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# Some Community Socio-Economic Benefits of Watershed Councils: A Case Study from Oregon

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**ABSTRACT** *One of the most significant junctures in natural resource planning and management in recent years has been the emergence of community-based natural resource management (CBNRM). The central focus of CBNRM is the environment, of course. However, it explicitly considers the local economy and community as well. It is a highly participatory approach to local, place-based projects, programs and policies aimed simultaneously at environmental and community health. This paper is an attempt to shed light on what happens in the local economy and community as a result of pursuing a CBNRM strategy. Oregon has been in the vanguard in putting CBNRM into operation. A key example is the state's experience with local watershed councils and the state agency that supports them, the Oregon Watershed Enhancement Board (OWEB). Drawing from a larger study of Oregon's watershed councils, we ask and answer the questions: 'What direct contribution do watershed councils make to the local economies of Oregon?'; 'Do watershed councils contribute to 'civic engagement' in Oregon?' and 'Do they enhance individuals' and communities' capacity to engage in public issues beyond watershed council activities?'*

## Introduction

One of the most significant junctures in natural resource planning and management in recent years has been the emergence of 'community-based natural resource management' (CBNRM). In a break from previous approaches, advocates of CBNRM 'champion the role of community in bringing about decentralization, meaningful participation, cultural autonomy, and conservation' to resource planning and management (Agrawal & Gibson, 1999, p. 630; also see Selman, 2001). While CBNRM is a global phenomenon (Brosius *et al.*, 1998), its emergence has led Cortner & Moote (1999) to speculate that the USA is entering the first resource management paradigm shift since the end of the 19th century. Wondolleck & Yaffee (2000) have stated that the USA is 'in a period that is as significant as the period one hundred years ago when President Theodore Roosevelt, Gifford Pinchot and others invented a set of principles for management of public resources' (p. xi).

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The central focus of CBNRM is the environment. However, it explicitly considers the local economy and community as well. It holds that ‘ecological integrity, economic opportunity, and community are inextricably linked in the long run’ (von Hagen & Fight, 1999, p. 3; see also Agrawal & Gibson, 1999). It entails local, place-based projects, programs and policies that aim to ‘meld ecology with economics and the needs of community in pursuit of *symbiotic sustainability*’ (Weber, 2000, p. 238; emphasis added). Its approach is highly participatory. It ‘seeks to alter the top–down, “environment-over-economy” approach of the contemporary environmental regulatory framework by infusing decentralized decision making, stakeholder collaboration and citizen participation’ (Hibbard & Madsen, 2003, p. 703).

This article is an attempt to assess some of the local economic and community effects of CBNRM, through an examination of Oregon’s experience with local watershed councils and the state agency that supports them, the Oregon Watershed Enhancement Board (OWEB). Oregon has been in the vanguard in putting CBNRM into operation. The state has recognized through law and policy that the long-term protection of its water resources, including sustainable watershed functions, is essential for economic stability and growth. It has taken an approach to environmental stewardship that integrates regulation with incentives and voluntary action at the local level. In practice, OWEB provides financial support and technical assistance in support of voluntary organizations—watershed councils—initiated at the local level to protect and enhance the quality and stability of watersheds.

We have been studying some of what happens in the local economy and community as watershed councils pursue their environmental mission. We begin with some additional background on CBNRM. We then discuss its implications for the local economy and community, and pose our research questions. Next we provide a brief overview of OWEB and Oregon’s watershed councils, the context for our study. That is followed by a description of our methodology. We then present our findings. Finally, we discuss the findings and their implications for CBNRM.

### **The Emergence of CBNRM**

Community-based natural resource management flows from three assumptions: (1) the environment, economy and community are interdependent and the health of all three is best advanced by working on them simultaneously, so-called sustainable development; (2) the local community is an important locus of action; and (3) collaboration among various parties is essential for effective resource management.

#### *Symbiotic Sustainability*

The idea of sustainable development arose in the 1980s as the environmentalists’ leading solution to the overwhelming problem of how to deal with the threats posed to the biosphere by human action while still meeting people’s material needs. Although it has been criticized for the fuzziness of its best-known definition—‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (World Commission on Environment and Development, 1987, p. 43)—by the early 1990s sustainability had become a standard element of development rhetoric (Lele, 1991). As David Korten (1992) noted at that

time, even when economic growth is understood as the primary goal, environmental sustainability issues have to be acknowledged in any development policy or project.

While the legitimacy of sustainable development has been established, then, there is no generally agreed-upon operational meaning of the concept and no set of strategies for its implementation has emerged. In one of the most ambitious attempts at implementing 'sustainable management', New Zealand's Regional Management Act, 'great expectations... were not realized' (Ericksen *et al.*, 2004, p. 283). The thinking about sustainability ranges in scale from the global to the local. It is applied to an almost limitless range of topics, from urban design to the design of business organizations, from the politics of the environment to the governance of cities (Bridger & Luloff, 1999). In the sphere of CBNRM, however, it is encapsulated by Weber's (2000) idea of *symbiotic sustainability*, noted above—pursuing environmental restoration and management activities in ways that produce economic benefit and respond to the needs of the local community.

### *The Sustainable Community*

The barriers to addressing sustainability issues at large scales, globally or even nationally, are enormous. The level of change required, as well as orchestrating the necessary technical coordination and political cooperation, all represent significant challenges. In keeping with the long-held view of the state as a rational instrument for promoting and guiding change (Hyden, 1997), many sustainability advocates called for 'global ecological planners in international agencies (to) work with national political elites and multinational corporate leaders to manage' the environment (Yanarella & Levine, 1992, p. 766). However, just as the sustainability movement was gaining momentum, confidence in the state as an effective instrument was waning. From both the left and right, 'the state was viewed as an instrument of exploitation, pre-empting popular or individual initiative' (Hyden, 1997, p. 4).

