

The “Co-Power” Project; Developing Consensus to Reduce Wildfire Risks and Promote Sustainable Development in Central Oregon

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1. Introduction

Central Oregon Partnerships for Wildfire Risk Reduction (COPWRR; pronounced “co-power”) is a stakeholder collaboration project aimed at reducing wildfire risk, restoring forest health, and creating restoration-based employment and income in Central Oregon. We use a case study method to assess COPWRR’s effectiveness as a collaborative, community-based effort addressing specific natural resource and socioeconomic issues in Central Oregon. We first identify the project structure and some of its key outcomes. We then address three essential issues that scholars have raised concerning collaboration, and analyze them in the specific context of COPWRR: (1) Is *social learning* occurring as a result of the project? (2) Is *consensus* being achieved in the project? (3) Are *tangible results* being achieved through the project?

2. Overview of the COPWRR Project

2.1 Structure of the COPWRR Project

The COPWRR project is currently nearing the end of Phase II of a three-phased project. The goal for Phase I (September, 2001 – December, 2002) was to pull the myriad wildfire risk reduction interests to the table, to achieve consensus on goals, and to develop a strategy for achieving the goals. The first step was to develop an Advisory Council (AC) representing as many interests as possible. At this writing, the AC is composed of 22 persons representing the following interests: environment, tribal, forest industry, local government, community development, state agency, federal land management, and the general public. A Steering Committee (SC) was also formed in Phase I of the project, charged with providing technical guidance to the AC and project staff.

The objectives for Phase II are to create implementation plans for the high-priority goals and to initiate some actual project activities. For this phase, the Steering Committee was dissolved, and replaced with two “worker bee” implementation teams focusing on land-based and business and marketing issues. Phase III of the COPWRR project (October, 2003 – ongoing) will be devoted to project implementation activities and ongoing community monitoring and collaboration efforts.

2.3 Key Products of the COPWRR Project to Date

Detailed Purpose and Goals Statements, and the COPWRR Glossary

The first order of business for the Advisory Council was to develop and agree upon a series of purpose and goal statements. Draft purpose and goals statements were presented to the AC at their first meeting, in late 2001, and the group agreed on a final version two meetings later. Along the way, semantic issues became evident (e.g., definitions of “ecosystem health,” “catastrophic wildfire,” or “sawtimber”), and staff decided to create the COPWRR Glossary to facilitate mutual understanding.¹

COPWRR Strategy Framework

The primary deliverable and goal for Phase I of the COPWRR project was to create a strategy to achieve the project outcome goals: reduce wildfire risk and increase fuel treatment by-product utilization in Central Oregon. This was accomplished in December, 2002, with the completion and distribution of the *COPWRR Strategy Framework*. The *Strategy* presents a total of 64 recommendations and 4 “data gaps” related to achieving project objectives. High-priority recommendations were then selected in February, 2003. The two highest-priority recommendations – *Use a “Phased Zone” Approach to Implementing Fuel Treatments in the Wildland-Urban Interface*; and the *Coordinated Resource Offering Protocol (CROP)* – will be discussed later in this paper.²

3. The COPWRR Model of Collaboration

COPWRR is a regional, policy-oriented effort composed of multi-party stakeholders, including agencies and partners of interest at both the local/community and regional/policy levels. Applying Cestero’s (1999) distinctions, it is both a ‘place-based’ collaborative, focusing on the region of Central Oregon, and an ‘issue-based’ collaborative, concentrating its efforts on wildfire risk reduction.³ The Central Oregon Intergovernmental Council, a government body perceived as neutral on the subject of land management, convened the project. Project participants are representative of the diversity of interests in the region. Specific ‘slots’ are not reserved for specific interests; rather, efforts are made to maintain a comprehensive balance of interests over time. COPWRR decisions are made on a consensus basis. Facilitation was performed by Scott Aycock, a COIC staff person and co-author of this paper.

