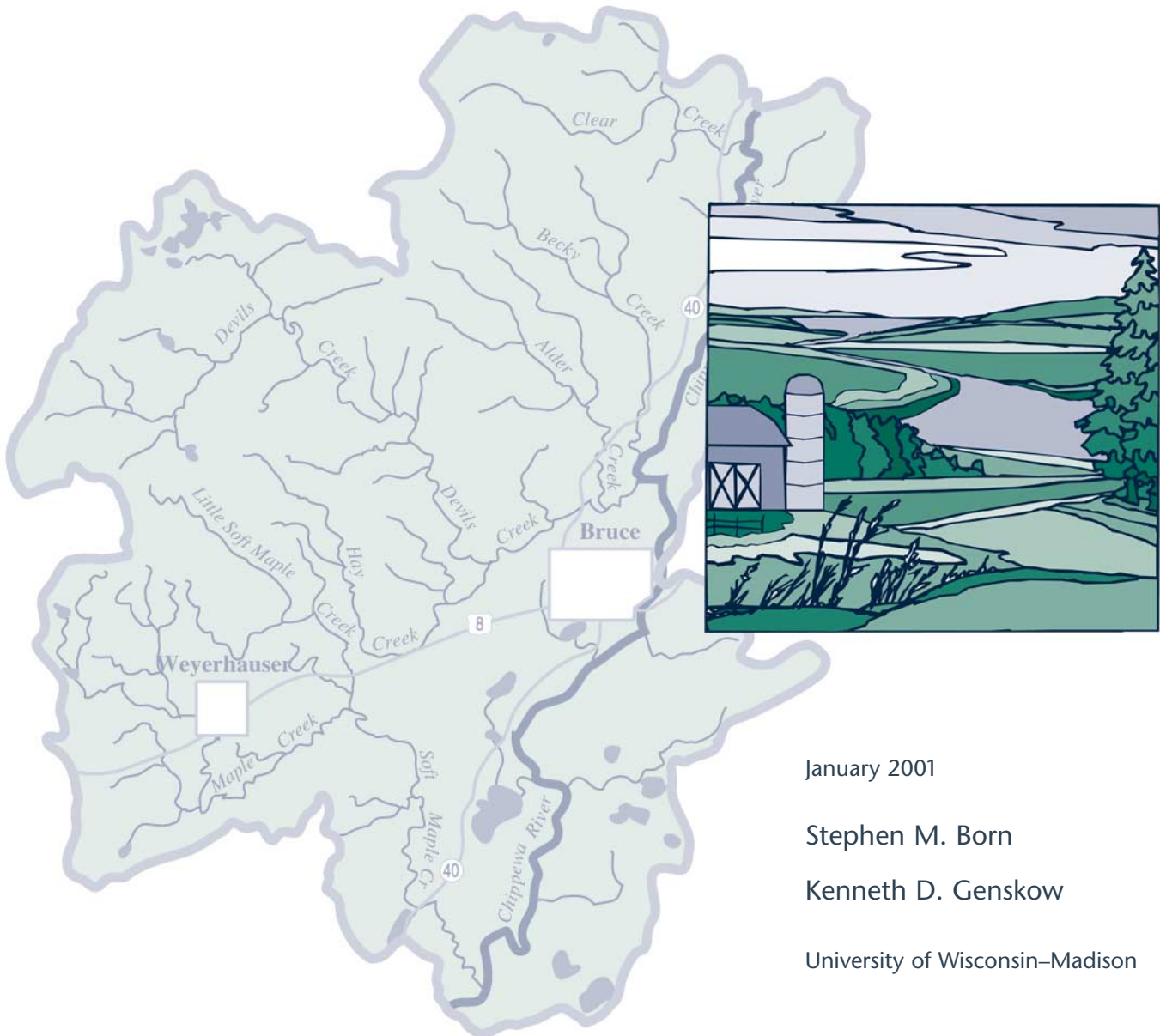


# Toward Understanding New Watershed Initiatives

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## A Report from the Madison Watershed Workshop

July 20-21, 2000 • Madison, Wisconsin



January 2001

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## Acknowledgements

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We appreciate the generous support of the Henry P. Kendall Foundation, without which this effort would not have been possible. Trout Unlimited and the University of Wisconsin Cooperative Extension Service provided additional assistance.

This document incorporates meaningful contributions from all of the workshop participants. The intellectual rigor and enthusiastic interaction at the workshop helped expand and clarify our collective thinking about new watershed initiatives.

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Laura Hewitt, Upper Midwest Conservation Director for Trout Unlimited, provided administrative support and also participated in the workshop.

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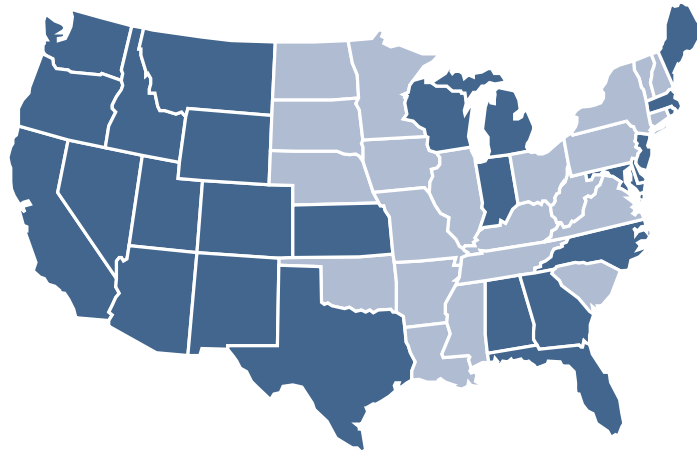
## Introduction

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One of the most profound institutional innovations in natural resources and environmental management over the past decade is the emergence of the “new watershed approach.” Distinguishing hallmarks of this “new” approach, which has deep historical roots, are decentralized and shared decision-making, collaboration, engagement of a wide array of stakeholders (including nongovernmental interests), and goals evidencing concern for ecosystems. This new approach differs from “traditional” approaches that are more fragmented and reliant upon centralized agency decision-making and command-control strategies.