The reaction against top-down, state-led planning arises from a variety of shortcomings but two are of primary importance here. The first is the perception that the knowledge lodged in local communities and institutions has been systematically excluded and must come to occupy a more prominent place in the sustainability dialogue (Selman, 2001). The second is that environmental degradation is felt much more immediately at the local level. By locating the focus of action there, the benefits of environmental restoration and management will be much more noticeable (Bridger & Luloff, 1999).

The combination of these factors suggests that the kind of long-term mobilization necessary for sustainable development can best occur at the local level, in a sustainable community.

### *Collaboration*

Local knowledge is not monolithic, of course. Nor is it a substitute for technical knowledge. To put symbiotic sustainability into practice at the community level it is essential to have planning and management processes that allow participants who see different aspects of an issue, or who see an issue differently, to explore their differences and find synergisms (Margerum & Whitall, 2004). Through inclusive dialogue,

participatory planning and collective learning, participants can develop broadly supportable action plans, potentially including shared implementation and management (Gray, 1989; Wondolleck & Yaffee, 2000; Daniels & Walker, 2001). Its advocates support collaboration as an alternative to top-down, state-led planning because they see the latter as comprising the principles of commodity production, scientific management and cost-benefit economic efficiency, with little regard for community values (Cortner & Moote, 1999; Brick & Weber, 2001; Baker & Kusel, 2003).

### **The Community Social and Economic Implications of CBNRM**

Given this background, then, we can put forward some quite specific local community and economic effects from CBNRM. With respect to the community, CBNRM processes and institutions exemplify Tocqueville's (1994/1841) notion of small, locally oriented associations and organizations through which community problem-solving capacity and civic engagement are built. By civic engagement we mean the experiences of trust and reciprocity that encourage people to engage issues, identify alternatives, and take action on behalf of the community as a whole (see, e.g. Tolbert *et al.*, 2002; Flora *et al.*, 1996).

Because of the complexity and interconnectedness of natural resource problems no single group, organization or individual has access to information, competencies and funding sufficient to unilaterally develop satisfactory solutions. Thus CBNRM typically involves pooling knowledge and resources in ways that expand the scope of problem-solving alternatives available among the various interests (Wondolleck & Yaffee, 2000; Snow, 2001). CBNRM provides opportunities for participants to learn and practice public decision-making skills that can be carried over into other public problem solving arenas. Snow (2001) observes that 'virtually all collaboratives are learning circles in which participants cross-fertilize and gain from each other's expertise' (p. 6). Watershed councils in particular 'open avenues for citizen participation and serve as fora for civil dialogue, interaction, and dispute resolution among diverse interests' (Born & Genskow, 2000, p. 45).

In addition to opportunities for civic engagement, CBNRM creates economic value for local communities. Much of this is indirect and the effects are difficult to measure—increased property values, for example, or making the community more attractive to investors. However, there are direct economic effects that can be measured. Environmental restoration and management projects require the purchase of goods and services, hiring of staff, and other economic actions. These economic activities are a side-effect of CBNRM that can be an important source of jobs and wealth for local communities (Bonner & Hibbard, 2003; Hibbard & Karle, 2002).

The ideal of CBNRM, then, is to develop projects that add to the economic and civic well being of communities in addition to enhancing the health of locally important ecosystems. It assumes that 'ecological integrity, economic opportunity, and community are inextricably linked in the long run' (von Hagen & Fight, 1999, p. 3). To explore this ideal we drew from a larger study of Oregon's watershed councils (Hibbard & Lurie, 2005) to ask the questions:

- What direct contribution do watershed councils make to the local economies of Oregon?

- Do watershed councils contribute to ‘civic engagement’? Do they enhance individuals’ and communities’ capacity to engage in public issues beyond watershed council activities?

### **Oregon’s Watershed Council System**

In 1995, the Oregon State Legislature unanimously approved House Bill (HB) 3441 to provide guidance in establishing watershed councils in that state. Various community-based partnership organizations operated in Oregon for the purpose of watershed stewardship prior to the enactment of HB 3441. However, its passage is generally recognized as the starting point for Oregon’s current watershed stewardship system (Hibbard & Dority, 2005).

HB 3441 emphasized that the creation of individual watershed councils would be the responsibility of local stakeholders and interested parties, for example landowners, nonprofit organizations, business interests and Indian tribes. The two primary guidelines provided by the legislature were that watershed councils be voluntary, local groups and that they represent a balance of interested and affected persons within the watershed (OWEB, 2001).

Individual watershed councils receive much of their funding from OWEB, the state agency created to support watershed councils. OWEB receives a percentage of Oregon’s state lottery revenue, as well as salmon license plate and salmon-friendly power revenues. It uses these funds to provide financial assistance for salmon and watershed restoration projects undertaken by local watershed councils as well as the older network of Soil and Water Conservation Districts. Many watershed councils also receive funding from various local, state and national partners including federal and state agencies, private businesses and nonprofit organizations.

It is clear from this policy history that the purpose of OWEB and the watershed councils is environmental restoration and management. At the same time, however, Oregon law (ORS 541.353) declares that ‘the long-term protection of the water resources of this state, including sustainable watershed functions, is an essential component of Oregon’s environmental *and economic* stability and growth’ (emphasis added). Consistent with this, OWEB declares in its vision statement that its purpose is ‘to help create and maintain healthy watersheds and natural habitats *that support thriving communities and strong economies*’ (emphasis added) (Hibbard & Lurie, 2005).

