



WATERSHED WATERS



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People Power:

The Social Side of Watershed Restoration

“Everybody lives in a watershed. Everybody lives downstream. Everybody has an impact, and everybody can make a difference.”

—George Fleming, logger and chairperson,
South Coast Coordinating Watershed Council
(Washington State University 2004)



Photos courtesy of National Agroforestry Center

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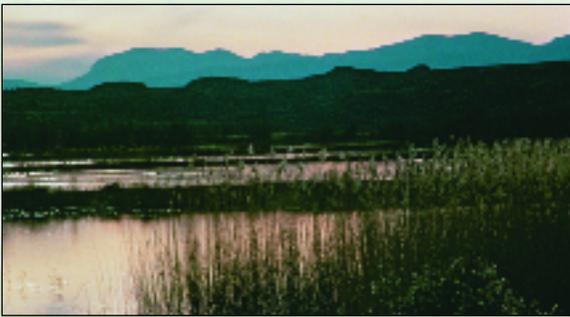
If a picture's worth a thousand words, the photos above speak volumes about the real possibility of success in restoration efforts. So, why isn't such achievement more widespread?

Regardless of scale—from large watershed restoration efforts to site-specific water-quality protection projects—you may not be paying enough attention to the social and/or human dimensions of the situation if your technically top-notch efforts haven't been as successful as you'd like.

In this issue, we look at social aspects of watershed management—why restoration is more than a technical task and why collaboration and community involvement take time and skill to do well but are worth the effort. A few differing approaches to collaborative community-based watershed restoration are outlined, followed by a sampler of ways to apply basic principles of collaboration on the ground. Key resources to help guide public-private collaborative work are provided, along with some policy and research needs whose solutions could help create and maintain effective collaborative processes.



The benefit of restoration is tangible. “A properly functioning system is resilient,” said Forest Service hydrologist Janice Staats. “It can hold together during changing conditions and disturbances such as a 5- or 10-year flood.”



In some areas, wetlands and riparian zones are recognizable by their characteristic soils and vegetation (such as willows and sedges), which are generally associated with water and moist conditions.



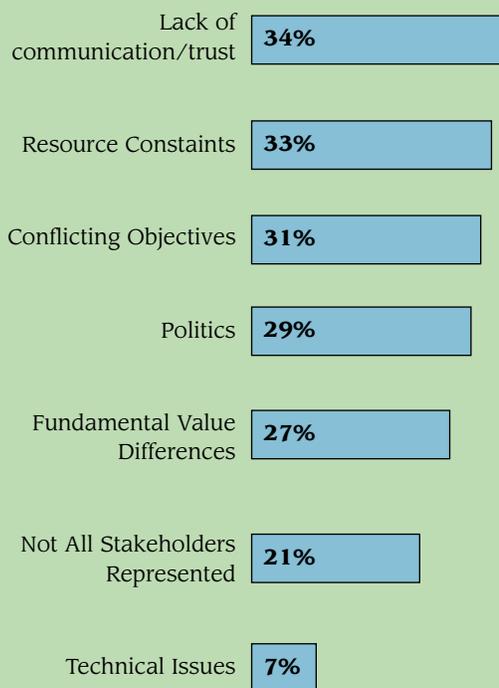
Socially valuable features of riparian and wetland areas are intricately tied to the ability of the watershed to function properly.

shaped by watershed processes through adjustments to handle the water and sediment load delivered by the watershed. The interactions of soil/landform, vegetation, and water enable a properly functioning riparian-wetland area to be resilient to normal variations in those loads—able to handle increases in storm flows and snowmelt runoff with minimal disturbance of the channel and associated riparian-wetland plant communities. In most sites, properly functioning riparian-wetland areas are typically characterized by vigorous and diverse riparian plant communities that have the root structure and mass necessary to resist the erosive forces of water and sediments or to provide for the recruitment of large wood to the stream channel. Without these critical attributes, resilience to normal variations in water and sediment is hindered. Conversely, if larger watershed processes are significantly altered—through either human activities or unpredictable events—riparian-wetland areas are faced with degradation.