Conley and Moote differentiate between collaborative groups focused on a ‘mediation approach,’ designed to resolve specific, defined conflicts, and a ‘partnership approach,’ designed to develop longer-term partnerships to promote ecological, economic, and social health within a defined region.⁴ COPWRR began as the former, with a discreet focus upon wildfire risks, but may be evolving into the latter as the group takes on wider-reaching natural resource management issues.

4. Method and Research Questions

4.1 Method

We use a case study method to assess COPWRR’s effectiveness as a collaborative, community-based effort. Using a combination of ‘insider’ and ‘outsider’ perspectives (one author is the project director and facilitator of COPWRR and the other author is a graduate student in community-based natural resource management), we attempt to balance the benefits of insider familiarity with the benefits of outsider perspective.⁵ The ‘outsider’ researcher conducted semi-structured interviews with the ‘insider’ researcher acting as the key informant, and the findings were then synthesized by both authors. Other participants in the COPWRR project were not interviewed by the ‘outsider’, and when discussed are often left anonymous to protect the integrity of the ongoing project. We recognize the subjectivity inherent in findings based on one ‘insider’ informant’s perspective. To assist the readers in drawing their own conclusions, we have attempted to retain objectivity while acknowledging the assumptions embedded in our research.

4.2 Research Questions

This paper addresses three essential issues that scholars have raised concerning collaboration, and analyzes them in the specific context of COPWRR.

Question 1. Social Learning

Has social learning occurred among participants, resulting in individual learning on the part of participants and innovative collective solutions to wildfire risk reduction?

Numerous scholars have argued that collaboration provides a unique opportunity for diverse stakeholders to increase mutual understanding, forge common ground, and reach solutions that are more informed and ‘better’ than any one party could create.⁶ This is sometimes referred to as “social learning” or “transformative” learning (Schusler et al., 2003; Friedmann, 1987, respectively).⁷ Schusler et al. write, “Social learning contributes to collaboration by creating new relationships, building upon cooperative relationships, and transforming adversarial ones.”⁸ As opposed to traditional planning processes where knowledge is the realm of ‘experts’, collaborative groups strive to obtain knowledge through an intertwining, iterative process in which theory, strategy, vision, and action inform each other in social learning.⁹ Scholars argue that social learning not only reduces conflict and enhances trust among stakeholders, but that the process is essential in forging effective solutions to increasingly complex natural resource problems.¹⁰ We ask if social learning is occurring in the COPWRR process, specifically, is a greater common ground emerging, and is it resulting in implementable, innovative solutions to complex issues?

Question 2. Consensus Attainment

When has the group been able to reach consensus, and has the consensus-based process facilitated innovative, effective solutions or ‘lowest common denominator’ solutions?

Critics of collaboration claim that consensus-based processes often result in ‘lowest common denominator’ solutions,¹¹ or that the process can be held hostage by the most inflexible and demanding stakeholder(s).¹² We look at how and where consensus has been reached in the COPWRR project, and ask whether these consensus decisions reflect token patches of common ground, or innovative social learning as discussed above. We also draw attention to the broader context of these consensus decisions, asking whether and what external factors may affect the quality of consensus decisions.

Question 3. Tangible Results

Has COPWRR been successful in accomplishing stated goals of wildfire risk reduction and job promotion? Has it accomplished objectives that traditional bureaucratic processes have been unable to accomplish?

Some scholars consider on-the-ground outcomes to be the ultimate test of a collaborative process,¹³ and raise concerns that collaborative processes often fall short on implementing decisions and producing outcomes.¹⁴ We examine the outcomes that have resulted thus far from COPWRR, and discuss whether the project has been able to accomplish tangible goals that bureaucratic fire reduction efforts could not.

5. Findings

5.1 Social Learning

Has social learning occurred among participants, resulting in individual learning on the part of participants and innovative collective solutions to wildfire risk reduction?

