

EVALUATING PUBLIC-PRIVATE COLLABORATION FOR
RESTORING STREAMFLOWS: A CASE STUDY OF THE
DESCHUTES RESOURCES CONSERVANCY

by

STEPHANIE LYNN TUXILL

A THESIS

Presented to the Environmental Studies Program
and the Graduate School of the University of Oregon
in partial fulfillment of the requirements
for the degree of
Master of Science

March 2003

"Evaluating Public-Private Collaboration for Restoring Streamflows: A Case Study of the Deschutes Resources Conservancy," a thesis prepared by Stephanie L. Tuxill in partial fulfillment of the requirements for the Master of Science degree in the Environmental Studies Program. This thesis has been approved and accepted by:

[Redacted Signature]

Dr. Dennis Todd, Chair of the Thesis Committee

March 5, 2003

Date

Committee in Charge: Dr. Dennis Todd, Chair
 Dr. Richard Margerum

Accepted by:

[Redacted Signature]

Dean of the Graduate School

An Abstract of the Thesis of

Stephanie L. Tuxill for the degree of Master of Science
in the Environmental Studies Program to be taken March 2003

Title: EVALUATING PUBLIC-PRIVATE COLLABORATION FOR RESTORING
STREAMFLOWS: A CASE STUDY OF THE DESCHUTES RESOURCES
CONSERVANCY

Approved: _____

Dr. Dennis Todd

In the last decade collaborative organizations have emerged as strategies for more comprehensive, community-based resource management. This study examines the factors influencing the outcomes of these organizations, identifying a set of ten attributes associated with successful collaborative groups. This theoretical framework is applied to a single-case study of the Deschutes Resources Conservancy (DRC), a collaborative, public-private partnership formed in 1996 to restore streamflows and improve water quality in the Deschutes River Basin of Central Oregon. Qualitative data was collected primarily through semi-structured interviews. Analysis revealed that the DRC has been successful in obtaining financial and political support and initial improvements in streamflows, and agrees strongly with seven of the ten attributes in the theoretical framework. The DRC model has a unique context, but suggests lessons that can be applied to other basins. The case study demonstrates the importance of building trust among community members, particularly when organizations promote innovative strategies.

CURRICULUM VITA

NAME OF AUTHOR: Stephanie Lynn Tuxill

PLACE OF BIRTH: Kodiak, Alaska

DATE OF BIRTH: April 13, 1970

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

University of Oregon
University of Montana
Dartmouth College

DEGREES AWARDED:

Master of Science in Environmental Studies, 2003, University of Oregon
Bachelor of Arts in Biology and Environmental Studies, 1993, Dartmouth College

AREAS OF SPECIAL INTEREST:

Natural Resource Policy and Management
Community-Based Conservation
International Conservation Issues

PROFESSIONAL EXPERIENCE:

Coordinator of International Programs, QLF/Atlantic Center for the Environment,
Ipswich, Massachusetts, 2002-2003

Teaching Assistant, Environmental Studies Program, University of Oregon,
Eugene, 1998-2000

Intern, Forest Service Employees for Environmental Ethics, Eugene, 2000

AWARDS AND HONORS:

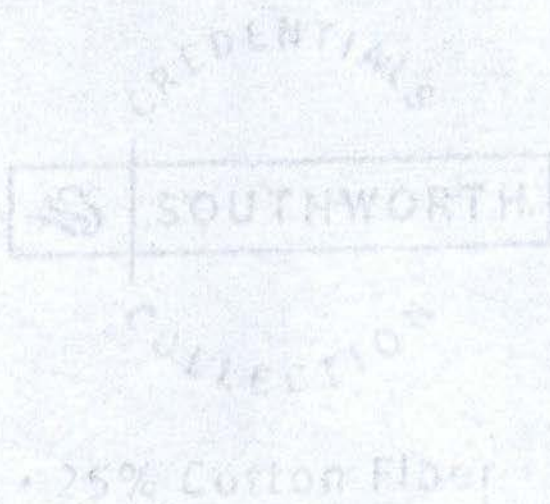
Hal and Muffy Coolidge International Intern Award, 2002
Award for Outstanding Female in Organic Chemistry, 1995.
Robert and Augustus Goodman Award, 1992 and 1993.

GRANTS:

Barker Research Grant, Environmental Studies Program, 2000-2001.

PUBLICATIONS:

Tuxill, Stephanie. 2001. Lessons from the Deschutes Basin: Insights into community, collaboration, and the future of Western water use. *The Ecotone* Fall 2001: 15-17.



ACKNOWLEDGEMENTS

My sincere appreciation goes to Dr. Dennis Todd for overseeing this thesis project from the very beginning to the very end, and to Dr. Richard Margerum for guidance with data analysis and the preparation of this manuscript. Your patience, support, and feedback have been invaluable. I'd also like to thank the staff, faculty, and students of the Environmental Studies Program for all of the assistance and inspiration you have provided over the past few years. My research was supported in part by a Barker research grant from the Environmental Studies Program.

I greatly enjoyed my time in the Deschutes River Basin learning about the work of the Deschutes Resources Conservancy. My sincere thanks go out to all of the interview subjects and to the staff and board of the DRC for welcoming me into your meetings and taking the time to share your perspectives. Any errors in the pages that follow are solely my own.

To Jessica Brown, Larry Morris, and my other colleagues at the Quebec-Labrador Foundation / Atlantic Center for the Environment, thank you for your support during the writing of this thesis and for providing further inspiration and opportunities to continue my learning.

My heartfelt thanks go to my family and friends for always believing in me. To Jackie Tuxill and John Tuxill, thank you for the professional advice and for keeping me on track. To Tom and Sue Tuxill, your unconditional love and support are, as always, invaluable. Finally, although it is impossible to name all of the many friends who have contributed to this long but successful journey, I'd like to single out Anna Adachi-Mejia for her wisdom and unlimited support.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	1
Why Collaboration?	2
The Case Study	4
Thesis Overview.....	7
II. NATURAL RESOURCE MANAGEMENT AND COLLABORATION: A THEORETICAL REVIEW	9
An Historical Overview of Natural Resource Management	10
Attributes of Successful Collaborative Organizations.....	24
Summary.....	41
III. METHODOLOGY.....	43
Research Design.....	43
Data Analysis	46
Research Limitations.....	47
IV. OVERVIEW OF THE CASE STUDY.....	49
The Deschutes River Basin	49
The Problem Situation.....	57
The Deschutes Resources Conservancy.....	60
V. CASE STUDY RESULTS	65
Evaluation of the Deschutes Resources Conservancy	65
Analysis Using the Attributes Framework	69
Discussion.....	89
VI. CONCLUSION	93
APPENDIX: SAMPLE INTERVIEW QUESTIONS.....	98
BIBLIOGRAPHY	102

LIST OF TABLES

Table	Page
1. Basic Characteristics of Ecosystem Management.....	20
2. Basic Characteristics of Collaboration	24
3. Attributes of Successful Collaborative Organizations	27
4. List of Interview Subjects.....	45
5. Deschutes River and Crooked River Daily Flows, 1960-1990.....	58
6. The Structure of the Board of Directors of the Deschutes Resources Conservancy.....	62
7. Improvements in Water Dedicated to Instream Flows in the Deschutes Basin as a Result of DRC Projects, 1998-2002.....	66
8. Annual Federal Appropriations for the DRC, 1999-2003	68

LIST OF FIGURES

Figure	Page
1. Map of the Deschutes River Basin	50
2. DRC Income, 1997-2001	67

CHAPTER I

INTRODUCTION

In the past decade numerous collaborative organizations and partnerships have sprung up across the United States and around the world, seeking more comprehensive, sustainable, and community-based management of natural resources. These groups are as diverse as the landscapes and communities they represent and, not surprisingly, have been the subject of an increasing number of research studies. In most cases these collaborative groups have not been around long enough to have quantifiable ecological “proof” of success. But the sheer variety and complexity of these groups provides an abundance of material for qualitative analysis and comparison based on organizational characteristics, such as level of trust among stakeholders, goals and objectives, stakeholder participation, type of decision-making process, and access to political and financial resources. Collaboration is still very experimental, and in many cases very locally specific, but by evaluating what is working in a particular group and why, these research studies may provide lessons and insights that are relevant to other communities and ecosystems.

In the research presented here, I examine the factors influencing the outcomes of collaborative organizations, identifying a set of ten key attributes associated with successful groups and applying this theoretical framework to a single-case study, the Deschutes Resources Conservancy (DRC). The DRC is a collaborative, non-profit, public-private partnership working at the scale of a major state river basin—in this case the Deschutes Basin, the second largest river basin in Oregon. Within the Deschutes Basin, this group has specifically chosen to focus on improving water quantity and water

quality through voluntary, economic-based incentives. My goal is to describe the physical, social, and institutional context of the DRC, evaluate its outcomes, analyze the data collected in this case study using the framework of the ten key attributes, and determine how well this theoretical model matches my results.

Why Collaboration?

Collaboration has emerged as a strategy for natural resource management in response to converging trends in science, sense of place, politics, and management. The traditional model of resource management in the United States has been top-down, with jurisdiction fragmented among different agencies and decision-making restricted to so-called “experts”—scientists and administrators. In the 1970s and 1980s, changes in scientific knowledge and public values began to shift resource management toward more inclusive, comprehensive approaches that recognized ecological connections across the landscape as well as aesthetic and recreational values. But increasing conflicts between regulatory agencies, environmental interests, and private landowners were stalling the implementation of management plans and dividing communities, particularly in the American West. In the 1990s, collaboration emerged as a tool to bring public, private, and community stakeholders together to try to move beyond differences and find common ground.

Collaboration in its simplest definition means people working together toward a common goal. When considered in the context of natural resource management, collaboration refers to arrangements that “are generally place-based, cooperative, multi-party, and grounded in high-quality information” (Wondolleck and Yaffee 2000, 4). In some cases this collaboration is a process of interaction between existing organizations,

such as a partnership agreement, or between an organization and a community. In other cases a new collaborative group representing diverse stakeholder interests may be formed to perform a unique role in the evolving management paradigm. Other variables that distinguish one collaborative arrangement from another include the geographic focus, issues addressed, courses of action, and the openness and extent of the stakeholder participation format.

To fully understand each collaborative arrangement, it is essential to examine the unique social, political, and physical context in which it has evolved. This external context shapes how an issue is perceived, how problems and solutions are defined, and who is seen as a stakeholder. The dynamics between different interest groups or scales of management are important, particularly interests split between local-state-national and public-private. Ultimately, the outcomes of a collaborative agreement are determined by this interplay between the organization and its context.

Assessing the outcomes of collaboration can be challenging. Most collaborative institutions are less than ten years old and are still experimenting with different strategies and modes of operation, as well as struggling to obtain funding and other resources. While quantitative ecological parameters are difficult to measure, it is possible to analyze success based on more qualitative organizational parameters such as trust-building among participants, problem-solving, buy-in from the community and key interests, project history and prioritization, funding patterns, and relationships with other groups.

Collaboration itself doesn't necessarily provide the solution to a problem, and not everyone sees it as the panacea for problems with the traditional top-down systems of resource management. Critics have asserted that non-experts aren't qualified to make decisions about natural resources, that local interests are often favored over national

interests, and that environmental values and the public good are often compromised (Kenney 2000). Research and outcomes, however, demonstrate that certain collaborative arrangements have achieved positive results. With an effective institutional format, and in conjunction with other tools and strategies, collaboration arguably has a role in the resource management paradigm.

The Case Study

The Deschutes Resources Conservancy (DRC) evolved out of an informal collaboration that began in the early 1990s, known as the Ad-Hoc Deschutes Group. The core of the collaborative included the Confederated Tribes of Warm Springs, a national non-profit organization (Environmental Defense), and local irrigation districts. In 1996 other stakeholders, including state and federal agencies, joined the dialogue and the initiative was formalized as the DRC through federal legislation. A board of ten public and nine private stakeholders guides the organization, and all decisions are made by consensus. The DRC receives funding through federal appropriations, public and private grants, and local donations, and uses these resources to fund projects of other institutions in the Deschutes Basin as well as to develop its own projects.

The Deschutes Resources Conservancy provides an excellent opportunity to examine the organizational aspects of collaborative resource management by analyzing the outcomes of one organization and comparing these observations to existing research studies. This comparison can yield a broader set of recommendations about effective organizational structure and function. The goal of my research was to explore two questions: (1) what factors have influenced the outcomes of the DRC?, and (2) how

do these factors relate to a set of “attributes of successful collaborative groups” identified through other research studies?

Because so many different types of collaborative groups exist, my analysis is most relevant to organizations or circumstances comparable to the DRC and the Deschutes Basin. Specifically, the DRC helps bridge public and private concerns over water use, water quality, and economic sustainability from a non-regulatory, community-based perspective. It plays a unique role within the basin, interacting with other organizations such as watershed councils, Soil and Water Conservation Districts, and land and water trusts. From a geographic perspective, the DRC operates at the scale of a secondary river basin. The Deschutes Basin, a subbasin of the Columbia River system, is the second largest of 18 major river basins within the state of Oregon. This geographic scale is also unique. While a standard collaborative model exists for watershed councils, particularly in Oregon through the administration of the Oregon Watershed Enhancement Board (OWEB), institutions that operate at the basin level are less common and more diverse in structure and function.

A collaborative group focused specifically on water addresses a unique set of legal and management issues. Water as a resource is undeniably part of the public good, yet it is governed by a long-standing system of permanent, private, consumptive rights. In the American West, state agencies are responsible for administering water rights under the prior appropriation system, which is commonly summarized by the phrase “first in time, first in right.” As long as the water continues to be put to a defined “beneficial use” a water right cannot be taken away. The most common use of water is for agriculture, and the widespread application of river water was made possible early on through systems of canals, managed by irrigation districts, that divert water out of the

riverbed. In the Deschutes Basin the effects of water use have been noticeable, with parts of the Deschutes River and its tributaries often drying up completely during the summer and fall.

A growing recognition of the instream values of water—for fish and wildlife, recreation, and scenic views—has led some states to modify their prior appropriation systems in the last fifteen years. Oregon was one of the pioneers in this regard with its Instream Water Rights Act of 1987. Under this act state agencies can apply for instream water rights that have the same legal rights as consumptive water rights. This alone wouldn't have a significant impact, as these rights would still be junior to all existing senior water rights, so the act also approved voluntary transfers of water rights from one use to another. Using this strategy, senior water rights could be dedicated to instream uses, and a permanent flow could be established for streams that formerly ran dry.

In Oregon this legislation in theory opened the door for reallocation of water from consumptive to instream uses, yet to actually put it into practice would require gaining the trust of existing water users. At the time, conflicts over the Endangered Species Act had polarized resource users, regulatory agencies, and environmental interests. Many farmers and irrigation districts were just as concerned about water flows as anyone else, but they didn't want to compromise their economic future or be forced into giving up private water rights.

Collaboration has emerged as a means to resolve public-private conflicts, bridge differences, build on common interests, and come up with innovative solutions. For example, the non-profit Oregon Water Trust was formed by stakeholders (including farmers) to identify water users willing to sell, lease, or donate part or all of their water rights and to acquire the money for these transactions. The Deschutes Resources

Conservancy has a broader scope on solutions to these water issues, but water leasing has been one of their key strategies thus far in improving water quantity.

Thesis Overview

This research study begins in Chapter II with an introduction to the theoretical foundation of collaborative resource management. In a review of literature I present a brief historical summary of the evolution of natural resource management, examine the arguments relating to collaboration, discuss the findings of other analyses of collaborative and watershed-based institutions, and identify a set of key attributes common to successful collaborative groups. The methodology for my original research is discussed in Chapter III. My case study research involved three kinds of data to achieve triangulation. Data collection was done primarily through semi-structured interviews with the DRC staff and board, as well as other professionals involved in collaboration or watershed management and policy in the Deschutes Basin and Oregon. Additionally, I attended board meetings and examined internal documents of the DRC.

Chapter IV provides background information about the case study, beginning with the physical, social, and institutional context of the Deschutes Basin. I focus particularly on the characteristics relevant to water use and management within the Basin. Next, I discuss the different facets of the complex problem situation that led to collaboration and the eventual creation of the DRC. I end this chapter with a description of the basic organizational structure and projects of this organization.

In Chapter V, I discuss the results of my case study research on the Deschutes Resources Conservancy. I begin by evaluating its performance as an organization, and then apply the theoretical framework of the key attributes of successful collaboration to

the DRC, and end by discussing other factors that may be unique to the DRC case. Finally, Chapter VI summarizes the conclusions and broader implications of my research.

This thesis examines collaboration as a means of addressing water quantity, water quality, and other resource issues in Oregon, in the American West, and beyond. It is the story of one organization, the Deschutes Resources Conservancy, which has been captured in these pages at one particular moment in time. In reality, this organization has been continually evolving, so the situation may have changed since this research was concluded. In the Deschutes Basin and throughout the West new challenges will continue to arise, conflicts will develop, and organizations will change. Collaborative arrangements show promise for helping buffer these changes by providing a forum for trust-building, open dialogue, and cooperation across the landscape.

CHAPTER II
NATURAL RESOURCE MANAGEMENT AND COLLABORATION:
A THEORETICAL REVIEW

Collaboration has emerged in the last decade as a strategy for natural resource management in response to changing values and converging trends in science, governance, and management. It is a part of an evolving paradigm, and is still very experimental. This review focuses on collaborative management in the context of the landscape of the American West, in particular the management of water resources, with special emphasis on the Pacific Northwest. The goal of this chapter is to summarize the arguments regarding why collaboration is an effective strategy for resource management and which factors contribute to the success of a collaborative organization.

One of the main themes interwoven throughout U.S. history is the dynamic between public (or community) rights and private (or individual) rights, and the responsibilities that go along with these rights. Another theme is the dynamic between different scales of government and authority—federal, state, and local—as well as the special circumstances of tribal sovereignty. Looking back over our nation's history, there have been gradual shifts in power, most notably a trend towards increased centralization in the early and mid-1900s and then a shift towards decentralization and the rise of state and local governance in the last two decades (Cortner and Moote 1999). At the same time, natural resource issues have become more complex, requiring greater consideration of social, economic, and political factors. Collaboration presents an inclusive, flexible model that may be able to bridge these differences in scale and address resource management issues across broad regions and ecosystems.

This chapter begins with a general overview of trends in resource management in the United States over the past two hundred years, highlighting laws, policies, and trends that are relevant to water resources management in Oregon. This leads up to the evolution of ecosystem management, watershed management, and collaborative approaches to natural resource management. The second half of the chapter considers the lessons learned from ten years of experimentation and analysis of collaboration, and identifies ten common attributes of successful collaborative organizations.