Thus, Oregon’s policy and programs are explicitly pursuing CBNRM, supporting watershed-scale environmental maintenance, restoration and enhancement activities that also contribute to community economic health and civic engagement.

### **Methods**

Despite the excitement about CBNRM, empirical analyses have been lacking (Leach *et al.*, 1999). As Bellamy *et al.* (2001) note, ‘evaluation in natural resource management policy has been neglected . . .’ (p. 408). This is beginning to change, however. Scholars have recently devoted considerable attention to planning and management processes and outcomes (Margerum, 2002).

Conley & Moote (2003) discuss the special difficulty of assessing the outcomes of CBNRM, both biophysical and socioeconomic. They note such issues as the lack of

measurable goals, the shortage of baseline data for comparison purposes, and the 'black box' problem of how to determine which variables caused which outcomes. To avoid these issues we limited our analysis to some very specific outcomes directly produced by watershed councils.

The study population was all watershed councils that received OWEB council support grants<sup>1</sup> during the study period 1 July 2001 – 30 June 2004. That population consists of 58 councils.

To address the two research questions, we sought financial and civic engagement data from each watershed council. The civic engagement data were collected in two ways. We used a semi-structured questionnaire that covered topics such as volunteer opportunities, outreach activities, members' involvement in other community organizations and collaborative activities at the local and regional level. We e-mailed the questionnaire to the 58 councils in the study population, with a request that a leader in each watershed council—coordinator, director, or similar position—schedule time for a telephone interview to respond to it. Forty-five leaders completed the questionnaire via phone interview. The interviews lasted an average of about one hour. In three instances, staff returned the completed survey but did not schedule time for a telephone conversation. In 10 other cases the questionnaire was not completed despite multiple requests for participation. Our response rate was thus 48/58 or 83%.

In addition to the surveys, we conducted face-to-face, in-depth interviews with the coordinators of five purposively selected watershed councils, onsite when possible. These interviews were carried out to gain a deeper understanding of the variety of ecological and cultural (including economic and socio-political) contexts in which watershed councils operate—understanding that cannot be captured in a telephone survey. The settings included an urban council, a coastal council, and rural councils in southwest, northeast and southeast Oregon, reflecting different landscapes, communities and watershed issues.

The financial data were collected from three sources. (1) The questionnaire included three items about the contracting practices of watershed councils. (2) OWEB provided information on council support grants for those same 48 councils, as well as on other OWEB grants to them for the study period. (3) Thirty-four of the 48 respondent watershed councils also provided us with budget data on hard dollars they received from non-OWEB sources—grants and contracts, not in-kind contributions—during the study period.

Two limitations must be noted with this methodology. First, it lacks comparators. Because the study population consists of the universe of Oregon watershed councils, there are no comparators to draw on. We might have used a pre- and post-design, comparing the communities before and after they received council support grants. However, pre-grant, baseline data are not available. This lack of comparators means our findings must be taken as preliminary.

Second, as with all studies based on self-reporting, there are unavoidable variations in respondents' understanding of the meaning of specific questions. For example, answers might reflect different interpretations of who to include as 'volunteers', of what to count as a 'collaboration', or what qualifies as 'outside hard dollars'.

An additional reality should also be borne in mind. Our interviewees were not randomly chosen. In addition to geographic distribution we wanted to interview people

who had a close relationship and good working knowledge of watershed councils around the state—expert ‘insiders’. So, while our interviewees were very well informed about watershed council activities and their effects, they were not neutral observers.

## **Findings**

We begin with a report of our analysis of the economic data collected on watershed councils. We then turn to the civic engagement findings, beginning with the survey and following with the in-depth interviews.

### *Direct Economic Impact on Local Communities*

OWEB’s watershed council support grants fund (usually only partially) basic administrative support that enables watershed councils to function—to pay the salary of a coordinator and run an office. We sought information about the impact of basic support grants on local economies. How much additional funding do watershed councils draw into communities, and from what general sources? Also, what is the overall contribution of watershed councils’ spending to local economies? We present the financial analyses as averages across all responding watershed councils. Councils have a variety of administrative structures and operate in a wide range of geographic, resource use and socio-cultural settings. We have not tried to organize them into categories for analytic purposes but rather to paint a general picture of their direct impact on local economies.

*Local economic impact of watershed councils.* The hard dollar impact of watershed councils on the economies of the local communities in which they are embedded is of significant interest. To provide some context for understanding their financial contributions to local economies, we asked survey questions about watershed councils’ contracting practices. Watershed councils make extensive use of volunteers (see below). Nevertheless, they also rely heavily on paid workers for a variety of projects. All but one of the respondents reported that their watershed council uses contractors for at least some projects, with an average of 60% of projects done by contractors. As well, of the 48 responding watershed councils, 20 reported using in-house crews for at least some of their projects. We also asked those who use contractors to estimate what percentage of their contract work goes to local contractors.<sup>2</sup> The average was about 85%. Finally, we asked respondents if their watershed council gives preference to local contractors. Thirty-four said that they do so, either formally or informally. In sum, much of the restoration and conservation work of watershed councils is carried out by local contractors and in-house crews.

We estimated the financial impact of that work on local economies in two ways, using figures supplied by OWEB and the watershed councils themselves.

*Funds leveraged.* To calculate how much additional funding is being leveraged by OWEB’s watershed council support grants, we used a three-step process.