Individual Learning

While generally positive, the COPWRR project has experienced mixed results regarding individual learning. The project director notes that some individuals on the advisory council were frustrated with the collaborative process, and found it difficult to engage in open, constructive dialogue with those having opposing viewpoints. Two participants dropped out early on, frustrated with the process. One regional interest group representative appeared to operate under a model of negotiation wherein representation means sticking to and defending your position (e.g., if you give anything, you lose).

In contrast to this member, other local representatives of the same interest group have shown more flexibility and willingness to co-create solutions with other stakeholders. These representatives have proceeded to play an increasingly important and effective role on the advisory council, while the role (and participation) of the regional representative has diminished drastically. Statements made to the project director by individuals who left the council or are not engaging with the process indicate that potential participants may be self-selecting based on their willingness to engage in collaborative processes. Fortunately, the project director has had success in identifying new, willing participants so that the diversity of interests may continue to be represented at the table, albeit after a brief period of recruitment.

Over the course of several advisory council meetings, some of the members began to gain trust in the process, started thinking in terms of working together, and, as a result, commenced posing solutions rather than just arguing their positions. For instance, one environmental representative joined the project with a great distrust of commercial forest thinning projects. After six months of meetings, he stated to the project director that he saw potential in coupling business and employment opportunities with ecologically-sustainable thinning. Later, this member began to develop biomass power commercial ventures. Another example involves an industry representative who stated to the project director that he previously had very little interest in meeting with environmentalists, and thought it a waste of time since there was so little common ground between them. Now, due to progress made in the COPWRR project as well as other similar projects in the region, this member has stated that he is interested in being involved in future collaborative processes.

It appears that the membership of the advisory council is being defined, at least partially, by those willing to engage in social learning – i.e., those members who see potential in working with multiple interests towards a common goal. The presence of such individuals in the region is critical for COPWRR, for the willingness to acknowledge the validity of other perspectives is necessary for social learning to occur, and can result in both a broadened understanding of a complex problem, or, as in the case of the environmental representative mentioned above, a new-found and surprising role.

Collective Learning

COPWRR has, as a collective entity, synthesized multiple viewpoints and expertise to create a variety of innovative solutions. Evidence of this is found in the two high-priority recommendations from the *COPWRR Strategy Framework* noted previously in this paper

The Phased Zone approach to fuel treatments in the wildland-urban interface (WUI). In Central Oregon, general protocols define an (average) 1.5-mile radius buffer that should be treated around communities in order to protect them from wildfire. While discussing WUI treatment, some advisory council members were wary of endorsing intensive management across the entire 1.5-mile buffer. Advisory council discussions enabled these persons to share their concerns with agency staff, and fire management professionals were brought in to provide information on fire behavior and forest management alternatives. The result was a phased-zone approach that describes progressively less-intensive management strategies as distance increases from a community. In developing an implementation plan for this recommendation, the land-based implementation team has suggested the organization of ‘community pow-wows’, at which the local fire chief, relevant agency staff, and other interests would work with local community members to specify the desired future conditions in that community’s WUI, given the best available science and the desires of the community. Thus, the phased-zone approach illustrates innovative social learning at the advisory council level and also establishes conditions for social learning to occur within specific local communities.

Small Diameter Supply – the CROP pilot. The CROP pilot is another example of innovative thinking resulting from social learning. Rather than focusing upon individual projects, the CROP supply pilot is aimed at the entire system of delivering small diameter supply to area businesses. A Mater Engineering report on small diameter markets in Central Oregon made a strong case that current public land small diameter supply systems are too inconsistent to achieve fuel utilization.¹⁵ COPWRR participants agreed, and, as a result of project discussions, the Forest Service and BLM have agreed to initiate a small-diameter resource program that would collect extensive data, set planning protocols, and coordinate small diameter supply across the whole region, thus supplying information necessary for investments in technology and product development. Because it is associated with COPWRR, the program would be accountable to both environmentalists who have concerns about ecological standards for the program, and to business interests who have concerns about economic feasibility. Due to its uniqueness and community support, this initiative is currently being considered for establishment as a national benchmark pilot project.

