

Exploring the Watershed Approach: Critical Dimensions of State-Local Partnerships



The Four Corners Watershed Innovators Initiative

FINAL REPORT

River Network

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A number of special guests from host states and watershed cases also attended and contributed to our workshops. Complete lists of workshop participants can be found in Meeting Reports at the River Network website <<http://www.rivernetwork.org>>.

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List of Acronyms

CAL/Epa	California Environmental Protection Agency
CAL-FED	California state/federal coordinated effort for Central Valley Watersheds
CRM	Coordinated Resource Management
CRMP	Coordinated Resource Management and Planning
CRWA	Charles River Watershed Association
EOEA	Executive Office of Environmental Affairs
FDCA	Florida Department of Community Affairs
FDEP	Florida Department of Environmental Protection
MRC	Marine Resources Council
MWC	Massachusetts Watershed Coalition
MWI	Massachusetts Watershed Initiative
NGO	Nongovernmental Organization
RCW	Rivers Council of Washington
RWQCB	Regional Water Quality Control Board
SRF	State Revolving Fund
SWIM	Surface Water Improvement and Management
SWRCB	State Water Resources Control Board
USEPA	United States Environmental Protection Agency
WDOE	Washington Department of Ecology
WMC	Watershed Management Council
WMD	Water Management District
YRWC	Yakima River Watershed Council



Introduction

“The challenge in watershed planning and management is how best to address the complexity of a continually changing state of confusion, conflict, and, on occasion, even chaos, with respect to the use of water and related land resources” (Loucks, 1998). This is a daunting challenge indeed! Although watershed management has a history measured in decades—where river basins and watersheds have been used as the geographic unit for purposes of scientific and engineering analysis and management—the results have too often been ineffectual, undesirable, and unsustainable. The past decade has seen the emergence of a reinvented or “new” watershed approach, one which has been rapidly and enthusiastically embraced and extolled in governmental and professional circles. The U.S. Environmental Protection Agency, along with sister federal agencies and many state and tribal governments, has given priority attention and funding to watershed-based approaches for solving water quality and related problems. There is now widespread recognition of the need to move from “top-down,” limited-purpose, reactive planning and management of land and water resources to an approach which addresses the complexity and interdependence of environmental systems and resource uses *and which involves those affected in the decision-making processes*. The watershed approach represents the leading strategy for change, as suggested by a burgeoning watershed movement in the United States and elsewhere.

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Key elements associated with the watershed approach include:

- the application of a systems approach using watersheds as the fundamental analytical unit;
- multiple-scale, multiple-objective planning for watershed and subwatershed units;
- multi-organizational coordination and public participation;
- science-based and information driven decisions; and
- adaptive processes to reflect changing conditions, needs, and new knowledge.

"The project was based on the premise that some of the most important environmental innovations in future years will take place at the state and watershed levels and will involve the collaboration of state agencies and a wide variety of nongovernmental organizations and stakeholders ..."



With the exception of the third bullet above, these features are largely scientific and technical in nature, yet the new watershed approach involves much more than simply the application of science. Interaction and collaboration among local stakeholders, organizations, and communities—working with government—to identify and solve “their” problems, generally through consensus-oriented decisions, are key attributes of the emerging paradigm. Thus there is a strong theme of decentralized decision-making and nongovernmental, “grassroots” partnerships inherent in the new approach. One participant (Tom Fitzsimmons of Washington) characterized the approach as “a new kind of blend between civic action and science.”

With the explosive and widespread growth of the watershed movement, reflected in a host of newly-formed and resuscitated locally-led watershed organizations and their varied permutations, not surprisingly there has been a parallel development of watershed institutes, centers, studies, web sites and other diverse capacity-building activities. USEPA has developed a wide array of materials and activities to support the watershed movement; this activity has been mirrored by the programs and activities of nongovernmental entities like River Network, American Rivers, Purdue University’s Conservation Technology Information Center (CTIC), the Watershed Management Council, and others.

Within this setting, in 1997, River Network, with funding from the Henry P. Kendall Foundation, undertook the Four Corners¹ Watershed Innovators Initiative. This Initiative built on two earlier workshops which examined issues, strategies and prospects for the fledgling watershed approach, with emphasis on the role of citizen-led efforts. The project was based on the premise that some of the most important environmental innovations in future years will take place at the state and watershed levels and will involve the collaboration of state agencies and a wide variety of nongovernmental organizations and stakeholders (with varying degrees of federal assistance). The Initiative was innovative in its design, structure, participation, and expectations. Given the rapid growth and evolution of the watershed management field, and the richness and variability of experience within states, the project pursued an in-depth case study approach in a few selected states as the most effective way to gain new insights.

Targeting areas where the Initiative could add value to the national dialogue on watershed approaches, we focused on collaborative approaches emphasizing the interface between state government (“top-down”) and locally-based nongovernmental (“bottom-up”) activities. While participants were optimistically predisposed towards collaborative approaches, and generally agreed with conventional wisdom regarding lower transaction

¹ States representing the “Four Corners” of the continental United States: California, Florida, Massachusetts, and Washington.

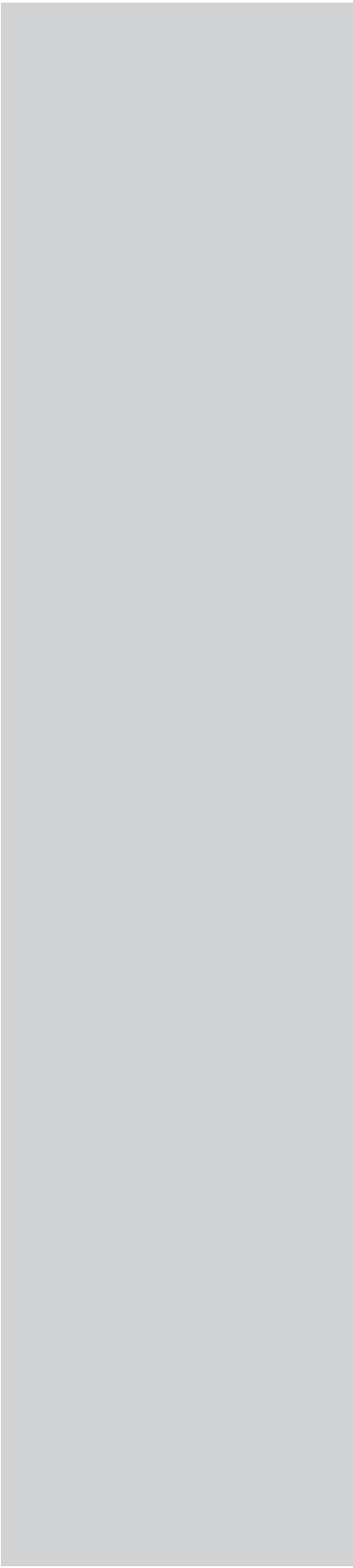
costs, less litigation, greater satisfaction with outcomes, and more durable and implementable plans and solutions than traditional regulatory-dominated approaches, we were not without skeptics in the ranks. Additionally, in contrast to the long history of governmental agency-led, top-down watershed efforts, the new watershed approach requires a blending of two cultures (“top-down” and “grassroots”) to achieve productive working relationships at the watershed level; a more detailed examination of the dynamics and supportive actions at this nexus seemed warranted.

The Initiative has produced a variety of outputs. The most tangible results are the background reports and post-meeting reports from the four case study states. These reports (available at the River Network website at <<http://www.rivernetwork.org>>) provide detailed descriptive information about the case studies at both the state and watershed levels and a summary of major issues and themes pertinent to watershed management derived from the case presentations and subsequent discussion. This report is intended not to duplicate those documents, but rather to compile and synthesize the case study information and to provide a synoptic overview of the Initiative. The reader is forewarned that the Initiative was never an attempt to define “the watershed approach” nor to generate a uniform prescription or set of “rules” for success. Furthermore, the perspective reported here is not a consensual product of the Four Corners Initiative participants: rather, it reflects the views and analysis of one of the principal architects of the Initiative, who served as both workshop facilitator and participant in the project, and who was charged with trying to distill and synthesize key elements and conclusions of the effort, drawing freely and selectively on the collective wisdom and opinions of the participants.

It would be impossible for any scribe to capture the breadth and richness of the Initiative discussions. Participants were urged from the outset to be creative, exchange ideas, and take advantage of the opportunity to think “outside of the box.” They did. Through interaction, reflection and discussion, the Four Corners participants became an action-oriented learning community. We had the opportunity to test new ideas, to borrow from what seemed to work elsewhere, and to be energized by the thinking and commitment of other participants. In some respects, *we* became one of the outputs of the Initiative—a mutually supporting network of “shedheads!” Participants were challenged as to what they personally took away from the two-year experience in terms of changes in their thinking and influences on their watershed work. State delegations noted that preparation for workshops in their states, and subsequent review and inquiry at the workshops, led to explicit legislative gains, specific modifications of state/watershed programs, and accelerated progress of their state’s overall watershed protection efforts—a relatively tangible and welcome byproduct of the Four Corners Watershed Innovators Initiative.

“We had the opportunity to test new ideas, to borrow from what seemed to work elsewhere, and to be energized by the thinking and commitment of other participants.”





Following a brief history of the Initiative in Chapter II, Chapter III describes this report’s primary “data base”: the study states and watershed cases. Chapters IV and V represent the substantive core of this effort—our primary findings on the key dimensions and issues associated with watershed partnerships.



A Brief History of the Four Corners Watershed Innovators Initiative

The logic of the watershed focus is compelling and is not going to go away. But the challenge of making it work, from the governance standpoint and from the agency/citizen perspective, is going to demand some of our best thinking, ingenuity, and innovations—along with a great deal of patience. The most significant advances in watershed management will not arise full blown from agency planning meetings, from town meetings, nor from conferences ... They will, in my judgment, come from the on-the-ground experiences where new things have been tried and lessons have been learned. In my view, the main value of gatherings of watershed leaders...is to cross-communicate the lessons of field innovations. The watersheds themselves are our laboratories for experimentation and discovery.

Theodore M. Smith, Executive Director
Henry P. Kendall Foundation (July 1997)

This kind of broad experience-oriented thinking has been endemic to this entire effort and was central to the Boston-based Kendall Foundation contacting River Network, a national nonprofit organization formed to help people organize for river and watershed conservation, in mid-1994 with a request to convene a workshop involving watershed leaders from governments, tribes, and nongovernmental organizations. The purpose of the workshop was to have these experienced watershed practitioners discuss the status and future prospects of watershed approaches, using Massachusetts' pioneering efforts as a catalyst for discussion. This highly successful and exciting meeting ([River Voices](#), Fall/Winter 1995) led to a second workshop in June 1996 in Baltimore, MD, to continue the dialog and to test the merits of and support for a draft proposal which ultimately became the Four Corners Initiative. Participants at this workshop identified important watershed management issues, critically reviewed the proposal, and supported moving ahead with the proposed two-year project design—with the caveat that the project not duplicate the numerous other ongoing efforts to study and analyze watershed management approaches. The execution of the Four Corners Initiative has been largely guided by the following general goals:

“The most significant advances in watershed management will ... come from the on-the-ground experiences where new things have been tried and lessons have been learned.”



“Participants made it clear at the outset of the project that they wanted to get beyond sterile case studies, and to capture the personal and professional odysseys and challenges inherent in watershed efforts—‘warts and all.’”



- to document and assess innovative watershed-based programs in four states as case studies
- to facilitate a cross-fertilization of ideas and concepts among participants
- to develop useful options/tools pertinent to the watershed approach
- to stimulate advances in thinking about cooperative partnerships between governments, non-governmental entities, and the private sector
- to improve the ability for carrying out watershed management
- to disseminate useful results of the project widely.

To insure that the project was grounded in reality, a comparative case study approach of watershed initiatives was conducted in four “leading” states. Because there are really no “representative” states, and because there is great contextual variability among watershed initiatives, our selection of states at the four corners of the mainland United States is somewhat arbitrary. However, we sought to examine a highly diverse set of circumstances reflective of the range of watershed experience in the U.S. and exhibiting some dimensions of innovation and experimentation in their watershed management efforts. California, Florida, Massachusetts, and Washington fit those criteria and also represented states where key participants in the Initiative could facilitate project implementation.

A set of workshops was carried out at roughly six-month intervals over almost a two-year period, beginning with Florida in March 1997 and ending in Massachusetts in October 1998. A background report was prepared by a host state team for each workshop, following guidelines and a questionnaire/outline developed for the project (the data-gathering questionnaire was somewhat modified and elaborated following the first workshop; see Washington Meeting Report). This report was distributed to participants prior to each workshop and served as the empirical knowledge and data base for assessment. Participants made it clear at the outset of the project that they wanted to get beyond sterile case studies, and to capture the personal and professional odysseys and challenges inherent in watershed efforts—“warts and all.” Case presentations and subsequent discussion emphasized a candid “telling of the watershed story” by presenters, which enlivened discussion—although sometimes at the expense of systematic in-depth review.

