Collaborative watershed management:

Stakeholder participation and watershed partnership success

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Abstract

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Traditional regulatory approaches to environmental management have been increasingly viewed as ineffective strategies for solving complex watershed-scale problems. Collaborative watershed partnerships, however, are widely recognized for their potential to successfully address diffuse, multi-jurisdictional environmental issues, in part because of the involvement of multiple stakeholders in the decision-making process. This thesis explores the relationship between stakeholder participation in watershed partnerships and partnership success as measured in two dimensions: process and outcome. Full stakeholder participation increases procedural legitimacy, builds problem-solving capacity, and increases the likelihood of partnership success overall. In addition, full stakeholder involvement leads to a more complete understanding of environmental problems, an increased likelihood of project implementation, and successful completion of watershed planning projects.

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Chapter 1:

Introduction and Overview

Watershed management was brought to the forefront of public consciousness in Washington State late in 2005 when Governor Christine Gregoire charged a "blue ribbon" advisory panel with "develop[ing] recommendations for preserving the health and ecosystem of Puget Sound" (PSP 2006). Known as the Puget Sound Partnership, the 22-member panel was representative of a broad range of interested stakeholders, and included agencies and elected officials from all levels of government, as well as Tribal, environmental, agricultural, and business interests. After ten months of intensive collaboration, the group submitted its final recommendations to the Governor in the form of a December 2006 report entitled *Sound Health, Sound Future* (PSP 2006). In it, the Partnership identified five key elements as essential to the recovery of Puget Sound by the year 2020:

- *Action Agenda* – A comprehensive action plan that includes priority actions designed to protect habitat; restore natural ecosystem functions; reduce the introduction of toxicants and other nutrients to fresh and marine waters; manage stormwater runoff; ensure sufficient water quantity for people, fish and wildlife; preserve and recover biodiversity; and build capacity for future action

- *Public Education* – A multi-year public awareness campaign intended to correct the discrepancy between the status of Puget Sound as perceived by the general public and the actual state of the Sound
- *Significantly Increased Funding* – Financial commitments from both traditional (i.e. governmental) and non-traditional (e.g. private donors, foundations, etc.) sources for implementation of those actions identified in the Action Agenda
- *Scientific Grounding* – Consideration of input from an independent (i.e. non-interested) science panel in developing Puget Sound recovery policy
- *New Governance Structure* – A new State agency, organized according to a collaborative model, to provide leadership and coordinate recovery efforts throughout the region

All five of the above recommendations – including authorization of the new agency, also known as the Puget Sound Partnership – were included in the final language of ESSB 5372[1], which was signed into law on the penultimate day of the 2007 session of the Washington State Legislature. The new policy is reflected in the Revised Code of Washington, RCW 90.71, and becomes effective July 1, 2007.

The establishment of the Puget Sound Partnership as a new and effective Washington State agency presents a unique set of challenges. In addition to the logistical and managerial challenges associated with the early phases of any nascent organization, the agency's operations will be shaped by the collaborative

[1] Engrossed Substitute Senate Bill

nature of its mission and organizational form. Whereas the granting of regulatory authority is usually integral to the creation of a new governmental structure, the Puget Sound Partnership was authorized with the explicit intent that the agency not become an additional layer of government, nor exercise any new regulatory authority (ESSB 5372).[2] Rather, the agency has been directed to serve in a coordination capacity, taking a collaborative, holistic approach to the recovery of the Puget Sound ecosystem. The Puget Sound Partnership will achieve their goals and objectives not by way of the traditional regulatory "stick", but via the "carrot" of financial incentives, technical assistance, and inter-organizational collaboration.

The environmental management approach espoused by the Puget Sound Partnership, although the culmination of a recent policy process focusing on the health Puget Sound, is nothing new to the region (Ryan & Klug 2005). A large number of watershed groups have been historically, and are currently, active in the Puget Sound basin and across the State of Washington[3] (FSOS n.d.). These groups are diverse in organizational structure and operations, with some organizations, such as Citizens for a Healthy Bay, functioning as fully

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[2] Although not granted any new authority, the Puget Sound Partnership assumes responsibility for exercising some of the regulatory authority previously authorized to another Washington State agency, the Puget Sound Action Team, which dissolved June 30, 2007.

[3] Before their dissolution in 2004, For the Sake of the Salmon, a non-profit organization comprised of diverse stakeholders working towards the restoration of healthy salmon runs, compiled a list of active watershed groups in Washington, Oregon, and California. The inventory lists 96 watershed groups operating in the State of Washington (FSOS n.d.). Several years after its completion, this count is certainly incomplete, but is still an indication of the prevalence of collaborative watershed management efforts in the region.

independent non-profit entities (CHB 2005), while others are closely tied to existing governmental or tribal functions (FSOS n.d.). The range of watershed-level issues undertaken by these groups is also broad. Many watershed groups derive their focus from high-level guiding policy. For example, local "lead entities" and regional fisheries enhancement groups work on salmon recovery issues as outlined in Washington's Salmon Recovery Act (RCW 77.85) and other legislation (WDFW 2002), while watershed planning units address water quantity and resource allocation issues (RCW 90.82) and local watershed councils work toward implementation of nonpoint source pollution action plans developed under the "Nonpoint Rule" (CCWC 2007; PRWC 2007). Still other watershed groups are the result of grassroots-level interest in protecting an important local place. Although widely variable in form and function, these watershed groups share a commitment to collaboratively managing their environment.

Such collaborative environmental management requires the involvement of a broad range of interested stakeholders, and often results in a difficult and lengthy policy process (McCool & Guthrie 2001; McGinnis 1999; Wondolleck and Yaffee 2000). However, collaborative watershed management is also viewed by many as the only way to achieve the protection of complex ecosystems while meeting the needs of both natural systems and human populations (Kenney et al. 2000; PSP 2006). The dynamic between process and product within watershed partnerships is the primary focus of this analysis. More specifically, this thesis will address the central question: How is stakeholder participation related to watershed partnership success? That is, how does the inclusion of diverse

interests in a collaborative process impact the ability of a watershed group to achieve its goals? Answers to this central inquiry will be sought through review of the literature from both the environmental and social sciences.

The remainder of this paper is organized into four major sections. Chapter 2 introduces collaborative environmental management in general, establishing an historical context for the current watershed management paradigm and identifying those policy settings in which collaboration is an appropriate environmental management tool. Chapter 3 focuses more specifically on watershed partnerships as a form of collaborative environmental management, identifying characteristics common to and examining the concept of success within watershed partnerships. Chapter 4 examines the relationship between stakeholder participation and watershed partnership success, as it relates to both the partnership's process and outcomes. This chapter also discusses the benefits of stakeholder participation to partnership success, as well as the potential drawbacks and criticisms. Chapter 5 concludes this analysis with a brief discussion of the methodological and practical challenges inherent in this inquiry and offers suggestions for furthering research on, and sustaining stakeholder participation in, collaborative watershed partnerships.