- OWEB supplied us with figures for watershed council support grants and for other OWEB grants during the study period to the 48 watershed councils that



participated in our interviews. Using the following approach we calculate that every council support grant dollar *leveraged* US\$1.37 in additional OWEB support.

- Total council support grants = US\$4 017 387
- Total other OWEB project grants = US\$5 508 726
- $5\,508\,726/4\,017\,387 = \text{US}\$1.37$
- Thirty-four of the 48 participating watershed councils supplied us with figures for non-OWEB grants they received during the study period. Using the following approach we calculate that every council support grant dollar *leveraged* US\$3.72 in non-OWEB funding.
  - $\text{US}\$10\,579\,315$  (total reported non-OWEB grant support)/34 = US\$311 156 (average non-OWEB grant support)
  - $\text{US}\$4\,017\,387$  (total watershed council support grants)/48 = US\$83 696 (average watershed council support grant)
  - $\text{US}\$311\,156/\$83\,696 = \text{US}\$3.72$
- Thus, on average, during the study period every OWEB watershed council support dollar generated an *additional* US\$5.09 ( $\text{US}\$1.37 + \text{US}\$3.72 = \text{US}\$5.09$ ) for the local economies of the communities in which watershed councils operate.

*Community economic impact.* The average community economic impact of watershed council activities was estimated by the following formula:

Total watershed council hard dollar funding  $\times$  0.8 local capture  $\times$  1.7 multiplier/34, where

- Total hard dollar funding is the sum of OWEB and non-OWEB dollars received by the 34 watershed councils that supplied data
- The 80% ‘capture’ figure is from Bonner & Hibbard (2003)<sup>3</sup>
- The multiplier of 1.7 is a conservative estimate<sup>4</sup>
- $\text{US}\$20\,105\,428 \times 0.8 \times 1.7 = \text{US}\$27\,343\,381/34 = \text{US}\$804\,217$
- $\text{US}\$804\,217/3 = \text{US}\$268\,072$

During the study period, the typical watershed council *created* US\$268 072 of local economic activity each year.

### *Watershed Councils and Community Civic Engagement*

To reiterate, our aim with this portion of the study was to try to understand if/how watershed councils serve as catalysts to enhance individuals’ and communities’ capacity to engage in issues beyond watershed functioning. To shed light on that question, in the survey we asked about watershed councils’ use of volunteers, their outreach activities, their participants’ involvements in other community organizations, and their collaborative activities at the local and regional level. In the in-depth interviews we tried to understand the variety of contexts in which watershed councils operate.

Survey responses were analyzed in various ways. Some, such as numbers of volunteers, were presented in quartiles based on average number of volunteers by council over the three-year research time frame. Other figures, the number of

volunteers used for various watershed council activities or government collaborative partners were calculated as percentages over the number of responding councils. In the case of open-ended questions we identified patterns in interviewees' responses and reported their comments in narrative style.

### *Survey Findings*

*The role of volunteers.* Oregon's watershed councils are premised on a model of self-organization at the local level, through extensive use of volunteers. To help understand the use of volunteers we asked respondents to estimate the number of volunteers used by their watershed council during the study period. The average was 212. There was a tremendous range however, from none to 1200. In the lowest quartile the range was from none to 50, with an average of 32; in the second quartile the range was 70–165, with an average of 125; in the third quartile the range was 170–239, with an average of 202; and in the highest quartile the range was 250–1200, with an average of 455.

In addition to the number of volunteers, respondents were also asked to estimate the percentage of their volunteers that fall into various age groups. They reported making the most extensive use of high schoolers, working age people and retirees. There is no real pattern, however. For example, one watershed council reported that 90% of its volunteers are high schoolers and they use almost no retirees or working age people; another reported that 85% of its volunteers are retirees and they use almost no high schoolers; at yet a third council more than 85% of the volunteers are junior high and grade schoolers, with almost no adult volunteers.

The differences by age group are probably a function of the kinds of activities for which different watershed councils use volunteers. In that regard, respondents were asked to indicate on a checklist various activities for which they use volunteers. Overall, volunteers are most commonly used for the core activities of the watershed councils: environmental education (79%), on-the-ground work (75%), monitoring (69%), outreach (66%), and planning and assessment (69%). They are used less often in support positions such as office staffing (33%).

In general, then, Oregon's watershed council volunteers are drawn from the age groups that are key to developing community capacity—high schoolers, working age adults and retirees. They are used in good positions to learn and practice the skills of civic engagement—environmental education, on-the-ground work, monitoring, outreach and planning and assessment.

*Outreach activities.* We provided a list of possible tools that watershed councils might use to engage the local community and inform it about their activities, and asked respondents to indicate any that they had used during the study period. We then asked them to list the two or three outreach tools they use most frequently. They mentioned press releases, issue presentations at council meetings, and newsletters most often. In response to an open-ended, 'other outreach tools' category they mentioned e-mail bulletins, websites, tours, mentoring high school students and production of a video. Interestingly, 40% do not have a brochure, and only about half reported that they had put on a workshop or educational event during the study period.

The most common reason mentioned for favoring press releases, issue presentations and newsletters were that they are cost effective. Respondents reported that their councils have easy access to local newspapers, making press releases an effective way of reaching the community. One respondent stated that the council can generally expect to get front-page coverage as a result of a press release. Another noted that the council can rely on the local paper to print whatever they send in. In one instance, a respondent noted that press releases that are turned into newspaper articles are helpful in reaching people who may not be on the council mailing list.

Regarding issue presentations at council meetings, several respondents stated that council meetings are quite well attended as people appear to be interested in hearing guest speakers and obtaining information on different watershed issues. They mentioned that they get inquiries from landowners about having projects carried out on their property as a result of presentations/discussions at council meetings. However, one respondent mentioned that their council meetings do not necessarily reach that many people; therefore, having a newsletter gives broader coverage.