The physical functions of a healthy riparian system include sediment and pollutant filtering, bank stabilization, and water storage and release. When these physical aspects are in working order they are able to sustain the channel characteristics that provide a range of benefits or values, such as habitats for a variety of species, including fish, wildlife, birds, and domestic animals. Flood water retention, erosion control, recreation opportunities, and adequate supplies of clean drinking water for communities and irrigation water for farmers and ranchers—all are values derived from healthy riparian-wetland systems. In short, these areas serve as places of great ecological, cultural, historical, economic, and aesthetic importance.

Although these benefits depend on the ability of the entire watershed—including the riparian-wetland component—to function physically, sometimes the intense conflict over and competition for water resources results in damage to the very physical processes on which the benefits and values depend. A legacy of programs and practices now known to be detrimental to riparian and wetland integrity has contributed to declining watershed conditions. Consequently, many watersheds are currently functioning below their potential and are “unable to sustain their ecological functions and productivity over time,” noted Forest Service Hydrologist Janice Staats.

Extremely serious barriers to cooperative riparian-restoration and management



When asked to rank 22 potential barriers to cooperative restoration, participants in training sessions in the Western United States (1995-2000) ranked social issues at the very top. Few people considered technical issues as extremely serious barriers.

source: Adapted from Van Riper 2003.

Communities and collaboration are key

Until recent decades, efforts to protect and restore watersheds and water resources relied primarily on the use of technical information and tools related to the biophysical characteristics of riparian areas and wetlands. Increasingly, however, watershed management decisions have become complicated by conflicting demands and challenges. People within government agencies and in the private sector alike are insisting on a broader range of social values to be considered in planning and policy decisions that affect riparian areas, wetlands, and watersheds. Managers have become increasingly aware that using the best science to make management decisions is not enough, and that people are equally important if watershed restoration is to succeed in the long run.

“Watersheds are complicated biological systems. This fact, coupled with the diversity of ownerships, jurisdictions, social interactions, and regulations, makes for highly complex problem solving,” wrote John Phipps, former forest supervisor of the Mt. Baker-Snoqualmie National Forest. “Success can be achieved only with collaboration and good communication at all levels of government and with key interests engaged and working together” (Mt. Baker-Snoqualmie National Forest 2001).

Recognizing that we can either fight over valued and valuable water resources or work together to manage them, agencies increasingly have come to rely on community partnerships to address watershed and water-related issues because “it is the people who must actually fix the creeks—the landowners, ranchers, farmers, city and urban dwellers, and the many scientists, agency professionals and technicians, and other concerned and committed citizens” (Lunn and Elmore 2000).

Furthermore, the process of collectively initiating and creating a vision for a project stimulates a deeper sense of ownership and commitment among partners—essential elements to a project’s long-term sustainability.

“The successful management of wetland and riparian resources, including the restoration and protection of both their ecological and their social values, depends on bringing communities of people together and integrating ecological, economic, and social factors,” concluded Laura Van Riper, social scientist with the BLM. “We need to be working at the landscape level and beyond political boundaries, to create a common vision for productive and sustainable riparian-wetland conditions.”

More than a word: collaboration is a commitment

Just knowing that collaboration is needed doesn't make it easy and doesn't make it work.

Although more and more people are attempting to work collaboratively to achieve water and riparian-wetland improvements, too often the results are disappointing. The confounding problem, suggested Van Riper, is that people often don't have the commitment, skills, support, information, and/or desire to think and behave collaboratively. And, as University of Wyoming researcher Deborah Paulson pointed out, "no amount of facilitation [or collaboration] can bring about success if the participants are not ready and able to participate in good faith in the process" (Paulson 1998).

Defining collaboration

One reason collaboration can be a challenge is that it means different things to different people. A simple dictionary definition of collaboration is "to work together." In the resource management context, collaboration often means more specifically the pooling of funds or other resources (such as information or labor) by two or more "stakeholders" to address some issue that no individual or group can handle alone (Gray 1989).

Some general attributes used to characterize collaborative efforts are:

- People who may be strangers, casual acquaintances, or even adversaries.
- Diverse voices.
- Mutual learning as participants share knowledge and skills.
- Origins in the community, outside of government (although agencies may participate as equal, working partners).
- Concern over process as well as substance.
- Place-based concerns (local or regional depending on scale of project).
- Openness and transparency.
- Trust in the good faith of other participants.



