Title
Negotiating knowledges, shifting access: Natural resource governance with Indigenous communities and state agencies in the Pacific Northwest

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Negotiating knowledges, shifting access: Natural resource governance with Indigenous communities and state agencies in the Pacific Northwest

By

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University of California, Berkeley

Committee in charge:

Professor Stephanie M. Carlson, Co-chair
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Abstract

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Despite an increasing interest among land managers in collaborative management and learning from place-based Indigenous knowledge systems, natural resource management negotiations between Indigenous communities and government agencies are still characterized by distrust, conflict, and a history of excluding Indigenous peoples from decision-making. In addition, many scholars are skeptical of Indigenous communities attempting to achieve self-determination through bureaucratic and scientific systems, which can be seen as potential mechanisms for co-opting Indigenous community values (e.g. Nadasdy 2003).

This dissertation considers how Indigenous communities and state agencies are meeting contemporary natural resource governance challenges within the Pacific Northwest. Taking a community-engaged scholarship approach, the work addresses two exemplar case studies of Indigenous resource management negotiations involving forest management with the Karuk Tribe in California (U.S.) and the Xáxli'p Indigenous community in British Columbia (Canada). These cases explore the ways and degree to which Indigenous peoples are advancing their self-determination interests, as well as environmental and cultural restoration goals, through resource management negotiations with state agencies—despite the ongoing barriers of uneven power relations and territorial disputes.

Through the 1990s and 2000s, both the Xáxli'p and Karuk communities engaged with specific government policies to shift status quo natural resource management practices affecting them. Their respective strategies included leveraging community-driven management plans to pursue eco-cultural restoration on their traditional territories, which both overlap with federal forestlands. In the Xáxli'p case, community members successfully negotiated the creation of the Xáxli'p Community Forest, which has provided the Xáxli'p community with the exclusive right to forest management within the majority of its traditional territory. This *de jure* change in forest tenure facilitated a significant transfer of land management authority to the community, and long-term forest

restoration outcomes. In the Karuk case, tribal land managers leveraged the Ti Bar Demonstration Project, a *de facto* co-management initiative between the Forest Service and the Karuk Tribe, to conduct several Karuk eco-cultural restoration projects within federal forestlands. Because the Ti Bar Demonstration Project was ultimately abandoned, the main project outcome was building the legitimacy of Karuk land management institutions and creating a wide range of alliances that support Karuk land management approaches.

Through my case studies, I examined how Indigenous resource management negotiations affect knowledge sharing, distribution of decision-making authority, and longstanding political struggles over land and resource access. I first asked, how is Indigenous knowledge shaping natural resource management policy and practice? My analysis shows that both communities are strategically linking disparate sets of ideas, including Traditional Ecological Knowledge (TEK) and Western scientific knowledge, in order to shape specific natural resource governance outcomes. My second question was, how does access to land and resources shift through Indigenous resource management agreements? This work demonstrates that both communities are shifting access to land and resources by identifying "pivot points": existing government policies that provide a starting point for Indigenous communities to negotiate self-determination through both resisting and engaging with government standards. And third, I considered how do co-management approaches affect Indigenous sovereignty and self-determination? The different case outcomes indicate that the ability to uphold Indigenous resource management agreements is contingent upon establishing long-term institutional commitments by government agencies, and the broader political context.

This work emphasizes the importance of viewing the world from the standpoint of individuals who are typically excluded from decision-making (Harding 1995, 1998). Pursuing natural resource management with Indigenous peoples is one way for state agencies to gain innovative perspectives that often extend beyond standard resource management approaches, and consider longstanding relationships between people and the environment in a place-based context. Yet the assumption that tribal managers would export Indigenous knowledge to agency "professionals" or other external groups, supposedly acting on behalf of Indigenous peoples, reflects a problematic lack of awareness about Indigenous perspectives on sovereignty and self-determination—central goals for Indigenous communities that choose to engage in natural resource management negotiations with state agencies.

Several implications emerge from these findings. First, Indigenous community representatives need to be involved in every step of natural resource management processes affecting Indigenous territories and federal forestlands, especially given the complex, multi-jurisdictional arrangements that govern these areas. Second, there is a strong need to generate funding that enables Indigenous communities to self-determine their own goals and negotiate over land management issues on a more level playing field. Finally, more funding must be invested in government programs that support Indigenous resource management.

Dedication

I dedicate this dissertation to the late Misha Jones, an invaluable friend and mentor who taught me about working in partnership with local communities. As part of his guidance, Misha frequently invoked an appropriate aphorism for any PhD candidate (or for any student of life): "Forward, never straight."

The dissertation is also dedicated to my research collaborators with the Karuk Tribe Department of Natural Resources and the Xáxli'p Community Forest Corporation. It has been a privilege and an inspiration to learn from their work.

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Acknowledgements

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Introduction: Negotiating knowledges, shifting access: Natural resource governance with Indigenous communities and state agencies in the Pacific Northwest

"Why do people have to fight so hard? What aren't the rights there for people to be self-governed?" - Kristina Peters, community advocate, Lowlander Center

"Don't panic. In those days we never panicked. That's part of the self-government we are looking for." - Xáxli'p elder, as quoted by Martin Weinstein (1995)

"When you are trying to do a good thing, so many barriers come along. You have to keep plugging along." - Harold Tripp, Karuk tribal member

Introduction

My Indigenous colleagues in the Pacific Northwest sometimes comment on the inadequacy of the level of public education offered on Indigenous peoples, their diverse cultures, and their complex histories. After being taught simplified stories of extermination and assimilation in school, individuals who are exposed for the first time to contemporary Indigenous cultures may be surprised to encounter vibrant communities working to build their own governance institutions and community organizations. In spite of meager budgets and socio-economic challenges, some Indigenous communities are also building their own Indigenous-run science teams. Staff members working for heterogeneous federal land management agencies can have different responses to this unfamiliar reality. For some, addressing land management issues with Indigenous communities can be intimidating, where working with Indigenous governments is viewed as an obstacle to "professional" management. Historically, this has been the dominant position within agencies. However, given Indigenous self-determination movements occurring in the 1970s and onwards, government policies have slowly shifted to recognize a greater leadership role for Indigenous peoples in natural resource management. More agency staffers are now looking to collaborate with Indigenous communities, and view such collaborations as an exciting opportunity to learn from a different perspective. Land managers and scientists are increasingly interested in Traditional Ecological Knowledge (TEK), and beginning to explore how TEK can inform current land management challenges (e.g. (Ford & Martinez, 2000; Orlove et al., 2009; Wildcat, 2009).

In cases of Indigenous resource management, sharing knowledge is not simple, however. The relationships between Indigenous communities and government agencies are embedded in complex colonial histories and political struggles. Given ongoing disputes over Indigenous land claims and land management practices, it is undesirable for most communities to hand over their knowledge to outsiders. Translating Indigenous knowledge systems into preferred agency formats may not be possible. And Indigenous standpoints may challenge the way that agencies have historically operated. Thus, to seriously consider a framework that supports productive working relationships between agencies and Indigenous communities, agency leaders must extend their interests beyond a passing curiosity in Indigenous ways of knowing. Building institutions and agreements that facilitate effective, cross-cultural collaboration requires a deeper understanding of

Indigenous community perspectives that includes Indigenous knowledge, politics, lands, and resources.

This dissertation addresses these ongoing issues by examining natural resource governance involving Indigenous peoples[1] and state agencies within the Pacific Northwest. I specifically study how natural resource management agreements with Indigenous communities contribute to changes in governance, sustainability, knowledge, and Indigenous sovereignty. My research addresses the field of natural resource management, as well as the literature on environmental governance, co-management, political ecology, Indigenous politics, and science and technology studies. Here, I present two case studies of Indigenous resource management negotiations over forest management: one involving the Karuk Tribe in California (U.S.) and another with the Xáxli'p Indigenous Community in British Columbia (Canada).[2] I am engaging in this project as a non-Indigenous person, and take a community-engaged scholarship approach to my research.