An Historical Overview of Natural Resource Management

In the United States we have experienced two distinct periods in the use and management of natural resources, resulting in what is considered the “traditional management paradigm”, and we have started transitioning into a third period where a new model of management is emerging (ibid.). Throughout this history, attitudes towards natural resources have shifted along with trends in government, culture, economy, scientific knowledge, ecological thought, and social theory. This section explores how these issues have influenced our perceptions and understanding of how to create effective models for protecting, using, and managing our natural resources, particularly water resources in the American West.

1800s-1950s: The Evolution of the Traditional Management Paradigm

The first era of resource use and management considered here encompasses most of the 1800s and is characterized by the concepts of frontierism, individualism, self-reliance and the prevailing perception that resources were abundant and inexhaustible. The next period, the Progressive Era, emerged at the turn of the twentieth century and

still persists to a certain degree today. The legacies of the Progressive Era include government agencies, decisions rooted in scientific expertise, and a utilitarian perspective on natural resources. These principles represent what is now considered the “traditional” natural resource management paradigm, and this section will discuss how it evolved within the context of water resources management.

In the 1800s, the young United States government was primarily concerned with allocating goods and resources to private companies and individuals in order to grow the economy, expand our society, and exploit the rich and seemingly infinite supply of natural resources (ibid.). The prevailing thought was that unused resources were wasted resources. In accordance with this expansionist mindset, over the course of the century Native Americans were displaced from most of their territory onto reservations established by treaties with the U.S. government. The Western frontier was opened for settlement.

Federal laws such as the 1866 Mining Act and the 1877 Desert Lands Act governed land disposal and economic activities, but there was not a strong federal presence in the West. Individuals and communities had to develop qualities of self-reliance, and these Acts reinforced the role and power of individuals (Gillilan and Brown 1997). As states were established, these qualities were still highly valued, and a certain resentment of interference by the distant federal government emerged, and still exists to a certain degree today (Wilkinson 1992).

The earliest settlers in the West followed trails carved out of the landscape and located themselves on lands adjacent to rivers and streams. As increasing numbers of people headed west, however, they became more independent of the geographic limitations of the landscape. Railroads, bridges, and irrigation canals allowed more

flexibility of movement and land development, and as symbols of progress helped overshadow the importance of rivers in the geography of the West (Kenney 1997). This growing disconnection with the landscape is reflected in the delineation of political boundaries across the West. A few forward-thinking individuals in the nineteenth century, such as the legendary explorer and surveyor John Wesley Powell, saw the benefits of creating political boundaries by watersheds, but these ideas were largely ignored (Bates et al. 1993). County, state, and property lines were based on a grid system that rarely recognized the natural features of the landscape.

In the American West, the biggest limitation for land development was adequate supplies of water. Mining and agriculture required large amounts of water, which had to be diverted from the rivers and streams, sometimes for long distances. The riparian doctrine, which governed water rights in the eastern US, advocated concepts of equality and reasonable use, but was based on a landscape where water was abundant and easily accessible. Faced with different circumstances and the general lack of federal oversight in the Western lands, the earliest water users developed their own system of water allocation that became known as the prior appropriation doctrine (ibid.).

The main characteristic of the basic prior appropriation doctrine is a "first in time, first in right" philosophy that gives preference to the earliest, or most senior, water users. A water right was based on the concept that users were entitled to divert water from a river or stream and put it to a defined "beneficial use." The water had to be used or else the right was lost, as water left instream was considered wasted. By the late 1800s the most common use of water was for agriculture, which dominated the western economy (Gillilan and Brown 1997). The widespread application of river water was made possible

early on through systems of canals, managed by irrigation districts, that diverted water out of the riverbed.

While the riparian doctrine still held sway as an ideal, and some communities (particularly the Mormon settlers) developed communal systems of water allocation, eventually the prior appropriation system dominated water use and development by the end of the 1800s (ibid.). Besides being “well-suited for use in the more arid climates,” the prior appropriation doctrine “suited the prevalent ethic of development of the public domain” (ibid., 24). The Mining Act and the Desert Lands Act sanctioned existing appropriation rights, and, according to later Supreme Court decisions, gave state governments the authority to establish rules for administering water use, even on federal lands (ibid.).

Towards the end of the nineteenth century, the consequences of rampant exploitation of Western resources and the concentration of power and wealth by private companies and individuals became more widely apparent (Cortner and Moote 1999). Early conservationists had decried the loss of wildlife and the unchecked degradation of land, and now more people began to listen. Resources were not infinite as had been perceived, and by allowing private rights to prevail, the public good was suffering. At the turn of the century, a new era was born.

The Progressive Era promoted a more centralized control of public resources and increased government oversight and regulation. The federal government created a comprehensive system to manage public lands for resource use and development, instead of simply encouraging privatization. The emerging scientific disciplines of forestry, wildlife biology, and natural resource management led to the creation of federal agencies such as the United States Forest Service. Each agency had its own mission,

authority, and scope of interest. The emphasis was on conservation as opposed to preservation. By placing the decision-making power for resource management in the hands of trained experts, the prevalent belief was that we would have a more rational, unbiased, and efficient management of the country's natural resources (ibid.).

State governments also started managing natural resources, and had the legal authority to regulate water resource use across public and private lands. Between 1900 and 1920, each western state passed legislation to codify a system of water rights and established agencies to administer these rights. Each state had a slightly different system from the others, but all were based on the prior appropriation system. The first steps were to legally recognize all existing water rights with their initial date of priority, and then the administering agency accepted applications for new water rights.

Water represents a unique case because water rights were established as private use rights for a resource owned by the public. This sets up a natural conflict between public and private interests, particularly when public values change over time but private rights are given legal permanence. While some states have inserted clauses limiting private rights according to the demands of the public interest, the "public interest" has not been well defined (Gillilan and Brown 1997). There have also been conflicts and tension between state and federal interests (as well as with tribal interests, which will be described in the next section), due to overlapping responsibilities and jurisdictions for water resources use and development. With large-scale development of water resources, the federal government took the lead by building dams and developing other reclamation projects in western river basins.

In general, federal power was consolidated during the Depression and post-World War II eras in order to build the economy and establish the United States as a

global superpower. In natural resource management, federal primacy dominated the scene through the 1950s and into the 1960s. Federal agencies became more specialized, more entrenched in their own ideology, and more influenced by special interests. States took a back seat, except for the area of water allocation. Overall, there was limited power-sharing, jurisdictional competition, and numerous turf battles between agencies (Cortner and Moote 1999).

During the Progressive Era, the federal government gradually realized the need for greater coordination between fragmented levels and jurisdictions of state and federal management in major river basins. Between 1930 and 1960, numerous models for consolidated basin management were developed, but only a handful of examples were effective and have survived, such as the 1933 Tennessee Valley Authority (TVA). Explanations of the models and discussions of the results can be found in sources such as Kenney (1997). In brief, most of these experiments failed because they lacked a comprehensive focus and regulatory authority, and agencies had difficulty in sharing power and working together (ibid.). In the end, political changes moved the federal government away from centralized management, and top-down models at such a massive regional scale were abandoned. This evolution will be discussed in more detail below.

1960s-1980s: A Time of Transition

During this next time period, changing social and ecological values led citizen advocates and scientists to demand more accountability from the government, and subsequent environmental regulations to protect public values caused increased conflicts with private landowners and resource users, who resented the infringements on

their individual rights. Ultimately, increasing conflict and polarization tied up natural resource managers in legal battles. In the 1980s, political changes initiated a gradual decentralization of power from the federal level to state governments, and in the Pacific Northwest Indian tribes began to emerge as important players in western politics and natural resource management. These trends all set the stage for a new, more inclusive model for balancing public and private interests in natural resources.

The 1960s were characterized by the growth of grassroots organizing, an increasing dissatisfaction with government, and a demand for policies that reflected changing social values, environmental values, and concerns about equity (Cortner and Moote 1999). The government responded to these concerns by passing a set of environmental laws that broadened the federal management role to include not just the use but also the protection of natural resources. These included the Wilderness Act (1964), the Wild and Scenic Rivers Act (1968), the National Environmental Policy Act (1969), the Clean Air Act (1970), the Clean Water Act (1972), and the Endangered Species Act (1973). States also responded—for example, in 1970, Oregon passed the Scenic Waterways program (Gillilan and Brown 1997).

Indian tribes also started emerging as important players in natural resource management. Owning close to five percent of land in the American West, tribes once again became “an integral part of the western social, economic, and government structure” (Wilkinson 1992, 25). This was particularly true in the Columbia River Basin. As stocks of anadromous fish declined, the courts affirmed tribal treaty rights to this resource in the mid-1970s. The creation of the Columbia River Inter-Tribal Fish Commission gave the tribes in the basin a prominent role in the salmon recovery program (*ibid.*). Wilkinson (*ibid.*, 203) argued that “the events that most directly triggered

the beginnings of modern comprehensive reform...originated from Indian tribes, who nearly everyone had assumed would quietly fade away.”

Additionally, in the 1960s and 1970s the federal government became more committed to enforcing a 1908 Supreme Court decision in *Winters v. United States*, which recognized reserved water rights for Indian reservations. These reserved water rights represented a serious threat to existing water users, for they had a priority date corresponding to the date that the land was reserved—in most cases, this was earlier than existing water uses. Thus there was suddenly a category of unspecified, senior water rights that were based on federal law and presumably couldn't be diminished by states (Gillilan and Brown 1997). A 1963 Supreme Court decision in the case of *Arizona v. California* extended the 1908 decision to all federal land reservations, recognizing a broader category of federal reserved water rights. While subsequent court decisions placed limitations on the application of these reserved water rights (see Gillilan and Brown, 1997, for more details) this exacerbated existing tensions between state and federal governments.

The federal government and state water managers did not begin serious negotiations with Indian tribes until the 1960s-1970s to settle the water rights legally owed to them, and in most cases it took at least one or more decades to come to an agreement. Some settlements had to be referred to the courts for adjudication, and others still have yet to be fully resolved. There were a variety of reasons why it took so long; see Gillilan and Brown (ibid.) for an excellent discussion of these factors. What is important here is that reserved water rights for Indian tribes became a very significant and controversial issue that changed the balance of power in many Western river

basins, and created tension particularly among the tribes, state water administrators, and the main category of water users—irrigators (ibid., Wilkinson 1992).

General political changes were also affecting the power dynamic between federal, state, and tribal governments. Cooperative Federalism emerged in the 1970s, balancing state and federal power, and in the 1980s this shifted to the New Federalism, which delegated further power to state governments (Kenney 1997). While the conservative, 1980s-era Reagan administration was not known for being environmentally friendly, their fiscal policies did streamline the government bureaucracy and curtailed some of the large, subsidized programs that were the legacy of the Progressive Era (Cortner and Moote 1999). As part of this, agency staff and budgets were downsized (ibid.). In general, states were happy to take on stronger roles and take more control of public resources, and these shifts also gave opportunities for tribes to step up and demonstrate their interest and abilities in assuming authority over traditional resources, in many cases demanding it as their right (Wilkinson 1992).

In the 1980s, enforcement of federal environmental regulations became an increasingly controversial issue. Businesses and private landowners resented restrictions on their rights to use resources and develop their private property. When government agencies were slow in cracking down on rule violators, advocacy groups increasingly turned to the courts to enforce environmental regulations and protect public resources. This further fueled these conflicts, and with population growth and increased pressure on resources in rural communities in the American West, natural resource agencies became less effective at developing and carrying out management plans. This was particularly true with the Endangered Species Act, which polarized western

communities. The “regulatory takings” aspect of this law was the source of much controversy due to its conflict with individual property rights (Cortner and Moote 1999).

At the same time, changes in scientific knowledge and public perception began to shift resource management toward more inclusive, comprehensive approaches that recognized an expanded set of values, including ecological values and connections across the landscape as well as recreational and aesthetic values (Cortner and Moote 1999). While agencies and laws were often slower to respond, the US Environmental Protection Agency and the US Forest Service initiated early programs promoting watershed management and ecosystem management, respectively (Grumbine 1994, Kenney and Lord 1999, Ruhl 1999).

Watershed approaches were becoming popular at the state level as well. For example, in 1985 Oregon established both the Governor’s Watershed Enhancement Board and the Strategic Watershed Management Group to coordinate state agency activities relating to water resources and to develop watershed policy issues and priorities (Craiger 2001).

In the 1980s, some new institutional models emerged in attempts to integrate resource management with social, political, and economic issues at broader geographic scales (Kenney 1997). One early example was the Northwest Power Planning Council (NPPC), authorized by Congress in 1980 to resolve conflicts between hydropower and fish in the Columbia River Basin. The NPPC is a regional entity composed of state appointed representatives and funded by revenues of the Bonneville Power Administration, and has a mandate to solicit public participation and collaborate with federal agencies. The council’s job is to advise the BPA on several matters relating to

energy and meeting the fish and wildlife regulations set by the Pacific Northwest Power Planning Act of 1980.

This trend incorporating social, economic, and political issues in scientific management continued, and eventually became defined as ecosystem management. The basic characteristics of this management approach are summarized in Table 1, and for more details on this refer to sources such as Cortner and Moote (1999) and Grumbine (1994). With ecosystem management there are different approaches that can be taken, primarily based on physical and natural geography. Because this thesis focuses on a river basin, this discussion will introduce one particular kind of ecosystem management—watershed management in the American West.

TABLE 1. Basic Characteristics of Ecosystem Management

-
- Concern for ecosystem health (integrity, vitality, resilience, sustainability)
 - Landscape-scale and decentralized management
 - Promotion of new partnerships (multiple landowners, interagency)
 - Public participation, integrating civic discourse into decision making
 - Integration of scientific knowledge in a “sociopolitical and values framework” (Grumbine 1994, 31)

Sources: *ibid.*, Cortner and Moote 1999

In the 1970s and 1980s, economic and demographic changes in many western communities led to changes in water use and growing concerns about the health of rivers, lakes, and the surrounding forests and rangeland (Gillilan and Brown 1997). The watershed increasingly became the focus for integrating resource management and for exploring both ecological connectivity and the interaction between human activities and natural resources (Bates et al. 1993, Ruhl 1999). In the late 1980s, states began to

consider modifying the traditional system of water rights to provide greater protection of instream values (Gillilan and Brown 1997).

Around the same time, tensions between states, local residents, and the federal government became more prevalent in the western states (Gillilan and Brown 1997). The threat of federal intervention loomed large through the Endangered Species Act and the ecological values of streamflows, and many water users feared the government would condemn water rights and affect their economic livelihoods (ibid.). The need for change was evident on all sides, but the playing field had increased in size and complexity, so new solutions were needed.

1980s-1990s: The Emergence of Collaboration

In general, the increasing conflicts between regulatory agencies, environmental interests, and resource users were stalling the implementation of management plans and dividing communities across the American West. In the late 1980s and early 1990s, collaboration emerged as a tool to bring public, private, and community stakeholders together to find common ground and work effectively towards goals of healthy, sustainable ecosystems and communities. The promises of collaborative management are that it can promote power sharing and provide a forum for balancing public and private interests, affirming both the public good and individual rights by focusing on incentives instead of regulation (Cortner and Moote 1999, Wondolleck and Yaffee 2000).

In the 1990s, government agencies underwent major institutional changes, paving the way for increased coordination and power sharing. At the federal level, these changes included encouraging greater public participation and incorporating ecosystem management into policy. Additionally, the Clinton administration initiated a National

Performance Review based on the concept of “reinventing government,” a phrase coined by Osborne and Gaebler (1993), which draws on private sector ideas to revitalize public sector programs and encourage innovations (Kenney and Lord 1999). At the state level, agencies were restructured or created to bridge disciplines. For example, in 1998 in Oregon the Governor’s Watershed Enhancement Board was renamed the Oregon Watershed Enhancement Board (OWEB) and elevated to a cabinet-level agency, with increased responsibilities.

The rise of collaboration reflects an increased interest in civic engagement and local decision making and an overall shift in emphasis from the individual to the community. Collaboration provides a means for building social capital and community capacity for action, recognizing and incorporating local knowledge, and re-engaging the public according to the true principles of democracy (Cortner and Moote 1999).

Collaboration utilizes new models for bridging public and private concerns, in particular incorporating market tools into natural resource management and focusing on incentives as more positive alternatives to regulation. These economic approaches are not always favored by environmental interests, who may view it as compromising natural resources and prefer to put their faith in regulatory and technical management (Brick and Weber 2001). Collaboration also reflects changing conceptions of property and shared responsibilities for stewarding public and private resources (Cortner and Moote 1999).

Critics of collaboration assert that it results in the devolution of power from experts to local, non-expert decision-makers, as well as the creation of “lowest common denominator” decisions through the use of consensus, resulting in decisions that may be politically oriented but ultimately compromise the natural resources (Kenney 2000).

Another concern is a bias towards local interests, resulting in a lack of accountability to

the overall public (ibid.). For summary descriptions of the main arguments against collaborative approaches, see publications by Kenney (ibid.). Recognizing that these concerns are valid, Wondolleck and Yaffee (2000) suggest using fairness, legitimacy, and wisdom as guidelines for evaluating collaborative groups. Kenney (2000, 60) concludes that despite the arguments against these initiatives, collaborative efforts should be viewed with "guarded optimism."

Collaboration in its simplest definition means people working together toward a common goal. When considered in the context of natural resource management, collaboration refers to arrangements that "are generally place-based, cooperative, multi-party, and grounded in high-quality information" (Wondolleck and Yaffee 2000, 4). In some cases this collaboration is a process of interaction between existing organizations, such as a partnership agreement, or between an organization and a community. In other cases a new collaborative group representing diverse stakeholder interests may be formed to perform a unique role in the evolving management paradigm. Other variables that distinguish one collaborative arrangement from another include the decision-making process, geographic focus, issues addressed, courses of action, and the openness and extent of the stakeholder participation format.

Table 2 summarizes the ways that collaborative resource management addresses the deficiencies of the traditional management paradigm discussed above and advocates new strategies and solutions for overcoming traditional obstacles. The next section will identify some of the attributes that contribute to the overall success of collaborative organizations.

TABLE 2. Basic Characteristics of Collaboration

Collaboration addresses existing problems:	Collaboration advocates new solutions:
<ul style="list-style-type: none"> • Overlapping jurisdictions • Landscape connectivity vs. narrow disciplinary approaches • Value conflicts • Equity issues • Public-private conflicts 	<ul style="list-style-type: none"> • Coordinated management, new institutional models • Watershed/ecosystem perspectives • Participatory decision making (often consensus-based) • Stakeholder involvement • Local investment • Market-based incentives

Attributes of Successful Collaborative Organizations

To fully understand each collaborative arrangement, it is essential to examine the unique social, political, and physical context in which it has evolved. This external context shapes how an issue is perceived, how problems and solutions are defined, and who is seen as a stakeholder. The dynamics between different interest groups or scales of management are important, particularly interests split between local-state-national and public-private. Ultimately, the outcomes of a collaborative agreement are determined by this interplay between the organization and its context.