Some people may want to manage a watershed to restore or enhance fish habitats while others may want to restore ecosystem patterns specifically to address fire management issues. Underlying differing endpoints may be strong common interests. Collaborative efforts often reveal compatible goals and a path towards achieving those goals.

Benefits of collaboration

A recent survey of participants in Forest Service stewardship contracts revealed perceived benefits to both communities and agencies from collaborative processes.

Perceived benefit of collaboration

- Broader understanding and consideration of diverse interests
- Improved trust
- Increased opportunity for public input
- Improved sense of purpose and ownership in a given project
- Increased support for the agency

source: Pinchot Institute for Conservation 2005

Elements of success

- *Meetings and communications are open, accessible, and respectful, and all sides are heard.*
- *Progress and outcomes are tangible and measurable.*
- *All stakeholders are at the table, with all goals addressed.*
- *All needed skills and abilities (including leadership and decisionmaking) are brought into the mix, with training provided as needed.*
- *Expectations and mission are clear.*
- *Scale and scope are appropriate.*
- *Sideboards for participation are clearly defined.*
- *A safe environment lets people express controversial opinions.*
- *Flexibility and adaptability keep the group prepared for changes and unexpected consequences.*
- *Large and small successes are rewarded, recognized, and celebrated.*

Under any definition of collaboration, the most successful watershed partnerships appear to be flexible, bottom-up efforts where local people are empowered—through opportunities to develop relationships, build trust, learn from each other, and share resources—to become effective stewards of the places they love. In order to be truly effective, however, such community-based efforts must also be supported and facilitated from the top-down.

What motivates or inhibits collaboration?

Sometimes people are propelled from complacency to collaboration by a grassroots effort arising from a natural disaster or other factors. Sometimes a legislative mandate is the trigger that forces reluctant or antagonistic communities to begin working together. Sometimes it's just change—something comes to the collective attention of a community that creates a sense of urgency and willingness to work together.

Conversely, people may be put off from even trying collaboration. Agency employees may see collaboration as an add-on to their workload rather than as a way to get things done. Partnering agencies and individuals may resist taking risks or may lack incentives for innovation or integration of their activities. Funding, staffing, time, or priorities to work collaboratively may be inadequate. Individuals may feel they don't have the skills, flexibility, and/or information to proceed; or they just don't trust or communicate with each other. And then there's the instinctive aversion to confrontation and conflict that many people have.

Managing conflict

The very diversity of people with an interest in the management of a riparian area or a watershed means that differing needs, interests, disciplines, philosophies, and value systems will come into play. Conflicts and disagreement arise about everything from the condition of the resources in question, to the types of uses that are appropriate, or to the right treatments or tools that are needed.

The success of community-based watershed initiatives depends to a great extent on the ability of affected communities to confront and manage such complex and contentious problems. Cultivating that ability means paying attention to the social context—what are the assumptions people are bringing to the table, what are the tradeoffs and levels of risk people are willing to accept, what are the values and needs that will inform and activate the decisions?

“The goal is not to get rid of conflict but rather to manage it,” Van Riper noted.

But managing conflict and building effective partnerships take time, effort, long-term commitment, and energy. Above all, it takes skill at applying well-known principles on the ground.

Not everyone in a group is likely to have the necessary skills, however, at least not right away. The next section outlines how groups can begin thinking about applying social principles to conflict resolution and collaboration. Sometimes outside help can be an important catalyst for success. A sampler of specific resources for outside assistance is provided on page 18.

Applying social principles to restoration and management efforts

How do we bring—and keep—people together? Among the many public and private endeavors to better integrate the social and technical dimensions of resource management, several different approaches are being examined and implemented by Federal agencies and their partners. Underlying those differing approaches are numerous common principles that can be applied on the ground to enhance restoration and management efforts.

