

Intergovernmental Challenges of Watershed Management: Strategies for Improving Watershed Governance

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INTRODUCTION

Ecosystem management has growing support from practitioners, government officials, and researchers and has been utilized in a variety of settings to address a wide range of resource management problems (Cortner and Moote 1994; Grumbine 1994; Slocombe 1998; Slocombe 1993)¹. A prominent application of the ecosystem-based approach is watershed management. Since watersheds are defined by their hydrology, they provide a logical boundary for managing water resources and problems like nonpoint source pollution (NPS) and habitat protection. Accordingly, it should not be surprising to find numerous examples of efforts to 'manage'

¹ For a discussion of ecosystem management see: Hanna J. Cortner and Margaret A. Moote, "Trends and Issues in Land and Water Resources Management: Setting the Agenda for Change," *Environmental Management* 18 (2, 1994), pp. 167-173; R. Edward Grumbine, "What is Ecosystem Management," *Conservation Biology* 8 (1, March 1994), pp. 27-38; D. S. Slocombe, "Defining Goals and Criteria for Ecosystem-Based Management," *Environmental Management* 22 (4, 1998), pp. 483-493; D. S. Slocombe, "Environmental Planning, Ecosystem Science, and Ecosystem Approaches for Integrating Environment and Development," *Environmental Management* 17 (3, 1993), pp. 289-303.

watershed problems in various estuaries, lakes, and river basins (Lubell, 2004; Imperial and Hennessey, 2000; Imperial and Hennessey, 1996; Kenney et al, 2000; Mackenzie, 1996).ⁱⁱ Characteristics of these efforts include:

- Approaching problems from an integrated or systems perspective;
- Promoting a stronger scientific basis behind government policies;
- Integrating and coordinating policies and programs across the government;
- Improving relationships between governmental and nongovernmental organizations;
- Broad public participation and stakeholder involvement in decision making;
- Changing or expanding policies, programs, and interorganizational relationships; and,
- Improving the performance of programs that address watershed problems (Born and Genskow, 2001; Leach and Pelkey, 2001).ⁱⁱⁱ

However, hydrologic boundaries rarely correspond to political boundaries. Accordingly, watershed problems are often addressed by agencies at different levels of government. This can produce governance problems such as: (1) fragmentation and duplication of responsibility; (2) poor use of information and resources; and, (3) inconsistency of policies across levels of government (Imperial, 1999). It is also common that the capacity (e.g., knowledge, power, authority, and resources) for solving complex watershed problems is widely dispersed such that no organization can solve the problems by acting alone (Bressers, 1995).

ⁱⁱ For examples of different types of watershed management programs see: Mark Lubell, "Resolving Conflict and Building Cooperation in the National Estuary Program," *Environmental Management* 33 (5, 2004), pp. 677–691; Mark T. Imperial and Timothy Hennessey, "Environmental Governance in Watersheds: The Importance of Collaboration to Institutional Performance," in *environment.gov: Transforming Environmental Protection for the 21st Century. Research Papers 7–10 Volume II*. (Washington, DC: National Academy of Public Administration, October 2000), pp. 8.1–8.196; Mark T. Imperial and Timothy Hennessey, "An Ecosystem-Based Approach to Managing Estuaries: An Assessment of the National Estuary Program," *Coastal Management* 24 (2, 1996), pp. 115–139; Douglas S. Kenney, Sean T. McAllister, William H. Caile, and Jason S. Peckham, *The New Watershed Source Book: A Directory and Review of Watershed Initiatives in the Western United States* (Boulder, CO: University of Colorado School of Law, April 2000); Susan H. Mackenzie, *Integrated Resource Planning and Management: The Ecosystem Approach in the Great Lakes Basin* (Washington, DC: Island Press, 1996).

ⁱⁱⁱ For a discussion of common characteristics of watershed management programs see: Stephen M. Born and Kenneth D. Genskow, *Toward Understanding New Watershed Initiatives – A Report from the Madison Watershed Workshop* (Madison, WI, 2001); W.D. Leach and N.W. Pelkey, "Making Watershed Partnerships Work: A Review of the Empirical Literature," *Journal of Water Resources Planning and Management* (November/December, 2001), pp. 378–385.

This suggests that watershed management is as much a problem of 'governance' as it is a question of science and designing effective policies. Governance refers to the means for achieving direction, control, and coordination of individuals and organizations with varying degrees of autonomy in order to advance joint objectives. It involves more than the configuration of governmental and nongovernmental organizations. Governance includes enabling statutes, organizational and financial resources, programmatic structures, and administrative rules and routines. It also includes the formal and informal rules, social norms, and structures that govern relationships between organizations (Milward and Provan, 2000; Lynn et al., 2000; Frederickson, 1996). It is inherently political and involves bargaining, negotiation, and compromise. Therefore, the central challenge for watershed managers is finding ways to improve governance when the capacity for solving problems is widely dispersed and few organizations accomplish their missions by acting alone (Teisman and Klijn, 2002; Mandell, 1989; Milward and Provan, 2000).

This chapter draws upon the growing research on watershed management, intergovernmental management (IGM), (Agranoff and McGurie, 2001; Agranoff and McGuire, 2003; Agranoff and McGuire, 1999; Gage and Mandel, 1990), interorganizational networks (IONs) (Kickert, 1997; Alter and Hage, 1993; Marin and Mayntz, 1991), and collaboration (Bardach, 2001; Huxham (ed.), 1996; Gray, 1989; Gray and Wood, 1991)^{iv} to identify strategies for improving watershed governance. The chapter begins with a discussion of IGM and how these strategies build, manage, and reconfigure governance networks. Common IGM strategies are then discussed:

- Coping and adjusting arrangements;
- Collaborating to get things done;
- Interorganizational planning;
- Developing shared policies or priorities;
- Creating watershed management organizations (WMOs);
- Capacity building and leveraging resources;
- Performance management systems

The final section identifies factors that influence these strategies including: (1) how contextual factors influence watershed governance; (2)

^{iv} For examples see: E. Bardach, "Developmental Dynamics: Collaboration as an Emergent Phenomenon," *Journal of Public Administration Research and Theory* 11 (2, 2001), pp. 149-164; C. Huxham (ed.), *Creating Collaborative Advantage* (Thousand Oaks, CA: SAGE Publications, 1996); Barbara Gray, *Collaborating: Finding Common Ground for Multiparty Problems* (San Francisco, CA: Jossey-Bass, 1989); Barbara Gray and Donna J. Wood, "Collaborative Alliances: Moving from Practice to Theory," *Journal of Applied Behavioral Science* 27 (1, 1991), pp. 3-22.

problems due to the human side of IGM; (3) the importance of minimizing transaction costs; and, (4) the challenge of maintaining accountability.