Collaboration itself doesn't necessarily provide the solution to a problem, and as described above, not everyone sees it as the panacea for problems with the traditional systems of resource management. Research and outcomes, however, demonstrate that certain collaborative arrangements have achieved positive results. With an effective institutional format, and in conjunction with other tools and strategies, collaboration arguably has a role in the resource management paradigm.

Assessing the outcomes of collaboration can be challenging. Most collaborative organizations are less than ten years old and can vary widely in their strategies and

modes of operation. It is common for these institutions, including government programs promoting collaboration, to go through a stage of opportunistic experimentation and pilot projects before undertaking strategic planning (Kenney 1997). While overall goals of collaborative groups are usually tied closely to ecological parameters such as improving water quality, many on-the-ground projects are still in implementation and data-collection phases and thus lack tangible, measurable results. In some cases, these quantitative results cannot be expected for decades (Kenney 2001).

For this reason, researchers have focused primarily on evaluating the qualitative aspects of collaboration based on case studies, surveys, observation, and the growing literature related to collaborative planning and management. According to Kenney (*ibid.*), this qualitative approach to measuring success examines organizational parameters such as decision making, participation, relationships among parties, conflict resolution, planning, goal-setting, implementation, project history and prioritization, and access to resources. Kenney (*ibid.*, 191) cautions that clear links between organizational characteristics and scientific results have not yet been established, and emphasizes that further research is essential to “understanding the manner in which these components interact with each other and with the natural resource problem at hand.”

The diversity of collaborative organizations and partnerships keeps expanding, providing a rich base of experiences and outcomes to study. The current body of literature offers a variety of observations and recommendations, including analyses of how to make collaboration work (Wondolleck and Yaffee 2000), how to create effective models for collaborative planning and integrated management (Margerum 2002, Margerum 1999), and analyses of the state and federal roles in watershed initiatives

(Kenney 1997, Natural Resources Law Center 1998). It is critical to keep developing analytical tools and models and examining collaborative groups objectively. Kenney and Lord (1999, v) caution against “an alarming trend in the natural resources literature: to endorse or denounce various institutional problem-solving strategies based on dogma rather than intellectually sound analysis.” By continuing to test observations against new case studies we can move forward in our understanding of the dynamics between institutional parameters and ecological outcomes.

Based on a review of this literature, I have compiled a list of ten basic attributes of successful collaborative organizations. Table 3 summarizes these attributes and lists the original sources. While each attribute was supported by a minimum of two research studies, the selection and arrangement of these attributes was influenced by several factors related to this case study. First, the list naturally reflects the fact that the focus of my research is more oriented towards exploring relationships (individual, stakeholder, and institutional), access to resources, and organizational structure and less oriented towards the field of planning. Second, given the subject of my case study, the Deschutes Resources Conservancy, these attributes are more relevant to organizations working from a watershed perspective. Each attribute is discussed in more detail below.

TABLE 3. Attributes of Successful Collaborative Organizations

Attribute	Sources
1. The political climate is favorable and multiple levels of government are involved.	Getches 2001, Kenney 1997, Margerum 1999, NRLC 1998
2. The region has a sense of community and stakeholders have identified common ground.	Gray 1989, Kenney and Lord 1999, Margerum 1999, Margerum 2002, Wondolleck and Yaffee 2000
3. Stakeholders have reframed the problem to recognize interrelated causes, effects, and solutions.	Fisher, Ury, and Patton 1991, Gray 1989, Kenney and Lord 1999, Lewicki et al. 1994, Margerum 1999, Margerum 2002, Susskind and Cruikshank 1987, Wondolleck and Yaffee 2000
4. The group is representative of stakeholders, uses an effective process for decision making and conflict resolution, and is viewed as legitimate.	Fisher, Ury, and Patton 1991, Gray 1989, Margerum 2002, NRLC 1998, Susskind and Cruikshank 1987, Wondolleck and Yaffee 2000
5. The group has a clear purpose and identifies realistic, tangible goals.	Getches 2001, Gray 1989, Margerum 1999, Margerum 2002, NRLC 1998
6. Group decisions are guided by good science and comprehensive management plans.	Kenney 1997, Margerum 1999, Wondolleck and Yaffee 2000
7. The group fosters commitment, a sense of ownership, and accountability.	Gray 1989, Margerum 1999, Susskind and Cruikshank 1987, Wondolleck and Yaffee 2000
8. The group builds and sustains relationships internally and with the community.	Margerum 1999, Snow 2001, Wondolleck and Yaffee 2000
9. The group seeks creative, innovative solutions.	Fisher, Ury, and Patton 1991, Gray 1989, Snow 2001, Wondolleck and Yaffee 2000
10. The group has access to critical human, financial, and technical resources.	Kenney 1997, Margerum 1999, Margerum 2002, NRLC 1998, Wondolleck and Yaffee 2000

Attribute 1: The Political Climate Is Favorable and Multiple Levels of Government Are Involved

An obvious component of successful collaboration is the existence of laws and policies that allow, support, or actively promote these integrated forums. Some laws and policies merely open doors for new players, while others create incentives, provide resources, or represent major overhauls of management paradigms. Margerum (1999, 155) states that for a group “to move beyond a purely advocacy and education role, government laws and policies had to be conducive to integration.” Laws can provide both positive and negative incentives that lead to collaboration. For example, by threatening government intervention or regulation of private activities, laws like the Endangered Species Act provide a strong impetus for bringing people to the table to find alternatives.

Implementation of these laws and policies, as well as improvements upon them, often depend on a human factor—agency personnel, politicians, and other government officials at federal, state, tribal, and local levels. While the appropriate roles of government agencies and representatives in collaborative groups are impossible to specify (being highly dependent on many diverse characteristics within a given situation), researchers do agree that government involvement is critical to successful collaboration. For example, case study research of watershed groups summarized by Kenney (1997, 47) indicated that “most initiatives do not have a legislative basis,” yet the vast majority (80%) originated through government initiatives (state-40%, federal-20%, local government-20%) versus nongovernmental bodies (20%). In another review of watershed groups, Getches (2001, 184) concluded that “...the government role is not only helpful but critical—a nearly universal element of all those groups that seemed to be

working successfully.” Finally, in a case study survey performed by Margerum (2002), stakeholder groups identified the lack of government commitment as a major organizational obstacle. The benefits of government involvement include access to political and technical resources as well as scientific expertise, which are discussed in more detail in attributes below (attributes 10 and 6, respectively).

Government involvement in collaboration can have both positive and negative influences, however. Researchers are quick to emphasize that the government’s role can be a source of tension within a collaborative group, and may ultimately limit success (Gray 1989, Wondolleck and Yaffee 2000). For example, Gray (1989) points out that external legal mandates do not typically encourage stakeholders to negotiate in good faith. Additionally, if the success of government involvement is ascribed to the behavior and beliefs of individual representatives, then it can be difficult to describe the “ideal” role of government. In general, however, it seems to be universally important for both government agencies and representatives to promote power sharing, provide support and resources, and allow bottom-up evolution to occur.

Attribute 2: The Region Has a Sense of Community and Stakeholders Have Identified Common Ground

One of the engaging aspects about collaboration grounded in a particular geographic region is the natural emphasis on a sense of place. When people have common concerns for a healthy, sustainable community and an appreciation for a unique quality of life, they have the opportunity to transcend differences. Traditional adversaries can relate to each other in new ways. Brick and Weber (2001, 16) describe this dynamic:

In short, place is both a physical and political space, with powerful implications: place is almost universally understood by collaborative advocates to be the foundation and catalyst for enlightened self-governance, despite the differing interests that loggers, ranchers, environmentalists, Native Americans, kayakers, hunting guides, county officials, land managers, and other interested citizens bring to the table.

The process of finding common ground involves addressing differences rooted in values or ideology. Kenney and Lord (1999, 96) identify “the earlier resolution of value conflicts” as one of two factors “most salient in creating an environment conducive to success” of alternative problem-solving arrangements. Fisher, Ury, and Patton (1991) describe effective strategies for recognizing and moving beyond basic value conflicts. They stress that the root of the problem lies not in conflicting positions, but in the conflict between each side’s interests— their needs, desires, concerns, and fears—, with the most powerful interests being basic human needs (*ibid.*). These interests can be uncovered by building a relationship based on “accurate perceptions, clear communication, appropriate emotions, and a forward-looking, purposive outlook” (*ibid.*, 21). Behind conflicting positions lie shared and compatible interests, which can inspire new solutions (Lewicki et al. 1994) and “serve as the building blocks for a wise agreement” (Fisher, Ury, and Patton 1991, 43).

Margerum (2002, 249) observed these dynamics occurring among groups he studied: “When confronted by ideological differences, participants appeared to rely on identifying common goals and then working backwards to determine the range of means for achieving those goals.” The basic steps of this approach are to initiate a dialogue and explore the facets of different perspectives. By recognizing shared problems and fears, shared goals and vision, and compatible interests, interested parties can lay the groundwork for effective collaboration (Wondolleck and Yaffee 2000). While Susskind and Cruikshank (1987, 188) emphasize that “trust has to be earned,” this process of

building working relationships enhances future collaborative efforts: “the more quickly you can turn a stranger into someone you know, the easier a negotiation is likely to become” (Fisher, Ury, and Patton 1991, 37).

Attribute 3: Stakeholders Have Reframed the Problem to Recognize
Interrelated Causes, Effects, and Solutions

The next step after identifying common ground is to look at the problem with a fresh perspective, recognizing that one’s ability to identify causes and define appropriate solutions is directly related to the ways that problems are framed. The issues to be considered include all the facets of the problem, how stakeholders are affected by the problem, relationships and power dynamics between the stakeholders, the confidence people have in the available data, and existing alternatives. Margerum (2002, 248) states that this exploration requires stakeholders “to engage in a learning process” and see how “their issues” are interrelated with other issues. This can be a complex and challenging process, and may take time. However, Susskind and Cruikshank (1987, 247) assert that “it is precisely this kind of [built-in] learning that allows a reform to take root and endure.” The scholarly literature on negotiation and collaboration associates win-win outcomes with these approaches that acknowledge and explore the complexity of problems (Fisher, Ury, and Patton 1991, Gray 1989, Lewicki et al. 1994, Susskind and Cruikshank 1987, Wondolleck and Yaffee 2000).

Power dynamics and interrelationships add a critical dimension to this reframing process and need to be recognized. Susskind and Cruikshank (1987) emphasize that interdependence among parties involved in a consensus-building effort is necessary—they do not need to have equal power, just some sort of leverage that can influence each other’s options. Similarly, Kenney and Lord (1999) identify the existence of

symmetrical problem-solving incentives (usually involving both positive and negative incentives) as the second key factor in the success of collaborative initiatives, creating motivation for stakeholders to work together. Ultimately, win-win outcomes “can only be achieved when the parties stress the cooperative, and not just competitive aspects of their relationship” (Susskind and Cruikshank 1987, 33) and come together to “[invent] options for mutual gain” (ibid., 117). Where stakeholders have difficulty in recognizing interrelationships, a mediator may be useful in moving this process forward (Fisher, Ury, and Patton 1991, Gray 1989, Susskind and Cruikshank 1987).

Collecting and sharing information may be critical to the reframing process. According to Margerum (1999, 160), participants “noted that they developed a more holistic understanding of the environmental, socioeconomic and institutional systems” and “cited data and analysis sharing as an important part of the broader analysis.” New data and research can be key, particularly if cognitive conflicts are present among stakeholders or individuals. Collaborative groups often collect and integrate data from numerous sources in order to make their own conclusions about a problem (Wondolleck and Yaffee 2000).

Finally, researchers cite the low prioritization of problem solving as a major barrier to effective collaboration. Sometimes participants are tied into specific time constraints, making immediate action a higher priority than dialogue and brainstorming (Gray 1989). Other times “[decision-makers] tend to choose a desired solution because it fits traditions or organizational priorities, without a careful determination of how it fits the problem or whether an alternative course of action might be more effective or efficient” (Wondolleck and Yaffee 2000, 127).

For collaboration to move beyond dialogue, participants “must believe that their interests are better served by collaborating than by other means” (Gray 1989, 264). Ultimately, progress may not come until an issue matures or some event catalyzes the situation, altering the balance of power and changing the incentive structure. Wondolleck and Yaffee (2000, 137) observed that in several of their cases, “a change in approach—a fundamentally altered mind-set—was critical to the group’s progress, and those who achieved a change were exuberant to do so.”

Attribute 4: The Group Is Representative of Stakeholders, Uses an Effective Process for Decision making and Conflict Resolution, and Is Viewed as Legitimate.

The organizational structure and operation are critical aspects of a successful collaboration, encompassing such issues as participation, decision making, leadership, and managing conflict. Wondolleck and Yaffee (2000, 115) emphasize the need to create an “enduring process.” Gray (1989, 266) recognizes the qualities of vigilance and perseverance, as well as “a belief in the potential of the process, coupled with a realistic appreciation of the possible obstacles.”

The issue of stakeholder representation is often controversial, generating questions such as: who qualifies as a stakeholder, how will they be represented, and what is the best way to balance local and national interests (Kenney 1997, Margerum 2002, Snow 2001, Susskind and Cruikshank 1987). There are no clear answers since every situation encompasses a unique set of problems and interests, and too many people at the table can start to hamper the collaborative process. One of the controversial aspects of collaboration is the dynamic between local stakeholders and national stakeholders. Snow (2001, 10) argues that “interests attached to all appropriate

levels of sovereign authority in the issues under discussion need to be present and well-represented.”

Legitimacy is a key issue when discussing both stakeholder participation and representation. How are representatives chosen, how directly do they represent their stakeholder group, and are they empowered to speak for that group (Susskind and Cruikshank 1987)? Depending on the nature of the collaboration the representative may not be viewed as a spokesperson, and therefore may not be required to make decisions on behalf of the group. Regardless of these details, for a collaborative group to be successful, there must be basic internal and external perceptions that the correct stakeholders are involved. The stakeholders may change with time as problems and issues change (*ibid.*), so it is important for a collaborative group to reassess the list of stakeholders involved and alter it as necessary.

Margerum (2002) highlights the ways that power dynamics influence collaboration outcomes. Stakeholders have differential access to power, and this must be equalized to a certain degree to have a successful collaboration. One way to promote power sharing is through consensus (*ibid.*), which is the most popular form of decision making among collaborative groups. Still, even with consensus, “power sharing may require a deliberate effort on the part of powerful organizations” to give up some autonomy (*ibid.*, 250).

An essential element of a successful collaborative organization is effective conflict management, for with so many interests represented, conflict is inevitable. It’s important to recognize the different types of conflict that can be present (such as value, interest, and cognitive conflicts) and respond with an appropriate strategy (Margerum 1999). Several researchers stress that conflict itself isn’t necessarily negative—

Susskind and Cruikshank (1987, 33) assert that "it is often the only available tool for achieving badly needed reform," and that it "should not be suppressed." While incessant conflict can be destructive (ibid.), a certain amount of tension can maintain creativity and encourage innovative solutions:

Fertile conflict lurks around the edges of every successful collaborative I've seen or studied—and that's a good thing. Where the edge of conflict can be maintained, there is probably reasonable vigilance against the forms of collusion that have damaged the landscape and waterways of the West. (Snow 2001, 9)

Good collaborators recognize the inherent values of these diverse perspectives and seek to create an inclusive, open forum for discussion and decision making.

**Attribute 5: The Group Has a Clear Purpose and Identifies
Realistic, Tangible Goals.**

Once people can sit down at the same table and communicate effectively, the next steps for a collaborative group are to identify an overall purpose, set concrete goals, and make an action plan. While some participants may feel that just getting to the table and talking is a major achievement, Getches (2001, 182) emphasizes that "the first element of successful watershed groups is that they must focus on a clear objective, something more than the touchy-feely notion of togetherness." This objective must be realistic in its focus and scope given factors such as the resources of the group, the nature of the problems it faces, and the group's appropriate role in the institutional environment. A focus that is too broad or narrow can hinder success (Gray 1989, Natural Resources Law Center 1998).

Additionally, it is critical that groups see planning not as the endpoint but as an intermediate step towards action, and as an iterative process where goals are repeatedly re-evaluated. In an analysis of collaborative groups, Margerum (1999, 160) found that

“the most common complaint among U.S. stakeholders was that the planning process took too long and the plan was too detailed, causing participants to focus on the plan as the product.” Effective collaborative groups distinguish between short-term and long-term perspectives when setting goals and identifying projects. Immediate goals are often opportunistic and modest in scope, as groups seek to accomplish some immediate on-the-ground results in order to build confidence, test new strategies, gain momentum, and increase external support (ibid., Margerum 2002). Stakeholders surveyed by Margerum (1999, 163) “often cited early projects and activities as important to long-term success.” Long-term planning should be comprehensive and incorporate different stages of project management such as implementation, monitoring, and evaluation. Ultimately, a long-term plan should be strategic and flexible (ibid.). This approach allows a group to follow new opportunities, respond to internal and external changes, and evolve as an institution.

Attribute 6: Group Decisions Are Guided by Good Science and
Comprehensive Management Plans.

When it comes to any form of resource management, decision making must be based in concrete knowledge in order to be scientifically acceptable, and collaborative management is no exception. Wondolleck and Yaffee (2000, 134) note that “technical information and scientific procedures were critical to the progress of a number of the successful partnership groups we studied,” while Margerum (1999, 159) states that an “integrated response requires sound system-wide research and data.” Collaborative groups need to evaluate the data available to them based on factors such as reliability, compatibility and agreement, collection date, and completeness, and be able to integrate it effectively from different sources. As stated in the first attribute, government

participants often make significant contributions (formal and informal) to the knowledge base of the collaborative effort. Due to some perceptions (however valid) that government data are incomplete or biased, comparisons with independent sources of data are also critical. The ability of an organization to collect and manage data also relates to Attribute 10 (The group has access to critical human, financial, and technical resources).

Effective community and resource management plans are also critical for good outcomes from collaboration. Margerum (ibid, 159) states that his evaluation of Australian case studies “revealed a critical element not previously identified: the importance of research efforts that coincided with planning and management.” Unfortunately, in many areas of the American West management plans are out of date and tend to be narrowly focused—few comprehensive plans exist that integrate ecological, economic, and other social data. At a river basin scale, management plans ideally reflect institutional linkages and ecological interconnections throughout the basin’s nested watersheds, upstream to downstream. Although these linkages have been difficult to develop, the degree to which this problem is addressed and information is integrated can assist watershed groups (Kenney 1997, 51).

Attribute 7: The Group Fosters Commitment, a Sense of Ownership,
and Accountability.

An effective collaborative group empowers its participants to take responsibility for the group’s actions and commit to a common vision of the future. This is fostered through many of the attributes mentioned above, such as developing a sense of place, redefining problems to recognize interdependencies, giving participants a role in designing plans and setting goals, and realizing tangible results (Gray 1989, McKinney

2001). As Susskind and Cruikshank (1987, 247) succinctly put it, “the ‘reformed’ become the reformers.” The collaborative process allows people to move beyond self-interest and blaming to something greater: a sense of community. The collaborative process is so complex, this commitment is critical—it keeps people at the table.