Newsletters were often mentioned as an effective way of reaching people in the community. Furthermore, one respondent noted that the council can get anything it wants into their newsletter.

As the culmination of our questions about outreach activities we asked respondents to provide three or four examples of the outcomes from using the different outreach tools. Our aim was to try to understand the role of watershed council outreach strategies in civic engagement. We organized the responses into four broad, overlapping categories.

1. *Building relationships.* Respondents offered several insights regarding one-on-one and small group discussion as a way to build trust between the council and private property owners. As a result of trust building, or along with it, councils have been able to create cooperative partnerships. One respondent saw one-on-one discussions as helping to forge partnerships and develop cooperative relationships for implementation of specific projects. Another stated that small group discussions provide opportunities to find new people to work with and new ways for people to work together. Yet another talked about one-on-one and small group discussions as the best way to understand property owners' concerns and find ways to directly address them—as a means to build trust and improve working relationships among landowners and the council.

Such partnerships between the councils and private property owners have had a snowball effect. According to one respondent, property owners with projects on their land are likely to call on their neighbors and encourage them to likewise apply to have restoration, water use efficiency, or other projects carried out.

Outreach efforts have led to other organizations calling on the watershed council for help with regard to riparian management, water quality, erosion, and other watershed health issues and projects.

2. *Bringing more citizens into the decision making, planning and implementation process.* Much of the work of watershed councils depends on the efforts of volunteers. Respondents almost universally mentioned that volunteer recruitment is an important facet of every outreach tool they use.

3. *Community capacity building.* Promoting residents' identity with their watershed and educating them about watershed issues can help build community capacity for problem solving at the local level. In this regard, watershed councils can make significant contributions to their communities.

Increased capacity takes various forms. Respondents highlighted numerous projects that were outcomes of outreach efforts. As councils work with community and government partners, local technical expertise increases as does the repertoire of strategies available to address problems. Learning to collaborate with various partners—leveraging knowledge capital as well as financial capital—also expands capacity as different perspectives and shared dollars are brought to bear for developing locally appropriate solutions to natural resource problems.

Respondents also talked about increasing community capacity through the growth of technical knowledge, using outreach strategies such workshops or through monitoring or other data gathering and analysis.

4. *Increasing public education and awareness of watershed issues.* Providing information for residents about the particular issues in a given watershed is an important aspect of the work of watershed councils. In a typical comment, one respondent mentioned that the council tries to have at least one presentation at each council public meeting. There is an effort to make the presentations educational and to invite someone to speak on local issues. As a result, meetings have the reputation for being good places to show up and get information. In a similar vein, another respondent spoke about council public meetings being an impartial forum where controversial issues can be aired safely. The council has established itself as a trust building entity in the community.

Various respondents talked about outreach efforts such as workshops, public meetings, issue presentations and council meetings leading to local citizens becoming more informed about watershed health issues. One coordinator captured the attitude of many by commenting that while the levels of education and awareness were difficult to quantify, they were nonetheless an important outcome of various outreach tools.

*Involvement with other organizations.* Watershed councils help create civic engagement as a result of the ways they become imbedded in the network of natural resource and other civic organizations in their local community. Council members and other active participants who are involved in other organizations serve to 'cross pollinate' perspectives, ideas, information and organizational skills.

In an effort to begin to understand the ways watershed councils fit into or enhance local civic networks, we asked respondents to estimate what percentage of their members and active participants were involved in other civic or community-building organizations, in two categories: those focused on natural resource issues and those without a natural resource focus. On average, they estimated that 64% of their members were involved in other organizations with a natural resource focus and that 62% were involved in non-natural resource organizations.

They participate in a broad spectrum of other organizations. A sampling of natural resource focused organizations includes a variety of 'friends of'-type organizations, typically concerned with a particular stream or river. In addition,

respondents mentioned the Rocky Mountain Elk Foundation; various fly fishing and commercial fishing organizations; nationally organized conservation organizations such as the Izaak Walton League, the Sierra Club and the Nature Conservancy; and garden and birding clubs.

The array of non-natural resource organizations included churches, community foundations, arts organizations, local chapters of national service organizations such as the Shriners, Rotary, Lions, Kiwanis and Soroptomists, the Red Cross and United Way, the Oregon Oldtime Fiddlers Association and others.

*Collaboration at the local level.* Developing collaborative capacity is an important aspect of civic engagement. We asked about ways watershed councils might be collaborating to form local networks to help design and carry out their projects and activities. The questionnaire was designed to identify collaborative partners in three categories: government, civic and non-profit organizations, and private-sector organizations. The percentage of partners in the different categories provides a snapshot of the extent to which a wide spectrum of collaborative partnerships has developed to this point.

*Government partners.* The bulk of local collaborative partners are government entities (Table 1). This is perhaps predicable as governments shoulder much of the administrative or regulatory responsibility for natural resource management. Moreover, government is an important landowner in much of Oregon.

It is noteworthy that 100% of responding watershed councils are collaborating with their local governments and that the 17% who report collaborating with tribal governments represent half of those with a tribal entity in or near their watershed.

*Private sector organizations.* Responses that included private-sector or business partners reflect a variety of understandings across watershed councils of what is meant by collaboration. Forty-four per cent of respondents mentioned businesses that were helpful to their council activities through donations of administrative and technical assistance, technical training, office space, food for events, project supplies and debris disposal from clean-up events. The types of businesses mentioned included wood products companies (the most frequently mentioned), engineering firms, professional associations, resorts, utility companies and environmental services firms.