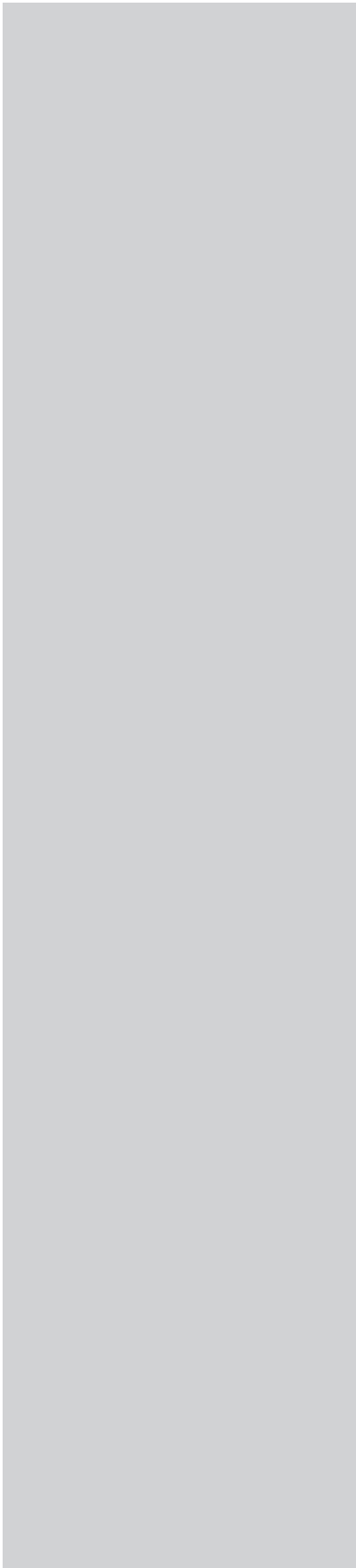
Participants analyzed state contextual arrangements and watershed case studies, attempting to distill key issues revealed by the case(s). After

digesting the host state case studies, participants tried to draw comparisons with prior cases, and then query the generalizability of case findings/lessons. This was a reiterative process throughout the Four Corners Initiative—attempting to balance free-ranging discussion of topics of keen immediate interest to participants with the need to continually focus and frame the dialog consistent with project objectives. Given the caliber, experience, diversity and stature of the participants, this was occasionally a tension-laden exercise that spawned frequent questioning about project directions and products. Throughout the process, we had to keep reminding ourselves that the Initiative was not designed to deliver tangible “products” after each case workshop, but rather to keep walking participants through a structured learning and thinking exercise.

One of the hallmarks of the Initiative was the selection and participation of five individuals from each state as part of the core Four Corners team for the duration of the project. Participants were acknowledged leaders, drawn from state and tribal government, and the nongovernmental and private sectors (see “Acknowledgments” for participants and affiliations). Collectively they represented a broad cross-section of interests and expertise, whose contrasting perspectives would enrich the project. A two-year commitment was required from each, to assure group continuity and some capacity for comparative assessment, shared experiences and socialization, and overall participation in the evolution of the Four Corners “learning community.” Not surprisingly, life happenings and scheduling conflicts caused some departures from this ideal, but 85% of the core participants were able to attend at least three of the four workshops. A small number of additional individuals from the host state participated in each meeting, often as presenters, along with a small coterie of federal officials, local influentials and other special guests. Further details regarding the project design and participants are included in the Four Corners Initiative meeting reports available from River Network.

“Participants analyzed state contextual arrangements and watershed case studies, attempting to distill key issues revealed by the case(s).”







State Cases: “Database” Overview

Amplifying prepared background reports, the four Initiative workshops each began with an overview of the host state’s setting for watershed management. Host teams for each state prepared and presented contextual snapshots of: state governmental arrangements and programs for water resources management; statewide nongovernmental organizations and activities; and one or more cases of locally-driven watershed management. This material, elaborated through questions from participants, set the stage for exploring Initiative issues and variables, emphasizing the interface between state government and locally-based nongovernmental activities.

By the end of the final meeting in Massachusetts, participants had visited four very different states and had explored the specifics of eight widely-ranging examples of collaborative watershed stewardship. In Appendices A, B, and C, we present a distilled descriptive summary of the Four Corners Initiative cases; these appendices will assist the reader throughout the report and especially through the following narrative.

We add two notes about the data base for this chapter. First, information presented at the four workshops was captured at a moment in time; state institutional settings are dynamic, and there have already been changes. Second, because each state relied on self-assigned volunteers to prepare and present background data/reports, and because the questions posed to these volunteers were somewhat open to interpretation, there were some significant gaps in the data base. We have supplemented the original data set, within our time constraints, to offer more complete and comparable information. Copies of the original background materials may be obtained through the River Network’s web site at <<http://www.rivernetwork.org>>.

OVERVIEW OF THE STATES

As intended, the four case states are very different in terms of institutional arrangements, environmental issues, and socio-economic factors. A very brief orientation follows.

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Not surprisingly, size and population affect the complexity of these states' administrative structures. California, which has the most complex and dispersed institutional arrangements, dwarfs the other three states in size, number of watersheds, and population. California's nearly 160,000 square miles is larger than all three other states combined (Florida: 59,000 sq mi., Washington: 68,000 sq mi., Massachusetts: 8,000 sq mi.). The number of state watershed management units reflects both size and topography: Florida has only five, Washington has 62, California has 153, and Massachusetts has 27. California is also the largest state in terms of population: at 32.3 million people, California is half again as large as the other three states combined (Florida has 14.7 million, Washington has 5.6 million, and Massachusetts 6.1 million). Population concentrations vary as well. As a state, Massachusetts, at over 740 people per square mile, is much denser than Florida (250 per sq mi.), California (200 per sq mi.), or Washington (80 per sq mi.); however, population concentrations in coastal southern California, the Puget Sound metropolitan conurbations, and South Florida present each state with significant urban issues.

All four state landscapes and watershed ecosystems have been severely perturbed by human activity. Florida has been subjected to massive river ecosystem alteration by drainage and irrigation, with dramatic changes in water regimes, habitats, and wildlife populations. The extensive system of hydroelectric and irrigation dams and diversions on the Columbia River, development throughout the Puget Sound, and a long logging history have left Washington irrevocably changed—its salmonid runs decimated in less than a century. Historic and improper mining, logging and agriculture practices along with rapid urban and industrial expansion have contributed to watershed degradation, species endangerment, and other environmental problems in California. State and federal river basin development schemes irreparably changed the face of California, creating a massive system of dams, reservoirs, canals, and diversions—what one author has called “the Hydraulic Society.” Mill and textile dams, canals, hydroelectric dams, reservoirs, wetland drainage, forest clearance, and early textile, paper, and leather industries highlight tremendous impacts on the environment of Massachusetts.

The four states include some of the most attractive living and working environments in the United States. Rapid growth of population and attendant development have put tremendous pollutant and demand pressures on state water resources. Water scarcity, which has long been an issue for the western states, is becoming increasingly important for Florida and Massachusetts as well. Florida, California, and Washington all face issues with endangered or threatened species. All four states face similar problems for controlling nonpoint sources. Each state faces problems in generating awareness and understanding of river and watershed issues—

Florida's flat topography and California's complex water delivery system present added hurdles for building watershed identities in those states.

STATE GOVERNMENT OVERVIEW

States have a mix of responsibilities for managing water resources: conducting studies and monitoring water quality; issuing and managing water quality permits for point sources of pollution; addressing nonpoint sources; regulating water flows; managing fisheries and wildlife habitats; and ensuring safe drinking water supplies, to name a few. Western states must manage additional water rights allocation and use issues related to prior appropriation doctrine, although Florida and Massachusetts are also increasingly dealing with water quantity allocation issues. All of the Four Corner states are attempting to use watersheds as the focal point for these and other water resource management issues. To varying degrees, the states are working to coordinate actions within and across agencies, developing special programs which focus on watersheds, and building interest and capacity for local stewardship.

State Organizational and Programmatic Frameworks for Managing Water Resources

States were selected for this Initiative based in part on demonstrated innovation and experimentation in their watershed management efforts. Examining these innovations begins with a look at the state administrative arrangements for fulfilling water and related natural resource management responsibilities. Organizational and programmatic frameworks for water resources, created by state legislatures and administrative bodies, range from highly centralized to more dispersed and complex arrangements.

Florida's substantially centralized Department of Environmental Protection (FDEP) delegates many water resource-related responsibilities to five relatively powerful Water Management Districts. Each District has its own taxing authority, governing board, and very sophisticated management program yet maintains accountability linkages with FDEP and the Governor's Office. Washington's water quality and quantity responsibilities are relatively consolidated into a Department of Ecology (WDOE), although some highly-related functions are performed by the Washington Department of Fish and Wildlife. California's more dispersed arrangements offer the greatest institutional complexity by dividing water management activities between two cabinet-level agencies and many governing boards: 1) California Environmental Protection Agency (Cal/EPA), which houses the five-member State Water Resources Control Board (SWRCB), overseeing water quality and water rights for the state, and nine Regional Water Quality Control Boards (RWQCBs), carrying out day-to-day water quality regulation in each of California's major watersheds; and 2) the California

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Resources Agency, housing the Department of Water Resources (State Water Project operations and planning, flood control, studies) and other departments critical to watershed management (e.g., Dept. of Fish and Game, Dept. of Forestry and Fire Protection, California Coastal Commission, and the State Coastal Conservancy—each with their own governing boards). Primary water management responsibilities in Massachusetts are distributed among three main agencies (Department of Environmental Protection, Department of Environmental Management, and Department of Fisheries and Wildlife), but the state has consolidated these agencies, two others and numerous environmental programs together under a single cabinet-level Executive Office of Environmental Affairs (EOEA) that encompasses all state environmental laws and policies and provides policy coordination. EOEA and contained departments have undergone internal structuring to better enable watershed programming.

Other programs also influence watershed and water resources management. In Florida, a complex and integrated state growth management program empowered the Florida Department of Community Affairs (FDCA) with substantial review authorities, including plans affecting conservation and land use. California's Department of Forestry and Fire Protection, CAL-FED Bay Delta Program, and California Coastal Commission affect water resources in all or part of the state. In fact, all of the states have established multiple boards, teams, commissions, and councils that affect water resources and resource management decision making.

Each state has tried, with varying degrees of success, to coordinate water management policies and activities between and among the plethora of state-level agencies and other entities. Governors in California and Washington have used executive authority to create special entities specifically intended to bring together senior state officials from multiple agencies to coordinate water issues. Massachusetts' agency structure was designed to coordinate activities through the Executive Office of Environmental Affairs (EOEA); in addition, the Massachusetts Watershed Initiative created an Interagency Roundtable to further ensure and coordinate watershed based programming among EOEA agencies. Florida has also tried to coordinate water management actions via a gubernatorial Water Resources Coordinating Council (now called the Water Resource Council). This group included the five executive directors and board chairs of the WMDs, the Secretaries of FDEP, Dept. of Community Affairs, Dept. of Transportation, the Game and Freshwater Fish Commission and the Governor's Office (usually the Lt. Governor). Its activities have diminished in recent years. Florida's water management districts serve as decentralized coordination mechanisms, and the Department of Community Affairs coordinates state and federal activities in coastal areas, and to some degree, land planning within watersheds.

State Water and Related Management Programs with a Watershed Focus

The Four Corner Initiative states are all striving to support watershed-based resource management. As stated previously, our Initiative has only explored a snapshot of this rapidly changing policy landscape. During the two-year course of this project, Washington passed new legislation providing nearly \$4 million for local watershed planning, California undertook a Governor's Watershed Management Initiative, and Massachusetts has moved ahead with its visionary Watershed Initiative. In addition, three of the four Initiative states have recently replaced their Governors, which introduces new potential for direct changes in policies. In each state, changes have affected and will inevitably further affect the "snapshots" presented here.

While each state has some administrative form of decentralized watershed management (Florida's WMDs, California's RWQCBs, Washington's Water Quality Management Areas), Massachusetts' Watershed Team arrangement has the most comprehensive and coordinated program of the group. While other states have developed a priority watershed approach (Florida's SWIM program, Washington's watershed pilots), Massachusetts has opted for potentially equal support opportunities for all of the state's 27 watersheds. To support this, they are implementing the same general structure for each watershed: 27 interagency watershed teams, each with a team leader (some team leaders are shared between two watersheds); collaboratively developed watershed plans, each identifying priority watershed actions; and statewide assistance programs intended to distribute funding for priorities in each watershed. The Massachusetts Watershed Initiative (MWI), which was designed and developed through a partnership of agency and nongovernmental organizations, promotes strong interactive partnerships between the interdisciplinary watershed teams and local municipal and nongovernmental partners.

Florida's water management districts are unique among the Four Corner states. These districts, roughly reflecting watershed boundaries, are guided by autonomous governing boards and possess *ad valorem* taxing authority for funding water resource management. As self-funded, technically sophisticated entities, WMDs play central roles in coordinating resource management programs; their stability has allowed them to pursue long-term monitoring in support of science-based decisions. While FDEP maintains oversight for some delegated programs and functions, WMDs determine their own policies, programs and actions. In recent years, however, the Governor and legislature have extended oversight and taken on more determinative roles with regard to WMD programming, in part to counter perceptions of limited WMD accountability.

Every state program for watershed management includes provisions for some variety of public participation, largely driven by requirements of

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the Federal Clean Water Act. Washington’s new legislation requires broad input (including input from Tribal Governments) in order for “planning units” to qualify for state funding. Programs administered by California’s nine RWQCBs (each governed by appointed boards) require similar involvement. Florida agencies are governed by citizen boards, require citizen input on plans, and frequently maintain project advisory committees.

State Programs to Foster Watershed-based Stewardship Groups

As noted in the introduction and expanded in Chapter IV, watershed partnerships involve local partners as well as state agencies. Increasingly, agencies look to these local partners (formal organizations, volunteer stream keepers, local governments, and others) when developing plans and setting priorities. Local partners vary in their capacities and abilities to contribute to long term stewardship. The four Initiative states have all assumed some responsibilities for assisting local groups and fostering local governmental and nongovernmental stewardship.