Collaborative watershed partnership initiatives are expanding dramatically in the United States (as well as internationally) as state and federal agencies, local governments, and local nongovernmental interests embrace the opportunities in the “new” watershed approach.<sup>1</sup> The thousands of partnership initiatives take many forms, face distinct challenges, and produce wide-ranging accomplishments. Participants come together under the premise that jointly they can share information and resources, overcome conflict, identify priorities, and accomplish common objectives. Yet, the community of researchers, policy makers, and watershed partners has differing conceptualizations of watershed partnership initiatives and uses an uncertain set of assumptions regarding specifically what factors affect partnership accomplishments and what constitutes success.

In recent years, several applied research efforts have examined numerous factors related to new watershed initiatives through synoptic analyses of multiple watershed partnerships.<sup>2</sup> Despite some apparent similarities in their findings regarding which factors are important for partnerships, researchers have had very few chances to interact in settings where they can share research results, discuss their meaning and general validity, and consider the implications for watershed partnerships and natural resources policy. In July 2000, a small group of researchers had that opportunity at an invitational workshop held in Madison, Wisconsin. The workshop assembled a dozen researchers (including one participant involved primarily with the development and implementation of watershed programs) with extensive experience in water and related land resource management and who collectively had conducted assessments involving multiple watershed initiatives across much of the United States (see Figure 1). The group set out to clarify areas of agreement, disagreement, and uncertainty related to an array of topics that included characterizations and conceptions of



**Figure 1:** Geographic coverage of workshop participant research on watershed initiatives. Participants attending the workshop have conducted assessments of watershed partnership initiatives in parts of the dark shaded states as well as internationally.

watershed partnership initiatives, key considerations for evaluating their accomplishments, and factors that may influence or determine partnership success.

The workshop participants accepted unanimously that contemporary water resource management problems – involving increasingly competing demands on complex aquatic and terrestrial ecosystems – cannot be resolved by “traditional” approaches alone. All participants also agreed that the watershed approach *complements* but is not a replacement for regulation; in fact, the group noted that watershed partnerships are often initiated under the threat of regulatory action. Viewing the watershed approach as a complementary rather than substitute strategy contradicts some widely held notions about the nature of watershed initiatives – particularly for some western watersheds. Importantly, the workshop led to a group-endorsed general characterization of watershed partnership initiatives and a robust framework for evaluating their accomplishments. Despite expanding empirical research efforts and numerous sets of widely publicized “lessons learned” for watershed partnerships, this workshop group collectively agreed that many uncertainties continue to surround watershed initiatives, particularly regarding cause-effect relationships between partnership characteristics, actions, and accomplishments.

This report summarizes the workshop discussion and captures key insights related to: 1) the characterization and conceptualization of watershed partnerships and the new watershed approach; 2) framework elements for evaluating watershed partnerships; 3) key factors that influence success; and 4) general reflections on lessons learned about this approach. The intent is to compile an informed “status” report on key elements related to the “new watershed approach” that captures the current state of knowledge, advances the broader critical dialogue within the larger watershed-management community, and proposes a focus for additional research.

# I. The Evolving Watershed Approach

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The terms “watershed approach” and “watershed partnerships” have become catch-all phrases for a range of water resource management initiatives and watershed-level conditions. In an effort to establish a common vocabulary, the workshop delineated six characteristics that *in combination* distinguish new watershed initiatives (and the new watershed approach) from previous efforts.

## New watershed initiatives share the following:

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1. Adopt watersheds and sub-watersheds as the fundamental analytical and management units. Watersheds are nested and hierarchical elements of river systems, and the scale for partnership organization and action will vary with the focus of each initiative.
2. Address a broad scope of issues, exhibit a systems-orientation, incorporate multiple means, and include goals pertaining to healthy ecosystems, economic returns, and resource management. Watershed initiatives have great potential to change over time; they may start with a narrow focus but become broader in scope and inclusive of multiple goals.
3. Use assessments and decision processes that are informed by a combination of biophysical-science, social and economic information, and local knowledge. Local knowledge includes historical perspectives, experience with previous resource conditions and management efforts, and site-specific contextual information.
4. Include interactions among multiple agencies and multiple levels of government. These interactions typically include information exchange, resource sharing, and/or shared decision-making.
5. Emphasize influential and voluntary participation of multiple local and non-governmental interests. New watershed initiatives involve partnerships between public and private interests. Levels of participation are likely to vary over time, with ebbs and flows in intensity.
6. Demonstrate a collaborative, problem-solving, planning and management orientation. This orientation promotes consensual, negotiative discussions that engender broad agreements and specific, situation-appropriate policy and management actions.

This characterization reflects a tension between describing new watershed initiatives as they are and using a more normative conceptualization, in particular, a desire to apply the term “ecosystem management” to efforts emphasizing a few environmental parameters. These six characteristics are present to varying degrees in different watershed initiatives. Individually, some of these distinguishing characteristics are not new, and in fact have been part of land and water resource management for decades, but in combination, they describe a new approach for addressing complex water and related resource management issues.

## Differences from Previous Management Efforts

These new initiatives are a departure from previous watershed management efforts (see Table 1). There is an extensive record of earlier efforts that includes: multi-state compacts and river basin commissions; regional multiple-use river basin development initiatives; and single-purpose resource management at the watershed level, such as soil conservation efforts and environmental restoration or pollution abatement programs.<sup>3</sup> Some of those approaches, including traditional command-control water-quality (pollution-abatement) programs and initiatives, continue today. New watershed initiatives accommodate a broader

set of goals related to ecological system components, use sectors, and functions; an initiative might begin with a narrower focus but expand in scope with time. New initiatives also differ from previous efforts in their: strong emphasis on influential participation of local and nongovernmental groups; flexible problem-solving orientation (rather than uniformly applied and prescriptive approaches); openness to more inclusive bases of information, including local knowledge and socio-economic data; and an orientation toward interaction-coordination among agencies and governments.

Table 1.