Both the Karuk Tribe and Xáxli'p Indigenous community have recently entered into resource management agreements with government agencies in order to advance the ecological and cultural restoration of their traditional territories, which overlap with federal forestlands. Both communities are located within salmon watersheds and are highly concerned about the impacts of industrial forestry impacts on their land and culture. In addition, both communities are federally recognized and continue to claim political rights to their traditional territories—although U.S. and Canadian governments now categorize these areas as "federal lands".

This study builds on Armitage et al. (2009); Berkes et al., (1991); Feit & Spaeder (2005); Nadasdy (2007); Natcher et al. (2005a); Notzke (1995); and Pinkerton, (1989) to address broader issues around Indigenous resource management. Through my case studies, I specifically ask 1) how is Indigenous knowledge shaping natural resource management policy and practice? 2) How does access to land and resources shift through Indigenous resource management agreements? And 3) how do co-management approaches affect Indigenous sovereignty and self-determination?

This work recognizes that natural resource management often functions as a domain for addressing broader Indigenous-state conflicts. Thus, in answering these major questions, I touch upon a number of issues that extend beyond the scope of this dissertation. These include how knowledge is produced in resource negotiation forums that involve Western science, Traditional Ecological Knowledge (TEK), and other forms of knowledge. Although the literature addresses the concept of linking knowledge systems, Indigenous knowledge is still not being applied to most natural resource management initiatives in practice. Another issue involves what kinds of institutional frameworks can best contribute to more equitable power sharing between Indigenous communities and government agencies, which requires additional legal and policy study.

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[1] In this dissertation, I capitalize the term "Indigenous" as a proper noun that refers a diversity of culturally distinct groups that have been impacted by colonization, and self-identify as being Indigenous.

[2] Pronunciation of the Lillooet or St'át'imc language is best gained from listening to a native speaker. See the "Learn our Language" section of the First Voices website at http://www.firstvoices.com/en/Northern-Statimcets/welcome. Based on linguistic studies the 'x' in 'Xáxli'p' is pronounced as a 'friction' sound, made with the tongue in the same position as with a 'k' (Bouchard 1973). However, further reading on St'át'imc orthography is recommended to guide a more precise pronunciation (see appendix 1).

This work also raises important ethical questions around how natural resource management institutions can address both the sustainability and social justice issues that are inherent to Indigenous resource management initiatives. Finally, the work begins to consider how academic researchers who are often part of elite institutions can develop more respectful partnerships with Indigenous community research partners.

In this introduction I first explain the study framework: how this dissertation evolved, key concepts in the literature, and the Karuk and Xáxli'p case background. I then present research methods, and describe my community-engaged approach. Finally, I provide an abstract for each chapter, and frame the broader implications for this work.

I. Study framework

Evolution of this study

This dissertation began as a study of the natural resources co-management (coming from the terms "collaborative" or "cooperative" management[3]), which refers to the sharing of management power and responsibility between governments and local people (Berkes et al., 1991; Berkes & Turner, 2006; Pinkerton, 1989). Berkes (2007:32) has described co-management as a tool for achieving multiple purposes, including "power sharing, institution building, trust building, social learning, problem solving, and (good) governance."

Co-management also involves some level of joint decision-making over resource management. Because this "jointness" occurs on a continuum, it is important to be aware of the ambiguity contained within the term "co-management" (Berkes et al., 1991; Borrini-Feyerabend et al., 2004). On the one hand, "co-management" has been used to describe more consultative arrangements, such as the fisheries and wildlife co-management institutions created through the 1975 James Bay and Northern Quebec Agreement. These institutions are treated as advisory bodies, with the federal or provincial government retaining final decision-making authority (Mulrennan & Scott, 2005; Nadasdy, 2005). On the other hand, the term has also been applied to arrangements that have facilitated significant community control of resource management, such as Columbia River treaty fisheries co-management. In the Columbia River case, Indigenous communities have established authority at all levels of decision-making—with the courts enforcing the meaningful participation of treaty tribes. Working through nested institutions, Columbia River treaty tribes are now shaping salmon fisheries policy at the international level (Cohen, 1989; Diver, 2012).

My own interest in co-management arose while I was working for the non-profit Pacific Environment prior to attending graduate school. I facilitated international exchanges for Russian Indigenous leaders to meet their counterparts in the Pacific Northwest. Co-management emerged as a key area of interest for my Russian colleagues, as a potential solution to ongoing resource management conflicts between Indigenous communities and government agencies. For communities who depended on maintaining access to land and a healthy resource base for their livelihoods and cultural survival, co-management was one practical strategy for engaging with hierarchical government

[3] The terms "cooperative" or "collaborative" are used interchangeably in the literature. For the purposes of this study, I will use the term "collaborative."

bureaucracies, which were often resistant to community-based natural resource management.

As a new graduate student at UC Berkeley with a strong interest in environmental politics, social justice, and sustainability, I began studying Columbia River tribal fisheries as one of the most widely recognized examples of "successful" co-management initiatives. Starting in the 1970s, Columbia River co-management agreements evolved from longstanding tribal fisheries disputes in Washington and Oregon (Pinkerton, 2003). A 1969 landmark court case, referred to as the Belloni Decision, first mandated the participation of Columbia River treaty tribes in fisheries rule-making processes and declared that a "fair share" of Columbia River fisheries resources should be reserved for treaty tribes (AFSC American Friends Service Committee, 1970; Wilkinson, 2005). The 1974 Boldt Decision later defined a "fair share" to mean a 50/50 split between treaty tribes and other users, which applied to the total number of fish returning to shared fishing areas. After this ruling, Columbia River tribes worked for over ten years to build effective joint fisheries management institutions and regularly leveraged the courts to enforce tribal participation in decision-making (Diver, 2012). Interestingly, the term co-management was not used in original court decisions (although the summary decision did refer to "concurrent" management) (Cohen 1989:47). However, as more productive working relationships between tribes and government agencies developed over time, the term "co-management" became widely used to refer to collaborative decision-making processes that characterize Columbia River treaty fisheries management today. Although my Columbia River research on building Indigenous resource management institutions has informed this study, I do not directly include this work in the dissertation.

My dissertation research has specifically focused on the Karuk and Xáxli'p case studies, described below, which examine the management relationships between Indigenous communities and state forest management agencies. These cases explore two recent resource management negotiations between Indigenous and government agencies, which were initiated in the 1990s. Even though both communities maintain a strong cultural connection to salmon fisheries, I found that focusing on forest-based ecosystems and associated cultural resources has helped to limit the scope of my field work. Compared to highly mobile salmon fisheries systems, forest management occurs within smaller and more defined geographic areas, which are often tied to specific Indigenous territories. And by working with communities with similar resource management goals and strategies on both sides of the U.S.-Canada border, I hoped to gain additional insight into how different political, ecological, and cultural contexts have shaped different co-management processes.

Working in Canada and the U.S. has also added an interesting comparative perspective to this study. While my California-based Karuk colleagues view co-management as a central goal that forwards the Tribe's goals, my Xáxli'p colleagues in B.C. regard co-management as a backwards step, which does not match the community's self-determination interests. In the Canadian context, the term co-management is associated with co-management boards that are made up of government and Indigenous community representatives (Natcher, et al., 2005; Notzke, 1995). In the Xáxli'p case study, the B.C. Ministry of Forests played a peripheral oversight role, and it was Xáxli'p community members who directed operations-level forestry decisions. Thus, the

community was pursuing Xáxli'p resource management through the Xáxli'p Community Forest, as a self-governance initiative.

Encountering such different perspectives on co-management has led me to rethink the language I use in this study. Although I continue to link my work to the co-management literature, and use the co-management term in my discussions of the Karuk case, I have reframed my dissertation project around the broader issue of "natural resource governance with Indigenous peoples." I often use the term "Indigenous resource management" to refer to initiatives facilitating natural resource management by and for Indigenous peoples. This is partly in deference to Xáxli'p community concerns, and also intended to recognize the Indigenous self-determination issues that are intrinsic to both cases. Broadening my research terms has allowed me to better address the wide range of strategies, tactics, and goals being pursued by Indigenous communities, as well as some of the skepticism that exists around co-management and associated issues of equity in natural resource management decision-making, discussed below.

Problems with binaries: Cooptation or transformation?

