leading the process and the stakeholders being asked to participate in it. Factors that affect capacity include training, time, money, and experience. These factors can become barriers to participation unless they are sufficiently addressed early on. Typically, the more stakeholder participation that is incorporated into a decision-making process, the more time and money it will require, from both the lead agency and stakeholders. Unfortunately, these resources are often the limiting factors to enhancing participation in a process. At times legal mandates place a time constraint on a process, thereby limiting the amount of participation that can be incorporated.

Participatory processes typically require long time frames to sensitize, build awareness, strengthen relevant institutions, and work through existing stakeholder dynamics and cultural barriers (Caribbean Natural Resources Institute 1999). Just making information available in forms accessible to all stakeholders can take considerable time (Caribbean Natural Resources Institute 1999). It also takes time for individuals to become familiar with the information available, and often access to information is not equally shared among stakeholders groups (Chenoweth, Ewing, and Bird 2002). Minority communities, in particular, often do not have adequate access to the information that is available and are unable to voice their opinions to those making decisions (Pirk 2002). Information access and education needs will continue to be challenges to participation processes, but there are ways to nurture stakeholder capacity as part of the participation process. For instance, making information available in multiple forms (e.g., printed and on-line material, translations in multiple languages) and allowing forums for sharing local or traditional knowledge can be valuable. Technology tools have also been developed, such as geographic information system (GIS)-based decision-making tools, to facilitate stakeholder involvement.

It is important to note that not all stakeholders can or will actively participate in a stakeholder involvement process. Many will choose not to because of lack of time, lack of inclination, or a sense of inability to contribute. In addition, most participatory mechanisms would become too cumbersome if all stakeholders participated (English and others 1993). It is common for processes to include individuals who serve as "stakeholder representatives," formally or informally, to speak for a certain type of resource user or interest group. However, it is rarely possible to involve representatives of all stakeholders, and it can be particularly hard to involve non-organized stakeholders (Jones, Burgess, and Bhattachary 2001), since they are typically harder to identify within the community and may require different participatory mechanisms than stakeholders who are organized or have established representatives. Even when user groups are all represented on a committee, the views presented may be limited to a smaller subgroup or to the individual interests of the representative. If this occurs, groups that may already have been marginalized because of social and economic differences may become further isolated (Gell and Roberts 2002). Managers need to be aware of these challenges to design participatory processes that are as inclusive as possible.

Turning to the issue of agency capacity, besides the basic issues of time and money mentioned above, staff members may not have skill sets to conduct these types of processes. Staff members should have skills such as negotiation and diplomacy (Hough 1988), and they may need facilitation skills if the process is being conducted without the assistance of an outside facilitator. Training can play a key role in nurturing agency capacity, and there are courses available to help people develop or enhance such skills.

Finally, managers are wise to consider that capacity issues also influence implementation of decisions made via participatory processes. Planning processes that lack an institutional basis for executing the chosen management actions may fail to move to this implementation stage (Caribbean Natural Resources Institute 1999). Implementation of participatory planning decisions typically requires political support, as well as adequate technical and financial resources (Caribbean Natural Resources Institute 1999).

evaluate

How to Evaluate Participatory Processes

Just as there is not one universally applicable process for stakeholder involvement, there is not one definition of a successful process, either in the abstract or in contextspecific cases (Webler, Tuler, and Krueger 2001). But while it is not realistic to expect to identify one process that will be successful in all situations, evaluation can identify principles of good participation processes (Tuler and Webler 1999; Webler, Tuler, and Krueger 2001). Evaluation plays a key role in understanding the strengths and weaknesses of existing processes, and thus in improving future participation initiatives. While mechanisms are under development to track the quality and effectiveness of participatory processes (Rowe and Frewer 2000; Jones, Burgess, and Bhattachary 2001), evaluation remains the weakest element in participatory theory and practice. In fact, to date evaluations of participation processes have provided only limited understanding of what contributes to a successful process (Chess 2000; Chess and Purcell 1999; National Research Council, 1996).

According to Ashford and Rest (1999), evaluations of success are complicated by the range of goals and expectations for participation processes. In particular, evaluation of MPAs should consider both the degree to which an MPA is meetings its stated goals and the effectiveness of the participatory processes surrounding the design and implementation of the MPA. The clearer the MPA's goals are, the easier it will be to design and implement an adequate monitoring system. In addition to the range of goals, the complexity of environmental problems and the diversity of interests involved are other factors that make evaluation a difficult task.