When asked to elaborate on the nature of their collaborative roles it was apparent that many of the businesses were not actively engaged in joint planning and project implementation. Nevertheless, the responses demonstrate an awareness of the extent to which businesses help watershed councils carry out various aspects of their missions.

*Civic and non-profit organizations.* The spectrum of non-governmental public-sector organizations that exist as potential partners is far larger and more varied than government agencies. Such organizations may operate at the local, regional, state, and/or national levels. Examples are local community foundations, local chambers of commerce and churches; local chapters of national and international organizations such as Rotary or Trout Unlimited; state organizations such as Water Watch; and

**Table 1.** Government collaborative partners

	No. of respondents listing agency as a partner (%)
<b>Oregon State agency/organization</b>	
Department of Agriculture	31
Department of Environmental Quality	44
Department of Fish and Wildlife	73
Department of Forestry	46
Department of State Lands	6
Department of Transportation	10
Department of Water Resources	23
Oregon State University/Extension	17
<b>Federal agency/organization</b>	
Forest Service	46
Bureau of Land Management	40
Environmental Protection Agency	12
NOAA Fisheries	19
Fish and Wildlife Service	33
Bureau of Reclamation	5
Army Corps of Engineers	7
Natural Resource Conservation Service	17
<b>Other governments/entities</b>	
County and City Governments	100
Soil and Water Conservation Districts <sup>a</sup>	52
Tribes	17

<sup>a</sup>The figure for soil and water conservation districts appears to be low. Most respondents mentioned SWCDs at one time or another during the interview. It may be that some respondents omitted to mention them in answer to the specific questions about collaborative partners because many watershed councils are administratively linked to SWCDs.

so on. The range is too varied to display under individual names, therefore, percentages in the following table are organized by general categories (Table 2).

*Regional collaboration.* In addition to local collaborations, community-based natural resource management may also entail the need for organizations to collaborate at the regional level, because watersheds and watershed issues often cut across political boundaries and may entail data gaps, differing interest group needs and differing institutional requirements that need to be reconciled. We therefore included questions aimed at trying to get a picture of the extent to which watershed councils are involved in regional collaborations.

We asked whether councils had been involved in planning and/or carrying out watershed projects and/or activities that included watersheds adjacent to their own. Of the 48 survey participants, 30 reported being involved in planning and/or carrying out watershed projects and/or activities that included watersheds adjacent to their own, 13 said they were not, four were umbrella councils that coordinate activities for several smaller councils and one respondent who returned a written survey did not answer the regional collaboration questions.

**Table 2.** Civic and non-profit collaborative partners

Type of organization	No. of respondents listing organization as a partner (%)	Examples
Environmental groups or recreational groups with environmental interests	69	Nature conservancy, various fishing groups, Izaak Walton League
Economic development groups	10	Chambers of commerce, community development groups
Civic organizations	46	Lions club, community foundations, church groups, volunteer firemen
School and youth groups	27	Boy scouts, boys and girls clubs

Thus, of the 43 non-umbrella councils reporting, 70% (30/43) were collaborating with adjacent watershed councils. Two of the most interesting examples are:

- (1) The Walla Walla Watershed Council is actively collaborating with Washington State on a number of issues of concern on both sides of the state line in that area.
- (2) Eight councils in the Rogue basin formed the Rogue Coordinating Council, an organization with a mission to 'promote the success of member councils in watershed protection and restoration, encouraging activities that transcend individual watershed boundaries'.<sup>5</sup>

Collaboration typically involves both public- and private-sector organizations. We asked those who reported working on regional collaborative projects about partners in three general categories. Fifty-three per cent listed government entities, including federal, state and/or local agencies, 26% listed non-profit or other public organizations such as Eco Trust, the Nature Conservancy and various fly fishing organizations, and 8% listed private sector organizations such as timber and agricultural companies.

These regional collaboration projects have involved such things as stream enhancement and weed management, education, a native plant co-op and coastal salmon recovery plans. According to one respondent, collaborating across watersheds results in greater efficiencies for all participants. For example, a crew in one watershed that had a specialized skill set brought their specialization to another watershed, saving time that would otherwise have to be spent on training a crew for the second watershed. To take another example, collaboration allowed different watersheds to share helicopter time for log placement in different streams, saving money. On a less tangible note, one respondent pointed out that the public likes to see organizations working together. There is the potential for 'public capital' as a result of regional collaboration.

*Important contributions.* To wrap up this section, we asked respondents to reflect on all the contributions of their watershed council and name two or three major accomplishments achieved during the study period. Interestingly, on-the-ground

work—either general projects such as tree planting or specific projects within a specific watershed—was the second most frequently mentioned type of accomplishment. The most commonly mentioned accomplishments involved educating and engaging the community.

Many respondents felt strongly that their council's work had done a good deal to inform people about watershed health. Along the same lines, several mentioned that the councils had helped bring people together to learn not only about watershed health but to learn how to engage in dialogue in new ways. One respondent, for instance, talked about people in the community being able to hear one another's viewpoints without the traditional conflict model of interaction. Others talked about how using the consensus model had helped people learn a new way of going about making decisions.

Building trust was also mentioned several times. Answers took several forms: sometimes the increase in trust was between the council and the community and sometimes it was among different interest groups in the watershed. In another instance, it was between local residents and government organizations.

More than once, someone referred to the emergence of 'win-win' and other creative solutions to watershed problems, such as implementation of projects that protected a local river *and* increased property values. One person who was interviewed stated that it was 'exciting to see people think in positive rather than in regulatory terms'.