One of the key debates in the co-management literature considers the extent to which co-management arrangements are useful in facilitating Indigenous self-determination, a term that refers to Indigenous communities being able to participate meaningfully in the creation of the government institutions that they live with (Anaya, 1993). One outstanding question around co-management is whether equitable sharing of management authority (or power sharing) between Indigenous communities and government agencies occurs in practice. Another issue is whether communities receive meaningful benefits from co-management efforts, such as increased community access to land-based resources, ongoing support for cultural revitalization, or capacity building opportunities for Indigenous institutions (not just short-term monetary gains).

The co-management literature is of two minds on the issue of equitable power sharing. Given the persistence of uneven power relations between Indigenous communities and state agencies, there are strong concerns about co-management functioning as a tool for the cooptation of Indigenous interests (Feit & Spaeder, 2005; Nadasdy, 2003). Researchers have found that many co-management initiatives fail to facilitate meaningful power sharing, in part because bureaucratic structures typically privilege state positions, and dominant knowledge systems often exclude additional worldviews (Deloria & Lytle, 1984; Nadasdy, 2007; Spak, 2005; Usher, 2000; Weir, 2009). In contrast, other scholars emphasize the potential for shifting norms and policy transformation through co-management, especially given that state bureaucracies are not monolithic entities (Carlsson & Berkes, 2005). Despite imperfections, there are clear examples of co-management forums providing a platform for Indigenous communities to pursue their own resource management initiatives, which are able to co-exist with government resource management approaches (Diver, 2012; Smith, 2013; Te Aho, 2010).

The co-management literature addresses both the opportunities and challenges with knowledge sharing between Indigenous communities and government agencies. There is an increased interest among scientists and resource managers to learn from Indigenous knowledge systems, especially on urgent issues of climate change and adaptation (Chapin et al. 2009; Diduck et al., 2005; Gagnon & Berteaux, 2009; Kofinas,

2013; Orlove et al., 2009), and some co-management forums have been shown to support learning across cultures (Dale, 1989; Lertzman et al., 1996) Yet, government agencies are not typically structured to accommodate Indigenous ontologies or epistemologies that may differ from agency approaches. The recognition of spiritual relationships between people and the landscape is one example of the disconnect between agency and Indigenous community knowledge systems. The common practice of translating Indigenous knowledge concepts into narrow categories or formats that fit within existing agency structures often results in incomplete representations of complex Indigenous concepts (Nadasdy, 2003; Vaughan, 2012). Following Weinstein (1998), there are also issues around knowledge "capture," where giving away knowledge may lead to the loss of community control over sensitive natural resources, especially under open-access conditions. For example, sharing detailed community knowledge with agencies about the location of cultural resources, like elk, might result in increased harvest by actors from outside of the community. Looting of cultural sites is another issue of concern. Further, government agencies that have an inventory of cultural sites "on file" may be less likely to engage directly with Indigenous community representatives on a proposed project. Thus, while knowledge exchange may support positive learning processes, there are inherent dangers in sharing information, especially given the disempowered status of many Indigenous communities.

My work questions whether the binary of co-optation versus transformation is the most useful framework for inquiry. In practice, I see a constant tension between simultaneous forces of assimilation and co-existence that arise through co-management, and other state-Indigenous negotiations. I also see the challenge of working with uneven power dynamics as a fact of life for most Indigenous communities. For this reason, the focus of my work is not to debate whether cooptation is possible and/or occurring in these case studies, or to avoid the social justice issues that are intrinsic to Indigenous struggles for self-determination. Instead, I seek to understand how tribes are responding to uneven power relations within the domain of natural resource management. I specifically examine how and when Indigenous communities effectively engage in state negotiation forums in order to build their own self-governance institutions, apply Indigenous knowledge to contemporary natural resource management systems, and affect land management practices on their traditional territories. Thus, using these case studies, I seek to understand how tribal resource managers are producing knowledge and utilizing existing governance institutions to change status quo natural resource management policies.

Further theoretical context

The overarching debate around co-management and Indigenous self-determination is directly related to my three study questions. By focusing on how these questions relate to key theoretical concepts from the literature, this research is working to enhance existing understandings of Indigenous resource management negotiations. My analysis particularly strives to explore the complexities around how Indigenous communities and government agencies deal with the construction of knowledge, and the longstanding political struggles over resource access that often drive Indigenous resource management conflicts. Below, I present a brief overview of key theoretical concepts used to address the study questions that shape my dissertation chapters. (Note that

because the dissertation presents the respective case studies in sequence, the ordering of chapters departs from the ordering of questions considered below.)

1) How is Indigenous knowledge shaping natural resource management policy and practice?

To examine how Indigenous knowledge is shaping natural resource policy, I draw on Sheila Jasanoff's (2004) concept of the *co-production* of knowledge and social order, developed in the science and technology studies literature. I also use James Clifford's (2001) concept of *Indigenous articulations* (chapter 3). I use the latter term to describe the careful linkages or "articulations" that Indigenous peoples are creating to form new representations of Indigenous identity in a contemporary and changing world. These two concepts make visible the intentional linkages that some Indigenous communities are creating between Traditional Ecological Knowledge (TEK) and Western science, as well as linkages between Indigenous community interests and existing government policy. These linkages are exemplified through the eco-cultural restoration approach taken by both the Karuk (chapter 1) and Xáxli'p cases (chapter 3).

2) How does access to land and resources shift through Indigenous resource management agreements?

To address how shifts in resource access occur, I use Kevin Bruyneel's (2007) analytic of the third space of sovereignty. I specifically discuss the concept of "*third space" strategies*, which I define as a politics-on-the-boundaries approach to Indigenous struggles over territory and resource management. Third space strategies involve Indigenous communities both engaging with and pushing back on dominant government policies—simultaneously working inside and outside government structures. I also use Jesse Ribot and Nancy Peluso's (2003) theory of access. The term *access* in this case refers to the ability to benefit from resources—an ability that is contingent upon a broad range of relational and structural factors that both includes and extends beyond property rights. I apply Donna Haraway's (2003) work on *naturecultures* to address the mutual and ongoing relations between humans and non-humans that often co-constitute Indigenous landscapes—landscapes that are embedded within the cultural identity of many Indigenous peoples. Placing these three theoretical frameworks in conversation with one another is especially useful for understanding the complex shifts in community access to land and natural resources that occur in the Xáxli'p case (chapter 4).

3) How do co-management approaches affect Indigenous sovereignty and self-determination?

In considering self-determination outcomes of co-management, I employ the literature on *co-management*, which refers to the sharing of management power and responsibility between government agencies and local people through a formalized arrangement. Co-management arrangements are intended to facilitate significant participation by local resource users in management decisions (e.g. Berkes et al., 1991; Pinkerton, 1989). Working with this literature, I point out the tensions between

cooptation and transformation, which are both recognized as potential outcomes from co-management arrangements. I also draw on this tension to develop the concept of *pivot points*, which refers to existing government policies that provide a starting point for Indigenous communities to negotiate meaningful policy change (chapter 1). These concepts inform the strategies and lessons learned from both the Karuk (chapter 1) and Xáxli'p (chapter 5) experiences negotiating Indigenous resource management agreements.

Additional analysis: Community-engaged research methods

Although this issue does not directly respond to key dissertation questions, an additional part of this work has included developing a research approach that advances community-engaged scholarship methods, especially given my work with Indigenous communities. I have been reflecting on research methods together with colleagues, who are also collaborating with community research partners (Diver & Higgins, 2014). (Also see companion articles in the *Journal of Research Practice* Special Issue: Giving Back in Field Research, Volume 10, Issue 2, 2014). In order to critically examine academic-community research relationships and associated knowledge production processes, this research considers the intersection of the community-based participatory research literature (Cornwall & Jewkes, 1995; Minkler & Wallerstein, 2003) with work in feminist and postcolonial science studies (Haraway, 1988; Harding, 1995, 2004, 2008), as well as feminist research methods (England, K., 1994; Maguire, P. 1996; Sangtin Writers Collective & Nagar, R. 2006). Building on Nagar (2013), the work considers the messy realities of negotiating expertise and sharing benefits in community-engaged research, given the challenges of uneven power relations and structural barriers that are part of working in academic settings (chapter 2).