Chapter 2:

Collaborative Environmental Management

Although the prevalence of watershed groups across the country would seem to suggest otherwise, collaboration has not always been a commonly employed tool for addressing environmental problems in the United States (Leach and Pelkey 2001). Rather, collaborative watershed management is a relatively recent innovation and part of a broad set of trends in the national environmental policy setting (Sabatier, et al. 2005; Wondolleck & Yaffee 2000). This trend has been driven both by political and social factors of the last century and reflects an overall move toward more holistic, inclusive forms of environmental policy-making (Anderson 1997; Lubell 2004; Wondolleck & Yaffee 2000).

Before exploring the particular dynamics within collaborative watershed partnerships, it is necessary to establish a basic framework for understanding collaborative environmental management in general. This chapter will first describe the use of collaboration within the larger environmental policy context by outlining the historical eras of watershed management in the United States as well as the trends leading up to the current policy paradigm. Following will be a closer examination of the use of collaborative environmental management, including discussion of the applicability of collaborative approaches to

environmental policy contexts, an outline of the advantages of the approach, and an overview of the many forms of environmental collaboration.

Historical Eras of Watershed Management

Environmental management, like many other policy arenas, has not been stagnant in form or function. Rather, the field is a dynamic one, with philosophies and solutions evolving in response to changes within the field itself and in broader society. New scientific research challenges existing practices by providing new technologies and expanding understanding of the fundamental nature of environmental problems. Social factors such as development patterns, national politics, and the media also impact the way environmental management is conducted, based on changing public perception of issues and pressure on decision makers to address their constituents' concerns (Wondolleck & Yaffee 2000).

Such shifts in perspective have resulted in a number of distinct eras of environmental management in the United States (Andrews 1999; Gerlak 2006; Mazmanian & Kraft 1999). Eras of management may be distinguished from one another on the basis of geographic scope, level of stakeholder involvement, underlying model of governance, and other criteria (John 2004; Gerlak 2006; Sabatier et al. 2005). These eras are particularly apparent in the area of water resources management, and can be understood as the Manifest Destiny,

Progressive, Federal/New Deal, Environmental, and Watershed Collaboration eras (Sabatier et al. 2005).[4]

The Manifest Destiny Era: The post-Civil War period leading up to 1890 was characterized by an absence of watershed management in the United States. The national focus during this era was primarily on economic growth and development. As such, water resources were viewed largely as a means for achieving these goals, and were valued for providing transportation, power generation, and waste disposal opportunities, with little practical regard for environmental protection or conservation.

The Progressive Era: The period between 1890 and 1924 saw efforts to correct the environmental damage and political corruption of the previous era. Among the reforms made during the Progressive Era were the establishment of forest reserves, delineated according to watershed boundaries, for purposes of protecting downstream water supplies. This era also brought significant increases in the regulatory power of government, with policy settings dominated by agency experts and a top-down decision-making structure. The need for a multiple-use

[4] The following information on the historical eras of environmental management is drawn primarily from Sabatier, Weible, and Ficker's chapter in Sabatier et al. 2005. Although other authors offer more comprehensive (Andrews 1999; Mazmanian & Kraft 1999) or focused (Beierle & Cayford 2002; Gerlak 2006) discussion of this topic, the perspective offered in Sabatier et al. is restricted to water management and is explicitly considerate of collaborative watershed management, making it most appropriate for use here.

watershed management approach that would balance both environmental and economic interests emerged during the Progressive Era.

The Federal/New Deal Era: The Federal/New Deal Era was, in many ways, a continuation of the Progressive Era. Watershed-level management and planning remained the common ideal between 1924 and 1964, and government agencies continued to dominate the policy process. Environmental management for multiple uses also continued to be a priority, although the Great Depression and World War II temporarily skewed the balance in favor of economic development. A novel feature of the Federal/New Deal Era was the rise of Soil Conservation Districts, formal units of government comprised of local landowners and representatives of state and federal agencies, which focused on watershed-scale issues. Although fundamentally different from modern watershed partnerships, the Soil Conservation Districts were a precursor to today's watershed councils.

The Environmental Era: The years between 1965 and 1986 have come to be known as the Environmental Era, and were characterized by an increase in concern for the environment, along with an increased sense of distrust of government. This shift in societal values was in response to a number of environmental disasters during this period, and resulted in a bevy of new laws that called for increased public participation in decision-making, limits in agency discretion, and greater protection of the environment. Key legislation passed during this era includes the National Environmental Policy Act (1969), the Water

Quality Act (1965) and the Endangered Species Act (1973). The use of litigation as a strategy for influencing environmental policy was common throughout the Environmental Era.

The Watershed Collaboration Era: The current era of water resources management is marked by a collaborative, holistic approach to environmental problem solving. This paradigm seeks an alternative to the litigation-based policy process of the Environmental Era by inviting all stakeholders to participate in place-based watershed management on more or less equal footing. The trend towards collaboration was fueled largely by widespread frustration with the procedural and substantive ineffectiveness of existing environmental legislation, and the watershed partnership became a key tool for local completion of the total maximum daily load requirement of the 1987 Clean Water Act Amendments.

The two primary defining characteristics of the current watershed management paradigm are an ecosystem-based approach and a significant increase in public involvement in the environmental problem-solving process over past practices. Watershed-scale management is generally considered to be an ideal approach to environmental management, as watersheds are meaningful, spatially-defined, interrelated ecological units (McGinnis 1999). Holistic watershed management is also seen as an attractive way to address a wide range of environmental management problems, including ecosystem health, biodiversity, and land use issues (Woolley & McGinnis 1999).

The importance of public participation to current watershed management is the result of expressed citizen and governmental interest in bringing environmental policy processes more in line with the democratic values central to national society in the United States (Beierle & Konisky 2000; Clark 2002; John 2004; Rowe & Frewer 2000). Increasing public involvement is also seen as advantageous for addressing issues of environmental equity (Hampton 1999) and legitimacy (Sabatier et al. 2005).[5] In addition, a growing number of academics are connecting environmental management practices to the body of literature on deliberative democracy (Grant 2003; Meadowcroft 2004; Parkins & Mitchell 2005). Grounded in the work of Habermas (1989) and others (Barber 2003; Bickford 1996; Grant 2003), deliberative democracy emphasizes collective, fully inclusive policy processes and is viewed as having significant potential to improve environmental policy-making (Meadowcroft 2004; Parkins & Mitchell 2005).