Intergovernmental Management Strategies

The participation of multiple governments in a policy or program is a governance norm worldwide. Consequently, it is important for watershed managers to understand the concepts of intergovernmental relations (IGR) and intergovernmental management (IGM) (Agranoff, 1996). IGR is primarily concerned with interactions between governmental units of all levels and types and is characterized by:

- (1) IGR recognizes a wider array of inter- and intra-level interactions between units of government than does federalism, which emphasizes national-state relationships;
- (2) Its human dimension focuses on the attitudes and actions of persons occupying official positions in government;
- (3) Relations among officials are not occasional occurrences but are continuous day-to-day patterns of interaction and information exchange;
- (4) Involvement of all types of public officials including legislators, administrators, and judges in decision-making processes; and,
- (5) A policy component where policy consists of the intentions and actions (or inactions) and the consequences of those actions (Wright, 1988).

Strategies commonly used to manage IGR include fiscal instruments (e.g., intergovernmental transfers, tax policy, expenditure controls, etc.), regulations (e.g., total or partial preemptions of authority, grant restrictions, mandates, cross-over regulations, prohibitions, etc.), and the actions of political and governmental leaders (Agranoff, 1996).

Intergovernmental management (IGM) is a narrower concept that emphasizes IGR's goal achievement processes. Whereas IGR emphasizes the general patterns of interconnected behaviors, IGM focuses on understanding the routine transactions and working relationships between governmental units for the purpose of achieving specific policy goals (Agranoff, 1996). The features that distinguish its limited focus include:

- (1) Activities focus on joint problem-solving, policy making, and coordination;
- (2) Managing ongoing relationships and coping with interorganizational networks as configured;
- (3) A broad mix of actors including relationships between the public, private, and nonprofit sector;
- (4) Lead actors tend to be mid to low level professionals rather than high-level administrators;

- (5) Nonhierarchical communication networks and interagency collaboration designed to improve service delivery or increase goal achievement; and,
- (6) Uses coping, cooperation, bargaining, and negotiation to resolve disputes (Wright, 1990).

A wide range of IGM strategies exist that are permanent, temporary, project-based, or ad hoc in nature (Mandell, 1990). Some strategies are extensions of traditional agency behavior while others are significant departures. However, all of these strategies involve network relationships.

Using IGM to Build, Manage, or Reconfigure IONs

Networks are structures of interdependence involving multiple organizations that exhibit some degree of structural stability but include both formal and informal linkages or relationships (O'Toole, Jr., 1997; Hall and O'Toole, Jr., 2000). Relations can involve something as simple as passing along needed information or consist of complicated relationships that exchange goods, services, or resources.

It is useful to distinguish between three types of network relationships. An *organization set* consists of organizations with direct links to some focal organization (Aldrich and Whetten, 1981). Of more interest to this study are action sets and interorganizational networks (IONs). An *action set* is a group of organizations that form temporary or permanent alliances for limited purposes (e.g., cooperating to complete a habitat restoration project). Whereas an organization set is concerned with a focal organization's relationships with other organizations, the action set is oriented towards the collective activity of a group of organizations. Thus, the collection of organizations involved in a specific IGM strategy would be an action set. An *interorganizational network* (ION) is the set of organizations bounded by a common orientation such as a policy area, problem, type of service, or a geographic area (Aldrich and Whetten, 1981). Accordingly, watershed governance networks can be defined in terms of a geographic area (i.e., the watershed) or the collection of organizations involved in specific policies, programs or watershed problems.

Understanding network structure is important because IGM strategies are designed to build, manage, or reconfigure networks. For example, collaborating on a habitat restoration project builds a new network. A joint planning effort that produces shared policies that guide future habitat restoration projects is an attempt to better manage an existing network of programs. Creating a new watershed management organization (WMO) that promotes habitat restoration would reconfigure the structure of the existing network and its activities may result in subsequent efforts to build and manage networks.

Network participants are also autonomous in that they retain independent decision-making powers and typically cannot be forced to participate in IGM activities (Wood and Gray, 1991). Instead, activities are governed by social exchange mechanisms based on communication, relationships (personal and organizational), mutual interests, and reputation rather than formal authority structures (Powel, 1990). Fortunately, however, there are a number of reasons why organizations choose to participate in IGM strategies:

- *Self-interest*: individuals and organizations collaborate because they achieve something that cannot be obtained in any other way but this does not imply that self-interest is at the expense of others;
- *Acquire resources*: collaboration provides way for organizations to obtain needed resources;
- *Political pressure*: collaboration is the by-product of demands from politicians or the public to do more to address a problem;
- *Institutional forces*: participants come to view collaborative processes as an effective way to solve important economic, technical, and strategic problems because other successful organizations collaborate;
- *Reduce transaction costs*: organizations collaborate when these activities offer some promise of reduced transaction costs (or at least no significant increase in costs) or provide some tangible benefits.

At the heart of each rationale is the idea that participation produces more public value (real or perceived) than would be achieved by working alone (Huxham, 1996; Bardach, 1998; Alexander, 1995; Osborn and Hagedoorn, 1997). The following sections describe common IGM strategies used to improve watershed governance.

