

AN ABSTRACT OF THE DISSERTATION OF

Erin Clover Kelly for the degree of Doctor of Philosophy in Forest Resources
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Klamath Counties, Oregon.

Abstract approved:

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Abstract:

Since the 1980s, industrial forest restructuring has resulted in the divestment of industrial timberlands across the U.S. Emerging tenures have benefited from the divestment, including conservation-based tenures that manage for multiple objectives such as restoration, recreation access, and forest and habitat contiguity. Deschutes and Klamath Counties, Oregon, have three proposed conservation tenures: a community forest, a state forest, and a tribal forest. The community forest would be the first of its kind in the state, a large, land trust-owned forest at the edge of a rapidly-growing city. The state forest, geographically more isolated, would be the first state-owned forest in Oregon in 60 years. The tribal forest, also geographically isolated, would return former reservation land to the Klamath Tribes, which were terminated in 1954. All three forest ownership opportunities were created through opportunistic risk-taking, the leverage of political and human capitals, social networks, strong leadership, and land availability as a result of industrial forest restructuring.

This case study research used multiple methods, including interviews and document analysis, to explore the forests' unique histories, and draws lessons about changing community capacities, forest management, and forest governance and under these emerging tenures.

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Forest Industry Restructuring and Emerging Forest Tenures in Deschutes and Klamath
Counties, Oregon

by
Erin Clover Kelly

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APPROVED:

Major Professor, representing Forest Resources

Head of the Department of Forest Engineering, Resources and Management

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I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my dissertation to any reader upon request.

Erin Clover Kelly, Author

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CONTRIBUTION OF AUTHORS

Dr. Bliss assisted with the writing of all three papers. Dr. Gosnell assisted with data collection for the third manuscript.

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Forest Industry Restructuring and Emerging Forest Tenures in Deschutes and Klamath Counties, Oregon

Chapter 1: Introduction

The divestment of industrially-owned timberlands since the 1980s is the most rapid and complete forest tenure change since the enclosure of public lands in the 19th century. Industrial forest companies have sold their timberlands, often to pension funds, wealthy individuals, and developers, and also to a variety of *conservation* tenures, the focus of this dissertation. In Deschutes and Klamath Counties, Oregon, three alternative tenures have been proposed on formerly industrial forest lands: a community forest, a state forest, and a tribal forest. These tenures each address social and ecological concerns, aiming to restore degraded forest conditions, preserve habitat contiguity and (to varying degrees) maintain recreation access and view sheds. These ownership proposals illustrate one emerging trajectory for the former industrial timberlands of the U.S.

In many formerly timber-dependent regions of the U.S., industrial forest restructuring has occurred alongside demographic and socioeconomic changes, including population growth and economic sector shifts from commodity production to recreation, real estate development, and the service industry. As the infrastructure of the forest industry has disappeared, new community capacities have emerged, in this case creating alternative ownerships out of the once tightly-held private industrial forests. The three proposed forests of this case study research are linked through a common owner, Fidelity National Financial, which gained ownership after the bankruptcy of the forests' prior owner, Crown Pacific. The forests' unique histories, human communities, and proposed futures are central to this analysis of tenure change.

The objectives of this research include: 1) clarifying the nature and extent of industrial forest restructuring in the U.S.; 2) exploring implications of industrial forest restructuring in Deschutes and Klamath Counties; and 3) describing changing

capacities within communities of Deschutes and Klamath Counties, and how these capacities have intersected with changing forest ownership.

Methods

A qualitative researcher is a *bricoleur* or quilt-maker, who stitches together the fragments of available data into a compelling story (Denzin and Lincoln 2004).

Generally, qualitative research follows what (Lincoln and Guba 1985) term *naturalistic inquiry*, in which the researcher generates hypotheses as data are collected, in order to create and test theories to explain the phenomena under study.

The qualitative researcher asks *how* and *why* questions, and explores in-depth relationships between variables. Qualitative research rejects reductionist tendencies in favor of coherent narratives that explain the complex phenomena under study, and is predicated upon “a model of science that embraces not detachment but engagement as the road to knowledge” (Burawoy 1998: 5). This is not meant to discount the contributions of quantitative research, and this emerging tenure change will undoubtedly benefit from additional future studies that utilize a wide range of methodologies.

Case study research

This case study research uses multiple sources of evidence to portray both changing timberland tenures and rural restructuring in Deschutes and Klamath Counties, Oregon, and to place these local circumstances within the context of national and global trends. A case study “investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (Yin 2003: 13).

Deschutes and Klamath Counties were purposively selected in order to capture a wide range proposed alternative ownership changes within a small geographic area. The three formerly industrial timberlands, their ownership histories, management, and proposed futures, have been utilized to create an *atypical*, or *extreme*, case. Extreme cases can “reveal more information because they activate more actors and more basic mechanisms in the situation studied” (Flyvbjerg 2006: 229). The communities of

Deschutes and Klamath Counties were highly timber-dependent in the past and had high levels of timber depletion, as noted in the *Journal of Forestry* as early as 1944: “liquidation of the original timber is already in advanced stages in many localities. Klamath Falls and Bend, Oregon, are two communities where the situation is now critical” (Behre 1944: 18). Since that time, the collapse of the timber industry, the burgeoning recreation and development industry in Bend, the rural poverty of La Pine, Gilchrist, and Chiloquin, and timber infrastructure deterioration across the two counties, are extreme examples of national trends.

This case study was extended by embedding the current, local phenomena of timber industry and rural restructuring within historical and extralocal context (Burawoy 1998). General questions and data sources were employed at larger scales (national and global) and more specific questions and data sources at smaller scales (Figure 1.1).

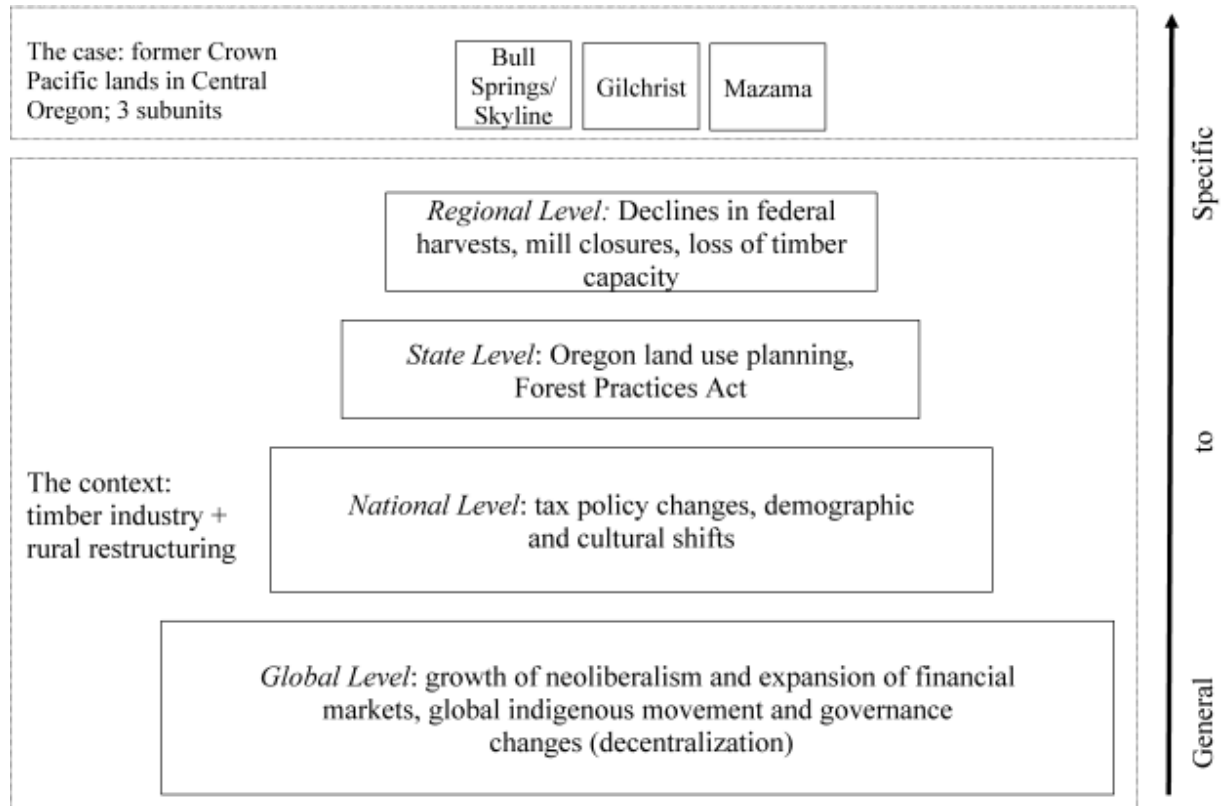


Figure 1.1 A graphic representation of the nested design of this research, with global social forces at the bottom and local social processes at the top.

This pyramidal structure emphasizes two key points of the research. First, I am looking at multiple spatial and temporal scales in order to provide context for the case. Second, the multiple scales interact within the same context.

Interviews and meetings

I conducted semi-structured interviews with 49 people. Two interviewees were interviewed multiple times. Interviewees were selected purposively for their participation in alternative ownership proposals in Deschutes or Klamath Counties, or their employment in timber industry or with a timberland investment firm (Table 1.1). All interviewees were asked for the names of additional potential interviewees. Most interviews were recorded and transcribed; five interviewees were not recorded and I relied on notes.

Table 1.1 List of interviewees (n=49) interviewed by the first author. Interviewees are identified by their code within the manuscripts.

<i>Interviewee</i>	<i>Code</i>	<i>Employment/Association</i>	<i>Location</i>
1	101	Deschutes Land Trust	Bend, OR
2	201	Klamath Tribes	Chiloquin, OR
3	301	Central Oregon Land Watch	Bend, OR
4	501	Ochoco Lumber Company	Prineville, OR
5	701	Deschutes County Forest Dept.	Bend, OR
6	801a	Deschutes County Planning	Bend, OR
7	801b	Skyline community (adjacent to proposed Skyline Forest)	Bend, OR
8	901	Central Oregon Land Watch	Bend, OR
9	1001	Crook County Planning	Prineville, OR
10	1101	U.S. Forest Capital	Portland, OR
11	1201	Oregon Dept. of Forestry	Salem, OR
12	1301	Weyerhaeuser	Federal Way, WA
13	1401	Roseburg Forest Products + formerly Crown Pacific	Roseburg, OR
14	1501	Guest ranch	Bend, OR
15	1601	Olympic Resource Management + formerly Crown Pacific	Bend, OR
16	1701	Oregon State Univ. extension	Redmond, OR
17	1801	Oregon State Legislature	Bend, OR
18	1901	Campbell Group (TIMO)	Portland, OR
19	2001	Campbell Group (TIMO)	Portland, OR
20	2101	Campbell Group (TIMO)	Eugene, OR
21	2201	Oregon Dept. of Forestry (formerly Campbell Group)	Salem, OR
22	2301	Oregon Dept. of Forestry	Prineville, OR
23	2501	A.R. Bowman Memorial Museum	Prineville, OR
24	2601a	Self-employed rancher and timber manager	Prineville, OR
25	2601b	Self-employed rancher and timber manager	Prineville, OR
26	2701	Interfor Forest Products	Gilchrist, OR
27	2801a	Logging contractor	La Pine, OR
28	2801b	Logging contractor	La Pine, OR
29	3001	U.S. Forest Service	Prineville, OR
30	3101	Skyliners Community + formerly U.S. Forest Service	Bend, OR
31	3201	Oregon Dept. of Fish and Wildlife	Bend, OR
32	3301	Deschutes County Planning	Bend, OR
33	3401	U.S. Forest Service	Lakeview, OR

34	3501	Brooks Resources Realty + formerly Brooks Scanlon Timber	Bend, OR
35	3601	Environmental advocacy group	Bend, OR
36	3701	Interfor Forest Products	Gilchrist, OR
37	3801	Independent developer + formerly Brooks Resources	Bend, OR
38	3901	U.S. Forest Service	Portland, OR
39	4001	Klamath County Commission	Klamath Falls, OR
40	4101	Klamath Tribes	Chiloquin, OR
41	4201	Independent logging contractor + tribal member	Chiloquin, OR
42	4301	Oregon Dept. of Forestry	Salem, OR
43	4401	Interfor Forest Products	Gilchrist, OR
44	4501	Ochoco Lumber Company	Prineville, OR
45	4601	Oregon Dept. of Forestry	Prineville, OR
46	5001	Fidelity National Financial	Missoula, MT
47	5101	Forest Capital Partners (TIMO)	Portland, OR
48	5201	Real estate private equity company + formerly Crown Pacific	Portland, OR
49	5301	Trust for Public Land	Portland, OR

In addition, I analyzed 10 interviews related to the Mazama Tree Farm and water conflict negotiations in the Klamath Basin, from a colleague at Oregon State University, Dr. Hannah Gosnell (Table 1.2). These interviews were transcribed by a research assistant.

Table 1.2 List of interviewees (n=10) interviewed by a colleague. Interviewees are identified by their code within the manuscripts.

<i>Interviewee</i>	<i>Code</i>	<i>Employment</i>	<i>Location</i>
50	6001	Off-project irrigator	Klamath Basin, OR
51	6101	Rancher, off-project irrigator	Klamath Basin, OR
52	6201	Sustainable Northwest, non-profit org.	Portland, OR
53	6301	Rancher	Klamath Basin, OR
54	6401	Rancher	Klamath Basin, OR
55	6501	Rancher	Klamath Basin, OR
56	6601	US Forest Service	Klamath Falls, OR
57	6701	Rancher	Klamath Basin, OR
58	6801	Bureau of Land Management	Prineville, OR
59	6901	Natural Resources Conservation Service	Klamath Falls, OR

All interviews were analyzed and coded iteratively for their contribution to the case and to relevant research questions (per Strauss 1987) using Weft QDA software. Interviewees are identified throughout the manuscripts by their *code*.

I also attended three conferences entitled *Who Will Own the Forest* in Portland, Oregon, aimed at timberland investors. The conferences occurred in the summers of 2006, 2007, and 2008. At the conferences, I took notes, recorded presentations, and had extensive, in-depth discussions with timberland investors and researchers. I used these discussions to develop and test hypotheses about industrial forest restructuring.

Timberland ownership database

The first manuscript utilized timberland sales data provided by Bank of America (Bank of America 2007). Bank of America analysts had created an Excel spreadsheet with timberland transactions from 1996-2007. Working with a colleague from U.S. Forest Capital, we verified transactions using investment newsletters, business periodicals, Securities and Exchange Commission filings, and correspondence with investors. The database (n=429 sales) is an attempted census of all verifiable timberland sales in the U.S. over 10,000 acres (4000 ha) from 1996 to 2007. I used descriptive statistics to document timberland ownership trends over time, and to verify regional price per acre trends.

Document analysis

A number of documents, historical, political, and economic, were accessed to provide context for the case, and to verify interviewee information. Historical timber industry and community documents were acquired from the Deschutes County Historical Society museum, the Shaw Historical Library at the Oregon Institute of Technology, the special collections at the Oregon State University, and multiple U.S. Forest Service offices.

Format of the Dissertation

This dissertation includes three manuscripts that address the central themes and objectives of the research, followed by a global conclusion section.

The first manuscript examines forest industry restructuring through the macroeconomic theory of financialization. Changes in the forest industry are not isolated or exclusive to the industry and the theory of financialization offers a framework for understanding why and how the industry has restructured. The most prominent result of forest industry restructuring has been the divestment of timberland. The majority of timberland has been purchased by timberland investors who continue to use the land for intensive timber harvest, or sell the timberland to real estate developers. But a small proportion of divested timberland has gone into various post-productive tenures, including three large formerly industrial timberlands in Deschutes and Klamath Counties. These tenures aim to restore degraded forest conditions, preserve habitat contiguity, and produce timber. The creation of three new tenures illustrates potential alternatives for formerly industrial forests as they become available for purchase.

The second manuscript is an examination of two post-productive forest tenures: the Skyline Forest, a proposed community forest; and the Gilchrist Forest, a proposed state forest. The Skyline, adjacent to rapidly-growing Bend, would be the first of its kind in the state: a large, privately-owned forest, managed for restoration and recreation access. The Gilchrist forest, south of Bend in a location with fewer natural amenities and less development pressure, would be the first state forest purchase in Oregon since the state acquired tax-delinquent and burned-over lands after the Great Depression. These two forests showcase post-productive tenures in a region with a collapsing forest industry and an emerging economy based on tourism and development, the growing prominence of land trusts, and the reversion of some abandoned lands to public ownership.

The third manuscript is a history of the Mazama Tree Farm, formerly part of the Klamath Indian Reservation, from its creation with the Treaty of 1864, through tribal termination in 1954, loss of the reservation, and tribal attempts at land reacquisition. Tribal access to traditional lands has shifted across the U.S., with opportunities for tribal land reacquisition increasing because of decentralized decision-

making processes, growing tribal capacity rooted in treaty rights, and land availability. In the late 2000s, the Klamath Tribes capitalized on an opportunity to regain ownership of the 36,000-ha Mazama Tree Farm, a piece of their former reservation that became available in 2006. Through negotiations with multiple groups in the Klamath Basin, including irrigators, governmental agencies, fishermen, and other tribes, to resolve long-standing water and endangered species conflicts, the Klamath Tribes secured funding from the U.S. government to purchase the Mazama. On February 19, 2010, Governors Schwarzenegger of California and Kulongoski of Oregon signed agreements to end the water conflicts and restore the ownership of Mazama to the Klamath Tribes. This ownership change has important implications for tribes across the U.S. as tribes seek access to ancestral lands.

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Chapter 2: Restructuring Forest Industry, Restructuring the Countryside

ABSTRACT

The forest industry in the U.S. has undergone rapid and profound restructuring since the 1980s, including almost complete divestment of its timberlands. We place this restructuring within the theoretical framework of financialization, which describes an economic transition beginning in the 1970s in which profits accrued through financial investments rather than commodity production (Krippner 2005). We explain why industrial forest restructuring has occurred, and explore its impacts in Deschutes and Klamath Counties, Oregon, through a brief historical overview of their timber industry, and three proposed post-productive forest tenures: a community forest, a state forest, and a tribal forest. The creation of these tenures illustrates one trajectory for formerly industrial timberlands as they become available for purchase. Though this trajectory is proportionately rare across the U.S., it is a growing component of the formerly industrial estate, and it may be important at a regional scale, as restructuring rural areas aim to: restore degraded ecosystems, maintain forest and habitat contiguity, and provide timber for a disappearing infrastructure.

Introduction

“There would seem to be a connection between succeeding in the wood-based industry and owning timberland” (O’Laughlin and Ellefson 1982): 785-786.

“In 1982, everybody knew that you had to own your own timberlands to make a return, by 1996, everybody knew that you had to sell” (Lutz 2008).

The industrial forest ownership model, in which owners of wood processing facilities also owned timberland, dominated large private timberland ownership in the United States for much of the 20th century. The forest industry built a formidable estate as it moved across the U.S., from the upper Midwest, to the South and the West, creating regional boom and bust economies (Williams 1989; Dana 1918). At its peak around 1987, forest industry owned over 14% of the nation’s timberland¹, and in 1996, with 13% of the nation’s timberland, it harvested 30% of the nation’s timber (Smith et al. 2001). Researchers predicted timber flows based on the distinction between Industrial Private Forest (IPF) owners and Non-Industrial Private Forest (NIPF) owners, and constructed elaborate frameworks to explain distinctions in harvesting and other management behavior e.g., (Newman and Wear 1993).

But in the late 1980s, forest industry began divesting its timberland holdings, and within 20 years, most industrial forest companies had no timberland holdings. A new category of large timberland owner emerged, the timberland investor. The ten largest private timberland owners in the U.S. in 1994 were all industrial owners (Yin et al. 1998), but by 2006, 8 of the ten largest private timberland owners were investors (Clutter 2007). This ownership change has been documented elsewhere, along with some explanations for the change (Clutter et al. 2005; Hagan et al. 2005; Block and Sample 2001). In this manuscript, we apply the macroeconomic theory of financialization to illuminate recent forest industry restructuring, in particular the divestiture of timberlands. However, financialization processes are treated in the literature solely at the macroeconomic level; in this case of timberlands, which became

¹ Timberland is defined as forest land capable of producing more than 20 cubic feet of timber/acre/year. In: (Smith et al. 2001)

a promising investment type for institutional investors, financialization has impacts on community capacity and forest management.

To explore some of these effects, we focus on the case of three proposed new ownerships in the formerly timber-dependent counties of Deschutes and Klamath, Oregon. These counties are undergoing many of the processes of economic and social restructuring found across the U.S., including economic shifts from commodity production to tourism and real estate development (Walker and Fortmann 2003; Stauber 2001; Nelson 2002). Timberland divestment in these counties has resulted in three large post-productive ownership proposals, where management objectives have shifted from productivist, centered on maximizing timber production, to a broader suite of goals, including restoration of ecosystem processes, habitat contiguity, and view shed and recreation access preservation (Milbourne et al. 2008). In other words, constructions of appropriate forest use have shifted as the forests themselves are valued for consumption, rather than timber production (Mather 2001).

Though timberland divestment has occurred across the U.S., most formerly industrial timberlands have been purchased by institutional investors and others who maintain them in timber production or fragment them for sale to developers. Deschutes and Klamath Counties are unusual because of their creation of three large, post-productive ownerships. This case study is thus an extreme case, intended to “obtain information on *unusual* cases, which can be especially problematic or especially good” (Flyvbjerg 2006: 230). The formerly industrial forests of Deschutes and Klamath Counties exist within a context of disappearing industrial infrastructure, diminishing timber supplies from public lands, and pressure from developers to enclose and transform forest uses. Because of a lack of interest from productivist (timber production-oriented) purchasers, and in order to prevent the large timberlands from fragmenting, a land trust and its allies, state agencies, and a tribe have all relied on political savvy, social networks, leadership, and opportunistic risk-taking to create a community forest, a state forest, and a tribal forest (Figure 2.1).