A Hard Lesson: ‘Representatives’ May Not Always ‘Represent’!

The COPWRR experience with social learning and innovative solutions has not come without difficult lessons. An example is the protest that erupted over a COPWRR initiative regarding small diameter processing capacity in the region. COPWRR staff applied for a grant from the Forest Products Lab to analyze different options for optimizing small-diameter wood processing technology at local primary mills. The advisory council signed a letter of support for the grant, and the local paper ran an article highlighting the significance of this agreement among traditional adversaries, with the headline, “Group mulls starting log-processing plant.”¹⁶ This headline ignited fury

among local mills and other related interests. Although the headline was inaccurate – no one intended to start a new mill through the COPWRR project – the perception spread that environmentalists wanted the old mills out of business and were pushing the COPWRR agenda. Local editorials harshly criticized COPWRR and its project director, and bad will and distrust still persist among some parties. In hindsight, the project director realized that local mills were uninformed about the grant and its intentions, and decided to meet individually with mill executives from the two mills involved in the dust-up. As a result, one of the mills elected to designate a representative for the advisory council, and the other ceased protesting the project. The discussions and involvement with these local mills led not only to a reduction in the disruptive environment, but also added new information to the project regarding small diameter processing capacity and political conditions. This scenario highlights a crucial point concerning inclusivity: although a regional forest industry representative was at the table, he did not necessarily represent any specific local mills, and was not informing mill owners about COPWRR goals and activities. The lesson was this: while it is important to include broad stakeholder group representation, it is equally important to involve persons involved with very specific local interests in order to achieve conditions optimal for social learning.

Factors Contributing to Individual and Collective Social Learning in COPWRR

Schusler et al. (2003) outline eight process characteristics that foster social learning: *open communication, diverse participation, unrestrained thinking, constructive conflict, democratic structure, multiple sources of knowledge, extended engagement, and facilitation.*

COPWRR is still too young to determine if long-term *extended engagement* will occur, but the remaining factors are evident in this case. Furthermore, another factor, *strong local leadership*, appears to be an important contributor to social learning in COPWRR.

We have already demonstrated the importance of *diverse participation* and *multiple sources of knowledge* in forging a WUI strategy that combined scientific information, on-the-ground conditions, and individual and social values. We have also shown how a lack of *diverse* (or inclusive) *participation* can endanger the process, as in the case of the Forest Products Lab grant.

Democratic structure is also critical to successful collaborative processes, as social learning will not likely occur if any one party is in a dominant power position.¹⁷ In the COPWRR project, there are at least three potential ‘power blocs’ that could have acted in an attempt to dominate or subvert the process: environmental groups (which have appealed many regional projects in the past, and which hold considerable influence over public opinion), federal land agency decision-makers (who could choose to effectively undermine the process by ignoring the recommendations), and forest industry representatives (who still hold considerable, yet perhaps diminishing, local political power). While individual participants occasionally struggled with the unfamiliar and deliberative structure of collaborative dialogue, none of the potential ‘blocs’ has yet attempted to dominate the process.

Open communication, constructive conflict, and unrestrained thinking are all linked at least partially with *facilitation* in the COPWRR case. The project director has worked to create an atmosphere where open communication, constructive conflict, and unrestrained

thinking are valued. This is evidenced by the “Project Model” statements that were agreed to by project participants, as well as project ground rules for specific structured discussions.¹⁸ Yet, the project director also takes an active role in initiating and guiding discussions and formulating strategies, even while encouraging the group to generate and shape their own ideas. Thus, he does not act as the strictly *neutral* facilitator generally favored in mediation approaches to natural resource problem-solving.