Coping and Adjusting Arrangements

Network members routinely employ informal coping and adjustment strategies. IGM specialists solve a variety of interjurisdictional problems through informal contacts designed to seek advice, information, or approval (Agranoff, 1996; Agranoff and McGuire, 2003). These contacts are also used to understand administrative interpretations of rules and procedures, resolve differences, reach agreement on a mutual course of action, and to establish acceptable norms of behavior.

Instead of seeking what is allowable, administrators may request uneven treatment or seek ways to operate outside existing rules, standards, regulations, or guidelines. This may require getting a waiver, suspension, or approval to program requirements. IGM specialists could also alter requirements by redefining proposed activities as pilot or demonstration programs. It is also common to find that when regulatory provisions create impediments to program operations or prove excessively costly,

administrators try to change the regulations and secure adjustments to programs on a permanent basis (Agranoff, 1996).

Collaborating to Get Things Done

Collaboration is any joint activity by two or more organizations intended to increase public value by working together rather than separately (Imperial, 2005). It is an interactive process involving an autonomous group of actors who use shared rules, norms, or organizational structures to:

- Solve problems;
- Reach agreements
- Undertake joint actions; and,
- Share resources such as information, money or staff.

There appears to be a high latent potential for using collaboration to improve watershed governance. Watersheds span political, geographic, and ideological boundaries. Policies and programs governing watersheds are specialized by medium (e.g., air, water, soil, land use, etc.), geographic location (e.g., wetlands, coastal zone, tidal waters, agricultural land, forest land, etc.), function (e.g., permitting, enforcement, public education, installing BMPs, issuing grants, etc.), and legislation. The corresponding fragmentation limits any organization's ability to accomplish its mission alone but simultaneously creates opportunities for joint action.

Collaboration takes many forms with a lot of the activity oriented towards enhancing service delivery (e.g., coordinating permit programs) or improving environmental conditions by restoring the habitat or installing best management practices (BMPs). For example, in a habitat restoration project different organizations may provide funding, land, technical expertise, engineering or design work, construction, recruit volunteers, and manage the completed project. Many IGM strategies can also be defined as collaborative activities that focus on getting things done in an indirect fashion (Imperial, 2005).

Interorganizational Planning

Watershed problems are complex and affect a wide range of interests and values. Thus, many watersheds form interorganizational work groups, task forces, advisory committees, or other mechanisms to reconcile competing interests and values, usually after broad public participation and some effort to characterize problems. The end result is typically a watershed plan. These interorganizational planning processes are a useful IGM strategy. They identify and establish connections between organizations. It also provides network members with an opportunity to find ways to work together, generate ideas, share knowledge, and solve problems (Imperial, 2005).

These interactive processes also provide a forum for building relationships and trust. The interactions also provide channels for information exchange, which can improve decision-making and promote policy-oriented learning.^v As information is exchanged, it becomes part of the shared knowledge base that is 'owned' by all participants in the process. As a result, network members are better informed and presumably make better decisions. Politicians and high-level government officials get information about management issues while low-level staff learns about political and resource allocation issues (Wondolleck and Yaffee, 2000). Resource managers also function in a political environment where there is competition for resources and direction. These interactions provide agency leaders with an opportunity to build support for desired courses of action.

Developing Shared Priorities and Policies

Since there are different laws, programs, value preferences, and competing constituency groups, there are many legitimate objectives and competing views about how watersheds should be managed (Wondolleck and Yaffee, 2000). Thus, an important result of an interorganizational planning process is the development of shared priorities and policies. These activities perform a "steering" function that improves communication between actors, coordinates actions, and integrates policies in ways that advance collective goals (Peters and Pierre, 1998). Thus, they provide a means of coordinating in the absence of a centralized coordinator.

In many cases, shared priorities and policies are contained in formal documents such as a watershed management plan or memorandums of understanding/agreement (MOU/MOA). They can also be incorporated into higher-order rules (e.g., state planning documents, local comprehensive plans, zoning ordinances, etc.) that are binding on network members (Imperial, 2005). Finding ways to institutionalize shared priorities and policies is important because it provides a mechanism for holding network members accountable. It also makes future efforts less dependent on personal relationships or leaders. This minimizes problems produced by staff turnover such as the loss of institutional memory or trust embedded in relationships.

In other cases, shared priorities and policies develop informally as a result of routine interactions associated with interorganizational planning or other IGM processes. In these instances, priorities and policies are based more upon tradition, shared norms, and the informal agreements that govern much of our political and social lives (Axelrod, 1997). While social

^v For a discussion of the concept of policy-oriented learning see: Paul A. Sabatier and Hank C. Jenkins-Smith, "The Advocacy Coalition Framework: An Assessment," in Paul A. Sabatier (ed.), *Theories of the Policy Process* (Boulder, CO: Westview Press, 1999), pp. 117-166; Paul A. Sabatier and Hank C. Jenkins-Smith, *Policy Change and Learning: An Advocacy Coalition Approach* (Boulder, CO: Westview Press, 1993).

norms will not be sufficient in all cases, they are particularly important in IGM because participants typically lack the authority to compel other organizations to act. Instead, social norms and peer pressure at the political, professional, and individual level as well as formal (e.g., being removed as a partner) or informal (e.g., verbal and nonverbal) sanctions are used to enforce agreements.

Creating Watershed Management Organizations

One way to make interorganizational relationships endure is by creating new organizational structures, frequently referred to as watershed management organizations (WMOs).^{vi} WMOs come in a variety of forms. Some are informal citizen-based structures that function as other interest groups would. However, of more interest here are agency-based WMOs whose membership consists of other organizations. When a group of individuals or organizations begins to embrace collaborative processes, makes joint decisions, or act as a single entity they in effect begin acting as a new organization (Imperial, 2005; Jones, Hesterly, and Borgatti, 1997; Finn, 1996). Researchers refer to this organizational form in different ways including partnerships, coalitions, alliances/strategic alliances, consortiums, network broker, collaborative organizations, and network administrative organizations.