It is clear that the move toward collaborative environmental management is not an unanticipated, independent event, but rather an extension of past practices and the result of a dynamic political and societal context. Public and governmental response to economic crises (e.g. the Great Depression) and environmental disasters (e.g. the 1969 fire on the Cuyahoga River), as well as national "politics as usual" have shaped present water resources management (Anderson 1997; Hoffman 1989; Sabatier et al. 2005). The current era is

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[5] The relationship between stakeholder participation in watershed management and legitimacy will be discussed in greater detail in Chapter 4 of this paper.

characterized by an inclusive, eco-system based, collaborative approach to watershed management.

Collaboration as an Environmental Management Tool

Although one of the defining characteristics of the current watershed management era, collaboration is not a panacea for environmental problem solving, as it is not a management strategy universally applicable to every environmental policy setting. Rather, collaboration is more appropriate to some contexts than others, based on the nature of the environmental problem and the particular policy setting. In the case that the context is conducive to the use of collaboration, a collaborative approach may offer a number of benefits to the problem-solving process. The particulars of this context are also influential in shaping the operational form of the collaborative effort. As practiced, collaboration takes on a variety of shapes, with the watershed partnership simply one of many types of collaborative environmental management.

Whether collaboration is likely to be an effective means of environmental problem solving is largely dependent upon the problem itself. Collaboration is a management style well suited to addressing diffuse, rather than concentrated, environmental problems that span multiple jurisdictional boundaries (Kenney 1999; Koontz 2003). Easily identifiable environmental problems that are concentrated (with regard to either the source or impacts thereof) within only one regulatory jurisdiction are adequately addressed by command-and-control

regulatory systems, and are less likely to be seen as a valuable opportunity for collective benefit (Lubell et al. 2002). Environmental issues such as nonpoint source pollution are not easily solved by any one agency, however, and are broad reaching in their impact, thereby encouraging collaboration for the development of a solution.

Geographic scale is also an important determinant of whether collaboration is appropriate. In particular, watershed scale environmental problems are well suited to the use of collaboration, as watershed boundaries are typically incongruous with political boundaries, thus requiring the management efforts of multiple partners (Woolley & McGinnis 1999). The physical size of the watershed is also a factor, with successful collaboration being less likely when participants are unable to easily drive to meetings (Thomas 1999).

Perhaps most importantly, collaboration is neither an appropriate, nor likely, environmental management strategy unless a problem exists and is perceived as significant enough to merit action (Lubell et al. 2002). Collaboration is most likely when the perceived stakes for participants are high, and the potential benefits of collaboration exceed the risks of non-participation (Sabatier et al. 2005). A sense of crisis may also lend itself to collaborative environmental management, although collaboration would not be appropriate in the case that an environmental crisis required a time-sensitive response (e.g. an oil spill) or could easily be solved by one regulatory authority (Wondolleck & Yaffee 2000).

Just as collaboration is appropriate to certain kinds of environmental problems, it is also best applied within certain policy settings. As mentioned

above, collaborative environmental management is best suited to settings in which no single institution has the regulatory authority to fully address a given environmental problem (Sabatier et al. 2005). Collaboration is also appropriate to policy settings in which the existing regulatory frameworks and institutions are not effectively addressing an issue (Koontz 2003; Lubell 2004a; Moore & Koontz 2003).

It is also necessary to consider incentives to collaboration as an important component of the policy setting. Perceived risk is a key incentive, as stakeholders are likely to join a collaborative effort if they perceive a need to defend a resource or right (Leach, Pelkey & Sabatier 2002). The existing regulatory framework may also be an incentive to collaboration by promising more or less attractive outcomes for compliance with a given requirement, as is the case with regulation concerning the development of habitat conservation plans under the Endangered Species Act (Koontz et al. 2004; Raymond 2006). Incentives may also come in the form of grants, technical support, or other resources.

In addition, the availability of problem-solving alternatives is influential upon whether collaboration is an appropriate environmental management strategy for a given policy setting, with collaborative efforts more likely in cases where available alternatives (e.g. litigation) are less desirable or non-existent (Sabatier et al. 2005). Closely tied to this is the level of trust among stakeholders, with

situations of low trust between participants often resulting in collaborative action (Parkins & Mitchell 2005; Raymond 2006; Sabatier et al. 2005).[6]

When the characteristics of the environmental problem and policy setting do, in fact, lend themselves to appropriately employing a collaborative management strategy, collaboration may present substantial benefits to the problem-solving process. Collaborative environmental management efforts are increasingly seen as appropriately poised to generate solutions to complex ("wicked") problems (Johnson & Campbell 1999; Weber et al. 2005). Collaboration may also yield better, more innovative solutions that are more likely to be implemented than those developed under conventional top-down approaches (Koontz 2003; Wondolleck & Yaffee 2000). Additionally, collaboration is viewed as having potential to resolve some of the widespread frustration with the existing regulatory setting (Lubell 2004). Compared to litigation-based policy processes, collaborative approaches to environmental management are perceived as less combative, transforming the "win-lose" dynamic into a "win-win" outcome (Lubell et al. 2002; Sabatier et al. 2005). Collaborative action reduces the transaction costs of solving environmental problems through more traditional policy approaches (Lubell 2004). Collaboration also builds trust among stakeholders, as well as increases the

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[6] Collaboration may also be likely in high trust settings, although high levels of trust between stakeholders are generally associated with high levels of deference to policy-makers (Parkins & Mitchell 2005; Sabatier et al. 2005). That is, high confidence that an agency will adequately address an environmental problem may lead interested stakeholders to defer to governmental expertise and excuse themselves from participation in the process.

group's capacity for successfully addressing future problems (Sabatier et al. 2005; Weber et al. 2005).

It is important to recognize that not every instance of collaborative environmental management will realize every one of the above intended benefits of collaboration. Rather, some collaborative efforts may fall short of expectations (Weber et al. 2005) or may fail entirely (Woolley & McGinnis 1999). In considering whether collaboration is worth the undertaking, the central question remains, "Compared to what?" (Bryan 2004), with the general consensus being that the process and outcomes of collaboration are preferable to those of the status quo (Layzer 2002).