Furthermore, success lies in the eyes of the beholder as it can mean different things to different people involved in the process (Peelle and others 1996). For some, successful participation is defined by a successful outcome, whereas for others, success is based on an assessment of the way in which participation occurs (Chess 2000; Chess and Purcell 1999). When reviewing participatory process research, it is important to note whether outcome or process factors were emphasized, or if both were considered. Outcome-based factors deal primarily with the results of the process, and process-based factors deal with the character of the planning process itself.

State of the Research

The literature on evaluating participatory processes generally falls into three categories: developing frameworks for evaluation (e.g. Beierle 1998; Rowe and Frewer 2000), defining factors for successful participation (e.g. Moore 1996; Pollnac, Crawford, and Gorospe 2001; Webler, Tuler, and Krueger 2001), and evaluation of participatory processes (e.g. Beierle and Cayford 2002; Beierle and Konisky 1999; Brody 1998, Kessler 2003). The following are brief summaries of recent evaluation literature:

- Beierle (1998) developed a framework for evaluating mechanisms that involve the public in environmental decision making based on a set of social goals. He argued that any participation process should achieve the following six social goals: educating and informing the public, incorporating public values into decision making, improving the substantive quality of decisions, increasing trust in institutions, reducing conflict, and achieving cost-effectiveness.
- Rowe and Frewer (2000) developed a framework for evaluation of public participation processes comprised of two different types of criteria for measuring the success of a participation process—acceptance criteria and process criteria. The acceptance criteria included representativeness of participants, influence of participants on decision making, and transparency of process, while process criteria included resource accessibility of the agency, structured decision making, and cost-effectiveness.
- Moore (1996) interviewed participants in two environmental dispute resolution cases and identified a combination of process and outcome criteria for success. The process criteria included representation of all interests, agency-community relationships, and ownership of the plan, while outcome criteria included general acceptance of the process and plan, and protection of all interests.

- Pollnac, Crawford, and Gorospe (2001) studied community-based MPAs in the Philippines and determined six factors that appeared to be important to their overall success. These factors included a relatively high level of community participation in decision making, continuing advice from the implementing organization, and inputs from local government.
- Webler, Tuler, and Krueger (2001) studied a
 forest planning process and asked participants
 what constitutes a good public participation
 process. Their responses were then classified
 into five perspectives: the process should be
 legitimate, promote a search for common values, realize democratic principles of fairness
 and equality, promote equal power among all
 viewpoints, and foster responsible leadership.
- Beierle and Cayford (2002) evaluated the success of public participation within the United States by synthesizing data from several hundred published studies covering 239 cases of public involvement in environmental decision making. Beierle and Cayford (2002) maintain that processes in which agencies are responsive, participants are motivated, the quality of deliberation is high, and participants have at least a moderate degree of control over the process are more successful than processes that do not have these characteristics. Furthermore, good processes have been shown to overcome some of the most challenging and controversial circumstances (Beierle and Cayford 2002).
- Beierle and Konisky (1999) assessed public participation processes in the Great Lakes region, specifically evaluating the usefulness of participation processes with outcome-based criteria. In this study, an attempt was made to establish the importance of various process factors (e.g. deliberative process, commitment of lead agency, and perceived impact on decision making) and contextual factors (e.g. atmosphere conducive to agreement, attitude toward lead agency, and confidence in process) in achieving six outcome goals. The six outcome goals include educating and informing the public, increasing the substantive quality of decisions, incorporating public values into decision mak-

- ing, resolving conflict among competing interests, and rebuilding trust in government agencies.
- Brody (1998) evaluated existing MPA establishment processes in the Gulf of Maine on their level of community involvement and public participation. Several case studies were presented to outline the use of involvement and participation in each process, and to further understand which aspects were most helpful. Based on lessons learned from these examples, Brody suggested a set of guidelines that most effectively incorporated participation and involvement in the MPA establishment process. The suggested guidelines include representation of all stakeholders, early participation in the establishment process, participation over consultation, incorporation of local knowledge, establishment of an on-site committee, and design of a well-structured establishment process.
- Kessler (2003) evaluated how to engage stakeholders constructively in MPA designation processes. Five processes were analyzed for the presence or absence of the guidelines suggested in the literature for effective stakeholder participation. The case studies demonstrated that different processes containing many of the same process elements may lead to a variety of outcomes depending on how various contextual and capacity-based factors influenced the process. The study also demonstrated that the importance of guidelines suggested in the literature varied across the case studies, with not all components being essential to all processes.

