

ASSETS TO MOVE WATERSHED COUNCILS FROM ASSESSMENT TO ACTION¹

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ABSTRACT: Oregon watershed council leaders, members, and government supporters are working to improve watershed health. To identify the institutional assets that are most helpful in taking action, we assemble the lessons learned from several synthesis studies. The institutional assets fall into seven categories – leadership, vision, trust, social networks, capital, power, and local and technical knowledge. Scientific knowledge, leadership, vision, and social networks are the assets most widely recognized and available. Power, trust, and capital are challenges that must be met for actions to be successful. Most people affected by watershed council actions can appeal to more powerful interests to get these actions changed. Trust, particularly of scientific recommendations and government, is lacking. This distrust limits opportunities for watershed council actions.

(KEY TERMS: watershed councils; social organization; environmental assessment; environmental restoration.)

INTRODUCTION

Pacific Northwest watershed councils have recently become a focal point of ecosystem restoration. In the early 1990s, watershed organizations began to form in Washington as a result of watershed assessment protocols that required collaborative decision making (Washington Forest Practices Board, 1993). At the same time, California began forming councils associated with the bioregional approach in the Northwest Forest Ecosystem Management Plan (FEMAT, 1993; Press, 1995). In 1992, Oregon passed legislation encouraging the formation of watershed councils. Then in 1995, Oregon began developing the Oregon Plan for Salmon and Watersheds, a voluntary, watershed-based plan to restore salmon populations and improve water quality.

As new organizations, watershed councils focus much of their activity on developing council processes and assessing priorities. At the same time, leaders, members, and funding organizations want to begin on-the-ground projects. Some feel the process of moving from assessment to action is too slow, and they wonder why.

To understand the factors that help watershed councils take action, we look at six studies that describe lessons learned from environmental restoration projects in the United States and internationally. Using content analysis and comparing these studies with recent research on watershed councils, we identify the most important assets for watershed councils to move from organizing and conducting an assessment to implementing on-the-ground projects.

We became involved with watershed councils when studying the 1994 Pacific Northwest coho salmon closure (Smith and Gilden, 2000). In response to the closure, federal and state agencies designed a package of relief programs, including a habitat restoration jobs program that was often implemented through watershed councils. We continue to follow the activities of Oregon watershed councils and have ongoing relationships with several.

Kenney *et al.* (2000) say that Oregon is "... the state generally acknowledged to have the most ambitious and mature program for supporting these efforts." In 2001, Oregon had a total of 154 watershed councils (SOS, 2001) covering most of the area of the state. Watershed councils vary in size from very small urban streams of a few square kilometers to over 10,000 km². Recent studies focusing on Oregon watershed councils include Duncan (1998), Anderson

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(2000), Cheng (2000), Skelton (2000), Sommarstrom (2000), Wright (2000), and Rickenbach (1999).

IDENTIFICATION OF ASSETS

Since watershed councils are new to the institutional landscape, we sought studies about settings where actions had been taken. We selected six studies and combined their findings with our own and others' research on Oregon watershed councils. The six studies, described in Table 1, were from several different sources engaged in ecosystem restoration, rehabilitation, and protection.

We used content analysis to develop the asset categories. For each of the six synthesis studies, we developed a list of lessons about the institutional assets needed to move from assessment to action. Two people read each synthesis to identify the lessons learned. Often authors of the syntheses also provided a list of lessons. From the six syntheses, we identified 89 lessons, which we grouped into seven asset categories based on common themes. Four people who were knowledgeable about watershed councils reviewed the categories, suggested changes, and critiqued our discussion. From this process we identified seven assets that emerged from the experience reported in the syntheses as most helpful in moving from assessment

to action-leadership, vision, trust, social networks, capital, power, and local and technical knowledge. Table 2 briefly describes the seven asset categories and gives reference terms used when discussing the category.