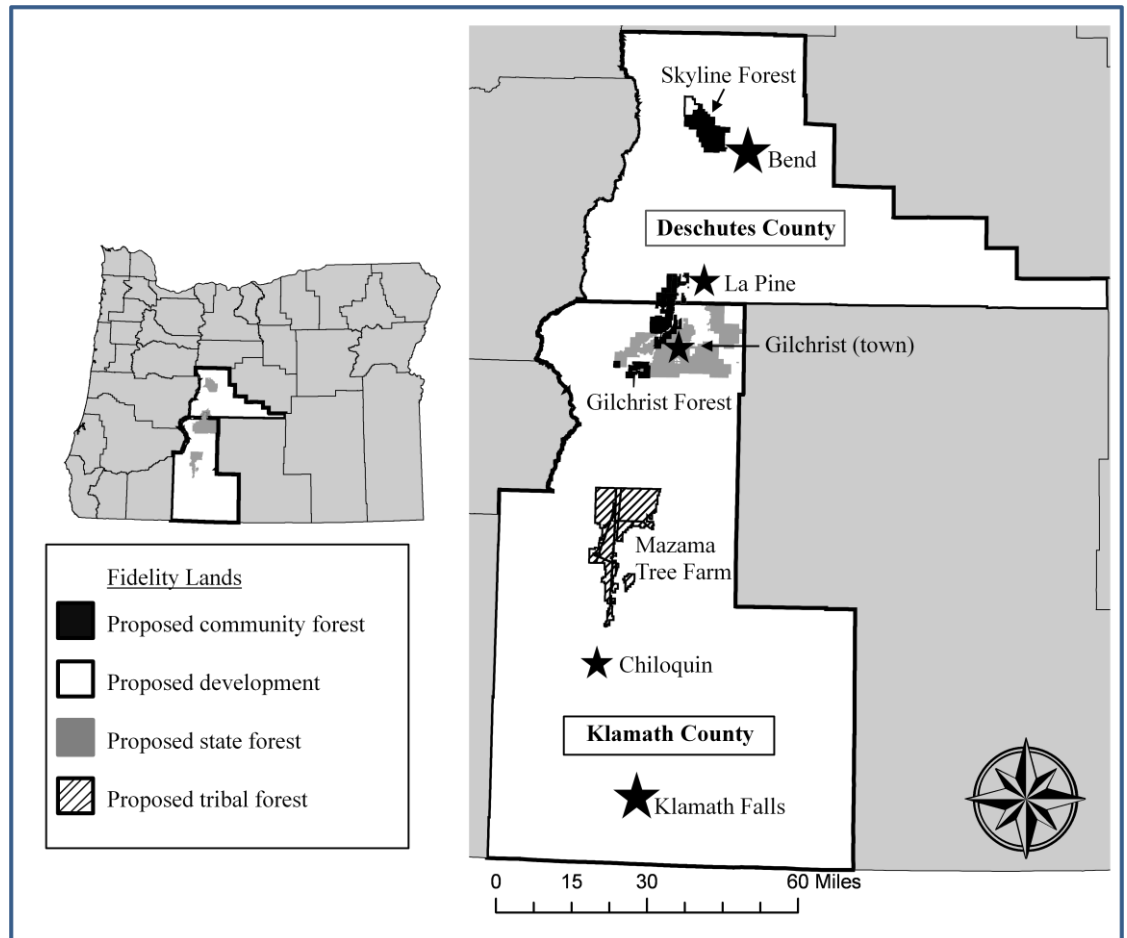


Figure 2.1 Map of Deschutes and Klamath Counties, three privately-owned timberland tracts, and associated towns. Source: Klamath Tribes, Deschutes and Klamath County assessors' offices.

These three forests were all owned in 2010 by Fidelity National Financial, a creditor who had taken control of them in 2004 following the bankruptcy of their former owner, Cascade Pacific (Figure 2.2). The Skyline and Gilchrist forests are predominantly ponderosa pine, historically an economically valuable, large-diameter species that existed in open, park-like stands maintained by frequent fires (Youngblood et al. 2004). The Mazama is predominantly lodgepole pine, a smaller-diameter, shorter-lived species than ponderosa, with frequent bark beetle disturbances and moderate-severity burns (Agee 1994). Industrial forest management practices, including fire suppression, selective harvest of large-diameter trees, and extensive

road building, have altered all three forests to more dense, fire-prone conditions (Oliver et al. 1994).

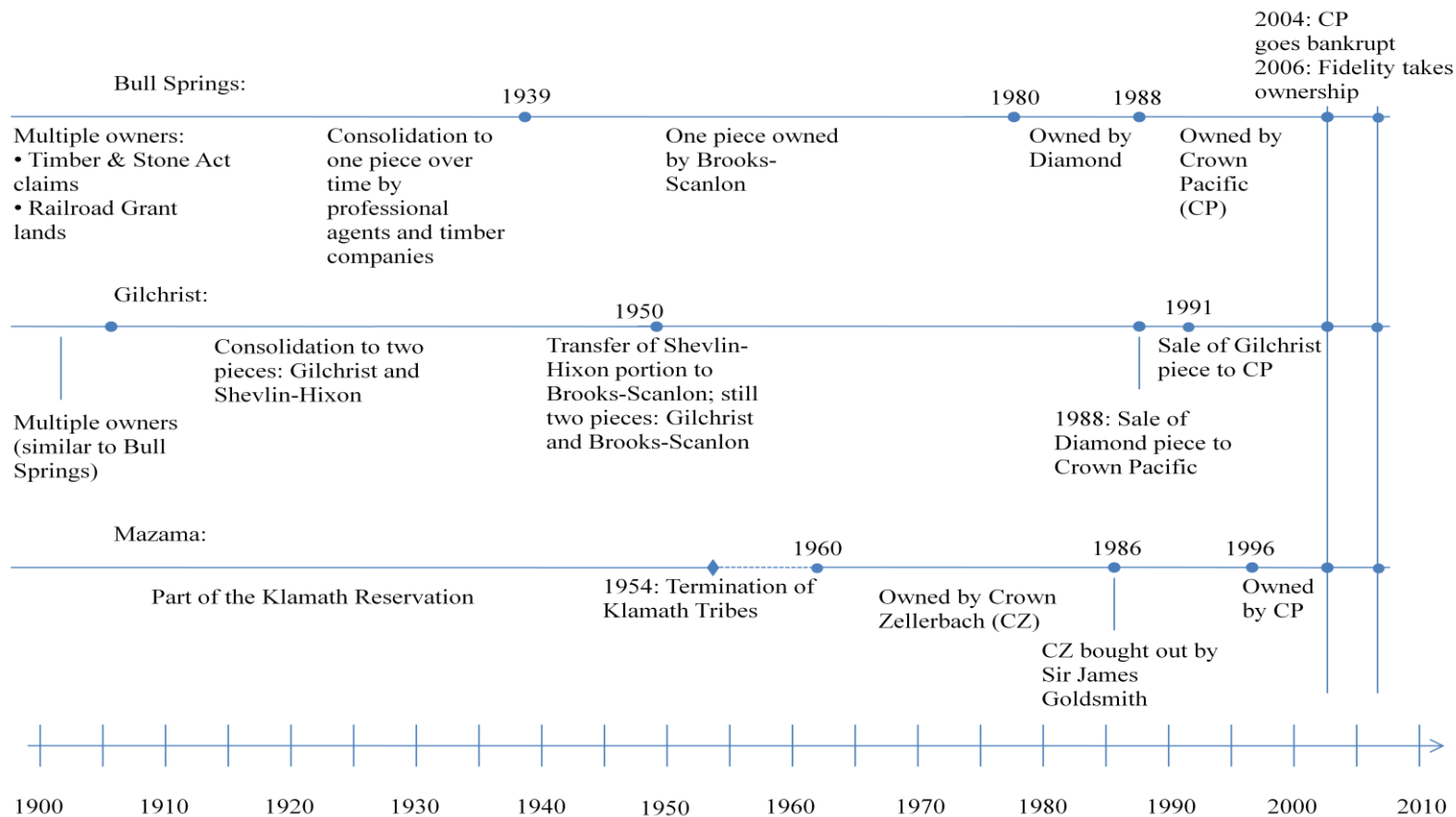


Figure 2.2 Figure of three timberland ownerships in Deschutes and Klamath Counties, with ownership histories from Euro-American settlement through 2009.

The first author developed the case study from the summers of 2007-2009, using multiple methods. She conducted semi-structured interviews with purposively selected interviewees (n=49), including investment managers, forest industry executives, forest and sawmill employees, and politicians, land trust employees, and environmental advocates in Deschutes and Klamath Counties. Interviews were recorded, transcribed, and then coded according to (Strauss 1987). To provide context for the case, she attended three timberland investor conferences in Portland, Oregon, discussing research questions with investors.

This paper derives information from a database created by Bank of America (2007). Working with a colleague from U.S. Forest Capital, we verified transactions using timberland investment newsletters, SEC filings, business journals, and correspondence with investors. The database is an attempted census of all large (>4000-ha) timberland sales in the U.S. between 1996 and 2007, and can be considered a conservative estimate of timberland sales in the U.S. during that time. Unless indicated otherwise, all timberland sales data come from this database.

We begin this manuscript with an overview of financialization, which is defined in two ways: 1) the increasing role of finance within the global economy; and 2) restructuring of corporate governance, with shareholder value as the primary decision-making driver. We frame industrial forest restructuring in terms of financialization, then apply these lessons to the creation of three large post-productive forests in Deschutes and Klamath Counties.

Financialization and timberland as a financial asset

The intertwined trends of neoliberalism, globalization, and financialization have characterized the economic landscape since the late 1970s (Epstein 2005). These three theories were developed by radical economists to explain late 20th-century changes in capitalist relations in response to profit stagnation (Foster 2007). At the market level, financialization describes an economic transition “in which profits accrue primarily through financial channels rather than through trade and commodity

production” (Krippner 2005: 174). Its market effects include rapid turnover of financial transactions and financial market deregulation (Harvey 2007; Crotty 2005). Financialization results in corporate restructuring, as companies have: responded to insufficient returns with aggressive investment and borrowing (Orhangazi 2007a; Foster 2007); prioritized shareholder value in corporate decisions (Lazonick and O’Sullivan 2000); and changed focus to reflect “the imperatives of financial markets” (Krippner 2005: 181). Financialization processes “align[ed] the interests of managers with those of financial market participants” (Palley 2007: 4), as shareholder values came to dominate corporate decision-making. This process is spurred by the rise of powerful shareholders, including the growing predominance of institutional investors as holders of corporate stock (Crotty 2005). Timberland ownership was transformed into an investment vehicle during this financialization process.

Timberlands, once tightly held by industrial forest companies, were once considered a key component of industrial forest company operations (Enk 1975). Although almost no industrial forest companies owned all the timberland necessary for their operations, most owned a significant amount of timberland; in 1994, the largest industrial companies acquired from 18% to 60% of their wood from their own lands (Yin et al. 1998). How, then, did timberlands become available? Through the 1980s and 1990s, industrial forest companies consolidated both timberland and mill ownership through mergers and acquisitions, creating large debt (Roberts et al. 2004). Through timberland sales, industrial forest companies could “unlock” the value of timberlands to repay debt and improve lagging returns to shareholders (Block and Sample 2001; Fernholtz et al. 2007; Hagan et al. 2005; Clutter et al. 2005). Industrial forest companies then reinvested in mills, began buying timberlands abroad, or entered other business sectors entirely.

Investors stumbled upon timberland as an asset class in the early 1980s, when two agricultural lenders became timberland owners through foreclosures, and found that their investments performed well for their institutional clients (Erickson and

Rinehart 2005). But in the 1990s, and through the 2000s, the rate of timberland divestiture increased. From 1996-2007, we estimate that at least 24 million ha of timberland changed hands in large (>4,000 ha) sales, overwhelmingly from forest industry to timberland investors. Figure 2.3 shows the trend of sales, as industry sold cumulatively over 18 million ha, and investors sold less than 6 million ha. Timberland investor sales have been accelerating since about 2003, as industrial owners have exited the market altogether and investors have begun to sell amongst themselves. Figure 2.4 shows the trend of purchases, with investors purchasing 19 million ha, and industry purchasing about 4 million ha. Figure 2.4 makes evident that industrial purchases flattened, while investor purchases continued to rise. These sales have occurred across the country, though with some regional variation. Over the whole period, prices per acre in 2007 dollars averaged \$1750 in the West, \$1220 in the South, \$685 in the North Central region, and \$540 in the Northeast.

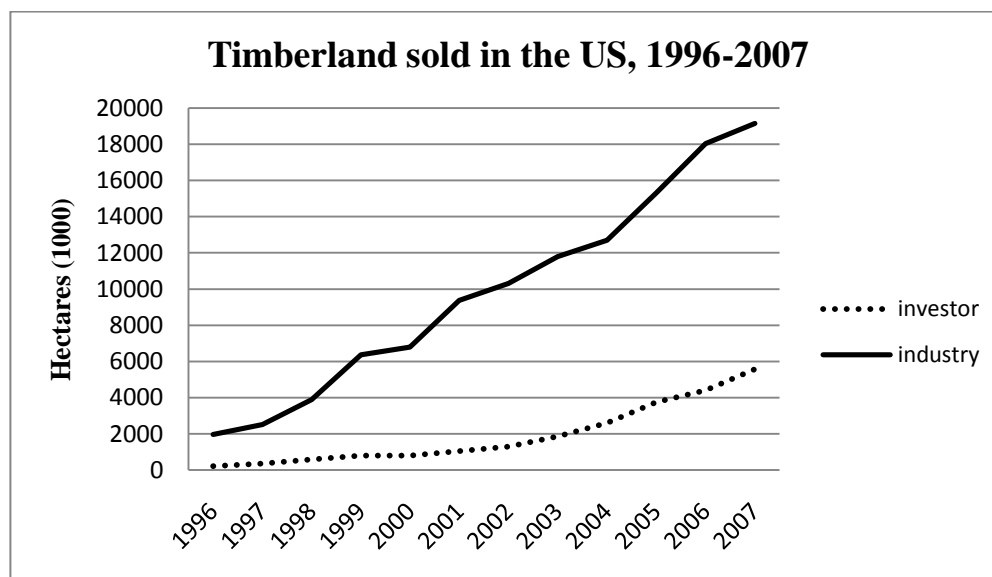


Figure 2.3 Large (>4000 ha) timberland sales in the U.S., 1996-2007. Includes timberlands sold by forest industry and timberland investors (TIMOs, REITs, and private investors). (Bank of America 2007)

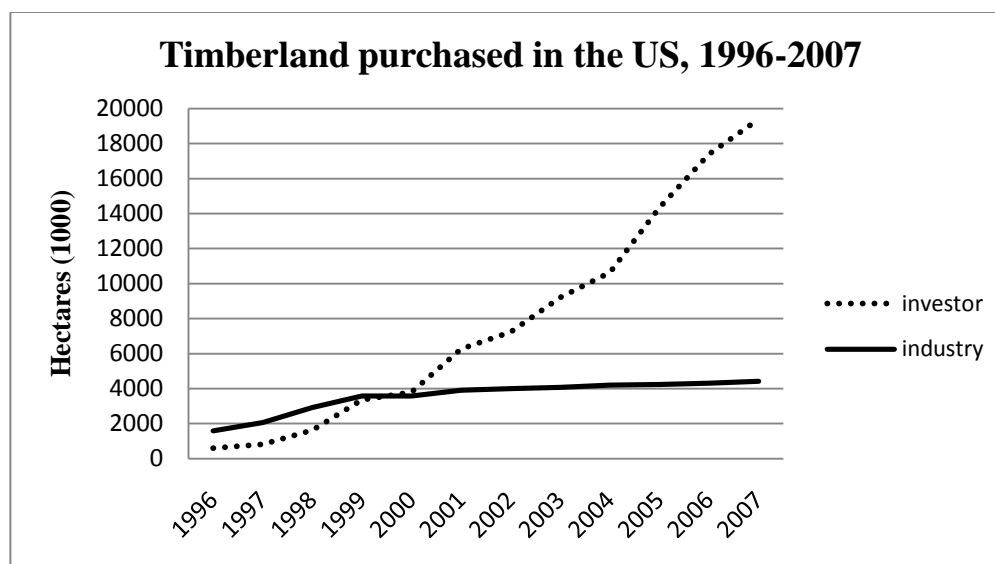


Figure 2.4 Large (>4000 ha) timberland purchases in the U.S., 1996-2007. Includes timberlands purchased by forest industry and timberland investors (TIMOs, REITs, and private investors). (Bank of America 2007)

Multiple timberland investment vehicles have been created in order to distribute timberland profits to shareholders and investors, the most prominent being Timberland Investment Management Organizations (TIMOs) and Real Estate Investment Trusts (REITs). We also include private investors (individuals and non-industrial forest corporations) as timberland investors; though they are not a new type of tenure, they have many attributes in common with TIMOs and REITs. TIMOs are companies that invest in and manage timberland for institutional investors, including pension funds, mutual funds, and endowments, plus wealthy individuals, private equity funds, and REITs. TIMOs purchase and manage timberland for large investors which usually have dedicated a small percentage of their large portfolios to timberland. TIMOs require large buy-ins, up to \$10 million (Marino 2007). REITs, on the other hand, own their own lands and their shares can be purchased by average investors, like stocks. REITs are often the timberland-owning spinoff of disaggregated industrial forest companies, such as Georgia-Pacific and Plum Creek (now both Plum Creek), Potlatch, and Rayonier. From 1996-2007, TIMOs purchased about 48% of

total large timberland sales, industry purchased 18%, REITs were third with 17%, and private investors purchased 13% (Bank of America 2007). These three investor types generally own no or few timber processing facilities, distinguishing them from industrial forest owners.

As investors began to pursue timberlands, a supportive network aimed at timberland investors and investment emerged, including a professional organization (National Alliance of Forest Owners), conferences, and newsletters. These institutions facilitated investment, but the investor models of timberland ownership were created, in large part, because of a series of legislative decisions and changes in tax regulations. We review several of these changes below.

In 1974, Congress passed the Employee Retirement Income Security Act (ERISA), which required employee benefit plans to diversify their investments “so as to minimize the risk of large losses” (USC 18§1104(a)(1)(C)). TIMOs have proliferated because of the diversification attributes of timberland, which has been countercyclical with other investments like stocks, bonds, and commercial real estate (Binkley 2007; Clutter et al. 2005).

Even more importantly, tax code changes have compelled timberland sales. In 1986, the Tax Reform Act ended capital gains treatment for timber revenues for industrial forest companies (Hickman 2007). The capital gains treatment, which limits income tax obligations to 15%, had been applied to timber harvests since 1943 to encourage reforestation. About the same time, in the 1980s, the IRS clarified that tax-exempt organizations, such as pension funds, endowments, and other TIMO clients, could treat timberland gains as passive investments, meaning that these investors could invest in timberlands and maintain tax advantages (Bradley 2007). In the 1990s, private individuals investing in timberland gained capital gains treatment for timberland gains. Tax treatment is further differentiated because publicly-owned industrial forest companies are taxed at the corporate level and again when dividends

are distributed, while investors are taxed just once, and at the lower capital gains rate (Fernholtz et al. 2007).

Modern REITs, established in 1960 to allow average people to invest in real estate, generally do not hold assets, but distribute 90% of income to shareholders, and so avoid corporate level taxation (Fernholtz et al. 2007). REITs were allowed to hold timberland beginning in 1997, with the Real Estate Investment Trust Simplification Act.

Shifting corporate structures

For institutional investors, who may have less than 1% of their portfolio in timberland investments, timberland is a minor component of a very large portfolio. Investments, from stocks to timberlands, have become pieces of larger portfolios, and are sold, traded, and disaggregated to maximize profits (Crotty 2005). Investment managers are rewarded financially for discovering assets with higher returns, even in the short term, leading to herding behavior (Orhangazi 2007b; Palley 2007). The overall effect, then, is a contraction of the ownership time horizon, “hampering the funding of long-run investment projects” (Orhangazi 2007b: 8) as the “attempt to meet the short-term expectations of the financial markets, rather than investment in long-term growth of the firm, becomes the primary objective” (Orhangazi 2007b: 14).

This short-term ownership horizon has resulted in a discernable change in corporate investment strategies, from models of *retain and reinvest* to *downsize and distribute* (Lazonick and O'Sullivan 2000; Crotty 2005). The older model, that of retain and reinvest, meant that “corporations tended to retain both the money that they earned and the people whom they employed, and they reinvested in physical capital and complementary human resources” (Lazonick and O'Sullivan 2000: 14). With the growing influence of the financial sector and a close alliance between shareholder value and executive payout, corporations turned to employee and infrastructure downsizing and profit distribution (Orhangazi 2007b; Crotty 2005). This corporate

transition, from retain and reinvest to downsize and distribute, is illustrated through timberland ownership change in Deschutes and Klamath Counties.

The forest industry in Deschutes and Klamath Counties had a long history of the retain-and-reinvest model, with close ties to local community employment and infrastructure. The industry accompanied waves of migrants from the East, who came to work for timber companies in their mills and logging camps. These included Brooks-Scanlon and Shevlin-Hixon companies in Bend, Gilchrist Timber Company in Gilchrist, which moved its workers from logged-out operations in Mississippi to the timber town of Gilchrist (Carlson 2003), and Weyerhaeuser and numerous smaller mills in Klamath Falls. Industrial forest companies invested in huge mills; in Bend, Brooks-Scanlon and Shevlin-Hixon built mills facing each other on opposite sides of the Deschutes River in 1916, together employing 1200 men (Bend Bulletin 1940). The town of Bend grew tenfold, from 500 to 5000 people, during this time (Davidson 2005). Timber companies built railroads and roads, controlled harvest rates on both public and private lands, granted home loans to employees, and donated to churches and civic organizations (Tonsfeldt and Clayssens 2004c).

The retain-and-reinvest era in the region dissipated in stages. As early as the 1950s, independent or “gyppo” loggers began competing with company-owned logging crews; by the 1980s, contract logging had largely replaced company logging. But it was timberland ownership change, from locally-invested firms to distant firms that held the timberlands as financial assets, that captures the transition to a downsize-and-distribute model.

In the 1980s, as financialization processes were underway, the forest industry in the region changed dramatically, as the old industrial companies succumbed to hostile takeovers and mergers. Brooks-Scanlon merged with New York-based Diamond International in 1980, bringing changes for Deschutes County; a Diamond official said: “I understand [Brooks-Scanlon] was very generous with the community ... Diamond is spread out across the country in many communities; I don’t think we’d

have the opportunity to do that” (Hitt 1980). Soon after, Diamond was acquired through hostile takeover by one of the most famous corporate raiders of the decade, Sir James Goldsmith. Under Sir James, Diamond disaggregated timberland and mill ownership, selling mills in Deschutes and neighboring counties to DAW Forest Products in 1984. Across the country, Diamond sold timberlands, putting almost 400,000 ha of formerly industrial timberland on the market in the northeastern U.S. The states of New York and New Hampshire managed to capture about 20,000 ha each in response to fears of development and fragmentation (Kunstler 1989). For Brooks-Scanlon, the decision to sell was explicitly driven by shareholder concerns:

If you took the \$105 million dollars [sale price] and invested it, you’d make more money than you would owning shares in Brooks-Scanlon stock ... Diamond would pay that much because Diamond said, we don’t care about supporting the sawmills. They were the ones that separated the timber ownership from the mill ownership. They were going to sell the timber to whoever would pay the most for it. (3801, former forest industry executive)

In 1986, Sir James also acquired Crown Zellerbach, the 6th-largest timberland owner in the U.S.; Crown Zellerbach owned the Mazama Tree Farm in Klamath County. In 1990, Sir James traded away Crown Zellerbach to a British corporation, Hanson Industries, in exchange for a stake in a gold mining company (Hicks 1990). Sir James thus transformed the industrial timberlands of Deschutes and Klamath Counties into financial instruments; later, TIMOs and REITs would transform the entire U.S. industrial timberland estate into investment vehicles.