Massachusetts, recognizing the importance of building coordinative and organizational capacity in local groups, created a grant program specifically intended to cover costs associated with starting organizations and strengthening their long term capabilities to engage interested individuals and work for resource protection. Several additional long-running programs in Massachusetts provide technical training and support for volunteer monitoring efforts.

Washington’s newest legislation builds upon earlier grant and assistance programs by providing funds to local partners to conduct extensive assessments and develop watershed-based plans for water resources allocation that meet current and future water needs of people and fish. Local “planning units” must demonstrate participation and agreement from the broad range of multiple interests and must approve plans by consensus; although, in cases where consensus cannot be reached, planning units must have consensus of all government members and a majority vote of nongovernmental members. State agencies can be members of local planning units, and prior to this new legislation, Washington had already established several Local Action Teams to work closely with local entities on watershed issues.

California has employed a variety of watershed pilot projects; provides grant and technical assistance to community-based and local cooperative watershed entities; and supports interagency Coordinated Resource Management Planning (CRMP) processes (explained below in more detail). In Florida, the water management districts generally act independently to support groups for local stewardship.

STATEWIDE NONGOVERNMENTAL ORGANIZATIONS OVERVIEW

Each state profiled through the Initiative has a variety of local nongovernmental groups working on watershed related actions (see appendix B). Four Corner Initiative participants were especially interested in organizations providing capacity-building, coordination, and networking support to local watershed groups. Absent this type of entity, we looked at other mechanisms that might fulfill the functions of information exchange and organizational support. For example, in Florida, where there is no statewide watershed-focused non-governmental organization (NGO), the state and WMDs do work together with local NGOs and provide them with some financial assistance, usually via a contract for services tied to mutually desirable objectives that have indirect ways of helping with the capacity-building needs of individual organizations.

Washington and Massachusetts have statewide support organizations with missions to help coordinate watershed efforts and develop and support active watershed management and advocacy groups in their states. Both groups have found demands for their service, but both also find themselves needing to adapt to keep up with changing needs of watershed organizations. In Washington, the organization has been temporarily disrupted due to personnel changes.

While not having a single statewide organization to coordinate watershed groups, California has a variety of entities involved with multiple local groups. California relies heavily on the Coordinated Resource Management Planning (CRMP) process for integrating watershed management efforts—a process developed decades ago in the West by the Soil Conservation Service (now the Natural Resources Conservation Service) and considered user-friendly by the mainly rural clientele of that agency as well as others. Nearly 70 CRMP-type efforts in California are recognized by the California CRMP Executive Council, comprised of representatives from the 15 state and federal agencies that have signed a Memorandum of Understanding outlining their authority to engage in and commit resources to the CRMP approach. This state council provides some limited support to groups using the CRMP process: a part-time state coordinator (hired by the California Association of Resource Conservation Districts), a handbook, newsletters, workshops, an annual conference, and a web site. The Watershed Management Council (WMC), a multi-state nonprofit organization focused mainly on promoting technical information about watershed management, also provides for information-sharing among networks of watershed interests. In addition to WMC and the CRMP network, several other groups (e.g., For the Sake of the Salmon and the California Salmonid Restoration Federation) provide some selective funding, capacity-building, and networking support for restoration groups focused on Northern California.

“Washington and Massachusetts have statewide support organizations with missions to help coordinate watershed efforts and develop and support active watershed management and advocacy groups in their states.”



WATERSHED CASE OVERVIEW

Four Corner participants explored eight watershed management cases with enormous variability in almost every measure: from scale to nature of the watershed organization. In each case, we focused on a local coordinating group or organization and their watershed management activities. We should note that “local watershed groups” fall along a continuum—ranging from a) single-day one-issue volunteer stream teams to b) short-term save-the-river campaign groups to c) long-term groups of like-minded individuals to d) diverse, long-term, multi-issue groups of “unlikes.” All eight Initiative cases, from California’s 40 square mile San Francisquito Creek Watershed to Washington’s 6000 square mile Yakima River Watershed, present rich stories of locally-coordinated resource management falling into the latter half of the continuum. We have listed the cases in Table 1 and included summary descriptions for each case in Appendix C.

Table 1.

WATERSHED ORGANIZATION	STATE	YEAR STARTED	WATERSHED AREA
Indian River Lagoon Program	Florida	1987	2,200 mi ²
Yakima River Watershed Council	Washington	1994	6,155 mi ²
Fether River CRM	California	1985	3,222 mi ²
San Francisquito Creek Watershed CRMP	California	1993	40 mi ²
Monterey Bay Watershed Water Quality Protection Program	California	1992	7,000 mi ²
Charles River Watershed Association	Massachusetts	1965	300 mi ²
Neponset River Watershed Association	Massachusetts	1967	130 mi ²
Shawsheen River Watershed Association	Massachusetts	1998	80 mi ²

The eight local groups began in a variety of ways. Some of them formed within the past five to ten years to address a set of specific water resource issues in their watersheds (San Francisquito, Yakima, and Feather River); others began more than 30 years ago and have recently revitalized with a watershed orientation (Neponset and Charles). Two organizations began through federal program initiatives (Indian River and Monterey Bay), and one group (Shawsheen) formed within the past year using the tools provided by the Massachusetts Watershed Initiative. This fledgling group has strong involvement by several members and is heading towards becoming an active independent organization, but as with many young organizations, the threat of dissolution is never far away.

Organizations vary from incorporated tax-exempt nonprofits with large membership bases to coordination groups linked through signed letters of agreement. Most of the organizations have staff for administrative functions. Some, like the Charles River Watershed Association, have developed advanced technical capacities, but most groups rely on agency partners to provide research and analytical support. Florida's Indian River Lagoon Program, though overseen by an independent advisory board, is integrated within the Water Management District and has privileged access to the District's extensive monitoring and modeling capabilities. All organizations have some capacity for regular monitoring through volunteer efforts or links to agency partners.

The majority of these organizations operate primarily by consensus decisions on a range of actions: from coordinating priority activities in the Feather River Watershed to developing a complex water allocation plan for the Yakima River. Some of the formal organizations' governing boards are either required to use majority vote through bylaws (Indian River and Charles River) or rely on majority vote only in cases where consensus cannot be reached (Neponset); however, staff in these organizations promote consensus decision making in interactions with partners. The California CRMP groups rely solely on consensus for setting group priorities and coordinating actions; without formally yielding authority, individual partnership members abide by these group consensus decisions. Except for the federally initiated efforts, the organizations do not have mandates.

All of the cases address water quality, quantity, and habitat issues at a watershed scale. Specifics related to these issues vary in each case. Population growth and related land-use issues are not dominant in the Feather or Yakima River Watersheds, but they are in the others. The Massachusetts cases are all heavily influenced by development and land-use changes, by urban stormwater and contamination from old, leaking sewage systems. The rural Feather River Watershed emphasizes attention to erosion and sedimentation problems to protect coldwater fisheries and reservoir capacities. Several efforts address habitat issues for threatened or endangered species.

Groups employ a variety of functions to address their environmental priorities. The Charles River Watershed Association uses data and modeling to convince local governments and industry to adopt water saving and groundwater restoration procedures. Yakima concentrated on interpreting and sharing information, views, and science among participants. California cooperative watershed groups tend to coordinate habitat restoration activities, watershed analyses, monitoring, inventory, planning, and outreach activities. Every group emphasizes coordination functions as part of their activities.

"Groups employ a variety of functions to address their environmental priorities."



“... our exploration highlighted a number of arrangements with varying degrees of state and local coordination, cooperation, and flexibility and with varied results.”



If not through formal strategic plans, each group and organization sets priorities in adherence with a stated purpose or mission. Most groups also develop plans for their various projects. The Neponset River Watershed Association, as the Massachusetts Watershed Initiative pilot, focused heavily on developing a Basin Wide Action Plan to set and coordinate priority actions among partners; the Neponset plan linked to numerous other plans affecting the watershed. Feather River CRM developed no less than seven plans and identified nearly twenty priority actions for watershed protection and restoration. The Charles River Watershed Association Board of Directors developed a strategic plan, and staff operate a special Integrated Monitoring, Modeling, and Management Project to identify priority actions, then involve themselves with municipalities’ planning processes to influence their treatment of issues relating to water quality and quantity.

Consistent with the reasons groups initially began collaborative efforts, many of the actions and priorities in these cases depend on partnerships for implementation. As stated previously, local actions coordinated among CRMP groups are often carried out by individual agencies, organizations, and landowners in adherence to joint consensus-based decisions reflected in their voluntary watershed plans. The projects identified in the Neponset River plan rely on agencies, volunteer efforts, and local governments to revise regulations, monitor, generate awareness and administer ordinances. Yakima’s agreement would have required both cooperation and enforcement by numerous actors.

Finally, funding arrangements for these groups included a mix of private and public contributions for both administrative and technical functions. Yakima River, for example, generated nearly \$900,000 in combined finances—\$600,000 from individual, business, and corporate contributions. Pacific Gas and Electric, an initiator of the Feather River CRM, has contributed more than a quarter of the \$4.1 million spent there on restoration and research projects since 1985. The Charles River Watershed Association has leveraged private and corporate contributions with funds from the multiple agency and local government sources to develop and operate a sophisticated data collection and analysis function. Each group has been successful at generating contributions from nongovernmental sources.

WATERSHED CASE INTERACTIONS AT THE AGENCY/NONGOVERNMENTAL ORGANIZATION INTERFACE

One purpose behind this Initiative was to explore the interface between agencies and nongovernmental watershed groups—in particular, how agen-

cies support local groups and how watershed groups and their actions support core agency functions. Before delving into the various components of the “interface” relationship in Chapter IV, it is helpful to review examples of mutual support from these Initiative cases. Given the diversity of watershed situations within and across states, our exploration highlighted a number of arrangements with varying degrees of state and local coordination, cooperation, and flexibility and with varied results. While Florida illustrated a lack of direct state agency support for watershed groups, other states’ agencies assist groups through: 1) funding; 2) direct help with coordination and technical functions; and 3) long-term capacity-building support. Agencies are also receptive to local resource management priorities and responsive to problems identified by watershed groups. In turn, to various degrees in these cases, watershed groups: 1) are catalysts for state agency watershed programs and funding; 2) help agencies incorporate local interests and priorities into their activities thus providing agency activities with additional legitimacy and acceptance; 3) influence local decisions to make actions consistent with agency/partner goals and enhance agency funds by leveraging additional private and other government (local, federal) resources; and 4) provide data from monitoring activities.

Agency Support for Watershed Groups

Agency partners provide direct funding for planning and project work conducted by watershed organizations, and one state, Massachusetts, administers competitive grants to help groups cover start-up costs and build organizational capacity. Nearly every group received funding support from state agencies in the form of grants or contracts. Yakima River, along with previous Washington pilot projects, received planning assistance grants from Washington’s Department of Ecology allowing for inventory and assessment work necessary for developing plans. The Shawsheen River Watershed Association is partly supported by Massachusetts Watershed Initiative comprehensive project funds. Federal Clean Water Act funds augment state resources for these actions.

For several groups, state agencies provide direct coordination and/or technical assistance—agency staff have coordinated and facilitated meetings, collected and analyzed data, and assisted organizations in program development. For example, in Feather River, agency staff have conducted technical studies, prepared plans, and implemented actions consistent with group priorities. In the Neponset, the MWI pilot area, state agencies assigned three full-time technical staff exclusively to help the Neponset River Watershed Association develop the Watershed Plan. Several agency programs help local groups build technical capacities. Most states provide technical training for water quality monitoring efforts (e.g., sampling techniques, interpretation, systematic recording). The San Francisco, Neponset, and Shawsheen groups have benefitted from this assistance.

“Agency partners provide direct funding for planning and project work conducted by watershed organizations.”



“Local groups can act as a catalyst for watershed programs and state agency funding ... Agencies garner important information from watershed organizations about local interests and concerns related to resource management and gain local acceptance for agency priorities. ”



Agencies are also receptive to local resource management priorities. By participating as partners with local organizations, agencies demonstrate willingness to focus management actions on locally shared priorities. All of the cases reflect this. One opportunity to acknowledge local priorities is by responding to problems identified by watershed groups. Massachusetts Department of Environmental Protection acted on information from groups in Neponset and Charles River Watersheds who had found areas of excessive pollutant discharges. These actions contributed to specific documented improvements in water quality.

Local Group Support for Agencies

Local groups can act as a catalyst for watershed programs and state agency funding. The Marine Resources Council (MRC) was a major factor behind the development of Florida's statewide SWIM program and influential in having the Indian River Lagoon among the first group of SWIM projects; MRC was *the* major force behind the Indian River Lagoon becoming an Estuary of National Significance. Actions by the Yakima River Watershed Council (YRWC) influenced Washington State legislators to extend a form of the YRWC model to other state watersheds. Long-standing groups and coalitions in Massachusetts helped influence key aims in their state's watershed initiative to include fostering local accountability and stewardship, leveraging community resources, and improving delivery of agency programs—all along watershed lines.

Agencies garner important information from watershed organizations about local interests and concerns related to resource management and gain local acceptance for agency priorities. Each of these cases emphasized collaborative exchanges among agencies, organizations, and individuals; all sides of this interface benefitted from the information exchanged and the credibility of the processes used. In addition to getting important input, agencies gain legitimacy, personalized trust, and acceptance among multiple participants. This largely holds true for all eight cases.