Different approaches

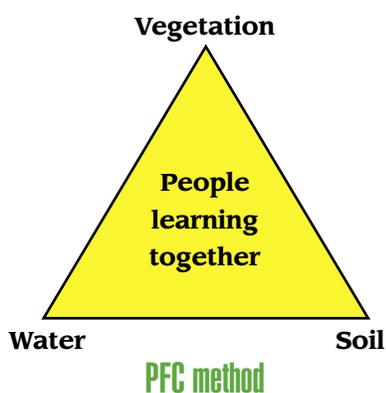
Creeks and Communities

In one influential approach—created and carried out by an interagency program known today as Creeks and Communities, coordinated by specialists in the Forest Service and BLM, in cooperation with Natural Resources Conservation Service—science and technical information are integrated with the human and social dimensions in support of collaborative decisionmaking. Concepts outlined in the “proper functioning condition” (PFC) assessment method are used along with other techniques to address riparian-wetland function while also equalizing stakeholder knowledge and supporting collaborative decisionmaking through workshops, coaching, and place-based problem solving (Riparian Coordination Network 2002).

To Creeks and Communities proponents, understanding the physical function and condition of streams and riparian areas provides a foundation—a critical first step—for addressing issues, because the physical condition of the resource is the

“We cannot do it alone. The issues are too broad, the land base too large, and the resources too scarce.”

**—former Forest Service Chief Mike Dombeck
(cited in Mt. Baker-Snoqualmie National Forest 2001).**



Promoting understanding through joint fact finding. The place-based nature of the Creeks and Communities strategy helps individuals, communities, and institutions build community understanding through joint fact finding using the PFC method. Such a focus on learning together in the field helps ground discussions in reality, illuminates obstacles on the spot, and helps participants put the pieces of the puzzle together in a three-dimensional way (Mitsos 2000), thus improving a community's capacity for collaborative stewardship. For more about joint fact finding, see <http://scienceimpact.mit.edu>.

basis of the benefits or values that are often a source of conflict. But beyond technical knowledge, PFC also provides a building block of communication and common understanding that, when blended with other principles and techniques, can help people productively manage conflict to make positive changes on the ground.

“We want to help people reach enough agreement about the condition of riparian areas that they take action to restore and manage them for the sustainable production of values and benefits,” said Staats, a Creeks and Communities support team member.

An extensive evaluation in 2002 revealed that early program activities had focused too much on the technical aspects of riparian area conflict, often at the expense of the social dimension, said Van Riper, who conducted the study. The larger context wasn't always understood or accepted by individual employees, community residents, or even some network and team members themselves. Consequently, the program today provides simultaneous training and place-based problem solving in both technical and collaborative processes.

“Creeks and Communities has become a way to guide people through a process that helps individuals, communities, and institutions or organizations build and enhance their own capacity to respond to and manage current and future resource-related conflicts,” said Van Riper. “Creeks and Communities differs from other approaches in that the support teams work with communities not only to help resolve current resource problems or conflicts but to provide training to enable the communities to deal with future issues.”

For more information on Creeks and Communities see <http://www.or.blm.gov/nrst>.

Coordinated Resource Management

Another approach to involving communities and individuals in watershed work is known as Coordinated Resource Management (CRM). It was first developed in the 1950s by local Soil Conservation Service (now Natural Resources Conservation Service) staff working directly with landowners in Nevada and Oregon, and later refined by the Society for Range Management. Primarily aimed at stakeholder consensus building, CRM goes for “win-win solutions” by involving and meeting the specific needs of all stakeholders and integrating

CRM principles

- *Participation by all stakeholders is voluntary.*
- *Project is landowner initiated.*
- *Experienced, neutral facilitators form teams, train participants, and focus discussions.*
- *Ground rules and common goals are established early by group consensus.*
- *All participants have decisionmaking authority.*
- *All decisions are made by consensus.*
- *Participants talk about needs rather than positions.*
- *Teams foster trust and respect.*
- *Participants are committed to the process and each other.*
- *Management objectives and action plans move toward goals.*
- *Progress is monitored and measured.*
- *Plans are accountable, yet flexible enough to accommodate the unexpected.*

—adapted from Paulson 1998

local knowledge and technical expertise to reach agreement. If everyone doesn't agree, it's back to the drawing board to listen further to the dissenter's needs (Paulson 1998).