Because of this potential to improve upon traditional regulatory approaches, collaborative environmental management efforts are increasing. These efforts take on a wide range of forms, based on their unique contexts, and may be fully collaborative or inclusive of collaboration to a lesser extent (Koontz et al. 2004; Moore & Koontz 2003; Sabatier et al. 2005; Wondolleck & Yaffee 2000). Collaboration may take shape as stakeholder advisory groups (McGurk et al. 2006), comanagement of natural resources (Lauber & Brown 2006; Plummer 2006), resource sharing between organizations (Imperial 2005), or formalized super-agencies (e.g. CALFED: Heikkila & Gerlak 2005). An increasingly common form of collaboration in environmental management is the watershed partnership (Leach & Pelkey 2001).

To summarize, the current approach to environmental management is the result of its situation within a broader sociopolitical context. Collaboration is

central to the current paradigm, which reflects a holistic, place-based approach to watershed management. Although collaboration is not appropriate to every environmental management context, it is well suited to diffuse, watershed-scale environmental problems that require and encourage the cooperation of multiple stakeholder interests. Because collaboration is highly contextual and because every environmental policy setting is unique, collaborative management efforts take on a variety of forms. The watershed partnership is an increasingly useful form of collaboration for environmental problem solving. The next chapter will more closely examine the watershed partnership as a specific form of collaborative management.

Chapter 3:

Watershed Partnerships and Measures of Success

The watershed partnership is increasingly viewed as an attractive mechanism for improving watershed conditions, while also balancing competing environmental and economic interests (Kenney et al. 2000; Lubell et al. 2002). Because of this, watershed partnerships are becoming more common, with the number of active partnerships estimated to have more than tripled over the last ten years (Kenney et al. 2000). However, the watershed partnership is also a fairly recent policy innovation (Born & Genskow 2001). The relative newness of the approach and the prevalence of its application have generated a great deal of interest in the ability of collaboration and watershed partnerships to successfully manage complex ecosystems (Conley & Moote 2003; Huntington & Sommarstrom 2000; Lubell 2004; Rolle 2002; Ryan & Klug 2005; WPP 2002).

This chapter seeks first to characterize the watershed partnership as a distinct form of collaboration by outlining the functional components common to collaborative partnerships, as well as by highlighting some of the variation between efforts. This chapter then explores the concept of success as it relates to these efforts, and discusses the multiple dimensions of and challenges associated with measuring success in watershed partnerships. Finally, a definition of watershed partnership success is established for use in the current analysis.

Collaborative watershed management efforts are associated with a number of labels, including "watershed councils" (Huntington & Somarstrom 2000), "watershed initiatives" (Born & Genskow 2001) or, more simply, "watershed groups" (Moore & Koontz 2003; Ryan & Klug 2005). Although not necessarily the case for all such efforts, many can be most accurately defined as watershed partnerships. A commonly cited study defines watershed partnerships as:

> A primarily self-directed and locally focused collection of parties, usually featuring both private and intergovernmental representatives, organized to jointly address water-related issues at the watershed level or a similarly relevant physical scale, normally operating outside of traditional governmental processes or forums, and typically reliant on collaborative mechanisms of group interaction characterized by open debate, creativity in problem and solution definition, consensus decision-making, and voluntary action (Kenney et al. 2000).

While other definitions exist, they commonly emphasize collaboration amongst diverse stakeholder groups for solving watershed-scale problems through consensus-based decision processes (Leach 2002; Leach & Pelkey 2001; Sabatier et al. 2005).

First and foremost, watershed partnerships focus their efforts on place-based, watershed-scale issues. Such issues are often highly complex and culturally contentious, and are both scientific and political in nature (McGinnis 1999). This complexity is particularly challenging in geospatially and socially diverse watershed settings, as the values reflected by populations in rural areas

may differ substantially from those in more urbanized ones (O'Neill 2005). Examples of problems commonly confronted by watershed partnerships include nonpoint source pollution and water resources allocation.

Because watershed-scale problems affect a broad range of interests, watershed partnerships include diverse stakeholder groups in the problem-solving process (McGinnis 1999). Federal, State and local government, environmental groups, local landowners, and agricultural and business interests are among the types of stakeholders typically included in watershed partnerships (Leach & Pelkey 2001). Watershed partnerships strive to convene a representative group of local actors affected by and possessing the resources to address a given issue, with the recognition that any group with veto power over an agreement should be included in the discussion (Born & Genskow 2001; John 2004). This diverse array of interests often results in a high degree of internal conflict within the partnership (Leach, Pelkey & Sabatier 2002).

Watershed partnerships employ consensus-based decision-making to negotiate mutually beneficial solutions to environmental problems (Lubell et al. 2002). This approach is considered to have great potential for improving both the substance and process of watershed management. In addition, consensus-building enables watershed partnerships to address science-based watershed issues while moderating conflict between stakeholders (Leach 2002).

Just as every watershed management setting is distinct, watershed partnerships are highly variable in their functional form. Watershed partnerships may differ in structure, priorities, and general operations, based on their

organizational affiliation (Bidwell & Ryan 2006; Koontz et al. 2004; Thomas 1999). Collaborative watershed partnerships may also differ in size or level of institutionalization, ranging from small, relatively informal groups to large, higher profile effort such as the Applegate Partnership (Genskow & Born 2006). The form of a given watershed partnership is also likely to change over time, in response to the specific policy setting (Genskow & Born 2006). In addition, each partnership includes a unique set of stakeholder interests, with both the types of organizations and the interpersonal dynamics playing a role in shaping the partnership's mission and activities (WPP 2002). Despite these variations, however, watershed partnerships share a collaborative, multi-stakeholder approach to watershed management.

"Success" in Watershed Partnerships

Although some researchers challenge the appropriateness of applying the term "success" to collaborative ecosystem management, there is little disagreement over the need to measure the effectiveness of watershed partnerships to manage environmental problems (Rolle 2002). The increased prevalence of watershed partnerships has been paired with an increased interest in evaluating partnership success, resulting in the publication of a large number of studies within the last decade (Huntington & Sommarstrom 2000; Kenney et al. 2000; Leach, Pelkey & Sabatier 2002; Rolle 2002; WPP 2002). Attention is being increasingly given to the evaluation of public participation in environmental

policy-making in general (Beierle & Koniski 2000; Charnley & Englebert 2005; Chess & Purcell 1999; Duram & Brown 1999; Johnson & Campbell 1999; McCool & Guthrie 2001; Rowe & Frewer 2000). This broader body of literature is appropriately – and usefully – extended to the present discussion, as watershed partnerships are fundamentally participatory in nature.

The combination of increased research efforts and the complexities of watershed partnerships themselves has resulted in the generation of multiple definitions of success for collaborative watershed partnerships. Measures of success commonly identified for watershed partnerships include social capital, regular operations, planning output, environmental output, and environmental outcome.