Beyond commitment is the idea of “ownership” by the stakeholders involved a collaborative process. Wondolleck and Yaffee (2000) identify two dimensions to this concept: ownership of the problem and ownership of the collaborative process. In short, “people who ‘owned’ the resource felt compelled to find ways to take care of it” (ibid., 146). This sense of ownership is fostered by sharing responsibility and “providing people with the latitude to make creative decisions” (ibid., 148).

Because collaborative processes are still controversial from a management perspective, accountability is critical for allowing a collaborative group to take responsibility for addressing natural resource problems. Wondolleck and Yaffee (2000) stress the need to ensure that public interests are not being engulfed by the private agendas of stakeholders. At the same time, public review and collaborative processes also help ensure that government agencies are being accountable to public concerns and community interests, instead of operating in isolation (ibid.). Tools and approaches that encourage accountability include performance standards, transparent decision-making processes, and other legal and process-based checks and balances (ibid.).

**Attribute 8: The Group Builds and Sustains Relationships Internally
and with the Community.**

Relationships within a collaborative arrangement are guided by the system of stakeholder representation that is established as well as the function and goals of the group. Ideally there is communication within each stakeholder group to ensure that the

representative is in tune with his or her constituency, a point highlighted by Margerum's research (1999, 159):

The interviews also revealed that stakeholder attitudes, beliefs, and understanding changed during the course of their interaction, but the attitudes of the people they were representing (either formally or informally) did not necessarily change with them. Their mutual learning and consensus were not always being mirrored in the community.

Admittedly, consensus building within the community is an even greater challenge than finding consensus with in a group of stakeholder representatives, but it doesn't preclude reaching out to the public to keep them involved in some way and to stay in tune with their concerns. Outreach and education are considered important tools for building support within the community (including financial support and volunteers) and are "often important compliments [*sic*] to voluntary and incentive-based implementation programs" (ibid.,163). Effective relationships with the public can also help expand the sense of ownership generated by collaborative processes.

It's also beneficial for collaborative groups to cultivate relationships with other organizations and management agencies. Not only can networking help broaden their base of support, but by coordinating efforts and sharing resources more can be accomplished (Wondolleck and Yaffee 2000). Because collaborative groups can have a broad focus, communication with other organizations can also help avoid repetition and overlap of programs.

Attribute 9: The Group Seeks Creative, Innovative Solutions

Effective collaborative groups demonstrate creative, proactive, and innovative behavior. They take risks, are persistent and patient, build on small steps, anticipate change, see opportunities in crisis, and learn from their failures (Gray 1989, Wondolleck

and Yaffee 2000). Fisher, Ury, and Patton (1991, 57) assert that “inventing options does not come naturally,” but that the process of “reaching agreement through differences” encourages creativity (ibid., 74). The flexibility of collaborative groups can provide the environment for this behavior to flourish, but again, individuals, strong leadership, and vision are usually the key to putting it all into action (Wondolleck and Yaffee 2000).

Collaboration is used to address complex, integrated problems, which often inherently require creative solutions (ibid.). As described in the first part of this chapter, entrepreneurial and market-based approaches have become popular for overcoming some of the inefficiencies and ineffectiveness in traditional resource management.

Snow (2001, 6) asserts that “innovation is the principal hallmark of the most successful collaboratives,” with innovations “evidence of the latent creativity that seems to exist naturally in diversity.” This creativity may be concealed or suppressed in more top-down, regulated environments (Brick and Weber 2001). Some examples of innovative approaches include using government programs as catalysts and support, taking advantage of the public-private interface, making use of community based social networks, and using the symbolic power of innovation (Wondolleck and Yaffee 2000).

Attribute 10: The Group Has Access to Critical Human, Technical, and Financial Resources

Last but not least, it is very difficult to have a successful collaboration without a strong set of resources. Human resources are essential, particularly skilled, creative leaders and a network of supporters in the form of staff, technical advisors, politicians, and dedicated participants (ibid.). Technical resources, including in-kind services, equipment, and knowledge, are often provided by agencies participating in the collaboration (ibid., Kenney 1997). Funding can come from participants as well as a

broad set of public grant programs, private foundations, and donations. Once one set of resources is committed, commonly other resources follow. Margerum (1999, 163) observes that "implementation funding and grants often produced a multiplier through in kind support, private sector funding, and volunteer activities." Effective leaders and participants of collaborative groups seek out these diverse opportunities in order to build a solid footing for their programs and projects.

There may be problems associated with these resources, however, if they appear to be linked to undue power or influence. Margerum (2002) cautions that funding from certain sources can lead to concerns about bias and control. This may particularly be the case with government sources, where the fear is top down control, as well as private sources, where there is concern that funding entities may have their own separate agenda (Kenney 2000).

Summary

Collaboration has emerged as an inclusive, flexible, and effective approach to natural resource management at an ecosystem or watershed scale. It has its roots in democracy, local governance, and conflict resolution, and integrates community concerns with resource use and management. When done appropriately, collaboration is able to overcome some of the problems and challenges inherent in the "traditional" paradigm of natural resource management.

The explosion of collaborative groups across the American West in the 1990s has provided many opportunities to observe and compare these groups in action. The number of research studies has grown as well, and lessons learned from these analyses can help current and future collaborative groups work more effectively.

The set of “attributes of successful collaborative organizations” compiled in this chapter have been culled from a variety of sources, from negotiation and conflict resolution theory (Fisher, Ury, and Patton 1991, Susskind and Cruikshank 1987) to broad studies of collaborative processes and organizations (Gray 1989, Wondolleck and Yaffee 2000) to studies of watershed groups and other specific examples of collaborative planning (such as Kenney 1997 and Margerum 2002). These ten attributes were chosen because they represent similarities found consistently across this range of research studies. This theoretical framework provides the basis for analysis of the case study to follow, the Deschutes Resources Conservancy.

CHAPTER III

METHODOLOGY

The success of collaborative organizations can be evaluated through quantitative or qualitative analyses. Qualitative research methods provide a means for analyzing the organizational aspects of collaboration. The diversity of collaborative organizations and their situational contexts highlights the need to take unique outcomes under consideration. This research study uses a single-case study approach to compare the outcomes of the Deschutes Resources Conservancy with a theoretical set of attributes of successful collaborative groups, which was compiled from a variety of academic sources.

The advantage of the case study approach as a research method is that it allows greater consideration of this context that surrounds and influences an individual research subject (Yin 1994). A single-case study is “used to determine whether a theory’s prepositions are correct or whether some alternative set of explanations might be more relevant” (ibid., 38). As collaborative natural resource management is a young field, the theory is still being tested and refined; a research study using existing literature to analyze a single, in-depth case study can help contribute to this process. Effective case study research utilizes a triangulation approach, such as collecting data from a minimum of three sources, to develop convergence and greater support for conclusions (ibid.).

Research Design

The subject of this single-case study is a collaborative organization, the Deschutes Resources Conservancy (DRC). This organization was initially chosen

because its geographic focus is a major state river basin, and its model was more unusual compared to other collaborative watershed-oriented organizations currently operating in Oregon and other Western states, such as watershed councils. Previous research studies have already examined some of these more common models (for example, see Kenney et al. 2000, Huntington and Sommarstrom 2000), but until I started my research there had not been any in-depth studies of the DRC. A river basin such as the Deschutes encompasses many individual watersheds (and watershed councils), but is still one component of a regional interstate basin such as the Columbia River Basin, the level at which the Northwest Power Planning Council operates. Therefore, the DRC case study presented interesting questions concerning relationships between "nested" collaborative institutions, in addition to the usual questions of overlapping jurisdictions that are unrelated to watershed boundaries. The unique history and organizational structure of the DRC, its narrow set of objectives, and its use of innovative strategies provided additional merit to using the DRC as a case study.

The theory to be tested in this study is the list of ten common attributes of successful collaborations, which was developed through a review of literature from the past fifteen years. Data were collected from three sources: participant evaluations (interviews), researcher evaluations (based on observation of meetings and review of organizational documents), and external evaluations (interviews). The weakest data source is the external evaluation, as the DRC has not been the subject of any prior research studies. These data are based on interviews with individuals familiar with the DRC through professional relationships.

I conducted interviews in December 2000, February 2001, April 2001, and January 2003, with a total of ten individuals. Five interview subjects were affiliated with

the DRC: four board members and one staff member. Two of these board members represented public interests (tribal government and a state agency) and two represented private stakeholders (irrigated agriculture and environmental interests). The staff person was the executive director. The other five interviews were conducted with individuals external to the Deschutes Resources Conservancy, including two employees of state agencies and three representatives of community organizations or interests. The community representatives will remain anonymous to retain confidentiality, and will be referred to as Subject 1, Subject 2, and Subject 3. Nine of the interviews were audiotaped and the tenth was conducted over the phone. I transcribed or took notes for all of the interviews, and the interviewees had the opportunity to review these comments and transcripts following the interviews.

TABLE 4. List of Interview Subjects

Category	Name	Affiliation (at time of interview)
DRC Staff	Gail Achterman	Executive Director, DRC
DRC Board	Charles Calica	Confederated Tribes of the Warm Springs Reservation
DRC Board	Peter Geiser	Central Oregon Environmental Center
DRC Board	Bob Main	Oregon Water Resources Department
DRC Board	Ron Nelson	Central Oregon Irrigation District
Agency	Lara Burgel	Oregon Water Resources Department
Agency	Rick Craiger	Oregon Watershed Enhancement Board
Community	Subject 1	N/a
Community	Subject 2	N/a
Community	Subject 3	N/a

The interviews were semi-structured, focusing on questions related to the history, organizational structure, goals, operation, and outcomes of the DRC, and to relationships between participants, stakeholders, and external organizations. Examples of standard questions for (1) DRC representatives, (2) state agency personnel, and (3) community representatives are included in Appendix A. The research protocol was approved by the Human Subjects Compliance committee of the University of Oregon in 2000 and was renewed in 2001 and 2002.

The data collected by researcher evaluation were based on attendance at three DRC board meetings in October 2000, January 2001, and April 2001, as well as a review of documents relating to the DRC. These include internal documents addressing strategic planning and project management, content located on the DRC website, and documents connected with the historical context of the DRC.

Data Analysis

First, the outcomes of the DRC were evaluated to determine how successful the DRC was as a collaborative organization at the time of the research study. Kenney (2001) discusses the challenges relating to measuring the success of young, collaborative organizations, stating that using only improved environmental health as a definition of success "can be unfairly burdensome" (189). For this reason, most researchers have measured effectiveness through qualitative analyses of organizational parameters. In this study I present a small amount of data concerning measurable improvements in streamflows, but the primary focus of my analysis regarding success is on organizational parameters such as organizational development (trends in funding and staff) and relationships among stakeholders and partners. Next, the ten key

attributes of successful collaboration were used as a framework for analyzing the data sources. Finally, a second, broader review of the data identified other factors that played roles in the outcomes of the DRC. These results were then considered in the larger context—their implications for the theory and practice of collaborative water resources management in the American West.

Research Limitations

It is important to recognize the limitations associated with these methods of data collection and data analysis. First, there was a relatively small number of interviews conducted, in particular with community members and constituents. To explore this case study in more detail it would be helpful to have a more detailed set of data from a broader cross-section of community members, stakeholders, and interests groups. At a minimum, additional interviews with a more diverse set of stakeholders, both within the DRC and among community members and partner organizations, would help explore and clarify the attributes used for data analysis. Information could also be gathered through a survey, which could be sent to a greater number of people and allow for more comprehensive statistical analysis of data categories.

Other limitations include the fact that up to two years have passed since most of the interview data were collected, and this study does not account for changes which may have happened in the interim. Follow-up interviews and research would help clarify the relevance of the analysis and conclusions presented here. By choosing to use semi-structured interviews as my main source of data, these data are limited by potential self-censoring of comments by the subjects during the course of the interviews. Also, in researching and analyzing this case study it is difficult to escape a certain amount of

bias stemming from my role as an outsider to the DRC and to the Deschutes Basin.

Finally, inherent in doing a single-case study are the limitations associated with trying to extrapolate from one example, instead of comparing multiple case studies.



25% Cotton Fiber

CHAPTER IV

OVERVIEW OF THE CASE STUDY

In order to understand how and why collaboration emerged in the Deschutes River Basin, it is first necessary to examine the larger context of this case study in an historical perspective. The first part of this chapter provides an introduction to the unique natural and human geography of the Deschutes Basin and the basic laws and policies that guide water resources management in Oregon. Next, this chapter describes the specific problems that led to dialogue between the stakeholders and the eventual creation of the Deschutes Resources Conservancy (DRC). The final section presents a brief overview of the organizational structure and operation of the DRC.

The Deschutes River Basin

At 10,700 square miles, the Deschutes Basin is the second largest river basin in the state of Oregon. The Deschutes River and its tributaries drain the east side of the Cascade Mountains and the high desert plains of Central Oregon in a northerly direction before joining the Columbia River and flowing to the sea. Most of the water originates as snow in the high elevations and reaches the river via runoff or springs. Average precipitation in the central part of the basin is about 12 inches per year (Moore et al. 1996). The largest tributary is the Crooked River, which drains the eastern section of the basin. Other tributaries include the Little Deschutes River, the Metolius River, Warm Springs River, White River, and Trout Creek. Please see Figure 1 for a map of the basic features of the Deschutes Basin.

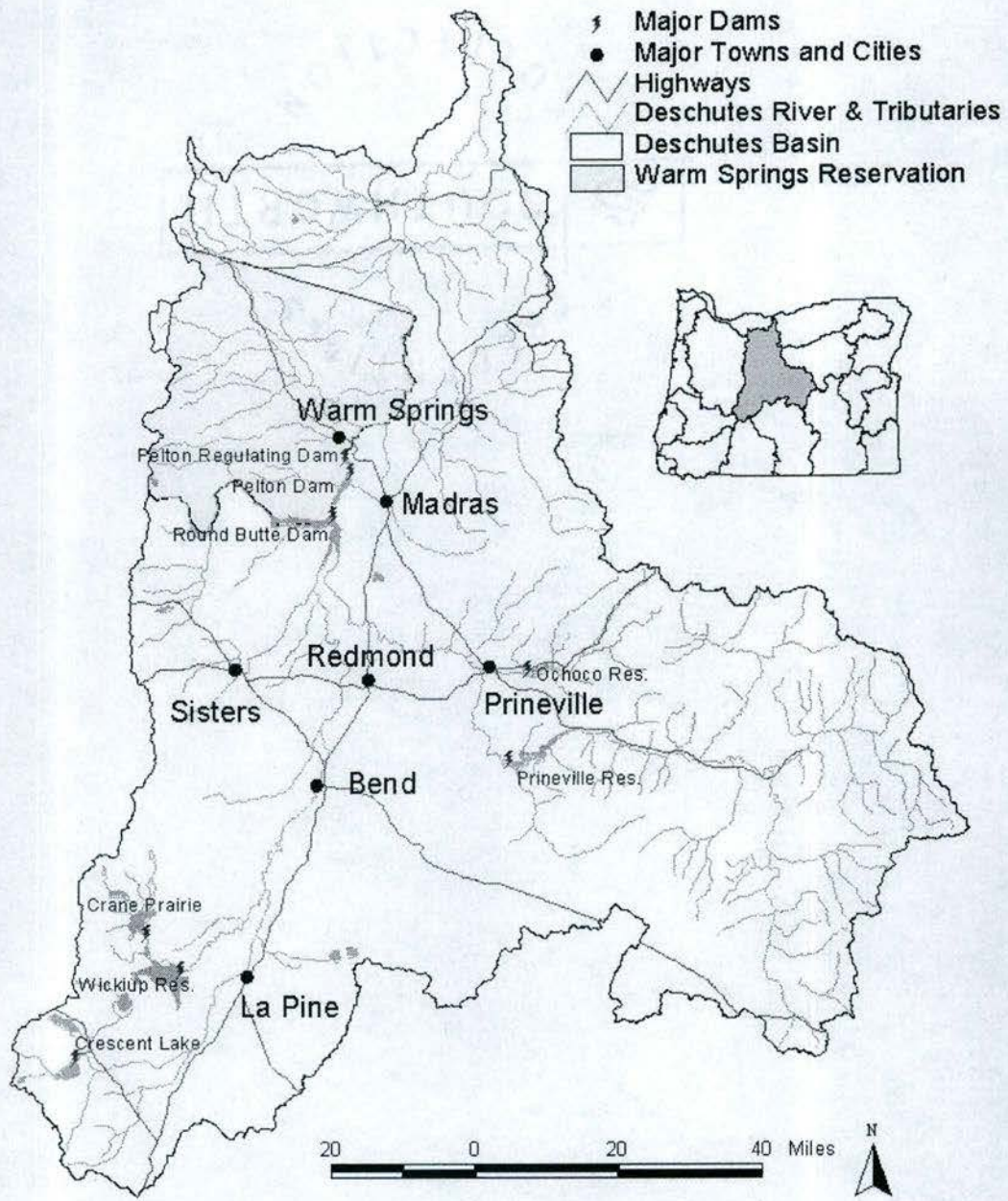


FIGURE 1. Map of the Deschutes River Basin

The basin itself is divided into two sections, the Upper and the Lower, near the town of Warm Springs. This distinction is relevant to coinciding factors of both hydrogeology and social infrastructure. An obvious factor is that the three dams that comprise the Pelton-Round Butte complex are located here, altering the water flow as well as creating a physical barrier to migrating fish. A less obvious but very significant factor is that scientists have discovered that geological characteristics lead to a hydraulic connectivity between groundwater and surface water within the Upper basin, which contains the majority of the land area (Burgel 2000). This groundwater recharge enters the river near the dams and augments flows in the Lower basin (ibid.).

The high elevations in the basin are thickly forested, tapering into sage and juniper rangeland and alder communities in the lowlands closer to the river. There is abundant fish and wildlife in the basin, although dams and water diversions have altered the historical range of native fish species. The Pelton-Round Butte dam complex restricts anadromous fish to the lower stretch of the river. Of these, fall Chinook salmon and summer steelhead are listed as Threatened species under the Endangered Species Act, while Pacific lamprey are listed as a state sensitive species. Other important resident species include bull trout and redband trout, which are found in the Lower basin and have fragmented distributions in the Upper basin. Bull trout are listed as a Threatened species under the Endangered Species Act and redband trout are listed as a state sensitive species.

Historically, the Deschutes Basin was home to bands of the Wasco, Warm Springs, and Paiute tribes, who traditionally fished in the rivers and hunted and gathered plants on the mountain slopes and across the high desert plains. By the mid-1800s the

US government began to negotiate treaties with Northwestern Indian tribes and establish reservations. The Wasco and Warm Springs tribes signed a treaty in 1855 that ceded ten million acres to the US government in exchange for retaining 640,000 acres of their traditional lands as a reservation, located in the northwest part of the Deschutes Basin (Stowell 1987). The tribes did maintain rights to traditional hunting, fishing, and other resource use within their ceded lands, which included the Deschutes and John Day River Basins (Calica 2001). In the 1870s and 1880s members of the Northern Paiute tribe were settled on the reservation, and in 1937 the three tribes formed a common government as the Confederated Tribes of the Warm Springs Reservation (the Warm Springs Tribes).