The next major timberland owner to pass through Deschutes and Klamath Counties, Crown Pacific [Crown], consolidated ownership of former Diamond, Crown Zellerbach, and timberlands of the Gilchrist Family. Formed in Portland, Oregon as a private timber investment vehicle, Crown began its ascent with the purchase of 104,000 ha of timberland in Oregon and Idaho from Diamond in 1988. Crown went public in 1994, structuring as a tax-advantaged Master Limited Partnership. MLPs, like REITs, avoid corporate income tax by distributing taxable income to shareholders.

Once Crown went public, units were consistently offered for sale in order to gain equity for further acquisitions (Crown Pacific 1997). The rapid growth of Crown Pacific, coupled with its obligations to pay unit holders, affected forest management decisions:

When you have an asset that grows 3-5% per year, and you're paying out 6-8% per year, you're digging a hole somewhere ... we had to harvest the timberlands in some cases beyond a sustained yield in order to make the distributions. (5201, former Crown CEO)

Thus, the corporate structure of Crown affected its management decisions, which was evident to many of its employees: “[Crown was] very aggressive in liquidating old growth stands. When Crown took over, we [employees] gave them 10 years and said ‘they’ll be cut out’” (4401, sawmill employee).

Crown’s revenue grew steadily from 1994 through 2000, but its long-term debt grew apace with revenue, from \$326 million in 1995 to a peak of \$689 million in 2000. The year 2000 was a turning point for the company as revenue and income declined and Crown suspended distributions to unit holders; it did not pay unit holders any further distributions. From 2001 until its bankruptcy, Crown filed losses every year (Crown Pacific 2004). While Crown frantically sold timberland and closed mills, the company began to sink under the weight of its debt and a poor timber market. On June 30, 2003, Crown sought bankruptcy protection, which was completed on December 31, 2004. The lands were cut over heavily:

It was no surprise to me they went bankrupt because I saw how they operated ... They liquidated the assets. They sold the old growth timber, cut it into boards, and when it was gone, where is our high dollar land? (3701, sawmill employee).

Overcutting in the region was not a new concern; it had been noted since the 1920s, and a 1944 *Journal of Forestry* article about timber liquidation across the U.S. singled out “Klamath Falls and Bend, Oregon, [t]wo communities where the situation is now *critical*” (Behre 1944: 18), emphasis added. Forest industry, from Brooks-Scanlon through Crown, had cut the once large ponderosa pine of the region down to

very small-diameter trees with little economic value, and although the sawmills adjusted to accept small material, it was not enough to sustain timber infrastructure: “what you’ve got left there is a small timber base ... so what you’ve got now, you’ve got a big park down there” (5201, former Crown CEO). Forest industry infrastructure and capacity nearly disappeared from the counties: “the mills are going away, the loggers are going away, people who know about milling and logging are going away” (1201, Oregon state forester).

After filing for bankruptcy, Crown was dissolved and its 212,000 ha of timberlands came under the control of its lenders, renamed Cascade Timberlands LLC. Cascade Timberlands quickly sold off its Washington holdings and was left with its 119,000-ha Oregon Tree Farm, spread across Deschutes and Klamath Counties.

The forested landscape: from production to consumption

Though the economies of Deschutes and Klamath counties have transitioned to tourism and service-based industries, with in-migration of very wealthy residents and an associated low-wage service sector typical of many “New West” regions (Albrecht 2005; Stauber 2001; Albrecht 2004; Nelson 1999; Winkler et al. 2007), this process has occurred unevenly across the region (Table 2.1).

Table 2.1 Demographic data for select Deschutes and Klamath County municipalities. Klamath Falls is the county seat of Klamath County. From U.S. Census 2000 except Bend and Klamath Falls, from 2006-2008 American Community Survey.

	Population	Median per capita income, dollars	Median home value, dollars	% individuals below poverty
Bend	72,030	27,466	358,300	13.2
La Pine	5,799	15,543	101,900	13.2
Gilchrist/ Crescent	438 731	13,388 13,847	72,900 69,100	8 20
Chiloquin	716	9,604	54,300	31.2
Klamath Falls	20,113	21,987	166,400	19.1

Bend is the wealthiest and largest city in the two counties, and its median home values are far higher than other towns in the area (Table 2.1). Other cities and towns have lower per capita income, median home values, and higher levels of poverty (Table 2.1). Bend is exceptional even at a national level in its growth and housing industries; according to *The Economist* magazine, from September 2005 to September 2006, home prices grew faster in Bend than any other city in country, “because fabulous scenery attracts people with fabulous amounts of money” (Economist 2007). Bend developed its tourism and second-home infrastructure beginning in the late 1960s, and in 1969, Brooks-Scanlon, then its largest timber company, formed a real estate development subsidiary:

When I came here in 1965, and Brooks-Scanlon owned [81,000 ha], the company did not view itself as in the real estate business. In reality, we were in the real estate business; particularly if you’ve got that much land, in an area where things are changing. (3501, Bend real estate developer and former forest industry executive)

Soon after, Deschutes County, and especially Bend, grew rapidly and became established as an amenity magnet, while Klamath County stagnated (Figure 2.5). As an example, employment in the food and accommodation sectors in Deschutes County increased over 81% from 1976 to 2008, while in Klamath County, the same sectors grew about 35%. Meanwhile, the forest industry in Deschutes County shrunk employment by about 57%, and in Klamath County, it decreased by 75% (Oregon Employment Department 2009a).

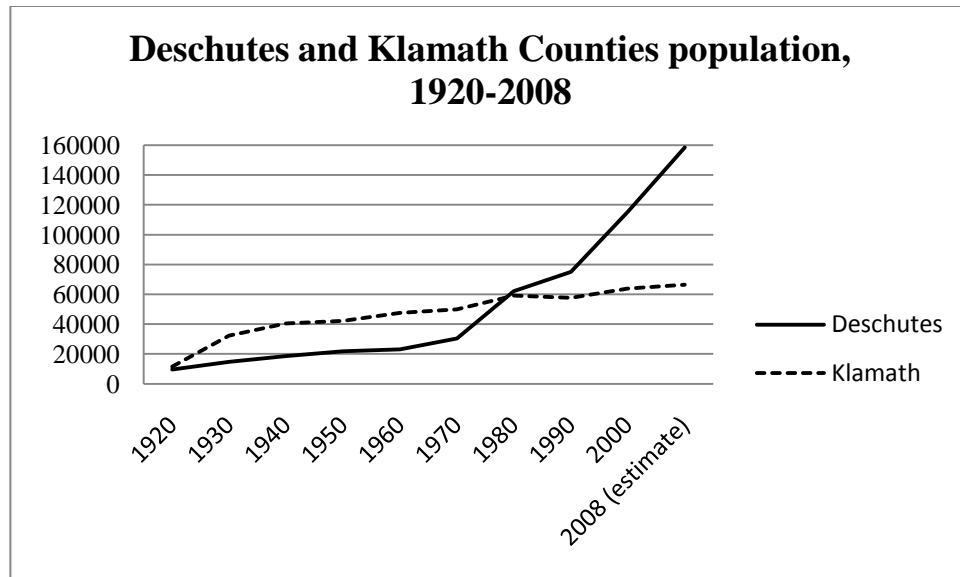


Figure 2.5 The populations of Deschutes (including Bend) and Klamath (including Klamath Falls and Gilchrist) Counties. Source: U.S. Census.

Financialization processes have contributed to income inequality through downsizing, which decreases blue-collar and low-level white-collar jobs, and through high compensation levels to executives (Lazonick and O'Sullivan 2000; Palley 2007). Although the gentrification of the forested landscape has not arisen solely through financialization, many wealthy investors have enclosed parcels of timberland for personal consumption. This trend is epitomized by William P. Foley II, who was featured in a *New York Times* article about the “landed gentry” of the American West. Mr. Foley had recently purchased a mountain in his view shed at his Montana home because he thought it was being cut too quickly (Johnson 2007). *New West Magazine* described Mr. Foley as “a very rich man who’s become enamored with the West, and whose first instinct is to buy it” (Struckman 2008). Mr. Foley acquired the former Crown Pacific lands in 2006, when his company, Fidelity National Financial, became controlling owner of Cascade Timberlands.

Timberland trajectories

Financialization processes have prioritized relatively short-term financial return for investors. Several analysts have already suggested that timberland investors are “churning” hectares, selling them again and again to each other, and seeking higher returns elsewhere (Rinehart 2008; Neilson 2008). While industrial owners made timberland purchasing decisions “based on the location of their existing facilities and forestland holdings” (Hickman 2007: 7), timberland investors apply modern portfolio theory to their timberland purchasing decisions, diversifying according to timber species, real estate values, and other potential revenue sources. Timberland investors, without significant investment in local infrastructure, can quickly enter and exit regions, often fragmenting, threatening to fragment, or converting formerly industrial timberlands:

Through the prism of the mill, [the forest] is all standing inventory, we’re going to put that through the mill. It stifles innovation. If you unlock that, and start looking at the forest just through the forest and look at the mill as one customer among many, including real estate, conservation, wind power, a lot of times when you do the math, the highest and best use is something other than forests. (5101, timberland investment executive)

The industrial forest estate, thus disaggregated from the mill and sold into its highest and best use, has four primary ownership trajectories at a national level (Figure 2.6). Most of the former industrial forest estate will move into its Highest and Best Use (HBU) values, defined as the difference between the land value of a parcel under current use and its potential land value (Smith 1987), as both investor and industrial owners seek higher returns.

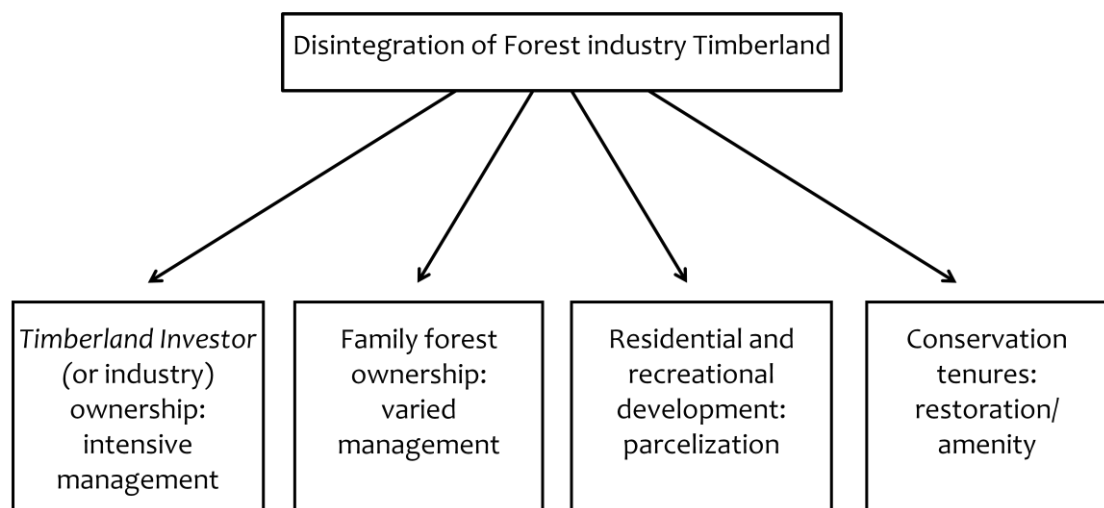


Figure 2.6 Four primary trajectories for former industrial timberland in the U.S.

Most formerly industrial timberland has moved into the first trajectory, remaining under intensive timber harvesting and management but held by timberland investors. The second major trajectory involves timberland sales to NIPF ownership, or family forest owners, a growing group within the U.S. Family forest owners control about 62% of private forest land, much in relatively small holdings, and their management objectives are highly variable (Butler 2008). The third trajectory is development for real estate. Because of the rising prominence of formerly industrial timberland development, especially near urban areas and in regions with high amenity values, the term HBU has become inextricably linked with concerns about real estate development and fragmentation (Rinehart 2008). And as more and more investors crowd the market, available land has decreased and timberland buyers are “becoming more aggressive about identifying and monetizing real estate opportunities” (Clutter et al. 2005: 3). The former Crown lands of Deschutes and Klamath Counties are moving into the fourth category, post-productive tenures, which at a national scale represents a small proportion of timberland sales.

Conservation tenures are largely a reaction to fragmentation of the industrial estate and to historical land management practices that have caused forest degradation;

they are defined by new management objectives, including a “reduction in emphasis on timber production relative to the provision of environmental goods and services” (Mather 2001: 250) and the maintenance of working (timber-producing) contiguous forests. These management objectives are apparent in statements about each of the properties (Table 2.2).

Table 2.2 Proposed forests in Deschutes and Klamath Counties, and their management objectives.

<i>Forest</i>	<i>Nearest city</i>	<i>Proposed owner</i>
Skyline	Bend	Deschutes Land Trust
<i>Management objectives:</i> “Sustainable forest management for timber, recreation, watershed, and viewshed protection” (DLT 2009: 1)		
Gilchrist	Gilchrist/Crescent	Oregon Dept. of Forestry (state forest)+ Deschutes Land Trust
<i>Management objectives:</i> “If kept together and in forest use, over time, these forests can provide sustainable timber jobs, keep wildlife habitat intact, and secure public access to recreation opportunities” (ODF 2010: webpage)		
Mazama	Chiloquin	Klamath Tribes
<i>Management objectives:</i> “Restoration of forest (stand structure) complexity ... restoration of more natural fire regimes; increased habitat and carrying capacity for deer and elk, and other wildlife and fish species; enhanced spiritual and cultural values; production of sustained monetary and subsistence income” (Johnson et al. 2008: 8)		

Each of these proposed forests has a unique history, briefly reviewed below. In addition to common forest management objectives, each was created through the particular capacities, including social capital and local leadership, and political savvy of attached communities. They were also created through the willing participation of Fidelity National Financial to deal directly with community organizations and to work through complex political negotiations in order to create ownership opportunities.

The 13,000-ha Bull Springs Forest, proposed as the Skyline Community Forest, is located at the western edge of Bend. The Skyline was initially owned by Brooks-Scanlon, then Diamond International, and finally purchased by Crown Pacific in 1988 (Figure 2.2). As Bend’s economy shifted toward services, recreation and

second-home development, the Skyline attracted attention because it is a popular recreation site and the western skyline of the rapidly-growing city: “the view captures the essence of why people locate here” (1802, state politician from Deschutes County). Partly as a result of its wealth and high levels of natural amenities, Bend has developed a strong conservation community. Its community capacity, or ability to act, has therefore shifted from timber production to conservation. Bend has an established land trust, the Deschutes Land Trust, which owns several land parcels. The land trust has leveraged considerable political and social capital to create the Skyline Forest, through a process of negotiation and compromise involving Fidelity, other (often skeptical) conservation organizations, and state agencies and legislators. When Fidelity first purchased the land, its managers recognized an opportunity:

I didn’t know much about central Oregon and was focused on the tract outside of Bend and [then] came across the land trust and their efforts to buy that ... we wanted to see if we could do something interesting with the land trust. What you’re seeing is a lot of these big timber companies and REITs trying to find new ways to monetize their real estate holdings.
(5001, Fidelity executive)

The Skyline had development restrictions that limited houses to one per 97 ha, in accordance with Oregon’s land use laws. But recognizing a development opportunity, Fidelity proposed a 2000-ha clustered real estate development on the property; in exchange, Fidelity would donate the remainder of the Skyline to the land trust. After negotiations with a litigious local land use group that was initially opposed to the proposal, Fidelity and the land trust facilitated state legislation (HB 2228), passed in 2009, allowing for a 1200-ha clustered development as a pilot project. The remaining area of the Skyline, plus 14,000 ha of the Gilchrist Forest, would then be sold to the land trust, with development value stripped from the properties. The land trust would thus own the first large, privately-held community forest in Oregon. While community forest purchases of this type have been fairly common in the northeast, accounting for almost 15% of large timberland sales from 1996-2007, they have been very rare in the western U.S.

The Gilchrist Forest, located in southern Deschutes and northern Klamath Counties, was consolidated by Crown Pacific in 1988 and 1991 from two prior industrial owners: Gilchrist Timber Company, and Diamond International (Figure 2.2). The town of Gilchrist has one of the last operating timber mills in the area, now owned by a Canadian multinational, Interfor Forest Products. The town of Gilchrist, a company-owned timber town until 1991, has struggled with the collapse of the local forest industry, geographic isolation, and low socioeconomic status. Under HB 2216, also passed in 2009, the Gilchrist Forest would be divided, with 28,000 ha to be purchased by the Oregon Department of Forestry using state lottery funds, 14,000 to be purchased by the Deschutes Land Trust as part of the Skyline negotiations, and 2,200 ha developed into a resort. The state forest would be the first newly-created state-owned forest since the 1940s, when the state purchased logged-out or burned forests that had become tax delinquent in the Great Depression (Landman 1995).

While the Skyline proposal required a great deal of negotiation and leverage of political and social capital, the Gilchrist was relatively uncontested. In part, this was because of the low real estate values around Gilchrist, and in part because of aggressive harvests and so, like the other timberlands in the region, timber producers were uninterested: “it is so distressed that none of [the other forest landowners] can afford to buy it and hold it, so they see us as a best last resort. In terms of our capacity, we have expertise around that timber type” (3301, Oregon Department of Forestry employee). Like many private lands that have transferred to public ownership in the past, the Gilchrist Forest has been relatively abandoned, as opposed to the heavily contested Skyline property.

The third conservation tenure in the region is the Mazama Tree Farm, a forest north of Chiloquin, Oregon, which was part of the Klamath Indian Reservation until tribal termination in 1954. The Mazama Tree Farm was first sold in 1960 to an industrial owner, Crown Zellerbach, and sold twice more before Crown Pacific’s purchase (Figure 2.2). The Klamath Tribes, reinstated in 1986, have been actively

attempting since at least 2001 to acquire ownership of their former lands. In 2005, just prior to Fidelity's takeover of Crown Pacific, the Klamath Tribes became involved in a multi-party water rights negotiation with irrigators, governmental agencies, environmental organizations, and fishermen. During these negotiations, Fidelity again recognized an opportunity:

I think that [the Mazama] was going up for auction right when we took over the company and I reached out to the Klamath Tribes right then ... they got in the middle of that big water settlement and did one heck of a job negotiating to protect their water rights but also come up with a resolution to give them some capital to acquire Mazama ... we gave them an option agreement to get all this resolved and purchase the property. (5001, Fidelity executive)

The Klamath Tribes leveraged their treaty-related water rights to secure funding from the Department of the Interior to purchase the Mazama. The Mazama reacquisition by the Klamath Tribes is one of very few tribal purchases of timberland made available in the wake of industrial forest restructuring. The Klamath Tribes contracted with three prominent forest ecologists from University of Washington and Oregon State University to write a tribal management plan (Johnson et al. 2008), demonstrating their commitment to forest restoration.

Discussion

The macroeconomic theory of financialization can help frame the recent transformation of the forest industry and the availability of timberland in Deschutes and Klamath Counties, where disparate groups have utilized their capacities, including political savvy, social networking, and multiple funding sources, to create large, contiguous, post-productive forest ownerships.

As timberland has become a relatively liquid financial asset, formerly industrial timberlands have been sold off and industrial forest infrastructure has exited entire regions such as Deschutes and Klamath Counties. As timberland investors, and remnant forest industry, seek returns in a global market, they are abandoning low-return timber markets in the U.S., and reacting to short-term market signals that

prioritize timberland development. While other U.S. timber-producing regions may still have substantial infrastructure, almost every place has a “switching point,” a timberland sale price at which the land will switch to non-timber uses (Wear and Newman 2004).

As the forest industry has restructured, so too have formerly timber-dependent regions. These regions have both high levels of poverty, such as in Klamath County and in many isolated, small towns with few amenity migrants; and they have also areas of incredible growth and expanding real estate markets. These intersecting processes of restructuring have contributed to timberland fragmentation and the loss of “working” forest lands, a concern identified in the popular media (Richardson 2005; Christensen 2007; Atlanta Business Chronicle 2007), and by federal policies such as the Forest Legacy Act. Deschutes and Klamath Counties have utilized capacity to create post-productive tenures within the context of nationwide timberland ownership change. These remarkable efforts can be viewed as a response to the perceived threat of the loss of working forest lands, and a model for other places wishing to preserve intact forests.

While shortened ownership horizons may promote fragmentation, investors have also helped to create opportunities for conservation tenures that are seeking to *prevent* real estate sales and fragmentation. Where this friction between competing land uses, such as real estate development and contiguous forest land (timber producing or not) occurs, creative solutions may be possible. The former Crown lands in Deschutes and Klamath Counties offer models of forest acquisition through negotiation, opportunistic risk-taking, and persistence. Fidelity proved willing to work through complex land negotiations when these proposals created a return on investment.

Conservation, or multifunctional, forest uses may involve more participatory governance of the rural landscape (Wilson 2007). While in the U.S., this has occurred mostly on public lands (Carr et al. 1998), the breakup of the industrial estate

represents an opportunity for additional voices in the ongoing dialogue about the appropriate use of forests. This possibility should not be overstated; much remains to be seen over how many formerly industrial lands are enclosed and developed, excluding participation. New owners of the formerly industrial forest estate, including investors, family forest owners, real estate developers, and conservation tenures, bring a great deal of diversity to a once relatively homogeneous, tightly-held ownership type.

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Chapter 3: From Tree Farm to Forest: Tenure Change and Rural Restructuring in Central Oregon

ABSTRACT

Many formerly timber-dependent regions across the U.S. have transitioned as the forest industry has disintegrated, to be replaced by new economies based on tourism and development. The roles of changing community capacity, ecological and economic conditions, and policies are examined in this case study research through two formerly industrial forests in central Oregon: a proposed land trust-owned community forest, the Skyline; and a proposed state-owned forest, the Gilchrist. The Skyline would be the first of its kind in the state, a large, privately-owned forest managed for restoration and recreation access. The Gilchrist would be the first state forest purchase in Oregon since the state acquired tax-delinquent lands after the Great Depression. These two forests illustrate the opportunities for new restoration-based ownerships, as well as the differential patterns of rural restructuring.

Introduction and Literature Review

Formerly industrial forest ownerships are transitioning to new owners, including conservation ownerships, as a result of large-scale disintegration of the industrial forest estate, historical management practices, and rural restructuring. This paper explores changing forest tenure regimes on two timber ownerships in central Oregon, a region once dependent upon the timber industry that has largely transitioned to a recreation, service, and construction-based economy (Figure 3.1). The Bull Springs tract (13,300 ha), adjacent to the city of Bend, Oregon, was proposed as a land trust-owned community forest, the Skyline Forest, to be managed for restoration and recreation access. The Gilchrist tract (59,000 ha), south of Bend, was proposed as a state-owned forest, the first state acquisition since the 1940s. The ownership and management of these two tracts illustrates changing tenure regimes, from industrial to investor to (potentially) conservation ownerships created to prevent parcelization, maintain public access, and restore degraded forest conditions.