Several other issues that influence the success of participatory processes have been brought to light through recent research. For instance, the timing of participation throughout the process did not seem to determine successful participation as much as the types of participatory mechanisms utilized to obtain information from stakeholders. Brody, Godschalk, and Burby (2003) demonstrated that the more participatory mechanisms employed throughout the process, the more stakeholder groups participated in the process.

Research also indicates that the types of information provided to communities influences public participation during the planning process. On average, the more types of information provided (e.g., maps, summaries of plan elements or issues, vision statements, alternative planning strategies), the greater the number of groups that

subsequently participated in the process (Brody, Godschalk, and Burby 2003). Furthermore, agencies may enhance participation by providing information that was created by the participants themselves (Brody, Godschalk, and Burby 2003). For example, groups were significantly more likely to participate in the process if they received summaries of citizen input obtained through meetings or other means.

Finally, education plays a key role in influencing success. The literature indicates that public participation can only be meaningful if the general public is informed (Octeau 1999; Thomas 1995). Brody (1998) states that not only must an MPA proposal be communicated clearly to affected parties, but they should also be educated on the potential benefits and costs of marine protection. Beierle and Konisky (1999) write that educating the public is important in the context of participatory decision making, such as an MPA establishment process, because education helps the public develop the capabilities needed to formulate alternatives and discuss them with agency representatives. Looking beyond a specific participatory process, Beierle and Konisky suggest that information can empower the public to carry out its role of identifying violations, applying community pressure, enforcing laws, and contributing to permitting and rule making as envisioned in environmental legislation.

Research Gaps

To date, a majority of the research in this area has concentrated on identifying what factors of the participation process are important for success, and what outcomes the participation process should achieve. Few studies have evaluated what process factors influence a particular outcome or whether processes have achieved their expected outcomes (Turaga, no date). Also, few studies have distinguished between factors that may be considered "essential," "essential under specific circumstances," or "helpful but not essential" (Peelle and others 1996). This is one area where there has been increased interest. Studies have just begun to evaluate the relationship between specific criteria and a desired result. For example, Beierle and Konisky (1999) discuss the relationship between successful participation and a number of contextual and process attributes among several cases. More studies are needed to evaluate the interrelationships among these various factors (Peelle and others 1996).

Research Limitations

As discussed previously, some evaluate outcomes, while others evaluate the process itself to determine the success of stakeholder participation. There are limitations to both approaches. For instance, it is widely acknowledged that participatory processes are context-dependent (Jones, Burgess, and Bhattachary 2001). As a result, evaluating the outcome of any public participation effort has its limitations, because researchers cannot be sure if a result is due to public participation efforts or to other variables, such as local politics, social context (e.g., stakeholder dynamics, history), or the nature of the issue at hand (Chess and Purcell 1999).

There are also limitations to using a process approach. First, this approach is based on the implicit assumption that good processes lead to good outcomes, but in reality this is not necessarily the case, as has been documented. Beierle (2000) found that cases rated for a high-quality outcome were not always related to a high-quality process, and vice versa. Second, process evaluations are unclear about what aspects of the process are essential for a desired result (Beierle 1998). In other words, when an agency attempts to design a process with a specific goal in mind, it finds that research has not distinguished what process characteristics are required versus what characteristics are just nice to have. This is a difficult topic to address since some criteria may be essential in some cases but not as important in others. A third limitation is that the suggested process criteria may not capture all the important factors affecting a participation process (Beierle 1998). As is true in an outcome-based evaluation, community conditions such as existing relationships between stakeholders, institutional capacity of agencies, and available resources may be important contextual factors in how well a process functions.