The early settlers in the Deschutes Basin developed resource-based economies related to timber, fishing, grazing, and agriculture. Due to the aridity of the basin, agriculture required irrigation canals that diverted water from the Deschutes and Crooked Rivers, primarily in the Upper basin. The first dams were built in the Upper basin in 1922, and today there are eight major reservoirs spread throughout the basin. The largest set of dams, the Pelton-Round Butte dam complex, was built to generate hydropower, but other dams were constructed to provide water storage for irrigation, moderate streamflows, and prevent flooding. Around 153,000 acres in the basin are irrigated, with the major crops being peppermint, hay, and small grains (Moore et al. 1995).

The cities and towns in the Deschutes Basin include Bend, Redmond, Prineville, Madras, and Warm Springs. The Deschutes Basin includes parts of eleven counties, but only four of these—Wasco, Jefferson, Crook, and Deschutes counties—have the

majority of their land area contained within the basin. The majority of the population is contained within Deschutes County, in the Upper basin. In recent decades, population growth in the Deschutes Basin has been higher than in Oregon overall. In 1990 the basin's total population was 126,346, a 14 percent increase since 1980 (Moore et al. 1995). The 1990s were characterized by explosive growth. For instance, based on US Census data the city of Bend grew 154 percent between 1990 and 2000, from 20,469 to 52,029. During this same period Deschutes County grew 54 percent, from 74,958 to 115,367.

This population growth reflects an influx of outsiders, many of whom are attracted to the quality of life associated with the spectacular scenery, open space, and recreational opportunities in the basin. In a related trend, the recreation and tourism industry has become the dominant economic force in the Deschutes Basin, and the environmental amenities have drawn other businesses to the region as well (Moore et al. 1995). This has led to a situation where "the health of the region's resources and the vitality of the local economy are inextricably linked" (ibid., 25).

The federal government is the largest landowner in the Deschutes Basin, managing 50 percent of the area through the United States Forest Service and the Bureau of Land Management. The majority of these public lands are located at higher elevations. The Warm Springs Reservation covers 7 percent of the basin, while overall the state of Oregon owns less than 1 percent of the land in the basin. The remaining 42 percent of the area is privately owned.

In addition to the two federal agencies mentioned above, within the Deschutes Basin the federal government is represented by other agencies with varying degrees of

jurisdiction. One key player is the Bureau of Reclamation (BOR), as 84 percent of irrigation water in the Upper basin comes from BOR projects (ibid.). Others with a role in water planning and management include the Federal Electricity Regulatory Commission (licensing hydropower dams), the US Environmental Protection Agency (regulating pollution), the US Fish and Wildlife Service (managing endangered species), and the US Geological Survey (addressing groundwater issues).

While the state of Oregon does not own very much land in the basin, they have a lead role in managing water resources, and are involved in managing other natural resources as well. The agencies and programs relevant to this discussion include the Oregon Water Resources Department (OWRD), the Oregon Department of Environmental Quality (ODEQ), the Oregon Department of Fish and Wildlife (ODFW), and the Oregon Watershed Enhancement Board (OWEB). As mentioned in Chapter II, OWEB was established in 1998, and built on earlier state initiatives aimed at developing comprehensive approaches to watershed health and restoration¹. Beginning in 1993, the state encouraged the formation of non-profit, independent watershed councils across the state as community-based approaches to watershed health and recovery of native fish populations. These watershed councils are eligible to apply for funding through a grant program administered by OWEB (Craiger 2001). In the Deschutes Basin, watershed councils were established in the Upper Deschutes, Middle Deschutes (Trout and Willow Creeks), Crooked River, and in several small watersheds in the Lower basin.

¹ Besides GWEB, these earlier initiatives included the Watershed Health Program (1993), the Healthy Streams Partnership (1996), and the Oregon Plan for Salmon and Watersheds (1997) (Craiger 2001).

In recent decades the Warm Springs Tribes have had an increasing role in the management and development of natural resources within the Deschutes Basin. The tribal government employs scientists and resource managers through their Natural Resources branch, and has established resource-based enterprises such as forest products and hydropower. With respect to reserved water rights, the Warm Springs Tribes started negotiations with the state of Oregon in the late 1970s (Calica 2001). After “some pretty serious stops and starts and some problems that they had to work through” (Burgel 2000), a settlement was finally reached in 1997 (Calica 2001).

Institutions representing local and county governments are very active in the Deschutes Basin. The Central Oregon Intergovernmental Council works with the private sector to address employment, education, and other community and economic development issues in the region. At the county level, Soil and Water Conservation Districts administer natural resource programs, provide technical assistance to landowners, and work in close cooperation with local watershed councils. Finally, the Wy'East Resource Conservation and Development Council assists with watershed improvement and rural development projects in a six-county area that encompasses the Deschutes Basin.

Special interests concerned with water resources in the Deschutes Basin are represented by utility companies (involved with hydropower development), irrigation districts, and non-profit environmental organizations. The seven irrigation districts operating in the region have formed a local consortium known as the Deschutes Basin Alliance, and are also members of the statewide Oregon Water Resources Congress. The environmental organizations include the local Deschutes Basin Land Trust; statewide groups such as the Oregon Water Trust, Oregon Trout, WaterWatch, and the

Oregon Natural Resources Council; and the national environmental groups Environmental Defense (ED)² and the Sierra Club. These interest groups are all politically active, but some take a harder advocacy line than others.

Oregon's water rights code was established in 1909, and was similar to the basic administrative model for the prior appropriation system described in Chapter II. Oregon passed legislation to reform these administrative rules in 1955, becoming one of the first western states to recognize the values of instream flows (Root 1995). This legislation authorized the OWRD to establish minimum streamflows for the state's waterways and to develop basin plans for each of the state's eighteen major river basins.

It was not until 1987, however, that Oregon allowed water to be appropriated according to these minimum streamflows, creating a category of instream water rights with the same legal status as other water rights. Under the Instream Water Rights Act of 1987, the ODFW, ODEQ, and Oregon Department of Parks and Recreation (ODPR) can apply for instream water rights for fish and wildlife, water quality, recreation, and scenic views. This alone wouldn't have a significant impact, as these rights would still be junior to all existing senior water rights, so the act also approved voluntary transfers of water rights from one use to another. Using this strategy, senior water rights could be dedicated to instream uses, and a permanent flow could be established for streams that formerly ran dry. In passing this legislation, Oregon was again one of the first western states to revise its administrative system for water resources in ways that could allow major changes in watershed management and the prior appropriation system (Benson 1996).

² Environmental Defense was formerly known as the Environmental Defense Fund, including during the early years of the Deschutes Resources Conservancy, but for the purpose of consistency I will use its current name throughout this paper.

These new administrative rules regarding transfers in theory opened the door for reallocating water from consumptive to instream uses, yet to actually put this strategy into practice would require gaining the trust of existing water users (ibid.). In areas where agriculture played an important role in the economy there were concerns about losing control of irrigation water, and, by extension, of farmland (NRLC 1997). Additionally, if water rights were separated from the land, these landowners faced potential reduction in property values (Benson 1996). In Oregon, these concerns led to attempts in 1995 and 1997 to repeal the Instream Water Rights Act (NRLC 1997). In the midst of this ongoing opposition, the Oregon Water Trust (OWT) was founded in 1993 to fund and broker water transfers from consumptive to instream uses through leasing and permanent acquisitions. The OWT's first deal was negotiated in the Lower Deschutes Basin in 1994—a one-year leasing arrangement in Buck Hollow Creek, which was renewed in subsequent years (ibid.). Short-term leases are one way to alleviate some of the concerns regarding water transfers, while also taking market conditions and local agricultural forecasts into consideration (ibid.).

The Problem Situation

The trends that the Deschutes Basin is experiencing—high population growth, changing values, increased pressure on natural resources, environmental degradation, and an overlapping system of resource management—are common to other regions of the American West. However, there are factors unique to this basin that have linked these trends and created the problem situation that was eventually addressed by the Deschutes Resources Conservancy. This section introduces the basic facets of this problem situation.

Due to legal withdrawals for irrigation, the Deschutes River and its tributaries experience diminished flows during the summer months. Minimum streamflows not met in 73 rivers and streams (Deschutes Resources Conservancy 2001). Table 4 describes the average daily flows for stretches of the Deschutes and Crooked Rivers, illustrating the impact of irrigation diversions. At times, the Deschutes River below Bend, the Crooked River near Prineville, and Squaw Creek can all be virtually (or actually) de-watered, all through legal water rights (Moore et al. 1995). In contrast, the ODFW estimated the instream flow need for fish and wildlife in the Deschutes River below Bend at 250 cubic feet per second (cfs) year-round and for the Crooked River near Prineville at 75 cfs during the summer, fall, and winter months (ibid.). Overall, "in several reaches of the Upper and Middle Deschutes and Lower Crooked Rivers, instream flows are below the levels needed to maintain the resource values in those areas" (ibid., 46).

TABLE 5. Deschutes River and Crooked River Daily Flows, 1960-1990

Monitoring Station	Average daily flow (high)	Average daily flow (low)	Minimum flows (low)
Deschutes River (below Bend)	750 cfs (February-March)	40-60 cfs (July-August)	< 10 cfs (July-August)
Crooked River (near Prineville)	800 cfs (April)	200-250 cfs (summer)	1 cfs (August)

(Source: Moore et al. 1995)

Many of the irrigation canals in the Deschutes Basin are unlined and therefore inefficient, leaking a portion of the water withdrawal back into the ground (REF). Due to the hydrologic connectivity between the ground and surface water in the Upper Basin, some of this leaked water eventually returns to the river in the Lower Basin as

groundwater recharge, but it is a complex relationship (Burgel 2000). Along these same lines, the use of groundwater affects surface flows in the lower Deschutes River, and this limits the degree to which groundwater can be used to meet increasing water needs, specifically municipal, in the basin (ibid.).

These low flows can increase water quality problems and have an adverse impact on recreation and tourism in the basin. In 2001, 85 rivers and streams and 3 lakes in the Deschutes Basin did not meet existing water quality standards (Deschutes Resources Conservancy 2001). Depending on the reach, these water quality problems can include high temperatures, low dissolved oxygen, high fecal coliform, and high nutrient levels, particularly phosphorus (Moore et al. 1995). With respect to recreation and tourism, the low water levels can have a negative aesthetic impact as well as directly hinder recreational opportunities. "Kayakers know that [after] April 15, you can't kayak below [Bend] because there's no water anymore" (Burgel, 2000).

The high rate of population growth and the changing economy in the Deschutes Basin raised concerns about meeting future water needs while also ensuring the economic stability and viability of current resource users (ibid.). At the same time, the OWRD's ability to do comprehensive planning around water resources has been limited because the official basin plan for the Deschutes, last modified in 1984, "doesn't reflect the current understanding of the basin"—namely, the connection between groundwater and surface water in the Upper Basin (ibid.).

In the face of conflicts over instream flows and water rights, the OWRD has generally taken an approach of negotiation and consensus-building, or a "graduated enforcement" process (ibid.). Relying on fines and strong-armed regulation is "definitely not our preference, and especially [in a place] like the Deschutes Basin, where a number

of the water rights that we're discussing are municipal rights" (ibid.). This approach does not always go over well with environmental advocacy groups such as WaterWatch, which has criticized the OWRD for yielding to special interests and failing to live up to their legal mandate to protect instream flows (WaterWatch [2002a]).

In the Deschutes Basin, water users were concerned not only about potential government intervention through enforcement of the Endangered Species Act, but also about the situation with the Warm Springs Tribes and their tribal reserved water rights. The Tribes were in a position of considerable power, for the Warm Springs Reservation is located in the lower part of the basin, downstream of the major irrigation withdrawals of the Deschutes and Crooked rivers. If the Warm Springs Tribes demanded a specific amount of water be available to them, this could negatively affect major upstream water users, as tribal reserved rights are senior to all other water rights.

All of these factors brought tension, concerns, and pressure to bear on relationships among stakeholders in the basin as well as on government agencies to manage and protect an increasingly scarce and valuable resource. It was obvious that things would have to change sooner or later—the question was, how would this play out?

The Deschutes Resources Conservancy

The Deschutes Resources Conservancy (DRC) has its roots in the efforts of the Warm Springs Tribes to address watershed health and fish recovery on reservation lands as well as across the entire Deschutes Basin. In 1989, the tribes invited Environmental Defense to help assess the status of resources on the reservation and develop solutions that would ensure both economic and ecological health of the region

(Calica, Nelson, and Willey 1997). In 1992, they expanded that focus to the entire basin, deciding to focus initially on "river flows and water pollution" (ibid., 4).

The Warm Springs Tribes recognized how other water users in the basin would feel threatened by the reserved water rights settlement, and reached out particularly to the irrigation and environmental communities to dialogue over these concerns and bring people together to discuss water issues in the entire basin (Calica 2001). In collaboration with the Oregon Department of Fish and Wildlife and Environmental Defense, the Tribes convened two symposia in 1993 and 1994 at the Kah-Nee-Ta resort on the Warm Springs Reservation (ibid., Moore et al. 1995).

The dialogues initiated by the Warm Springs Tribes led to the formation of the Ad-Hoc Deschutes Group (Ad-Hoc Group), an informal collaboration composed of fourteen representatives from tribal, irrigated agriculture, environmental, recreation, hydroelectric, and business communities (Calica, Nelson, and Willey 1997). The Ad-Hoc Group zeroed in on the problems of water quality and water quantity, discussed options, and "provided a crucial forum to brainstorm and introduce ideas for management institutions and financing" (Moore et al. 1995, xiii). This search for solutions resulted in a 1995 report written by Environmental Defense and the Warm Springs Tribes, entitled *Restoring Oregon's Deschutes River: Developing Partnerships and Economic Incentives to Improve Water Quality and Instream Flows* (ibid.).

As the title indicates, this report proposed market-based solutions to the basin's water crisis, such as water leasing and tradeable water discharge permits (ibid.). The Warm Springs Tribes and the Ad-Hoc Group recognized that due to the "overlapping and interlocking jurisdictions" of forty different state and federal agencies in the basin, it was imperative to try and involve government representatives in this process (Calica 2001).

Thus, the report considered possible institutional formats for a cross-sector partnership that could carry out this work in the Deschutes Basin. The authors concluded that a compact between federal, state, and tribal governments was the best model, "provid[ing] the most flexibility in terms of broad-based participation, protection of tribal sovereignty and federal trust responsibilities, ability of government and private entities to take active roles, daily operations, and organizational structure" (Moore et al. 1995, ES-5).

A compact such as this required Congressional approval (ibid.). Political leaders responded to these ideas, and soon after Congress passed the Oregon Natural Resources Act of 1996. This act established the Deschutes Basin Working Group as a public-private partnership, authorized for a period of five years, with potential funding of \$1 million per year through federal appropriations. The Deschutes Basin Working Group later renamed itself as the Deschutes Resources Conservancy (DRC) (Calica, Nelson, and Willey 1997).

The DRC is incorporated as a 501(c)(3) non-profit organization. The board of directors includes representatives of ten public and nine private stakeholders, as outlined in Table 5.

TABLE 6. The Structure of the Board of Directors of the Deschutes Resources Conservancy

Public representatives (10)		Private representatives (9)	
2	Federal	2	Environment
2	State	2	Irrigated Agriculture
2	Tribal	1	Ranching
4	County	1	Timber
		1	Land Development
		1	Recreation/Tourism
		1	Hydroelectric

The public board members are chosen by the constituencies that they represent. For instance, the two federal representatives, one from the Bureau of Reclamation and one from the US Forest Service, are officially appointed by the Secretary of the Interior and the Secretary of Agriculture, respectively (Achterman 2000). The private board members are identified through a more informal recruitment process, but the constituencies often are often involved (ibid.). Since the board's decisions are made through a consensus-based process, the DRC identifies leaders among the basin's stakeholder communities who are open-minded, familiar with the relevant issues, and who have skills to add to the group (ibid., Geiser 2001). The board members usually serve for three-year terms.

Staff-wise, the DRC started small with one employee and then gradually added more. As of early 2001, there were three staff members, while at present in 2003 there are six program staff and three administrative staff, not all of who work fulltime.

The mission of the DRC is to restore streamflows and improve water quality through voluntary, economic-based incentives (Deschutes Resources Conservancy 2001). The organization's strategy is "to facilitate the efforts of landowners, local governments, watershed councils, irrigation districts, soil and water conservation districts, and other interested citizens" in meeting these goals "by providing technical assistance and funding" (ibid.). Typical projects that the DRC has funded include lining and piping irrigation canals (water conservation), acquisition of water and property rights (water quantity), riparian and wetland restoration (water quality), and riparian fencing (water quantity).

The first project initiated by the DRC itself was a pilot water leasing program, and from there the overall programs have expanded in scope and complexity. Gradually the

DRC has been developing its own programs, including a new model for a water exchange designed to facilitate market transactions but also dedicate some of the water exchanged to instream flows and contribute funds towards ecological restoration.

Initially, DRC activities were funded by contributions from stakeholders, such as the Warm Springs Tribes, Environmental Defense, and irrigation districts (Deschutes Resources Conservancy 2001). Their first grants received were a planning grant from the BOR in 1997 (\$150,000) and a foundation grant in 1998. The DRC began receiving federal funds through annual budget appropriations in 1999, obtaining \$500,000 that year. This federal money requires a 1:1 non-federal match, which the DRC has obtained from public and private grants, donations, and in-kind contributions. More details on funding sources are presented in Chapter V.

In summary, the DRC has emerged out of a unique social, cultural, political, and environmental context in the Deschutes Basin, yet has addressed issues relevant to many other regions. Basin residents faced an increasingly contentious situation common to many part of the West—longstanding water rights for irrigation, booming development, a shift from a land-based to a service economy dependent on recreation and tourism, negotiation of tribal water rights, growing concern for ecological health, and threats of government intervention. In considering why the DRC emerged as a solution to these problems and how it has been successful, this case study can provide lessons to other communities and collaborative organizations facing similar issues and opportunities.

CHAPTER V

CASE STUDY RESULTS

This chapter presents an overall analysis of the Deschutes Resources Conservancy as a collaborative organization. In the first section, I evaluate the outcomes of the DRC. In the second section, I use the theoretical framework of the ten attributes of successful collaboration to determine how the DRC compares to collaborative organizations analyzed in the literature. Finally, in the last section I discuss what lessons can be learned from this case study.