These second order organizations can enhance network governance by performing a variety of functions: serving as a convener; catalyst for action; conduit for information; advocacy; organizer; funder; technical assistance provider; capacity builder; partner; dispute resolver; or facilitator (Himmelman, 1996). For example, WMOs often: serve as a convener for discussing watershed problems; sponsor research and disseminate information to network member; serve as an advocate for the watershed; organize projects to address watershed problems; provide financial support to organizations addressing watershed problems; and provide technical assistance to governmental and nongovernmental members of the ION (Imperial, 2005). In other cases, WMOs may be created fill specific institutional needs that improve the ION's capacity for addressing watershed problems.

Membership varies in WMOs. Some are restrictive, limiting membership to a small selected set of organizations. Others have a large membership

^{vi} For a discussion of WMOs see: Imperial, 2005; Mark Lubell, "Collaborative Environmental Institutions: All Talk and No Action?" *Journal of Policy Analysis and Management* 23 (3, 2004), pp. 549-573; Elizabeth A. Moore, and Tomas M. Koontz, "A Typology of Collaborative Watershed Groups: Citizen-Based, Agency-Based, and Mixed Partnerships," *Society and Natural Resources* 16 (2003), pp. 451-460; W. D. Leach, N. W. Pelkey, and P. A. Sabatier, "Stakeholder Partnerships as Collaborative Policymaking: Evaluation Criteria Applied to Watershed Management in California and Washington," *Journal of Public Policy Analysis and Management* 21 (4, 2002), pp. 645-670; Leach and Pelkey, 2001; Born and Genskow, 2001.

representing a wide range of federal, state, local, private, and nonprofit organizations. While organizations typically comprise membership, it is common to find citizens or interest groups serving as members, much the same way they participate on advisory boards and policymaking bodies in the human service area. Membership can be voluntary or required (e.g., statute) but in either case it has consequences. Constituent organizations are expected to adhere to shared policies, behavioral norms, requirements, or other expectations associated with membership, some which may be significant departures from normal behavior.

Regardless of a WMO's membership, there tend to be no formal hierarchies among the constituent organizations, even though outside the organization there may be significant differences in power and authority (Huxham, 1996). This can limit a WMO's ability to address controversial problems because its members are other organizations rather than employees. Thus, they rely on consensus building to compensate for imperfections resulting from other decision rules (Bardach, 1998).

It is also common for WMOs to vary in formality (Imperial, 2005). Some WMOs rely on informal structures based primarily on social relationships. Others are established by statute, binding legal documents, interagency agreement, resolutions adopted by local governments, or by incorporation as chapter 501(c)(3) nonprofit organizations. There are a number of reasons why it is beneficial to formalize informal agreements and shared social norms and to establish formal rules governing such things as membership (i.e., access rules), decision making (i.e., decision rules), parameters for action (i.e., what the WMO will and will not do), and conflict resolution. This makes a WMO less reliant on personal relationships and the leadership of the 'champions' that created them.

WMOs also improve network governance by building relationships and trust among network members and connecting them in new ways and ensuring that interactions are repeated over long periods of time. This can promote the development of social networks, cooperation, and most importantly trust (Axelrod, 1997). Trust is an important governance mechanism because it lowers transaction costs by promoting smooth and efficient resource exchanges (Tsai and Ghoshal, 1998; Wicks et al. 1999). Information from trusted individuals or organizations is also more likely to be viewed as reliable and accurate (Granovetter, 1985). Accordingly, the relationships and trust can facilitate other IGM strategies.

WMOs can also enhance the ION's problem-solving capacity. Through repeated interactions, network members gain a greater appreciation of their interdependence. New perspectives on shared problems can result and, by working together, network members have the opportunity to craft creative responses to shared problems. Moreover, many WMOs are staffed directly (i.e., partners contribute funding for dedicated staff) or indirectly (i.e., one

partner provides staff support). This provides resources to support other IGM strategies. For example, while some collaborative efforts (e.g., habitat restoration projects) require capital funding, others depend on resources such as staff time, technical expertise, or equipment. WMOs can also absorb the transaction costs associated with organizing, supporting, or conducting many IGM activities. They also create a form of institutional infrastructure that subsequent IGM strategies can build upon. For example, if a WMO adopts a habitat restoration plan, other network members can link funding decisions to the shared priorities of network members.

Actors engaged in frequent, recurring interactions are more likely to develop specialized network governance structures such as WMOs because they help lower transaction costs (Dyer and Singh, 1998; Williamson, 1985). Creating a WMO provides a certain measure of stability by allowing network relationships to endure over long time periods. The stable pattern of interaction also promotes a particular form of organizational learning termed "collaborative know how" (Simonin, 1997). In essence, organizations, and the individuals that comprise them, learn how to cooperate by collaborating. For example, it is common to find that it takes watershed participants a great deal of time to plan, design, secure funding, and then complete their first habitat restoration project. However, subsequent efforts often require less time and resources. It also takes time to learn how to govern network processes (Dyer and Singh, 1998; Kraatz, 1998). For example, it takes time for WMOs to learn how to manage grants, contracts, and personnel involved in IGM processes. The implication is that public managers need to maximize learning opportunities and allow sufficient time to scale up and expand IGM activities.

Creating a WMO also encourages network members to invest in other relation-specific assets to demonstrate a credible commitment to the watershed governance effort. Organizations make these investments when they believe that the benefits outweigh the costs of initial investments or when there is a strong likelihood of repeated interactions with other network members (Cropper, 1996; Zaheer and Venkatraman, 1995; Huxham, 1996). Examples of relation specific investments include developing shared databases, resource inventories, strategic plans, or other resources that are shared and used to support a WMO or some other ongoing IGM strategy. Organizations may also hire staff whose skills, knowledge, or experience are tailored to support IGM activities. Organizations may modify their decision-making or service delivery to support the needs of IGM strategies. While these investments improve watershed governance, network members are advised to exercise some caution. The more specialized these investments and governance structures become, the more difficult it will become to deploy them in alternative ways when they are no longer needed (Dyer & Singh, 1998; Park, 1996).