Finally, some outcome and process indicators are easier to measure than others. On the outcome side, it is easy to identify if an MPA was created or modified, but it is harder to evaluate the resulting ecological changes. On the process side, it is more straightforward to measure the number of meetings held than it is to measure the degree to which all stakeholder groups, including male and female, rich and poor, etc., were all able to provide input and have a voice in the decision-making process.

Summary of Findings

A number of ideas were raised repeatedly in the literature and should be taken into consideration before designing and conducting a participatory process. These ideas include the following:

- Stakeholder participation enhances compliance because stakeholders are more knowledgeable about, committed to, and supportive of regulations if they had a say in the process.
- Perceptions also affect compliance. Participants who
 see their contributions as making a difference and
 perceive the process as legitimate and fair are more
 likely to comply with the result.
- It may be beneficial for coastal and marine managers to involve the public to a greater extent than what is required by law.
- To balance strategic scientific and resource management objectives with the need for improved stakeholder participation, recognition is growing of the need to combine "top-down" (i.e. government-driven) and "bottom-up" (i.e. stakeholder-driven) approaches to environmental decision making.
- Co-management regimes may increase legitimacy and foster community and economic development while achieving resource management goals, but implementation of such regimes may require the development of new legal, administrative, and institutional arrangements.
- Goals for a participation process should be established early and communicated clearly.
- Appropriate process design depends on goals and context. There is no "best" place to be along the participation continuum, and no one process can fit all situations.
- Managers need to evaluate what level of participation is appropriate to their situation, given their stated goals, and plan accordingly.
- Different participatory mechanisms lead to different levels of involvement, with some merely facilitating information sharing and others providing opportunities for real deliberation.

- Utilizing a combination of participatory mechanisms leads to greater participation.
- Utilizing diverse types of information, and in particular providing information created by participants themselves, also leads to greater participation.
- It is essential to clarify from the start of any
 participatory process what issues are being
 considered, who will make the final decisions,
 and why and how stakeholders are being
 involved, so that all involved are clear about
 their roles in decision making.
- Stakeholder participation processes should be tailored to fit the unique needs and opportunities of each context. For that reason, it is important to recognize the history of the community (e.g., successes and failures, stakeholder dynamics) and consider the social, political, economic, and gender dimensions affecting various stakeholder groups.
- When designing a participatory process, the capacity of both the lead agency and stakeholders should be assessed so that various factors such as time, money, and training and expertise do not become barriers.
- Information empowers the public to become involved in and make an impact on the planning process. In this way, education facilitates meaningful participation and, therefore, plays a key role in influencing successful participation.
- Evaluation of participatory processes is critical to improvement of future efforts.
- While research to date has begun to identify principles and elements that foster successful processes, more work is needed to tease out which elements are critical in different situations.

Conclusions

Stakeholder participation has important benefits for increasing legitimacy of decisions in the eyes of stakeholders, as well as increasing compliance with decisions and rules established. As MPA designation and management processes continue to evolve, both stakeholders and managers want improved participatory processes (NOAA Coastal Services Center 2003). The information provided in this report is intended to help MPA managers determine what type of stakeholder participation process and participatory mechanisms may be most appropriate in different situations, and to help them consider a range of context and capacity variables that can influence a participatory process.

Clearly, there is not a "one size fits all" for participation processes. Multiple variables require

consideration when developing a participation strategy, including goals, design aspects of the process, and contextual aspects of the situation in which participation takes place (Rowe and Frewer 2000). Different processes may lead to a variety of conclusions depending on how these variables influence the process. In addition, distinctions in the level of, or approach to, stakeholder involvement do not necessarily gauge success or failure of that particular process.

While more research is needed to evaluate all the elements that may contribute to a successful participatory process, the literature demonstrates that a variety of approaches can work well. Taking time to consider the range of elements and possible combinations will help MPA managers design and conduct effective participatory processes.