Evaluation of the Deschutes Resources Conservancy

The most direct way that a collaborative organization can be evaluated is according to tangible, measurable results. When young organizations such as the seven-year-old Deschutes Resources Conservancy are working towards ecological improvements, however, these on-the-ground results may not be very obvious or measurable, so other factors should be considered (Kenney 2001). Innes and Booher (1999, 414) argue that intangible outcomes such as social, intellectual, and political capital "can be even more important than tangible products." In this section I therefore consider not only the measurable ecological and financial outcomes of the DRC, but also the intangible outcomes such as trust building, professional relationships, and organizational development.

From an ecological perspective, the strongest direct results of the DRC's activities since 1996 are measurable increases in water dedicated to instream flows. These have been obtained through water conservation projects (such as lining irrigation

canals), as well as both permanent acquisitions and annual leases of water rights. As Table 7 illustrates, the total permanent instream flow improvements increased every year for which data was available, and annual water leasing has improved from an average of 5 cfs during 1998-2000 to an average of 28 cfs during 2001-2002. Of these totals, water leasing contributed 10 cfs in 2001 and 2002 towards restoring the diminished flows of the Middle Deschutes Basin.

TABLE 7. Improvements in Water Dedicated to Instream Flows in the Deschutes Basin as a Result of DRC Projects, 1998-2002 (Amounts in cfs)

Year	Water Conservation (Permanent)	Water Acquisition (Permanent)	TOTAL Permanent	Water Leasing (Annual)
1998	0.82	0	0.82	5.53
1999	8.73	1.81	10.54	5.00
2000	19.80	0.99	20.79	4.38
2001	(n/a)	(n/a)	(n/a)	25.00
2002	(n/a)	(n/a)	(n/a)	31.00

(Source: Deschutes Resources Conservancy)

Financially, the DRC has been very successful at raising funds. Figure 2 shows the breakdown of the DRC's total annual income from 1997-2001. This graph summarizes the actual funds raised by the DRC, but does not include in-kind donations or contributions towards projects from partner organizations. The federal category includes appropriations from the federal budget (beginning in 1999) as well as funding from the Bureau of Reclamation (during 1997, 2000, 2001) and the Natural Resource Conservation Service (1999, plus carryover in 2001). The state funding in 2000 and

2001 came from project grants from the Oregon Watershed Enhancement Board. The sources for foundation and corporate/community funds have varied by year.

The DRC is required to match the federal appropriations (see Table 8) with an equal cost-share from other sources. Not only has this goal been met, but in 1999 and 2000 the DRC was able to leverage the core federal funding at a ratio closer to 4:1 (Achterman 2000). In 2000 the DRC came up for reauthorization, and Congress was

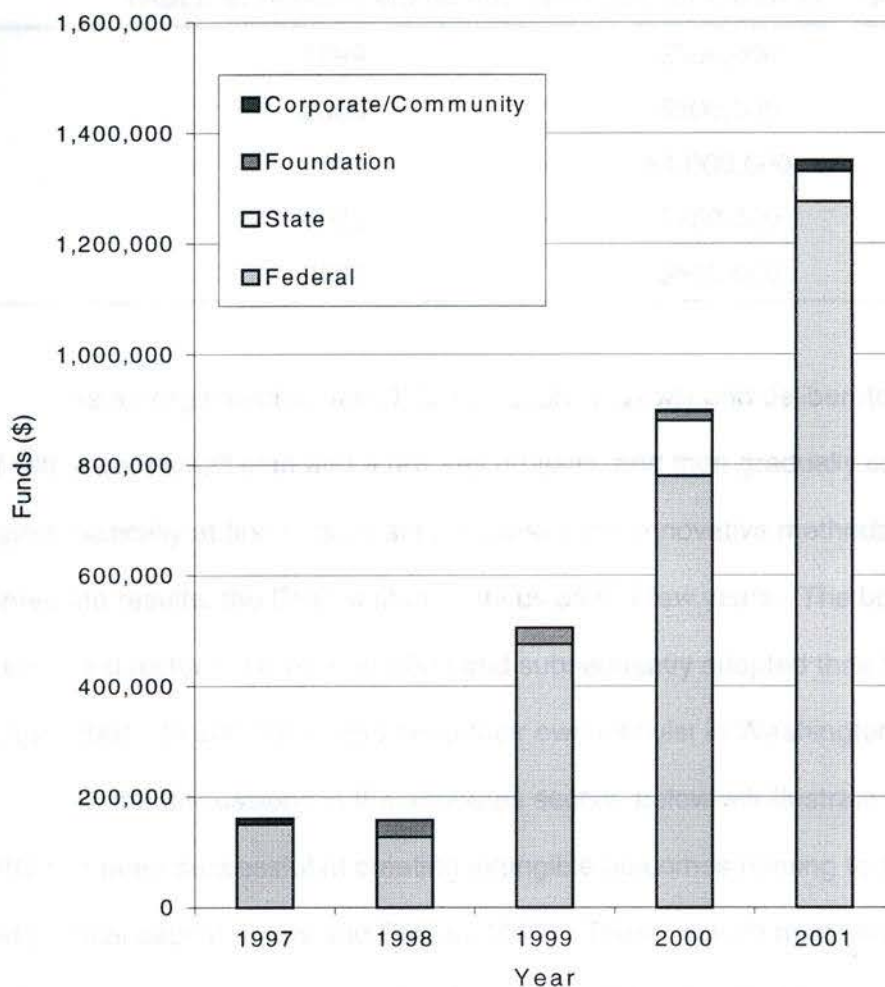


FIGURE 2. DRC Income, 1997-2001 (Source: DRC)

impressed with the organization's ability to "[act] as a catalyst for non-federal investment" (Achterman 2000). In reauthorizing the DRC for the period 2002-2007, Congress raised the organization to an annual funding level to \$2 million, twice their original level. So far, however, the DRC has not been successful at obtaining this full amount during annual budget appropriations—as Table 8 illustrates, the organization received \$750,000 for 2002 and \$875,000 for 2003.

TABLE 8. Annual Federal Appropriations for the DRC, 1999-2003

1999	\$500,000
2000	\$500,000
2001	\$1,000,000
2002	\$750,000
2003	\$875,000

As an organization, the DRC has evolved slowly and deliberately. They started off with a very small staff and a few key projects, and then gradually expanded. Working opportunistically at first to build support, test some innovative methods, and gain some immediate results, the DRC shifted its focus after a few years. The board hired a new executive director in November 2000 and subsequently adopted their first strategic plan in April 2001. In 2001 they also hired their own lobbyist in Washington, D.C.

As the discussions in the attributes section below will illustrate in more detail, the DRC has been successful at creating intangible outcomes relating to social, intellectual, and political capital (Innes and Booher 1999). These include trust and strong professional relationships among stakeholders on the board (Attributes 2 and 4), shared definitions of the problem, shared knowledge, and joint problem solving (Attributes 3 and

6), and increased institutional cooperation and coordination (Attributes 7, 8, and 10). Within the Deschutes Basin community, the DRC has forged strong working relationships with other organizations and agencies. They collaborate on projects together with some and serve as a funding source for others. The DRC is part of a growing network of watershed-based institutions, but have an important niche as they are unique in focusing on the entire basin.

Overall, for an organization that was officially founded in 1996, the Deschutes Resources Conservancy has accomplished much in a short period of time. While there is still plenty of work to be done, they have been able to turn many of their ideas into action, with few of the problems that have plagued other collaborative groups, such as lack of agreement or direction (Wondolleck and Yaffee 2000). In particular, the DRC's success in fundraising bodes well for their organizational sustainability.

Analysis Using the Attributes Framework

This section will compare the Deschutes Resources Conservancy case study to the observations of other researchers discussed in Chapter II, using the theoretical framework of the ten attributes of successful collaborative organizations.

Attribute 1: The Political Climate Is Favorable and Multiple Levels of Government Are Involved

As an organization, the DRC is a product of federal legislation and has generally benefited from federal and state policies encouraging public-private partnerships to achieve watershed restoration objectives. This legislative authorization makes the DRC unique, in comparison with the watershed groups studied by Kenney (1997). As described above, the DRC has received major funding through federal appropriations

and funding for individual projects from state sources. Among western states, the high level of funding that Oregon provides for watershed projects is notable (Achterman 2000). According to former DRC chairman Ron Nelson, Oregon's leaders "have created an environment where DRC-type institutions can flourish" (2001).

The DRC has received strong support from government agencies and leaders at a variety of levels—federal, tribal, state, and local—and all of these interests are represented on the DRC board. The tribal support has been present from the initial collaboration in the form of leadership, direction, and funding. So far, there does not seem to be tension associated with government involvement in the DRC, probably because the early ad-hoc initiative began locally, and in forming the DRC broad government representation was viewed as essential. Overall, government support has been key for the DRC, supporting general observations made by Margerum (1999) and Getches (2001).

When asked about the roots of the DRC's successes, OWRD board representative Bob Main commented that much of it was due to the fact that there are "people in the federal government who believe that it needs to be nurtured" (2001). The most effective federal partner of the DRC is the Bureau of Reclamation, which has a representative on the DRC board and has played an important role in identifying solutions and providing funding for DRC projects (ibid., Calica 2001). At the state level, the OWRD considers the DRC a "good ally" and recognizes the variety of ways that the DRC's work can complement and help further the agency's goals and overall mission (Burgel 2000, Main 2001). For example, the agency is expected to protect both the interests of water users and instream values, yet lacks money and has an over-extended staff (Burgel 2000).

The DRC was reauthorized in 1999, but still faces challenges every year as Congress makes appropriations from the federal budget to fund the DRC's activities. The long-term relationship between the DRC and the federal government is unclear, and even among the board members there is disagreement. Some expect that the DRC will become more independent of government funding (Nelson 2001), while others think that federal and state money should continue to be targeted towards DRC projects, since ultimately the DRC is helping to implement government policies for watershed and streamflow restoration (Main 2001). For now, however, it is clear that the DRC's achievements appeal to legislators, particularly the low overhead, broad community support, ecological improvements, and leverage of federal dollars (Achterman 2000, Nelson 2001).

Attribute 2: The Region Has a Sense of Community and Stakeholders
Have Identified Common Ground

When trying to nurture a sense of place, it is an advantage for a collaborative group to be located in a place like the Deschutes Basin, "one of the most well-loved basins" in Oregon (Burgel 2000). The amenities of this basin are appreciated and valued by residents and visitors alike, albeit from different perspectives. When these values are threatened by economic changes, population growth, ecological problems, and government regulation, however, differences in perspective can lead to conflicts. In the Deschutes Basin, the first steps taken towards collaboration were simply steps towards finding common ground among basin residents, in a process similar to that described by Brick and Weber (2001).

All of the people I interviewed and talked to within the DRC identified a high degree of trust among the board members. This trust originates in the actions taken by

the Warm Springs Tribes in the early 1990s to diffuse the tensions related to negotiations over their reserved water rights. Nelson (2001) praised the "very progressive, non-threatening" way the Tribes initiated dialogues: "I think a lot of us had these latent desires and wishes and were probably somewhat moving in these directions, but the Tribes helped create an environment where this could really flourish."

Charles "Jody" Calica (2001), who at the time was the general manager of the Tribes' Natural Resources branch, explained that the 1993 and 1994 symposia were specifically designed to break down entrenched conflicts among stakeholders and initiate dialogue based on common concerns about the status of social, economic, and environmental conditions within the Deschutes Basin (2001). There was no official agenda, but instead participants were encouraged to come up with issues for discussion, eliciting input and coming up with solutions (ibid.). Where participants had expected to find conflict, they instead found common ground: "They came to understand that more often than not, the people that they were looking to have a confrontation with had some of the same values, the same visions that they had for the resource" (ibid.).

This open dialogue is an example of how stakeholders can overcome fears, self-interest, and misconceptions, and create an ongoing collaboration cemented by common values and a sense of community, as described by Wondolleck and Yaffee (2001). The advantage for the DRC was that by the time the organization was officially established, common ground and good working relationships already existed among stakeholders, allowing them to move forward more quickly with their activities. This evidence supports Kenney and Lord's (1999) research linking the success of collaborations to the earlier resolution of value conflicts.

The DRC aims to promote this greater common good through their community projects and partnerships in the basin. Nelson (2001) explained that “having a healthy watershed shouldn’t be a Democratic or Republican or an independent issue...It makes good economic sense and good ecological sense to have a healthy watershed. It’s good for everybody.” From the perspective of the Warm Springs Tribes, it all boils down to being “good neighbors” (Calica 2001).

Outside of the DRC, the trust among regulatory agencies, water users, and environmental interests does not appear to be as strong. For example, in 1998 the OWRD initiated a collaborative process among stakeholders in the Upper Deschutes Basin to address policy and value conflicts related to the surface-groundwater connectivity issue. According to former OWRD employee Lara Burgel (2000), there was general frustration with the process: “Ostensibly we were working on a consensus model but I’m not sure it ever really worked.” Following the final outcomes of this process, a “diverse coalition of river related businesses, concerned citizens, and conservation groups” (some of whom had participated in the collaborative process) filed a lawsuit against the OWRD in protest, arguing that the OWRD was abandoning its responsibility to protect the Deschutes River (WaterWatch [2002b]). Still, Burgel (2000) expressed optimism by recognizing the shared sense of community: “Through it all, the only thing I see as the common thread is the recognition that this is a special place. We are willing to do something to make it work.”

Attribute 3: Stakeholders Have Reframed the Problem to Recognize Interrelated Causes, Effects, and Solutions

As mentioned earlier, the dialogues initiated by the Warm Springs Tribes led to the formation of the Ad-Hoc Deschutes Group (Ad-Hoc Group), composed of representatives of tribal, irrigated agriculture, environmental, recreation, hydroelectric, and business interests. The group zeroed in on the problems of water quality and water quantity, discussed options, and “provided a crucial forum to brainstorm and introduce ideas for management institutions and financing” (Moore et al. 1995, xiii). To help answer questions and find solutions, the Tribes and Environmental Defense collected new information about the status of streamflows, economic trends, population growth, and resource management in the basin.

The ideas that came out of this initial collaboration were presented in a report for the general public, advocating economic-based approaches to restoring streamflows and improving water quality and the formation of a new public-private institution to oversee these efforts (ibid.). Overall, this effort of the Ad-Hoc Group represents a learning process whereby the stakeholders explored the interrelations among different issues (Margerum 2002) and collected and integrated new data to form their own conclusions (Margerum 1999, Wondolleck and Yaffee 2000).

The decision of the Ad-Hoc Group and DRC to focus on restoring streamflows is particularly unusual among collaborative organizations. In his research of hundreds of watershed groups, Kenney (2000, 34) observed “a dearth of groups addressing water supply issues,” primarily because water quantity is a particularly contentious issue and because traditional administration of water rights provided few options for changing the status quo. These efforts in the Deschutes Basin took advantage of legal opportunities

(i.e., innovative instream flow legislation allowing water transfers) and a trend towards voluntary, market-based solutions to environmental problems to develop and test new models for restoring streamflows. Stakeholders realized that water availability is the main constraint limiting any future development in the basin (Calica 2001).

The stakeholders who participated in the Ad-Hoc Group were there because they realized that the historical ways of doing things were no longer sustainable (Geiser 2001). The problems were becoming more complex, public values were shifting, and with the looming threat of increased government regulation, people were recognizing the benefits that could be achieved through collaboration, holistic planning, and win-win solutions (Main 2001, Nelson 2001). By helping to guide the process, they can ultimately protect their own interests better than if they fight the changes and risk greater losses in a showdown (Main 2001). Again, this shift in mindset reflects observations made of other "successful" collaborative organizations (Gray 1989, Wondolleck and Yaffee 2000).

Attribute 4: The Group Is Representative of Stakeholders, Uses an Effective Process for Decision-making and Conflict Resolution, and Is Viewed as Legitimate.

Overall, the organizational structure and function of the DRC matches the qualities of this attribute. The existing trust between stakeholders made it a smooth and easy transition in 1996 from the Ad-Hoc Group to the formal DRC organization (Achterman 2000). The DRC board was created with a specific structure designed to represent stakeholders fairly: a balance between public and private, scales from local to national, and a cross-section of interests in the basin. Some of the same individuals carried over from the Ad-Hoc Group, but overall a larger variety and number of

stakeholders became involved, particularly representing public (government) interests. Gail Achterman (2001) joined the DRC as its executive director in November 2000, and stated that the level of trust and "the unique representation of all the stakeholders" were some of the qualities that drew her to this organization, qualities that weren't evident to her in other collaborative groups, such as those operating in the Klamath and Umatilla Basins.

For private stakeholders, environment and irrigated agriculture interests have two representatives each, while the other interests have one representative. These differences reflect the basic nature of the problem--watershed health and the primary water use, irrigation. Currently, one environmental position is held by a representative of a national organization (ED), while the other represents local environmental interests.

Overall, the board members are strategically selected based on their influence and resources within the stakeholder group they represent, as well as personal attributes, such as being open-minded (Geiser 2001). This is a key trait for a participant in a collaborative organization, allowing board members to see opportunities for alignment on certain issues despite other differences in values and interests (ibid.). Calica (2001) stated that there were no big egos on the board, and in general there do not seem to be any power struggles among different interests. Geographically, all of the board members live in Oregon, and, not surprisingly, most are residents of the Deschutes Basin.

The DRC board utilizes a consensus decision-making process. The five DRC representatives interviewed all insisted that the board had little trouble with this process, and rarely, if ever, got "bogged down" in conflict. Nelson (2001) described the board as focused and streamlined, and generally impatient with long, drawn-out processes.

According to Peter Geiser, the local environmental representative, most board members have a consensus mentality, and “when we hit a wall or something, we very quickly have been able to shift direction and not compromise where we’re trying to go” (2001). So far, the board has been able to avoid major conflicts. In the future, the DRC board may have to deal more directly with controversial issues as the situation in the basin becomes more complex and options are fewer, but the historical context of trust and respect may help them work through their conflicts without too much trouble.

The level of government support (see Attribute 1) indicates that the DRC is viewed as legitimate from this perspective. From a community perspective, however, this perception of legitimacy is less clear. According to Subject 3 (2003), the board is unbalanced, with a heavy bias towards water users, and that to properly carry out their mission to restore streamflows, the DRC should have stronger representation from those interests (i.e., environment and government) that lean towards resource protection. If this were the case, the board would appear more legitimate to environmental groups (ibid.). Other concerns were mentioned by Subject 1 (2001), who stated that some community members see the DRC as being driven by a “power bloc” consisting of the Warm Springs Tribes, Environmental Defense, and the irrigation districts.

Attribute 5: The Group Has a Clear Purpose and Identifies Realistic, Tangible Goals

The 1995 ED/Warm Springs Tribes report gave the DRC a head start on setting goals, enabling them to say “we know what the problem is, we know what the priorities are, let’s go tackle them” (Achterman 2000). The DRC’s mission is to improve water quality and quantity through voluntary, market-based incentives. From the start there was a clear understanding that the focus was on getting results, not just making plans.