Xáxli'p and Karuk case studies

Exploring exemplar cases

It is important to note that this work considers the Xáxli'p and Karuk case studies as exemplar cases, which are not intended to demonstrate representative approaches of a "typical" Indigenous resource management initiative. Because all Indigenous communities are diverse and distinct groups, I neither argue that the Karuk and Xáxli'p approaches reflect the interests of all community members (although they are supported by many community members and by their tribal governments), nor that these approaches are shared by other Indigenous groups. One important similarity between these two cases is that both communities are taking an "eco-cultural restoration" approach to natural resource management. Dennis Martinez (O'odham/Chicano) and Jeffrey Thomas (Puyallup) did early work to develop the eco-cultural restoration concept (personal communication, Dennis Martinez, June 17, 2011), yet there are multiple understandings of its broader meaning among Indigenous restoration advocates working in the Pacific Northwest. A basic definition of eco-cultural restoration is an approach to restoring dynamic ecosystems and human cultures together, as interconnected processes. To refine this definition, I present examples of how eco-cultural restoration is conceptualized and

implemented by the Karuk Tribe (chapter 1) and the Xáxli'p community (chapter 3). I am particularly interested in the eco-cultural restoration approach because it offers an opportunity to learn how some communities are pursuing environmental sustainability and social justice goals concurrently.

Case similarities

In comparing case similarities, it is important to note that both California and B.C. share a similar political history of offering very few reservation or reserve lands to Indigenous communities. This colonial legacy has left both the Karuk and Xáxli'p communities with a very small land base to support community settlements and subsistence needs. The land base that is allocated to each community amounts to just over one square mile for the Karuk Tribe, and about six square miles for the Xáxli'p community. Thus, "off-reserve" and "off-reservation" rights are an important component of both cases. In contrast to the position of Columbia River treaty tribes, neither community has signed a treaty confirming tribal fishing or hunting rights within its traditional territory. One of the implications of not signing a valid treaty is that neither community has legally ceded rights to its traditional territory. Thus, both cases are characterized by ongoing disputes over land claims. In addition, both Karuk and Xáxli'p traditional territories overlap with areas that are designated as federally owned forestlands.

In response to these historical legacies, both the Karuk and Xáxli'p have taken a proactive approach to land use planning. In both cases, community leaders have used community management plans to articulate their own community's land use values, and negotiate changes in status quo forest policy, at the local and regional level. Both communities have also cultivated a strong sense of stewardship responsibility through active land management—a tradition of caring for the land that has been passed down by respected community elders. Responding to their respective community land ethics, both Xáxli'p and Karuk land managers have adopted an eco-cultural restoration approach to land management, as described above.

As another similarity, both cases evolved out of policy decisions in the 1990s and the early 2000s that aimed to ratchet back timber harvests by large timber companies. In the Xáxli'p case, B.C. Community Forest policy evolved in the wake of U.S.-Canada timber trade disputes in the 1990s. In an attempt to appease U.S. accusations of selling timber too cheaply, B.C. bought out some of the timber leases held by larger companies—an event that is sometimes referred to as the "claw back" (or the 2003 Bill 28 Take Back Program)—in order to reallocate timber harvest opportunities to a more diverse set of resource users. The B.C. Community Forest program, which began in 1999, was among the groups that received timber volume reclaimed through this initiative. [4] In the Karuk case, the opportunity for co-management arose shortly after the northern

[4] See Ministry of Forests, Mines and Lands. History of Community Forests. http://www.for.gov.bc.ca/hth/timber-tenures/community/history.htm, accessed February 25, 2013. Also see, Community Forest Program, Program Review. Prepared by Meyers, Norris, Penny LLP and Enfor Consultants Ltd. For the B.C. Ministry of Forests and Range. June 2006. http://www.for.gov.bc.ca/ftp/hth/external/!publish/web/timber-tenures/community/cfa-program-review-2006.pdf, accessed February 25, 2013.

spotted owl was listed under the Endangered Species Act in 1990, and the 1994 Northwest Forest Plan mandated an "ecosystem management" approach to forestry (Thomas et al. 2006). In 1996, when Klamath Forest officials hired a progressive Forest Ranger with an ecology background, who was also open to collaborating with the Karuk Tribe, this created an opening for the Forest Service and Karuk tribal managers to develop the Ti Bar Demonstration Project. The new Forest Ranger actively supported Karuk land management objectives for eco-cultural restoration and leadership opportunities for tribal members—as part of a new ecosystem management approach.

Case differences

Despite the many similarities between cases, these two communities are working within different political structures. Although a complete Canada-U.S. comparison is beyond the scope of this dissertation, it is important to point out one main difference that relates to the Canadian legal context. Major adjustments in Canada's Constitution occurred quite recently—when the Constitution Act, 1982 established Canada's full political independence from the United Kingdom. During this time period, First Nations political movements were strongly advocating for a change in status quo policy on aboriginal title and rights. In addition, the overall political climate in Canada was more supportive of Indigenous self-determination policies than it had been under previous government administrations. Thus, Constitutional amendments were adopted that effectively reconfigured the relationship between the Canadian government and Indigenous peoples residing in Canada. This was achieved through Section 35, which "recognizes and affirms" the "existing" aboriginal and treaty rights in Canada (Tennant, 1990; Duff, 1997). Since this policy shift, First Nation communities, including the Xáxli'p community, have leveraged Canada's Constitution and recent legal decisions that have upheld and interpreted Section 35, to influence land management practices in non-treaty areas—where aboriginal land claims have not been extinguished under Canadian law.

In comparison, U.S. Indigenous communities do not have such a strong legal basis for asserting rights over traditional territories, particularly in cases where no treaties were signed. As opposed to leveraging aboriginal land rights, Indigenous community advocates working in the U.S. context have sometimes used the Endangered Species Act (ESA) of 1973 to pursue policy change with federal land management. Choosing to address conflicts over Indigenous land and resources through the ESA is due, in part, to its strong enforcement provisions. Opportunities for tribes in the Klamath Basin, including the Karuk, to leverage the ESA have arisen following the "threatened" listing of the northern spotted owl in 1990, as well as the listing of regional coho salmon populations in 1997. The lack of a strong legal basis for the Karuk Tribe to assert its aboriginal title and rights in the U.S. has also led to some creative alliance building. For example, the Karuk Tribe has initiated a number of joint projects with local non-governmental organizations—another point of difference between the cases.

Karuk case

Figure 1a. Karuk – UC Berkeley Collaborative members and supporters after a forest walk involving local youth in huckleberry and mushroom collecting, November 2009.

Figure 1b. Karuk – UC Berkeley Collaborative members and supporters attending a workshop presentation on Indigenous mapping with GIS (Geographic Information Systems) at the Karuk Department of Natural Resources in Orleans, CA, June, 2012.

The first case involves the Karuk Tribe, a federally recognized tribe, based in the middle section of the Klamath River, near the border between California and Oregon. (See Figure 1a and 1b for images of Karuk-UC Berkeley research partners, and their supporters.) Karuk Aboriginal Territory includes an estimated 1.4 million acres (Karuk ECRMP), an area that is slightly larger than the state of Delaware.[5] Although U.S. Indian agents drafted treaties with Karuk representatives, California state government officials

[5] See http://karuk.us/. Also see http://www.karuk.us/index.php/departments/natural-resources/dnr

prevented these treaties from being ratified by the U.S. Congress during the Gold Rush period (Heizer, 1972; Hurtado, 1988; Johnston-Dodds, 2002). Then, in 1905, the U.S. federal government created National Forest areas that overlap with almost all of Karuk ancestral territory. Today, the Tribe has no reservation, and has just over one square mile of trust land (Karuk Tribe 2007; personal communication, Scott Quinn, May 28, 2014). Thus, as a result of U.S. land procurements and management policies, the Karuk Tribe has been dispossessed of most of its territory, and Karuk management practices (including Karuk traditional burning) have been excluded from the landscape—although many Karuk families have found ways to continue living within the mid-Klamath area. Following this shift in forest management practices, there has been an increased frequency of high intensity wildfire due, in part, to the lack of prescribed burning and increased build up of forest fuels (Biswell, 1989; Pyne, 1982; Skinner, 1995; Taylor & Skinner, 2003). Although many tribal members did participate in and benefit from the logging industry over the years, the Karuk Tribe is highly concerned about the impacts of current forest management practices, including fire suppression on culturally important species that have evolved in a highly fire-adapted system. The Karuk Tribe is also concerned about threats of catastrophic wildfire (which should be contrasted with low intensity prescribed fire, used in Karuk traditional burning) to local residents.