While unnecessary conflicts seem to be reduced through CRM's consensus framework, groups are said to sometimes avoid dealing with the really tough differences in values and interests by limiting group membership to like-thinkers, using broad goals, and agreeing to disagree over certain "facts" (Paulson 1998).

Nevertheless, CRM groups do promote an atmosphere of open communication, and participants have reported gaining knowledge and understanding through the process. "I have learned a lot more about ranching and some of the economics and problems [ranchers] face," said one environmentalist participating in a controversial CRM group (cited in Paulson 1998).

For more information on CRM, see

http://www.rangelands.org/education_crm.shtml.

Baltimore ecosystem study

A long-term multipartner approach to urban revitalization arose from a desire to form stronger connections between the people of Baltimore, MD, and the natural resources that once thrived in the city. Using four urban watersheds as their arena, scientists involved in the Baltimore Ecosystem Study (BES)—which involve dozens of partners including the Forest Service, U.S. Geological Survey, Natural Resources Conservation Service, and the Census Bureau, along with numerous universities and organizations—are exploring the interactions among the human, natural, and built environments. Recognizing that information doesn't do much good until it gets to people who can use it, BES collaborates with a variety of organizations to link science to education, community activism, and government. Research results are being applied on the ground with the assistance of 20 organizations and the culturally diverse communities of the Baltimore metropolitan region. Other cities are looking to Baltimore as a model and source of guidance for collaborative watershed restoration and neighborhood renewal projects.

For more information on BES, see

<http://www.beslter.org/>.

Community-based environmental protection

The U.S. Environmental Protection Agency (EPA) has developed a holistic and collaborative approach known as community-based environmental protection (CBEP) (EPA 1999). CBEP considers ecological and social needs of communities, which are loosely defined by either natural geographic or political boundaries or by interests, depending on the situation. A few key principles are implemented in varying ways depending on the specific place:

- Focus on a definable geographic area.
- Work collaboratively with a full range of stakeholders through effective partnerships.
- Assess the quality of the air, water, land, and living resources in a place as a whole.
- Integrate environmental, economic, and social objectives and foster local stewardship of all community resources.
- Use the appropriate public and private, regulatory and non-regulatory tools.
- Monitor and redirect efforts through adaptive management.

CBEP focuses not on stakeholder participation for its own sake but rather on getting useful public participation to inform public decisions and on stimulating a shared responsibility to improve environmental decisionmaking and implementation (EPA 1999).

For more information on CBEP, see

<http://www.epa.gov/ecocommunity/policy.htm>.

Stakeholders

Stakeholders are the individuals or groups with an interest in or concern about a project—they may affect or be affected by the decision, may be needed to implement the outcome or solution, or even may want to undermine the effort.

Stakeholders often are characterized by their membership in an affected community:

- **Community of place**—people tied to a physical space through geography (e.g., a town).
- **Community of interest**—people who relate to a particular ecosystem or resources in a common way, either because they obtain benefits from a place, contribute to its condition, or appreciate its value (e.g., ranchers, anglers, hunters, conservation professionals, government employees, or diverse individuals who care deeply about a place they may never actually visit).

—adapted from Cestero 1999

Common principles

Numerous common principles of collaboration underlie the various approaches to community-based watershed restoration. Here is a sampler of building blocks for effective collaboration, along with questions to help ensure that collaborative principles are being applied on the ground in ways that are likely to result in successful restoration and protection projects.

Assess and understand the situation and deal with the real conflict.

- What is the nature of the conflict? Is the fight about information (grazing is/isn't having a negative impact on the local stream) or about values (grazing is/isn't an appropriate use of public lands)?
- What is the history of the situation (what set the stage for this conflict)?

Ensure upfront participation of all stakeholders.

- Who are the stakeholders—who needs to be interviewed or invited to meetings and work groups? (A group's makeup and organization will differ depending on the scale and scope of the issue or project.)
- What are the individual goals, objectives, worries, or strategies of the various stakeholders?

Keep the decisionmaking process flexible.

- Where is the group in the decisionmaking process (just starting? decision is pending? decision has already been made?)?
- Does the group include those who have the authority and responsibility to make and implement the decisions?

Design ‘capacity building’ efforts to encourage collaborative relationships and help people succeed.