Watershed organizations also influence political decisions to make local actions consistent with shared agency/partner goals. For example, the Charles River Watershed Association has successfully promoted groundwater conservation with local governments and private actors—improved groundwater conservation is a shared goal of Massachusetts state agencies and CRWA. Through intense lobbying supported by their own scientific analysis, the watershed association influences local governments' decisions regarding stormwater recharge, groundwater withdrawals, and inter-basin transfers. They have also influenced private actors: they convinced a local power producer to use state-of-the-art technology to dramatically reduce their cooling water needs and to invest in additional mitigation measures including a fund for a regional water recycling program. This sort of political influence is particularly important for addressing nonpoint source

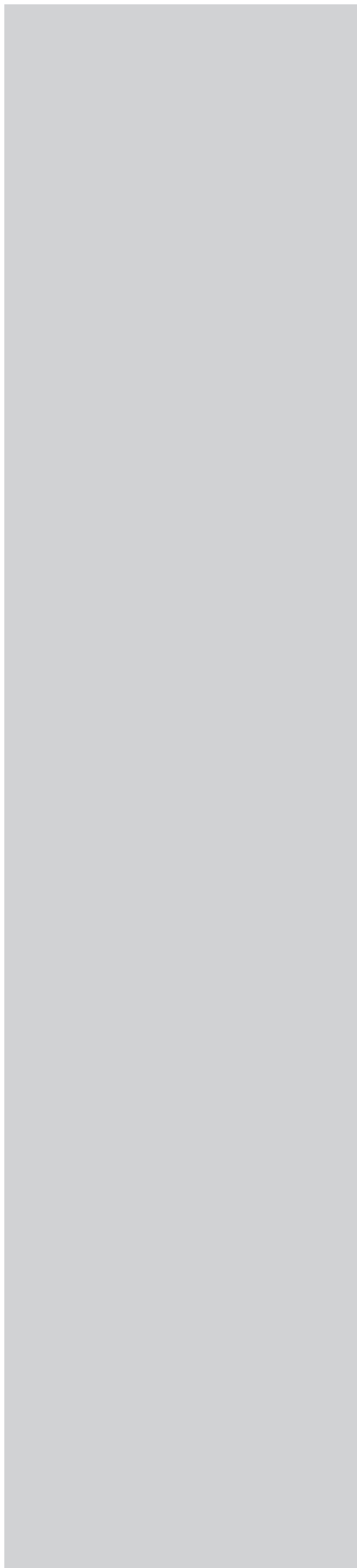
pollution issues, where most of the decisions are controlled by local governments and private landowners.

Local watershed groups enhance agency funding by leveraging additional private and local government resources for shared priorities. Yakima River Watershed Council quintupled Washington DOE's initial contributions. Foundation, corporate, local and federal government, or other sources augment agency funds in all eight of our watershed cases.

Finally, data and observations collected and reported by watershed monitoring activities augment agency data generation capacities, help agencies improve their understanding of watershed systems, and as illustrated above, serve a "watchdog" function. The Massachusetts cases demonstrated the benefits of *systematic* local data collection and recording. In contrast, a chance observation of a rare steelhead in an urban stream by an interested individual sparked the San Francisquito Creek CRMP process, establishing numerous state agency priorities.

"Local watershed groups enhance agency funding by leveraging additional private and local government resources."







A Framework for Establishing and Assessing Watershed Partnerships

As noted above, in spite of the sometimes unbounded scope of discussion, the Four Corners Initiative ultimately employed a framework that enabled participants to focus on the dynamics, roles and supportive actions of state agencies and nongovernmental partners in the pursuit of watershed-based management. We came to see the watershed as not only the spatial unit for action, but also as the institutional nexus where a governmental agency/professional culture encounters and is blended with a sharply contrasting “grassroots”/citizen culture—a watershed partnership. A set of key “variables” was identified pertaining to actions and relationships across this interface, and our empirical data base of eight watershed initiatives in four states (Appendices A-C) was characterized using this framework.

Drawing upon the cases and our collective experience, not surprisingly, no single model emerged. Watershed initiatives involve a set of choices, and there are positives and negatives associated with these choices. Positive and negative are not absolutes, of course, and one’s assignment of a rating along the plus-minus spectrum (what will work and what won’t) depends upon one’s perception of watershed context (history, environmental conditions, socio-economic-political circumstances, and human factors) and the judgments and evaluation criteria of those party to any watershed initiative.

Thus our presentation of considerations in the design of a collaborative watershed effort involves an explication of choices. Participants suggested metaphors to characterize our approach, including: a) a cookie recipe—where there are some common components, but where there can also be variable ingredients, blending procedures, and baking times, depending on what kind of cookie was desired; and b) a CD-ROM, with multiple “pull-down” menus to guide choices. Absent a panacean prescription, we hope this approach is useful and provides a means of relating “lessons” drawn from the project to other watershed contexts, towards the

“Watershed initiatives involve a set of choices, and there are positives and negatives associated with these choices.”



“Effectively linking a state’s statutory-based regulatory and other management tools to voluntary watershed initiatives is one of the real challenges of the watershed approach.”



end of developing productive watershed partnerships. In the following sections, we outline our framework of key characteristics, drawing upon examples and selective commentary from the cases as suggestive of the range of choice of ingredients for a successful watershed approach.

STATE GOVERNMENT— DIMENSIONS OF THE STATE ROLE

As David Getches (1998) has noted elsewhere, “there is a myth that the watershed movement consists of spontaneous, ‘bottom-up,’ local efforts that find alternatives to the rigidity of intransigent bureaucracies and one-size-fits-all...solutions.” Getches found, and we concur, that the governmental role is generally critical to successful watershed approaches, particularly if plans and solutions proposed by watershed groups are to be implemented. The Four Corners Initiative took that logic as a given; drawing upon our cases and watershed experience, we sought to outline that role more specifically.

At the outset, it is essential to note that state (and federal) efforts at collaborative place-based management are not substitutes for regulatory programs; rather they are intended as complementary approaches and tools to achieve established societal goals. Effectively linking a state’s statutory-based regulatory and other management tools to voluntary watershed initiatives is one of the real challenges of the watershed approach. As described earlier, there is great variability among states with regard to their overall institutional setting and their organizational arrangements for carrying out water and related resource management activities. Structures and responsibilities range from relatively consolidated to highly dispersed among the collectivity of agencies. Individual agencies have their own orientation, authorities, clientele, and programmatic responsibilities. There is also great diversity in the degree to which states have decentralized responsibilities to substate entities, e.g., the Florida water management districts, as well as substantial variability among states regarding the degree to which they attempt to coordinate/integrate the vast array of state functional programs to reduce duplication and better accomplish goals through harmonizing programs, activities, and decisions. Furthermore, managing along watershed lines is not new to states. A number of state functional programs have been implemented partially or fully at the river basin or watershed level for many years, e.g., fisheries management, water allocation, and some water quality programs.

State Commitment to Watersheds and Program Coordination at the Watershed Level

In the Four Corners context, one of the critical state water and related resource management choices to be made involves the level of commitment and the degree to which management will be place-based, i.e., carried out at the watershed level. A key corollary consideration involves the commitment to coordinating the vast array of inter-related state (and federal) programs and the provisions for doing so at both the state and watershed levels. These are fundamental state policy choices about which, as we have seen in this project, there can be substantial disagreement among the legislature, the Governor, and state agencies, as well as the many affected interests. We want to emphasize that these decisions have historically been relevant to traditional “top-down” environmental resources management, and could be considered apart from the notion of collaborative watershed partnerships. This is the historic conceptualization of watershed management. However, the commitment of the state to execute programs at the watershed level and their willingness 1) to resolve bureaucratic gridlock and “hardening of the categories” among the array of fragmented but interdependent programs and 2) to make available a rational and intelligible set of options for local partners is critical to our current conception of the watershed approach.

While the states studied here all have made, indeed were selected because of, progress in this area, Massachusetts is our leading example. The goal of the Massachusetts Watershed Initiative, championed by the Governor and agency leadership, is “to integrate the environmental activities of these state agencies’ programs with each other and with the environmental protection activities of federal and local governments, and of nongovernmental organizations and business to provide comprehensive watershed protection in each of the 27 major watersheds within the Commonwealth” and “to facilitate locally-based problem identification and problem solving and coordinate implementation activities among all parties.” The Massachusetts effort is aided by an organizational structure which fosters interagency program coordination—an Executive Office of Environmental Affairs which contains five major environmental agencies and an assortment of independent programs. This cabinet-level Secretariat is responsible for management of environmental policy and oversight of implementation of state environmental laws. There are numerous structural and process provisions and tactics to enhance effective implementation of the Watershed Initiative and interagency coordination, but one innovative provision is noted here—the interagency Roundtable. Although still evolving, this entity, comprised largely of senior EOEa agency managers, but also involving non-voting representation from leaders in the state’s “watershed community,” was established to coordinate resource allocation and set priorities for the EOEa agencies. Their charge is to ensure consistency of

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services and reconcile competing demands for resources in delivering watershed programs. The specific responsibility to resolve resource allocation conflicts and deadlocked issues directly addresses this important dimension of effective coordination.

Another innovative example comes from Washington. Washington has a somewhat dispersed water and related resource management organizational structure, some historical experience programming at the watershed level, and in 1998 enacted legislation strengthening the state’s commitment to watershed-level management. Attempts at coordinating related watershed programs among the state agencies, at least to some degree, were performed by a Watershed Coordinating Council, which was replaced by a Joint Natural Resources Cabinet in 1997. Major water-related agencies like the Department of Ecology are still exploring how to better coordinate and integrate their various watershed efforts. In spite of these comparatively modest coordinative arrangements, one powerful and nontraditional player in watershed management, the Department of Transportation, is piloting watershed scale environmental mitigation efforts in four specific watersheds and is developing strong geographic information systems (GIS) capability to support watershed initiatives. This illustrates the potential of “capturing,” through coordination, the energies and substantial funding of state agencies not generally thought of as principals in watershed management—agencies such as Transportation, Tourism, Community Development, Emergency Management, Military Affairs, and others. Getting genuine multiple executive branch agency participation in watershed management, however, appears to require gubernatorial leadership.

Agency Creativity and Discretionary Authority to Support Watershed Approaches

Agencies are required to administer regulations and other programs within the constraints of state law. State agencies can not really delegate regulatory or funding powers given them by the legislature. That said, there are innumerable opportunities for agency staff to be creative, to maximize use of their discretionary authority and permissive program guidance, and to modify regulations, decisions, and other actions to the extent legally possible in support of watershed-based initiatives.

Our cases reveal numerous examples of state (and federal) agency professionals creatively deploying flexible funding authority under their control to help local watershed initiatives get started, undertake monitoring, carry out local habitat or water quality improvement projects, or launch educational activities. Perhaps our most significant example comes from Massachusetts. Department of Environmental Protection officials initiated revisions in the State Revolving Fund (SRF) regulations to allow an expanded set of eligible activities and to heavily weight project funding rankings

towards those that match priorities of the state's Watershed Initiative and consistency with watershed plans. These changes have helped communities discover the relevance of the watershed approach and the content of watershed plans—spurred on by access to the SRF, which in 1997 provided \$207 million in 0% loans. There appear to be many opportunities to modify ranking criteria for state grant or loan programs where consistency of proposals with watershed plans or activities is treated positively in ranking criteria. Massachusetts now includes such provisions in grants related to land acquisition, growth planning, and water-related grant programs including coastal zone management.

Another supportive step states can take in support of watershed approaches is to make management of state proprietary lands—state parks, forests, wildlife refuges, and other conservation areas and facilities—consistent, to the maximum degree possible, with watershed partnership plans and policies. Of course, states can take this beyond discretionary action, as Washington has done in their 1998 watershed planning law. If local leaders adopt a plan prepared by a watershed planning entity, state governmental agencies must adopt appropriate rules and ordinances to ensure that the plan is implemented. The work of watershed partnerships is likely to be advanced greatly if partners believe that state lands will be managed to complement watershed planning.

On the other hand, some states, such as California and Oregon, have tried to use largely voluntary state watershed initiatives and watershed plans as a means to comply with state and federal laws, such as the Federal Endangered Species Act. Recent court decisions (Oregon) suggest that such state creativity linked to the watershed approach probably will not be allowed to substitute for regulatory requirements, although watershed approaches can play an important role in obtaining landowner and local cooperation to supplement federal regulations, which are often perceived locally as an intrusion on state and private property rights.

Agency Staff Support for Watershed Efforts

In all our cases, state (and federal and local) agency staff have played important roles in the development of watershed partnerships. Both in pilot and fully-developed state programs, agency staff have been relocated within watersheds and/or assigned to leadership or supportive roles in developing a watershed partnership, with notable examples from Washington and Massachusetts. In the Indian River Watershed in Florida, water management district staff have taken on these roles relative to the National Estuary Program implementation. The tasks have ranged from technical activities such as monitoring and scientific analysis and assessment (really a technical assistance role), to responsibilities for building relationships with local governmental and nongovernmental partners, coordinating agency

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“There is a paradox associated with the provision of agency staff support for watershed efforts.”



activities, and taking on a leadership role for development of a successful watershed partnership. In most cases, funding for staff has been earmarked and work plans recognize their duties and time allocation to the watershed partnership. As noted in the Monterey Bay Marine Sanctuary case, where such provisions are not explicitly made, ongoing staff coordinating and related activities fall victim to “brush-fires” and other daily distractions.

In Massachusetts, Watershed Team Leaders were recruited from the ranks of environmental agencies by the EOE Secretariat to assume full-time positions in the watershed. A primary team leader role is building relationships among agencies and local groups. The teams, comprised of state and federal agencies and a broad array of community partners, will largely determine goals, priorities, and agendas. While ultimate decision-making authority for many concerns rests with the state, these watershed teams offer local communities and partners another way to shape watershed outcomes.