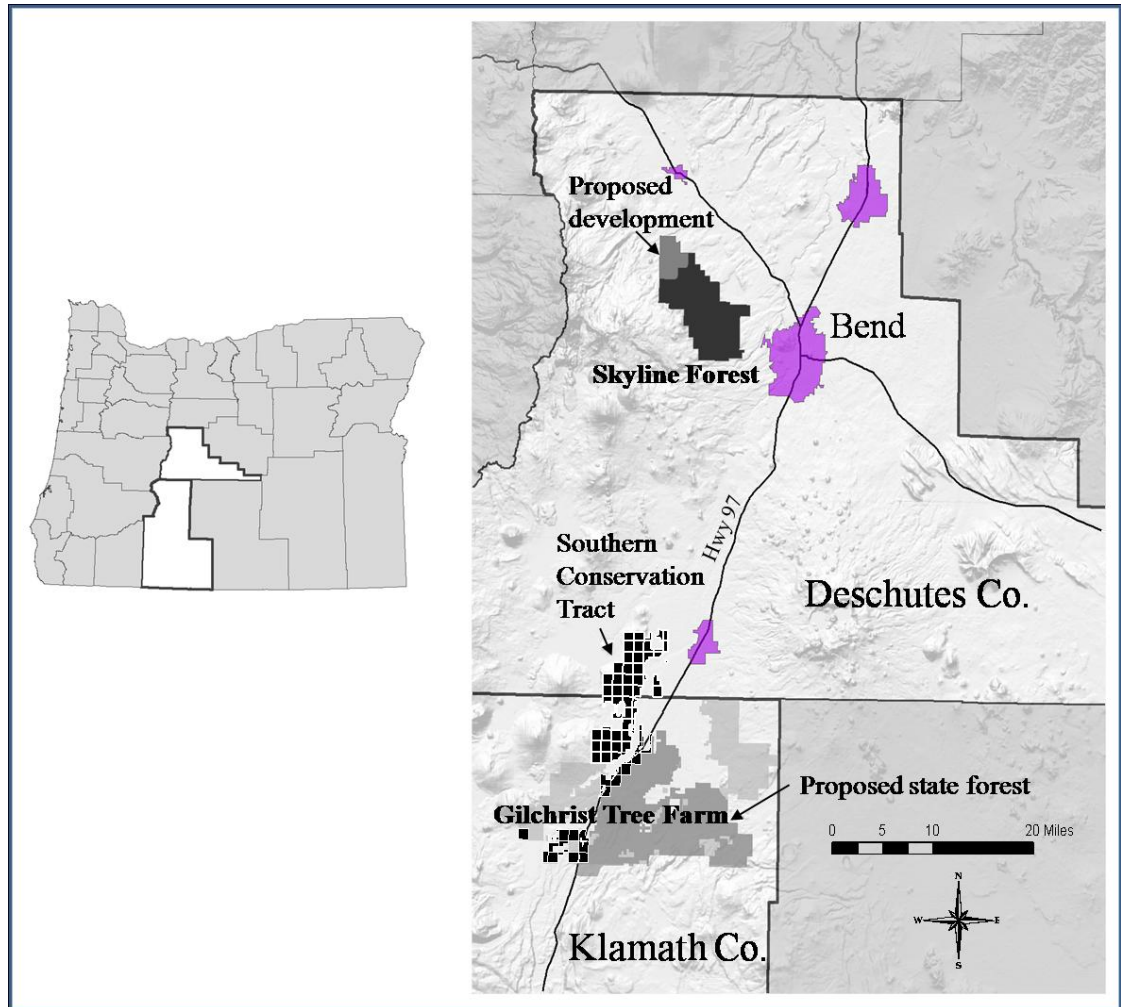


Figure 3.1 Map of Deschutes and northern Klamath Counties, with the Skyline Forest and Gilchrist Tree Farm indicated.

Rural restructuring

Emerging conservation ownerships can be placed within the framework of rural restructuring, a phenomenon which has been identified across much of the developed world and which includes changing policies, economies, culture, and land management. From at least post-WWII through most of the twentieth century in most developed countries, rural policies, cultures, land use, and economies could be labeled productivist, a term which indicates an emphasis on intensive, and ever-increasing, commodity production (Bjorkhaug and Richards 2008; Wilson 2007). While most of

the research into rural restructuring has occurred in Britain and Europe, in the U.S., rural sociologists have identified the consolidation of farm ownership, intensification of agricultural practices, rural policies privileging the use of the rural landscape for commodity production, and protectionism as emblematic of this era (Buttel 2003; Goldschmidt 1947). These concepts translate to forestry practices emphasizing timber growth and harvest and that regulate and homogenize landscapes under the rubric of sustained yield or scientific forestry (Langston 1995; Prudham 2005).

The transition away from productivism has been contentious, and there is no sharp line dividing productivism from latter forms, which are termed post-productivism or non-productivism (Marsden 2008; Wilson 2007). Rural restructuring does not indicate an abandonment of prior extractive industries (Beyers and Nelson 2000), but does indicate a general shift in land management objectives and policies. In short, productivism has not ended, but the *era* of productivism is being questioned and undermined through multiple means; this is the rural transition.

Because landscapes have concurrent productivist and post-productivist management, researchers have developed the concept of the multifunctional transition (Bjorkhaug and Richards; Wilson 2007). The objectives of multifunctional management include: consumption/lifestyle, protection/landcare, and production/livelihood objectives (Holmes 2008). Multifunctionality also ideally reintegrates rural development and rural land use, and “re-embeds” agriculture with regional economies (Marsden and Sonnino 2008; Wilson 2007). The multifunctional transition also includes more inclusive stakeholder participation (Halfacree 2007).

Structurally, we conceptualize the multifunctional shift in U.S. forests and forested communities as changes in: policies, market dynamics, and ideology. First, forest policies have shifted from an exclusive focus on timber harvesting, such as the Sustained Yield Forest Management Act of 1944, toward restoration, stakeholder participation, and the protection of multiple values under policies such as the Endangered Species Act and the National Environmental Policy Act. Second,

neoliberal trade policies have opened global markets, and consequently timber industry capital has flowed out of the U.S., generally to the global south. This trend has resulted in the decline of forest industry infrastructure in some regions of the U.S., declining commodity values for forest lands relative to other values, and increased forest investment opportunities elsewhere. Lastly, broad ideological changes, including the environmental movement and a decline in concern for national self-sufficiency, have contributed to the multifunctional shift. As a result of these shifts, forest management has shifted to restoration- and resilience-based ecosystem management (Swanson and Franklin 1992; Puettman et al. 2008); this is especially evident on public lands in the U.S. With these changes to management, production expectations have decreased, accompanied by a rejection of plantation forestry in some quarters.

Most of these changes can be considered top-down or structural drivers of the shift. One criticism of post-productivist and multifunctional literature is that it focuses too narrowly on these drivers (Milbourne et al. 2008). In order to account for this drawback, we have included the rural shift as it pertains to forested communities, including shifting land use and management, production, demographics, rural culture and identity, natural resource governance, and community capacity. Researchers have noted a “rural rebound,” or influx of new residents to rural places (Johnson and Beale 1998) and accompanying cultural and identity shifts (Walker and Fortmann 2003); and the inclusion of new actors and coalitions in natural resource decision-making (Baker and Kusel 2003a; Wilson 2004; McCarthy 2006). Community capacity has changed with the decline of timber infrastructure and human capital, and emerging alternative capacities, including conservation. These community shifts have been identified in the literature as the New West, “characterized by environmental amenities [and] recreation-based economies” (Shumway and Otterstrom 2001: 492, see also Albrecht 2004). The New West has seen in-migration of the wealthy, or “gentrified exurbia” (Bunce 1998: 239), but also a bifurcated economy, with low-paid service workers

(Beyers and Nelson 2000; Stauber 2001). In the New West, “the environment and landscape are seen as aesthetic resources that can be simultaneously tapped for economic gain” (Nelson 2002: 906).

In this context, threats to the forest are often identified as land conversion and development, especially on large, formerly industrial private ownerships. The forest industry in the U.S. has divested its landholdings, and while most timberlands have been maintained in intensive management by institutional investors, some lands are parcelizing, or moving entirely out of timber production, into real estate development (Bliss et al. 2010).

As a reaction, conservation ownerships to prevent parcelization and retain “working forests” have emerged, often headed by non-profit land trusts. The first land trust was established in Massachusetts in 1891 (Parker 2004), and by 2005, there were at least 1,667 land trusts in the U.S., with 690,000 ha owned outright, 2.5 million ha under easement, and 1.6 million ha conserved by other means (Land Trust Alliance 2005). While this is a small proportion (about 3.4%) of the 140 million privately-held forest ha nationally (Smith et al. 2004), land trust ownerships are often strategically located, in areas under threat of development and where particular ecological conditions make them valuable.

Community capacity and resilience

A community, or shared geographic place with institutions and organizations (Luloff et al. 2006), acts to create and sustain community capacity, the ability to “respond to external and internal stresses; to create and take advantage of opportunities” (Kusel 1996: 369). Natural resource dependence, in contrast, posits that rural communities dependent on natural resources are vulnerable to forces outside their control, including technological change and changes in market demand, governmental policy, and ownership (Freudenberg and Gramling 1992; Machlis and Force 1988).

Community capacity and dependence should not be interpreted as static, but characterized by disequilibrium. Community change includes the collapse (or release) and renewal of institutions, economic sectors, and capacities (Gunderson and Holling 2001). The (productivist) timber industry in central Oregon became less resilient over time as timber harvest maximization continued despite changes to both timber availability and social expectations from the forest. The industry then collapsed; mills closed, public timber availability declined, and private timber operators disengaged from the region. Forest management and ownership transformed, with some remnants of the industrial era, and many new stakeholders and goals.

Communities in multifunctional landscapes have differential capacity. The city of Bend is high amenity (per Nelson 1999) with rapid growth, rising home values and wealth, strong recreation and service-based economic sectors, and an established conservation community. The region around Gilchrist, on the other hand, is characterized by poverty, lingering timber dependence, relatively low environmental amenities, high unemployment, population stagnation, and low home values.

Methods

This case study research drew from multiple sources of evidence, including key informant interviews, local and regional histories, local newspapers, and analysis of government and industry documents. Formerly industrial forest lands in central Oregon were chosen because of rural restructuring in the region, and the proposed ownership changes on the Skyline and Gilchrist forests. In the summers of 2007, 2008, and 2009 the first author conducted semi-structured interviews with 44 individuals, including employees of timber industry, investors, leaders of conservation groups, and state and local agencies. Interviews were semi-structured, lasted from 45 minutes to 4 hours, and were recorded, transcribed, and coded per (Strauss 1987).

The “Bend Situation”

Prior to the arrival of the timber industry, the vast low- and mid-elevation forests of Deschutes and northern Klamath Counties were characterized by widely

spaced old growth ponderosa pine, with landscape-level heterogeneity maintained by frequent, light fires (Oliver et al. 1994; Weaver 1943; Youngblood et al. 2004). Lodgepole pine, initially considered an economically non-valuable species, occurred often as a subordinate species within ponderosa pine stands (Youngblood et al. 2004), or as pure stands in topographic depressions (ODF 2009b).

The earliest industrial operators in the region were several Midwestern timber companies; the Bull Springs tract was owned by Brooks-Scanlon, and the Gilchrist tract was divided between the Gilchrist Company and Shevlin-Hixon. The history of their ownership, and the ownerships that followed, illustrates how and why the forests were fundamentally changed, as they became crowded with young, small-diameter trees, and how the timber economy of the region collapsed.

As early as September 1950, a letter from the general manager at Brooks-Scanlon Lumber Company in Bend to the president of Brooks-Scanlon in Minneapolis warned of the “Bend Situation,” a combination of timber depletion and community dependence on the timber industry (Brooks-Scanlon 1950). The Bend Situation was not unique to Bend; timber operations across the country had left behind cutover forests and abandoned communities. Sustained yield, or harvesting at a rate approximately equal to the rate of growth, was a compelling ideal, but its on-the-ground implementation was repeatedly foiled by a compulsion toward economic growth.

The Boom of Industry

The timber industry boomed in central Oregon with the arrival of the Northern Pacific Railroad in 1911 (Speroff 2006). Timber companies in central Oregon acquired stands of ponderosa pine through convoluted means. Railroad grant timberlands were sold from railroad companies to their Midwestern associates, including parts of the Bull Springs, which went from Northern Pacific to Brooks-Scanlon (Figure 3.2). Frequently, timberlands were acquired from the public domain through fraudulent Homestead (1862) and Timber and Stone Act (1878) claims made

by dummy entrymen and sold to timber companies (Bowden 2002; Tonsfeldt and Clayssens 2004b). Company employees often scouted for timberlands to feed mills that had yet to be built, then recruited recent in-migrants to make patent claims. F.W. and Ralph E. Gilchrist were indicted in 1906 for making fraudulent claims on over 80,000 ha in Klamath and Lake Counties (Bowden 2002). These practices were recalled in a book written from prison by a land defrauder:

The dusty roads between Bend and Shaniko [the end of the railway until 1911] were lined with travelers, and it was soon evident that a large proportion of them were under contract to convey whatever timber rights they might acquire to syndicates of eastern lumbermen (Puter and Stevens 1907: 84)

Timberland then passed through multiple owners, from the original claimants through professional consolidators and other timber companies, to major timber operators.

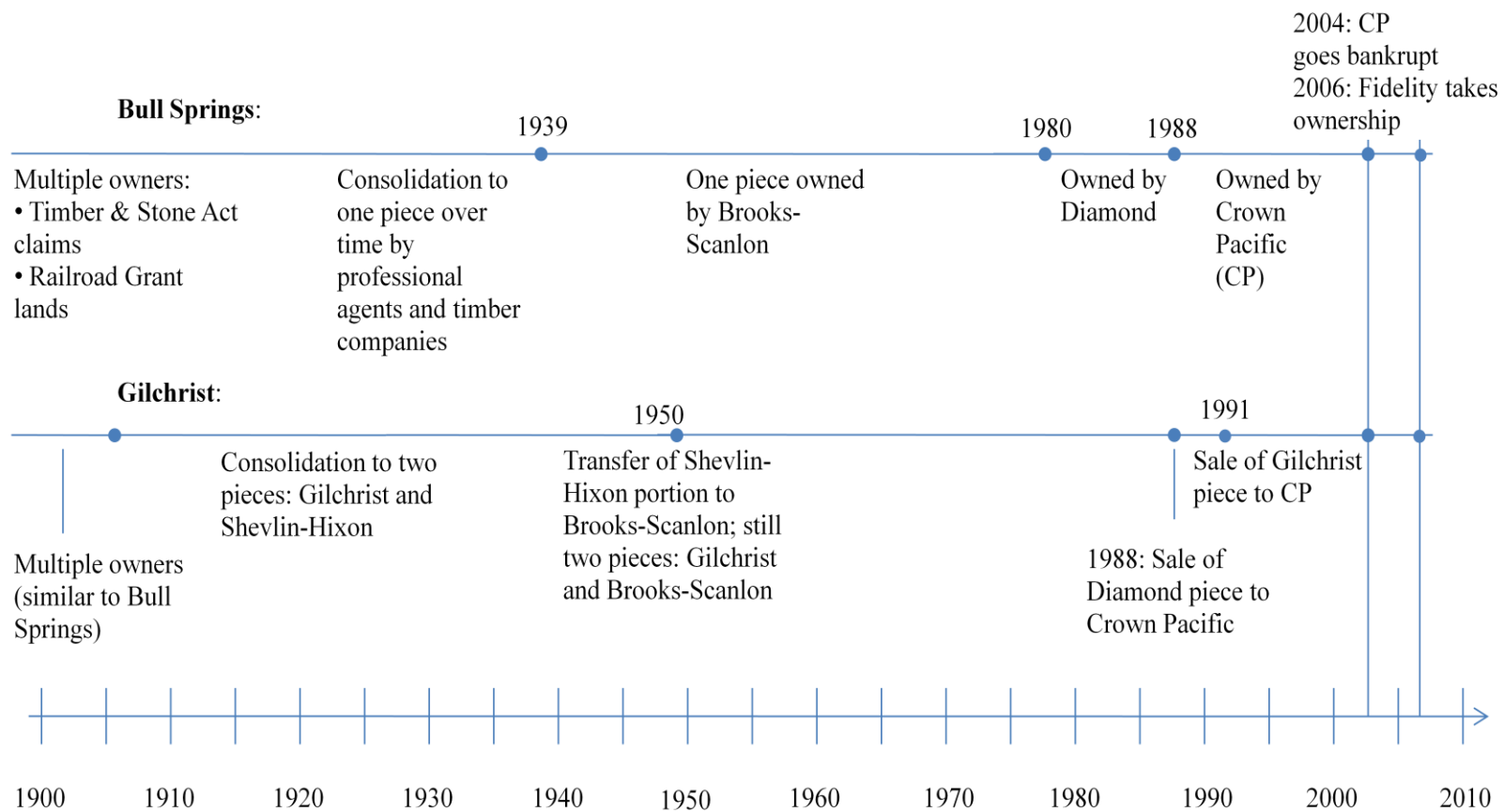


Figure 3.2 Ownership of the Bull Springs (Skyline) and Gilchrist tracts, from 1900-2010.

In 1916, Brooks-Scanlon and Shevlin-Hixon completed their sawmills on opposite sides of the Deschutes River in Bend, establishing competing timber empires with ever-expanding harvesting operations. Timber harvesting was aggressive, and involved the removal of the largest ponderosa pine. As early as 1922, Brooks-Scanlon offered to leave scenic strips along the highway near Bend because of public concern over the visibly denuded landscape (Bend Bulletin 1922b) (Figure 3.3). A Brooks-Scanlon manager suggested that the company would preserve scenic strips because central Oregon would someday “rival the Yosemite Park” (Bend Bulletin 1922b). However, the local newspaper announced the next day a 186% increase in production from the local mills (Bend Bulletin 1922a), and five months later, Brooks-Scanlon began construction of a new sawmill, doubling capacity (Bend Bulletin 1922c).



Figure 3.3 View toward Bend, Oregon, from Lava Butte (11 miles south of Bend) in 1933, with a remnant pine viewstrip remaining along the highway. Source: Deschutes NF.

As private timberlands were cut out, both Brooks-Scanlon and Shevlin-Hixon participated in public land exchanges. The Forest Service re-acquired and rehabilitated

cutover, or “exhausted” land, and timber companies harvested equivalent areas on national forest lands. The Deschutes National Forest acquired at least 100,000 ha of cutover land from Brooks-Scanlon and Shevlin-Hixon between 1929 and 1949 (Deschutes NF nd). In 1939, Brooks-Scanlon acquired the Bull Springs, one of the last large private tracts of timber in the area, and moved its main logging camp just north of the tract.

In 1938, the Gilchrist mill opened 45 miles south of Bend. The Gilchrist family had built its land base since the early 1900s, and owned over 40,000 ha in the region (Tonsfeldt and Clayssens 2004a). The Gilchrist operations, rather than relying on logging camps, built the town of Gilchrist to house workers, more than half of whom were southerners, brought from logged-out Gilchrist Mississippi operations (Carlson 2003).

The Limits of Industry

Brooks-Scanlon, Shevlin-Hixon, and Gilchrist not only owned most of the private timberland in the area, they controlled regional labor, and did everything from granting home loans to employees to building parks and donating to civic organizations. But by the close of the 1940s, the private timber supply was strained; in 1950, in order to maintain operations, Brooks-Scanlon purchased the Shevlin-Hixon land, mill, and cutting contracts. The companies pointed to timber exhaustion, due to wartime demand and post-WWII construction, as the primary factor for their merger; Shevlin-Hixon executives claimed harvest levels were “far in excess of our desires” (Davidson 2005: 202). The merger did not slow timber production and concerns about long-term economic viability persisted (Robbins 2002). By 1955, thirteen large-scale, primary production mills operated within a 65-mile radius of Bend (Brooks-Scanlon 1955). In 1967, a land analysis commissioned by Brooks-Scanlon warned that:

Private timber land harvesting, as a whole, evidently exceeds the ‘allowable cut’ concept. The total mill requirements exceed the annual ‘allowable annual cut.’ At some point in time, all mill requirements cannot be satisfied, and some mills may be faced with closure or conversion. (Fanning 1967: 20)

In the 1960s, the timber industry in Central Oregon restructured with the construction of several secondary manufacturing facilities, and with efforts to utilize the smaller logs and lodgepole remaining on private lands (Tonsfeldt and Clayssens 2004d). Gilchrist and Brooks-Scanlon both installed small log mills (Brooks-Scanlon 1969).

Concurrently, tourism, retailing, and services assumed a prominent role in the regional economy. In Sisters, 20 miles northwest of Bend, all of the sawmills closed, and Sisters transformed into a cowboy-themed recreation destination (Nave 2006). One study found that Bend could become a regional recreation magnet, similar to Aspen, Colorado (Kleinsasser 1968), and another identified 4,200 ha of Brooks-Scanlon land that could be profitably developed, assuming the “continued prosperity of the ‘affluent society’ proportions” of the area (Fanning 1967: 2). In 1969, Brooks-Scanlon formed a real estate development subsidiary, Brooks Resources.

Timberland as an investment: Modern day cut and run

Brooks-Scanlon exited the timber industry in 1980 when it merged with New York-based Diamond International; at the time of the merger, Brooks-Scanlon owned 93,000 ha of timberland in Central Oregon, plus 3 mills (Associated Press 1980). This ownership change brought with it changes for the community; a Diamond official said: “I understand [Brooks-Scanlon] were very generous with the community ... Diamond is spread out across the country in many communities; I don’t think we’d have the opportunity to do that” (Hitt 1980).

Soon, the timber industry in central Oregon was invaded by one of the most famous corporate raiders of the decade, Sir James Goldsmith, when he took over Diamond in 1982. At the time, Diamond was the largest employer in Deschutes County, with over 1000 employees (Wire Reports 1984). Sir James aggressively pursued control of the company, then dismantled it, selling mills and timberlands across the U.S. (Kunstler 1989). Diamond continued to own both the Bull Springs and

the Brooks-Scanlon portions of the Gilchrist tract until 1988, when Crown Pacific [Crown] purchased them.

Crown formed in 1988 as a private timber investment vehicle in Portland, Oregon, and dissolved in bankruptcy December 31, 2003. Crown began its ascent with the purchase of 104,000 ha of timberland in Oregon and Idaho in 1988, including the Diamond-owned Bull Springs tract and part of the Gilchrist tract. This initial purchase made Crown the largest private timberland owner in central Oregon, and local observers were immediately concerned about the rate of Crown's harvesting. An April 1990 article in the *Bend Bulletin* headlined with the term "cut and run," as Crown harvested at about twice the rate of former owners. Crown acknowledged the company was cutting above a sustainable rate but its lawyer said "we're going to go below a sustained yield [in the future] to build our forest back up" (Preso 1990).