According to the project director, *strong local leadership* on the part of public agency partners shares significant responsibility for the collaborative, democratic nature of the process. Public agency participants have demonstrated a notable aptitude and willingness to engage in collaborative efforts, and have helped create and maintain enthusiasm for the project. The support, guidance, and motivation of one member, in particular, has been critical to maintaining COPWRR’s collaborative viability. For instance, whenever discussions become politically contentious, this member will often step into the fray and offer conciliatory statements to both sides of the debate, as well as a potential resolution to the problem at hand. Additionally, the member has proven to be unusually adept at identifying ‘red herring’ statements and arguments, while gently urging the group to focus on the actual tasks at hand. There is a lesson here: the existence of local capacity for collaborative problem-solving and social learning, especially among local leaders, is critical. Areas without such local capacity may experience more success if local leaders are trained in collaboration and dialogue prior to project inception.

5.2 Consensus Attainment

When has the group been able to reach consensus, and has the consensus-based process facilitated innovative, effective solutions or ‘lowest common denominator’ solutions?

Achieving Consensus

Significant consensus has been achieved during the COPWRR process. The best example of this is the *COPWRR Strategy Framework*, which was developed through an iterative process of full group review and discussion of report drafts. In order to achieve consensus from such a broad array of interests, the director chose to include a wide variety of the ideas that were brought to the table, even those that he knew may not be distinctly relevant to achieving the project’s goals. The resulting multitude of recommendations could have drowned out the most relevant proposals had the director not traced and highlighted the synergies and mutual values expressed among all of the recommendations. Regardless, full advisory council consensus was only achieved after the project director added the following statement to the preface: “The COPWRR Strategy Framework does not commit Advisory Council members or representative organizations to any specific actions, but rather is an expression of challenges and barriers to reducing wildfire risks, as well as some potential opportunities...Not every Advisory Council member agrees 100% with every Recommendation.”¹⁹

The council then prioritized the 64 recommendations through a process of deliberation and simple majority voting. Perhaps due to luck and perhaps to trust developed during the process, the resulting high-priority recommendations were then endorsed by the entire group. Thus, both the development of the entire document and the identification of the high-priority recommendations were achieved with full group consensus.

Quality of Solutions

The question remains as to whether the document contains *innovative* and *effective*, or *lowest common denominator* solutions. Evaluating these qualities in the *Strategy Framework* is quite complex, given the depth and breadth of issues addressed therein. For the sake of brevity, we will focus our attention on how well the document addresses wildfire risk reduction and job promotion within the concept of “ecosystem health.”²⁰

The effectiveness of the *COPWRR Strategy* in achieving innovative and effective ecosystem goals may be constrained by one volatile issue: diameter limits. Ironically, the same political climate that ‘guarantees’ that only ecologically-sensitive solutions will be viable may also be acting as a barrier to ecologically-effective forest management. Ecologically speaking, diameter limits are not an optimal tool for achieving forest health. Strict restrictions on diameter have no scientific basis within ecosystem or wildfire mitigation science, because arbitrary size limits are not sensitive to the specific conditions in any given stand of trees.²¹ Still, diameter limits are often used by environmentalists as a surrogate for trust in land managers because diameter limits are objective. For example, the statement “do not cut any trees above 9” DBH (diameter at breast height)” is direct and measurable. By comparison, projects aimed at “managing for forest health and wildfire risk reduction” are far more difficult to measure or monitor. This conundrum will likely exist until environmental groups have developed enough trust in public land managers to allow them some discretion in implementing projects.

Thus far, COPWRR has chosen to pursue a very careful and conservative course through the issue of diameter limits. The *Strategy Framework* focuses only on how to manage, remove, and utilize small trees (defined as those under 9” DBH), although it also acknowledges that larger trees may and will likely be removed for ecological and wildfire risk reduction purposes. The project director has justified this focus on small trees by stating that the large majority of stems to be removed for fuel treatment purposes will be small; that this segment of the timber supply has been undervalued as a resource; and that the National Fire Plan grant under which the project is funded is explicitly aimed at small tree removal and utilization. He also acknowledges that small trees are more politically feasible to address than large trees, which suggests that COPWRR’s focus on small trees may be an example of *lowest common denominator* rather than *innovative* thinking. However, most of the interests represented at the table have agreed that the project should first focus on small trees in order to move forward, with the belief that trust can be nurtured from this starting point. The working idea is that this trust will eventually result in the design and development of projects based (largely) on scientifically-defensible prescriptions rather than on arbitrary diameter limits. In the meantime, there remains the threat that a narrow focus on small diameter timber may have the dual effect of constraining the potential for ecological optimization in project areas, and of alienating some business interests.