Social capital: Watershed partnership success may be measured by the levels of trust between stakeholders, extent of interpersonal and inter-organizational networks, level of agreement, establishment of shared knowledge, and the building of capacity for addressing future environmental problems. This measure of success is particularly important to young watershed partnerships, as success in terms of social capital is often a prerequisite for other dimensions of success (WPP 2002).

Regular operations: The effectiveness of regular watershed partnership operations can be evaluated on the basis of decision-making processes, facilitation of monthly meetings, and pre- and post-meeting communication between

stakeholders. In particular, well-managed meetings and clear communication about agenda issues, goals, and ground rules are integral to watershed partnership success overall (Wondolleck & Yaffee 2000).

Planning output: Comprehensive watershed restoration plans and other documents produced by a watershed partnership serve as measures of planning output. In many cases, success as measured by the quality of a partnership's watershed plan is connected to other dimensions of partnership success. For example, watershed partnerships with successful planning processes (a measure of success under the umbrella of "regular operations") also tend to produce more sophisticated planning documents (Huntington & Sommarstrom 2000).

Environmental output: This measure of watershed partnership success includes project implementation, changes in patterns of land-use or resource management, and other measures of on-the-ground behavioral changes. Success in this dimension may be used as a surrogate measure for environmental outcome, as output (assumed to lead to outcome) is more easily monitored and linked to watershed partnership activities (Born & Genskow 2001).

Environmental outcome: Arguably the most important dimension of partnership success, measures of environmental outcome seek to connect watershed partnership activities to real ecological improvement (Kenney et al. 2000). Under this criterion, watershed partnerships are said to be successful if they affect

positive change in the environment (e.g. improved water quality or increased species diversity). Although ultimately the central goal of any watershed partnership, direct impact upon environmental improvement is particularly difficult to assess, in part because of the many confounding factors at play in a given watershed (Sabatier et al. 2005).

In addition to the above measures, the success of watershed partnerships may be evaluated on the basis of their financial impact upon fisheries, recreation, flood protection and other watershed activities (i.e. economic output), or according to their impact upon existing institutions (i.e. institutional change, Born & Genskow 2001). Other measures of success relate to the effectiveness of outreach and education efforts (WPP 2002) and partnership sustainability (Rolle 2002).[7]

Despite the breadth of available evaluation criteria, there are a number of challenges associated with assessing the success of watershed partnerships. Social capital and other aspects of collaborative processes are difficult to measure, requiring a complex blend of quantitative and qualitative research methods for analysis (Sabatier et al. 2005). Once assessed, measures of social capital may still prove to be problematic, insofar as benchmarks for comparison are often lacking (Rowe & Frewer 2000). Causal relationships between watershed partnership activities and environmental outcomes are extremely difficult to establish,

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[7] Measures of sustainability may not be meaningful in assessing watershed partnership success, as partnerships are dynamic, changing over time in response to the policy context, and reasonable expectations for the longevity of watershed partnerships are uncertain (Sabatier et al. 2005).

requiring considerable amounts of resources and long timelines for evaluation (Sabatier et al. 2005). In addition, the multiplicity of evaluation frameworks themselves, the potential to conduct evaluations of success at multiple levels (Conley & Moote 2003), and lack of adequate consideration of confounding variables may lead to a pronouncement that a partnership is a "failure" when, in fact, it might be viewed as successful in other regards (Genskow & Born 2006).

These challenges, although substantial, do not eliminate the need to evaluate the success of watershed partnerships, both in the broad environmental management setting and within the context of the present analysis. For purposes of this paper, watershed partnership success will be defined according to two categorical groupings: process and outcome. Capacity-building, decision-making, regular partnership operations and other aspects of social capital are included in the former group of measures, whereas environmental and planning outputs, project implementation and ecological impacts are considered under the latter heading.

While this definition of watershed success may appear to be oversimplified, given the preceding discussion, the distillation of multiple dimensions of success into two categories is useful for three primary reasons. First, the use of "process" and "outcome" as umbrella headings captures all of the more specific dimensions of watershed partnership success, while also mitigating the complexity of competing frameworks for evaluation. Second, the use of more generalized measures of success enables consideration of both the scientific and sociopolitical facets of watershed partnerships, while at the same time keeping the

scope at a manageable scale. Finally, broad categories of process- and outcome-related success are most appropriate to the research method employed in this analysis (i.e. literature review). Just as the watershed partnership is a recent policy innovation, research on the subject is also not exhaustive. The current body of research does not explicitly connect stakeholder participation to every possible dimension of watershed partnership success; the more general definition of success used here facilitates a meaningful review of the existing literature without being overly limited by the lack of complete data.

In summary, watershed partnerships are comprised of diverse stakeholder groups employing consensus-based decision processes to address watershed-scale issues. Like other types of collaborative environmental management, watershed partnerships take on a variety of forms, based on the policy context. The success of watershed partnership efforts may be evaluated in a variety of ways, including but not limited to measures of social capital, planning and environmental output, and environmental outcome. These measures of success can generally be categorized as related to either watershed partnership process or outcome, a distinction that is central to the present analysis. Chapter 4 will examine the relationship between stakeholder participation and watershed partnership success in closer detail.

Chapter 4:

Stakeholder Participation and Watershed Partnership Success

Collaborative watershed management is not a simplistic enterprise. At a foundational level, the core environmental issues facing resource users and managers in a watershed partnership are scientifically complex and socially contentious. The solutions to these problems are also complicated, with "success" measurable by both scientific and social standards. An additional layer of complexity is embedded within the watershed partnership itself, as a number of group characteristic and operational elements can be related to the partnership's success. Funding, leadership, level of governmental support, decision-making processes, and partnership initiation are among the intrinsic factors influencing watershed partnership activities, and thus, affecting the partnership's ability to successfully achieve good processes and outcomes (Born & Genskow 2001).

The relationship between yet another factor, stakeholder participation, and watershed partnership success is the primary focus of this analysis. This chapter will first examine the relationship between full stakeholder participation and watershed partnership success as defined in terms of process. Subsequent discussion will assess the impact of stakeholder participation upon successful partnership outcomes. Key benefits and concerns will be identified throughout.