### Distinguishing Characteristics of “New” Watershed Initiatives

Characteristic	Degree present in:	
	Previous Management Efforts	New Watershed Initiatives
1. Adopt watersheds and sub-watersheds as the fundamental analytical and management units.	●	●
2. Address a broad scope of issues, exhibit a systems-orientation, incorporate multiple means, and include goals pertaining to healthy ecosystems, economic returns, and resource management.	◐	◐
3. Use assessments and decision processes that are informed by a combination of biophysical-science, social and economic information, and local knowledge.	◐	●
4. Include interactions among multiple agencies and multiple levels of government (potentially including information exchange, resource sharing, and/or shared decision-making).	◐	●
5. Emphasize influential and voluntary participation of multiple local and nongovernmental interests.	○	●
6. Demonstrate a collaborative problem-solving planning and management orientation.	○	●

Key: ○ Generally not present   ◐ Somewhat present   ● Present

## II. Evaluating New Watershed Initiatives

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What constitutes a successful watershed initiative? Formal evaluation of watershed initiatives – and the broader set of collaborative management efforts – has received limited attention by the watershed community, yet initiative partners and policy makers appear to have differing and sometimes inconsistent expectations for accomplishments. The ultimate accomplishment measure may be environmental outcomes and attainment of goals (e.g., measurable changes in ecological health, or recovery of an endangered species), but relying solely upon environmental outcomes is overly simplistic, can take decades, and fails to capture the significance of other potential achievements and impacts. An over-simplified, single-measure evaluation of end states fails to provide useful information to groups seeking short-term feedback on the results of their actions.

### An Evaluation Framework

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Participants in this workshop agreed unanimously that evaluating new watershed initiatives requires measures of multiple dimensions sensitive to various types of accomplishments and various “maturity” stages for watershed initiatives. The framework in Table 2 outlines evaluation measures that allow initiatives to track their progress across multiple dimensions over time. This general framework provides a range of process and “social capital” measures for communication, educational efforts, trust building, and conflict resolution; it also includes measures for institutional changes, economic impacts, and intermediate environmental improvements – measures of on-the-ground practices that are known or likely to lead to

eventual environmental outcomes. These five dimensions approximate a general temporal progression of accomplishments, and while gains in more tangible dimensions are not necessarily dependent on gains in social capital measures, individual initiatives are likely to experience different types of accomplishments as their partners gain experience together and their partnerships “mature” as entities. For example, for initiatives that are just beginning, even seemingly small social capital accomplishments – such as increasingly affable meetings between local citizens and what they perceive to be “antagonistic” agencies – can be stepping stones toward institutional changes or intermediate environmental outputs.

### Operational Challenges

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While an expanded evaluation approach is important to help partnerships and policy makers understand the array of their accomplishments, conducting these robust, multi-dimensional evaluations poses numerous challenges.

First, the breadth and systems orientation of partnerships require complex evaluation (research) designs that involve a mix of quantitative and qualitative methods. Some measures lend themselves readily to numerical



**Table 2.**  
**Elements of a Multi-Dimensional Evaluation Framework for Watershed Initiatives**

Dimension	Measures
Social capacity-development and generally less-tangible accomplishments	Process measures, trust-building, educational efforts and awareness-building, enhanced coordination, dispute resolution, and strengthened local problem-solving networks.
Institutional changes	Changes in existing institutions (e.g., changes in budgets, regulations, permit review processes, consistency provisions) and/or creation of new organizations (e.g., land trusts).
Economic outputs	Economic gains related to: hydropower; flood protection; riparian property values (including valuation increases from urban riverside redevelopment); recreation; fisheries; water supply; and wastewater treatment.
Intermediate environmental outputs	Resource-level biophysical changes such as measurable changes in land management practices, habitat rehabilitation, land acquisition, and improvements to wastewater treatment.
Environmental outcomes	Measurable and attributable resource improvements. Depending on the environmental goals, these could include land conservation, water conservation, improvements in water quality, and other measures of ecological health.

This evaluation framework was generally applied in Born S. M. and K. D. Genskow (2000), "The Watershed Approach: An Empirical Assessment of Innovation in Environmental Management." Prepared for the National Academy of Public Administration, Washington, DC. 72 pages. Available at <[www.napawash.org](http://www.napawash.org)>, under "environment.gov".

quantification (e.g., financial expenditures, use or installation of management practices and habitat improvements), but most of the measures require interviews, surveys, and document review. Even tracing the more quantifiable elements such as funding sources and expenditures can be problematic; evaluators might realistically need to consult a half-dozen sources for financial information, and initiative-specific information might still be obscured by project or agency accounting systems.<sup>4</sup> The second and related challenge is the need to explore multiple contacts and sources of information. It is highly unlikely that a single contact could provide all of the information necessary for a complete evaluation, and interviewing only a single contact, partnership coordinators, or current partners is likely to bias results.<sup>5</sup> Finally, some evaluation dimensions involve very elusive measures. The social capacity dimension, for example, involves challenges identifying the target/study

population (social capital among partners? constituent groups? a larger community?), sampling, and then measuring change. In each dimension, although particularly in the area of social capacity, evaluators will face challenges attributing changes to the watershed initiative.

The workshop group generally endorsed this multi-dimensional framework for evaluating partnership initiatives with the caveat that partners (and evaluators) should vary their expectations for each dimension based in part on the maturity of the initiative. Partnerships might find "low-hanging fruit" that can meet short-term goals for generating awareness, building support, and demonstrating intermediate changes. Some environmental advances may be short-term in nature, but ultimate environmental achievements may require time measured in decades rather than years.

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## Methodological Issues for Comparative Research

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Discussions of research methodology uncovered an element of tension among workshop participants regarding appropriate analytical approaches for understanding new watershed initiatives. The group generally agreed that the existing collection of single-case studies provides a sufficient set of issues for further exploration using in-depth and more systematic comparisons across multiple watersheds. However, participants disagreed over the relative merits of systematic qualitative versus rigorous quantitative studies for clarifying and understanding the set of critical factors that influence watershed initiatives.