Overall, the process followed Margerum's descriptions (1999, 2002) relating to immediate opportunistic projects leading to strategic planning and long-term projects. The DRC has intentionally maintained a thin staff and low overhead, and as an organization has chosen to grow at a steady, realistic pace.

An initial business plan helped identify two kinds of priorities: specific programs like water marketing and effluent trading, and key targets for streamflow restoration in certain tributaries or stretches of the Deschutes River (Achterman 2000). The first projects were very simple and experimental, in part because they were testing new models and taking advantage of willing collaborators, and in part because they wanted some immediate results—to get some water back into the dry parts of the river. For example, they started with a low cost voluntary water leasing program that would test a new way of restoring instream flows (ibid.). An initial diversity of projects allowed the DRC to “start getting a feel for what’s out there, and let the communities know about us” (Nelson 2001).

From the start, the DRC worked with local partners to carry out their overall objectives, sharing resources and contributing jointly to projects. In 1997, the DRC started reviewing project proposals of local groups, essentially re-granting funds obtained through federal appropriations and other sources. Achterman (2000) explained the DRC's role as a facilitator and catalyst, helping other basin institutions accomplish their action plans through additional assistance and funding. According to Subject 1 (2001), this grant-making role led to some initial confusion for project proponents over “what it is the DRC actually does.” Subject 2 (2001) recognized that the DRC's focus was limited to water quantity and water quality, but expressed a wish that the DRC would fund a broader range of projects, including education and ecological monitoring.

Increasingly, the DRC felt the need to prioritize projects across the entire basin and to allocate resources where they were needed most (Geiser 2001). In 2001 the DRC completed its first official strategic plan, which outlined strategies and projects for achieving goals related to restoring streamflows and water quality, as well as goals for basin-wide planning and priorities, building the organization, communication and outreach, and government affairs (Deschutes Resources Conservancy 2001). According to this plan, "the DRC's top priority is to restore streamflows by restoring the natural hydrograph in all streams to the extent environmentally, socially, and economically possible" (ibid., 1).

There is some skepticism within the environmental community related to the market-based strategies that the DRC uses to pursue its mission. While Geiser (2001) explained that in talking with his peers in the environmental community, "they can't argue too much with the fact that we're paying this amount to get this much cfs back in the river, or to enhance water quality to this degree," in fact concerns do exist. Market-based strategies are still controversial because they are relatively new and unproven in the longer perspective, and some consider them to be too much of a compromise (Bryner 1999). Subject 3 (2003) was critical of these approaches, saying that certain strategies developed by the DRC, such as the water bank, only indirectly support their stated mission of restoring streamflows. This interviewee argued that these projects appear to be more about markets and less about resource protection, and professed skepticism over how well the DRC will meet its long-term goals (ibid.). However, Subject 3 did recognize the positive short-term benefits that have resulted from many of the DRC's general restoration projects (ibid.).

Attribute 6: Group Decisions Are Guided by Good Science and Comprehensive Management Plans.

The DRC is aware of the need for “scientifically defensible investment priorities for its restoration projects” (Achterman 2000). Because the basin has lacked a comprehensive, holistic management plan, to make its decisions the DRC has relied on scientific resources and data collected by tribal, state, and federal agencies. In key instances, this knowledge has come directly from board members, most notably the representatives of the Bureau of Reclamation and the Oregon Water Resources Department. For example, Main (2001) stated that he supplied up-to-date information on the status of streamflows for the entire Deschutes Basin, and initial DRC projects were prioritized based on the driest stretches of the Deschutes River and its tributaries—where the need was greatest and where the results would be most visible. This use of scientific data supports the observations made by Wondolleck and Yaffee (2000).

One major challenge for the DRC has been the absence of a holistic, comprehensive plan that integrates ecological issues within the basin, as existing management plans are usually out of date, focused on one discipline or species, or limited to certain land types or regions, such as the National Forest. Some key data are still being compiled, such as water quality data for certain parts of the Deschutes Basin (Nelson 2001). Overall, there is no one public agency that has a mandate (or resources) to develop a fully comprehensive coordinated management plan (Main 2001).

Like groups studied by Margerum (1999) and Kenney (1997), the DRC recognizes that this comprehensive planning is essential in order to move comfortably from opportunistic to strategic action and to “develop a real meaningful stewardship process” (Nelson 2001). To this end, the DRC is committed to helping facilitate the

development of a comprehensive plan. In early December 2001, the DRC met with other organizations in the basin—including watershed councils, the Tribes, and local governments—to lay the groundwork for a basin management plan that will pull together existing plans and create “a unified approach to managing the river” (Lundgren 2001, c4).

**Attribute 7: The Group Fosters Commitment, a Sense of Ownership,
and Accountability**

Each participant in the DRC has a slightly different motivation from the other for being involved with this collaborative organization. One unifying theme, however, appears to be the quality of life associated with an appreciation for the gifts provided by the natural landscape. These gifts take a number of forms— spiritual, cultural, social, economic, and ecological—but the desire to protect them often comes from a common place. As described above under Attribute 2, the process of building trust and collaborating has enabled DRC participants to tap into a powerful set of common values and take responsibility for the future of the place they call home.

This sense of commitment and ownership is reflected in Nelson’s assertion that “nobody else will take care of us like we take care of ourselves” (2001). He further emphasizes the broad attraction of the DRC’s approach:

If you couple [the goal of a healthy watershed] with market-based incentives, if you do it non-threateningly, if you do it over a long period of time, if you do it with partnerships and you create these stewardship principles, these new ethics—that should appeal to everybody. (ibid.)

This vision for the Deschutes Basin is similar to the mutual empowerment described by Brick and Weber (2001).

Regarding the issue of accountability, the relationship between the DRC and the general public is a bit complex. The DRC wants to maintain autonomy over its activities and as a private institution does not see itself as directly accountable to the public. Yet, they know that they ultimately need buy-in from the community to achieve their goals and to maintain their support and funding from public agencies (Geiser 2001, Main 2001). When asked about these issues, Achterman (2000) responded:

I don't think that our board has much interest in or stomach for public involvement in what we perceive to be our business decisions. And I think that could develop into more of an issue as we move forward. I would like to think that because of the strength of the board and the breadth of representation of the board it's not going to be an issue, that we'll be accountable in other ways for our performance.

Because the DRC works with partners to implement their goals for ecological restoration in the basin, they are accountable to a certain degree to these partners. Because the larger context is always changing, there is also a need to continually re-balance the interests of the DRC's stakeholders with the interests of the overall basin. As the DRC moves along with strategic planning and implementing new, perhaps more innovative projects, their actions will continue to bring up issues with groups in the basin (Geiser 2001).

**Attribute 8: The Group Builds and Sustains Relationships Internally
and with the Community.**

The DRC realizes that it is critical to maintain effective working relationships with all of its partners (Main 2001), and that ultimately they have to be connected to the community to recognize opportunities for achieving their goals (Nelson 2001). This is easier said than done, however, particularly for an organization that represents a relatively unusual, and still evolving, institutional model for public-private collaboration.

Of these ten attributes, this appears to be the one where the DRC has faced its greatest challenges. Because the organization has placed greater priority on testing some of its pilot projects and obtaining initial results than on doing publicity and outreach in the community (ibid., Geiser 2001), there have been legitimate questions from all sides about the DRC's exact role in the basin (Achterman 2000).

Internally, there appears to be excellent communication in the DRC among the board members (as described above under Attribute 4) and with the staff. The relationships between stakeholders and their constituencies are more difficult to analyze, as the DRC representatives are not mandated to gain the approval of or do outreach within these constituencies. It is unclear whether the attitudes of the DRC representatives have changed during the course of their involvement with the organization, compared to their constituencies, a concern voiced by Margerum (1999).

Where the stakeholders represent a clearly defined group, such as irrigated agriculture, the relationship seems to be straightforward. While "the irrigated agriculture community...probably doesn't know much about the DRC yet" (Nelson 2001), the DRC works closely with irrigation districts, and most farmers rely on their local irrigation districts to keep them informed and to advocate for their interests (Main 2001). Where the stakeholder constituency is less uniform or centrally organized, it is more challenging to obtain consensus among these constituents. For example, the environmental community in the basin is fairly diverse. DRC board member Geiser (2001) stated that his role was to "make sure that the [environmental] interests in the basin are represented," and he's had "a pretty good history with that."

As Wondolleck and Yaffee (2000) emphasize, cultivating relationships with other groups can help collaborative organizations achieve their goals. One challenge in the

Deschutes Basin is that a number of collaborative organizations—watershed councils—emerged around the same time as the DRC. To a certain degree these young organizations have overlapping priorities and similar approaches, and have struggled to find their own niche while learning how to work effectively with each other on projects. Overall, there is recognition on all sides that with all of the work to be done, every group is essential to success, particularly one like the DRC “with funding to do good things” (Burgel 2000). Subject 2 (2001) praised the DRC’s unique role, explaining that it was very valuable to have a funding organization located within the basin, where there was less competition for the funds and a better understanding of the context. By coordinating efforts across the basin, these groups can maximize their resources and enhance each other’s work (Craigier 2001, Geiser 2001). For example, in discussions related to the DRC’s strategic plan in 2001, there was clear interest among these organizations (including the DRC) in sharing office space and developing common outreach programs for the basin community.

The DRC itself has not done a lot of outreach or publicity in the community, activities that can be useful complements to voluntary, incentive-based programs (Margerum 1999). Basically, through 2001 the DRC focused on implementing key projects and getting the organization off the ground, and was less concerned with broad public outreach. “Early on, we made a conscious decision, we aren’t going to waste a whole bunch of our time with trying to advertise what we’re doing or promote what we’re doing” (Geiser 2001). As a result there has been some lack of clarity in the community regarding the DRC’s purpose, and at times some confusion and even suspicion over the DRC’s motives (ibid., Nelson 2001). This isn’t surprising to Nelson (2001), who does

believe that "it's the DRC's responsibility to make sure that those suspicions are out of the way."

The DRC does appreciate feedback, which Geiser (2001) calls "invaluable," allowing the DRC to make changes and refine their strategies. For example, after a coalition of environmental groups sent a joint letter to the DRC with concerns about the proposed water bank, the DRC ended up sitting down and meeting with these groups. At this meeting "we really started to come up with some good collaborative discussion about other ideas maybe we hadn't thought about, and also I think [we gained] a greater trust and understanding by the folks there," said Geiser (ibid.). As a result of this meeting, the DRC created a joint DRC-community advisory committee for the water bank.

Speaking generally, Subject 1 (2001), Subject 2 (2001), and Subject 3 (2003) agreed that the DRC was usually willing to meet with them, listen to concerns, and provide further explanation of their goals and strategies. However, Subject 3 (2003) criticized the DRC for not always following through in their actions in terms of really responding to community concerns and making definitive changes. While it is impossible for the DRC to please everyone, if community members doubt the sincerity of the DRC's response to their concerns, then this has the potential to erode the trust that the DRC is trying to build in the basin.

Attribute 9: The Group Seeks Creative, Innovative Solutions

As a public-private partnership, the DRC has more flexibility and autonomy than a regulatory agency in developing solutions to ecological problems. From the beginning, the organization sought to use voluntary incentives and market-based strategies to

improve watershed health without compromising the economic health of the community. At the time, market-based strategies for addressing air pollution were pretty widespread (Bryner 1999), but few models had been developed for addressing water quantity issues. Given the legal mechanism provided by Oregon law for the transfer of water rights and the willingness among stakeholders in the Deschutes Basin, the DRC saw the opportunity to put these strategies into action to restore streamflows. For improving water quality, the DRC currently focuses on riparian restoration and non-point source pollution, but aims to develop strategies involving effluent trading and carbon sequestration (Deschutes Resources Conservancy 2001). These concepts are based on providing economic incentives for landowners by creating markets for tradeable pollution permits (air or water), with the DRC serving as a broker for these transactions.

The DRC recognizes its pioneering role. Nelson (2001) explained that "many of us think we're maybe ten years ahead of other basins in terms of how we're approaching things." As a result, they haven't hesitated to take risks and experiment, because "until somebody picks up the program and sees how it works and runs with it, you're not going to move forward" (Achterman 2000). Along these lines the DRC is exploring the full range of funds available through programs at the state and federal level, such as helping landowners make voluntary improvements that will benefit the watershed while also qualifying for state energy conservation tax credits (*ibid.*).

One of the new (and controversial) models the DRC has developed is to operate business enterprises that generate revenue for environmental restoration. "That's very unusual, I don't know of another example," said Achterman (*ibid.*). For its first enterprise project, the DRC established a water bank—the first of its kind—designed to improve streamflows and produce revenue that will be funneled back into restoration projects. In

contrast, the standard water bank model transfers water from one consumptive use to another and generates profits like any other business; conservation and restoration aren't usually considered relevant (ibid.).

The DRC's innovative strategies can be confusing for some basin residents and controversial for others. "They're doing things that are beyond the ken of most of us out there on the ground," said Subject 1 (2001), citing carbon sequestration projects as one example. This underscores the DRC's need to frame these innovative strategies in ways that make sense to the general public. There are indications, however, that this has been taking place. For example, the DRC website features an article on a local landowner who is converting to lower impact, no-till farming methods that will reduce erosion, and consequently reduce the amount of carbon entering the atmosphere and the watershed. Eventually this farmer (and the DRC, which helped fund this project) could obtain financial rewards for this project by selling "carbon mitigation credits" to businesses wanting to offset greenhouse gas emissions. In 2001 this article was given the literal, descriptive title of "Carbon Sequestration,"³ a term that most lay people would not be familiar with, but in 2003, this exact same article is listed under the friendlier title of "Riparian Restoration."⁴

There are definitely critics who argue against the marriage of environmental conservation and business/profit-related approaches, but Geiser (2001) considers these strategies "ultimately the most effective way to implement projects and get things done." As a basic example, Nelson (2001) highlights the fact that through DRC projects landowners have voluntarily severed water rights from their lands (permanently or

³ Website address <http://www.dbrc.org/init/carbon.htm>, accessed 12 January 2001

⁴ Website address <http://www.deschutesresourcesconservancy.org/init/carbon.htm>, accessed 3 March 2003.

through leases): “Unless you’ve been in [the irrigated agriculture] industry, you don’t appreciate what a major event that is, it’s very unusual.”

Attribute 10: The Group Has Access to Critical Human, Technical, and Financial Resources

The DRC has not lacked from access to resources, primarily due to the individual strengths of board members and their associated institutions. In short, the board is composed of “folks who have a lot of central influence in the basin, and have resources to bring to bear on it” (Geiser, 2001). These resources include financial support, in-kind support in the form of staff time and services, technical support, and political support.

For example, Ron Nelson, president of the DRC board from 1996-2001 and former manager of the Central Oregon Irrigation District, has also served as a board member of the Oregon Watershed Enhancement Board and the Oregon Water Resources Commission, which oversees the OWRD. Additionally, Nelson was the former head of the Oregon Water Resources Congress, which represents all of the irrigation districts in the state and is politically active at the state and federal levels. The Warm Springs Tribes have lobbyists in Washington, D.C. and connections at the state level. As a national environmental organization, Environmental Defense also has a lobbyist and a strong national presence.

The DRC has benefited from a “highly energized” and qualified staff (Calica 2001). The organization has grown slowly and consciously, expanding according to their needs and priorities. When Gail Achterman joined the DRC as Executive Director in 2000, she brought skills, experience, vision, and credibility to the organization (ibid., Burgel 2000, Geiser 2001). Geiser (2001) expects that Achterman’s leadership is “going to really take us to another level.”

As described in the first part of this chapter, the DRC has been successful in obtaining financial resources. They have practiced effective fiscal management, a characteristic that positions it well for further appropriations, by maintaining a low overhead and allocating their funds towards restoration projects instead of planning and administration (Nelson 2001). When funding projects, the DRC considers their overall cost-effectiveness. Finally, the DRC functions as a catalyst for additional investment in the basin, a dynamic praised by Margerum (1999). In the future, the DRC aims to further diversify its funding and generate revenues from its enterprise programs such as the water bank (Achterman 2000).

Discussion

In considering the Deschutes Resources Conservancy's legislative origins and its overall mission to address water quantity and water quality through voluntary incentives and market-based strategies, it does not represent a standard model of collaboration. Other unique aspects include its access to resources, the ability of board members to attain consensus, and the fact that it has its roots in several years of local dialogue and ad-hoc collaboration, which created immediate trust and common ground among the stakeholders involved in the DRC. However, in other respects this group has followed a general pattern of evolution observed in other analyses of collaborative organizations, such as acting opportunistically at first before shifting into a more strategic approach to implementing and prioritizing projects, fundraising, and achieving long-term goals.

In the analysis of this case study, overall there is a strong correlation with the key attributes of successful collaboration. This correlation is strongest in Attributes 1, 2, 3, 5, 6, 9, and 10. The lack of agreement with the theoretical model is most obvious in the

DRC's relationships with constituents, community members, and some other interests (Attribute 8). The research shows partial correlation to Attributes 4 and 7; the elements within these attributes where there is less support are the perception of legitimacy in the DRC's set of stakeholder representatives among some environmental interests (Attribute 4) and the issue of the DRC's accountability to the public (Attribute 7).

The DRC's progress in improving streamflows in critical areas of the Deschutes River basin provides initial optimism about the use of voluntary incentives to facilitate transfers of water rights and water conservation projects. While some controversy exists surrounding market-based strategies (Bryner 1999), the pilot programs established by the DRC and its partners have been successful in engaging landowners in short- and long-term changes in resource uses and private water rights. These results show promise in applying these strategies to other parts of Oregon and (where allowed by state water laws) to other western basins.

As an exact organizational model, however, the Deschutes Resources Conservancy is limited. To start, few organizations can obtain the level of federal support that the DRC has, particularly with appropriations from the federal budget. There are also several contextual aspects of the Deschutes Basin that have influenced the DRC's evolution and outcomes. The economic prosperity and population growth in the Deschutes Basin brought new perspectives and values into the region, something not present in other parts of the state where there is less economic, social, and political diversity. Combined with the vision and leadership of the Warm Springs Tribes, these broader views paved the way for creativity and foresight in addressing water issues. In contrast, Lara Burgel (2000) of the Oregon Water Resources Department stated:

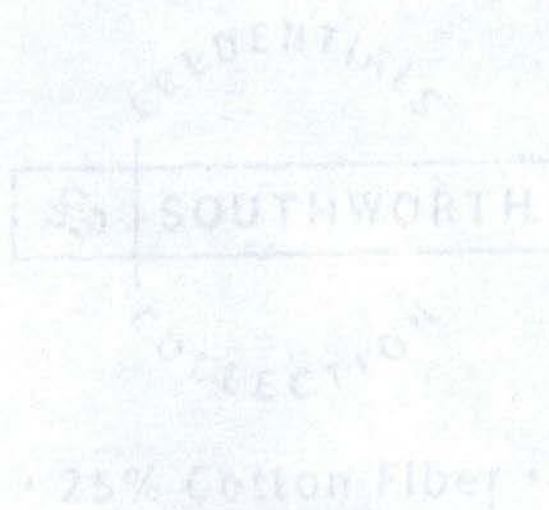
I think if you spend much time further in eastern Oregon, you'll really hear people saying that water left flowing to the ocean is wasted. There's very little recognition in some parts of the state that water is useful for fish, for recreation, for aesthetic purposes.