In identifying these assets, one objective is to develop a list useful to watershed council leaders and members, as well as supported by social science research. This assets-based approach comes from child-rearing literature, particularly work by the Search Institute (2000) and Benson *et al.* (1998). The Search Institute identifies eight asset categories, which contain four to six assets each (Roehlkepartain and Leffert, 2000). The assets approach seeks to determine what children need to have successful lives. Children who have the assets identified by the Search Institute do better in school, avoid dangerous activities, and refuse to give up when things get difficult. While every child is unique, "the more assets young people have, the more likely they are to grow up doing positive things that society values" (Roehlkepartain and Leffert, 2000). The positive nature of this approach led us to seek a set of asset categories for watershed councils.

Effectiveness in ecosystem restoration is very difficult to measure. Our objective is not to measure the success of particular restoration, rehabilitation, or preservation actions, but to determine what institutional assets are useful for obtaining action. Oregon watershed councils are new, and the ecological results of their actions will take many years to evaluate.

TABLE 1. List and Description of Synthesis Studies Used to Identify Asset Categories.

Synthesis	Description
The Environmental Protection Agency's Office of Water, Oceans and Wetlands (OWOW, 1997)	A summary of ten lessons developed in partnership with over 100 watershed practitioners. For each lesson, OWOW gives a summary of what has been learned, case studies illustrating the example, and a list of references for more information.
Australian Landcare (Marriot <i>et al.</i> , 1999)	A catchment-based (watershed) approach to land restoration in Australia. The Landcare movement started in the early 1980s. Other summaries of the Landcare experience include Campbell and Siepen (1994), Chamala and Keith (1995), and Curtis (1999).
Barriers and Bridges (Gunderson <i>et al.</i> , 1995)	Reviews five large scale ecosystem restoration projects in North America and one for the Baltic Sea. We use lessons from the synthesis chapter by Gunderson <i>et al.</i> (1995).
The American Fisheries Society (AFS) (Williams <i>et al.</i> , 1997)	Provides a sampling of case studies from across the United States. The authors include natural and social scientists, managers, conservationists, and resource users. Lessons come from McGurrin and Forsgren (1997:459-471).
Natural Connections (Western and Wright, 1994)	A summary of results from a workshop of international experts asking, "Why did some projects fail despite a surfeit of funds and personnel, while a few succeeded on next to nothing?" Lessons for our analysis come from a synthesis paper in the volume by Seymour (1994:494-495).
Bioregional Assessments, reviews several large-scale bioregional projects (Johnson <i>et al.</i> , 1999)	Includes seven case studies from across the United States. The lessons, however, come from comparing a range of more and less successful bioregional assessments. Lessons come from the synthesis chapter by Johnson and Herring (1999:341-376).

TABLE 2. Seven Asset Categories With Definition of the Category and Examples of Reference Terms.

Asset Category	Definition	Reference Terms
Leadership	The individuals who organize and provide direction for watershed activities.	“effective leaders,” “paid and committed coordinators,” “administrative capability,” “leadership is everything”
Vision	A concept for the future direction and activities of the watershed.	“goals,” “purpose,” “a long-term perspective,” “values,” and “creativity and enthusiasm to react”
Trust	Having confidence in an individual or organization’s words and actions.	“private land owners distrust federal agencies,” “nurturing community support,” being “egalitarian” and “democratic”
Social Networks	The individuals and organizations with which the council interacts.	“developing partnerships,” “building community,” “collaborations,” “building capacity,” “building bridges”
Capital	Investments to restore, rehabilitate, and protect watershed services, and build social infrastructure.	“funding,” “resources,” “tax incentives,” “crisis funds,” “support from trusts and foundations”
Power	The ability to carry out one’s will.	“political support,” “accomplishments,” the use of scientists “for political cover”
Local and Technical Knowledge	The information needed to select and implement watershed actions.	“involve landowners in research and reporting,” “use best available science,” “recognize connections across geographic scales,” “advances in science lead to new questions,” “public involvement and education”

Using the number of lessons as an indicator, four asset categories received strong emphasis in the synthesis studies. In order, they were local and technical knowledge, vision, social networks, and leadership. These four assets comprised 27, 19, 17, and 12 percent of the lessons, respectively. Local and technical knowledge, vision, and leadership were mentioned in all six syntheses. Five of the six syntheses mention social networks; and 9, 8, and 8 percent of the lessons in the syntheses were related to trust, capital, and power, respectively. Trust and capital were included in only half the syntheses. Power lessons were mentioned in five.