In 1991, Crown purchased Gilchrist Timber Company, including the remaining 41,000 ha of the Gilchrist tract. The company took out \$100 million in loans for the purchase (Associated Press 1991) and the CEO of Crown denied "rumors ... that Crown Pacific would clear cut the heavily timbered Gilchrist tree farm to pay down a heavy load of debt" (Kepple 1993). Prior to Crown's purchase, the Oregon Dept. of Forestry [ODF] was interested in purchasing the Gilchrist tract, but backed off:

We assumed what was going to occur, which did occur, was that whoever acquired those lands would have to liquidate the standing volume to a large degree to service their debt ... we would have to harvest those lands harder than we would want (4301, ODF employee, July 2009 interview).

Most of the private forests of central Oregon had been cut over by the time Crown gained ownership, but the Gilchrist Company had left a sizeable proportion of large pine on their timberlands. As Crown consolidated timberland ownership, it also homogenized the ecological conditions of its timberlands by cutting the remaining large-diameter pine:

There was a lot of big timber on the Gilchrist land. Harvesting larger-diameter ponderosa pine was becoming a thing of the past ... so we made a decision that over a ten-year period of time, we would liquidate the

larger trees ... It just makes sense to get it all uniform, a homogeneous tree farm. (5201, former Crown CEO, April 2009 interview)

Economic circumstances also pushed Crown to harvest aggressively. In the early 1990s, federal timber supply diminished because of environmental litigation, and pine prices spiked (ODF 2009c). The private timber supply in Central Oregon became attractive: “to keep all that [timber] infrastructure alive, the [private] lands were overharvested” (1201, Oregon State Forester, Aug. 2008 interview). While environmental groups celebrated reduced harvests on federal lands, private timberlands in central Oregon suffered steep consequences.

From its inception, Crown capitalized on higher and better use values of its timberland in both conservation and development sales; near Bend, Crown sold parcels for development, triggering concern from land use advocates:

In the early 90s, [Crown] split off some parcels. Then in the mid to late 90s, Crown started splitting off fairly large chunks of the Skyline Forest near Bend – several thousand acres. And when we became aware of it in 2000, 2001, we started appealing all land use activities on there. It was a domino effect, an unraveling. (901, land use lawyer, August 2008 interview)

Crown restructured as a Master Limited Partnership in 1994, which required payout of all available cash to unit holders but allowed Crown to avoid federal income taxes. After Crown went public, units were consistently offered for sale in order to gain equity for further acquisitions (Crown Pacific 1997). The rapid growth of Crown, coupled with its obligations to pay unit holders, affected forest management decisions:

When you have an asset that grows 3-5% per year, and you’re paying out 6-8% per year, you’re digging a hole somewhere ... we had to harvest the timberlands in some cases beyond a sustained yield in order to make the distributions. (5201, former Crown CEO, April 2009 interview)

Crown’s revenue grew steadily from 1994 through 2000, but debt grew apace with revenue, from \$326 million in 1995 to \$689 million in 2000. From the fourth quarter of 2000 until its bankruptcy, Crown did not pay unit holders any further

distributions, and filed losses every year (Crown Pacific 2004). Just as the company began facing difficulties, in 2000, the Gilchrist mill completed upgrades, including a new small log line. Tree diameters on Crown's timberlands were reduced repeatedly as Crown "switched techniques on logging and started diameter limits and cutting everything above a certain diameter ... The stocking levels on the lands went down dramatically" (1401, former Crown timberland manager, Sept. 2008 interview).

Crown frantically sold timberland and closed mills, but the company sunk under mounting debt and a poor timber market. Wall Street began "dumping" Crown units, until they were below \$1 per unit, compared to \$20 in earlier years (Portland Business Journal 2003), and in March 2003, Crown was suspended from the New York Stock Exchange (Manning 2003). On June 30, 2003, Crown sought bankruptcy protection, which was completed on December 31, 2004. Crown's remaining 212,000 ha of timberlands came under the control of its lenders, who formed a holding company, Cascade Timberlands LLC (Manning 2004).

Exhaustion of the pines had finally occurred in central Oregon, despite efforts to retool mills and reshape the timber industry, and repeated efforts to establish some sort of sustained yield cut. After Crown's bankruptcy, Cascade Timberlands sold its Washington holdings and was left with its 119,000-ha Oregon Tree Farm, including the Bull Springs and Gilchrist holdings.

Conservation Ownerships: The Skyline and the Gilchrist

The collapse of Crown made available thousands of hectares of formerly tightly-held industrial timberland for new ownerships.

Bend and the Geography of a Community Forest

The Bull Springs tract was optimistically renamed the Skyline Forest as proposals began for its conversion to a community forest; it was, in fact, the skyline of Bend, the 5th most rapidly-growing metropolitan area in the U.S. from 2000-2008 (Bernstein 2009). Several circumstances made the Skyline Forest a candidate for land trust ownership. First, the forest's timber resources were depleted; years of

overzealous harvesting left the land non-viable from a timber perspective: “[W]hat you’ve got now, you’ve got a big park down there. (5201, former Crown CEO, April 2009 interview).

Second, regional timber industry capacity had decayed. The primary processing facilities in the area had nearly all closed. In 2009, only two sawmills remained, including the former Gilchrist mill, now owned by a Canadian company.

Third, the thriving real estate market in Bend provided a strong incentive to convert the Bull Springs into real estate development: “The growing discrepancy between the value of the timberland we have here, for uses other than growing trees on a long-term cycle, are really high” (3501, real estate developer and former timber industry executive, July 2008 interview). From September 2005 to September 2006, home prices grew faster in Bend than any other city in the country (Economist 2007).

Fourth, Bend had a strong conservation infrastructure in place, including the Deschutes Land Trust (DLT). The Bull Springs had a number of important ecological and social attributes that appealed to conservation groups: it was designated critical habitat by the Oregon Department of Fish and Wildlife for the Tumalo mule deer herd, which utilized the area for winter range and migration; it was used heavily by recreationists; and it was “the scenic backdrop that’s selling expensive real estate” (101, DLT director, July 2007 interview).

Oregon had previously had little land trust activity, in part because of the large proportion of land in public ownership, and in part because of the state’s unusual, statewide system of land use laws, enacted in 1973, “to conserve forest lands by maintaining the forest land base and to protect the state’s forest economy” (OAR 660-015-0000 (4)). The minimum parcel size for a housing development on land zoned for forest use in eastern Oregon was 97 contiguous ha (OAR 660-006-0027), considered large enough to prevent urban sprawl. But the 97-ha limit had ceased to prevent parcelization: “we assumed that [97 ha] was big enough that it would not induce a

demand for parcels strictly for residential use. That's not the case now" (4301, ODF employee, July 2008 interview). Rapid population growth and development created tension between land use laws and an economic imperative to grow.

The tactics of land trusts were distinct from the regulatory land use system: where the land use system was statewide and regulatory, land trusts purchased individual pieces of property through a voluntary, market-driven system, and the DLT defined itself as community-bound: "the financial wherewithal to keep the trust operating comes from members of the community and so we're going to be very responsive to [the] community's expectations" (101, DLT director, July 2008 interview). Expectations for the Skyline were summarized as: maintenance of habitat for wildlife and general forest restoration; preservation of the view shed; public access for recreation; and timber production (DLT 2009).

House Bill 2729: The Creation of the Community Forest Authority

Oregon HB 2729 in 2005 was the first attempt to create the Skyline Forest; it allowed municipalities to issue bonds for the purchase of a privately-owned community forest. Municipalities could create a Community Forest Authority (CFA), led by a volunteer board of directors, to oversee "community forestland," defined as "private lands that are zoned and permanently managed for commercial forest use" (HB 2729 §1(3)). In August 2006, Deschutes County established the first CFA. Of the measure's five congressional sponsors, three were from central Oregon, and policy language was drafted by an advisor to the DLT, U.S. Forest Capital. HB 2729 was modeled on a similar project proposed in 2002 by U.S. Forest Capital in Washington State, to preserve 40,000 ha near Seattle. A *Seattle Times* article portrayed the effort as a compromise for environmentalists, who "now embrace logging as an antidote to shopping malls" (Welch 2002). However, the Seattle deal fell through and the land was sold to an investor.

HB 2729 passed the Oregon House unanimously, and passed the Oregon Senate 25-4:

We had the forest industry on board, obviously we had conservation on board, we had the unions on board ... timber in this state has split people apart. This was something that really brought people together. (101, DLT director, July 2007 interview)

The DLT was able to help pass this legislation because of a broad coalition of supporters, built through prior experiences in land acquisition and management. The DLT had acquired land in 1996 and again in 2003, and negotiated a conservation easement on former Crown lands in 1998. With each project, the land trust increased its ability to attract both allies and funding.

Funding for the Skyline was to be supplemented by federal Forest Legacy funds and local private donors. Oregon had restricted eligibility for Forest Legacy funds until a campaign by DLT and its allies in 2007; the program was set up to protect “working forests ...[by] transferring a negotiated set of property rights from one party to another, without removing the property from private ownership” (USFS 2008). In 2009, the Forest Legacy Program granted the Skyline Forest \$2.5 million.

There was some opposition to the community forest, particularly from several remaining timber industry workers who doubted the land trust would harvest timber: “that’s [13,000 ha] that aren’t going to be producing timber for this economy or for anyone” (3701, Gilchrist mill worker, July 2008 interview).

Fidelity’s Takeover and the Development Proposal

In 2006, Fidelity National Financial purchased 70% of the shares in Cascade Timberlands; and the director of DLT recalled: “I get this phone call out of the blue and this [Fidelity] CEO says I’ve just acquired controlling interest and I’d like to work with you” (101, DLT director, July 2007 interview). Fidelity had a new proposal: a 2,000-ha development within the Skyline Forest; in return, Fidelity would donate 11,000 ha to the DLT. Fidelity made the Skyline Forest contingent upon the development: “The donation of land will not occur if the project does not occur ... if the community forest isn’t created, the lands will be split off, sold, and developed into [parcels]” (401, Fidelity lawyer, Sept. 2007 meeting). The DLT remained officially

neutral on the development proposal, though it supported the larger land acquisition:

There are very few local communities that will ever have the opportunity to go out and buy a timberland like this and so this kind of quid pro quo where you're allowing some development to take place but ... you protect forever the vast majority of the property, I happen to think is one hell of a precedent. (101, DLT director, July 2008 interview)

The proposed development in Central Oregon generated substantial controversy. Whereas the CFA had the support of local conservation groups and land use advocates, the development option potentially faced its greatest opposition from these groups:

A number of folks have said Oregon's land use laws are doomed ... and so we need to bargain to save as much as we can with land trusts ... if that's your operating principle, and you make these deals, you're hastening that demise. There are existing laws that prohibit what Fidelity wants to do out there. (901, land use lawyer, Aug. 2008 interview)

Another concern was the increased traffic and recreation use anticipated and resultant conflicts with wildlife, causing the Oregon Dept. of Fish and Wildlife to oppose the development: "We're against the development right now ... if the development goes in, more likely than not, we'll lose that [mule deer] herd" (3201, ODFW wildlife biologist, Sept. 2008 interview).

In order to alleviate misgivings surrounding the proposed development, Fidelity and the DLT attempted to make the process of creating the community forest transparent. However, most interviewees indicated that they had very little knowledge about the status of the community forest after Fidelity's initial development proposal:

It's been nothing happening basically, for a long time now ... when the CFA was going through the legislature, there was a lot of support for that in the local community ... but that's been a couple of years, maybe? That was sort of the end of the community involvement as far as I can tell. (801, Deschutes county planner, July 2008 interview)

The process of decision-making shifted from a locally-supported effort to a process that was occurring outside the purview of community members: "There hasn't

been a community forum ... I'm sure those strategies are being talked over at much higher levels than us" (3301, Deschutes county planner, July 2008 interview).

Bringing in the ODF: the proposal for a new state forest

Some of the delay in community involvement can be attributed to a shift in strategy in 2008, when the state Oregon Department of Forestry [ODF] expressed interest in acquiring the Gilchrist, entangling the Gilchrist acquisition with the Skyline proposal. Under the new strategy, the ODF would acquire the Gilchrist at timber value, without the value of potential development, while the Skyline would go to the DLT. ODF would thus become a partner in passing state legislation to allow for development on the Skyline.

Although ecological conditions of the Gilchrist tract were similar to the Skyline, including winter range for mule deer, the land was not as contested. Development potential was lower on the isolated tract, which was at a higher elevation, with more difficult winters and generally obstructed views of the Cascade Mountains. It was also in the economically depressed region of northern Klamath County, with little tourist infrastructure. The Gilchrist had a destination resort overlay, meaning it could bypass some state land use laws, and a destination resort proposed in 2008, the 2,200-ha Crescent Creek Resort, was approved by Klamath County with very little opposition. The resort was supported by the local communities, Gilchrist and Crescent, which were desperate for employment: "If north Klamath County is going to survive, we need this" (former timber worker, quoted in Lang 2009).

Historically, the state purchased lands that were abandoned and in need of restoration. The Oregon Conservation Commission declared in 1910 that "Forest wealth is community wealth" and emphasized that the state must conserve and restore forests (Landman 1995). But Oregon's cutover and tax delinquent timberlands multiplied and in 1939, the legislature passed the State Forests Acquisition Act. The state acquired five large cut- or burned-over tracts through the 1940s. The disintegration of industrial ownership and the diminishing economic viability of

forests on the eastside led ODF to consider acquisition again, as: “the only logical thing for that land is to go to smaller ownerships that get taken out of the working forest landscape and taken out of public use and become a fire problem” (1201, Oregon State Forester, Aug. 2008 interview).

House Bills 2228 and 2216: The Expanded Skyline

In fall of 2008, Governor Kulongoski dropped support for the joint Skyline-Gilchrist acquisition because of politically difficult land use conflicts, and through the beginning of 2009, prospects for a Skyline Forest looked bleak. After the joint Skyline-Gilchrist strategy failed, Fidelity proposed working under existing law, building about 25-35 units on 97-ha lots, and selling the remainder to the DLT. This would have resulted in a small community forest and dispersed development, a proposal that did not appeal to likely land use litigants.

A seemingly swift turnaround occurred in the spring of 2009. Fidelity and Central Oregon Land Watch (COLW), the most likely land use litigant, along with DLT and its allies, negotiated HB 2228, which proposed the Skyline as a pilot project. COLW participated because the window for creating a community forest was closing:

[If parcelization occurred] you have different ownerships, each trying to do something individual with their property ... we'll have lost the opportunity to do something unique like a community forest. That's something worth bargaining for. (302, COLW employee, July 2009 interview)

HB 2228 expanded the size of the Skyline by including the northernmost part (14,000 ha) of the Gilchrist tract. The original Skyline forest was divided into two tracts: a Skyline Conservation Tract (12,000 ha) and a Skyline Forest Sustainable Development Area (1200 ha). Fidelity could thus build 282 dwellings without violating the 97-ha minimum; but the dwellings would be clustered. Fidelity would then sell the Skyline and Southern Conservation Tracts for their timber value, while their development value was stripped from the properties.

HB 2228 thus attached some of the Gilchrist tract to the Skyline Forest proposal. Meanwhile, the ODF pursued a separate legislative strategy, HB 2216, for securing 28,000 of the remaining ha of the Gilchrist, in an area with low amenity value, east of Highway 97. HB 2216 passed June 29, 2009, establishing a State Forest Acquisition Fund expressly “for the purpose of acquiring parcels in the Gilchrist area of Klamath County for use as state forestland” (HB 2216 §7). Funding mechanisms were through lottery funds, and the bill also set up a variety of funds to reimburse counties for lost property tax revenues and to support forest management and fire suppression. In November 2009, the state began working with The Conservation Fund, to facilitate a purchase.

Obstacles remain before either acquisition can occur. The economic crisis of 2008 was very difficult for all of central Oregon, including Bend. As of October 2009, unemployment in Bend was over 15%, the highest of any metropolitan area in Oregon (Oregon Employment Department 2009b) and home sales in Bend declined by 37% from 2006 to 2008, and mean sales prices dropped by 37% from 2007 to 2009 (Central Oregon Realtors 2009).

Discussion

The rural transition

The ownership and management of two formerly industrial timberlands in central Oregon illustrates the regional disintegration of productivist timber regimes, and geographically uneven restructuring into multifunctional regimes. These multifunctional regimes were created not only because of changing policies or ideology, but also because of timber management practices and literal timber exhaustion. Within less than a century, the timber industry was established, grew in capacity, and collapsed, after exhausting the timber resources upon which it depended. Productivist forest management in central Oregon encompassed contradictory forces: both the scientific knowledge of sustained yield management and a compulsion toward perpetual economic growth. Until the forests of the region were either: 1) rendered

inaccessible through federal policy, on public lands; or 2) exhausted through overharvesting, on private lands, the policies of continuous economic growth prevailed.

After its collapse, timberland ownership was restructured by surprising alliances, including between conservationists, investors, timber industry, and governmental agencies. This inclusion of multiple stakeholders in the process of creating new conservation ownerships is a hallmark of (ideal) multifunctional transitions (Wilson 2007) and exemplifies a rising tendency in many forested landscapes for new voices to contribute to forest management and ownership decisions.

The transition in central Oregon thus revolved around changing capacities. As the timber industry declined, the human, physical, and cultural capital associated with timber production diminished; but new capacities emerged, especially in the conservation community. The forests of central Oregon began to occupy a very different position in the regional economy, as backdrop to a burgeoning housing and recreation industry.

Changing capacities meant shifting power and forest access; forest decision-making was historically controlled by people with heavy investment in timber infrastructure and a production focus that maximized timber extraction. Multifunctional forest management on large private holdings was not seriously considered until multiple, competing interests gained access to decision-making processes, a change in natural resource governance (Wilson 2007). As the timber industry disintegrated, loosening its grip on decision-making power, the conservation community leveraged local, state, and federal policies and funding sources, including the support of developers and a growing demographic of recreationists and second-home buyers. It should be noted, however, that many negotiations over the creation of the community forest occurred without significant community input. In order to create the forest, it was not necessary to have consensus, but only to have key support.

Conservation capacities were facilitated by non-profit involvement, legislation, and Fidelity itself. Oregon's land use system gave the COLW, a small non-profit, a seat at the table with Fidelity in negotiations over the development of privately-held land. The Conservation Fund, a national non-profit, lent logistical support to the ODF. Federal policies, such as the Forest Legacy Act, and multiple state legislative measures enabled local acquisition of private forestlands.

In line with Beyers and Nelson (2000), the extractive industry remains in the region, although in a highly attenuated form. Both the land trust-owned Skyline and state-owned Gilchrist would seek to maintain timber harvests to support some type of timber infrastructure. The region is thus retaining its identity as a natural resources provider, and the land trust, ODF, and allies are utilizing this identity to call for the preservation of "working" forest lands against the threat of parcelization and real estate development.

The Rise of Land Trusts

The scale of the Skyline Forest, much larger than any other land trust purchase in the state, and far larger and costlier than any previous DLT purchase, has required significant community support. The process of community capacity building involves identification of a problem or opportunity, strategy and goal setting, and group formation and maintenance (Kaufman 1959). The problem identified in central Oregon was the prospect of fragmentation, which can diminish habitat values and working landscape viability (Gobster 2000; Hansen 2002). In response, the development community, remnant timber industry, and conservation community coalesced around the creation of the Skyline Forest. Whether for purposes of economic growth or environmental conservation, historically antagonistic groups established common ground, indicating that community forests may bind heterogeneous communities to their resource lands, re-establishing a contract with rural America that is expiring with the rural transition (Stauber 2001).

However, the participation of groups with sometimes incompatible motivations means that rifts will arise over the management of the forest, recreation access, and development. How will the community participate in forest management decisions, especially contentious decisions like harvesting and prescribed fires? Public forest land experience, where public participation is guaranteed through federal policy, suggests that these rifts can lead to combative politics and intractable arguments (Yaffee 1994).

Another set of questions arises over the precedence of conservation ownerships in Oregon's regulatory environment. How does the creation of the Skyline Forest impact Oregon's land use laws? If Oregon's land use laws fail to prevent rural sprawl, how will they need to change? Finally, the new recreation and service-based economy may represent a new type of dependence. What are the long-term prospects of land trust-owned community forests if community support, either financial or cultural, diminishes?

Opportunities for Public Ownerships

While the proposed Skyline Forest was developed through multiple legislative efforts and fundraising, state acquisition of the Gilchrist tract was relatively quiet and noncontroversial. Although the Gilchrist had similar ecological conditions, it did not have a concerted, community-based conservation effort, nor did it have overwhelming development pressure. In the relatively low-amenity Gilchrist region, the New West is less visible, and the transition from productivism has left some lands abandoned. The Gilchrist Forest will likely return to public ownership for rehabilitation and future timber revenues, becoming the first new state forest in 60 years. The ODF, which once partnered with the timber industry, has changed focus as the timber industry disintegrated, and as threats to timberlands, especially in the eastern part of the state, changed from overharvesting to abandonment and fragmentation.

Eastern Oregon contrasts with western Oregon, where the ODF is unlikely to pursue acquisitions. The timber industry in western Oregon has remained relatively

vibrant and profitable, and has attracted considerable timberland investor interest. Rather, the degraded and abandoned lands in the eastern part of the state are being proposed for public ownership, a circumstance very similar to the public land re-acquisitions of the last century.

Ecological and Social Restoration

While formerly industrial timberlands are becoming available for conservation ownerships, experience in central Oregon suggests that many have been substantially degraded. In the case of the Skyline and Gilchrist, silvicultural investment will likely not generate a timber income for decades and the lands will be an investment sink. Restoration costs will include management to mitigate fire risk, restore habitat and riparian areas, and regulate recreation access. Though the proposed Skyline and Gilchrist will ostensibly be managed for timber production, what type of timber infrastructure will need to be in place for restoration projects? While managing for heterogeneity and resilience, per Puettman et al. 2008, may be desirable, can it be economically feasible?

For Bend, the Skyline will likely reinforce the existing recreation- and development-based growth economy, though the city is far past its timber dependence. The new community forest could serve as a nexus for community participation and engagement, especially necessary in a rapidly-growing place with many seasonal and temporary residents. The state forest near Gilchrist will likely increase tourism and economic development in that community, reinvigorating the economic contribution of the forest to local economies.

Finally, at a much larger scale, what are the effects of setting aside timber maximization for our own private forests in a global marketplace? As the forest industry has disappeared from regions of the U.S., it has grown in the southern hemisphere and in places with large timber reserves, including Russia. Restoration and managing for ecosystem benefits are laudable goals, but they have not provided the timber volume that the American economy demands. Differential impacts of rural and

industry restructuring across the globe will need to be further addressed, even as local communities struggle to restore degraded timberlands in their backyards.

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Chapter 4: The Mazama Returns: Conflict and Collaboration in Tribal Land Reacquisition

ABSTRACT

After years of policies that undermined tribal sovereignty and land ownership, tribal access to traditional lands has shifted in the U.S., with growing opportunities for tribal land reacquisition. We explore shifting tribal capacity and power in the case of the Klamath Tribes in south central Oregon, where the recent breakup of formerly industrial timberland has created significant opportunities for traditional land purchase. In 1864, the Klamath Tribes signed a treaty securing them an 800,000 ha reservation. The land base was dissolved in 1954 with tribal termination, and though the Klamath Tribes regained federal recognition in 1986, they did not regain their lands.