5.3 Tangible Goals

Has COPWRR been successful in accomplishing stated goals of wildfire risk reduction and job promotion? Has it accomplished objectives that traditional bureaucratic processes have been unable to accomplish?

Thus far, the COPWRR project has not achieved its stated outcome goals of wildfire risk reduction and job creation. Tangible outcomes that have been achieved to date consist only of a strategic framework and a handful of new initiatives just getting off the ground. Indeed, the project director states that COPWRR has been criticized by some for taking too much time to produce too few outcomes. Forest fires currently burning over 50,000 acres in the project area (the B & B Complex) will likely add fuel to this criticism.

Without the implementation of direct projects in the near future, criticisms regarding the effectiveness of COPWRR will persist, and enthusiasm for the project will likely wane. It is critical that the project director and the advisory council begin to take on a more active role in achieving the stated goals of wildfire risk reduction, forest health enhancement, and job development. Collaborative processes dealing with complex and politically contentious issues will necessarily take some time to produce results, as simply agreeing on goals and objectives can take a great deal of time, energy, and commitment. But once some measure of collaboration and planning is achieved, it is critical that project proponents begin the process of turning plans into actions, with measurable, easily demonstrable, and ‘champion-able’ results.

Despite this issue, we argue that COPWRR is making progress towards tangible project outcome goals in ways that traditional bureaucratic processes cannot. Examples discussed above show that a consensus-based process grounded in social learning can produce innovative strategies aimed at addressing underlying core-level issues, while simultaneously building trust to overcome contextual barriers such as diameter limits. Furthermore, pooling multiple forms of knowledge and experience is critical to creating solutions that simultaneously address wildfire risk, forest health, and economic stability. Collaborative processes are often set in a broader political context that can constrain both decision-making and implementation of solutions. We argue that in this situation, inclusive and democratic processes of deliberation facilitate both the breadth of knowledge and the trust-building required to address complex issues.

6. Conclusion

The ability of the COPWRR process to transcend traditional ‘positions’ and forge creative solutions has been considerable, especially when participants adopt an interest-based philosophy of building common ground rather than a philosophy of defending traditional positions. When all parties of interest have been included in the deliberations, initiatives have garnered a high level of support. The consensus process has resulted in a diverse set of implementable strategies aimed at resolving core issues, although the group has chosen to remain politically ‘conservative’ on the issue of diameter limits. Although tangible outcomes are important (or precisely because tangible outcomes are important), we suggest that inclusive deliberations that foster trust-building and the sharing and re-shaping of collective knowledge are key to achieving such outcomes, specifically when addressing complex problems within charged political contexts.