While creating a WMO can enhance watershed governance, it is also a difficult endeavor. A certain amount of "collaborative inertia" must be overcome before a WMO can be formed (Bardach, 1998). Time and effort is required to build relationships and trust. Network members have to decide on a structure and collectively negotiate such things as decision rules, membership structure, and what the organization will or will not do. Resources required to support the WMO must be obtained. Other organizational issues such as human resource management, grants and contract management, and even staff and board member liability will have to be addressed. These efforts often take longer than expected and it is common for many WMOs to experience growing pains, or even become overwhelmed by the effort required to develop and maintain the new organization (Bardach, 1998). These difficulties are one of the reasons that researchers generally agree that the risks of death (i.e., failure) are higher for all new organizations (Bruderl and Schussler, 1990; Freeman, Carrol, and Hannan, 1983; Singh, Tucker, and House, 1986).

Moreover, while some measure of stability is beneficial for a WMO, public managers should be mindful that too much stability creates its own particular set of problems. Staff in the WMO may view their careers as being dependent on its success. This can result in investments that primarily benefit the WMO rather than the network members it is designed to serve. It is also possible that the WMO will become involved in turf fights with other network members as it tries to secure the resources needed to survive.

The same organizational processes that promote stability can make it difficult to adapt and respond to changing political, social, economic, or watershed conditions (Milward & Provan, 2000). Network members may be reluctant to reopen negotiations on contentious issues to change shared priorities and policies even though watershed researchers frequently note the importance of learning, adaptation, and change (Leach & Pelkey, 2001; Born & Genskow, 2001; Imperial, 1999).

Capacity Building and Leveraging Resources

Another common IGM strategy is building capacity within an ION for addressing watershed problems (Agranoff, 1996). Capacity refers to an organization's ability to: anticipate and influence change; make informed and intelligent policy decisions; attract, absorb, and manage resources; and evaluate current activities to guide future action (Honadle, 1981). Accordingly, a wide range of leadership, training, and management development programs can be used to build capacity by increasing the professionalization and performance of administrators and staff. Alternatively, professional specialists or development persons can be hired to build capacity within existing governmental and nongovernmental organizations. Capacity can also be increased by adding new resources (e.g., personnel, material, or technology), restructuring how work is done and

organized, and by changing the way services are delivered (Wondolleck & Yaffee, 2000; Bardach, 1998).

A common complaint is also the shortage of resources (e.g., staffing, funding, expertise, etc.) available to support implementation efforts in watersheds (Leach and Pelkey, 2001; Born and Genskow, 2001). One way to overcome these limitations is for network members to leverage their resources (e.g., funding, staff, equipment, expertise, etc.) in ways that improve the ION's ability to solve watershed problems or improve service delivery. Various forms of resource sharing can be employed. Some activities are informal and involve something as simple as sharing expensive monitoring equipment. More complex activities include co-locating staff, allocating staff to support another agency's efforts, or pooling financial resources in new and creative ways. For example, a state's department of forestry may hire staff from the department of fish and wildlife to work on habitat restoration projects to expedite their approval. Similarly, a state department of transportation may fund positions in the department of water quality to expedite stormwater approvals for transportation projects.

Performance Management

As the old axiom goes, 'what gets measured gets done.' Thus, performance management can encourage network participants to work together in ways that improve watershed governance. It also increases accountability and helps public managers, politicians, and the public to gauge the effectiveness existing programs by documenting:

- What was done?
- How well it was done?
- What difference these activities made?

Simply put performance management lets public managers know how they are doing and whether their programs are working. The following sections review common rationales for using performance management as an IGM strategy.

Evaluation and Accountability: Even when performance measures are collected for some other purpose, there is always the possibility that the information will be used in evaluations (Behn, 2003). Accordingly, it is common to find that some public managers resist performance measurement or making monitoring information available even though politicians, journalists, stakeholders, and citizens desire it. In network settings, this resistance is amplified when network participants have competing objectives or they lack control over the resources needed to achieve the measures. Nevertheless, information that supports evaluation and enhances accountability are frequent rationales for measuring performance in watershed settings (Imperial, 2004).

Steering, Coordinating, and Priority Setting: Many elected and appointed officials believe that performance management provides a means of controlling the activities of organizations and helps public officials determine where to spend limited resources. In network settings, performance management is unlikely to offer much control due to the autonomous nature of organizations. Instead, the focus shifts from control to steering, coordinating, and priority setting. Performance management provides a steering function by improving communication between the actors, coordinating actions, and integrating policies such that each organization advances shared objectives (Peters and Pierre, 1998; Wondolleck and Yafee, 2000; Bardach, 1998).

There is also a tendency for many watershed programs to go after the 'low hanging fruit' and look for opportunities for joint action that are easy to accomplish (Wondolleck and Yafee, 2000; Bardach, 1998). While this 'entrepreneurial' spirit should be applauded and is often appropriate in the early stages of a watershed management effort, when pursued over the long term it becomes difficult for network actors to systematically address problems. This creates the potential for 'random acts of environmental kindness.' Individual projects produce isolated environmental improvements but are too limited in scale, scope, number, magnitude, or duration to significantly change the underlying problem when viewed from the perspective of the larger watershed system (Imperial, 2004; Imperial and Hennessey 2000). However, making the transition from a series of isolated projects to systematically addressing specific watershed problems is not easy, particularly when network participants are left to rely on funding from federal or state agencies that have priorities differing from those established by basin actors. Performance management helps offset this problem by encouraging a systematic, long-term efforts to address specific problems.

Motivational Tool: Establishing performance measures that are specific and difficult but also are realistic and achievable provides an important motivational tool that:

- Focuses attention
- Encourages action
- Mobilizes effort
- Increases persistence
- Motivates the search for effective strategies

Performance management can grab the attention of agencies, politicians, 'interest groups, and citizens. Consequently it encourages network participants to resolve disagreements and motivates them towards joint action (Imperial, 2004; Behn, 2003; Metzenbaum, 2003). Performance management also provides a way to sustain momentum and generate peer

pressure to fulfill agreements. Clear and understandable goals also provide a strong motivator for citizens to volunteer time to support IGM activities.