References

- Ashford, N.A., and K.M. Rest. 1999. Public Participation in Contaminated Communities. Center for Technology, Policy, and Industrial Development. Massachusetts Institute of Technology, Cambridge, Massachusetts. Web site: web.mit.edu/ctpid/www/tl/TL-pub-PPCC.html.
- Balch, G.I., and S. Sutton. 1995. "Putting the First Audience First: Conducting Useful Evaluation for a Risk-Related Government Agency." Risk Analysis. Volume 15, Number 2. Pages 163 to 170.
- Beierle, T.C. 1998. Public Participation in Environmental Decisions: An Evaluation Framework Using Social Goals. Resources for the Future, Washington, DC. Discussion Paper 99-06.
- Beierle, T.C. 2000. The Quality of Stakeholder-Based Decisions: Lessons from the Case Study Record. Resources for the Future, Washington, D.C.
- Beierle, T.C., and J. Cayford. 2002. Democracy in practice: Public participation in environmental decisions. Resources for the Future, Washington, DC.
- Beierle, T.C., and D.M. Konisky. 1999. Public Participation in Environmental Planning in the Great Lakes Region. Resources for the Future, Washington, DC. Discussion Paper 99-50.
- Bens, I. 2000. Facilitating with Ease! A step-by-step guidebook with customizable worksheets on CD-Rom. Jossey-Bass Inc., San Francisco, CA.
- Borrini-Feyerabend, G. 1997. Beyond Fences: Seeking Social Sustainability in Conservation. IUCN, Gland (Switzerland). Web site: www.iucn.org/themes/spg/Files/beyond_fences/beyond_fences.html.
- Brechin, S.R., P.C. West, D. Harmon, and K. Kutay. 1991. "Resident Peoples and Protected Areas: A Framework for Inquiry." In Resident People and National Parks: Social Dilemmas and Strategies in International Conservation. Edited by Patrick West and Steven Brechin. The University of Arizona Press, Tucson, AZ.
- Brody, S.D. 1998. An Evaluation of the Establishment Processes for Marine Protected Areas in the Gulf of Maine: Understanding the Role of Community

- Involvement and Public Participation. Marine State Planning Office Gulf of Maine Council on the Marine Environment, Augusta, ME.
- Web site: www.gulfofmaine.org/library/mpas/process eval 0798.PDF.
- Brody, S.D., D.R. Godschalk, and R.J. Burby. 2003. "Mandating Citizen Participation in Plan Making: Six Strategic Planning Choices." APA Journal. Volume 69, Number 3. Pages 245 to 262.
- Caribbean Natural Resources Institute. 1999. Evaluation of Caribbean Experiences in Participatory Planning and Management of Marine and Coastal Resources. In collaboration with the United Nations Environment Programme and United Kingdom Department for International Development in the Caribbean. August.
- Chenoweth, J.L, S.A. Ewing, and J.F. Bird. 2002. "Procedures for Ensuring Community Involvement in Multijurisdictional River Basins: A Comparison of the Murray-Darling and Mekong River Basins." Environmental Management. Volume 29, Number 4. Pages 497 to 509.
- Chess, C. 2000. "Evaluating Environmental Public Participation: Methodological Questions." Journal of Environmental Planning and Management. Volume 43, Number 6. Pages 769 to 784.
- Chess, C., and K. Purcell. 1999. "Public Participation and the Environment: Do We Know What Works?" Environmental Science and Technology. Volume 33, Number 16. Pages 2685 to 2692.
- Cocklin, C., M. Craw, and I. McAuley. 1998. "Marine Reserves in New Zealand: Use Rights, Public Attitudes, and Social Impacts." Coastal Management. Volume 26. Pages 213 to 231.
- Creighton, J.L. 1999. "Public Participation in Federal Agencies' Decision Making in the 1990s." National Civic Review. Volume 88, Number 3. Page 249.
- English, M.R., A.K. Gibson, D.L. Feldman, and B.E. Tonn. 1993. Stakeholder Involvement:

- Open Processes for Reaching Decisions about the Future Uses of Contaminated Sites. Waste Management Research and Education Institute. University of Tennessee, Knoxville, TN.
- Fiorino, D.J. 1990. "Citizen Participation and Environmental Risk: A Survey of Institutional Mechanisms." Science, Technology, and Human Values. Volume 15. Pages 226 to 243.
- Fiske, S. 1992. "Sociocultural Aspects of Establishing Marine Protected Areas." Ocean and Coastal Management. Volume 18. Pages 25 to 46.
- Gell, F.R., and C.M. Roberts. 2002. The Fishery Effects of Marine Reserves and Fishery Closures. WWF-US, 1250 24th Street, NW, Washington, DC 20037, USA. Web site: www.californiafish.org/fishery_effects.pdf.
- Gilman, E.L. 1997. "Community Based and Multiple Purpose Protected Areas: A Model to Select and Manage Protected Areas with Lessons from the Pacific Islands." Coastal Management. Volume 25. Pages 59 to 91.
- Gladstone, W. 2000. "The Ecological and Social Basis for Management of a Red Sea Marine Protected Area." Ocean & Coastal Management. Volume 43, Number 12. Pages 1015 to 1032.
- Graham, R., N. Stalport, D. VanderZwaag, C. Lamson, M. Butler, and D. Boyle. 1992. "The Protection of Special Marine and Coastal Areas." In Canadian Ocean Law and Policy. Edited by D. VanderZwaag. Toronto: Butterworths Canada, Ltd.
- Hall, R.H. 1972. Organizations: Structures, Processes, and Outcomes. Prentice Hall, Englewoods Cliffs, NJ.
- Hough, J.L. 1988. Obstacles to Effective Management of Conflicts Between National Parks and Surrounding Human Communities in Developing Countries. Environmental Conservation. Volume 15, Number 2. Pages 129 to 136.
- Jentoft, S., and B.J. McCay. 1995. "User Participation in Fisheries Management: Lessons Drawn from International Experience." Marine Policy. Volume 19. Pages 227 to 246.

- Jentoft, S., B.J. McCay, and D.C. Wilson. 1998. "Social Theory and Fisheries Co-management." Marine Policy. Volume 22. Pages 423 to 436.
- Jones, P.J.S., J. Burgess, and D. Bhattachary. 2001. An Evaluation of Approaches for Promoting Relevant Authority and Stakeholder Participation in European Marine Sites in the UK. English Nature (UK Marine SACs Project).
- Kaza, S. 1988. "Community Involvement in Marine Protected Areas." Oceanus. Volume 31, Number 1. Pages 75 to 81.
- Kelleher, G. 1999. Guidelines for Marine Protected Areas. World Commission on Protected Areas, International Union for the Conservation of Nature and Natural Resources (IUCN). Gland, Switzerland and Cambridge, United Kingdom.
- Kelleher, G., and R. Kenchington. 1992. Guidelines for Establishing Marine Protected Areas: A Marine Conservation and Development Report. World Conservation Union (IUCN), Gland, Switzerland.
- Kelleher, G., and C. Recchia. 1998. "Lessons from Marine Protected Areas around the World." Parks. Volume 8, Number 2. Pages 1 to 4 (editorial of special issue on MPAs).
- Kelsey, E., J. Nightingale, and M. Solin. 1995. "The role of partnerships in implementing a new marine protected area: A case study of Whytecliff Park." In Marine Protected Areas and Sustainable Fisheries. Edited by N. Shackell and J.H.M. Willison. Wolfville, Nova Scotia: Science and Management of Protected Areas Association.
- Kessler, B. 2003. "An Evaluation of Marine Protected Area Designation Processes in the United States: Understanding the Role of Stakeholder Involvement." Unpublished Masters Thesis. College of Charleston, Charleston, South Carolina.
- Konisky, D.M., and T.C. Beierle. 2001. "Innovations in Public Participation and Environmental Decision Making: Examples from the Great Lakes Region." Society and Natural Resources. Volume 14. Pages 815 to 826.
- Luttinger, N. 1997. "Community-Based Coral Reef Conservation in the Bay of Honduras." Ocean & Coastal Management. Volume 36 (s1-3). Pages 11 to 22.