Additionally, the water-related conflicts in the Deschutes Basin have so far been resolvable, in contrast to the ongoing, often bitter conflicts in Oregon's Klamath Basin, where the tribal reserved water rights have not been settled and federal attempts to protect endangered sucker fish have led to stand-offs with both irrigators and environmental advocates (Ullman 2001).

The Deschutes Resources Conservancy case study does provide some general insights that can be applied to collaboration anywhere. First is the fact that while the DRC received a federal mandate, it was local initiative that drove the DRC's formation and evolution. Achterman (2000) emphasized this distinction: "...that's enormous, to be able to have that clarity of vision, and to have it be locally generated, not imposed from outside." When asked about transferring the DRC's experience to other basins, Nelson (2001) echoed similar thoughts: "It still has to come from the bottom-up. You can't just impose it on anybody if they're not willing—it just won't work."

The interlocking foundations for this kind of local initiative are trust and a common sense of community (Attribute 2). Building this foundation is an organic process—you can create an open, supportive environment and nurture this dialogue, but you can't force it to happen. It is possible for an external group to be involved (as Environmental Defense played a role with the Ad-Hoc Deschutes Group), but key members of the community have to help drive the process. A top-down mandate for a collaboration is less likely to be successful, particularly in the beginning, without this pre-existing sense of community.

Along similar lines, to achieve specific objectives in a region, institutions must reflect local conditions. For example, in a river basin with a smaller population and fewer resources, it would not be feasible to create a separate collaborative organization like the DRC to restore streamflows. In essence the DRC acts as a facilitator (albeit one with its own agenda) by accessing resources and redirecting them to partners and other people on the ground—in a smaller basin this kind of formal facilitator role would be superfluous. A more realistic first step would be a coordinated effort between existing organizations to share resources and implement some pilot projects.



CHAPTER VI

CONCLUSION

The traditional regulatory-based approach to ecological problems has resulted in many divisive conflicts and frustrating stalemates, particularly revolving around private property and resource-based economies. Experience so far demonstrates that there is promise in the use of collaborative models to address natural resource conflicts in the American West. Collaboration offers an alternative approach—bridging public and private interests, promoting power sharing, emphasizing commonalities instead of differences, and encouraging community-based solutions rooted in sustainability, stewardship, and sense of place.

There are many types of collaborative models that have been profiled and studied in the literature, including more standardized models such as watershed councils. The differences among these models include scales of focus (geographic and substantive), overall objectives, strategies employed, stakeholders involved, sources of funding, and degree of public involvement. These variations present challenges in making general conclusions or recommendations that can truly apply to all of these models, and beg the question of whether it makes sense to use the exact same set of criteria for very diverse examples of collaborative processes or organizations.

In this thesis, I used a framework of ten attributes of successful collaboration developed from different sources to analyze the effectiveness of the Deschutes Resources Conservancy as a collaborative public-private partnership working to improve streamflows and water quality in the Deschutes River Basin. The DRC represents a unique model among watershed-based collaborations, having greater access to

resources, more autonomy, and a more narrow set of objectives. Because of these differences, two questions arise: was the set of attributes used relevant to this model, and how do the outcomes of this case study inform our understanding and analysis of collaborative organizations?

The existing literature on collaboration does help to explain and inform the experiences of the DRC in some very basic ways. First, the DRC has been successful because it evolved out of community dialogue and the conversations and research of the Ad-Hoc Deschutes Group. Consistent with conclusions from other research studies, this foundation that the DRC is built upon illustrates the importance of trust, a sense of community, and an understanding of how problems and solutions are interrelated (Attributes 2 and 3). Second, the DRC includes representatives of all levels of government and has been able to capitalize on these and other political connections to obtain funding and other key resources (Attributes 1 and 10). Third, like many successful collaborative groups, the DRC promotes innovative, entrepreneurial strategies for addressing resource-related problems (Attribute 9). Finally, the DRC has a concrete, realistic mission, has identified tangible goals for achieving these overall objectives, and seeks guidance through scientific research wherever possible (Attributes 5 and 6).

The remaining attributes are not as directly relevant to the DRC's model of collaboration, and some clarifications should also be made to the attributes mentioned above. For example, most collaborative groups have a broader focus than the DRC, encompassing more aspects of watershed health beyond water quantity and water quality. The DRC's narrow focus and abundant resources make it easier for it to establish concrete goals and realize tangible results (Attribute 5), but this difference also

leads to a different type of organizational structure (discussed below). Also, while the early processes for finding common ground and building trust in the community were fundamental to the DRC's creation and evolution (Attribute 2), as of yet there are no indications from the DRC that they will continue to seek to understand and be influenced by community opinions to this same degree. This is certainly an area where further research is needed before drawing any definite conclusions, but these issues do play into the questions of the DRC's relationships with the community (again, discussed below).

Attribute 4 referred to the balance of stakeholder representation, perceptions of legitimacy, and effective processes for decision-making and conflict resolution. In some respects the DRC is an organization that has evolved out of an earlier collaborative process, and once the initial mission and goals were established, the DRC began operating more like a business and less like a standard collaborative model (such as a watershed council). While the early ad-hoc dialogues in the Deschutes Basin were very community-based, the DRC as an organization is very board-driven (top-down) instead of being community-driven (bottom-up). Legitimacy is less of an issue here; the board membership reflects the basic stakeholders within the basin community, but they do not directly represent the views of these stakeholders. Therefore, consensus among the board members does not necessarily reflect consensus within the community as a whole.

These differences in organizational structure perhaps explain the sometimes-ambiguous relationships the DRC has with the public and with other organizations (Attribute 8). The DRC may be a collaborative group, but it operates according to an internally defined agenda, much like any other non-profit organization or business. This

sense of autonomy is heightened by having relatively straightforward access to funding and other resources. It also makes it more challenging to foster a sense of ownership among the greater community and to feel accountable to the public (Attribute 7).

The Deschutes Resources Conservancy is perhaps best described as a public-private partnership, and while different from a watershed council, it still represents the collaborative approach to natural resource management. What, then, can this case study contribute to our understanding of this approach? First, as a partnership the DRC embodies a sense of long-term commitment that is not present in all collaborative groups. Some collaboratives, on the other hand, emerge to address specific issues and then dissolve once their goals have been met. The DRC case study emphasizes this difference, and suggests a need for better understanding of which models are most appropriate for a specific problem situation, particularly when a longer-term solution is desired.

Second, while the DRC has followed a similar pattern to other groups in being opportunistic and then strategic, it has also started by pursuing a more narrow set of objectives. This has allowed it to target their resources more efficiently, and not get distracted or confused by too broad of a mandate. Still, within this limited focus the DRC has flexibility, and through its basic approach it has provided a means for testing new, innovative strategies for addressing water quantity and water quality problems. Third, the DRC represents a unique model in the way that it can funnel a variety of mostly external resources to other organizations within the Deschutes Basin. This is a topic worth exploring further, to determine whether this model could work in other regions.

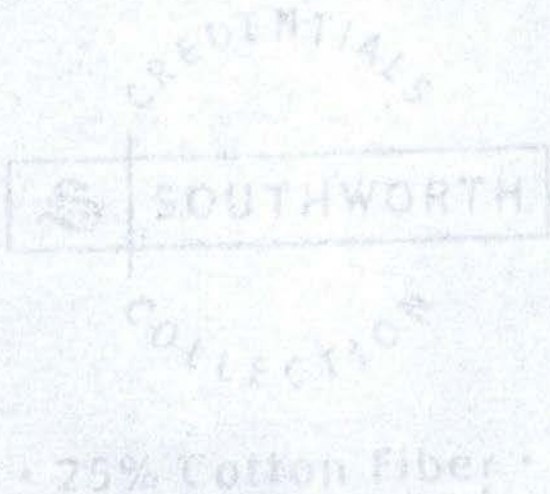
However imperfect it may be, the framework of the ten attributes of successful collaborative organizations proved useful for analyzing this case study. Due to the

diversity of collaborative models that exist, it would be challenging to substantially modify this set of attributes based on this case study and come up with a list that would still be relevant to other models. Since each attribute has been simplified, and in reality actually incorporates many ideas and concepts, I would instead suggest careful consideration of these different nuances prior to and during the analysis process. Using this attribute framework to evaluate a variety of collaborative organizations allows exploration of the dynamics and themes contained within each "attribute of success" and enables a greater overall understanding of collaborative models.

CONFIDENTIAL
SOUTHWORTH

COLLECTOR

25% Cotton Fiber



APPENDIX
SAMPLE INTERVIEW QUESTIONS

A. Interview questions for DRC board members and staff

1. How did you come to be involved with the DRC?
2. How would you characterize the attitudes within your stakeholder community to the DRC, and to collaborative approaches in general?
3. What factors have most influenced the DRC's evolution and outcomes?
4. How does the DRC approach controversial issues, especially those that have some internal controversy?
5. To what degree is the DRC accountable to the community? To public agencies?
6. How are priorities set within the DRC?
7. How would you characterize the DRC's relationship with other institutions in the basin, particularly those working at different scales? What tensions exist?
8. How does the DRC measure success? In your opinion, what have been the major successes of the DRC? Major challenges? Any failures? How would you do things differently?
9. Where do you see the DRC going from here?
10. Is it possible to create a DRC-like institution in another basin?
(Particularly one with fewer social, economic, and political resources? Or one with more people?)
11. In your experience, how important is it to be setting priorities at the basin scale vs. the watershed scale? What are the ideal roles for public and private institutions in collaborative watershed management?

B. Interview questions for Oregon state agency representatives

1. What are your agency's primary responsibilities? What other agencies, groups or individuals do you work with to carry out these goals?
2. How does your agency typically work with local communities and stakeholders? Are you involved in any collaborative processes? If so, what have been the outcomes?
3. Can you describe how comprehensive water planning/management has evolved in the Deschutes Basin, and what your agency's role has been? How does this compare to other basins?
4. What has been your involvement with the Deschutes Resources Conservancy? Has your agency participated in or supported other basin initiatives like the DRC?
5. What are your impressions of the outcomes/overall effectiveness of these collaborative processes? (In terms of natural resources, community interests, and policy-making.)
6. What have been the primary advantages as well as challenges to working together in these processes? What might have made these processes more effective and more efficient? Have interests been equally represented?
7. What impact has this had on the agency? What do you predict for the future?

C. Interview questions for community representatives

1. How do you feel that your interests and goals relate to those of other stakeholders in the Deschutes Basin?
2. How would you evaluate the performance of the Deschutes Resources Conservancy? What aspects are you most or least impressed with? Why?
3. Do you have a working relationship with the DRC? Has the presence of the DRC helped you reach your goals? Has it hindered you at all?
4. To what degree do you feel that the DRC's goals for the basin coincide with your goals? Do you feel like your interests are represented on the board?
5. Do you feel that the DRC has been receptive and responsive to your questions or concerns?

BIBLIOGRAPHY

- Achterman, Gail. 2000. Interview by author, 14 December. Portland, Oregon.
- Bates, Sarah, David H. Getches, Lawrence J. MacDonnell, and Charles F. Wilkinson. 1993. *Searching out the headwaters: Change and discovery in western water policy*. Washington, D.C.: Island Press.
- Benson, Reed. 1996. A watershed issue: The role of streamflow protection in Northwest river basin management. *Environmental Law* 26: 175-224.
- Brick, Philip and Edward P. Weber. 2001. Will rain follow the plow? Unearthing a new environmental movement. In *Across the great divide: Explorations in collaborative conservation in the American West*, eds. Philip Brick, Donald Snow, and Sarah Van de Wetering, 15-24. Washington, D.C.: Island Press.
- Bryner, Gary C. 1999. *New tools for improving government regulation: An assessment of emissions trading and other market-based regulatory tools*. Boulder: Natural Resources Law Center, University of Colorado School of Law.
- Burgel, Lara. 2000. Interview by author, 13 December. Portland, Oregon.
- Calica, Charles. 2001. Interview by author, 21 April. Warm Springs, Oregon.
- Calica, Charles, Ron Nelson, and Zach Willey. 1997. Resettling the West—The Deschutes River Basin model. *Big River News* 3(2): 1-6. Northwest Water Law and Policy Project, Northwestern School of Law of Lewis and Clark College.
- Cortner, Hanna, and Margaret Moote. 1999. *The politics of ecosystem management*. Washington, D.C.: Island Press.
- Craiger, Rick. 2001. Interview by author, 18 January. Redmond, Oregon.
- Deschutes Resources Conservancy. 2001. *Deschutes Resources Conservancy Strategic Plan*. 19 April.
- Fisher, Roger, William Ury, and Bruce Patton. 1991. *Getting to yes: Negotiating agreement without giving in*. Second Edition. New York: Penguin Books.
- Geiser, Peter. 2001. Interview by author, 26 February. Bend, Oregon.
- Getches, David H. 2001. Some irreverent questions about watershed-based efforts. In *Across the great divide: Explorations in collaborative conservation in the American West*, eds. Philip Brick, Donald Snow, and Sarah Van de Wetering, 180-187. Washington, D.C.: Island Press.

- Gillilan, David M. and Thomas C. Brown. 1997. *Instream flow protection: Seeking a balance in western water use*. Washington, D.C.: Island Press.
- Gray, Barbara. 1989. *Collaborating: Finding common ground for multiparty problems*. San Francisco: Jossey-Bass, Inc.
- Grumbine, R. Edward. 1994. What is ecosystem management? *Conservation Biology* 8(1): 27-38.
- Huntington, Charles W. and Sari Sommarstrom. 2000. *An evaluation of selected watershed councils in the Pacific Northwest and northern California*. Report prepared for Trout Unlimited and the Pacific Rivers Council.
- Innes, Judith E. and David E. Booher. 1999. Consensus building and complex adaptive systems: A framework for evaluating collaborative planning. *Journal of the American Planning Association* 65(4): 412-423.
- Kenney, Douglas S. 1997. *Resource management at the watershed level: An assessment of the changing federal role in the emerging era of community-based watershed management*. Boulder: Natural Resources Law Center, University of Colorado School of Law.
- Kenney, Douglas S. 2000. *Arguing about consensus: Examining the case against Western watershed initiatives and other collaborative groups active in natural resources management*. Boulder: Natural Resources Law Center, University of Colorado School of Law.
- Kenney, Douglas S. 2001. Are community-based watershed groups really effective? Confronting the thorny issue of measuring success. In *Across the great divide: Explorations in collaborative conservation in the American West*, eds. Philip Brick, Donald Snow, and Sarah Van de Wetering, 188-193. Washington, D.C.: Island Press.
- Kenney, Douglas S., and William Lord. 1999. *Analysis of institutional innovation in the natural resources and environmental realm: The emergence of alternative problem-solving strategies in the American West*. Research Report (RR-21). Boulder: Natural Resources Law Center, University of Colorado School of Law.
- Kenney, Douglas S., Sean T. McAllister, William H. Caile, and Jason S. Peckham. 2000. *The new watershed source book*. Boulder: Natural Resources Law Center, University of Colorado School of Law.
- Lewicki, Roy J., Joseph A. Litterer, John W. Minton, and David M. Saunders. 1994. *Negotiation*. Second Edition. Burr Ridge, IL: Irwin.
- Lundgren, Steve. 2001. Groups gather to draw Deschutes River plan. *The Oregonian*, 7 December, C4.

- Main, Robert. 2001. Interview by author, 28 February. Bend, Oregon.
- Margerum, Richard D. 1999. Integrated environmental management: The foundations for successful practice. *Environmental Management* 24(2): 151-166.
- Margerum, Richard D. 2002. Collaborative planning: Building consensus and building a distinct model for practice. *Journal of Planning Education and Research* 21(3):237-253.
- McKinney, Matthew J. 2001. What do we mean by consensus? Some defining principles. In *Across the great divide: Explorations in collaborative conservation in the American West*, eds. Philip Brick, Donald Snow, and Sarah Van de Wetering, 172-179. Washington, D.C.: Island Press.
- Moore, Deborah, Zach Willey, and Adam Diamant. 1995. *Restoring Oregon's Deschutes River: Developing partnerships and economic incentives to improve water quality and instream flows*. New York: Environmental Defense Fund and Confederated Tribes of the Warm Spring Reservation.
- Natural Resources Law Center (NRLC). 1997. *Restoring the waters*. Boulder: University of Colorado School of Law.
- Natural Resources Law Center (NRLC). 1998. *The state role in Western watershed initiatives*. Research Report (RR-18). Boulder: University of Colorado School of Law.
- Nelson, Ron. 2001. Interview by author, 27 February. Redmond, Oregon.
- Osborne, David, and Ted Gaebler. 1993. *Reinventing government: How the entrepreneurial spirit is transforming the public sector*. New York: Penguin Books.
- Root, Ann. 1995. Challenges to instream flow protection in Oregon. *Rivers* 5(3): 184-194.
- Ruhl, J.B. 1999. The (political) science of watershed management in the ecosystem age. *Journal of the American Water Resources Association* 35(3):519-526.
- Snow, Donald. 2001. Coming home: An introduction to collaborative conservation, In *Across the great divide: Explorations in collaborative conservation in the American West*, eds. Philip Brick, Donald Snow, and Sarah Van de Wetering, 1-11. Washington, D.C.: Island Press.
- Stowell, Cynthia D. 1987. *Faces of a reservation: A portrait of the Warm Springs Reservation*. Oregon Historical Society Press.
- Subject 1. 2001. Interview by author, 27 February.
- Subject 2. 2001. Interview by author, 27 February.
- Subject 3. 2003. Phone interview by author, 30 January.

Susskind and Cruikshank. 1987. *Breaking the impasse: Consensual approaches to resolving public disputes*. New York: Basic Books.

Ullman, Bud. 2001. Klamath Basin water: Too many promises. *Big River News* 7(3): 1-4. Northwest Water Law and Policy Project, Northwestern School of Law of Lewis and Clark College.

WaterWatch. [2002a] Groundwater rules threaten the Deschutes Basin. WaterWatch Briefing Paper.

WaterWatch. [2002b]. Groundwater rules update: WaterWatch files a legal challenge to groundwater rules. Available at http://www.waterwatch.org/deschutes_update.htm. Accessed 3 March 2003.

Wilkinson, Charles F. 1992. *Crossing the next meridian: Land, water, and the future of the West*. Washington, D.C.: Island Press.

Wondolleck, Julia and Steven Yaffee. 2000. *Making collaboration work: Lessons from innovation in natural resource management*. Washington, D.C.: Island Press.

Yin, Robert K. 1994. *Case study research: Designs and methods*. Second Edition. Thousand Oaks, CA: Sage Publications.