BACKGROUND ON OREGON WATERSHED COUNCILS

To understand the potential for Oregon watershed councils to act, we provide background on their general structure in terms of the seven asset categories. Oregon watershed councils are heterogeneous organizations, and no single formula is used in their creation. Some watershed councils are 501(c)3, not-for-profit organizations, while others are associated with local soil and water conservation districts, and some are voluntary associations. Most watershed

councils have an authorization from the county or counties having jurisdiction over the watershed.

Leadership is often the first attribute listed in the synthesis studies. Most Oregon watershed councils have a coordinator who handles council operations, and who reports to and follows the guidance of a policy body such as a board, steering committee, or leadership council. The policy body includes additional leaders who work with the coordinator to create the council’s agenda. Most councils have a monthly general meeting, while governing boards and special committees may meet more or less often, depending on deadlines, the interests of committee members, and specific funding opportunities.

Watershed council boards range from 10-30 members. In all of the watershed councils we have observed, there is a central core of leaders, one of whom may be the watershed coordinator. The core leaders include people with backgrounds and respect in their communities. This core group of watershed council leaders usually comprises six or fewer people and is most often a subset of the council’s board or steering committee.

Most councils have a mission statement that summarizes their vision. A vision may begin with one of the council’s leaders, or it may come from a larger, more central organization. For example, the Oregon Plan for Salmon and Watersheds (OPSW) provides a vision of voluntary action for watershed councils. The

Executive Order introducing OPSW says, "Many of the most significant contributions to the OPSW are private and quasi-governmental efforts to protect and restore salmon on working landscapes, including efforts by watershed councils" (Kitzhaber, 1999).

Trust, the next asset on our list, is whether watershed council members believe what people say and do. In watershed council processes distrust is easier to observe than trust. For example, do rural landowners believe government agencies will do as they say? Many rural landowners fear that if government officials come on their land to help with one problem, the landowner might get cited for another (Habron, 1999). Another example is environmental interests not believing wood products companies when they promise to protect watershed health and harvest sustainably. Watershed councils bring people with differing interests face-to-face. In these settings people learn about one another's views, and they begin to share new visions for the watershed's future. Education and outreach build trust, a sense of community, and communication linkages by connecting different interests.

Planning, funding, and undertaking projects requires networking with many people. Oregon watershed councils network with a wide variety of individuals and agencies, including federal, state, county, and city governments, and farm, forest, rural residential, urban, suburban, and business landowners. McGinnis *et al.* (1999) argue the success of watershed councils is based on their structure and the extent of their social networks.

When starting projects, councils work with government agencies to obtain permission and resources. Local Natural Resources Conservation Service offices and Soil and Water Conservation Districts provide technical assistance. Councils also network with landowners for labor and knowledge of local systems.

To initiate projects, watershed councils require funding or resources. For example, Oregon watershed councils have conducted tree-planting projects with donated or purchased trees. Vegetation restoration requires equipment to remove blackberries, English ivy, and other undesirable vegetation. In addition, councils do streamside fencing and off-stream watering, stream channel modifications, fish passage improvements, water quality monitoring, and educational programs. Each of these projects requires considerable funding or in-kind donations. In a survey of 80 Oregon watershed councils, Rickenbach (1999) found that project funding and concerns about administrative capacity (leadership) were the two most often cited problems.