Before focusing upon the interplay between stakeholder participation and watershed partnership success, however, it is necessary to clarify some of the underlying terminology and methodological assumptions central to this analysis. First and foremost, use of the term "stakeholder" is here consistent with the definition offered by Leach (2002), which identifies as a stakeholder any person or organization "whose personal or professional welfare depends substantially upon the outcomes of the partnership." This definition is consistent with general usage of the term throughout the natural resources literature, and captures both resource users and managers.[8] "Full stakeholder participation" is intended to indicate that all interested parties are fully included in watershed partnership activities to the extent that it is appropriate and desired.[9] The assumption is that participants are not excluded from participation (Parkins & Mitchell 2005), but participate meaningfully throughout the process, while also recognizing that it is not always necessary to include every stakeholder in every aspect of the partnership's activities (Born & Genskow 2001). Full stakeholder participation should not be construed to mandate the involvement of every single individual

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[8] While this definition does not ensure partnership composition that is completely representative of the watershed population at-large, it also does not preclude it. The distinction between stakeholder representation and complete population representation has been highlighted as a subtle divergence between natural resource management practices and strong democratic theories (Parkins & Mitchell 2005).

[9] In some instances, stakeholders may be unwilling or unable to identify themselves as having an interest in an environmental management issue (Jonsson 2005). Although this is a legitimate practical concern with real policy implications for watershed partnerships, treatment of this issue is beyond the scope of the current analysis.

stakeholder in the policy process, but the inclusion of a fully representative cross-section of stakeholder groups.

Interest in the roles of particular stakeholder groups such as government (Koontz et al. 2004) and resource users within collaborative watershed management is increasing (Lubell 2004a). The interrelationship between initiating agencies and partnership activities and outcome is also under scrutiny (Bidwell & Ryan 2006). It is not the intent of this paper, however, to connect stakeholder participation to watershed partnership success on a group-by-group basis. Rather, this analysis takes a holistic – as opposed to specific – perspective, and focuses on the combined impact of participation by all interested stakeholders on partnership success.

Stakeholder Participation and Successful Processes

Every watershed partnership can be uniquely characterized according to the participants and the resources at its disposal. One of these characteristics, group composition, has been identified as integrally important to the success of the collaborative effort (Huntington & Sommarstrom 2000). In fact, watershed partnership success, as measured in terms of process, is closely related to the level of stakeholder participation. Full stakeholder participation improves the legitimacy of partnership processes, builds capacity for future problem-solving efforts, and sets the partnership up for success in other ways.

Perhaps most importantly, full stakeholder participation in watershed partnerships is central to building a sense of procedural legitimacy. Given the intrinsically participatory nature of watershed partnerships, legitimacy is arguably the most important single determining factor of overall success, as continued participation in a collaborative process often hinges upon the perception that the work of the group is legitimate (Sabatier et al. 2005). Perceived legitimacy is grounded in democratic values related to equity and fairness, as well as the rights and responsibilities of citizens to participate in the making of policies that affect them (Barber 2003; Hampton 1999; Sabatier et al. 2005). Policy processes that include a broad spectrum of perspectives are more likely to be viewed as legitimate than those involving only a narrow subset of actors (Meadowcroft 2004; Wondolleck & Yaffee 2000). Thus, full stakeholder participation represents a direct benefit to watershed partnership legitimacy.

Full participation by all stakeholder groups is also beneficial to a watershed partnership's ability to build capacity for future problem solving.[10] Collaborative capacity is grounded in levels of trust, cooperation and shared understanding between participants, as well as other measures of social capital (Leach, Pelkey & Sabatier 2002). In particular, trust between stakeholders is important to the success of collaborative watershed management efforts, and is both an influence upon and central objective of watershed partnership activities (Sabatier et al. 2005). Repeated interaction, in combination with sound decision-

[10] Capacity-building is particularly important to younger watershed partnerships, as the majority of the successes achieved by young partnerships are likely to relate to process and social capital, whereas mature partnerships are typically more successful at achieving both social and environmental success (WPP 2002).

making practices, fosters an increased sense of trust, coordination, cooperation (Smith & Gilden 2002), and agreement amongst diverse stakeholder groups (WPP 2002). These aspects of social capital provide a strong operational foundation for the success of current and future watershed partnership efforts. Additionally, the collaborative processes characteristic of watershed partnerships create a sense of ownership of the problem, which increases the likelihood of political support for and implementation of future partnership activities (Bryan 2004; Lachapelle & McCool 2005). As such, watershed partnership capacity is maximized by the inclusion of a broad range of stakeholders.

In addition to increasing legitimacy and building capacity, full stakeholder participation in watershed partnerships sets the stage for greater success in general. This overall benefit to partnership success is grounded in two principles. First, good processes are assumed to yield good outcomes (Born & Genskow 2001). Effective processes are the combined result of a number of influencing factors (e.g. leadership, communication, decision-making, etc.), with representative participation a central component of watershed partnership processes. By improving the quality of the process, full inclusion of stakeholders can lead to on-the-ground environmental benefits. Second, watershed partners perceive broad stakeholder representation as correlated with high levels of success (WPP 2002). Although "perceived success" does not necessarily translate directly to "measured success," whether a partnership is perceived by stakeholders to be successful, and thus a worthwhile use of time and resources, is

a key determinant of future problem-solving capacity (Wondolleck & Yaffee 2000).

Procedural legitimacy, problem-solving capacity, and overall partnership success are benefited by full stakeholder participation in watershed partnerships. Nonetheless, these benefits to watershed partnership process are not necessarily without tradeoffs, but are practically constrained by three key arguments. To begin, the consensus-based processes employed by watershed partnerships are heavily time consuming, and expanding partnership activities to include more interests only exacerbates that criticism. As mentioned in Chapter 2, some environmental problems or policy contexts may require a time-sensitive response, in which case the extra time required to accommodate additional stakeholders into the process may be undesirable. A counter-argument to this criticism asserts that decisions made through legitimate consensus-based processes may, in fact, take less time overall than other approaches, for lack of the need to revisit the decision (King, Feltey & Susel 1998). In the case that this assertion proves true, expanded participation may remain an asset to the process.

The second process-related criticism facing full stakeholder participation in watershed partnerships is that increased participation may not have a meaningful impact on the process. Consensus-based decision-making processes are not always fair, and may reflect the interests of certain stakeholders at the expense of others (Layzer 2002). Under this criticism, the participation of marginalized stakeholder groups may not be reflected in the partnership's decisions or activities (Pelletier et al. 1999). Because stakeholders consider their

personal ability to affect partnership outcomes to be central to their participation, this sort of nominal inclusion may be perceived as a disincentive to future involvement in the partnership (Kenney et al. 2000).