Proponents of rigorous quantitative approaches suggest that the existing body of research has generated a substantial number of conjectures and hypotheses, and our research efforts should emphasize verifying and refining those

hypotheses using approaches that test for statistical significance. Others suggest that the complexity and variability within and between watershed partnerships precludes the narrow (concise) definitions required for extensive quantification in a reductionist research approach. Those advocating systematic qualitative research insist that additional in-depth research is needed to understand the interplay between “contextual” and “organizational” factors for various types of watershed initiatives, particularly given the lack of a consensus definition for “watershed partnership” among the broader research community. Most participants held the opinion that multiple research strategies are still called for; unfortunately, the workshop was unable to fully explore how various research designs might usefully address different types of questions.

### III. Key Factors that Influence Success

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An enormous array of factors can influence the success of watershed partnerships. A number of workshop participants and others have conducted research on partnerships in attempts to discern and clarify the relationships between characteristics, actions, and outcomes. One ongoing project under the direction of workshop participant Paul Sabatier has reviewed nearly forty of those research efforts and tallied 210 separate factors that researchers suggest influence partnerships' success.<sup>6</sup> Researchers and practitioners have applied numerous analytical approaches to this problem (ranging from single-case reviews to systematic comparisons of factors across cases) and have lumped, split, and re-divided their lists of critical factors myriad ways. The reality remains that the watershed community does not fully understand which factors are critical in various circumstances or how factors interact to influence accomplishments. The unique circumstances facing individual partnerships precludes a clear prescriptive model, and watershed initiatives must draw from numerous sources of guidance of varying quality, often with conflicting advice.

Comparing collective insights on factors affecting success was one of the central reasons for convening the watershed workshop. As a catalyst and departure point for focusing discussion on the most significant factors (Table 3), participants worked through a discussion of fourteen general factors (variables) following a list developed in advance of the workshop.<sup>7</sup> One theme that emerges from research is a belief that partnership actions and success are greatly influenced by context – the circumstances in which partnerships form and operate. Pursuing this theme, factors were divided into two sets: *exogenous factors* that are outside and present prior to the partnerships, and *endogenous factors* that are more or less internal to the partnership and directly influenced by partners. Detailed group discussions explored the complexities of how these factors “play out” and interact in various partnership settings. For each broad factor/variable, the group discussed four questions:

1. Is the factor defined adequately?
2. How is it important?
3. How do different values associated with the factor influence success (where success relates to the dimensions described in Table 2)?
4. How do we know?

**Table 3.**  
Factors Potentially Influencing Watershed Initiatives

Group 1: Exogenous Factors	Group 2: Endogenous Factors
<p><i>Conditions that are outside and present prior to the partnership and that are (at least initially) beyond the direct influence of the partnership or partners.</i></p> <ul style="list-style-type: none"> <li>• Nature of the ecological setting and related use problems</li> <li>• Demographic and socio-economic setting</li> <li>• Situational history</li> <li>• Issue salience</li> <li>• Regulatory/programmatic context</li> </ul>	<p><i>Conditions that are inside the partnership and under the direct influence of partners.</i></p> <ul style="list-style-type: none"> <li>• Partnership initiation</li> <li>• Composition</li> <li>• Statement/clarity of purpose</li> <li>• Organizational process, direction-setting, and structure</li> <li>• Leadership</li> <li>• Staffing</li> <li>• Governmental commitment &amp; support</li> <li>• Funding</li> <li>• Watershed plans</li> </ul>

It became clear that our collective wisdom about watershed initiatives draws heavily upon specific examples and anecdotes and that each critical factor/variable on this list: a) has a large set of potential values; b) in many cases, has an unpredictable impact on accomplishments, and c) is not independent from other factors. The workshop group surmised that the set of exogenous/contextual factors is particularly important for explaining variations in both endogenous factors and accomplishments.

Despite substantial uncertainty, this set of factors provides a helpful, multi-faceted lens on watershed initiatives. Policy makers and researchers can compare it against their working assumptions, and individual partnerships can apply these factors to their unique situations and reflect upon issues that may be helping or hindering their efforts.

## Group 1. External/Exogenous Factors

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Exogenous factors are contextual and situational conditions that exist outside of partnership structures and that are present prior to partnership initiatives. Initially, these are factors that partners cannot directly

influence. As initiatives gain momentum, they can potentially develop influence over some of these factors (e.g., increase issue salience, change the biophysical setting, or alter the regulatory context).

### Nature of the Ecological Setting and Related Use Problems

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Ecological setting refers to the biophysical characteristics of the watershed; key issues include the scope, complexity, and overall tractability – difficulty and manageability – of major resource problems in the ecosystem. Watersheds are nested and hierarchical, and the ecological characteristics, specific resource-use issues and competing demands will dictate the necessary scope and geographical scale for action. Some issues appear to lend themselves to effective smaller-scale<sup>8</sup> approaches, for example, improving stream quality by reducing local sedimentation/erosion and nutrient loads, or achieving multiple benefits from restoring wetlands and riparian corridors. These actions can have positive impacts for smaller-order river systems, but they may not produce measurable differences for the larger

systems of which they are a part. Other issues require concerted efforts at both large and small scales to be effective, e.g., salmon restoration in the Northwest and ecological health in the Chesapeake Bay. The scale of the issue and watershed appear to influence the roles agencies and citizens are likely to perform in partnership initiatives; the distances and complexity of larger basins introduce additional challenges for interaction and communication among the multiple stakeholder interests. While there was agreement that the nature of the ecological setting is an important issue and greatly influences the nature and tractability of resource problems, in isolation from other factors, we do not know which types of biophysical settings/issues may lend themselves to more successful partnership interventions.

### Demographic and Socio-Economic Setting

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Population growth, density, land use, land ownership patterns, and local/regional economic development and history all influence watershed partnerships. Rapid population growth forces land-use development choices and presents partnerships with a potential catalyst for action and involvement. More concentrated population and more distributed land ownership arrangements are likely to add complexity to resource management actions. Consolidated land ownership (e.g., large land holdings by the federal government or private interests) can

simplify interactions and reduce transactions costs, but can also present substantial obstacles if the major landowners choose not to participate in a watershed initiative. Regional economic forces (e.g., forestry, land development, manufacturing, agriculture, fishing) influence public and political opinion and help shape the local discourse on resource management. Clearly, these demographic and socio-economic issues influence many aspects of watershed partnerships, but we cannot say which conditions are more or less likely to lead to success.