Most Oregon watershed councils receive funding for their coordinators from the Oregon Watershed Enhancement Board (OWEB). New councils are also

expected to complete an assessment using the OWEB watershed assessment manual (OWEB, 2000). These assessments are used to identify specific issues within the watershed, to describe the history and physical features of the watershed, and to evaluate resources available within the watershed (OWEB, 2000). Watershed assessments include: identification of watershed issues; a description of historical conditions; classification of channel habitat types; a description of hydrology and water use; assessments of riparian areas and wetlands, sediment sources, channel modification, water quality, and fish and fish habitat; evaluation of watershed conditions; and a description of monitoring plans. After completing their assessment, watershed councils are encouraged to develop action plans. Having an action plan derived from assessment priorities makes projects seeking OWEB funds more competitive. Watershed councils also are encouraged to seek project funding from other private and public sources. In addition to OWEB, the federal government is a major source of capital for starting projects. Local governments, landowners, industries, and universities provide in-kind resources.

Oregon watershed councils have no legally authorized power. They only gain power from people's willingness to become educated and to act. Membership is an important asset that provides power to watershed councils. An active membership that is willing to ask state legislators to support council programs is particularly helpful.

The Oregon assessment process places heavy emphasis on acquiring scientific knowledge about watersheds. The assessments do not include discussion of the institutional assets available to the watershed council. Assessments are read by a very small percentage of watershed council members. They tend to be forgotten quickly and become rapidly dated. Thus, when a watershed council contemplates a project, they often end up doing a new assessment specific to that project. The councils we studied spent more than the coordinator's annual salary on watershed assessments that were seldom used. One watershed council was developing data for their action plan priorities when we reminded the coordinator that the watershed assessment was available for use. The coordinator found this reminder helpful, and the council used the assessment to develop their action plan. Another council devoted considerable discussion to fish passage and the data needed to decide where to replace culverts. After a long discussion, one of the participants mentioned that some of the data needed might be in the assessment. It was, but not in sufficient detail.

Assessments take time and slow the process of starting on-the-ground projects. Michaels (1999) reports how creating a management plan between

government agencies, nonprofit organizations, businesses, and residents to protect Massachusetts' 27 major watersheds took longer than expected because the planning did not draw in the public or converge with local agendas. Watershed councils continually seek to balance the need to obtain more scientific knowledge with taking action. They are supposed to act in an adaptive management framework so their actions can be a basis for new knowledge (FEMAT 1993; NRC, 1996; OPSW, 1998).

COMPARISON WITH OTHER WATERSHED REVIEWS

To develop our list of assets, we analyzed the syntheses described above, which were based on actual project experience. Another approach by social scientists has been to ask or observe what watershed councils need to be successful. One of these studies summarizes 37 empirical watershed studies (Leach and Pelkey, 2001). The authors build on a theoretical perspective that focuses on collaborative resource management, particularly alternative dispute resolution and institutional analysis and development. They generate 210 lessons, which are grouped into 28 thematic categories.

Leach and Pekley's (2001) top six themes were:

- "funding," which correlates with our "capital" asset;
- an "effective coordinator or facilitator," which correlates with leadership;
- "scope of activities: limited or focused," which we would classify as vision;
- "broad or inclusive membership" and "cooperative and committed participants," which fit under our social networks category, and
- "trust."

The seventh through ninth themes focused on leadership and social networks. "Adequate scientific and technical information" ranked tenth. "Formal enforcement mechanisms," the only theme that relates to power, was ranked last. This theme was the least likely to be mentioned in the studies.

The word "power" is rarely used in watershed council discussions. Consensus, collaborative approaches, and building bridges are more often part of the conversation (Wondolleck and Jaffe, 2000; Brick *et al.*, 2001; Daniels and Walker, 2001). Councils actively

avoid discussions about power, which are believed to be divisive. The absence of such discussions is also due to the fact that Oregon watershed councils are designed to be powerless advisory bodies. As long as their actions avoid threatening powerful interest groups, they are generally left alone. As a result, restoration actions that do not create conflict or confront powerful institutions are easier for councils to initiate.