The Karuk case study specifically traces the Ti Bar Demonstration Project (or Ti Bar Demo).[6] This project was initiated in the early 1990s as part of a multi-year negotiation between the Karuk Tribe and the U.S. Forest Service to develop joint forest management projects in priority cultural areas—despite deep differences in management philosophy. As one of the first efforts to bridge the conflict-ridden relationship between tribal and agency managers in the mid-Klamath, Ti Bar Demo set a precedent for applying Karuk eco-cultural restoration strategies to federal forestlands. In 1999, tribal teams completed several restoration projects within the Ti Bar area that included the use of prescribed fire, which was a significant departure from forest plantation management approaches. Importantly, this was not a pre-formed project, meaning it was not developed by agency staff for a final sign-off by tribal officials. Rather, it was tribal land managers who established restoration priorities, and planned the project. When Forest Service leadership changed mid-way through the project, however, Ti Bar Demo was abandoned, and remaining restoration treatments were left undone. Although the Karuk Tribe has attempted to revive the Ti Bar Demonstration project, these efforts have been unsuccessful. Still, this case remains as an example of the U.S. Forest Service effectively devolving management authority over cultural resource management to Karuk tribal managers.

[6]Located mid-way between the towns of Orleans and Happy Camp, California, "Ti Bar" (pronounced TEE-bar) is a wide river bar, formed by sediment that has accumulated around the mouth of Ti Creek, where it flows into the Klamath River. In this case, Ti Bar refers to project areas in the vicinity of the Ti Creek subwatershed, located within the Ukonom Forest District of Klamath National Forest.

Xáxli'p case

Figure 1c. Xáxli'p Community Forest crew, board members, and supporters at a field training, July 2009.

Figure 1d. Signing of the Xáxli'p Community Forest (XCF) Agreement with the forest crew, board members, and Xáxli'p chief, March 2011.

The second case was undertaken with the Xáxli'p Indigenous community,[7] one of eleven Indigenous communities that make up the larger St'át'imc Tribe.[8] (See Figure 1c and 1d for images of Xáxli'p Community Forest Corporation members and supporters.) The Xáxli'p community comes from Fountain Valley, located near the town of Lillooet in B.C., Canada and adjacent to the Fraser River. The Xáxli'p community refers to its traditional territory as "Xáxli'p Survival Territory," an area of 31,419 hectares (77,638 acres or 121 square miles), which is more than twice the size of Vancouver. Unlike other

[7] See http://www.xaxlip.ca/. Also see http://www.xcfc.ca/.
[8] See http://www.statimc.ca/.

Canadian provinces, B.C. did not sign treaties with the majority of B.C. First Nations. After European settlers dispossessed the Xáxli'p community of much of its traditional territory, the community was allocated several small reserve areas, adding up to about 6 sq. miles. Although B.C. government entities now classify the majority of Xáxli'p Survival Territory as provincial Crown lands—federal or public land that is managed by the province—the Xáxli'p community continues to assert its aboriginal title, which has never been extinguished through a treaty. Xáxli'p is highly concerned about the cumulative effects of logging, grazing, and recreational use on key cultural resources within Xáxli'p Survival Territory, especially local water bodies, and seeks to restore the landscape in accordance with Xáxli'p land management values.

This case study follows the creation of the Xáxli'p Community Forest (XCF). After becoming frustrated with joint resource management negotiations in the 1990s, the Xáxli'p community decided to take control of the natural resource planning process and initiated its own community mapping strategy—resulting in the Xáxli'p Traditional Use Study (TUS) or *Ntsuwa'lhkalha Tl'ák̲men* [Our Way of Life] Study, and the Xáxli'p Ecosystem-based Plan (EBP). Around 1999, community leaders and their advisors decided to develop a Community Forest proposal, based on the adoption of a new B.C. Community Forest program. After years of negotiations, Xáxli'p and the Ministry of Forests signed a first agreement in 2006, which was followed by the 2011 XCF Agreement. The negotiations leading to the XCF Agreement were fraught with disputes over territory, allowable timber harvest, and other issues. However, with much persistence, the Xáxli'p community secured exclusive and long-term forest tenure over the majority of its traditional territory. The Community Forest is currently operated by Xáxli'p people according to Xáxli'p policies emphasizing eco-cultural restoration. The community plans to take a significantly lighter harvest than would be expected under B.C. government management.

II. Research methods

Community-engaged approach

To situate myself, I come to this work as a non-native person with Irish, English, and Swiss-German heritage. I am a U.S. citizen from Delaware, where I grew up primarily in a small agricultural area on the Atlantic coast. My perspectives have been shaped by my work supporting grassroots Indigenous and environmental leaders in Russia on community-based natural resource management issues. I now work in collaboration with Indigenous community partners, who have invited me to do research on current resource management policies affecting them.

My dissertation follows tenets of community-based participatory research (CBPR), an approach that begins by identifying a research topic of importance to the community and proceeds with the aim of combining knowledge and action for social change that benefits community members (Cornwall & Jewkes, 1995; Minkler & Wallerstein, 2003). CBPR can take multiple forms, and may involve different levels of community participation (Shirk et al., 2012). For this dissertation, community partners guided research questions, granted permission for the project to occur, and reviewed research results. Although I wrote the following dissertation chapters, the work has

greatly benefited from the knowledge, guidance, review, and inspiration provided by community research partners. In addition to conducting research, I also engaged in other synergistic activities to support community collaborators. With Xáxli'p colleagues, this has included researching existing curricula incorporating Traditional Ecological Knowledge. With Karuk partners, I hosted Karuk youth for Berkeley college tours, co-organized participatory mapping workshops, co-wrote grant proposals, and conducted targeted policy research.

Over the course of this study, I have worked with community partners to develop structures supporting respectful research collaborations, which includes being granted permission to conduct this research within the community. I worked with the Karuk Department of Natural Resources and other Berkeley collaborators to develop a research protocol entitled, *Practicing Pikyáv: Guiding Policy for Collaborative Projects and Research Initiatives with the Karuk Tribe (Final Draft)*. My research is intended to provide a test case for this policy, as discussed below. I also worked with the Xáxli'p Community Forest Corporation to develop the *Xáxli'p Community Forest Research Information Sharing Agreement*, in order to establish a clear plan between the XCF board and myself for data management and expected publications.

Reflections on building research partnerships

I began developing relationships with both communities long before I began the research. In both cases, my initial steps included identifying projects that could benefit community members. For my work with the Karuk Tribe, I initially connected with the community by meeting Karuk tribal member and traditional fisherman, Ron Reed. In early 2009, I joined the Karuk-UC Berkeley Collaborative (Collaborative), a group that fosters synergistic collaborations between the Karuk Department of Natural Resources (Karuk DNR) and Berkeley to support Karuk eco-cultural revitalization.[9] That summer, I was invited to visit the Klamath River to discuss community research needs, a discussion that evolved into my dissertation topic. I began building informal relationships with Karuk tribal members by conducting a short-term collaborative research project—the *Karuk Lands Management Historical Timeline*. This project resulted in a useful research output that could be used in the community. Working together on the Timeline also helped build a good foundation for initiating the Ti Bar case study (Diver 2014).