## Situational History

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The situational history reflects how – and how effectively – resource management has been addressed over time. Each watershed has its own complex history of social interaction, possibly collaboration, and most likely conflicts related to resource management. The subtleties of past experiences, current levels of “social capital,” resource management efforts, and changing political settings influence partnership efforts. As one workshop participant suggested, the situational history includes a measure of *dis-sensus* over various partnership-related issues. A history of conflict can either exhaust people to the point that they are willing to try anything – including a shared-resource partnership approach – or a

history of conflict can fuel entrenched positions and keep key participants from joining collaborative efforts. Experience with disputes that have been resolved in the past may embolden participants to tackle complex resource management issues through new watershed initiatives. The workshop group suspects there are regional situational-historical themes, e.g., federal land management, that are likely to have different implications for initiatives in different parts of the country. Again, while there was agreement on the overall importance of situational history in a watershed, we lack clear indications of specific influences and their relationships to potential accomplishments.

## Issue Salience

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The salience of resource management issues to various interests in a “watershed community” relates closely to each of the other exogenous factors. Without sufficiently broad salience, it seems unlikely that partnerships can generate enough enthusiasm to form and function. Partners must agree that at least some aspect of the existing situation is untenable and should not continue. Salience may depend simply on timing, or this may be a factor that individuals can influence through awareness building or

by conducting interviews and discussions that uncover joint concerns and priorities. Issue salience and consequent motivation for collective action could emerge from: a) high values associated with a particular resource, b) perceptions of threat to a highly valued resource, c) severe resource degradation, d) a perceived threat of externally imposed action, e) potential economic gains, or f) significant incentives for joint action (e.g., funding).

## Regulatory/Programmatic Context

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Extant and emerging local, state, and federal regulatory and agency-programmatic issues affect the management rules, funding, and support that partners may have available to them. Governments are part of these partnerships; government agencies directly influence the laws and administrative requirements related to environmental

regulation and resource management. Potential regulatory intervention of higher levels of government – e.g., a mandate for preparation of a total maximum daily load allocation (TMDL) or a federal endangered species listing – may catalyze formation and actions of partnership initiatives, and the greater the availability of regulatory and

programmatic elements that support partnerships (e.g., funding options, staffing arrangements, monitoring programs, basin planning procedures and documentation), the greater influence on potential partnership effectiveness. Yet a problematic context with

few supportive elements does not necessarily preclude a successful initiative. While all of the exogenous factors are dynamic, the regulatory and programmatic context may more readily lend itself to influence by partnerships and individuals over time.

## Group 2. Internal/Endogenous Factors

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Endogenous factors are largely internal to partnership initiatives, and they are more readily shaped by partnerships or individual partners/participants. Yet, as noted in the

discussion, the exogenous-factor conditions set the stage for the internal/endogenous factors and may preordain the way endogenous factors unfold.

### Partnership Initiation

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Partnerships may begin through individual initiative and/or local-grassroots action; through a local, regional or national nongovernmental organization; or from federal, state or local government. The workshop concluded that *who* initiates a partnership is an important determinant of whether or not the effort will get off the ground. Perhaps the best arrangement – particularly for small-scale efforts – involves local nongovernmental interests initiating a process in conjunction with a trusted agency or trusted agency staff; the worst arrangement is an initiation attempt by an agency that lacks local trust or favorable local opinion and whose efforts are perceived to be traditional intervention under the guise of partnering.

Government agencies can initiate partnerships if they have strong positive local relationships. Agencies with extensive field presence and records of local technical assistance (e.g., Cooperative Extension Service, Natural Resource Conservation Service, Forest Service, and Bureau of Land Management) have an advantage for developing positive local relationships and successfully initiating partnerships. Centralized

regulatory agencies have a greater challenge. The US Environmental Protection Agency, for example, provides valuable policy and program support for watershed initiatives (e.g., through watershed action grants, program guidance, and financial administration) and assumes substantial partnership roles in the National Estuary Program and in large multi-state river system partnerships; yet, perhaps due to its regulatory orientation, that agency may have difficulties *initiating* collaborative watershed partnerships, particularly for smaller watersheds. This dilemma exists at both state and federal levels, and attitudes toward state agencies may influence public acceptance of their partnership initiatives. However, recent state-agency decentralization initiatives along watershed boundaries (e.g., in Massachusetts, Oregon, Washington, and Wisconsin) bring additional field staff to the watershed level. In general, the reputation, legitimacy, and degree of trust toward the initiator(s) appear to affect the potential for success.

## Composition

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By definition, these partnerships involve a variety of stakeholders, but issues such as inclusivity/diversity, non-participation of key interests, and genuine representation present distinct challenges for watershed partnerships. The absence of important interests (potential “deal-breakers,” stakeholders, and/or local leaders) can jeopardize an initiative. Individual participation depends upon a mix of personal beliefs, interests, priorities, and interpersonal relationships. The dispute resolution concept of BATNA<sup>9</sup> (Best Alternative to a Negotiated Agreement) fits well with watershed initiatives – key players are unlikely to participate if they lack sufficient motivation or if they believe they will be better off addressing their interests another way.

On the other hand, not all stakeholders need to participate in all aspects of watershed initiatives. Business interests and developers are often viewed as important non-participants, but they might participate effectively in

detailed discussions about local ordinances or project proposals without participating in other general partnership discussions. Other composition-related issues discussed at the workshop included: the size of partnership groups (larger groups are more complex to manage; very small groups might not be sufficiently representative); the mixed effects of strong personalities; and the sensitivities of volunteer participants about agency or organizational counterparts being paid for their participation. Practically, participation should be expected to change over time to reflect changing issues and priorities addressed by partnerships. As with other internal factors, composition relates directly to exogenous-factor conditions; despite strong opinions, the workshop group could not make definitive linkages between composition issues and potential accomplishments.