An illustration of the use of power is seen in the watersheds of Tillamook County (Smith *et al.*, 2002). In 2000, the National Marine Fisheries Service issued the 4(d) rules, which are designed to protect species – in this case, salmon – that are listed under the Endangered Species Act. In response, Tillamook County government revised its riparian ordinance to bring it more into line with the 4(d) rules. The revised ordinance was based on the Tillamook Bay National Estuary Project Comprehensive Conservation and Management Plan (TBNEP, 1999). The TBNEP Management Committee took over a year including all relevant interests in the Tillamook Bay region and building consensus for the plan, which included riparian protection measures. When the County informed landowners about the revised ordinance, the landowners complained that the new rules amounted to a threat to their private property rights. They formed the Tillamook County Landowners Association (TCLA) and organized the largest public meeting held in Tillamook County during the last five years on any land use or environmental issue. As a result of this outcry, the ordinance was scuttled and two incumbent county commissioners were defeated in the 2000 election. In August 2001, the new county commissioners removed the head of the Department of Community Development that wrote the draft ordinance.

Councils also lack power because a variety of other regulatory standards apply to landowners. For example, most forestlands are either regulated by the Oregon Board of Forestry or by the federal government. In urban areas, watershed councils have little influence over city planners. As a result, Oregon's watershed councils work between forest and city, at the fringes of cities and on farmlands. Farmers also have options apart from watershed council programs. The Healthy Streams Partnership is an agricultural water quality program. It was a compromise with the State's powerful agricultural industry when the OPSW was drafted. Agricultural landowners said that their situation was different. The Healthy Streams Partnership puts power over agricultural activities into the hands of the Oregon Department of Agriculture. Watershed councils must negotiate a balance that will maintain their membership and not result in members opting out to more friendly and powerful interest-oriented agencies.

A second study, by Cumming and Lach (2001), asked 95 participants in 17 mostly coastal Oregon watershed councils about the importance of our seven hypothesized assets. The overall response rate from the survey was 42 percent. The survey was supplemented with observation of council activities. Table 3 gives the percentage of people who rated each asset as “important,” “very important,” or “most important.” In the right column is how we rank the asset categories.

TABLE 3. Asset Category Rankings Between the Responses of Cumming and Lach (2001) Compared With Asset Categories.

Importance Of	Our Ranking
Vision (63 percent)	Leadership
Leadership (55 percent)	Vision
Trust (51 percent)	Trust
Local and Technical Knowledge (40 percent)	Social Networks
Social Networks (18 percent)	Capital
Capital (17 percent)	Power
Power (3 percent)	Technical and Local Knowledge

We discussed a possible explanation for the low rating for power above. The relatively low score for capital, especially given the emphasis on funding by Leach and Pelkey (2001) and Rickenbach (1999), needs more examination. Why did capital rank so low in the Cumming and Lach (2001) study? Kenney *et al.* (2000) write, “In comparison to other parts of the West, not only is the sheer number of groups active in the Pacific Northwest much larger, but the level of funding and administration is generally much greater.” The availability of federal funds, state monies, local expenditures, private investments, and foundation grants mean funding opportunities are available. Therefore, one explanation could be that the level of funding for watershed councils in the Pacific Northwest is adequate. Lobbying before the 2001 Oregon State Legislature, however, watershed councils claimed that their funding was inadequate to accomplish OPSW goals set for them.

The 1999 Oregon Legislature was reluctant to use funds to sustain watershed councils, particularly to support coordinators. Instead, the Legislature wanted to consolidate coordinator activities for several watershed councils. Oregon operates on a biennial budget,

and the 2001 Legislature limited budgets for watershed councils in the State’s most populous area, the Willamette Valley. Further, OWEB policy is to fund all watershed councils at the same level, irrespective of past performance. OWEB allows an expenditure of \$37,500 for contracting watershed coordinators. These funds cover salary, benefits, and employment costs. Watershed councils have tried to find ways to fund their own leadership, but few have found the resources to do so. Most councils lack a revenue stream upon which to provide financial support (Anderson, 2000; Skelton, 2000).