### *Open-Ended Interviews*

In addition to the surveys, we conducted unstructured (open-ended) interviews with coordinators of five watershed councils. As noted above, we wanted to gain a deeper understanding of issues that arise because of the different contexts in which watershed councils operate—understanding that cannot be captured in a telephone survey. Our major criterion for selecting councils was their success in engaging the public. We also wanted to capture the variety of operating environments that might affect council structure, process, and projects—urban, rural, coastal and inland settings, geographic scale, predominant land ownership type (private or public) and the ways people in the different settings relate to the watershed resources, such as irrigation, grazing, timber and recreation.

The interviews largely confirm the survey findings regarding civic engagement. What emerges is an understanding of the high degree of creativity and sensitivity present in these purposively chosen cases regarding how to engage local communities. The lesson is that the outcomes would likely be different and probably not as productive, if councils were required to organize under a one-size-fits-all formula for structure and process.

What the interviews demonstrate in common is a clear understanding of the need for network development to achieve collaborative efficiencies among partners, essential in an era of declining financial and human resources. Adequate resources for education will continue to be important for raising awareness and knowledge levels among adults and students regarding how they think about their watersheds and the potential for improved stewardship. Volunteers have been a mainstay for bringing people into the process of learning about watershed issues and helping councils realize a wide range of accomplishments. In certain instances, however, the



ability to have additional paid staff would likely help councils achieve objectives while still providing ample opportunities for volunteer participation and learning.

### **Discussion**

This study sought to understand the economic and civic engagement impacts of Oregon's watershed councils in the local communities in which they operate, as an example of CBNRM.

Economically, we asked what direct contribution do Oregon's watershed councils make to the local economies of Oregon? We estimate that:

- each OWEB council support dollar brings an additional \$5.09 into the local economy; and
- a typical watershed council is responsible for \$268 072 in local economic activity each year.

With respect to civic engagement we asked whether watershed councils enhance individuals' and communities' capacity to engage in public issues beyond watershed council activities.

Watershed councils are premised on the Tocquevillian ideals of bottom – up citizen involvement in issues of concern to them and their communities. This is confirmed by the number and age range of the citizen volunteers active in the typical watershed council, the types of activities in which they are engaged and the ways their involvements carry over into other aspects of their civic life. Two-thirds of the people active in watershed councils are also active in other community organizations, both organizations involved with natural resource issues and those involved with other community concerns.

Institutionally, watershed councils have no formal authority. They depend on collaborations among landowners, government agencies and the like to carry out their on-the-ground projects. Our findings indicate that they have been quite effective in developing cooperative relationships, even among entities that have had a history of acrimony.

In the absence of formal authority, the basic tools of watershed councils have been education, trust-building and dialogue. These tools are transferable to many other arenas of public and civic life, and participation in the local watershed council is reported to be an important source of skill building in effective citizenship.

The answer to the question about civic engagement is YES; watershed councils do serve as catalysts to enhance individuals' and communities' capacity to engage in issues beyond watershed functioning.

### **A Final Observation**

The primary function of organizations such as Oregon's watershed councils has been and will continue to be environmental health. The extent to which they recognize their potential role to contribute to the economic health and civic capacity of local communities—in addition to the environmental contributions they make—is not clear. However, these findings suggest that if they approach their work with a greater

consciousness of the elements of CBNRM—symbiotic sustainability, the sustainable community, collaboration—they have the potential to contribute to their watershed communities on multiple levels through their environmental restoration and management activities.

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### **Notes**

- 1 OWEB council support grants fund the basic administrative structure of watershed councils, staff, facilities, supplies and the like. Also note that, consistent with OWEB practice, we use the terms 'watershed council' and 'council' interchangeably.
- 2 We told respondents to define local as within the county. This definition was used in a previous study of watershed councils, which found that 80% of OWEB grant funds to watershed councils are spent locally (that is, within the county) (Bonner & Hibbard, 2003).
- 3 Bonner & Hibbard (2003) found that 80% of OWEB grant funds to watershed councils are spent locally.
- 4 A multiplier is an estimate of the ratio of the direct, indirect and induced effects to the initial change itself. In this case, it is the ratio of the direct, indirect and induced effects to the watershed councils' locally captured hard dollars. The multiplier effect varies with the type of economic activity involved. Public service expenditures have multiplier effects on the local economy in the range of 2.0–2.5 (see e.g. Pozdena, 1997; Families USA, 2003). However, smaller communities generally have smaller multiplier effects, because they are less economically self-sufficient, more money leaks from them to larger urban areas. For this study we have therefore estimated a multiplier somewhat under 2.0.
- 5 [www.restoretherogue.org/docs/rbcc\\_minutes\\_7\\_28\\_03.pdf](http://www.restoretherogue.org/docs/rbcc_minutes_7_28_03.pdf) (accessed August 2005).