There is a paradox associated with the provision of agency staff support for watershed efforts. On one hand, agency staff may have reservations about the nature and degree of citizen involvement because it threatens established state or local government processes and authorities. On the other hand, if “grassroots” participants feel that the process is really government-driven—as reflected by roles assumed by agency personnel—there may be legitimate concerns regarding local “ownership” or at least parity among watershed partners. In spite of the requisite staff resources that agencies can bring to watershed initiatives, they cannot dominate and make a mockery of the partnership concept. Leaders of local watershed organizations, local elected officials and other watershed influentials may not readily accept a state agency designee as basin team leader. If this situation is not handled with sophistication and sensitivity, the watershed partnership initiative devolves to historic patterns of top-down watershed management. In fact, some Four Corner participants emerged from the project believing that major state-agency staffing of watershed approaches is “the kiss of death.”

Agency training of staff assigned to watershed roles, roles for which many natural resource professionals have not been educated, seems essential. Otherwise, even the best fishery biologists and environmental engineers are likely to lack process skills and have trouble dealing with being equally accountable to their agency and state program as well as to their “grassroots” partners. Although there was not a consensus among Four Corners Initiative participants regarding the appropriate state staff role (the specific context is determinative), there was unanimous recognition that the development and nurturing of personal relationships is essential. Effective watershed partnerships depend utterly on the willingness of the

participating individuals to build trust, resolve conflicts, and do the hard work necessary to maintain productive interactions. Workable institutional arrangements are important, but people matter.

State Provision/Facilitation of Technical Assistance, Information and Analytical Support

It is axiomatic that understanding of and intervention in aquatic ecosystems must be based on sound biophysical (and socio-economic) science. What constitutes “good” watershed science; how to obtain and organize reliable, credible information; and how to use it to influence decisions and activities in watersheds were major subjects of discussion at the Four Corners workshop in Florida (see Florida Meeting Report). Participants recognized the criticality of science to discipline and ground watershed planning and action, to help delimit uncertainties, to underpin adaptive management, and to evaluate implemented watershed actions. Stormwater management, wetland restoration, endangered species recovery efforts, erosion control, water allocation and the myriad possible management interventions in a watershed are unavoidably complex scientific issues. In spite of having some significant scientific expertise in our ranks, we decided that there were better ongoing venues to grapple with the vexing issues of what is adequate watershed science, the sufficiency of base line inventory and monitoring data, the assessment of alternative data management systems and approaches, scientific research needs and priorities, and the like. However, there was unanimity on the need for state agencies (in cooperation with federal agencies and academic institutions) to play key roles in the provision of technical assistance, information and analytical support.

Our cases illustrate several examples of addressing this need. In Washington, the Joint Natural Resources Cabinet was charged with preparing state agencies to provide local watershed planning councils with coordinated data management and technical assistance. Several state (and federal) agencies contributed, for example, to the development of plans in the Yakima River Basin case. In establishing the Watershed Protection and Restoration Council in California, provision was made for establishing a multi-disciplinary science review panel. Action plans supporting the water quality protection program in the Monterey Bay National Marine Sanctuary case depended on technical assistance from state and federal agencies, who assumed lead roles in regional monitoring and interagency data access efforts. Federal and state agencies, working through the St. Johns Water Management District in Florida, transferred scientific and management information and expertise to partners in the Indian River Lagoon program. Recognizing the need for consistent technical assistance, standards, and protocols for agencies, watershed teams and community partners in carrying out the Massachusetts Watershed Initiative, a Science and Technology Center and

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“State watershed programs can foster innovation by adequately investing in and learning from well-designed pilot projects. ”



regional GIS Service Centers are being developed. Federal agencies also play key roles. The U.S. Environmental Protection Agency has gone to great lengths to develop electronic and other means to make watershed data and information readily available to watershed partners nationwide. In short, the Four Corner cases indicate a variety of ways to insure that this supportive function, essential to watershed management efforts, can be addressed.

State Support for Research, Experimentation, and Pilot Projects

Although economies of scale and other factors dictate that research with broad-scale application be done at the federal level and in academic and other research institutions, state watershed initiatives should consider providing for the conduct of some research specific to a state's (and its watersheds') particular needs. In many respects, watershed approaches are experiments. Most are too immature to have demonstrated the major environmental and other outcomes for which they were created, and we are on the learning curve in terms of biophysical and institutional principles for integrative collaborative watershed management. State watershed programs can foster innovation by adequately investing in and learning from well-designed pilot projects.

Our Four Corner cases include several examples of this role. California, Washington and Massachusetts experimented with pilot watershed efforts prior to expanding programs, although many of these efforts were assessed only in terms of biophysical consequences (resource assessment techniques, fish habitat restoration, volunteer monitoring protocols). Several of our cases involve technological innovation (the Charles River Watershed Association case in Massachusetts—industrial water conservation, decentralized “green” wastewater treatment systems; the Feather River Coordinated Resource Management case in California —innovative streambank erosion stabilization and restoration techniques). Based on information gathered for this project, there appear to be significant opportunities for social science research, including documentation and systematic analysis of a states' varied arrangements for undertaking watershed management through partnerships. For states electing to pursue this role, financing research and experimentation is a big issue. Four Corner participants observed that in times of lean public budgets, funding for research/science is usually the hardest to obtain or protect; and that if we are going to do a better job of watershed protection, ways have to be found to communicate with decision makers about the value of research they are being asked to support. Financing the research to improve watershed management, including research on the human side of the business, will probably continue to be a difficult challenge, including the question of “who should pay for it?”

State Coordination with Federal Agency, Multi-state, and Tribal Government Efforts

Given the transboundary nature of river basins and watersheds, which impertinently pay no heed to governmental jurisdictions, state watershed programs must provide for the requisite coordination with federal agencies, sister states and tribal governments. The Merrimack River Watershed Initiative in Massachusetts and New Hampshire, and the Yakima River Watershed Council and its collaboration with the Yakima Indian Nation, represent our two examples of this important function. However, the importance of state leadership in linking smaller watershed efforts to impacts on larger river basin management efforts is well demonstrated elsewhere, such as in the Chesapeake Bay Program. While this state role was not a focal point for the Four Corners Initiative, the lengthy American institutional experience with trying to manage large transboundary river systems strongly suggests that states incorporate this coordinative responsibility into their efforts at managing their watershed hierarchy of rivers and streams.

State Funding Support for Local Watershed Partners

We have described above a variety of state financial support arrangements for specific pilot projects and the conduct of specific watershed activities and projects. Four Corners participants generally agreed that for a real partnership to develop at the watershed level, there needs to be some parity in capacity and power between state and local, “grassroots” partners. We translated this to mean that local, “grassroots” partners needed adequate funding and staff capacity of their own. Based on our cases, funding appears readily available for specific projects and activities in a watershed. In contrast, funding for organizational startup and development, capacity-building, and general operating support is difficult to secure, and where secured, vulnerable to being cut. A consensus exists among project participants that such funding is crucial to make the local side of a watershed partnership work.

This poses a fundamental question: In states desirous of fostering locally-led, “grassroots” watershed stewardship, does state financial support for the development of watershed nongovernmental organizations make it more likely that they will form and succeed? For that matter, is some kind of local watershed entity a necessary ingredient for the success of the watershed approach (more on this subsequently)? Several participants noted that even if available, government funding was perceived as having too many “strings” attached to it, and that it was administratively burdensome to apply for and manage. Others noted that state open meeting (“Sunshine”) laws, an accountability requirement designed to ensure that all official discussions involving public funds and issues are open to public scrutiny, can have a chilling effect on trust-building, consensus-building, and candid infor-

“...for a real partnership to develop at the watershed level, there needs to be some parity in capacity and power between state and local, ‘grassroots’ partners.”



“...how can the state balance the need for accountability with the need for flexibility and creativity at the “grassroots” level?”



mation sharing—the types of activities that are the very reasons for establishing watershed partnerships. Accountability and reporting are demanded by legislators and others, who want to be assured that the public funding is wisely spent for specified purposes. If the need exists to financially assist nongovernmental watershed organizations, how can the state balance the need for accountability with the need for flexibility and creativity at the “grassroots” level? Some kind of certification for recipients of public funding? Financial match requirements? Explicit structure, membership and performance criteria for eligibility? Specific reporting requirements? Can such requirements be imposed without overtaxing and subverting the initiative of local partners, and reestablishing the image of state partner as “big brother?”

Our Four Corner cases offer a range of answers to these questions. Florida and California provide no generalized state financial support for such watershed organizational development and operation. In Washington, in the mid-1990s some \$650,000 was provided to each of two pilot water resources planning projects—projects in which the state encouraged the formation of local interest caucuses and the designation of planning group participants. That state’s 1998 legislation provided almost \$4 million for watershed planning, specifying a framework and eligibility criteria. Part of the legislation allows for organizing “planning units” in which local governments join with tribes, citizens and state agencies to develop plans, thus engaging a broad set of water-related interests in the process. Interestingly, in our Yakima River Watershed Council case in Washington, about \$900,000 in private donations was raised over the past four years to support the Council and its planning effort, a significant proportion of that entity’s budget—suggestive that in some more affluent watersheds organizational development funding may be generated largely with private and foundation funds. The well-developed Massachusetts Watershed Initiative, under a Capacity Building Grants program, provides up to \$50,000 for up to a two-year period to facilitate the startup and operation of small watershed groups. Specific objectives of the program are to strengthen the long-term capability of these organizations to help engage a diverse group of stakeholders to participate in resource protection and work with EOEA Watershed Teams. A related grant program focused on linking effective growth management planning with natural resource protection also has provisions for helping to organize the watershed “community” to support such planning.

Although we can offer no formulaic answers regarding this potential state role, we believe it warrants careful consideration by states seeking to establish effective watershed partnerships. Different states will respond differently, but their analysis and decision should address factors raised above.

State Support for “Watershed Literacy” Activities: Information and Education

Just as watershed science was not a primary target for the Four Corners Initiative, watershed education and efforts to achieve “watershed literacy” among decision-makers and citizens at large were not the focal point of the project. Both are critical and enormous subjects in their own right and are being aggressively addressed in a variety of forums across the country. Nevertheless, few of our case discussions were divorced from education themes, and all the participants strongly believed that public watershed literacy and understanding was a key to support for watershed approaches and for changing individual and collective attitudes and behaviors, requisites for attaining watershed protection goals. Every case included outreach and education aspects. Some of these efforts were embedded in the formal education system. Some targeted the general citizenry, while others were aimed at education and training for watershed activists and volunteers via “Stream Teams,” volunteer monitoring, local projects and newsletters and other communication activities. Innovative awareness activities—from educational “advertising” in commercial media to watershed festivals to distributing bottles of polluted water (“Fola-Cola”!) to Florida legislators and other decision-makers as a means to enhance their understanding of water-pollution legislation—were widespread. Interestingly, in the final Four Corner Initiative discussions, participants from these purportedly “leading states” gave low grades to the level of watershed awareness and understanding in their states, in spite of extensive education efforts. Given the importance of education, it would seem prudent for states to actively assist and coordinate the vast number of educational efforts conducted by academic institutions, nonprofit conservation and civic organizations, state and local agencies, businesses and others in furtherance of their watershed protection and management goals. A good starting point, one we sensed was largely missing in our case states, would be a systematic and comprehensive inventory of what’s being done followed by the development of an overall state strategy for watershed education.

LOCAL WATERSHED ENTITIES— CONSIDERATIONS FOR THE “GRASSROOTS” PART OF THE PARTNERSHIP

The new watershed approach envisions a collaborative partnership between state (and federal) government and an inclusive collection of watershed stakeholders from within the watershed—local and tribal governments, businesses, agricultural interests, conservation and environmental organizations, and others. The new approach involves an emerging openness by state and federal authorities to share information and even responsibility for watershed protection and management, a radical shift from governmental agencies saying “We’ll do it” to “we’ll do it together with you.” This

“...public watershed literacy and understanding was a key to support for watershed approaches...”



“Watershed initiatives are almost always preceded by some kind of undesirable state—from chaos or gridlock to resignation or apathy.”



watershed movement towards locally-based stewardship represents a sea change of direction from traditional approaches, requiring immense changes for governmental agencies and their personnel, including profound alterations of agency cultures. Having characterized possible roles for the state government contribution, we must then ask: what is required for the grassroots part of the partnership in order to achieve successful watershed partnerships?

As noted earlier, Four Corner Initiative participants asked whether a watershed-level organization of some kind is really a necessary component for a productive partnership. Or can agencies, stakeholders and others make consistent progress in many watershed situations by informal, unstructured arrangements—occasional meetings, ad hoc projects, and involvement with governmental agencies on a periodic basis? We do not have the answer for that question, except to note that it has happened. However, the sense of project participants is probably summed up well by Don Elder, Director of Watershed Programs for River Network, who surmised after our final session that while watershed-based organizations that are initiated and co-led by local citizens are not absolutely essential to watershed-based progress, where such organizations exist, much more progress can be made faster, and some things that would otherwise be unachievable are within reach. And our “up-close” examination of specific cases surely disabused anybody who might have been holding the rather “Pollyannaish” view that the “watershed approach” simply requires someone to convene all the stakeholders, establish a watershed association, build a consensus and produce a “watershed plan!” We have tried in the following section to assemble, based on the Four Corners Initiative, the key factors and considerations that must be evaluated in building and maintaining the *local watershed part* of the partnership. We do not write a prescription, but instead briefly outline the overall spectrum of choices, many of them closely inter-related, that must be weighed within the context of each unique watershed and the many stakeholders therein.