A case can be made for the value of council coordinator support. In 1999 to 2000, one Oregon watershed council provided 71 percent of its overall budget, mainly through in-kind and matching services. Thus, the 29 percent of the budget funded by OWEB generated considerable additional investment in activities to improve the watershed. The OWEB funding of watershed council leadership is a catalyst for obtaining grants and getting voluntary action.

We hypothesize that a reason for the low ranking is our use of the more investment-oriented term “capital” rather than the more common “funding.” Watershed actions are long-term capital investments in restoring ecological services and for establishing the social infrastructure to gain positive action. Millions of dollars are invested in the present to secure benefits that are expected to exceed these costs in the future. Investment assumes that improving watersheds will provide future benefits such as improved water quality, more fish and wildlife habitat, greater biodiversity, protection from natural disasters, and aesthetic qualities that are equal or greater than the value of the investment. Most of the discussion on funding does not take this investment perspective.

A third study by Kenney *et al.* (2000) reported on an inventory of “keys to success” compiled by the Natural Resources Law Center, which gathers inventories of “the western watersheds movement” (Kenney *et al.* 2000). In this study, 276 participants in Oregon watershed activities were asked to identify three key factors for success. While responses and language varied, they fell under general themes listed in Table 4.

Neither trust nor power are strongly emphasized in any of the keys to success identified by the Natural Resources Law Center. Having discussed power above, we now turn to issues of trust and how it relates to capital and power.

Trust emerges in an interesting way for Oregon watershed councils. Most councils must balance rural and urban interests. Many urbanites are deeply concerned about the environment, and some emotionally and financially support efforts to restore urban and rural ecosystems. Urbanites bring concern for environmental protection, volunteer labor, and other

valuable resources to restoration efforts. However, many urbanites view rural farmers, fishers, ranchers, and loggers as exploiters of the land who are solely concerned with short-term financial needs (Habron, 1999; Primozich, 2001).

TABLE 4. Kenney *et al.* (2000) Keys to Success Compared With Asset Categories.

Keys to Success	Asset Category
1. Collaboration (60 percent)	Social Networks
2. Funding (25 percent)	Capital
3. Education (20 percent)	Local and Technical Knowledge
4. Coordination (~10 percent)	Leadership
5. Projects (~10 percent)	
6. Clear Problem Identification (7.5 percent)	Local and Technical Knowledge
7. Follow-Through (7.5 percent)	Leadership
8. Leadership (5 percent)	Leadership
9. Vision (~5 percent)	Vision
10. Buy-In (~5 percent)	Social Networks

At the same time, many farmers, fishers, ranchers, and loggers consider themselves conservationists whose stewardship of the land allows opportunities for future generations (Brunson and Steel, 1994; Smith *et al.*, 2001). Many rural landowners value independence, private property rights, and reduction in the size and intrusiveness of government. They see themselves as conservation minded, and they believe nature is inherently resilient (Habron, 1999). Many see urbanites as disconnected from the land and advocating environmental visions that are idealistic, impractical, and selfish.

These sociocultural differences are played out in different ways. In most cases, urban areas have most of a watershed's population, but occupy only a small portion of the watershed's area – usually 1 to 10 percent. Thus, urban interests provide large numbers of people who have direct control over very little land. Rural interests have most of the land, but few people. Rural residents' power is based on the land they control. This fundamental demographic difference creates significant challenges to watershed council success. Further, it means that each group looks at the watershed from a different perspective.

Trust is critical in bridging these differences. Watershed councils bring people with diverse interests into close personal contact, increasing their knowledge of one another's views and leading to the development of new visions for the watershed's future. Sharing diverse visions can result in better communication and a new sense of community (Daniels and Walker, 2001). As trust grows, coordination and cooperation increase. We have found that watershed council members are well aware of this process; many council discussions focus on fairness and the balancing of interests. While these discussions may promote balance on the council, they can also pose challenges for those who feel strongly about protecting endangered species, preventing wetland loss, and improving riparian habitat. Although watershed councils assert that voluntary action is more likely to produce results than forced action, balancing rural and urban interests and promoting voluntary action may not lead to some peoples' desired outcomes. The power to ensure a particular outcome is part of the process in developing trust.