Promoting and Celebrating: Collaboration research is replete with advice to 'promote accomplishments' and 'celebrate success' in network settings in order to:

- Give partners a sense of their collective relevance
- Motivate participants
- Promote the work of the collaborative
- Recruit new partners
- Attract resources to support future collaborative efforts (Behn, 2003; Bardach, 1998; Imperial, 2004).

Performance management allows network participants to mark milestones and promote accomplishments. Releasing performance reports also provides an opportunity for media coverage and allows network members to celebrate other programmatic accomplishments that demonstrate to politicians, journalists, stakeholders and the public that they are accomplishing something.

Demonstrating progress is important because it can attract new resources and promotes what is often referred to as the 'bandwagon effect.' When actors engage in cooperative efforts there is a certain amount of 'collaborative inertia' that has to be overcome and initial efforts are often slower than expected (Simonin, 1997). However, once a threshold level of success is achieved, the situation can change rapidly and collaborative processes take on a new dynamic when efforts build momentum, pick up speed, attract new members and resources, and begin addressing a wider set of issues (Imperial and Kauneckis, 2003; Bardach, 1998). Promoting accomplishments and celebrating success helps get the bandwagon rolling and provides a way to sustain momentum despite changing political, economic and social conditions.

Learning and Enhanced Governance: Performance management also helps network actors to learn why policies and programs are working (or not working) and improve how programs work (Behn, 2003). Learning occurs at different levels in an ION. As managers and staff learn about how their policies and programs they should be better informed and make better decisions. That is why many researchers recommend 'adaptive management.' Performance management allows watershed managers to treat policies as experiments and adapt them in light of changing knowledge and information in watershed settings.

Learning also occurs at the network and societal levels. Organizations adopt concepts, ideas, policies, practices and even performance management systems when they are demonstrated to be effective. Thus, performance management can stimulate innovation diffusion and adoption

both within and across networks.^{vii} It also stimulates policy-oriented learning by allowing competing stakeholder interests to have objective evidence about how programs are working (or not working). It also stimulates learning among the professionals from various disciplines and backgrounds that share normative beliefs and values within the ION. While these individuals often constitute a relatively small proportion of an agency, profession, or policy network, they have a disproportionate affect on organizational learning and behavior due to their influence on the policy process.^{viii}

Some Factors Influencing IGM Strategies

No single IGM strategy will be effective in all watersheds. Contextual factors associated with the watershed's setting can influence the selection of IGM strategies. The human side of IGM introduces other factors such as the importance of relationships and trust, the disposition and skills of staff, and the leadership required to initiate and carry out strategies. The autonomous nature of organizations in IONs also creates opportunities for strategic behavior and raises accountability concerns.

Context Matters

A consistent finding from watershed research is that context matters (Leach and Pelkey, 2001; Born and Genskow, 2001; Imperial and Hennessey, 2000). These factors can help practitioners determine the proper scale for a watershed governance effort. The factors can also influence the use of some IGM strategies.

Physical Setting: A watershed's size and physical boundaries delimit the set of organizations comprising the governance network. As size increases, so does the ION. Discernible boundaries such as mountains, highways, or other features are also important because it helps create a unique sense of place that provides a motivator for joint action (Wondolleck and Yaffee,

^{vii} For a discussion of diffusion within and across networks generally see: N. Phillips, T.B. Lawrence, and C. Hardy, "Interorganizational Collaboration and the Dynamic of Institutional Fields," *Journal of Management Studies* 37 (1, January 2000), pp. 23-43; T.B. Lawrence, C. Hardy, and N. Phillips, "Institutional Effects of Interorganizational Collaboration: The Emergence of Proto-Institutions," *Academy of Management Journal* 45 (1, 2002), pp. 281-290; E.M. Rogers, *Diffusion of Innovations*, 4th ed. (New York, NY: Free Press, 1995).

^{viii} Researchers refer to this network of individuals as an epistemic community. See: Craig W. Thomas, *Bureaucratic Landscapes: Interagency Cooperation and The Preservation of Biodiversity* (Cambridge, MA: MIT Press, 2003); Craig Thomas, "Public Management as Interagency Cooperation: Testing Epistemic Community Theory at the Domestic Level." *Journal of Public Administration Research and Theory* 7 (2, 1997), pp. 221-246.

2000). Physical proximity of the organizations within a watershed's ION is also important. When located close together, organizations and their members may be more likely to share the values, norms, and language that comprise the local culture. Physical isolation may also create incentives for organizations to recognize their interdependence and to work together to solve shared problems (Wondolleck and Yaffee, 2000).

Configuration of Watershed Problems: The configuration of watershed problems also determines the ION's size and composition. Policies and programs tend to aggregate around challenging public problems, particularly when there are multiple causes (Elmore, 1985). Accordingly, the size of the ION may increase as the number or complexity of problems increases. Characteristics of problems may also influence the use of IGM strategies. When problems are perceived to be increasing, severe, or approaching crises the incentives for interaction and cooperation is likely to increase, particularly when no one agency can "solve" the problem by working independently (Born and Genskow, 2001; Wondolleck and Yaffee, 2000; McCaffrey et al., 1995).^x The general public and political officials may also be more likely to pressure network members to take action. Consequently, organizations may cooperate if for no reason other than to respond to political pressure (McCaffrey et al. 1995). Others argue that organizations are more willing to work together to address problems that are new, unfamiliar, or unprecedented, particularly when there are no clearly demarcated lines of authority restricting cooperative efforts (Phillips, et al, 2000; Chisholm, 1995). In these instances, IGM processes may be a way to attract new resources or accumulate new 'turf'.