Context

Watershed initiatives rarely start with a clean slate, and the preconditions are important. Watershed initiatives are almost always preceded by some kind of undesirable state—from chaos or gridlock to resignation or apathy. Historical problems, relationships, past actions and experiences shape the extant institutions and the views and beliefs of stakeholders. Unfortunately, most watershed initiatives have their genesis in crisis, including impending regulatory actions, making continued inaction or doing more of the same unacceptable. Most of the cases we examined were reactive responses to problems, although the diagnosis and perception of the problems varied among watershed constituencies. Those wishing to establish a watershed entity must carefully consider context in deciding what to build on and what changes might be feasible.

Scale

The choice of scale for a watershed can markedly influence the prospects for a successful watershed initiative. In the hierarchy of river basin/watersheds/sub-watersheds, the selection of scale will determine if the watershed entity is concerned with 70 square miles or 7000 square miles. The scale needs to be appropriate to the land and water problems of concern. If a watershed initiative is addressing out-of-basin water transfers or sources of water pollution from outside the watershed, the “problemshed” of interest may transcend hydrographic boundaries, and involve a dramatically expanded set of stakeholders.

The Four Corners cases underscore the importance of scaling watershed efforts so that stakeholders can relate to and identify with being part of the watershed “community.” The watershed community can dramatically transcend watershed boundaries. For example, “ownership” of the Indian River Lagoon in Florida is statewide, as reflected in sales of special Indian River Lagoon license plates. In contrast, in California’s Feather River, lower parts of watersheds are hydraulically, socially, and politically severed from upper parts of watersheds; integrated solutions and financing schemes that link lower water service areas with source areas are difficult to achieve, and there seems to be little to no sense of an entire watershed community. The selection of a larger watershed which fully embraces the set of issues and problems can be self-defeating for watershed entities as communications and stakeholder interactions become more difficult over large areas and as interests become more disparate. Even in smaller watershed settings, such as in Massachusetts, we saw tensions between local, reach-specific focused Stream Teams (with well-defined activities, shared concerns, and highly motivated and engaged people) and the larger basin enterprise. We conclude that the selection of scale must include, but goes far beyond, hydrologic considerations; and that practically and inevitably, watershed initiatives must deal with multiple scales. The challenge is in balancing efforts in the watershed(s) over time to achieve watershed protection and conservation goals and to satisfy the expectations of the array of watershed community members.

The Structure, Governance and Functioning of Watershed Organizations

Four Corners participants spent much of the project trying to gain a better understanding of the structure, governance and functioning of watershed partnerships; Initiative background and meeting reports indicate the dimensions and tenor of our discussions. Participants came to a fuller appreciation of the enormous variability among watershed partnerships and entities, humorously depicted by one participant (Sari Sommarstrom) in Figure 1. Recognizing this diversity, and the futility of trying to define universal answers, we focused on identifying the key dimensions to be addressed in establishing and maintaining watershed organizations.

“The choice of scale for a watershed can markedly influence the prospects for a successful watershed initiative...The scale needs to be appropriate to the land and water problems of concern”



“We conclude that the selection of scale must include, but goes far beyond, hydrologic considerations; and that practically and inevitably, watershed initiatives must deal with multiple scales.”



Figure 1.

NAME THAT COOPERATIVE RESOURCE GROUP! (MIX & MATCH WITHIN AND BETWEEN THE COLUMNS)			
<u>Location</u>	<u>Descriptor</u>	<u>Adjective</u>	<u>Type</u>
XXXXXXXXX	Watershed	Advisory	Group
XXXXX	Bioregional	CRMP	Task Force
XXXXXX	Restoration	Management	Council
XXXXXXXXX	Biodiversity	Planning	Project
XXXX	Ecosystem	Cooperative	Committee
XXXXXX	Habitat	Conservation	Forum
XXXXX	Multiple Species	Working	Trust
XXXX	Landscape	Consensus	Alliance
XXXXXX	River	Economic	Association
XXXX	Resource	Coordinated	Partnership
	Creek	Communities	Coalition
	Fish, Farms & Forests	Sustainable	Friends
	Mountains		Team
	Estuary		Program
	Riparian		Federation
	Natural		Conservancy
Provided by Sari Sommarstrom			

Purpose/Scope

Most watershed partnerships embrace, to varying degrees, the following themes in their statement of purpose: *to protect, conserve, manage and/or restore the land and water resources of _____ through participation/ cooperation of all stakeholders (or through public-private partnerships) in planning, decision-making, consensus-building processes...to meet the economic, natural environmental, and cultural needs for this and succeeding generations (sustainability)*. Some specify the development and implementation of a plan, or specify a set of activities (education, monitoring, etc.) to meet their goals.

Scoping the domain of interest/activity for a watershed entity is a critical decision, and must be done with a sensitivity to the setting, the capabilities of actors, potential funding, information availability, and other factors. The scope of watershed partnerships that we examined or are familiar with is quite variable. Some entities pursue a holistic approach in terms of the watershed ecosystem, focusing comprehensively on all the ecological (including community and human) components of the system. Others pursue a more limited environmental-natural resources scope,

addressing only surface water or fishery resources. Substantive scope also includes the functional or use dimensions of resources management. Practically, our cases tended to focus on addressing or balancing among a more limited set of functions or uses, e.g., water quality management, nonpoint source pollution abatement, erosion control, fishery recovery, water allocation, or recreation or economic use—as opposed to trying to reconcile and act on the full menu of competing uses and functions in a watershed.

Watershed partnerships identified a broad range of activities they pursued in their domains of interest. These include education and information activities, on-the-ground resource projects, monitoring and data-gathering, river cleanups, clearinghouse-information center, coordination, fund-raising, advocacy, convening of neutral forums, planning and others. The choice of scope and watershed group activities should be dynamic, adaptive to contextual change and the evolution of the organization. We saw many examples of watershed partnerships being undertaken with relatively “safe” initial trust-building, developmental activities—education and outreach, citizen data-gathering, stream-team cleanups and the like. We also saw, in Massachusetts for example, watershed entities zeroing in early in their life cycle on immediate problems that could be fixed, e.g., fecal coliform bacterial pollution in streams and sewer repairs.

Organizational Arrangements

While there was some support among Four Corner project participants for informal, flexible, and entrepreneurial watershed partnerships—that was one of the perceived advantages of such locally-led entities in contrast to slow-moving, inflexible, bureaucratic, governmental entities—most of our watershed cases exhibited relatively formal organizational arrangements. They had by-laws, articles of incorporation, or memoranda of agreement specifying organizational purposes, structure, composition and processes. Boards of directors, committee structure, advisory bodies, and provisions for general membership were explicitly provided for, along with duties and responsibilities. Such formal arrangements were necessary for those groups seeking 501(c)(3) nonprofit organizational status for fund-raising and tax purposes. Some degree of formality appears to be a requisite to meet accountability requirements of funders, and more generally, to establish a legitimate presence in the watershed.

Composition/Representation

The composition of watershed entities, and the provisions for and expectations associated with representation justifiably were controversial subjects, and the often intense discussions of these topics would have delighted any political scientist. Along with rules governing organizational arrangements and decision-making, the question of who should be part of a watershed partnership and how these individuals are chosen confronts the fundamen-

“most of our watershed cases exhibited relatively formal organizational arrangements...Some degree of formality appears to be a requisite to meet accountability requirements of funders, and more generally, to establish a legitimate presence in the watershed.”



“The question of who should be part of a watershed partnership and how these individuals are chosen confronts the fundamental question: ‘Who decides?’ ”



tal question: “Who decides?” Each watershed entity must find its own defensible answers to this question. The Four Corners participants generally accepted a definition of “stakeholder” as: one who is directly or indirectly affected by an action or decision in the watershed, or who can cause, influence or prevent decisions/solutions in the watershed. But to some degree, everybody within the watershed/watershed is affected in some way by decisions therein and by its health. Moreover, to some degree, stakeholders must be defined situationally, based on the specific problems/issues being addressed and their location within the watershed. We were unable to reach a consensus in the Four Corners Initiative as to exactly who watershed stakeholders really were, how they should be identified and involved, and whether any process can constructively involve all stakeholders. (Some in our ranks thought that in trying to over-define stakeholders, we were killing the watershed initiative—that sometimes sheer enthusiasm should be the key criterion.) Thus the process of organizing a watershed partnership faces big challenges from the outset. In trying to find an acceptable solution to this crucial issue, organizers of watershed partnerships should address the following considerations.

The watershed approach generally professes the goal of being inclusive, of bringing together all the diverse and sometimes competing stakeholders/interests in a watershed. While the collection of stakeholders may share some general goals for the watershed, inclusivity implies bringing together a collection of unlike and often competing interests. The simple consideration of effective group size, in terms of boards and committees, generally limits participation. (Of course, the problem in many watersheds is a lack of interest and participation; in such cases, this issue is somewhat academic.) Clearly, not every watershed stakeholder who wants to serve can—or anarchy will prevail. Whatever number of positions are deemed appropriate, the questions of what interests should be present and how they are chosen don’t go away. Should these interests be designated? If so, by whom? Self-selected? Limited to existing holders of land, water and related rights in the watershed? Do individual citizens have standing, or must one represent an “interest?” Should indirectly-affected interests from outside the watershed be represented, e.g., state conservation or agricultural organizations? Should membership be extended to state agencies or local governments, given that they will be the ultimate decision-makers for many issues? Or should their role be ex-officio and advisory? How are tribal and other often under-represented interests brought to the table?

Once the size and assorted positions for the watershed partnership are determined, the Four Corners participants explored serious questions regarding how these positions are filled. In a few of our cases, board or committee members had been arbitrarily appointed or invited to participate and were unable to speak for or represent their group or interest, or

were marginally interested at best in the watershed initiative. Obviously, the selection process should involve consultation with the stakeholder/interest group or agency leadership, and there should be thorough discussions of potential representatives' interests and possible levels of participation. For watershed partnerships to work, representation must be legitimate. Four Corners participants felt that representatives, as a condition of appointment, should accept the following responsibilities:

- keeping their constituency informed about the status/progress of the watershed initiative
- actively interacting with their constituency—including by polling—to determine the constituency's positions/limits/concerns and the representative's ability to make commitments on behalf of the constituency
- accurately representing group positions to the watershed partnership.

Many of the Initiative participants felt that only individuals with exceptional qualities and skills would be capable of fulfilling these responsibilities (or as one member noted, "participants need to be the best qualified, not just the angriest!"). Ideally, Four Corner participants hoped for high-caliber leaders and influentials to lend their talents and energies to watershed partnership efforts. But it was also noted that individuals with the interest, necessary skills, requisite credibility within their constituencies and in the larger watershed community, and with available time are hard to find (and are always in demand by a host of other worthwhile civic endeavors). While it's nice to talk, oftentimes glibly, about the importance of getting the *right people* to the table, the difficulty of finding, involving, and gaining the commitment of these individuals can be one of the major obstacles facing watershed partnerships.

Decision-making Rules

Knowing "who decides" prompts the next question: "how shall decisions be made?" Will decisions be made by voting, and if so, what is required for decision-making? A simple majority, a super-majority, unanimity? It was noted that tribal interests will not participate in a process where there is a vote. In fact, most watershed partnerships seem to shun voting at the partnership interface, preferring some form of consensual decision-making. There was considerable discussion among Four Corners participants whether the goal was consensus, i.e., an agreement reached collaboratively without voting and with the concurrence of all, or whether the goal was consensus-building—a process seeking consensus but which does not necessarily lead to any specific outcome. Some serious reservations were expressed about consensus-oriented processes and their potential to: a)

"the difficulty of finding, involving, and gaining the commitment of these individuals can be one of the major obstacles facing watershed partnerships."



“...watershed partners agree to the ground rules that govern their conduct and that might place limits on their autonomy as a first order of business in undertaking a watershed approach.”



reach lowest-common-denominator or minimal decisions, rather than better decisions; and b) keep the most contentious but critical problems from being addressed.

Additionally, the degree to which participation in watershed processes and collective decision-making constrains individual action and authority needs to be made explicit. This was expressed in several ways during the Four Corner discussions: How do we keep people from simply leaving the table when they sense that the direction of the group is leading towards a decision they can't support; how do we avoid the phenomenon of “forum shopping,” so that groups don't just abandon the watershed table and move on to the next forum (the legislature, litigation, etc.) when solutions begin to emerge that are unacceptable to them; or, what to do when one side walks and “blasts” as it goes? In other words, to what degree are the position-holders in a watershed partnership giving up their individual autonomy to act? Clearly, as discussed earlier, state and federal agencies and local governments are not in a position to forgo statutory responsibilities. Do stakeholders in a watershed have better alternatives to attain their goals and objectives than a collaborative watershed approach, which might bring the viability of the entire partnership approach into question? Again, there are no simple answers to these tough issues. What is important is that watershed partners agree to the ground rules that govern their conduct and that might place limits on their autonomy as a first order of business in undertaking a watershed approach.

Funding/Staffing

Governmental project and program funding is readily available for cooperative watershed efforts, demonstrated by the assortment of water quality and fishery restoration funding avenues in California. But funding is a challenge for fledgling watershed partnerships, especially (as noted earlier) for start-up, organizational development, and operational versus project purposes. State seed money to nongovernmental partners can be a pivotal catalyst, allowing groups to leverage other funding. Such is the case in Massachusetts, although prior to the pilot and new grant programs, funding for watershed organizations had come primarily from local private sources. Some Four Corners participants cautioned that the pursuit of grants can cause watershed groups to follow circuitous courses toward their goals, as they bend program directions to gain funding.