The absence of trust is often easier to see than its existence. In 1998, the federal government announced a willingness to spend as much as \$250 million in Oregon under the Conservation Reserve Enhancement Program (CREP). These funds would pay farmers and ranchers for riparian enhancement projects that restore wetlands, fence streams, and plant trees and build buffer strips. Distrust of the federal government's motives for the program led to many landowners not wanting to discuss CREP options. Governor Kitzhaber appointed a committee to study the problem. "During the first 18 months of availability of CREP in Oregon, a statewide steering committee identified a number of federal policy barriers that discouraged or prevented Oregon landowners from participation ..." (Kitzhaber, 2000).

Distrust also results in the unwillingness of some landowners to consider rules for protecting endangered species and adhering to water quality standards. Many council members question scientific findings. Scientists can no longer sit back and prescribe, but must become active-and-trusted-participants in the watershed council process. Surveys document the low priority given to scientific information by local people. McGinnis and Woolley (2000) found in a study of 98 California watershed groups that leaders with scientific and non-scientific backgrounds consulted "knowledgeable citizens" more often than any other source. Scientific sources ranked sixth out of eight sources of information surveyed.

Bioregional Assessments (Johnson *et al.*, 1999) devotes considerable space to discussing the relationships between scientists, managers, policy makers, and the public. The authors write that scientists are

no longer unquestioningly considered knowledgeable experts, but must prove their effectiveness to the public and must work across disciplines. Rhoads *et al.* (1999) say, "Our experience as participants in local watershed projects in the agricultural Midwest suggests that local people often discount or ignore scientific knowledge if they perceive the bearer of this information as an outsider who is insensitive to the rituals and practices that constitute their shared cultural identity." McGinnis and Woolley (2000) find that landowners reinterpret scientific and technical knowledge based on "... various place-based experiences, situations, and contexts."

Because of lack of trust in government agencies, landowners are reluctant to have government officials come on their land to evaluate their situations and projects. Johnson and Campbell (1999) find that exchanges between local people and scientists are often ineffective. Local people do not trust scientists to know about local problems, and scientists tend not to value local knowledge. Locals and scientists often speak different languages, making communication difficult.

Distrust makes many watershed council members unwilling to accept scientific recommendations and potential funding sources. Distrust, limited capital, and powerlessness all limit opportunities to implement on-the-ground projects.

CONCLUSIONS

Leadership, vision, trust, social networks, capital, power, and local and technical knowledge are institutional assets to get action on watershed restoration projects. None of the six synthesis studies, nor the three watershed council review studies, consistently yielded the same set of assets. However, all seven assets are found in the collection of synthesis studies and watershed council reviews. As in most situations, the more assets present, the better. We found no evidence that having one particular asset assures action, nor that lacking one particular asset prevents it.

The relative importance of each asset varies with the question, the observer, and the goal. For example, leadership has been extremely important for the watershed councils we observed because they are relatively new. OWEB funds support leadership by paying for coordinators. However, based on our observations of watershed council formation, funds for leadership are in shorter supply than funds for developing scientific knowledge.

The scientific assessments required by OWEB are long and complex documents, which are often completed by outside consultants. In general, we believe

that the funds for doing assessments might better be utilized after watershed councils have had time to discuss priorities. Assessments get quickly out of date, they are incomplete, and they usually provide no new data.

For Oregon watershed councils, the interaction of weak power, limited capital, and distrust combine to be the most limiting factors for moving from assessment to action. Watershed councils have no regulatory power. Participants can opt out to other agencies and programs that are more sympathetic to their interests. Watershed councils continually struggle for the capital to build their basic organization and begin projects. Distrust of some funding sources and of the recommendations by scientists limits the ability to design and develop projects.

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