- What institutional barriers prevent agencies from being good partners?
- What individual or community barriers prevent the individuals on the team from behaving in a collaborative way?
- How can individuals learn the skills they need to be effective partners?

Leverage resources.

- What resources (people, skills, materials, funds) are available to do needed work?
- Where can additional resources be found? Who can help identify sources of funds and assistance?
- How can available resources be used to stimulate more interest in the project?

Build community understanding and enhance technical capabilities.

- What is the current resource condition? If not functioning properly, what is limiting it and why?
- What are the specific biophysical problems to be solved through restoration, management, and/or monitoring?
- What are the socioeconomic factors, as well as the history and culture associated with a particular geographic area, that also need to be considered?
- How can you work together to assess the situation, define the problem, conduct research and restoration activities, manage conflict, and build consensus? Based on prior collaborative work, what questions do you need answered?

Promote learning and adaptation in both processes and products.

- Have you achieved or made progress on your ecosystem and social goals?
- If not, what went wrong? If yes, what do you think was the key to success?
- What can you change to improve the situation?
- What information or research do you need to move forward?

“Watershed partnerships challenge us to rethink the way we traditionally manage water and land in a way that enhances local empowerment and good stewardship.”

—Jo Clark, director of the Western Governors’ Association
(Clark 1997).

Beyond the classroom: learning by doing

It will take more than a 3-day crash course to achieve effective training and education in collaboration. The Creeks and Communities approach of learning while doing/mentoring emphasizes that people learn best and adopt collaborative skills most effectively as a result of personal experience. In one recent project, Creeks and Communities worked with the Ochoco National and Crooked River National Grasslands, along with State and local agencies and individuals, to develop and implement a community-based assessment and management approach for the North Fork of the Crooked River, a wild and scenic river in central Oregon. The support team helped convene and facilitate initial community meetings, then led a community workshop in which nearly 30 diverse participants spent a day in the classroom and a day in the field. Together they learned the PFC assessment method, created a common vocabulary and vision, and worked at building relationships among previously antagonistic parties. Later the participants walked and assessed 20 miles of stream. “Outcomes are more than I hoped for,” said Ochoco and Crooked River Forest Supervisor Larry Timchak. “The education, collaboration, and joint assessments are a wonderful model.”

Getting to collaboration: policy and research implications

According to Deborah Paulson and Katherine Chamberlin of the University of Wyoming, collaborative processes add a new dimension to natural resource management (1998). They suggested that “at this point our society lacks experience in and a legal framework for more participatory forms of decision-making.” Consequently, the necessary political underpinnings often are lacking to ensure funding, institutional support, and other policy changes that could foster collaboration as a way of doing business.

Policy needs

Experts have offered many suggestions for improving the ability of public agency policies to better support and facilitate collaboration (Committee of Scientist 1999; Doppelt, Shinn, and John 2002; Mistsos 2000). These suggestions include:

- Improve community skills and abilities to build networks of relationships and work collaboratively.
- Clarify agency mission, direction, and goals and articulate clear boundaries with respect to agency expectations, authorities, and abilities to cooperate.
- Make watershed and landscape-level partnerships a top priority and protect innovation in partnerships from agency structure and culture until they mature.
- Make collaboration “at home” in the agencies by developing organizational structures, mechanisms, and performance incentives to support collaboration, flexibility, and information sharing between public and private parties. For example, agencies could incorporate knowledge, skills, and abilities related to collaboration into employee performance standards and elements, providing ways for employees to report and be rewarded for collaborative accomplishments.
- Provide training and education to both employees and the public.

Research needs

Improved policies and informed decisions will require a strong foundation of scientific understanding of both ecological and human systems. Research opportunities that could provide a knowledge base for collaborative watershed planning, restoration, and stewardship include (Committee of Scientist 1999):

- Detailed bioregional assessments of site-specific land and water resources, ecological relationships, and historical conditions.
- Social and economic assessments at both large and small scales regarding demographics, economic patterns, social organizations, and historical and cultural context relevant to a region's watersheds.
- Measures of success—both ecological and social.
- Measures of “ecological integrity,” procedures for obtaining such measurements, and ways to assess whether ecological systems are being sustained.
- Measures of “community well-being” and indicators for measuring the social impacts of collaborative decisionmaking—not just case-by-case analysis but across cases to arrive at generalizable information.
- Social science research on how to more effectively build capacity to use collaborative processes effectively, along with ways to connect such theory and research to application on the ground.