Another important step was understanding appropriate community approval processes. Given broader community skepticism about UC Berkeley and university-based research in general, Collaborative members realized that we needed a written protocol establishing some general research guidelines. The protocol, which is still in draft form, was strongly appreciated by community research partners. It established tribal review committees, suggested check-in points throughout the research process, and provided exit opportunities for the Tribe, if there was not sufficient tribal support for a proposed research project. The document also established the requirement of presenting research proposals to the Karuk Tribal Council, as part of the research planning and approval process. On top of the collaborative processes that we established through the protocol, there were also a number of complex issues, such as individual versus collective

[9] See http://nature.berkeley.edu/karuk-collaborative for more information.

consent, which we are still working through. The protocol helped us to at least identify those issues, though we still have open questions. In order to finalize the document, we are soliciting further review from the Karuk Research Advisory Board. We are also using our experience with the first set of dissertation projects being implemented through the Karuk-UC Berkeley Collaborative to guide a revised version of the guidelines.

I first visited the Xáxli'p community in 2001, while leading an international exchange for Russian Indigenous leaders. Around this time, the Xáxli'p community had engaged in its first set of negotiations over the Xáxli'p Community Forest, and the Russian delegation spent many hours learning about Xáxli'p planning processes. Interested in following up on these negotiations, I approached Xáxli'p community leaders with a request to study the creation of the Xáxli'p Community Forest (XCF) when I began graduate school in 2008. In this case, the proposal to do research that facilitated understanding XCF planning processes and negotiations primarily came from my own interest. As with the Karuk Tribe, I started by working with community partners on a practical, community-driven project, which involved researching teaching curricula that incorporated Indigenous knowledge. However, this curriculum has yet to be implemented, and I did not feel that this work provided a clear output benefiting community partners. I then proposed developing a collaborative timeline, similar to the Karuk Timeline project. I ended up cancelling the initial planning meeting for the project, however, due to the unexpected death of a community elder that occurred around the same time. In the end, I developed a comprehensive Community Report that detailed steps leading up to the XCF using community quotes and images. This was more of an individual writing project than I had initially imagined. But in the end, it was difficult to justify a collaborative initiative that demanded significant time from community partners, who were so busy with other responsibilities.

Another challenge with the Xáxli'p case was working with project approval processes over time. I initially received oral approval in 2009 from Xáxli'p Chief and Council, a practice that is consistent with Xáxli'p tradition. However, in 2013 new XCF members wanted to see a written agreement. To respond to these concerns, XCF board members and I developed the information sharing agreement discussed above. Although the agreement was made after the research was already completed, it still facilitated an important discussion before any publications were made. The agreement defined how I, as the researcher, would respond to community feedback and concerns in my writing. The agreement also conveyed joint copyright ownership over the Community Report to the XCF. These were helpful steps for moving our collaboration forward. The process also made me realize the extent to which academic structures typically limit community influence over academic outputs, and the value of developing the Community Report.

In reflecting on this experience, I can point to two key steps that supported my research collaborations. First, working on short-term projects that were not directly related to my dissertation was helpful for establishing myself as a partner, who could contribute something useful to community members. This was especially important given the amount of time required for completing a dissertation project. Second, written agreements established some useful safeguards for protecting community interests. These agreements provided an important tool for recognizing the authority of community research partners, and laid out mutual expectations

around data sharing and community review. Developing agreements also contributed to a broader process of establishing open lines of communication between myself, as an academic, and community partners. Although I am aware that there are many challenges with setting up collaborative research partnerships, these steps were a good starting point for setting up a respectful working relationship.

To offer one caveat, it would be inappropriate to portray my experience as a clear, or straightforward process. My community engagement efforts were, and continue to be, a work in progress. As with many students, my primary advisors had not done community-engaged research themselves. Similarly, the communities I work with did not have preexisting protocols for working with researchers—although, they certainly had stories of prior research relationships gone wrong. Thus, on many occasions, my research experience was about listening, anticipating challenges, making adjustments, and often working by the seat of my pants. My previous non-profit work experience of partnering with Russian community organizations proved to be extremely helpful in this regard.

There were some uncomfortable learning moments along the way, as well. On one occasion I realized that I was too focused on academic frameworks, and that my writing was not conveying Xáxli'p community perspectives. This occurred when the first paper draft that I shared with Xáxli'p community mentors framed the Community Forest as a co-management initiative. My colleagues informed me that they were not doing co-management. As opposed to co-management boards that included government and community representatives, the XCF was a community-driven forestry operation. I realized that I had come to the project with preconceived notions, which did not fully fit the case at hand. Thus, I needed to find new language to discuss the Xáxli'p project, and decided to represent this work as an Indigenous resource management initiative, discussed in chapters 3 and 4.

On another occasion, I was sharing some of my preliminary thoughts on the positive aspects of the Ti Bar Demo project with Karuk land managers, and realized that I was overlooking the historical context of this case. My community research partners reminded me of how long they had been trying to get the Forest Service to listen to their perspectives, and the lack of respect that they had experienced from agency officials along the way. I understood then that I was missing a piece of the story, and needed to go back to interviews explaining some of the root causes of community frustration with attempted co-management in my writing.

However self-conscious and embarrassed I felt about making mistakes along the way, it was honest conversations like these that benefited the research. These conversations were also a step towards breaking down some of the unavoidable hierarchies that occur among academic-community research partners. It is so easy to assume that the researcher, who is backed by the authority of an academic institution, knows what she is doing. Yet, like everyone else, we are students trying to learn how the world works, and we often entering into worlds that we know little about. Thus, learning from the knowledge and experience of my Karuk and Xáxli'p colleagues has been a vital part of the work.

Field methods

My field methods included participant observation, and document analysis, and semi-structured interviews with key informants. For the Karuk case, I visited the mid-Klamath and Karuk DNR collaborators at least once a quarter for over four years, from summer 2009 to summer 2014 for a period of three to ten days. I made more frequent visits during peak research periods and summers. The Karuk Tribal Council gave me permission to conduct the study in May 2012. The more intensive research periods involved interview sessions, reviewing joint projects like the research protocol, or planning collaborative workshops. I also met with community research partners on the Berkeley campus, when Karuk partners visited Collaborative members for events and planning meetings.

For the Xáxli'p case, I conducted fieldwork over a total of sixteen weeks from 2009-2011, with additional field visits in 2012-2013. Xáxli'p Chief and Council approved the study in July 2009. During my summer field visits, I observed day-to-day Community Forest activities and participated in community events and trainings. Later visits focused on arranging feedback sessions to review quotes, presenting manuscript materials, and addressing publication plans. These visits also allowed me to catch up on Xáxli'p Community Forest developments, and participate in community events and meetings.

As part of my participation observation activities with the Karuk Tribe, I attended Karuk DNR planning sessions and Karuk-Forest Service field trips, joined walk-throughs of Ti Bar project management sites, observed community fire response, and attended community events. I also attended Forest Service listening sessions on sacred site policies, several Northern California prescribed-fire conferences, and meetings involving the Karuk Tribe and the Forest Service. I accessed Karuk DNR records of Ti Bar planning activities, as well as archival documents from the National Archives and Records Administration in San Bruno.

In 2012, I conducted interviews on the Karuk case regarding the Ti Bar Demo project. Using the snowball sampling method—a technique in which existing study participants recruit additional respondents from among their acquaintances (Goodman, 1961)—I selected key informants who had played a role in the Ti Bar Demonstration project, or related collaborative initiatives. I conducted a total of thirty semi-structured interviews, which included in-depth interviews with ten Karuk Tribe staff, fourteen Forest Service staff, and six non-tribal community members. Interview questions focused on the history and impact of the Ti Bar Demonstration Project, shifts in the management relationship between the Karuk Tribe and the Forest Service, as well as how the sharing of knowledge and authority had occurred through the Ti Bar Demo. As per my approved Institutional Review Board protocol #2009-05-094, I provided interviewees with a choice of remaining anonymous in research write-ups, or using their name. Thus, quotations from specific individuals are used with their explicit permission.

For the Xáxli'p case study, participant observation included attending planning sessions with elders and scientific advisors, Xáxli'p Forest Crew training sessions and field assessments, board meetings, eco-cultural restoration field surveys. I also attended other community events, including a culture camp connected to the XCF and

community dinners. I conducted archival research to establish a timeline of key XCF events.