Institutional Setting: Three interrelated features of the institutional setting merit attention. The watershed's size and configuration of problems will determine the ION's size and composition. Accordingly, the distribution of functions, responsibilities, authorities, and resources among network members will influence the selection and use of IGM strategies. Equally important is the pattern of actual or potential interaction among network members. Some institutional settings have functions and responsibilities divided such that there is little reason for organizations to interact. In these instances, a useful IGM strategy may be joint planning to stimulate interactions among network members. Conversely, an ION may be configured such that organizations interact on a regular basis due to overlapping functions and responsibilities whether they want to or not. In

^x Born and Genskow, 2001; Wondolleck and Yaffee, 2000; D.P. McCaffrey, S.R. Faerman, and D.W. Hart, "The Appeal and Difficulties of Participative Systems," *Organization Science* 6 (6, Nov.-Dec. 1995), pp. 603-627. For a discussion of how different network members can perceive problems differently see: Mark Lubell, "Cognitive Conflict and Consensus Building in the National Estuary Program," *American Behavioral Scientist* 44 (4, December, 2000), pp. 628-647.

these IONs, different strategies such as shared priorities, collaboration, capacity building, and creating new WMOs may be more useful. Accordingly, the structural properties of IONs reflect the patterns of actual or potential interaction and this information can be used to identify potential IGM strategies.

Situational History: Whether due to previous watershed planning efforts or the ION's structural properties, a history of interactions facilitates IGM (Imperial and Hennessey, 2000). A history of interactions may make it easier to reframe problems in ways that produce mutually acceptable solutions. It may also produce the trust and personal relationships that can be leveraged to facilitate future IGM strategies. Conversely, if the history of interactions produced mistrust it could complicate the deployment of some IGM strategies.

Programmatic Context: The final set of factors is the attributes of the community where a watershed is located. This includes factors such as: (1) the norms of acceptable behavior in the community; (2) the level of common understanding that potential participants have about problems, policy solutions, and collaborative processes; (3) the degree of homogeneity of preferences of those living in the community; (4) socio-economic conditions; (5) urban versus rural settings; socioeconomic conditions; (6) political culture. The term culture is often used to describe this set of factors (Ostrom, 1999).

The Human Side of IGM

One of the features that distinguish IGM is the relationships and interactions between mid and low level professionals in public, private, and nonprofit organizations. Accordingly, it is important to understand the human dimension of IGM.

Importance of Trust and Relationships: During early IGM efforts there was often less trust and weaker personal and organizational relationships. As trust and relationships built, IGM became easier, making trust both an antecedent to and outcome of network processes. Thus, a "virtuous circle" of escalating trust and further interaction developed when initial IGM efforts were effective (McCaffrey et al, 1995). Research finds that this "social capital" facilitates cooperative efforts because there is a widespread preference for transacting with individuals or organizations with known reputations. Information from "trusted" informants is also likely to be viewed as more reliable and accurate (Lenna and Van Buren, III, 1999; Tsai and Ghoshal, 1998; Granovetter, 1985; Ostrom, 1990).

While there is no magic recipe for developing trust and relationships, creating a forum for repeated interactions over a period of time is an important ingredient (Axelrod, 1997). Once trust and relationships develop,

it becomes equally important to maintain this social capital and socialize new participants to the norms, values, and routines associated with network interactions (Leana and Van Buren, 1999). Otherwise, trust and relationships will quickly erode, especially if there is a high turnover in staff or agency leadership. Conversely, while trust builds slowly, it is destroyed quickly as a result of negative experiences. Thus, during the early stages of a watershed governance effort, it may be wise to avoid utilizing IGM strategies that have a high risk of failure or a high likelihood of generating conflict.

Disposition and Skills of Participants: The skills, abilities, and managerial talents of IGM participants are also important. Many watershed 'managers' are trained in the physical, biological, or environmental sciences. However, IGM requires a broader range of professional and managerial talents (Agranoff and McGuire, 2001). IGM participants need strong interpersonal skills and the ability to resolve disputes and broker agreements. Political skills are needed to encourage cooperation while avoiding existing interorganizational conflicts. Leadership and persuasion skills help encourage network members to voluntarily work together towards collective goals.

The disposition of IGM participants is also important. For some, participation increases job satisfaction and motivation because they enjoy working in teams and learn or discover new skills and abilities. It also provides an opportunity for IGM participants to move beyond their normal organizational routines, provides new career opportunities, or even creates additional job security (Bardach, 1998; Imperial and Hennessey, 2000). Conversely, IGM can be stressful, time-consuming, laborious, and involve working with individuals and organizations that are disliked. Some participants may also be reluctant to cede control, share risks, share credit, or make themselves dependent upon other organizations for their success (Himmelman, 1996). While some like working in teams, others dislike these experiences (Imperial and Hennessey, 2000). The 'politics' associated with IGM may produce frustration and disillusionment, particularly when scientists and technical staff are not accustomed to working in political settings. Reduced job satisfaction and motivation can also result when upper management fails to appreciate the difficulties of IGM processes or fails to reward employees for their participation.

Leadership: Given the autonomous nature of organizations, it should not be surprising that various forms of leadership are important in order to initiate and sustain IGM strategies. Entrepreneurs view IGM as a way to attract new resources to address local problems. Coordinators call meetings, provide a point of contact, and keep the effort going as interest naturally ebbs and flows over time. Facilitators help resolve disputes the inevitably arise from time to time. Fixers or brokers find opportunities for joint action

by 'thinking differently,' help keep participants 'eye on the ball,' and make sure that the group is not sidetracked by peripheral issues. The devil's advocate challenges the group's assumptions and keeps everyone grounded in political and practical realities. Unsnarlers navigate the bureaucratic maze of institutional constraints and search for ways to 'bend the rules' and conduct activities given existing rules and regulations. Champions advocate specific courses of action and then use their powers of argument and persuasion to encourage others to commit to these actions (Imperial, 2004; Born and Genskow, 2001; Khator, 1999).