The Massachusetts Background Report documents a common pattern of funding support. Membership contributions from individuals and business are the mainstay when groups are volunteer-based and budgets are small. With the hiring of staff, groups place more attention on member drives, fund-raising events, larger donations from individuals and corporations, small grants from local foundations, and occasional small contracts

with municipal and state agencies. With added staff and larger budgets, this core operating support grows, augmented by larger foundation grants, municipal contracts and major projects funded by federal and state contracts. While local support generally increases over time, foundation grants and government contracts provide an increasing percentage of annual support for larger organizations.

The decision to hire its own staff is a major decision for a locally-based watershed group. Many administrative and other routine “burnout-producing” tasks can be performed by staff, allowing volunteer citizen leaders to focus their energies on other key jobs. Staffing greatly multiplies a watershed organization’s capacity in numerous areas, including communications, grant-writing, and coordination activities. It also appears to be the required precursor for significant organizational growth in both budget and program. While most Four Corners participants agreed upon the value of staff directly employed by the watershed partnership (versus state and federal agencies) some concerns were expressed about the potential for staff efforts to preempt volunteer energy and initiative. As watershed organizations develop the wherewithal and maturity to take on and expand their independent staff capacity, they should carefully assess the relationship between volunteer nongovernmental leader activities and staff.

Authority

Four Corners participants concluded that watershed groups do not need any additional authority. Watershed partnerships can rely upon the existing authorities and varied programs of federal, state, and local governments, and private and nongovernmental sector activities to accomplish their watershed plans and objectives. We concluded that nongovernmental entities want and need recognition, not formal authority. If recognized watershed leaders and influentials are involved with watershed partnerships, and proposed actions are sound and collectively supported by the partnership, the force of “moral suasion” will lead to supportive governmental behaviors.

Plans, Planning, and Plan Implementation

The subject of watershed plans and planning commanded a great deal of attention throughout the Four Corners Initiative. All of our cases incorporate planning processes (or elements thereof), and most watershed partnerships we examined are developing or have developed plans. In every state, watershed management activities and/or new legislatively-authorized programs are geared to producing a plan. Although there was substantial discussion at workshops about the deficiencies of the “Grand Watershed Plan,” for the most part such plans are a relict of historic river basin planning and somewhat outdated conceptions of the comprehensive planning process. Contemporary planning tends to be increasingly more strategic

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and reduced in scope, more action-oriented, and more adaptive. Some of the plans discussed in our cases were of this variety. These plans are scaled back after scoping by the watershed partners to address selective issues but in the context of: ecosystem science and a systems perspective; long range goals; and feedback loops to adapt to changes in the ecosystem, available information, or in goals. They do not delay action until the “grand plan” is finished, but instead facilitate rapid action where possible to solve clearly-identified problems. The planning processes try to rationalize and prioritize watershed interventions, including incremental and smaller projects, with the recognition that it is essential to get people involved in projects leading to visible results, even as longer-term planning processes proceed. A science-based planning process, however, should discipline the effort so that small trivial “doing-something” projects with minimal bearing on critical watershed issues are not undertaken.

One watershed association director participating in the Four Corners Initiative expressed strong concerns about the “tyranny of the temple of the management plan,” arguing that plans are more often a reflection of the past than a guide to the future. Such critiques seemed to say “planning be damned.” Yet work activities summarized in the Charles River Watershed Association case clearly incorporated the basic planning elements of inventory, assessment, problem analysis, and testing of alternatives—in this case in the form of innovative demonstration projects to promote decentralized wastewater treatment and the re-establishment of base flows to rivers. Public involvement and education and coordination—planning process activities—are also part of the CRWA activities. In fact, one might view CRWA work as scientifically-based, action-oriented strategic planning. While we never saw the strategic organizational plan for CRWA to guide its growth and focus its interventions, one sensed that the executive director was a strategic planner in every sense.

The question is not whether to plan. As is true in most American watersheds, we became aware of a plethora of planning activities going on in every case study, conducted by a multitude of agencies, local governments, and private parties. The real issue is how to design an action-oriented planning process that incorporates the array of plans and planning activities in a watershed into a more coherent, coordinated framework for making management decisions. While we doubted that all local, regional, state and federal issues, concerns, interests and mandates can be addressed in a single watershed plan, we all agreed that an ongoing watershed planning process can help communication and coordination among parties on an ongoing basis. The Chesapeake Bay Program was cited as one model of an adaptive, action-oriented, coordinative planning process for a large, complex aquatic ecosystem.

We reached some other largely consensual conclusions regarding plans and planning processes, worth noting here:

- watershed plans should get people involved and need to be condensed and written so that the major issues, alternatives and consequences can be easily understood by the public;
- plans are too commonly reactive to problems, rather than proactive to prevent damage to healthy systems; although it can be difficult to gain attention and resources for preventive planning that protects healthy watersheds and sub-watersheds, we must find ways to have our priorities and plans reflect this, in conjunction with addressing today's problems;
- plans are never "done" —each generation sets the stage for the next generation of plans and actions, and every management intervention affords us a learning opportunity to gain knowledge about the environmental system and the efficacy of our tools;
- because the results of plans and consequent management decisions may take decades or longer, in spite of funding difficulties, provisions must be made for adequate long-term monitoring.

Finally, Four Corners participants were particularly concerned about plans leading to action. As Arlene O'Donnell of the Massachusetts delegation noted, "a good watershed plan consists of a list of specific actions that specific entities will take to solve the problems people care the most about with adequate resources and expected outcomes." Specific entities will only implement plans that they've participated in preparing and for which the implementers feel some ownership. Thus actions recommended in plans must relate to core state agency programs and authorities (or illuminate the path to institutional change). For local units of government, there must be a sense of local "ownership" for the plan and its recommendations; this is especially critical where water issues of concern relate to watershed land use, largely an area of local authority where political will is sometimes lacking. To make the actions of multiple levels of government compatible with and supportive of a watershed plan, attention should be given to establishing consistency reviews and consultative procedures (a form of management coordination) among these entities. Planning, to be useful and supported, must link to decision-making. Or as Mel Wagner of the Washington Four Corners delegation said, "implementation is expensive, but if we don't implement, nothing happens, so why plan?"

"A good watershed plan consists of a list of specific actions that specific entities will take to solve the problems people care the most about with adequate resources and expected outcomes."



“...the decline in citizen leader participation in watershed partnerships can be traced to lack of organization and focus, little sense of accomplishment, poorly run meetings, stakeholder conflicts, and a host of other circumstances.”



Organizational Sustainability and Leadership

The Four Corners Initiative never reached closure regarding how enduring and sustainable watershed partnerships “should be.” Watershed management is a never-ending affair, and the solutions to watershed problems or the deployment of watershed protection measures are more likely measured in decades than years. Over what period of time should and can a watershed partnership be sustained? One rationale for watershed partnerships is to embed the ownership of watershed issues and their management at the local level (with the affected “watershed community”). Local stewards presumably have a permanent (or at least longer-term) attachment—that much publicized “sense of place”—to their home watershed vs. the time-bound projects and programs of governmental agencies. Or as one experienced resource manager observed at our California workshop, “The key to sustainability is local, place-based leadership which buffers the inconsistency of itinerant agency staff, science mercenaries, and transient political agendas.” But scientifically-trained agency professionals are increasingly being assigned to watersheds, and they work for essentially permanent agencies established to conduct public sector management on behalf of the people. Is it reasonable to expect that local watershed partners, particularly from the nongovernmental realm, can emulate that kind of continuity? Local watershed organizations with paid staff perhaps have greater continuity, but that only partly, at best, addresses the issue of sustaining the involvement of local citizen volunteer and board leaders. There appears to be an inevitable ebb and flow of local citizen energy and participation.

We encountered several examples in California and elsewhere of local watershed groups that ran out of desire or purpose for continuing to meet. Some of our case studies involved watershed entities that had been re-energized, such as in the Charles River Watershed Association case. Even in the case of the Yakima River Watershed Council, which imploded during the course of the Four Corners project, there is guarded optimism that another entity will “pick up the pieces” and continue the watershed effort. Beyond competition for their time from other aspects of their lives, the decline in citizen leader participation in watershed partnerships can be traced to lack of organization and focus, little sense of accomplishment, poorly run meetings, stakeholder conflicts, and a host of other circumstances. Some participants in California’s Coordinated Resources Management and Planning (CRMP) processes indicated that they were glad to have been involved, learned a lot, and changed their views, but now want to get on with their lives instead of going to a lot of meetings. Although many watershed partnerships can point to long-standing river champions and watershed heroes, there was general agreement in the Four Corners ranks that to sustain the local side of the partnership for a time period sufficient to develop and launch some key activities, citizen watershed leaders must be continually identified, recruited, cultivated and nurtured in anticipa-

tion of replacement of existing local partners. Of course, stable funding, good staff, a robust membership base, positive personal reinforcement, and continuing salience and attention to the partnership's *raison d'être* are important factors in trying to assure that the local side of the partnership, while temporary, lasts "long enough."

In considering the sustainability of the local part of the watershed partnership, we want to briefly observe that generally there are many more nongovernmental players in a watershed than a single locally-led watershed organization. There are state and regional affiliates of national nongovernmental organizations—The National Audubon Society, The Nature Conservancy, and Sierra Club (although we noted throughout the Four Corners project that some of the national conservation advocacy organizations are highly skeptical about decentralized collaborative watershed efforts); Farm Bureau; and the Cattleman's Association. Using Massachusetts as an example, there are also: statewide organizations (Congress of Lakes and Ponds Associations); local groups such as the Canoe River Aquifer Committee; and local land trusts. In short, there are numerous nongovernmental groups, with different emphases and concerns, who might play a role in sustaining the local side of a watershed initiative.

This Initiative was not focused on leadership *per se*, but the leadership issue permeated our discussions. We noted earlier the role of state-level leadership in establishing state watershed initiatives; here we stress the importance of local level leadership and the creation of opportunities for its development. Fortunately, the subject of leadership is now extensively addressed in the literature; and several conservation organizations and other institutions offer leadership development and training programs and workshops, which watershed groups should utilize. As Michael Jackson of the California delegation posited, replication of leadership should be a yearly requirement for grassroots organizations.

Measuring Success/Accountability

There was little disagreement among Four Corners participants that results of watershed partnerships should be measured in terms of environmental outcomes. Unfortunately, changes in the watershed environment may take many years, and attributing changes to specific management interventions can be difficult. The long timeline for seeing results from watershed partnerships argues strongly for gathering sound baseline data, establishing long-term monitoring programs in order to assess outcomes, and managing adaptively. In arguing for using a system of environmental indicators, one participant noted that "what gets measured gets done." As noted earlier, in spite of some difficulties in getting and sustaining funding for long-term monitoring, it is a requisite for assessing progress toward watershed environmental protection and restoration goals.

"Changes in the watershed environment may take many years, and attributing changes to specific management interventions can be difficult."



“One significant challenge will be demonstrating ... that there is real value added through the work of collaborative watershed partnerships,...that could not be realized with traditional approaches to watershed management.”



However, we recognized that many of our watershed efforts are in comparatively youthful stages, and sufficient time has not transpired to see significant environmental change. In these circumstances, watershed partners can identify intermediate outputs. Sari Sommarstrom of the California delegation proposed a set of watershed partnership organizational and process milestones to measure progress, which River Network included in an issue of *River Voices* (Fall 1997) devoted entirely to the topic of establishing watershed benchmarks and gauging progress. Another measure of success focuses on satisfaction among the partners in a collaborative watershed effort, as measured systematically by surveys and the like. It is important to measure progress in terms of the process itself, so that participants maintain the sense that their continuing investments of time, money and effort are worthwhile. Four Corner participants all emphasized the importance of being accountable to funders and constituencies via evaluation and recognized that there were multiple evaluation frameworks that could and should be used in performing this critical function. One significant challenge that will continue to pervade discussions on the “watershed approach” generally will be demonstrating that there is real value added through the work of collaborative watershed partnerships, in the form of environmental and other accomplishments *that could not be realized with traditional approaches to watershed management.*

STATEWIDE NONGOVERNMENTAL WATERSHED ORGANIZATIONS/NETWORKS

In our first workshop in Florida, the question was asked whether the presence of a *statewide* nongovernmental networking and support organization makes it more likely that local watershed organizations will form and succeed. Based on our cases, we think so, but the evidence is largely anecdotal. Florida doesn’t have one, but the state has some peculiar characteristics that may negate the perceived value of such an entity. Florida’s decentralized management structure, with its array of citizen involvement arrangements, may cause the focus of citizen engagement to be at the water management district level rather than the state. The state’s minimize topographic relief, which makes it easy to identify with rivers but difficult to identify with watersheds, may also influence the situation. In addition, the presence of several strong statewide conservation and related organizations (Audubon Society, Nature Conservancy, 1000 Friends of Florida, and others) may preempt the existence of a statewide watershed entity. California, the largest and most complex state we examined, has hundreds of stakeholder-involved watershed organizations but no singular statewide support entity. The nonprofit Watershed Management Council, with hundreds of members, is no longer focused solely on California but has expanded its scope for education and networking to all of the western states. The California CRMP Executive Council, comprised mainly of cooperating state and

federal agencies, meets annually and provides some support for the CRMP process groups (many of which are watershed entities), but is limited relative to the numbers of watershed groups in the state. The cleavage between northern and southern California, along with the absolute size of the state and the extensive hydraulic alterations of its watersheds, may also preclude the establishment of a single statewide nongovernmental coordinating and support organization.