Working together works

People working with each other and their public agencies across jurisdictional and geographic boundaries have the power to effectively improve and restore their water resources and watersheds, affecting a myriad of values important to communities and societies as a whole.

The true measure of collaborative success will be the long-term improvements in ecological conditions over time, along with improved relationships and increased community capacity to resolve emerging problems effectively together. Clearly it will take a determined focus on both the technical and social aspects of watershed restoration to achieve the success so many seek.

The collaborative approach will become increasingly important yet ever more challenging in the future. As resource conflicts inevitably increase, it will take more and more effort to foster the trust and understanding that are critical to solving problems (Mt. Baker-Snoqualmie National Forest 2001).

“Collaboration remains an experimental approach to public land management in the West,” wrote Barb Cestero of the Sonoran Institute (1999), concluding that:

“Collaboration... is at least improving relationships among participants with diverse perspectives about public land. Improved communication and a greater understanding of differing outlooks may lead toward practical, innovative conservation and community development. If for no other reason than collaboration presents an opportunity to speak outside of one’s choir, these experiments warrant further exploration by everyone interested in public land issues.”

Help is at hand: sampler of collaboration resources

Forest Service, National Partnership Office—Develops and disseminates partnership tools, builds national networks, provides coordination within the Forest Service and with other agencies, and helps build employee and partner capacity for working together. For extensive resources, links, and tips, including the new Partnership Guide, visit <http://www.partnershipresourcecenter.org>.

U.S. Institute for Environmental Conflict Resolution—Helps parties resolve environmental conflicts by providing a neutral place where public and private interests can reach common ground. For more information, visit <http://www.ecr.gov/>.

BLM Community Stewardship, Partnership, and Adaptive Management Program—Provides Web site links to resources and tools to help build and sustain a community stewardship ethic and successful community relationships and partnerships. The site includes tips for starting and maintaining partnerships, funding sources, grant writing information, and organizations that provide training and technical assistance. For more information, visit <http://www.blm.gov/partnerships>.

Conservation Technology Information Center (CTIC) Bridge Builder: A Guide for Watershed Partnerships Handbook—Provides exercises, templates, checklists, and other information. To view the handbook on-line, visit <http://www.CTIC.purdue.edu/CTIC/>.

Sierra Nevada Alliance Watershed Council Toolkit: A Guidebook for Establishing Collaborative Watershed Councils—Is an on-line workbook with helpful information on how to organize and maintain a watershed council and how to find funding. For more information, visit <http://www.sierranevadaalliance.org/publications/watershed>.

Key Issues



- Riparian and wetland areas constitute a small percentage of the landscape but when functioning properly they provide important biophysical and social values.
- Many watersheds currently are functioning below their potential and are unable to sustain their ecological functions and social values over time.
- A coordinated, adaptive watershed approach is key to protecting water, riparian areas, and wetlands. Such an approach is best achieved through community-based collaboration.
- Collaboration is difficult to achieve because of a variety of individual, institutional, and community barriers, including insufficient guidance and support from Federal land management agencies to their employees and communities. ■

Management Implications

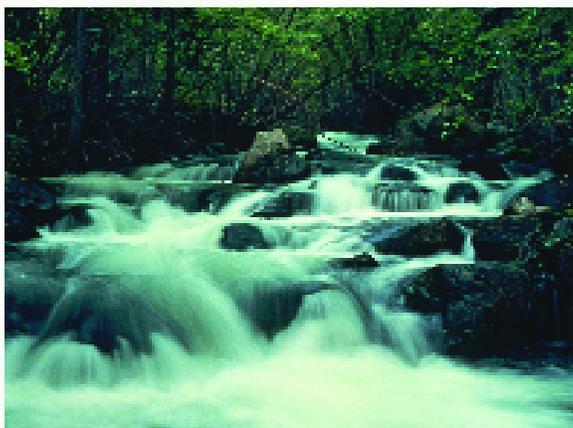
- A watershed approach should consider both the social and technical dimensions of riparian and wetland management and should integrate science with collaborative decisionmaking processes.
- Effective watershed restoration policies depend on provision of tools and effective training to improve individual and community capacity to collaboratively restore and protect watersheds.
- Revisions of the institutional framework within and among agencies are needed to reduce barriers to collaborative success and ensure that collaboration becomes an integral way of doing business.
- The use of applied sociological principles is one way to identify and remove barriers and help build capacity for collaboration. ■