### **References**

- Agrawal, A. & Gibson, C. C. (1999) Enchantment and disenchantment: the role of community in natural resource conservation, *World Development*, 27(4), pp. 629–649.
- Baker, M. & Kusel, J. (2003) *Community Forestry in the United States: Learning from the Past, Crafting the Future* (Washington, DC: Island Press).
- Bellamy, J. A., Walker, D. H., McDonald, G. T. & Syme, G. J. (2001) A systems approach to the evaluation of natural resource management initiatives, *Journal of Environmental Management*, 63, pp. 407–423.
- Bonner, K. & Hibbard, M. (2003) *The Economic and Community Effects of Oregon Watershed Enhancement Board Investments in Watershed Restoration* (Eugene, OR: University of Oregon Ecosystem Workforce Program).
- Born, S. M. & Genskow, K. D. (2000) The watershed approach: an empirical assessment of innovation in environmental management, Learning from Innovations in Environmental Protection Research Paper Number 7 (Washington, DC: National Academy of Public Administration).
- Brick, P. & Weber, E. P. (2001) Will rain follow the plow? Unearthing a new environmental movement, in: P. Brick, D. Snow & S. van de Wetering (Eds) *Across the Great Divide: Exploration in Collaborative Conservation and the American West* (Washington, DC: Island Press).
- Bridger, J. C. & Luloff, A. E. (1999) Toward an Interactional Approach to Sustainable Community Development, *Journal of Rural Studies*, 15, pp. 377–387.
- Brosius, J. P., Tsing, A. L. & Zerner, C. (1998) Representing communities: histories and politics of community-based natural resource management, *Society and Natural Resources*, 11, pp. 151–168.
- Conley, A. & Moote, M.A. (2003) Evaluating collaborative natural resource management, *Society and Natural Resources*, 16, pp. 371–386.

- Cortner, H. & Moote, M. A. (1999) *The Politics of Ecosystem Management* (Washington, DC: Island Press).
- Daniels, S. E. & Walker, G. B. (2001) *Working Through Environmental Conflict: The Collaborative Learning Approach* (Westport, CT: Praeger).
- Ericksen, N., Berke, P., Crawford, J. & Dixon, J. (2004) *Plan-Making for Sustainability: The New Zealand Experience* (Burlington, VT: Ashgate).
- Families USA (2003) Medicaid: good for California's economy, Families USA Publication No. 03-102, Washington, DC.
- Flora, C. B., Flora, J. L. & Wade, K. (1996) Measuring success and empowerment, in: N. Walzer (Ed.) *Community Strategic Visioning Programs* (Westport, CT: Praeger).
- Gray, B. (1989) *Collaborating: Finding Common Ground for Multi-Party Problems* (San Francisco, CA: Jossey-Bass).
- Hibbard, M. & Dority, A. (2005) Evaluating environmental, social, and economic impacts of watershed enhancement activities (Eugene, OR: University of Oregon Institute for Policy Research and Innovation). Draft, August.
- Hibbard, M. & Karle, K. (2002) Ecosystem restoration as community economic development? An assessment of the possibilities, *Journal of the Community Development Society*, 33, pp. 39–60.
- Hibbard, M. & Lurie, S. (2005) *Understanding the Community Economic and Social Impacts of Oregon's Watershed Councils* (Eugene, OR: University of Oregon Institute for Policy Research and Innovation).
- Hibbard, M. & Madsen, J. (2003) Environmental resistance to place-based collaboration in the U.S. West, *Society and Natural Resources*, 16, pp. 703–718.
- Hyden, G. (1997) Civil society, social capital, and development: dissection of a complex discourse, *Studies in Comparative International Development*, 32, pp. 3–30.
- Korten, D. (1992) Sustainable development, *World Policy Journal*, 9, pp. 157–190.
- Leach, M., Mearns, R. & Scoones, I. (1999) Environmental entitlements: dynamics and institutions in community-based natural resource management, *World Development*, 27, pp. 235–247.
- Lele, S. (1991) Sustainable development: a critical review, *World Development*, 19, pp. 607–621.
- Margerum, R. D. (2002) Evaluating collaborative planning: implications from an empirical analysis of growth management, *Journal of the American Planning Association*, 68, pp. 179–193.
- Margerum, R. D. & Whitall, D. (2004) The challenges and implications of collaborative management on a river basin scale, *Journal of Environmental Planning and Management*, 47, pp. 407–427.
- Oregon Watershed Enhancement Board (2001) *A Strategy for Achieving Healthy Watersheds in Oregon* (Salem, OR: Oregon Watershed Enhancement Board).
- Pozdena, R. (1997) *Power to the Student: An Alternative to Higher Education Funding Increases*. ECONorthwest Portland, Oregon for Cascade Policy Institute Portland, Oregon.
- Selman, P. (2001) Social capital, sustainability and environmental planning, *Planning Theory and Practice*, 2, pp. 13–30.
- Snow, D. (2001) Coming home: an introduction to collaborative conversation, in: P. Brick, D. Snow & S. van de Wetering (Eds) *Across the Great Divide: Exploration in Collaborative Conservation and the American West* (Washington, DC: Island Press).
- Tolbert, C. M., Irwin, M. D., Lyson, T. A. & Nucci, A. R. (2002) Civic community in small-town America: how civic welfare is influenced by local capitalism and civic engagement, *Rural Sociology*, 67(1), pp. 90–113.
- Tocqueville, A. de (1994) *Democracy in America*, Vol. 1 (New York: Knopf) [originally published 1841].
- von Hagen, B. & Fight, R. D. (1999) Opportunities for conservation-based development of non-timber forest products in the Pacific Northwest, General Technical Report PNW-GTR-473 (Portland: USDA Forest Service, Pacific Northwest Research Station).
- Weber, E. (2000) A new vanguard for the environment: grass-roots ecosystem management as a new environmental movement, *Society and Natural Resources*, 13, pp. 237–259.
- Wondollock, J. M. & Yaffee, S. L. (2000) *Making Collaboration Work: Lessons from Innovation in Natural Resource Management* (Washington, DC: Island Press).
- World Commission on Environment and Development (1987) *Our Common Future* (New York, Oxford University Press).
- Yanarella, E. J. & Levine, R. S. (1992) Does sustainable development lead to sustainability? *Futures*, 24, pp. 759–774.