ENDNOTES

- ¹ The COPWRR Glossary appears in Aycock, Scott. 2002. *COPWRR Strategy Framework*. Also prepared by the COPWRR Advisory Council and the COPWRR Steering Committee. COIC. Redmond, OR. December. Available online at www.coic.org/copwrr/reports.html.
- ² See Ibid. for full descriptions of these recommendations.
- ³ Cestero, Barb. 1999. *Beyond the Hundredth Meeting: A Field Guide to Collaborative Conservation on the West's Public Lands*: Sonoran Institute.
- ⁴ Conley, Alexander, and Margaret A. Moote. 2003. "Evaluating Collaborative Natural Resource Management." *Society & Natural Resources* 16:371-386 (p. 277).
- ⁵ See arguments for each approach in Conley and Moote, 2003.
- ⁶ See: (1) Wondolleck, Julia M., and Steven L. Yaffee. 2000. *Making Collaboration Work*. Washington D.C.: Island Press. (2) Gray, Barbara. 1989. *Collaborating: Finding Common Ground for Multiparty Problems*. San Francisco: Jossey-Bass Publishers.
- ⁷ See: (1) Friedmann, John. 1987. *Planning in the Public Domain: From Knowledge to Action*. Princeton, NJ: Princeton University Press. (2) Schusler, Tania M., Daniel J. Decker, and Max J. Pfeffer. 2003. "Social Learning for Collaborative Natural Resource Management." *Society & Natural Resources* 15:309-326.
- ⁸ Schusler, et al. 2003 ; p. 312.
- ⁹ Friedmann, 1987, in Beard, Victoria A. 2003. "Learning Radical Planning: The Power of Collective Action." *Planning Theory* 2 (1):13-35.
- ¹⁰ See: (1) Dryzek, John S. 1998. "Political and Ecological Communication." In *Debating the Earth: The Environmental Politics Reader*, edited by J. S. Dryzek and D. Schlosberg. Oxford: Oxford University Press. (2) Salwasser, Hal. 2002. "Navigating Through the Wicked Messiness of Natural Resource Problems: Roles for Science, Coping Strategies, and Decision Analysis." Paper read at Sierra Science Summit, October 8, 2002, at Kings Beach, CA.
- ¹¹ McCloskey, Michael. 2001. "Is this the course you want to be on?" Comments from the closing session of the 8th International Symposium on Society and Natural Resource Management. *Society & Natural Resources* 14:627-634.
- ¹² McKearman, Sara, and David Fairman; 1999 in Margerum, Rich. 2002. "Collaborative Planning: Building Consensus and Building a Distinct Model for Practice." *Journal of Planning Education and Research* 21:237-253.
- ¹³ See Kenney, D.S. 2000. "Arguing about consensus: Examining the case against Western watershed initiatives and other collaborative groups active in natural resources management." Boulder, CO: Natural Resources Law Center, University of Colorado.
- ¹⁴ Margerum, Rich. 1999. "Getting Past Yes: From Capital Creation to Action." *Journal of the American Planning Association* 65 (2):181-192.
- ¹⁵ Mater Engineering Ltd. 2002. *Markets and Processing Options for Small Diameter Trees*. Report prepared for the Central Oregon Partnerships for Wildfire Risk Reduction (COPWRR) Project. Central Oregon Intergovernmental Council. July.
- ¹⁶ Cronin, Mike. 2002. "Group Mulls New Mill," article in the *Bend Bulletin*, Tuesday, July 16, 2002. pp C1, C8. Western Communications Incorporated.
- ¹⁷ See: (1) Forester, John. 1989. *Planning in the Face of Power*. Berkeley: University of California Press. (2) Friedmann, 1987. (3) Beard, 2003.
- ¹⁸ The "Project Model" statements may be found in Aycock, 2002. Ground rules for structured discussions are described in advisory council meeting documents, and address mutual respect among participants and brainstorming guidelines (e.g., "focus on the issues, not the people," and "there are no bad ideas," respectively).
- ¹⁹ Aycock, 2002; p. v.
- ²⁰ "Ecosystem health" is defined in the COPWRR Glossary as "a condition where the parts and functions of an ecosystem are sustained over time and where the system's capacity for self-repair is maintained, such that goals for uses, values, and services of the ecosystem are met. Ibid.; p. 85.
- ²¹ It is true, however, that the large majority of fire scientists advocate the use of "thinning from below" (removing the understory rather than the overstory), to reduce catastrophic fire risk in dense, fire prone forests, a practice which would necessarily result in the removal of mainly small trees. See: Graham, Russell T.; Harvey, Alan E.; Jain, Theresa B.; and Tonn, Jonalea R. 1999. *The Effects of Thinning and Similar Stand Treatments on Fire Behavior in Western Forests*. Gen. Tech. Rep. PNW-GTR-463. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.