Semi-structured interviews on the Xáxli'p case used the snowball sampling method, and I selected interviewees who had a direct role in XCF negotiations or implementation. From a total of thirty-three in-depth interviews, I interviewed eighteen Xáxli'p community members, staff, and consultants, and fifteen current or former Ministry of Forests staff and consultants working at the local, district, and provincial levels. Interviews addressed participatory mapping and planning processes in the late 1990s, policy negotiations in the early 2000s, the beginning stages of XCF implementation in the late 2000s and early 2010s. In fall 2013, I conducted a preliminary review of research results with Xáxli'p Community Forest board members and other community members. Again, quotations from specific individuals are used with their permission.

III. Dissertation overview

Chapter abstracts

To introduce the following five chapters—written in article format—this section provides a brief abstract for each chapter. The dissertation begins by presenting the Karuk case study and research methods. I then present the Xáxli'p case study. My conclusion provides an initial case comparison.

Chapter one, entitled *Co-management as a catalyst: Building legitimacy for Karuk Indigenous resource management (Klamath Basin, Northern California),* introduces the Karuk case study and addresses debates in literature over co-management and Indigenous self-determination. Addressing my third question on how co-management approaches affect Indigenous self-determination, this chapter evaluates the Ti Bar Demonstration Project as a co-management initiative involving the Karuk and the U.S. Forest Service. The work highlights the opportunities and barriers to pursuing the Ti Bar Demo. One the one hand, tribal managers viewed the project as one of the most successful collaborations with the Forest Service to date, because it afforded tribal members a direct role in creating and implementing land management projects. An Interdisciplinary team (ID Team) framework supported meaningful tribal participation in decision-making, where Karuk tribal members were named project co-leads. I use this example to develop the concept of *pivot points*, as a strategy for using existing government policies (ID Teams) to negotiate meaningful policy change (co-lead status for Karuk tribal members). On the other hand, significant challenges occurred during Ti Bar Demo with sharing of knowledge and authority. Agency assumptions about expertise and professionalism reinforced colonial histories for some tribal members. Ultimately, Ti Bar Demo was abandoned mid-stream following a turnover in Forest Service staff, which limited project impacts. These findings demonstrate that co-management initiates like Ti Bar Demo can provide a catalyst for building tribal institutions, locating champions for creative projects, and establishing organizational alliances. However, the Ti Bar Demo initiative was poorly institutionalized. A greater level of institutional commitment and legal accountability is therefore required if co-management arrangements, such as the Ti Bar Demo, are to become more than a

temporary space for implementing joint projects between tribes and government agencies.

Chapter two addresses community-engaged research methods, primarily by discussing the Karuk Tribe case. The chapter is organized in two sections, both published as part of a special issue in the *Journal of Research Practice*. The special issue examines multiple perspectives on how academics "give back" to the communities that they work with, in part, to illustrate how scholars today are responding to the history of extractive research.[10] The first section, where I am the lead author, is entitled *Giving Back Through Collaborative Research: Towards a Practice of Dynamic Reciprocity*. This article compares and contrasts four case studies by different researchers (all writing for the special issue) who have used community engaged scholarship as a tool to give back to local communities. The work leverages the literature on participatory and feminist research to analyze how different researchers attempt to negotiate issues of expertise and achieve a more equitable distribution of research benefits with community partners. This work also recognizes the limitations that academics face in pursuing community-based research, particularly given the power imbalances that are intrinsic to academic-community relationships. The article arrives at the conceptual framework of *dynamic reciprocity* for understanding community-engaged research partnership as a process of continual learning from one another over time.

The second section of Chapter two is called *Giving Back Through Time: A Collaborative Timeline Approach to Researching Karuk Indigenous Land Management History* also focuses on research methods and the Karuk case study. Here, I present my experience developing the *Karuk Lands Management Historical Timeline*—a fifteen-foot long artistic timeline documenting land management history and community impacts within the Karuk Tribe's ancestral lands and territory, which was developed in partnership with the Karuk Department of Natural Resources.

The timeline is available on the web at http://karuktimeline.wordpress.com. This work presents the collaborative timeline approach as a method for understanding community standpoints on land management, which are embedded in place and history. Analyzing over one hundred references from tribal and government archives, libraries, and other sources, the timeline specifically links changes with federal and state policy, land management practices, and associated impacts to the mid-Klamath environment and community health. Importantly, the work also incorporates visual formats and community sense of place in the research output, with the intention of making research findings more accessible beyond the academy. Thus, developing the timeline with community partners provides a mutually beneficial research product that orients the viewer (which could be local youth, visiting tourists, agency staffers, or the researcher herself) to Karuk land management perspectives. I also discuss the collaborative timeline approach as one effective method for initiating more equitable working relationships with community research partners.

[10] Journal of Research Practice is an open-access journal, and all articles in the special issue—Volume 10, Issue 2, 2014—are available at http://jrp.icaap.org/index.php/jrp/issue/current or http://jrp.icaap.org.

Chapter three, *Negotiating Indigenous resource management: Co-production of knowledge, social order, and the Xáxli'p Community Forest,* introduces the Xáxli'p case study and focuses on the second question of how Indigenous knowledge is shaping resource management policy. The chapter uses the concept of co-production of knowledge and social order (Jasanoff, 2004) to explain how Indigenous resource management agreements, like the Xáxli'p Community Forest (XCF), may arise—despite uneven power dynamics in resource management negotiations. The work also considers the importance of Indigenous articulations (Clifford, 2001), such as Xáxli'p maps and plans, which were shaping (and also being shaped by) highly political processes being negotiated through the XCF case. Through its maps and plans the Xáxli'p community and its allies identified strategic linkages between Traditional Ecological Knowledge (TEK) and Western scientific knowledge in order to influence B.C. government policies. In addition, the article discusses how the Xáxli'p community and the Ministry of Forests identified the B.C. Community Forest policy framework as a *pivot point*, which could address Xáxli'p community interests through existing government policy, despite resistance from some Ministry staffers. Xáxli'p community leaders then worked through XCF negotiations to shift government policies that did not initially support community interests. Ultimately, Xáxli'p community negotiators succeeded in shifting the terms agreements for the XCF in order to achieve the majority of the community's goals. This provided the Xáxli'p community with exclusive, long-term forest tenure over the majority of its traditional territory. The agreement also ensured that Xáxli'p plans were formally recognized as XCF governing policies, thereby gaining formal recognition of Xáxli'p land management values within B.C. policy. The chapter finds that the knowledge production processes and political negotiations that led to the XCF were closely intertwined. Furthermore, the Indigenous articulations developed through Xáxli'p maps and plans are best understood not as a permanent integration of TEK and Western science, but rather as a knowledge convergence—an intentional and contingent meeting place created at a particular political and historical moment by Indigenous communities.

In Chapter four, *Shifting access: Protecting the land and reclaiming Indigenous sovereignty through the Xáxli'p Community Forest*, I use Ribot and Peluso's, (2003) theory of access to better understand the Xáxli'p case study outcomes. This chapter addresses the second question about how Indigenous resource management agreements help communities shift resource access. Gaining B.C. government approval for the Xáxli'p Community Forest (XCF) involved high stakes negotiations, which are difficult to understand because the Xáxli'p Indigenous community is pursuing dual goals of protecting the land and reclaiming aboriginal land rights. Access analysis is one tool that makes visible the range of benefits that arise from the XCF, and how those benefits are realized through a wide range of social and relational mechanisms. The access framework can also be used to consider potential losses or tradeoffs that may arise through resource management negotiations. This article also extends beyond access analysis frameworks to better address community goals for the XCF as an Indigenous resource management negotiation. First, the article uses Bruyneel's (2007) "third space of sovereignty" analytic to examine how the Xáxli'p community is both working with existing government structures, and pushing back on those structures through XCF negotiations. I develop the concept of *third space strategies* to emphasize how addressing

territorial disputes remains a long-term goal for the Xáxli'p community, even as interim agreements on resource management may be reached. Second, given the importance of landscape restoration in the XCF case, this article develops the concept of natureculture relations (Haraway, 2003) as an additional access mechanism that emphasizes the ongoing reciprocal relationships that exist between Xáxli'p community members and the non-human elements of Fountain Valley. Policy shifts that recognize Xáxli'p natureculture relations within government agreements have a material effect of allowing the Xáxli'p community to take a lighter timber harvest, thereby fulfilling the community goals for protecting the land and ensuring Xáxli'p cultural survival. The article concludes that Indigenous resource management agreements like the XCF should be viewed as part of a broader set of negotiation strategies, not as an end unto themselves.