References



- Cestero, B. 1999. Beyond the hundredth meeting: a field guide to collaborative conservation on the west's public lands. Tucson, AZ: Sonoran Institute. 92 p.
- Clark, J. 1997. Watershed partnerships: a strategic guide for local conservation efforts in the west. Prepared for the Western Governors' Association. <http://www.westgov.org/wga/publicat/wsweb.htm>. (Accessed March 23, 2005.)
- Committee of Scientists. 1999. Sustaining the people's lands. Washington, DC: U.S. Department of Agriculture Forest Service. 193 p.
- Doppelt, R.; Shinn, C.; John, D. 2002. Review of USDA Forest Service community-based watershed restoration partnerships: analysis and recommendations. Portland, OR: Center for Watershed and Community Health. 26 p.
- Elmore, W. 2004. Riparian health? Paper presented at advancing fundamentals of science conference; October 22, 2004; San Diego, CA.
- Gray, B. 1989. Collaborating: finding common ground for multiparty problems. San Francisco: Jossey-Bass. 358 p.
- Lunn, M.; Elmore, W. 2000. Working with Creeks and Communities in the border region. Paper presented at the annual conference of the Texas Society of Ecological Restoration; August 11–13, 2000; Prineville, OR.
- Mitsos, M. 2000. Watershed restoration workshop. Slide presentation to the Clearwater National Forest; July 10–13, 2000; Missoula, MT.
- Mt. Baker-Snoqualmie National Forest. 2001. Beyond boundaries: resource stewardship in the Skagit River basin—communities and national forests in partnership. Sedro-Woolley, WA: Mt. Baker-Snoqualmie National Forest, Mt. Baker Ranger District. 28 p.



- Oakley, A.L.; Collins, J.A.; Everson, L.B.; and others. 1985. Riparian zones and freshwater wetlands. In: Brown, E.R., tech. ed., *Management of wildlife and fish habitats in forests of western Oregon and Washington, part 1*. R6-F&WL-192-1985. Portland, OR: U.S. Department of Agriculture Forest Service, Pacific Northwest Region: 57–80.
- Paulson, D.D. 1998. Collaborative management of public rangeland in Wyoming: lessons in co-management. *Professional Geographer*. 50(3):301–303.
- Paulson, D.D.; Chamberlin, K.M. 1998. Guidelines and issues to consider in planning a collaborative process. Final report submitted to the Institute for Environment and Natural Resources. Laramie, WY: University of Wyoming. <http://www.uwyo.edu/enr/ienr/DPRReport.html>. (Accessed May 12, 2005).
- Pinchot Institute for Conservation. 2005. The role of communities in stewardship contracting: a programmatic review of Forest Service projects. Milford, PA: Pinchot Institute for Conservation. 35 p.
- Riparian Coordination Network. 2002. *Creeks and Communities: a continuing strategy for accelerating cooperative riparian restoration and management*. Prineville, OR: National Riparian Service Steam. 16 p.
- Staats, S. 2000. Healthy streams. *Range*. 8(3): 70–72.
- U.S. Environmental Protection Agency. 1999. EPA's framework for community-based environmental protection. EPA 237-K-99-001. Washington, DC: U.S. Environmental Protection Agency. 40 p.
- Van Riper, L. 2003. Can agency-led initiatives conform to collaborative principles? Evaluating and reshaping an interagency program through participatory research. Ph.D dissertation, University of Montana, Missoula, MT. 321 p.
- Washington State University. 2004. Improving community involvement in watershed restoration. Satellite and video conference presented November 16, 2004, Olympia, WA. Yakima, WA: Washington State University, Yakima County Extension. <http://caheinfo.wsu.edu/video/>. (Accessed March 24, 2005.) ■

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