## Statement/Clarity of Purpose

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Partnerships might have a clear, well-articulated mission statement; they might have a compelling yet inexplicitly articulated organizing principle; or their reasons for meeting/existing might be in flux. The question is whether or not clear statements of purpose provide necessary direction and help guide watershed partnerships to focused, functioning, and resultant accomplishments. The record is mixed. Some groups struggle because they have not made a distinction between organizational goals and environmental goals. Some groups spend substantial amounts of time crafting detailed vision and mission statements and make them sacred, while others simply develop statements (or adopt them from others) to use for official purposes but do not actually follow them in

practice. The workshop group concurred that clear statements are perhaps most useful as socializing and general direction-setting exercises; other socializing exercises, e.g., tours and field trips, may be equally important.



## Organizational Direction-Setting, Process and Structure

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Partnerships make decisions regarding what they will do as an “entity,” how they will operate, and how they will structure themselves. This “corporate” direction-setting process may be very informal and unstated, or it may be a full-blown, reiterative, organizational strategic-planning process. Whatever the process, it involves some level of “intelligence gathering” and discussion to establish the scale and scope of their efforts and the means by which the partnership will act. These partnership-organizational processes should not be confused with processes for actual watershed planning (discussed below), but their direction setting might lead partners to decide that they need a watershed plan. Such processes could also produce another set of decisions that would clarify the rules for doing the business of the partnership (the organizational process rules), including decision rules, constraints on partner autonomy, meeting conduct, sub-committee responsibilities, record-keeping, financial protocols, and internal and external communication. There are also varieties of officer and committee configurations, distribution of partnership functions, degrees of formality (e.g., charters, use of bylaws, articles of incorporation), and other structural components.

The workshop group viewed this factor as an agglomeration of literally dozens of additional variables. As such, it is particularly difficult to link specific organizational characteristics to

initiative accomplishments. Nonetheless, several important points emerged from the discussion. Perhaps most important was the group’s sense that the *process* of considering, deliberating over, and agreeing upon organizational issues may be more important than the final form they take. Openness and transparency appear to be important parts of this process. Some groups will not participate if they haven’t helped establish the decision and operational rules, while others are comfortable simply adopting language from other groups just to get started. Finally, loosely networked affiliations, informal partnership arrangements, and government-sanctioned watershed councils are all potentially successful arrangements. However, some degree of institutionalization is required for longer-term initiatives; the importance placed on the degree of formality hinges upon larger considerations regarding how long a watershed initiative is expected to continue and what formal arrangements are necessary for fiscal accountability.

## Leadership

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Leadership – leader stature, commitment, skill, and capability – is important for individual watershed partnerships, and in fact the workshop group could not identify any partnerships that were successful where leadership was absent. That said, the group distinguished several types of leadership roles that can be shared among

partners: coordinator, facilitator, and entrepreneur. It appears that partners find ways to assume and exchange these roles. Again, leadership has obvious connections to other factors, particularly composition and staffing.

## Staffing

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Staff functions can be performed by volunteers, designated agency staff, or independent partnership staff; the functions generally fall within two broad categories: a) organizational maintenance and development/administration; and b) projects and activities. The workshop group agreed that having a coordinator greatly enhances a partnership's effectiveness and ability to function. The problems are *funding* a coordinator and *finding* a coordinator with requisite skills – skill requirements and available salaries are often mismatched. Even when agency staff serve as coordinators, they may lack incentives to spend their time working for partnerships, and in some cases face additional

problems with mixed allegiances and accountability. Some agencies are recognizing this issue and the potential long-term benefits of decentralizing and genuinely “donating” staff support to watershed initiatives.<sup>10</sup> Workshop participants shared a number of examples of agency staff performing coordination roles very successfully, with primary allegiance to the partnership goals and activities. In those cases, staff were dedicated to their work and had real or perceived independence from agencies. The arrangement favored by workshop participants was for a paid coordinator working directly for the partnership.

## Governmental Commitment & Support

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The importance of governmental agencies and programmatic structures surfaces throughout this summary. Governmental commitment and support for partnerships constitutes a factor that is distinct from both “composition” and “regulatory/programmatic context” to the extent that partners – including agency participants – can move beyond routine participation to tap existing technical, financial, and administrative tools and programs to serve the needs of their partnerships. Agencies and legislatures make support available for watershed partnerships through discretionary decision-making, authority sharing, delegated staff assignments, technical assistance and information, and funding. In some cases, agencies must overcome substantial organizational inertia and resistance to change in order to provide this support; some states have gone so far as to restructure their environmental organizations.

Realistically, governmental support for watershed initiatives needs to exist at both the highest levels of agency administration and

with the local watershed-level resource manager. Without upper-level administrative support, institutional inertia will overrun attempts to integrate actions within watersheds; absent a local agency “champion,” watershed initiatives face substantial challenges accessing potential agency support – matching programs with local needs takes diligence by partners and agency representatives. Local partnerships may have limited ability to influence upper-level agency administrators, but their ability to involve agency champions to pursue and secure agency support may play an important role in their ultimate level of accomplishment.

## Funding

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Workshop participants strongly agreed that funding is a critical and direct link to accomplishments; this opinion is clearly shared by others – funding for partnerships is the most frequently identified factor critical to the success of partnerships.<sup>11</sup> Partnerships receive financial support in three major categories (partnership organizational development and maintenance; planning and program development; and program execution, implementation, and evaluation). Most of the funding for partnership activities comes from government, and governments have developed a variety of funding approaches. Several states and USEPA award partnership assistance grants

to help watershed groups with start-up and organizational costs. Many state and federal programs use general revenue and user fees to fund actual projects, including projects by local watershed initiatives. Some states levy taxes specifically for this purpose, e.g., New Jersey uses funds generated through a corporate business tax. Watershed partnerships also tap charitable foundations and other private-sector funding sources (including utilities, corporations, and local businesses). Partnerships face challenges with overall funding stability and flexibility for each funding category, but especially for “softer” functions of organizational development and maintenance.

## Watershed Plans

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There was a convergence of opinion that watershed plans are necessary precedents for successful watershed management, protection, and restoration interventions. In a recent study conducted by one of the workshop participants,<sup>12</sup> the use of plans was the only factor with a high correlation with potential positive environmental outcomes. A watershed plan includes a sound diagnosis and understanding of the problems, shows forethought, presents alternative solutions, and identifies feasible actions. Effective plans can range in size and content from skeletalized documents of only a few pages to multi-volume comprehensive reports. Plans do not necessarily need to begin as a comprehensive assessment across a broad scope of issues; they can be “living documents” that evolve over time to reflect the complexity of the issues being addressed.