Minimizing Transaction Costs

Transaction costs are resources expended as a result of imperfect information. Three general categories of transaction costs can influence IGM processes: (1) information costs; (2) coordination costs; and, (3) strategic costs (Ostrom, Schroeder and Wynne, 1993). Reducing information and coordination costs can provide a strong motivator for participating in IGM activities. Information costs are associated with searching for and organizing information and the errors resulting from an ineffective blend of scientific and time and place information. An important rationale for IGM is to reduce information asymmetries among network members. Coordination costs are those invested in negotiating, monitoring, and enforcing agreements (Ostrom et al. 1993). As jurisdictional complexity increases and the actors' interests become increasingly heterogeneous, transaction costs often rise. Coordination costs will also be higher when there is a lack of trust (Imperial, 1999).

Conversely, IGM can create strategic costs that provide a disincentive for participating in IGM activities. Strategic costs result when asymmetries in information, power, or other resources make it possible for some to obtain benefits at the expense of others. There are many forms of strategic behavior. Adverse selection, moral hazard, shirking, free riding, and corruption occur when an individual (or organization) tries to improve their own outcome by consciously or unconsciously misleading others. Rent seeking occurs when some participants accrue unearned benefits as a result of participating in these activities (Ostrom et al. 1993).

The tendency for an organization to protect its 'turf' is another type of strategic behavior that complicates IGM activities. 'Turf' refers to the exclusive domain of activities or resources that an agency exercises operational control or policy responsibility. All else being equal, the individual (or organizational) preference is towards maintaining or increasing turf since it secures the agency's strategic position and enhances its long-term survival (Bardach, 1996). Many IGM strategies raise the potential for turf conflicts due to:

- *Threats to job security or career enhancement:* The results of interorganizational decision making could threaten staffing levels or employees' job security;
- *Challenge to professional expertise:* Laymen or rival experts in another agency could challenge an agency's claim to professional expertise;
- *Loss of policy direction:* Participants are likely to fight over policy or priorities because they are concerned about questions like value and cost and the outcome of these struggles can influence turf; and,
- *Undermining traditional priorities:* While IGM strategies can create new responsibilities that are welcome additions to turf, it might be viewed by other organizations as an unwelcome competitor for existing resources or priorities (Bardach, 1996).

While fights over turf are an inevitable reality, it is also possible that IGM strategies can be crafted in ways that minimize these problems or even expand turf.

Maintaining Accountability

Due to the autonomous nature of organizations involved in watershed governance, accountability and managing the diverse expectations generated within and outside the network is important. However, accountability is a 'two-edged' sword with constant tension between organizational autonomy and accountability (Imperial, 2004; Fredericksen and London, 2000). On the one hand, accountability mechanisms and peer pressure at the political, professional, and individual level helps enforce agreements and reduces incentives for organizations to become engaged in strategic behavior. Conversely, excessive monitoring and enforcement create disincentives when there is concern that participation will produce reprisals or criticism. This is particularly problematic when network members develop performance management systems and network actors rely on others outside the network for the resources needed to achieve desired outcomes. Public managers should also be cognizant of the political implications associated with reporting performance information. Accordingly, it is often useful design accountability mechanisms that focus on collective goal achievement so that credit and success is shared and avoid singling out particular organizations for criticism (Imperial, 2004).

Summary and Conclusions

Watersheds are 'managed' by a myriad of governmental and non-governmental organizations whose decisions and actions influence the health of the ecosystems. The corresponding institutional fragmentation can create conflict, but also creates opportunities for organizations to work

together in ways that improve environmental conditions or enhance watershed governance (Imperial and Kauneckis, 2003). Thus, watershed management is as much a challenge of governance as it is a question of science and designing effective policies.

While the positive virtues of IGM have been highlighted, public managers should remember that IGM strategies are no magical cure for all watershed governance problems. Nor should IGM be viewed as an end in and of itself; it is a means to an end. IGM strategies should only be valued when they produce better organizational or network performance than can be achieved using alternative strategies such as unilateral action, litigation, legislative intervention, markets, or hierarchical control. Practitioners also should avoid embracing IGM simply to avoid interorganizational conflict. Some conflict is unavoidable, and at times beneficial because it promotes a healthy competition of ideas that stimulates policy change and learning.

Intergovernmental management (IGM) can also be limited by other factors. Organizations have institutional constraints that prevent them from participating in some activities. Even when an organization's formal rules do not conflict, its behavioral norms, professional values, knowledge, experience, and abilities may cause it to resist participation. Limits also exist with respect to whether organizations can or should be willing to sacrifice their priorities (or those of their constituencies) for the sake of cooperation, no matter how noble the goal. Public managers should also consider whether they have the resources to participate in IGM strategies. No amount of creativity will overcome the shortage of resources (e.g., staff, money, expertise, authority, etc.) that is an imposing obstacle for getting things done (Bardach, 1998).

Fortunately, these constraints and obstacles are often less formidable than they appear. When IGM highlights common interests and values, network participants often find productive ways to work together that generate public value (Oliver, 1991). Thus, IGM is both an individually rational strategy and a collective means of enhancing watershed governance (McCaffrey et al. 1995).

Accordingly, while the watershed (or ecosystem) approach encourages network members to think holistically about problems, it is important for public managers to act strategically when trying to improve watershed governance. Critical issues in any watershed governance effort will be determining the proper geographic scale and selecting the focal problem(s) around which to focus governance efforts. The larger the watershed, the greater the size of the corresponding ION. When the size of the ION becomes unwieldy, it becomes difficult to employ and manage many IGM strategies. That is one reason why many larger watersheds develop nested arrangements with separate governance efforts designed to manage problems in various tributaries or sub-basins. Similarly, as the number and complexity

of problems increases, so will the ION's size. Accordingly, it is useful to organize watershed governance efforts around a focal problem(s) because it provides a means of limiting the network's structure. The focal problem(s) also help forge the network's collective identity and mission, which in turn becomes a motivator for IGM (Imperial and Hennessey, 2000). It also creates a measuring stick against which the public and politicians will use to hold the watershed governance effort accountable for its progress.

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