However, from 2005 through 2008, the Klamath Tribes participated in a multi-group negotiation in the Klamath Basin to resolve long-standing water and endangered species conflicts. Through these negotiations, with irrigators, governmental agencies, fishermen, and other tribes, the Klamath Tribes were able to secure funding for the purchase of the formerly industrial 36,000-ha Mazama Tree Farm, a piece of the former reservation that became available in 2006. We draw lessons from this unusual case to highlight emerging opportunities for tribes in this era of self-determination.

“The goals of the Klamath people are simple and reflective of those to which most communities aspire. The Klamath people wish to be self-sufficient.”
(Klamath Tribes 2008: webpage)

The Klamath Tribes² owned a reservation in south central Oregon from the signing of their 1864 treaty with the US government until their termination in 1954, when their land base was dissolved and the tribe degenerated from relative economic prosperity to dire poverty and social dysfunction. Since at least 1986, when tribal recognition was restored, the Klamaths have fought to regain access to their former reservation, located in Klamath County, part of the Klamath River Basin (Figure 4.1). In 2008, with the release of the Klamath Basin Restoration Agreement [KBRA], the Klamaths announced the likely reacquisition of the 36,000-ha Mazama Tree Farm [Mazama]. The Mazama was a formerly industrial timberland that became available through forest industry restructuring, as industrial timberland owners divested timberlands to investors, land trusts, developers (Bliss et al. 2010; Block and Sample 2001), and in this case, a tribe seeking ownership of ancestral lands.

The KBRA was developed to address a series of conflicts centered on water allocation. Klamath Basin water was over allocated to competing interests, including irrigators and tribes; in 2001, a drought year, water was shut off to irrigated farms in the Basin. This contentious decision initially aggravated long-standing animosity, but was eventually followed by a series of collaborative negotiations set up through legislative frameworks that enabled decentralized, locally-based decision-making. KBRA negotiations, between the Klamath Tribes and three other tribes, irrigators, governmental agencies, non-profit organizations, and fishermen, resulted in the creation of a multi-faceted agreement, including funding for the Klamaths' purchase of the Mazama.

² The Klamath Tribes can be called several different names. The Klamath Tribe is the name of the tribe under their treaty, which in the view of the Tribes was never dissolved. The Klamath Tribe, however, is technically three tribes, hence the more modern name, the Klamath Tribes. Another term, the Klamaths, is frequently used in tribal documents and in everyday speech. For this research, I have chosen to refer to the tribes as the Klamath Tribes.

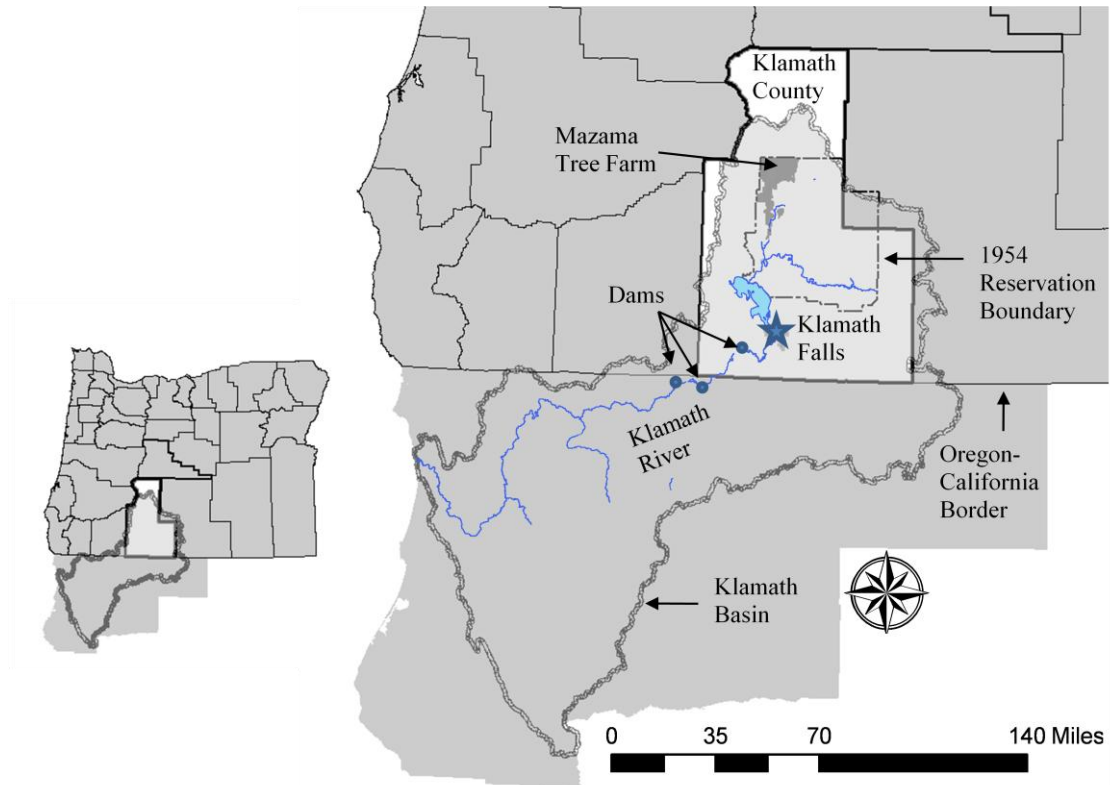


Figure 4.1 A map of the Klamath Reservation, with its 1954 boundaries, the Mazama Tree Farm, and the Klamath Basin. The reservation was located within Klamath County, one of several counties in Oregon and California in the Klamath River Basin. Source: Klamath Tribes.

Klamath County, with just over 65,000 people (US Census 2000) was historically dependent on the agriculture and forest industries, though today agriculture employs about 6% and the wood products industry less than 5% of the workforce (Oregon Employment Department 2009c). The county is relatively high in elevation, has a short growing season, and is generally dry, averaging 14 inches of rain per year at Upper Klamath Lake (Braunworth et al. 2002).

The first author conducted (n=12) interviews related to the Mazama in the summers of 2008 and 2009; the third author conducted (n=10) interviews in the summers of 2007 through 2009, which were analyzed by the first author. All interviewees were purposively selected for their participation either in the KBRA or

the acquisition of the Mazama. They included tribal members, politicians, forest and sawmill managers, non-profit employees, and irrigators. Interviews were semi-structured, between 30 minutes and 3 hours, averaging one hour. All interviewees signed consent forms and were granted anonymity. Several interviews occurred in the field, including one at the Mazama. All interviews were recorded, transcribed, and coded according to (Strauss 1987). Historical and current document analysis and policy analysis provided context for the case. The purpose of this paper is to demonstrate changing tribal access to traditional lands in the U.S. by highlighting this unusual case of large-scale land reacquisition.

Displacement

Colonial accumulation of land through dispossession (Harvey 2007) was the historical starting point for Euro-American settlement in the Klamath Basin. As settlers and their institutions entered the region, an existent society, with its systems of economics, social relations, and land use, collapsed. In a process repeated across the world, the modern conception of rationalized management schemes, including scientific forestry, replaced indigenous tenure and management systems (Bryant 1998). Western conceptions of knowledge, and therefore power, displaced traditional livelihoods, excluding tribal concerns and viewpoints (Desbiens 2004).

The 1864 creation of the Klamath Reservation and treaty was followed by years of federal and state policies that collectively undermined tribal capacity and coherence. The Klamath Tribes were three tribes, the Klamath, Modoc, and Yahooskin band of the Snake (Paiute), bound to the Klamath Reservation by the Treaty of 1864. In signing the treaty, the tribes forfeited over 8 million ha of their homelands for a reservation of 810,000 ha.

The original reservation was steadily fragmented. In 1887, Congress passed the Allotment (Dawes) Act, which divided commonly-held reservation land into individual, privately-owned 65-ha parcels. The policy was reminiscent of the Homestead Act in its attempt to create a landscape of small-scale agrarian farmers, but

its effect was to break apart Indian lands, and thus break up Indian tribes. In the words of the Commissioner of Indian Affairs:

It has become the settled policy of the Government to break up reservations, destroy tribal relations, settle Indians upon their own homesteads, incorporate them into national life, and deal with them not as nations or tribes or bands, but as individual citizens. (Morgan 1890)

Approximately 25% of the Klamath Reservation was allotted to individual members, and about half these lands were then sold to non-Indians; unallotted lands, often timbered, remained common resources (Tonsfeldt 1980). Errors made in two separate federal surveys, in 1871 and 1888, excluded over 240,000 ha from the reservation, and in 1906, 35,000 ha were carved from the reservation and sold to industrial forest interests (Doremus and Tarlock 2008).

Meanwhile, policies and projects favoring Euro-American settlement set the stage for ecological and economic transformation of the Basin. In 1906, the Bureau of Reclamation [BOR] began its enormous Klamath Irrigation Project [Project] in the Klamath Basin, one of the first projects approved under the Reclamation Act of 1902 (32 Stat. 388). The BOR built dams and canals to transform the basin into a landscape suitable for irrigated agriculture; as of 2007, the Project diverted 1.7 billion cubic meters of water from the Klamath River to irrigate 97,000 ha of crop and rangeland in the Basin, and another 71,000 ha in the upper Basin were irrigated by non-Project ranchers (Doremus and Tarlock 2008). The intent of most federal actions in the Klamath Basin, well into the latter half of the 20th century, was to keep irrigators viable, by protecting irrigators from global competition and dispensing financial aid during times of economic and ecological crisis (Doremus and Tarlock 2008).

The other major Klamath Basin project was the construction of privately-owned hydroelectric dams. The first dam, built in 1917, blocked salmon passage to the entire upper portion of the Basin, including the Klamath Reservation. In 1956, the Klamath River hydroelectric dams came under the regulation of the Federal Energy

Regulatory Commission (FERC), which grants 50-year operating licences and sets conditions for private dam operation.

Aside from irrigated agriculture and hydroelectric power, settlers and industrial forest companies established a thriving forest industry in Klamath County, especially after the arrival of the Southern Pacific Railroad in 1909 (Stern 1965). Klamath County's forests were historically characterized by large ponderosa pine, with landscape-level heterogeneity maintained by frequent, light fires (Youngblood, Max, and Coe 2004; Oliver, Irwin, and Knapp 1994). Lodgepole pine, long considered an economically non-valuable species, occurred often as a subordinate species within ponderosa pine stands (Youngblood et al. 2004), or as pure stands in topographic depressions (ODF 2009b). Tribal lands provided a great deal of timber for the industry; from 1909-1929, the majority of Klamath County timber was cut from either public national forests or Indian lands (Bowden 2002), and even after the arrival of several large industrial timberland owners, tribal harvests remained central to the industry.

Few Klamath tribal members were employed in the forest industry, but all tribal members received a per-capita disbursement from timber sales. The per capita timber payment, \$800 by the 1950s, put tribal incomes on par with nontribal Klamath County residents (Trulove and Bunting 1971). While tribal members received timber payments, forest management was controlled by the BIA, in a paternalistic relationship against which many tribal members struggled, especially as management practices displaced traditional livelihoods. Forest management excluded tribal viewpoints:

When the European comes and cleans these canopies and all this undergrowth is growing, and the tribes are trying to burn, they say wait a minute, what are you doing? Fire is bad ... they're coming to the tribes now, hey, we need to talk about fuels reduction. They had to learn and they had to learn the hard way ... we're never consulted on anything. Well, now we are, but during the time that it meant something – because you're never going to see this old growth timber back. (4101, tribal council member)

In the 1940s and 50s, federal legislators established policies to terminate recognition of Indian tribes, intending to end federal supervision and assimilate Indians into mainstream culture (Getches et al. 2005). In 1954, Public Law 587 terminated federal supervision of the Klamath Tribes, severed ownership of the tribes' remaining 360,000-ha reservation, abrogated federal responsibilities to the tribe, and perpetuated a legacy of poverty and hopelessness (Klamath Tribes 2008b). The Klamath Tribes were among the first tribes to be recommended for termination because of their financial and material success, paradoxically based on their reservation timber resources (Hood 1972).

Motivations behind termination were complex; indeed, the tribes themselves were highly factionalized, and several opposing viewpoints claimed to represent the "Indian" perspective (Stern 1961). While the Klamath Tribes were ostensibly terminated for their benefit, they did not vote on termination. Tribal members were given the option of either withdrawing from the tribe in exchange for a cash payment, or becoming "remaining members," who would have a collective interest in a privately-administered parcel of land, which was dissolved in 1973. In the vote, 1,659 members withdrew, 80 remained, and 393 did not vote but were assigned to the remaining group.

Termination policies failed to integrate the Klamath tribal members successfully into dominant culture. Termination was not the beginning of social dysfunction for the tribes; prior to termination, about 65% of tribal members were economically dependent on per capita income payments, contributing to long-standing unemployment and low levels of education (Hood 1972; Trulove and Bunting 1971). Years of policies had suppressed tribal culture, language, property and economic relations, religious practices, and family structure; termination served to dissolve the tribes' greatest remaining asset, their land base, and end federal entitlement programs and agency support (Stern 1965; Trulove and Bunting 1971). When withdrawing members received \$43,000 each in 1961, many tribal members were taken advantage

of by shopkeepers, bankers, lawyers, and each other; as of 1965, 80% of withdrawing members had less than half their money left, and 40% had nothing left (Trulove and Bunting 1971).

In 1970, President Richard Nixon acknowledged that termination policies were a failure, and in 1975, the Indian Self-Determination Act ended termination policies. In 1986, Klamath tribal status was restored, but no land returned to the Klamath Tribes.

Reallocation of tribal resources

While Indian well-being was used to justify termination, most Congressional hearings were concerned with the reallocation of tribal resources, especially timber (Hood 1972). At the time of termination, the reservation contained 24% of remaining timber in the Klamath Basin, and the timber industry represented 40% of the Basin's economic activity (Wilcox 1956). About 4.6 billion board-feet had been harvested, and 4.2 billion board-feet remained (Neuberger 1959). Reservation timber management generally followed sustained-yield principles established by progressive era forest managers such as Gifford Pinchot (Tonsfeldt 1980), and according to the Secretary of the Interior: "Termination ... may result in abandonment of sustained yield management practices presently enforced by the Federal Government" (Wilcox 1956: 3). Decades of cyclical boom and bust characterized the industry, and during termination discussions, there was regional industry contraction and mill closure (Wright 1956). The private sale of reservation timberland would have resulted in a surge of timber supply, and an accompanying boom in sawmill infrastructure (Wilcox 1956). Vested industrial forest companies had reason to fear an influx of new sawmills, and U.S. Senator Neuberger of Oregon responded to concerns of Klamath Falls sawmill owner L.L. Shaw that "surely no one wants to see a boom community followed by the blight that would settle over the entire community once the timber resources were gone" (Neuberger 1955: 1).

Because of these concerns over (Anglo) community and industry stability, the U.S. government offered the timbered pieces of the reservation in large (>2000 ha) blocks to industrial forest operators, with sustained-yield management requirements attached to each timber unit (Neuberger 1959). The owner was required to create 10-year management plans and inventories, to be monitored by the USFS, a unique requirement for private land. Sustained yield management was defined as a “forest well-balanced by diameter or age classes and capable of continuously producing [timber]” (USFS 1959: 2) or “continuous annual production and maximum financial return” (Crown Zellerbach 1960: 7). Only one unit sold, the Mazama, to Crown Zellerbach, an industrial forest company. The Mazama had a large supply of small-diameter lodgepole suitable only for pulpwood, and limited ponderosa or lodgepole pine sawtimber. The first timber cuts on the Mazama had occurred in the 1930s, when 75-80% of the volume was harvested. Other units offered for sale had far more valuable timber resources than the Mazama, but timberland buyers may have balked at the high prices and sustained yield requirements when ponderosa pine was still available on public lands. The U.S. government purchased the remainder of the lands, incorporating the bulk into the national forest system.

The 10-year management plans and inventories, and yearly USFS visits to the tree farm, provide unique insight into private timberland management, and reveal a drawback to rationalized forestry, as practiced on the Mazama: immediate economic considerations drove silvicultural practices, despite sustained yield requirements and stringent governmental oversight.

The Mazama was ostensibly to be managed for “rotations which recognize both value and volume production” (Crown Zellerbach 1970: 6) and to “improve the health and growing capacity of both ponderosa and lodgepole stands” (Crown Zellerbach 1980: 6). However, merchantable ponderosa pine were disproportionately targeted for harvest; over a third of the ponderosa pine were cut away in the first 10-year cutting cycle, while only 19% of the allowable lodgepole pine were cut

(Semmens 1976). While total volumes were thus sustained, tree diameters declined, resulting in crowded conditions and disease problems: “on-the-ground practice is to remove the biggest and best quality trees. This can encourage infection and intensification of mistletoe in the stands” (USFS 1970: 2).

Remnant ponderosa pine stands were replaced by lodgepole pine stands, and ponderosa reforestation was a continual problem. In 1970, at least 36% of ponderosa stands were “bare or poorly stocked” (Crown Zellerbach 1970) and by 1980, overstory removal had resulted in the conversion of 3600 ha from ponderosa pine to lodgepole pine because many ponderosa stands had an understory of lodgepole (Crown Zellerbach 1980).

Every ten-year plan assumed that lodgepole pine markets would become available, which would encourage lodgepole harvests, but these markets did not materialize. Lodgepole, a disease- and wildfire-prone species, proliferated, and by 1980: “the silvicultural objective is to convert the whole lodgepole type toward a healthier forest of younger even-aged stands, with better spacing of individual trees as a stimulus to better growth” (Crown Zellerbach 1980: 11).

The Mazama passed through a series of owners after Crown Zellerbach. Sir James Goldsmith, a corporate raider, took control of Crown Zellerbach in 1986 and renamed it Cavenham Forest Industries. He held the land as a financial asset, then sold the property to Hanson Natural Resources in 1991, in exchange for shares in a gold mine. The land retained sustained-yield requirements and Forest Service oversight.

Management plans were intended to be adaptable and “neither more nor less stringent than the management now and subsequently imposed on comparable national-forest lands” (USFS 1959: 1). National forest management changed dramatically in the 1990s in response to environmental litigation, shifting toward ecosystem management and restoration. National forest lands, like their private neighbors, were substantially homogenized, resulting in dense stands at risk of ahistorical, stand-replacing wildfire (Johnson et al. 2008). However, the USFS

resolved to maintain management on the Mazama as it had been practiced since 1961, and not modify requirements based on adjacent national forest practices.

In addition, the Mazama management plans, initially intended to support a timber-based economy, could be revised because of “radical shifts in the basic economy” (USFS 1959: 10). The timber economy in Klamath County was collapsing; forest industry employment fell about 70% from 1976 to 2008 (Oregon Employment Department 2009a) and harvest levels declined by 89%, from a high of over 600 million BF in 1971 to 67 million BF in 2008 (ODF 2009a). Mill closures began in the late 1970s and continued through the 2000s (Herald and News 2009). Alongside the loss of timber infrastructure was a loss of timber-associated human capital:

I don't see how you start a new sawmill. To operate, to bring the skill level of the workers, or to bring green workers into a sawmill that have no experience in that environment, that's a rather big step ... I've described it in the past as a severe loss of a skill set. (4001, Klamath county commissioner)

This tendency has been repeated across the U.S., as transitioning rural economies have accompanied geographically uneven deterioration of timber and agricultural markets, infrastructure, and human and cultural capital (Winkler et al. 2007). Since about the 1980s, there has been an influx of migrants to rural areas (Johnson and Beale 1998), and shifts in regional economies and cultures, from commodity production to a focus on amenities, recreation, and real estate development (Albrecht 2004). Management priorities on many “working” lands have shifted from maximum commodity utilization to multiple objectives, including restoration (Wilson 2007; Mather 2001). The Mazama was thus a forest managed primarily for timber production in a region with changing socio-economic conditions and declining timber harvesting capacity.

Conflict in the Klamath Basin

A complex, often bitter, water conflict in the Klamath River Basin created the conditions for tribal land reacquisition. For most of the 20th century, water levels in the

Klamath River were dictated by Project irrigation needs and downstream river flows for the hydroelectric dam owner (Marbut 2002). This arrangement was interrupted by the convergence of legal, political, and ecological circumstances, described briefly below and also in (Braunworth et al. 2002; Doremus and Tarlock 2008).

The Klamath Basin water conflicts stemmed from 1975, when the state of Oregon began adjudicating water claims on the Klamath River; adjudication is the process of assigning quantified water rights to claimants based on a priority date. The Klamath River had over 700 water claims, including 393 from the Klamath Tribes (Doremus and Tarlock 2008). The water of the Klamath Basin was over allocated and claims included competing uses; Klamath Tribes water claims were non-consumptive, meant for habitat provision for fish species, which conflicted with the water needs of irrigators and dams. A series of lawsuits clarified that tribes had the oldest water rights in the basin, from time immemorial, and that treaty species and their habitats were protected because the tribes had retained hunting and fishing rights on their former lands (Doremus and Tarlock 2008).

In 1988, the Short-nosed sucker (*Chasmistes brevirostris*) and Lost River sucker (*Deltistes luxatus*), both treaty species for the Klamath Tribes, were listed as endangered under the Endangered Species Act [ESA]. The suckers' primary habitat was the Upper Klamath Lake and its reservoirs, "the same waters BOR uses to control water flow to the irrigators of the Klamath Project" (McHenry 2003: 1026).

In 2001, in accordance with ESA §7, federal wildlife agencies released biological opinions about the two sucker species and the threatened Coho salmon. The agencies recommended changing Basin water allocations, including higher water levels in Upper Klamath Lake and higher in-stream flows below the dams. In April, 2001, a U.S. District Court ruled that the Klamath Project was in violation of the ESA and irrigation flows halted two days later. Curtailment resulted in losses of between \$37.5 and \$54 million in gross crop revenues, although many of the economic effects were mitigated through federal and state assistance (\$35 to \$37 million) and well

drilling (Jaeger 2002). Costs and benefits were not distributed equally, however, and a number of irrigators suffered steep economic losses.

Reactions from irrigators and their supporters were swift and impassioned. In Klamath Falls, thousands participated in a symbolic bucket brigade in May, and in August a “Convoy of Tears” rolled through town, with a traveling 10-foot bucket from Elko, Nevada that was installed in front of the Klamath Government Center. Activists illegally breached the closed headgates; one protester told a reporter that “it felt like freedom ... It was standing against what was morally wrong” (Hecht 2001). Although the economy of the Basin had proportionately declining farm employment and rising service sector employment (Weber and Sorte 2002), farming remained central to the region’s Anglo culture and identity.

When, in 2002, a National Research Council review contradicted the findings of the wildlife agencies, the BOR released a new 10-year irrigation plan. The U.S. Secretary of the Interior flew to Klamath Falls to open the irrigation headgates in a show of solidarity with irrigators. But conflicts over water allocation were far from over; a massive fish die-off followed reinstatement of irrigation flows (Lynch and Risley 2003), again highlighting water conflicts in the Basin.