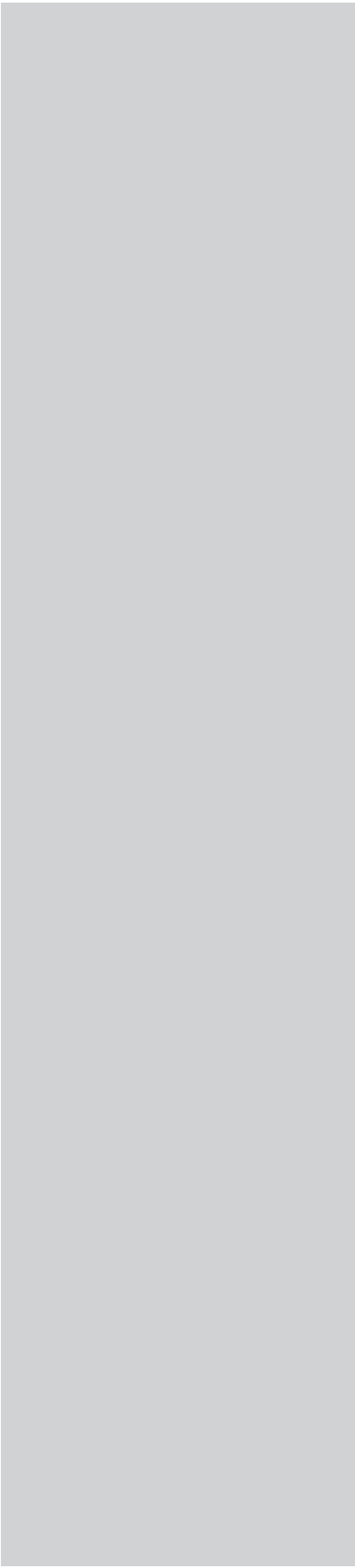
The two case states which exhibit the most developed statewide nongovernmental networking and capacity-building entities are Massachusetts and Washington (although there has been some disruption to the functioning of the Rivers Council of Washington (RCW) due to personnel changes and related issues). RCW's strategy has been to build a network of nongovernmental organizations and help them develop a wide range of capabilities—scientific, data management, planning, public education, volunteer coordination, marketing and public relations to enable them to become the definitive voice for their watersheds. Annual meetings convened by RCW have attracted hundreds of attendees, and the organization has shown the ability to influence state policy.

Massachusetts clearly has the most mature, sophisticated and successful state-level group. Closely linked to the development and execution of the Massachusetts Watershed Initiative, the Massachusetts Watershed Coalition is comprised of some 25 organizations. Its fundamental roles are to strengthen the capacity and outputs of its members and environmental agencies, to raise awareness of river and watershed issues, and to advocate for better policies. The Coalition does training and consultations; holds conferences and workshops; serves as an information clearinghouse; and performs other functions in support of watershed partnerships. Importantly, the Coalition has fostered improved interactions and communications among watershed groups, including an innovative mentoring project. Without question, the Coalition has played a key role in building and strengthening watershed partnerships in Massachusetts, and it seems unlikely that Massachusetts would have made as much progress in its absence.

There is an essential role to be played in organizational development for local, nongovernmental, watershed partnerships. Training and capacity-building of volunteers and citizen boards, networking and learning from the experiences of similar groups, and other related activities are critical for the growth and strengthening of nongovernmental watershed collaborators. However, it may well be that these functions could be performed by a state agency, an educational institution, or an existing conservation organization. Furthermore, in this era of electronic communications, many of these functions might be adequately performed through non-organizational

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means, for example an E-mail list or interactive website. Our Four Corners cases reveal some ways these activities can be done, including a strong state-wide nongovernmental organization working on behalf of sister local watershed partners.

Some Further Issues and Concerns



While the prior section reviewed the many dimensions associated with establishing productive watershed partnerships, certain difficult issues considered by the Four Corners Initiative in the course of our interactions warrant additional comment. This chapter documents those added issues and concerns.

The issues related to the structure, governance and functioning of local watershed entities demand some candor and honest reflection. The mantra regarding the composition of such groups intones the requirement for inclusive and diverse stakeholder participation (collections of unlikes). Good efforts notwithstanding, rarely is that ideal attained. In watersheds with extensive private and developable land holdings, major developers, builders and financial interests are conspicuous by their absence (and only one of the Four Corners participants reflected this set of interests). To the degree that these are key players in a watershed, their lack of participation is worrisome. Are they unwelcome—even the perceived “enemy”—with regard to watershed protection? Or do they believe their interests are better addressed in forums other than a collaborative watershed process? Agricultural interests are highly diversified, sometimes with substantial divisions in their ranks, and active participation from the full array of agricultural and agri-business representatives can be equally vexing. As is true for any of the stakeholder interests in a watershed, environmental or agricultural, there is greater trust and a larger “comfort zone” associated with interacting with “likes”—those who share the same attitudes and interests. In spite of all the attention being given to “watershed partnerships” in California, for example, there are some indications that farming and ranching interests may be going their own way and focusing on organizing internally and disassociating from cooperative efforts—perhaps due to bad experiences with such efforts. Furthermore, despite some significant efforts, under-represented minority interests—particularly urban interests—generally have not been active participants in watershed approaches (although Indian Nations have become more active, especially where no watershed solutions are possible without their participation and agreement). The failure to resolve this representation “shortfall” has the

“...much of watershed planning, decision-making and management involves conflict resolution among competing interests.”



potential to undermine the functioning and effectiveness of watershed partnerships, reverting to conflict among competing interests at the expense of collaboration.

However, it is critical to note that *some* of the major issues that must be dealt with in watershed protection and restoration not only have huge distributional consequences (i.e., there are winners and losers), but for any number of reasons may be intractable and impossible to resolve via “win-win” consensual solutions. Experienced mediators can help diagnose those issues and circumstances where consensus approaches have little likelihood of success, and help avoid protracted watershed processes that are either doomed to fail or can at best produce inefficacious “lowest-common-denominator” results. We say this not to diminish the potential of collaborative watershed approaches, but to straightforwardly note that much of watershed planning, decision-making and management involves conflict resolution among competing interests. General agreement among stakeholders about such lofty watershed aspirations as “clean water,” “healthy sustainable environments,” and a “healthy economy” does not reconcile divisive issues. Recognizing at the outset that conflict resolution and conflict management are at the core of watershed management is a fundamental step in being able to tackle those tough issues that can be resolved through collaborative watershed approaches.

The difficulty of surfacing and constructively addressing conflict-laden issues was well demonstrated in the Four Corners process itself. Sharp resource-development conflicts and highly controversial management decisions evident in one of our California workshop experiences were ignored and “smoothed over” in the discussions by our group of participants (who through the Four Corners project had come to know and like one another and become mutually respectful of differing views). For whatever reasons, obviously contentious issues were not raised, perhaps in the interest of civility among participants. This issue ultimately arose at our final meeting—in heated terms—and brought home to all of the collaborating Four Corners participants the tendency towards conflict-averse behaviors often exhibited in collaborative watershed approaches. As noted in the prior section, watershed groups need to incrementally experience some early-on successes, as they build cooperative relationships and capacity essential to eventually tackling the critical watershed issues. However, there can be no denial of their ultimate need to address the big issues and conflicts essential to long-term watershed health.

Finally, in spite of the positive rules for group conduct in watershed partnership processes, a realistic appraisal of the motivations of participants may be warranted. It would be naive to expect all individual partners to surrender their interests readily to the “collective interest.” Groups and

individuals appear to participate in collaborative approaches not only to find joint solutions, but also on occasion defensively—out of fear of not being represented or of being harmed by prospective recommendations or actions. Some participants in the Four Corners Initiative observed that collaborative processes could be and are used as delaying tactics, and can even be used to subvert the goals of watershed management. Ideally, such suspicions would be unwarranted and left outside watershed partnerships. However, the effective functioning of a watershed partnership may depend on an honest assessment of the players, followed by appropriate measures to cope with such group process dilemmas.

One recurring theme in the Initiative involved implementation of watershed recommendations and actions. State agencies need to examine what inducements they can provide to get local governments and private sector entities to act in concert with watershed plans. As we noted earlier, Massachusetts has taken some creative steps to link some of their core regulatory and financing programs, such as stormwater management, to watershed plans and recommendations. Additionally, there are numerous local examples of positive land use decision-making, an area in which community “grassroots” groups can be especially effective and most agencies fear to tread. In no case state, however, did we see strong persistent connections made between *land use and growth management* and watershed management and protection. Yet all the states we examined had some kind of land use planning and growth management program in various stages of implementation. We are not reaching any conclusions here about the effectiveness (or lack thereof) of the various planning and growth management efforts. Our concern is that over the long haul, watershed management initiatives cannot succeed without addressing land use and growth issues within their geographies. To paraphrase one of our members, “the health of the water resource is the ultimate assay of land use”; or as Norman McLean concludes in his wonderful novella “eventually all things merge into one—and a river runs through it.”

Our purpose here is not to suggest remedies, but Four Corners participants unanimously believe that priority attention must go to this issue. Stormwater management initiatives and river shoreland regulation and management are good beginnings. However, local government actions affecting land use and development (plans, zoning and other regulations, capital budgets), and major infrastructure development and financing must be connected with watershed management. In many watersheds, this will be the determinant of success or failure. We note that while this area offers great opportunities for innovation, it will be very challenging and conflict-laden because it inherently deals with private property rights, intergovernmental relations, and local parochialism.

“State agencies need to examine what inducements they can provide to get local governments and private sector entities to act in concert with watershed plans.”



“There is a continuing need to monitor, assess, and adapt our watershed institutions—just as we do our natural resource management actions—if we hope to realize the potential of the “new” watershed approach.”



As we close the Four Corners Watershed Innovators Initiative, participants share some worries and some hopes. We have seen the crucial role that leadership plays, especially at the state (and federal) level, in helping to change laws, governmental institutions, and organizational cultures to support testing and implementation of the “watershed approach.” Many of the gains to date result from strong, even inspirational, leaders who have put their personal and professional reputations on the line to advance collaborative watershed management. We ponder whether the watershed approach is sufficiently institutionalized and whether political support for this new approach is durable enough to withstand the inevitable changes in leadership. In many respects, the same could be said for local partnership efforts. For those participants who see their watershed work against a larger backdrop, their hope is that the widespread prevailing loss of trust and faith in governmental institutions can be partly redressed by a new watershed movement which can reconnect government to its citizens. But the movement is youthful and on a steep learning curve. It will be years before we can accurately assess whether the Yakima, Feather, Indian, and Neponset Rivers and their watersheds have been well served by the emerging collaborative watershed paradigm. There is a continuing need to monitor, assess, and adapt our watershed institutions—just as we do our natural resource management actions—if we hope to realize the potential of the “new” watershed approach.



Conclusion

Although there are some examples of long-standing local cooperative watershed groups, most state-local partnerships are relatively youthful—really works in progress. State and federal agency program integration and support for locally-based efforts represents a challenging institutional innovation. This synthesis and the Background and Meeting reports for each of the four state workshops document our empirical exploration of this emerging watershed approach. Using the framework devised for analysis and assessment of our limited sample of watershed cases, we have outlined a key set of choices facing states and nongovernmental entities for designing and executing collaborative partnership approaches to watershed management. Our interpretive narrative provides some guidance regarding options, but we caution about premature generalizations. Ultimately each state and watershed partnership will have to craft an approach responsive to its unique contextual setting; this outcome of the Initiative provides a menu to consider in that institutional design effort.

We close with a few personal reflections on the Four Corners Watershed Innovators Initiative process. The objective of engaging and sustaining the commitment and participation of a high-caliber group of watershed practitioners/leaders/experts over a two-year period was optimistic. Each workshop was intended to build on the predecessor, with the shared cumulative learning setting the stage for our conclusions. Retrospectively, given the vagaries of life and professional schedules, we were fortunate to have reasonably full participation of our core members, although the final and culminating workshop was the least well attended. The combination of participant time constraints (for background reading and review) and some information gaps in background materials resulted on occasion in an inadequate contextual understanding of the case states. To some degree, this limited the depth of our inquiry, in spite of the knowledge base and experience of the Four Corners group. That was the trade-off made in the design of the initiative; already over-committed top-flight people simply couldn't afford added time for a systematic and detailed backgrounding for each case state. The compromise was made willingly because high-caliber par-

“...each state learned from the review of their experience, and capitalized on opportunities to make changes in their watershed approach.”



ticipants were essential to maximizing the benefits of the shared learning experience, the breadth of our review, and the intangibles resulting from the Four Corners effort.

No provisions were made for an objective analyst/researcher to assume responsibility for preparation of case background materials. This would have assured completeness and comparability, prevented some of the informational inadequacies and reduced possible bias. On the other hand, there appears to have been substantial value in the preparation of background materials by “volunteers” from the host state, who became a host state “team” presenting their circumstances to the Four Corners participants. Anecdotal evidence suggests that each state learned from the review of their experience, and capitalized on opportunities to make changes in their watershed approach. Clearly, there were some limitations to the effort, but one’s critique depends on one’s expectations regarding desired outcomes. The consensual desire on the part of the Four Corners “shedheads” to reconvene during the next year, tackle some specific issues identified during the course of the project, and reflect further on watershed approaches, suggests that to a substantial degree the hoped for benefits from the Initiative were realized.

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