Finally, full stakeholder participation is unlikely to benefit watershed partnership success in the absence of other elements of effective processes. Good processes include elements of leadership, management of meetings, communication and decision-making, and are viewed as perhaps more important to the partnership's success than the actual decisions produced (Born & Genskow 2001). A lack of effective processes may jeopardize a partnership's success by failing to moderate the interpersonal and interorganizational conflict within the group (Woolley & McGinnis 1999). Watershed partnerships may then be perceived as exacerbating, rather than solving, watershed problems, thus risking the legitimacy of the effort (Leach, Pelkey & Sabatier 2002). As such, full stakeholder participation alone should not be assumed to be a panacea for improving watershed partnership success, but should be one element of an effective process.

In summary, full participation by all interested stakeholders in a watershed partnership benefits procedural success by increasing the legitimacy of the effort and building capacity for future problem solving. These benefits to partnership processes increase the likelihood of success in other dimensions, as well. However, increased participation in consensus-based decision-making should also be considered within the context of criticisms that identify tradeoffs between participation and the duration and quality of the process. As such, full

stakeholder participation in watershed partnerships must not be viewed as the singular predictor of process-related success, but must be considered to be one element of an overall good process.

Stakeholder Participation and Successful Outcomes

Just as broad inclusion of stakeholder groups is related to the success of watershed partnership processes, so too is partnership composition associated with successful outcomes. Full stakeholder participation improves the ability of the partnership to respond to complex environmental problems, as well as increases the likelihood of project implementation. Partnerships with diverse participation are also more likely than homogeneous partnerships to successfully complete comprehensive watershed plans and outreach and education projects.

The environmental problems central to watershed partnership efforts are most completely understood within the context of fully participative stakeholder processes. Watershed partnerships increase understanding of watershed issues by bringing together a range of knowledge from within and outside of the watershed (Sabatier et al. 2005). For example, state or federal agency staff often have the technical expertise necessary to complement the day-to-day familiarity of local resource users.[11] The combination of multiple perspectives creates a more

[11] The consideration of local environmental knowledge (also known as "traditional ecological knowledge") in environmental policy making is increasingly recognized as important for its benefits to the process and outcome of environmental and natural resource management (Birkes, Colding & Folke 2000; Huntington 2000).

complete definition of the environmental problem, which is critical to the development of appropriate solutions and the overall success of the effort (Wondolleck & Yaffee 2000). Solutions that are well matched to the environmental issue are more likely to achieve the desired outcome (i.e. ecological benefit) than those developed with a poor understanding of the problem.

Full stakeholder participation in watershed partnership processes also increases the likelihood that projects will be implemented. The collaborative processes central to watershed partnerships create a sense of ownership of the problem, which increases stakeholder commitment to follow through to the results phase of project planning (Wondolleck & Yaffee 2000). The inclusion of all interested stakeholders in the project development process also ensures that projects will be feasible, as landowners and other stakeholders with the power to derail implementation are able to provide input from the earliest planning stages (Born & Genskow 2001). Finally, full stakeholder participation results in an increased availability of resources, as different participants bring to the partnership a range of expertise, authority, and physical resources necessary for successful project implementation (Wondolleck & Yaffee 2000).

Watershed partnerships with diverse stakeholder participation are more likely than other groups to successfully complete watershed management plans and public outreach projects, both of which are integral to overall partnership success (Moore & Koontz 2003). Given that they are developed within the framework of a sound decision-making process, the completion – and use – of

watershed conservation plans strongly increases the likelihood of affecting positive environmental change (Huntington & Sommarstrom 2000). Successful environmental outcomes are also dependent upon the visibility of watershed issues, with increased public awareness cited by watershed partners as an essential prerequisite to achieving environmental improvement (Kenney et al. 2000). Watershed partnerships with limited or homogeneous stakeholder participation are comparatively less likely to engage in comprehensive planning or public education activities, and are therefore likely to be less successful overall.

Full participation by stakeholders in watershed partnerships leads to successful outcomes by yielding a more complete understanding of, and thus, more appropriate solutions to, environmental problems. Furthermore, watershed partnerships with full stakeholder participation are more likely to implement projects and engage in other activities that are strongly correlated with positive environmental outcomes. In addition to these benefits, two key outcome-related concerns must also be considered when assessing the relationship between full stakeholder participation and watershed partnership success.

First and foremost, multi-stakeholder decision-making processes such as those employed in watershed partnerships are often criticized for their potential to produce "least common denominator" decisions (Woolley & McGinnis 1999). Poor consensus processes and the desire to avoid controversy are often seen as responsible for producing decisions that, although agreed upon by the partnership, are not as bold and innovative as is necessary to effectively solve an environmental problem (Huntington & Sommarstrom 2000). Under this

argument, increased stakeholder participation only lessens the likelihood of a successful outcome. This criticism is accompanied by two counter-criticisms, however, the first of which is that diverse participation in collaborative processes is, in fact, assumed to yield innovative and creative environmental management strategies (Bidwell & Ryan 2006). The second counter-criticism concerns the fact that "least common denominator" assertions are advanced primarily on ecological grounds and fail to account for sociopolitical values and process-related dimensions of watershed partnership success. Whereas ecological improvement may arguably be a more meaningful or important measure of success (Kenney et al. 2000), the solutions to watershed problems must, like the problems themselves, be grounded in both science and values (Johnson & Campbell 1999). As such, increased stakeholder participation cannot be clearly linked to weak decisions.

The second concern about the relationship between full stakeholder participation and watershed partnership outcomes lies in the absence of support for the argument that increased participation leads to actual environmental improvement. Simply, it is extremely difficult to establish causal connections between watershed partnership activities and on-the-ground improvement, as many confounding factors are present at any given time (Sabatier et al. 2005). Because it is often time and cost prohibitive, most watershed partnerships do not conduct the long-term effectiveness monitoring necessary to fully evaluate the impact of watershed partnership actions on ecological objectives (Leach, Pelkey & Sabatier 2002). As such, the effect of partnership activities on actual

ecological conditions is poorly understood (Kenney et al. 2000). Causal relationships within collaborative watershed groups are also poorly understood, thus it is difficult to connect measured environmental success to specific partnership characteristics (e.g. process elements, level of funding, leadership, etc.) (Born & Genskow 2001). Therefore, blanket claims that increased stakeholder participation leads to environmental improvement may be premature.

In summary, full stakeholder participation presents many benefits to the success of watershed partnership processes and outcomes. Fully inclusive participation yields successful partnership processes by improving procedural legitimacy, building capacity for future problem solving, and establishing the foundation for other dimensions of partnership success. With respect to partnership outcomes, full stakeholder involvement promotes success by improving the group's ability to define and resolve complex environmental problems and implement projects. In addition, the successful completion of watershed planning and public outreach projects is more likely in partnerships with diverse participation. At the same time, increases in stakeholder participation are confronted by challenges, and must address criticisms that increased participation may have negative impacts on watershed partnership processes and outcomes. Although not without tradeoffs, the benefits to success are an attractive incentive to expand stakeholder participation in collaborative watershed management to all interested groups, with the assumption that it will result in social and environmental improvements in the watershed.