As water conflicts persisted, the Klamath Tribes began to put together concrete plans for “the return of the Tribes’ land base as an essential element of their restoration as a people” (Klamath Tribes 2008a: webpage). From 2002, the Klamath Tribes pressed for the return of 280,000 ha of national forest lands that were former reservation lands. The tribes contracted three well-known forest scientists to write a forest management plan, entitled *A Plan for the Klamath Tribes’ Management of the Klamath Reservation Forest* [Plan] (Johnson et al. 2008). The Plan, though written by nontribal members, was intended to give the Tribes control over their former reservation lands, in part by assuring that tribal members would manage their forest resources in line with the most recent scientific principles: “If you’re going make an ask like that [for the national forest lands], then you’d better have a plan to show

people that you've got a plan on how to manage it" (201, Klamath forester and tribal member).

The proposals for tribal takeover of the national forest lands were met with very strong opposition. The chairman of the Klamath Basin Alliance, a group of irrigators, wrote:

As American citizens we have a moral obligation to preserve our national forests for future generations ... But there is a bigger question of the great injustice of Tribal sovereignty where the tribes have used the endless checkbook of the federal government, attacking our agricultural community. (Bayona 2002)

This early attempt at land return did not succeed. But soon, two conditions converged to give the Klamath Tribes a spectacular opportunity: collaborative negotiations within a decentralized framework; and forest industry restructuring which resulted in the placement of the Mazama on the market.

Collaboration and decentralization

Prior to 2001, several formal and informal groups had formed to discuss Basin problems and implement restoration projects, but these efforts were interrupted by the water shutoff in 2001. In 2002, informal talks restarted in the Upper Basin began between multiple stakeholders:

People started to realize that ... 'I win, you lose' kind of situations wasn't getting them anywhere. We just can't keep going that way because we're not resolving the issues. (6901, NRCS employee)

In order to resolve conflict within the Basin, decision-making was decentralized from federal agencies to local groups. In 2004, PacifiCorp, the current hydroelectric dam owner, filed with FERC for license renewal. FERC established formal monthly meetings in 2005 under a collaborative framework, an opportunity for various (about 28) groups, including tribal, environmental, farming, fishing, and governmental, to discuss dam relicensing. The initial FERC relicensing process failed, in part because it focused too narrowly on dam relicensing. But FERC meetings served as a catalyst for the formation of the Klamath Settlement Group, which

included the original participating groups, minus PacifiCorp. The Settlement Group had formidable task: an overarching agreement to resolve the myriad problems in the Klamath Basin.

Informal side meetings accompanied the FERC meetings, establishing greater trust amongst participants (Gosnell and Kelly in review). In addition, several non-profit organizations, including the California Hydropower Reform Coalition and International Rivers, supported efforts for dam removal, and arranged tribal protests to PacifiCorp's parent company shareholder meetings (Leimbach 2009).

The primary ask of the Klamath Tribes was the Mazama Tree Farm, which had recently come on the market after a series of ownership changes. From 1996 to 2004, Crown Pacific, a highly-leveraged, publicly-traded Master Limited Partnership, owned the Mazama, before going bankrupt in 2004. Crown Pacific's creditors, called Cascade Timberlands, LLC, took control of the Mazama. In 2006, Fidelity National Financial, one of the creditors, purchased majority interest in Cascade Timberlands and placed the Mazama on the market. Cascade Timberlands subsequently agreed to work with the Klamath Tribes on reacquisition:

When we first bought Cascade is when I came across the Klamath Tribes ... it was always a priority of mine to find a way to get [the Tribes] the Mazama Tract. (5001, Fidelity executive)

The Fidelity executive explained that the land had little real estate value, and the tribes were "the logical buyer." The ownership change, from industrial to Crown Pacific to Fidelity, occurred as part of a larger disaggregation of timberlands, from industrial owners who have both land and mills, to investor ownerships, which hold timberlands as part of a large portfolio of investments. This trend has accelerated from the 1980s through the 2000s, resulting in the nation-wide divestment of timberlands from forest industry to non-industrial investors (Clutter et al. 2005; Bliss et al. 2010). In order to realize the highest and best (economic) use of properties, investors have fragmented and sold many formerly industrial, productive timberlands to alternative

ownerships, including developers and land trusts (Block and Sample 2001); tribes are another potential beneficiary of the dissolving industrial forest estate.

The Mazama became the primary goal of the Klamath Tribes in Settlement Group negotiations; in January 2008, the Settlement Group released the draft Klamath Basin Restoration Agreement [KBRA]. The KBRA is actually a number of distinct agreements, many of which require a complicated series of steps in order to be realized, including: removing Klamath River hydroelectric dams (which PacifiCorp agreed to in November 2008), resolving water adjudication conflicts, and funding for the return of the Mazama to the Klamath Tribes.

The KBRA had vocal dissent from many irrigators who felt that they did not have a seat at the table. In an op-ed sent to regional papers, a Supervisor for Siskiyou County, in the Klamath Basin in California, said that the KBRA was:

Many wolves and a sheep sitting down to decide what's for dinner. It's a trade where special interests bargained away the health, safety and property of those not permitted to participate in the back room secretive process. (Armstrong 2009)

Many irrigators felt displaced and disempowered. The farming community was divided after the 2001 shutoff, in part because of declining social capital, uneven federal assistance distribution, and some farmers' willingness to sell their land (Lach et al. 2002). Many irrigators explained their exclusion as a moral issue:

It seems that we have to litigate to defend what should be ours, like if you've been using it for 120 years and nobody's been complaining, maybe it's a little too late to complain now. So we think it's unjust. (6001, rancher and irrigator)

A survey commissioned by state Congressmen from Klamath County measured Klamath County citizens' attitudes toward the KBRA, and found overwhelming majorities opposed to the agreement. While the survey had a number of flaws, including leading questions and unclear methodology, its findings are notable. Of 300 sampled registered voters in the county, 68% opposed "public purchase of a new reservation for the Klamath tribes," 73% opposed the "closed and confidential

negotiations in developing” the KBRA, and 83% were concerned that KBRA agreements “will give the tribes too much control over our water” (Whitsett 2009: 1).

Despite this level of opposition:

The days of the best deal you’re ever going to get is gone. It’s not the best deal for the tribes, it’s not the best deal for the irrigators, it’s what everybody thinks they can live with. If you don’t agree, go ahead and litigate to your heart’s content. (6101, rancher and irrigator).

Some irrigators joined collaborative efforts enthusiastically, while other irrigators had to come to terms with the reality of shifting power in the Basin, and still others openly opposed growing tribal power and the decline of irrigator rights. But collaboration, apparently, did not require consensus.

The Mazama Returns

It shall be the policy of the Klamath Tribes to seek the return ... of all lands, natural and cultural resources ... that become available and which were historically a part of the Klamath Tribes heritage. – Klamath Tribes Constitution, (Klamath Tribes 2000: 4)

The Mazama would be a toe in the door for traditional land access, and an opportunity to demonstrate management competence. The Mazama would be purchased with \$21 million in funds from the Department of the Interior, supplemented by about \$8 million in funds raised by Trust for Public Land, a national non-profit assisting the tribes with the land purchase. TPL has established a reputation as one of very few national non-profits working to acquire tribal lands; they offered staff for the Klamath Tribes, visited with federal negotiators, and worked with other non-profits to help the Tribes. TPL has recognized the opportunity presented by forest industry restructuring:

It’s the best opportunity in a long time for tribes to get land back ... some tribes have an advantage, if they have an already functioning timber and forest program, they are more likely to get more land. Capacity is key. (5301, TPL employee)

The Mazama, dominated by small-diameter lodgepole pine, is a very different

forest from the majority of the federally-owned former reservation. The forest management Plan was created for the federal lands, which were largely dominated by ponderosa pine. But the Mazama would still be governed by the Plan because it “covers the whole range of habitat types and conditions,” (201, Klamath Tribal Forester and tribal council member). In lodgepole forests, the Plan called for: “much lower densities and ... stand mosaics of different ages and densities, rather than extensive areas of dense, contiguous forests” (Johnson et al. 2008: 6). Specific prescriptions include rejuvenation of bitterbrush understory for mule deer and pre-commercial thinning. This multi-objective approach differs from industrial ownership, where “they go in, they harvest about 10 million board feet a year, they do absolutely nothing else ... ours would be more intense management, with the idea of improving forest health” (201, Klamath tribal forester and tribal council member).

Reacquisition of the Mazama would enable tribal access to management decisions on neighboring Fremont-Winema National Forest, through the Tribal Forest Protection Act (TFPA, P.L. 108-278) of 2004. The TFPA provides a mechanism for tribes to access public lands in order to carry out management. The tribes submit a project proposal to the Secretary of Agriculture, and approval is based on a number of criteria: 1) the Indian land must border the federal land; 2) the federal land must pose a fire or disease threat to the Indian land, or be in need of restoration; 3) the project cannot conflict with a pre-existing contract; and 4) the federal land must have a “circumstance unique to that Indian tribe,” such as treaty rights, biological or historical circumstances (P.L. 108-278 §2(c)(4)). Contracts with Indian tribes are given consideration because of “the cultural, traditional, and historical affiliation of the Indian tribe with the land subject to the proposal” as well as treaty rights and indigenous knowledge (P.L. 108-278 §2(e)(2)). Essentially, the TFPA sets up a partnership between Indian tribes and their federal neighbors, to carry out restoration projects on federal lands.

In 2008, the Klamath Tribes purchased a 44-ha former mill site, the Crater

Lake Mill Site, located within the Mazama. Joe Kirk, the tribal chairman, said: “the [industrial] park will focus on the development of forest-based enterprises that can utilize small diameter trees and other by-products of wildfire hazard reduction treatments and other forest restoration activities” (Indian Country News 2008). Through the creation of a more scientifically rigorous forest management plan than those created by industry, and the proposed building of a new mill, the Klamath Tribes have demonstrated substantial forest management capacity.

Reflections

The Klamath Tribes’ ability to regain ownership of the Mazama has arisen because of a unique combination of circumstances, but this case can be extended to other tribal land reacquisition efforts. Several important factors have allowed the Tribes to regain ownership, especially: restructuring within the forest industry, growing tribal capacity, and decentralized federal decision-making processes. We conclude with implications of tribal ownership for forest management.

Tribal land reacquisition

Federal policies such as the General Allotment Act of 1887 resulted in the loss of 36 million ha from tribal ownership (US Congress 2000). In the late 20th century, U.S. policies toward Indians shifted to emphasize self-determination and land reacquisition. The Indian Land Consolidation Act of 1983 (PL 97-459) and its amendments addressed the fractionation of Indian lands as land ownership passed through inheritance to large numbers of heirs, in order to “consolidate fractional interests [in land] in a manner that enhances tribal sovereignty ... and reverse the effects of the allotment policy” (25 USC 2201 §102). In 2001, the Indian Tribal Land Acquisition Program, created under Farm Bill, began to provide loans to tribes for land acquisition.

Funding for land acquisition started to flow in the 1990s from federal agencies such as the Bonneville Power Administration, which had dammed the Columbia and Snake rivers in the Pacific Northwest, decimating salmon runs. In the 1990s, the

Confederated Tribes of the Umatilla Indian Reservation received mitigation funds from the BPA to purchase two parcels along the Columbia River totaling over 1000 ha, and the Wallowa Band of the Nez Perce received funds to purchase 4000 ha. As with the case of the Klamath Tribes and their purchase of the Mazama, tribal water rights and treaty species rights can be leveraged to gain federal funding for land reacquisition.

Just as importantly, capacity-building efforts have enabled tribes to spearhead acquisition efforts. Individual tribes have established land purchase programs, including the Yakama Nation, whose program dates from 1950. The Yakama Nation has been particularly successful in purchasing land parcels within its 970,000 ha reservation, of which only 36,000 ha are held in trust (Harvard Project 2002). In 2001, the Yakama Nation Land Enterprise purchased 11,300 ha from International Paper, an industrial forest company that was divesting its timberlands.

Capacity has also been created through partnerships with (often Indian-run) non-profit organizations such as the California-based Native American Land Conservancy, established in 1998, and the nationwide Indian Land Tenure Foundation, established in 2001, which provide grants for small-scale land acquisition and protection projects. The most formidable non-profit organization in Indian land reacquisition is currently the Trust for Public Land Tribal and Native Lands Program, which worked with the Klamath Tribes to secure the Mazama, and also has negotiated for: the Umatilla and Wallowa land purchases (above); tribal ownership on several parcels in Utah, Idaho, and Minnesota; conservation easements on tribal lands in Washington State and Hawaii; and public ownership of historically tribal lands, to protect them from development, in multiple states (Trust for Public Land various).

While the reacquisition of the Mazama is unusual because of its scale, more land purchase opportunities are on the horizon. Forest industry restructuring has resulted in unprecedented land availability as new investor owners seek returns from multiple sources, including land sales to alternative ownerships (Bliss et al. 2010).

Tribes may particularly benefit from this breakup of the industrial forest tenure, as they have a commitment to purchase lands grounded in legal, moral, economic, cultural, and identity-based claims (Hibbard and Lane 2004), along with a growing capacity to acquire lands. Particularly in the case of degraded timberlands, and in regions with disappearing forest industry infrastructure, tribes have an unprecedented opportunity to purchase historical lands.

Decentralization

The Klamath Settlement Group is part of a larger change in governance toward *decentralization*, a term that describes the transference of natural resource decision-making power from governmental agencies to local groups (Agrawal and Ostrom 2001; Meinzen-Dick and Knox 1999), including tribes, which have become active participants in negotiated agreements on their traditional lands (O'Faircheallaigh and Corbett 2005; Desbiens 2004; Waage 2001). Tribes in the U.S. have been particularly successful at asserting their right to participate in natural resource management (Wilkinson 2005, 1987), as they draw on powers reserved through the federal-tribal trust relationship, which is formalized through reservation establishment and treaties (Doremus and Tarlock 2008). Federal policies since at least the Indian Self-Determination and Education Assistance Act of 1975 have transferred management authority from governmental agencies such as the Bureau of Indian Affairs [BIA] to tribes (Middleton and Kusel 2007), forming the “era of self-determination” (Rasmussen et al. 2007).

Decentralization may be seen as an effort toward peaceful and participatory conflict resolution (Castro and Nielsen 2001). The conflict, in this case, involves claims made by tribal and nontribal people to water and resource management in the Klamath Basin. Advocates claim that decentralization potentially democratizes decision-making, contributes to local equity, and creates desirable ecological outcomes because of shared knowledge and local buy-in (Berkas 2004; Kellert et al. 2000; Taiepa et al. 1997; Schusler et al. 2003). In line with principles of

decentralization, the Klamath Tribes are trying to revitalize their socioeconomic status and restore a degraded landscape.

However, decentralization can result in abdication of central government responsibility (Meinzen-Dick and Knox 1999), and decentralized decision-making processes are not always inclusive or equitable, as they evict “rule-based bureaucratic decision-making in favour of a decision-making calculus in which the local distribution of power is the primary determinant of policy” (Lane and Corbett 2005: 155). In order to address these deficiencies, researchers have highlighted the importance of tribal capacity-building and clarity about the role and obligations of governmental agencies (O’Faircheallaigh and Corbett 2005; Berke et al. 2002). The KBRA is an example of decentralization that appears to have incorporated the voices of participants who were previously excluded, in particular the Klamath Tribes, within a clear framework of enabling legislation.

While the KBRA is far from fully implemented, its existence after such prolonged, bitter dispute within the Klamath Basin is a testament to the ability of dedicated, local groups to find solutions to complex problems. But questions persist about who power is devolved *to* within a heterogeneous community (Agrawal and Gibson 2001). In the American West, and central to conflicts in the Klamath Basin, are shifting tribal/nontribal power relations, in which the growing power of tribes often conflicts with long-standing political and cultural power of rural agricultural interests. Furthermore, within the broadly-defined competing interests (“tribal” and “irrigator”), disagreements are evident. Changing power structures and natural resource access in the wake of tribal land reacquisition should be further explored.

The future of the Mazama forest

The Klamath Tribes have partnered with prominent scientists in developing a management plan for the Mazama, incorporating tribal management goals with scientific principles. Primary management goals have changed from maximizing timber revenue to restoration, with emphases on heterogeneous forest structure and

resilience to disturbances, especially fire and bark beetles. This “participatory science” arises with demands from indigenous people to participate in decision-making, and because of recognized environmental damage or risk (Berkes et al. 2001). The management vision offered by the Klamath Tribes is scientifically compelling, especially because of recent moves toward ecosystem management and forest management based on principles of resilience (Grumbine 1994; Puettman et al. 2008).

The Mazama may demonstrate that western scientific and indigenous ecological views are compatible. Tribes, as owners, may turn to nontribal science to inform their management, and some managers and researchers have begun to access indigenous knowledge in a quest to move beyond stark human-nature divides (Pierotti 2000). The Menominee Tribe in Wisconsin, for example, has worked to combine scientific forest management with a cultural land ethic: “The strong conviction of the Menominee people demanded that technical methods of forest management be developed to match their commitment” (Pecore 1992: 15; see also Berkes 1999). This concept has received little research in U.S. forest management beyond the case of the Menominee. A number of international findings, however, have supported the possibility of integrating scientific and traditional knowledge in restoration forestry. Both scientific and indigenous knowledge are empirical, and may be viewed as complementary: western science emphasizes generalized knowledge, and indigenous knowledge, or traditional ecological knowledge, offers a “depth of experience in a local context” (Becker and Ghimire 2003: online; see also Kimmerer 2002). A number of researchers have claimed that indigenous knowledge can better conserve biodiversity because of its long-term application in particular locations (Berkes et al. 1995; Ramakrishnan 2007).

However, recognizing the dynamic nature of ecological and social systems, the reacquisition of the Mazama is not only about historical management, but about current livelihoods and conditions. Therefore, land reacquisition for the Klamath Tribes is not a return to pre-settlement conditions, but a restructuring of social

priorities (Cleaves 1997). This combination of modern economic and management practices with historical and place-based identification can be conceived as hybrid natures, incorporating “multiple constructions of nature in order to negotiate with translocal forces while maintaining a modicum of autonomy and cultural cohesion” (Escobar 1999: 13). In other words, current claims to land extend beyond tradition and cultural preservation to employment, livelihood, and political engagement (Rangan and Lane 2001; Stephen 1998). With the Mazama,

This is the tribes’ very first timber-based industry in over 50 years since termination ... when the Klamath Tribes were their most prosperous, it was because of our land and our forest, our ability to create jobs and a future ... with Mazama, we can move in that direction again. (Jeff Mitchell, tribal council member, quoted in Barnard 2008)

The case of the Klamath Tribes is not so much a return to historical reference conditions, either ecological or social, as it is a quest for future opportunities. The Klamath Tribes have demonstrated commitment to the restoration of the Mazama, and the interdependence of the forest with their cultural and economic futures. The Tribes therefore do not only have moral claims to the Mazama; they may have the greatest capacity for managing it.

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Chapter 5: Conclusions

The bankruptcy of Crown Pacific Timber Company in 2004 set in motion a series of events that has led to the creation of three new forest tenures on former industrial forests in Central Oregon. Understanding the conditions, capacities, and processes that made these developments possible has been at the center of this research. Through careful explication of the Crown Pacific case, we hope to generate insights with relevance for the dramatic forest tenure changes that have occurred across the United States in recent decades.

These three manuscripts are an examination of converging transitions within the forest industry and in formerly timber-dependent regions. First, timberlands of the industrial forest estate have changed hands, resulting in the largest forest tenure change in the U.S. since the disbursement acts of the 19th century. Second, formerly timber-dependent regions, like much of the rural landscape of the U.S., have transitioned from commodity production to economies based on tourism and real estate development. This chapter summarizes the lessons learned about the implications of these transitions in Deschutes and Klamath Counties, two formerly timber-dependent counties in which disparate groups have opportunistically created large conservation-based ownerships on formerly industrial, degraded forest land.

In the first manuscript, I placed industrial forest restructuring within the macroeconomic context of financialization, which theorizes the growing importance of finance within the global economy. Central to forest industry financialization has been the divestment of its timberlands, which have become available for purchase as investors seek returns. As the timberlands become available, there are four primary ownership trajectories in the U.S.: continued intensive management, family forest ownership, real estate development, and conservation tenures. The case of three new proposed tenures in Deschutes and Klamath Counties illustrates the last trajectory, which is a relatively small

proportion of the former industrial estate. These three proposed forest tenures, a community forest, a state-owned forest, and a tribal forest, are each unique in their historical circumstances, but all were created with similar management objectives, including economic development, forest restoration, and habitat preservation.

The second manuscript focused on the proposed Skyline and Gilchrist forests, and the changing community capacities which resulted in the proposal of Oregon's first large community forest and the first state-owned forest in 60 years. The manuscript traced the history of the ownership of these lands, from the early 20th century and the establishment of the booming timber industry centered in Bend, to the early 21st century and the prominence of Bend as a recreation and housing magnet. It ended with a discussion of the transitioning rural landscapes, the role of land trusts and state ownership in these landscapes, and the parallel goals of ecological and social restoration that are being pursued.

The third manuscript was an overview of the history of the Klamath Tribes, in particular the history of the ownership and management of one piece of their former reservation, the Mazama Tree Farm. After tribal termination in 1954 and the dissolution of the Klamath Reservation, the Klamath Tribes struggled to regain ownership of their lands and to renew the economic, cultural, and historical ties between the tribes and their landscape. Increased tribal capacity, funding opportunities, and decentralization of governmental processes coincided to allow the Tribes to purchase the Mazama. Finally, the case of the Mazama and its forest management plan illustrates the integration of different forms of knowledge in the implementation of restoration-based forestry.

This research has three overarching insights. First, forests held as financial assets will be subject to the same pressures as other financial investments, including relatively quick sale (liquidity) and capital crises. A 2009 article in *Barron's* predicted that forest land values would plummet because of overpricing

and speculation (Barron's 2009). More land will thus become available for purchase, and current owners will continue to search for novel ways to generate profits or pursue other objectives, including the creation of community forests, state forests, and tribal forests.

Second, because community capacity is variable, available industrial forests will go into different ownership trajectories in geographically and socially uneven patterns. The three forests of this study were uniquely supported by groups with attachment and dedication, resulting in three (relatively rare) conservation tenures. But many examples of abandoned lands exist elsewhere. In order to capture the opportunities afforded by the disintegration of the industrial forest ownership, communities will need to foster capacity.

Third, conservation tenures are being created through the leverage of community capacity, but also require a great deal of opportunistic risk-taking by participants. The Deschutes Land Trust, the Oregon Dept. of Forestry, and the Klamath Tribes all negotiated with diverse, sometimes antagonistic, groups to create conservation tenures. Political horse-trading and difficult concessions helped to create three new forest ownerships.

The remainder of this section focuses on limitations of the study, and impacts of the post-productive transition to local economies, forest management, forest fragmentation, rural identities, policy implications, and global timber production.

Study limitations

This study, including data collection and results, was influenced by the selection of a single case study design, and the geographic location of the three chosen subunits. This section explores two primary limitations of the study design.