The group emphasized several specific benefits tied to watershed plans in addition to providing a rationalized set of actions. The process of developing a watershed plan can help partners to see the complex interconnections between natural systems and social and economic activities, e.g., land use patterns and land management

activities. Plans and planning processes can help resolve disputes by providing a mechanism for joint fact-finding and agreement on priority problems and actions. Practically, plans can strengthen grant applications by demonstrating multiple-interest-based priorities and connections between specific project actions and a larger, systems-oriented approach.

The workshop session on plans and planning was infused with themes of adaptive management. Despite agreement on its importance, the group agreed that “adaptive management” as a formal intervention/monitoring/experimentation process<sup>13</sup> is not practiced widely. However, many partnerships practice a form of reflective learning whereby they take stock of their efforts and perceived impacts and then modify their actions as appropriate in an implicit form of adaptive management. This more pragmatic view of adaptive management is demonstrated in cases where partnerships expand the scope of their actions to pursue new policy initiatives or activities in pursuit of their goals. Revising and updating plans provide those opportunities for adjustment based on prior experience.

## IV. Lessons Learned & Concluding Comments

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Through interactions at this workshop, a group of researchers (and to some degree practitioners) collectively agreed on a set of distinguishing characteristics of “new” watershed initiatives with the intent of adding clarity regarding the characterization and definition of this approach. Acknowledging the importance of an efficacious and grounded evaluation of such initiatives, the participants outlined the elements of a robust and resilient evaluation framework. Participants reviewed causal relationships between watershed initiative descriptive characteristics, actions, and accomplishments, and concluded that research to date was not definitive regarding key variables affecting the success of these initiatives. In spite of the uncertainties, the workshop participants drew upon their extensive field research and experiences with an array of watershed initiatives to surmise several consensual general lessons that may help guide watershed initiatives and policy makers.

### Highlights of “Lessons Learned”

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- This workshop group reached agreement on key characteristics that *in combination* define and distinguish “new” watershed initiatives. These characteristics draw upon and encompass a wide variety of initiatives and provide a common vocabulary for watershed interests. Establishing a common vocabulary is an important step toward clarifying disparate notions of watershed initiatives held by local nongovernmental partners, agencies and policy makers.
- Watershed partnerships face high expectations from the public and political entities for resource-level outcomes that may take decades or longer to realize. Fully capturing the range of social and environmental partnership accomplishments calls for a multi-dimensional evaluation framework, such as the one presented here, that accommodates different levels of accomplishment for partnerships at various levels of organizational “maturity.”
- The group collectively agreed that “good” planning *processes* lead to better recommendations for action. Organizational-oriented planning processes serve in part as socializing exercises for partnership groups and lead to the establishment of joint goals and priorities for partnership initiatives. Watershed-oriented planning processes draw upon biophysical and social science, as well as local knowledge, to generate a sound diagnosis of the problems and produce clear directions and feasible actions for resource management. Workshop participants acknowledge that obstacles to implementation invariably arise, but that implementation is advantaged by collaborative decision-making.
- As noted by other researchers,<sup>14</sup> by and large these partnerships do not exist separate from government – government is a vital player in initiating and sustaining watershed partnerships. Although some groups – generally in small watersheds or reaches – are conducting

activities without substantial governmental involvement, government agency programs, staff, and regulatory structures are typically integral pieces of watershed partnerships and watershed management initiatives.

Particularly at the federal level, agencies with an extensive field presence, history of technical assistance, and local credibility (e.g., Natural Resources Conservation Service, Bureau of Land Management, Forest Service, and Cooperative Extension Service) are better suited to help initiate watershed partnerships than more centralized regulatory-oriented agencies. This generalization, however, does not hold true for larger multi-state river basins.

- It is clear that the context in which partnership initiatives develop greatly influences their scopes, goals, individual characteristics, and accomplishments. There is tremendous contextual variability among watershed partnerships, and specific lessons do not transfer easily from one watershed to the next. Effective agency support should be flexible and responsive to local/regional circumstances, and agencies should avoid promoting formulaic partnership models.
- The new watershed approach complements but is not a replacement for regulation. Regulation – or the threat of regulation – can stimulate local interests to coalesce into a partnership initiative, and watershed initiatives can help shape some regulations. Both are important components of a larger portfolio of watershed and water resource management tools and strategies.
- The watershed community in general lacks a clear understanding of causal factors that, in combination, influence success. Over time, the relationships between partnership characteristics, actions and accomplishments become even more entwined. Nonetheless, it is useful to identify key factors warranting partnership attention. The set of factors

presented here offers a heuristic device that policy makers and researchers can compare to their working assumptions and partnerships can apply to their unique situations.

- The workshop group was divided on whether watershed partnerships/initiatives should be used selectively in specific situations or promoted broadly in every watershed. Arguments for focusing resources on selective watershed situations emphasized the high transaction costs and organizational demands associated with watershed initiatives; supporters argued that there are not sufficient resources or local enthusiasm to support collaborative efforts everywhere. Proponents of “wall-to-wall” watershed partnerships argued that the approach is applicable in all watersheds – there are critical needs in every watershed, and providing a watershed forum could catalyze relevant interests to clarify and address local resource issues.

All of the above have implications for watershed partnership grant programs (USEPA’s Watershed Assistance Grants), the many agency initiatives, and potential new state and federal legislation (e.g., the Fishable Waters Act, intended as an amendment to the Clean Water Act and introduced into the 2nd session of the 106th Congress as H.R. 4278 and S. 2441). Flexibility related to variable contexts, realistic expectations based on experience to date, and sound evaluation approaches should be embedded in governmental programs supporting watershed partnerships and the “new” watershed management approach.