Chapter 5:

Discussion and Conclusions

It is clear that stakeholder participation in watershed partnership efforts impacts the partnership's overall level of success, and that full participation may, in fact, present substantial benefits to both process- and outcome-related successes. Although it is tempting for watershed managers to consider these potential benefits justification enough for immediately increasing participation in watershed partnership activities, the demonstrated relationship between stakeholder participation and partnership success should not be viewed as an overarching prescription for effectiveness. Rather, the effects of stakeholder involvement on watershed partnership success presented herein should be viewed with a sense of cautious optimism. While this analysis suggests an encouraging link between participation and success, careful consideration must be given to two critical questions intrinsic to this relationship: those of certainty and generalizability.

Although early evidence suggests full stakeholder participation can positively influence the success of watershed partnerships, it is met with a great deal of uncertainty. To begin, watershed partnership success – this inquiry's primary factor of interest – is particularly difficult to assess, with both processes and outcomes requiring resource-intensive evaluative techniques and decades-

long timelines for measurement (Sabatier et al. 2005). Therefore, the *perception* of success is often used as a surrogate for actual measures of real outcomes, which, though useful to some extent, is clearly not as decidedly conclusive a measure as hard data (WPP 2002). In addition, there exists uncertainty about causation. Aside from stakeholder participation, many factors that are both internal and external to a partnership may have an influence upon the group's ultimate effectiveness, among them the age of the partnership, characteristics of the regulatory setting, and pre-existing social networks. While research is increasing, "[t]he reality remains that the watershed community does not fully understand which factors are critical in various circumstances or how factors interact to influence accomplishments" (Born & Genskow 2001). While this uncertainty does not directly undermine claims that full stakeholder participation may benefit levels of partnership success, it does somewhat constrain the power of their conclusiveness.

Sweeping claims that full participation will always yield successful partnerships are also constrained by the issue of whether the results are generalizable. That is, beyond their shared structural and organizational characteristics, every watershed partnership is unique, thereby calling into question the generalizability of conclusions about which factors influence success in all circumstances (Kenney et al. 2000). The degree to which research results may be considered generally prescriptive, rather than specifically descriptive, is not yet known. Just as it may be premature to make generalizations to other watershed partnerships, it is also unclear whether these claims may be

appropriately applied to other forms of collaborative natural resource management.

However, the existence of critical questions about uncertainty and the generalizability of conclusions should in no way be construed as an argument against increasing stakeholder participation in watershed partnerships. On the contrary, watershed managers should continue to hold full stakeholder involvement as the participatory ideal, but with the recognition that more information is needed before clear conclusions can be drawn about the relationship between partnership participation and success. Furthermore, watershed managers should take four practical steps towards furthering understanding of partnership dynamics, while also improving the potential for success.

Sustain current levels of participation – First and foremost, watershed managers must make efforts to sustain current levels of stakeholder participation within their watershed partnerships. Consistent participation is necessary to the short-term success of the partnership as well as broader evaluations of watershed partnership dynamics over the long run. As such, it is imperative that watershed managers structure partnership processes ways that enable meaningful stakeholder participation. This includes providing adequate access to information, establishing strong decision processes, appropriately considering stakeholder input (Walker, Senecah & Daniels 2006), and accommodating diverse learning and personality types (Smolko, Huberd & Tam-Davis 2002). Watershed

partnership processes should also appropriately match engagement strategies to the task and participants at-hand (Chess & Purcell 1999; Johnson & Campbell 1999).

Encourage additional stakeholder participation – Watershed managers need to expand the level of participation within their partnerships to include all stakeholders, with the assumption that increased participation will positively affect partnership success over the long term. This is not an easy task, as stakeholder participation is influenced by a number of factors, many of which cannot easily be addressed by the watershed partnership itself.[12] Partnerships can, however, advocate on behalf of policy-level incentives to participation, the lack of which is increasingly seen as a barrier to collaborative watershed management success (Lubell 2004; Ryan & Klug 2005). Watershed partnerships can also increase public involvement in their activities by way of good old-fashioned outreach activities, although some methods may be more effective than others (Duram & Brown 1999).

Persevere through fluctuations – A common concern of watershed partnership participants is that meetings are, for the most part, poorly attended (Kenney et al. 2000). While this is certainly a frustration for watershed managers, it should be

[12] Typically, participation in collaborative watershed partnerships is for one of two reasons: 1) the stakeholder has a desire to improve ecological conditions in the watershed and views participation in the partnership as a means for achieving that goal; or 2) the stakeholder participates defensively to protect an interest perceived as threatened by the partnership's activities (Sabatier et al. 2005).

recognized that stakeholder participation in watershed partnerships fluctuates over time, and should not necessarily be viewed as a sign of the partnership's failure (Born & Genskow 2001). For example, increased levels of trust (arguably, a sign of partnership "success") may cause a drop in participation by watershed stakeholders, as high trust is associated with high levels of deference to other decision-makers (Parkins & Mitchell 2005; Sabatier et al. 2005). Additionally, factors external to the partnership, such as other salient issues in the watershed, may draw attention away from long-term watershed management activities. Watershed managers should take fluctuations in participation in stride, while not allowing them to detract from efforts to build and sustain partnership efforts.

Increase monitoring efforts – Additional data are necessary to fully assess the impacts of watershed partnership activities on ecosystem health. Overall, by collecting information both on whether projects are being completed ("implementation monitoring") and whether they are achieving the desired environmental improvements ("effectiveness monitoring"), watershed managers will be better able to draw conclusions about the effectiveness of watershed partnerships and collaborative watershed management approaches. Furthermore, increased monitoring would benefit efforts to develop standardized evaluation frameworks and research methods for watershed partnership analyses.

Watershed partnerships have become the preferred ecosystem management tool in an environmental policy setting facing complex ecological

problems and increasing demands from government agencies, resource users, non-profit groups, and the general public that they be included in the solution. Research on the relationship between stakeholder participation and watershed partnership processes and outcomes has yielded hopeful results, correlating full stakeholder involvement with increased partnership success. There is, however, more work to be done to further the watershed community's understanding of how partnership characteristics influence the ability of the group to accomplish its goals. The efforts of dedicated watershed managers, committed stakeholders, and knowledgeable policy professionals are needed to ensure that watershed partnerships are the most effective and appropriate means of watershed management, both now and in the future.

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