The single case study design was chosen because the three forests were linked by a number of similarities that caused overlap and redundancy. The three

subunits: 1) had similarly degraded forest conditions; 2) were within a region with declining timber infrastructure and harvesting capacity; 3) were contiguous, privately-owned forests that provided wildlife habitat, recreation, aesthetic, and other benefits; and 4) had communities that were working to preserve them as intact forests. Single case designs may limit generalizability, though this was addressed by placing the single case within the body of literature regarding community and tribal forests, rural restructuring, industrial restructuring, and community capacity.

The geographic location of the research was Deschutes and Klamath Counties, Oregon. These counties well represent some of the rural restructuring that has occurred across the U.S. (Nelson 2002; Jones 2003), in England (Wilson 2007), and in Australia (Holmes 2002). However, the proposed forest ownerships within the counties are unusual, which means the case is extreme or atypical. More typical ownership trajectories include those which continue intensive timber production, either under investor or industrial ownership. Because this research did not examine such ownerships in detail, it cannot be generalized across the entire U.S. Rather, results should be understood within the context of an increasingly important, but nascent, trend of emerging conservation ownerships.

Rural restructuring

Emerging conservation ownerships can be placed within the literature of rural restructuring. Common rural restructuring trends have been identified across the developed world, and include changing policies, economies, culture, and land management. The general shape of post-WWII rural conditions have been labeled productivism, a term which indicates a policy and management emphasis on intensive commodity production (Bjorkhaug and Richards 2008; Wilson 2007). However, the transition *away* from productivism has been quite contentious, and there is no sharp line dividing productivism from its latter forms, which are described as post-productivist or non-productivist (Marsden 2008).

We should note that rural restructuring does not indicate an abandonment of prior extractive industries (Beyers and Nelson 2000), and rural landscapes have long had recognized non-commodity uses. For example, the recreation industry has been promoted in Deschutes and Klamath Counties since Euro-American settlement. *Pine Echoes*, a periodical distributed by Brooks-Scanlon Timber Company from the early 20th century through the 1970s, began almost every issue with travel advice and scenic photos of the Bend area; “there is no more wonderful playground in the United States than right here within a radius of fifty miles of Bend, Oregon” (Pine Echoes 1922: 12). The recreation industry has *gradually* displaced the former timber industry over many years, while productivist management has remained dominant in many other regions of the U.S., including the bulk of private forests in western Oregon.

Because landscapes have concurrent productivist and post-productivist management and policies, researchers have developed the concept of the multifunctional transition (Bjorkhaug and Richards 2008; Wilson 2007). I have utilized multifunctionality as a theoretical frame, though the important concept underlying all these contentious terms is a commonly-perceived shift in rural land uses in the developed world.

Formerly industrial forests in Deschutes and Klamath Counties are operating within the multifunctional transition. In terms of management, all three will attempt to combine multiple objectives, including consumption/lifestyle, protection/landcare, and production/livelihood objectives (Holmes 2008). In addition, multifunctionality ideally reintegrates rural development and rural land use, and “re-embeds” agriculture with regional economies (Marsden and Sonnino 2008; Wilson 2007). The multifunctional transition emphasizes participation and inclusiveness (Halfacree 2007). The former Crown lands are now being re-integrated with local groups and with local economies, either through the community forest model, a government-owned forest, or tribal ownership.

The three subunits of this study are therefore framed by multifunctionality, broadly conceived. The Skyline Community Forest in Bend may become a nexus for community participation, especially necessary in a rapidly-growing place with many seasonal and temporary residents. The state forest near Gilchrist will likely increase tourism and economic development in that community, reinvigorating the economic contribution of the forest to local economies. The Mazama Forest near Chiloquin will grant a landless tribe some of their historical land. This last example is perhaps the clearest reintegration of local economic and social institutions with formerly industrial forest land.

While many researchers emphasize positive implications of multifunctionality, such as ecological restoration and participatory decision-making (Wilson 2007), negative implications of the multifunctional transition may be illustrated through the 2008 economic crisis. While natural resource dependence has long been linked to poverty and community instability (Freudenberg 1992), new dependencies may arise in restructured economies dependent on tourism or housing. Freudenberg (1992) described dependence as a cycle of investment in natural resource extraction with steadily decreasing returns that eventually results in collapse of the sector. Resource-dependent regions, then, are *vulnerable* because of their lack of economic diversity. While Bend is significantly more economically diverse than when it was entirely dependent on the timber industry, the 2008 collapse of the housing market at a national level profoundly impacted the housing market in Bend, resulting in excess housing stock, coupled with steep increases in unemployment (Bernton 2009).

Forest management and challenges for forest restoration

All three proposed forests include restoration-based forest management as explicit goals, as management objectives have shifted “from an emphasis on timber production to an emphasis on restoring ecosystem health and reducing the risk of non-characteristic wildfires” (Ritchie et al. 2005): abstract. Adaptive

management, or “treating management practices as experiments” (Lindenmayer et al. 2000: 946) is an important component of restoration, but it has been hindered on federal lands, where litigation threats and limited budgets and personnel have obstructed successful implementation (Moir and Block 2001; Stankey et al. 2003). Assuming that new owners can make adaptive, restoration-based management economically viable, the types of management favored by many ecologists and silviculturists (see Puettman et al. 2008; Johnson et al. 2008), may be quite possible on lands under new post-productive tenures.

But in Deschutes and Klamath Counties, the decline of industrial forest infrastructure may render management economically unviable. Without industrial forest infrastructure, management becomes prohibitively expensive, as demonstrated in Arizona and New Mexico, which have wildfire-prone forests but little capacity for forest management (Franklin and Johnson 2004; Mattor et al. 2008).

In response to the declining economic viability of many timberlands, many researchers have suggested assigning economic values to “non-market” ecosystem services, such as clean air, water, carbon sequestration, and soil stabilization in order to encourage particular forms of forest management (DellaSala et al. 2003; Daily et al. 1997). These efforts, however, have significant barriers. For one, ecosystem services must be made into “easily measured, abstract units that can be transacted across space (as all commodities must) without losing their value” (Robertson 2004: 362), a task which has proved difficult and contentious. While some ecosystem services may be relatively easily commodified, such as hunting leases, most ecosystem services are more difficult to capture in market metrics. Linked to the question of how ecosystem services are captured within a market are questions of who will benefit from particular valuations. Equity issues arise as ecosystem service valuation favors particular market participants who shape benefit flows (Corbera et al. 2007).

In the absence of functioning ecosystem services markets, geographically-limited, small-scale forest industries have arisen to facilitate restoration-based management. A number of efforts have coalesced around national forest management in the U.S. West (Rural Voices for Conservation 2008). In Deschutes and Klamath Counties, there is optimism about the ability of forest infrastructure to re-form around post-productive ownerships:

I do think that at some point, it's likely that somebody will come back in and open a mill ... they'll open a smaller mill that doesn't have the appetite that the Interfor mill has ... it would be incumbent upon private land managers and public land managers in central Oregon to essentially come together and try to help re-establish a mill. (101, DLT director, interview)

There are a few examples of increasing forest capacity centered on restoration forestry in the U.S. One is in northern Arizona, where mill capacity was decimated in the 1990s, but rebuilt based to facilitate restoration forestry and the efforts of community forest groups (Mattor et al. 2008). Researchers there identified several key factors in the success of a community based forestry infrastructure, echoing the hopes of the director of DLT: an appropriate scale of industrial infrastructure based on local forest conditions and capacity; governmental, non-profit and local business investment; collaborative decision-making; and key leadership (Mattor et al. 2008).

Forest management: who will participate?

The three proposed forest tenures of this study all make similar claims regarding forest management *objectives*, they will likely diverge in terms of who has access to participate in management. Though a small proportion of the total landscape, conservation tenures are reframing participation in land management. Proponents of community-based forestry posit that it facilitates democratic decision-making (Baker and Kusel 2003b), and there has been a general transition from antagonistic, conflict-based interventions in land use management to a more collaborative approach (Baker and Kusel 2003a).

But the devil is in the details as governance is implemented on the forests, and experience in British Columbia demonstrates that community forestry can inflame local imbalances of power and polarization (Bullock and Hanna 2008).

Also, collaborative conservation models have been opposed by multiple groups, in part because collaborative negotiation involves compromise between historically hostile groups. Many property rights groups and environmental organizations have opposed collaborative approaches (Mason 2008). Environmental organizations have been particularly equivocal about this tactical change, as some view collaboration as “a tool of industry that threatens the current regulatory framework” (Hibbard and Madsen 2002: 708), a framework which many have utilized successfully in the past. In the case of the Skyline, environmental advocates were the primary opponents of community forest proposals that would include development; in the case of the Mazama, two (out of a total of three) dissenting groups from the Klamath Basin Restoration Agreement were environmental organizations.

The Skyline will be situated at the edge of a rapidly-growing city. How local residents and recreationists will influence management is still uncertain (101, DLT director, interview), but timber harvests and other management activities are likely to generate controversy. On federal forests, efforts to increase public participation have not lessened criticism or litigation (Germain et al. 2001). Integrating participants into the decision-making processes of the community forest will likely constitute a significant challenge for some forest management activities. But the Skyline will have the benefit of being adjacent to a city with abundant human, social, political, and economic capital. The DLT has recognized this important relationship:

The financial wherewithal to keep the trust operating comes from members of the community and so we're going to be very responsive to what the community's expectations, hopes, aspirations would be. Precisely how we would capture all of that remains to be seen. (101, DLT director, interview)

The Skyline will likely be governed by a commission, as established under the Community Forest Authority, which can hire professional foresters to implement management objectives. This is similar to other community forest groups, such as The Swan Valley Citizens Ad Hoc Committee in Montana, which has an 11-member board of directors with “different backgrounds and viewpoints, reflective of the community makeup” (Anne Dahl, president of Swan Ecosystem Center, email correspondence).

In the case of the Gilchrist Forest, which is relatively isolated geographically, there may be fewer opportunities for local collaborative management and decision-making. Furthermore, as the Gilchrist is brought under the purview of a state agency, the state-wide tension between competing priorities on state forest lands will impact its management. State-owned forest management in Oregon has generated significant controversy and debate in the past. In 2004, Oregon ballot measure 34, which would have required that half the Tillamook and Clatsop State Forests be managed for the restoration of “native old growth,” was rejected by voters. In 2009, House Bill 3072, introduced in 2009, would have prioritized forest management “primarily for timber production in order to produce revenue for counties, schools, and local taxing districts” (HB 3072 §2(1)).

Forest management of the Mazama will be relatively distinct from the Skyline and Gilchrist, as the Klamath Tribes are a sovereign nation with intact governmental processes. Collaborative governance structures such as the General Council, which includes all members over 18 years old, are in place within the Klamath Tribes. Another unique feature of the Tribes is that they have collectively pursued forest reacquisition for decades. The Klamath Tribes, in fact, may have the most capacity of the three tenures to manage the land. The Tribes have begun the process of introducing the only *new* forest infrastructure in the region, at the Crater Lake mill site, renamed the Green Enterprise Park. Plans

include a biomass facility to accept timber from forest restoration projects, in order to implement the Klamath Tribes' Forest Management plan (Indian Country News 2008).

Forest capacities

Industrial forest restructuring has created concerns about the possibility of the loss of “working” forest lands and fragmentation. In response, substantial capacities have been created to preserve forest contiguity, evidenced by the proliferation and success of land trusts devoted to acquiring and protecting forest lands, and federal policies such as the Forest Legacy program, whose motto is: “protecting private forest lands from conversion to non-forest uses” (USFS 2008: webpage). Partnerships between government agencies, timberland investors, and land trusts, have resulted in large post-productive ownerships across the U.S. (Table 5.1). But these ownerships have been especially common in the Northeast, where about 15% of large timberland purchases from 1996-2007 have been by land trusts or conservation-oriented TIMOs (Bank of America 2007). Table 1 is a list of many of these purchases, illustrating the common sellers (investors or industry) and buyers (land trusts).

Table 5.1. A sample of recent (since 1998) large-scale post-productive, collaborative ownerships established on formerly industrial forest lands in the U.S. Source: The Nature Conservancy (2010), Bank of America (2007), press releases.

Year	Location	Hectares	Seller	Buyer
1998	Maine	75,000	International Paper (industry)	The Nature Conservancy
2001	New Hampshire	4,000	Hancock Timber (TIMO)	Randolph, NH
2002	New York	18,000	Hancock Timber (TIMO)	The Nature Conservancy
2003	Wisconsin	8,500	Plum Creek (REIT)	The Nature Conservancy, then handed to Bad River Band of Chippewa Tribe
2003	Maine	15,000	International	Appalachian

			Paper (industry)	Mountain Club
2003	Montana	17,000	Plum Creek (REIT)	The Nature Conservancy
2004	California	9,600	Coastal Ridges (private individual)	The Nature Conservancy + Conservation Fund
2005	New York	42,000	Domtar (industry)	Lyme Timber + The Nature Conservancy
2005	Maine	11,000	International Paper (industry)	Downeast Lakes Land Trust
2006	10 southern states + WI	86,000	International Paper (industry)	The Nature Conservancy
2007	New York	65,000	Finch Paper (industry)	The Nature Conservancy
2007	Tennessee	61,000	GMO (TIMO)	Lyme Timber + State of TN
2009	Maine	2,700	Timbervest (TIMO)	Downeast Lakes Land Trust
2009-2010	Montana	125,000	Plum Creek (REIT)	The Nature Conservancy + Trust for Public Land

The conservation tenures in Table 1 have multiple management objectives, including forest restoration, timber supply, recreation access, and forest and habitat contiguity. Most were created through partnerships between land trusts, government agencies, and local communities. These acquisition efforts are reactions to the trend of real estate development in many formerly industrial forests in high-amenity markets, as forests become exclusive domains for the wealthy, changing patterns of access and flows of benefits (Gobster and Rickenbach 2004; Johnson 2007). Funds for the purchases in Table 1 came from a variety of sources, including non-profit organizations, endowments, and federal grants, often through the Forest Legacy Program.

Each of the proposed ownerships in Deschutes and Klamath Counties highlight the importance of local networks, external funding and support, and political leverage, common to many of the ownerships in Table 1. But the

proposed forest tenures in this study also exemplify the importance of *adaptability*.

The creation of the Skyline involved considerable risk-taking and flexibility in approach, as the Deschutes Land Trust created networks of strategic allies, including developers, former timber industry, and the conservation community, at times in defiance of land use advocates. The DLT modified its approach over time, from utilizing the Community Forest Authority, which it helped to create, to tacitly endorsing a development proposal on the Skyline proposed by the timberland owner, to negotiating a complex land deal through state legislation that included both a development and the creation of a larger Skyline Forest.

In the case of the Mazama, the Klamath Tribes shifted from pursuing the reacquisition of federally-owned former reservation lands in order to respond opportunistically to the availability of the privately-held Mazama Tree Farm.

The Oregon Dept. of Forestry, in its acquisition of the Gilchrist, recognized an opportunity to add a state forest for the first time in 60 years. ODF partnered first with the DLT, but shifted to support separate state legislation as circumstances changed.

Identities and reminiscence

In the process of rural and forest industry restructuring, there is perceptible sadness over the passing of an era. During many days spent at the Deschutes Historical Museum, I frequently ran into the men (and they were mostly men) whose livelihoods and identities were being displaced. One man told me about saving documents and photographs from offices and from the county dump when Brooks-Scanlon ended operations in 1980. These men reminisced about the lost forest industry era in Deschutes and Klamath Counties, and the concurrent loss of particular knowledge and culture.

Whether accurate or not, the mythology surrounding the western landscape, its management and use within a supportive regional economy, and its role in residents' identities, has persisted (Peterson 1995). The "second rural," an idealized rather than material rural, has been identified even with people who do not live in rural places (Bell 2007). This second rural is visible in the creation of the Skyline Forest, which aims to maintain timber harvest in a region that has largely moved on. The three proposed alternative ownerships may represent opportunities to re-create and redefine links between forests and local residents by integrating elements of past forest management with new institutions and structures.

Since many migrants are attracted to regions *because* of natural amenities, including forests (Jones 2003), they can be expected to engage in the planning and management of natural resource lands (Walker and Fortmann 2003).

Policy implications

What policy lessons can we learn from the creation of three conservation tenures in central Oregon? At the state level, Oregon's land use laws will be impacted by the creation of the Skyline Forest and its proposed development. The Skyline Forest was proposed as a solution to imminent development pressure, and as a response to the perceived problem of parcelization. Other forests across the state may face similar pressures, but should land use laws change to allow for clustered developments on portions of threatened forests in exchange for the creation of a community forest?

In the case of the Skyline Forest, the development and community forest were probably the best outcome, considering the circumstances. Land use laws would not have prevented the slow parcelization of the forest into multiple pieces, and over time the values that land use laws protect, including timber production, would have been lost to development. Even large-scale development, maintaining the lands as 240-acre parcels, would have resulted in a radically changed forest

with many possible negative consequences, such as increased fire risk and fragmentation because of roads, fences, and other infrastructure.

But this solution was viable in part because of imminent development threats. Without these development threats, I would not support such a compromise to Oregon's land use laws. The state's land use laws were created to preserve certain land uses, including timber production; in Deschutes County, and the urban periphery in the Willamette Valley and in southern Oregon, trading development projects for the retention of community forests may be the only opportunity to preserve substantial acreage of working lands. Regulations and restrictions that explicitly address the creation of these community forests could narrow and clarify the possibilities for such forests.

However, if imminent development is a threat that triggers community forest creation, then community forests will likely be created in areas which already have some level of economic development. How can more remote, often poorer, counties capitalize on the opportunities presented by available land? Policies, from the state to the national level, will need to promote community forest formation in two ways: bolstering community capacity, and incentivizing the participation of current landowners.

Community capacity must be built over time; the Deschutes Land Trust, for example, had a number of projects and management experience under its belt before it proposed the Skyline Forest, and the Klamath Tribes had already developed a forest management plan for the entire federally-owned portion of their former reservation before their bid for the Mazama. Capacity efforts, then, are unlikely to develop just *because* of the availability of timberland, though capacity can likely be further built as a result of conservation tenure acquisition. In the case of developing conservation tenures, rural policies should aim to re-integrate citizens with their landscapes, and these efforts are underway on public lands and through a number of bottom-up approaches, such as watershed councils

and the creation of small, locally-led land trusts. These groups, once formed, can be in place when forests become available for purchase.

The second set of policy implications involves landowner participation. In these three forests, the landowner was an active participant in creating conservation tenures. This can be encouraged through incentives, including funding for conservation acquisitions which will flow to the landowner. It can also be encouraged through regulation, as in this case, where the landowner's development options were limited by statewide land use laws.

The creation of the Gilchrist illustrates another policy tool, that of governmental purchase. For lands with low development potential, the state can step in. In this case, lottery funds were allocated to the purchase of the forest; other mechanisms could include using revenue off of timber harvests to fund purchases. A number of states have been purchasing available forests, which indicates that this alternative is becoming more widespread.

Global timber production

In common with many industries, the U.S. forest industry is moving overseas in order to increase returns to investors (Bael and Sedjo 2006). Many emerging forest markets, especially in the global south, are relying on forest plantations for fiber production (Fenning and Gershenson 2002). Planting fast-growing species in such regions may reduce harvesting in "natural" forests, though plantations may have unintended ecological effects, such as increased water use in dry regions (Licata et al. 2008), and ambiguous implications for biodiversity (Kanowski et al. 2008). This shift of capital and investment is not only a question of the application of technical expertise in new places. Little research has addressed the political and social consequences of timber plantations establishment as the forest industry expands its global scope. The forest industry will restructure work forces, migration, gender relations, and distribution of

access, just as prior applications of scientific forestry have done (Bryant 1998; Peluso and Vandergeest 1995; Forsyth 2003).

What does this mean for the timber-producing lands in the U.S.? While there will be continuing real estate development and new conservation ownerships, the majority of formerly industrial land will likely continue to grow and harvest timber for commodity markets. Timber production may exit certain regions, such as the Rocky Mountain states and the northeastern U.S., where tree growth rates are relatively slow, recreation and real estate demands are high, and industry infrastructure is disappearing. But in the productive forests of western Oregon and Washington, northern California, the southeastern U.S., and possibly the upper Midwest, some form of timber production will continue, likely on a very large scale. The question thus becomes: who will own these forests?

If we assume that investors are making fewer capital investments in their lands and in timber processing infrastructure, then the disintegration of the formerly industrial estate will continue to accelerate. Many lands will go to state or federal ownership, some will go to conservation ownerships, and a great deal will go to remnant industry and family forest owners. This will be regionally variable. In the southeastern U.S., family forest owners will likely purchase many available forests, especially since the former industrial estate in the South was already fragmented, and the lands were already surrounded by family forest owners. In the northeastern U.S., many of these lands may remain under TIMO or REIT ownership, but with increasing participation of multiple groups, including land trusts and government partnerships, and large parcels under conservation easements. In western Oregon and Washington, remnant industry may purchase many of the investor-owned lands, and investors may continue to harvest in these regions because of their productive capacity. The United States will thus continue to have a timber industry, but it will be regionally distinct and heterogeneous.

Future research

Rapid changes in timberland tenures compel researchers to explore the dynamic and intertwined worlds of tenure, community capacity, forest conditions and management. As social systems and forest tenures transition across formerly timber-dependent regions, there are abundant opportunities for further research.

Case studies that address the governance of privately-owned conservation tenures are rare in the academic literature, and there is very little information about the distribution of these tenures across the country. Questions also arise regarding how other forest owners benefit from post-productive ownerships. For example, conservation tenures may improve view sheds and maintain recreation access for neighbors; and they may create and sustain forest management infrastructure to benefit NIPF, public, and investor ownerships.

Future studies will need to explore how rural restructuring operates within a fluctuating housing market, especially in regions that are becoming real estate dependent. For example, what investments are being made to stabilize economies dependent upon recreation, real estate development, and the service sectors? For example, the creation of the Skyline Forest could be interpreted as an investment in the new economic phase of post-productive forest tenures, with tangible benefits for developers and the associated “growth machine” of Bend (Molotch 1976).

In addition, there is very little information about the longevity of conservation tenures. While the state forest is likely to follow other public lands purchases in terms of relative stability, many land trust purchases are temporary. After a land trust purchases a parcel, the land is often transferred to public ownership, tribal ownership, other land trusts, or industry. The implications of this temporary ownership, aside from the establishment of conservation easements, are unclear.

Collaborative governance has been researched extensively across the globe, but its particular applications on formerly industrial forests in the U.S. are unclear. How will disparate groups integrate different forms of knowledge, management objectives, and potential benefits in collaborative forest management efforts? How do these efforts interact with federal and state policies?

While the management objectives and behaviors of NIPF and IPF ownerships were quite thoroughly researched, the emerging pattern of tenures has created a great deal of uncertainty (Erickson and Rinehart 2005; Little 2006). While this research illustrates some implications of one trajectory of formerly industrial forest ownership, the field is ripe for further research.

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