## Research

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Discussion at the Madison Watershed Workshop clearly indicated that there are strong and differing opinions about the most fruitful directions for further research in this area. While there was implicit agreement that there have been a sufficient number of exploratory single-case studies, participants divided on methodological approaches to pursue to help understand the multiple variables affecting watershed partnerships and performance. Some would argue for a rigorous quantitative research design to test hypotheses and try to

disentangle the relative importance of multiple variables, while others see value in systematic qualitative approaches. Workshop participants generally agreed on the need for in-depth analyses of multiple watersheds (comparative cross-case studies) and expanded emphasis on the effects of the context in which partnerships emerge and function. With the growth of the “watershed movement,” there is a clear need for continuing research that can provide more definitive guidance to watershed partnerships and initiatives.

## Endnotes

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- 1 National Research Council (1999), *New Strategies for America's Watersheds*. Washington: National Academy Press.
- 2 See, for example: Born, S.M. and K.D. Genskow (1999), “Exploring the Watershed Approach: Critical Dimensions of State-Local Partnerships”, River Network, Portland, OR; Born, S.M. and K.D. Genskow (2000), “The Watershed Approach: An Empirical Assessment of Innovation in Environmental Management”, National Academy of Public Administration, Washington, DC <[www.napawash.org](http://www.napawash.org)>; Coughlin, C.W., M.L. Hoben, D.W. Manskopf, and S.W. Quesada (1999), “A Systematic Assessment of Collaborative Resource Management Partnerships”, Master’s Thesis, University of Michigan, Ann Arbor; Huntington, C.W. and S. Sommarstrom (1999), “An Evaluation of Selected Watershed Councils in the Pacific Northwest and Northern California”, Trout Unlimited and Pacific Rivers Council; Imperial, M. and T. Hennessey (2000), “Environmental Governance in Watersheds: The Importance of Collaboration to Institutional Performance” National Academy of Public Administration, Washington, DC <[www.napawash.org](http://www.napawash.org)>; Margerum, R.D. (1999) “Integrated Environmental Management: The Foundations of Successful Practice”, *Environmental Management*, 24:151-166; Reike, B. and D.S. Kenney (1997), “Resource Management at the Watershed Level: An Assessment of the Changing Federal Role in the Emerging Era of Community-Based Watershed Management, Report to the Western Water Policy Review Advisory Commission, Denver, CO”, Natural Resources Law Center, University of Colorado School of Law, Boulder, CO; Leach, B., N. Pelkey, and P. Sabatier (forthcoming), “Making Watershed Partnerships Work: A Review of the Empirical Literature” submitted for review to the *Journal of Water Resources Planning and Management*; and Sabatier P., et al., web site for the Watershed Partnership Project <<http://wpp.ucdavis.edu>>.
- 3 Water resource management history (including the use of watersheds as analytical units) is well documented. See: Holmes, B. (1972), *A History of Federal Water Resources Programs, 1800-1960*. U.S. Department of Agriculture, Economic Research Service, Miscellaneous Publication No. 1233; North, R.M., L.B. Dworsky

and D.J. Allee (1981), *Unified River Basin Management Symposium Proceedings*. Minneapolis, Minn.: AWRA; Kenney, D.S. (1999), "Historical and Sociopolitical Context of the Western Watershed Movement." *Journal of the American Water Resources Association*. 35(3):493-503.

- 4 See Born, S.M. and K.D. Genskow (2000), "The Watershed Approach: An Empirical Assessment of Innovation in Environmental Management", National Academy of Public Administration, Washington, DC <www.napawash.org> p 46.
- 5 Leach, B., N. Pelkey, and P. Sabatier (2000), "Surveying Diverse Stakeholder Groups: Methodological Considerations" paper presented at the NSF/EPA Workshop on Community-Based Environmental Decision Making. Arlington, VA. May 9, 2000 and submitted for review to *Society and Natural Resources*.
- 6 Leach, B., N. Pelkey, and P. Sabatier (2000). "Making Watershed Partnerships Work: A Review of the Empirical Literature" submitted for review to the *Journal of Water Resources Planning and Management*.
- 7 Born and Genskow originally developed a list of fifteen factors drawing from several sources, including published research; especially the work of participants Doug Kenney (supra note 1 and Kenney, D.S. 2000. "Arguing About Consensus: Examining the Case Against Western Watershed Initiatives and Other Collaborative Groups Active in Natural Resources Management." Natural Resources Law Center, University of Colorado School of Law, Boulder, CO), Sari Sommarstrom (supra note 1), Born and Genskow (1999, 2000 in note 1), and from various interactions with a number of additional participants. Participants received descriptions of the factors prior to the workshop. The list in Table 3 includes edits that emerged from workshop discussions. The original list included the following factors. **Exogenous Factors:** Nature of the Ecological Setting/Issues(s); Issue Salience; Situational History; Regulatory/Programmatic Context, **Endogenous Factors:** Partnership Initiation; Composition; Statement/Clarity of Purpose; Organizational Process and Direction-Setting; Partnership Organizational Structure; Leadership; Staffing; Governmental Commitment and Support; Funding; Watershed Plans; and Plan Implementation.
- 8 While "small-scale" and "large-scale" have specific meanings for geographers and cartographers, we apply the terms' common non-technical usage, wherein "small-scale" means a smaller area of land and "large-scale" refers to a larger area of land.
- 9 Fisher, R. and W. Ury (1981), *Getting to Yes*. Penguin Books.
- 10 Notably state-level initiatives in Massachusetts, Oregon, Washington, and Wisconsin.
- 11 As noted by Leach, et al. *supra* note 6.
- 12 Sari Sommarstrom from Huntington, C.W. and S. Sommarstrom (1999), "An Evaluation of Selected Watershed Councils in the Pacific Northwest and Northern California", Trout Unlimited and Pacific Rivers Council.
- 13 As defined in: Lee, K. (1993), *Compass and Gyroscope: Integrating Science and Politics for the Environment*. Island Press: Washington, DC.
- 14 Getches, D.H. (1998), "Some Irreverent Questions About Watershed-Based Efforts." *Chronicle of Community*. 2(3) pp. 28-34.





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**A Report from the Madison Watershed Workshop**

July 20-21, 2000 Madison, Wisconsin

Available for downloading through "Library" at [www.tu.org](http://www.tu.org)

Supported by:  
Henry P. Kendall Foundation  
Trout Unlimited  
University of Wisconsin Cooperative Extension Service