- Mascia, M.B. 2003. "The Human Dimension of Coral Reef Marine Protected Areas: Recent Social Science Research and Its Policy Implications." Conservation Biology. Volume 17. Pages 630 to 632.
- McCool, S.F., and K. Guthrie. 2001. Mapping the Dimensions of Successful Public Participation in Messy Natural Resources Management Situations. Society and Natural Resources. Volume 14. Pages 309 to 323.
- Moore, S.A. 1996. Defining "Successful" Environmental Dispute Resolution: Case Studies from Public Land Planning in the United States and Australia. Environmental Impact Assessment Review. Volume 16. Pages 151 to 169.
- National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center. 2000. Navigating in Rough Seas: Public Issues and Conflict Management. Training manual. L. Hinkey and K. Ellenberg, editors. Charleston, SC.
- NOAA Coastal Services Center, in cooperation with the National Marine Protected Areas Center. "Marine Protected Areas Needs Assessment, Final Report." Charleston, SC: NOAA Coastal Services Center, 2003.
- National Research Council (NRC). 1996. Understanding Risk: Informing Decisions in a Democratic Society. National Academy Press. Washington, DC.
- NRC. 2001. Marine Protected Areas: Tools for Sustaining Ocean Ecosystems. Committee on the Evaluation, Design, and Monitoring of Marine Reserves and Protected Areas in the United States, Ocean Studies Board, Commission on Geosciences, Environment, and Resources. National Academy Press, Washington, DC.
- Octeau, C. 1999. "Local Community Participation in the Establishment of National Parks: Planning for Cooperation." Master's Thesis. School of Community and Regional Planning at the University of British Columbia. Web site: www.scarp.ubc.ca/thesis/octeau.
- Peelle, E., M. Schweitzer, J. Munro, S. Carnes, and A. Wolfe. 1996. Factors Favorable to Public Participation Success (Report for U.S. Department of Energy). Oak Ridge, Oak Ridge National Laboratory.

- Pirk, S. 2002. "Expanding Public Participation in Environmental Justice: Methods, Legislation, Litigation and Beyond." Journal of Environmental Law and Litigation. Volume 17. Pages 207 to 240.
- Pollnac, R.B., B.R. Crawford, and M. Gorospe. 2001. "Discovering the Factors That Influence the Success of Community-Based Marine Protected Areas in the Visayas, Philippines." Ocean and Coastal Management. Volume 44. Pages 683 to 710.
- Pomeroy, R.S. 1995. "Community-Based and Co-Management Institutions for Sustainable Coastal Fisheries Management in Southeast Asia." Ocean and Coastal Management. Volume 27, Number 3. Pages 143 to 162. Web site: www.comanagement.org/download/reprint1.pdf.
- Rowe, G., and L.J. Frewer. 2000. "Public Participation Methods: A Framework for Evaluation." Science, Technology, and Human Values. Volume 25, Number 1. Pages 3 to 29.
- Russ, G.R., and A.C. Alcala. 1999. "Management Histories of Sumilon and Apo Marine Reserves, Philippines, and Their Influence on National Marine Resource Policy." Coral Reefs. Volume 18. Pages 307 to 319.
- Salm, R.V., J.R. Clark, and E. Siirila. 2000. Marine and Coastal Protected Areas: A Guide for Planners and Managers. Washington, DC: International Union for the Conservation of Nature and Natural Resources. Washington, DC.
- Suman, D., M. Shivlani, and J.W. Milon. 1999. "Perceptions and Attitudes Regarding Marine Reserves: A Comparison of Stakeholder Groups in the Florida Keys National Marine Sanctuary." Ocean & Coastal Management. Volume 42, Number 12. Pages 1019 to 1040.
- Sutinen, J.G., and K. Kuperan. 1999. "A Socio-Economic Theory of Regulatory Compliance." International Journal of Social Economics. Volume 26, Number 11. Pages 174 to 193.
- Thomas, J.C. 1995. Public Participation in Public Decisions: New Skills and Strategies for Public Managers. Josse-Bass Publishers. San Francisco, California.

- Tuler, S., and T. Webler. 1999. "Voices from the Forest: What Participants Expect of a Public Participation Process." Society and Natural Resources. Volume 12. Pages 437 to 453.
- Turaga, R.M.R. no date. "Public Participation in Environmental Decision Making: What Process Factors Affect Acceptability of Decisions?" School of Public Policy, Georgia Institute of Technology.
- Webler, T., S. Tuler, and R. Krueger. 2001. "What Is a Good Public Participation Process? Five Perspectives from the Public." Environmental Management. Volume 27, Number 3. Pages 435 to 450.

- Wells, S., and A.T. White. 1995. "Involving the Community." In Marine Protected Areas: Principles and Techniques for Management. Edited by Susan Gubbay. London: Chapman and Hall.
- Wiedemann, P.M., and S. Femers. 1993. "Public Participation in Waste Management Decision-Making: Analysis and Management of Conflicts." Journal of Hazardous Materials. Volume 33, Number 3. Pages 355 to 368.