Chapter five, *Learning from the Xáxli'p Community Forest*, is an excerpt from a 167-page community report, entitled *Community Voices: The Making and Meaning of the Xáxli'p Community Forest*. The report uses community quotes and place-based images from the Xáxli'p community to document state-Indigenous negotiations leading up to the Xáxli'p Community Forest (XCF). The work also describes opportunities and challenges presented as a part of present day XCF operations. This section of the report is presented in this dissertation with permission from the Xáxli'p Community Forest Corporation, and upon completion, will be web-published by the Xáxli'p Community Forest Corporation at www.xcfc.ca. Addressing the third question of how Indigenous resource management with government agencies can help to address Indigenous self-determination, this chapter summarizes some of the XCF strategies and lessons that may apply to other Indigenous communities and government agencies engaged in Indigenous resource management negotiations. In addition, the chapter presents selected policy recommendations. This work also highlights the importance of the XCF as an example of land management that addresses society's sustainability needs and social justice responsibilities. The policy recommendations in this final section make the point that if we do not learn how to manage our landscapes for long-term sustainability, we will be unable to protect our basic needs for survival. Furthermore, if we do not learn how to account for the historical injustices of colonialism, it will be more difficult to move forward as an interconnected, multicultural society. The matters at stake are the health of the environment, and the future of the distinct Indigenous communities that depend on it.

These chapters only begin to convey the complexities of the Xáxli'p and Karuk case studies. For more information, I have prepared additional resources for online distribution. The *Karuk Lands Management Historical Timeline* can be downloaded in a low-resolution format, or as a fifteen-foot wall poster from http://karuktimeline.wordpress.com. The community report entitled, *Community Voices: The Making and Meaning of the Xáxli'p Community Forest* will be made available through the XCFC website http://www.xcfc.ca.

Broader implications

The dissertation conclusion provides an initial comparison of the two case studies. This comparison explores the ways and degree to which Indigenous peoples are advancing their self-determination interests and environmental restoration goals with state agencies, despite the ongoing barriers of uneven power relations and territorial disputes. However, gaining the right to manage traditional territories is not the only issue at hand. Increasing management control loses its meaning if foundational elements of the community's cultural identity and the ecological systems that human cultures depend on cease to exist. Together, the cases illustrate the importance of community advocates pushing back on current environmental policies through carefully identified *pivot points* to address Indigenous self-determination interests and restoration goals. The comparison also points out how Indigenous communities are developing new knowledge, linking ecological and cultural restoration, in order to revitalize contemporary Indigenous cultures and influence management decisions affecting Indigenous lands. This demonstrates how Indigenous communities can contribute innovative ideas to standard resource management approaches, which address the long relationship of people and the environment in a place-based context.

In my final analysis, I use these two cases to emphasize that there is no one-size-fits-all strategy for addressing Indigenous resource management priorities. The Ti Bar Demonstration Project and the Xáxli'p Community Forest speak to the long struggle that the community leaders discussed in these cases have undergone to address land management policy affecting their traditional territory. The case analysis points out that communities are working to shift resource access at different scales, under different political conditions, and with different outcomes. Despite these differences, however, both Indigenous resource management negotiations have led to major shifts in the status quo for land management in these respective communities.

In exploring how Indigenous knowledge has shaped natural resource management policy for the Karuk Tribe and the Xáxli'p Indigenous community, it becomes clear that there are significant barriers to doing so. Indigenous knowledge cannot be neatly packaged for outsiders. Indigenous communities may decide that certain knowledge sharing with outsiders is inappropriate, or that knowledge sharing can only occur under conditions that also facilitate the sharing of decision-making authority. This means that establishing the ability for Indigenous peoples to represent themselves within natural resource management decision-making processes is key. Supporting Indigenous self-determination in this way requires substantial capacity building and resources, both for Indigenous communities and for government agencies working to facilitate Indigenous resource management initiatives.

In asking whether Indigenous resource management agreements (or co-management) can shift resource access, or if co-management can support self-determination, it is clear that Indigenous resource management agreements can both threaten and support Indigenous resource access, and therefore require careful evaluation. In the Xáxli'p case, the Community Forest Agreement was extremely helpful for supporting Xáxli'p self-determination of land management practices. However, the community needed to spend several years negotiating terms of agreement in order to generate a final outcome that would begin to address their interests, which required a

serious commitment of community resources. In some cases, co-management may be a helpful framework for addressing some of the uneven power relations that impede the sharing of decision-making authority with Indigenous communities that have concerns over cultural resource management within their traditional territories. Yet, as demonstrated in the Karuk case, the ability to uphold such agreements is contingent upon establishing long-term institutional commitments by government agencies.

Although these two case studies begin to explore how the different political conditions in the U.S. and Canada affect Indigenous resource management initiatives, there is a need for future research on this topic. I am interested in pursuing further research that explores how governance of natural resources with Indigenous communities is changing, given recent decreases in government agency funding; studies on contemporary restoration initiatives with Indigenous communities that are responding to global change events; and research on Indigenous food security initiatives that are seeking changes in status quo natural resource management policy. Given the diversity of indigenous cultures, it is especially important to expand our understanding across multiple cases.

Chapter 1: Co-management as a catalyst: Building legitimacy for Karuk Indigenous resource management (Klamath Basin, Northern California)

Native peoples' knowledge is place-based. And I'm really glad that the Karuks are still in situ. We haven't been moved. We've always lived here in our homeland. We know it like the back of our hand. So we're not visitors. A lot of these managers, they come and they go. They are here for a few years, and then they're gone.

– Anonymous, Karuk tribal member

"You want to educate your children? You want to live in a better world? Go to the forest, go to the river." – Ron Reed, Karuk tribal member

I. Introduction

The Karuk people have sustained a strong attachment to their homelands, located in the middle section of the Klamath River Basin (KDNR, 1995; Salter, 2003; Lang, 2012). Archaeological and linguistic records suggest that Karuk ancestors occupied the Klamath region prior to 8000 before present (Fredrickson, 2004; Lake 2007), and Karuk people have their own origin stories that connect them to the Klamath landscape. Yet in 1905, the U.S. federal government designated most of Karuk Aboriginal Territory as Forest Reserves (now National Forests) (Bower, 1979). As a result of massive social, political, and environmental changes, Karuk land management systems, including prescribed burning, were largely displaced from the mid-Klamath region (Huntsinger and McCaffrey, 1995; Norton, 1979; Bright, 1978). More recently, however, the Tribe has become increasingly engaged in management of federal forestlands that overlap with Karuk Aboriginal Territory and Tribal Lands (Diver et al., 2010).

This development reflects a broader shift towards collaborative management, or co-management, between Indigenous communities and government agencies. The shift has been driven, in part, by a mutual desire by both parties to address management conflicts out of the courtroom. Also, more land managers and environmental scientists are now recognizing the importance of place-based Indigenous knowledge systems for adapting to environmental change (Erickson, 2014; Orlove et al. 2009), and for understanding sustainable land management practices (Berkes et al., 2000; Turner & Berkes, 2006; Lake et al., 2010; Wildcat, 2009). Yet, despite extensive interest among agencies, academics, and tribes around applying Indigenous perspectives to environmental problem solving, why is Indigenous knowledge not being incorporated into more environmental planning and agency projects? Given the mutual desire for conflict resolution, why has it been so difficult to establish and maintain co-management institutions, and what kinds of outcomes are such institutions able to accomplish, in practice?

By examining a case study involving the Karuk Tribe and the U.S. Forest Service, this study addresses primary barriers and opportunities incorporating Indigenous knowledge into land management policy, and to developing co-management institutions. This research focuses on the Ti Bar Demonstration Project (pronounced TEE Bar) as a *de facto* co-management initiative—where significant management authority was devolved

to the Karuk Tribe, in order to facilitate Karuk-driven land management projects on federal forestlands. Although the term "co-management" has not been adopted within official Forest Service policy (Mitchell, 1997:58), the U.S. Forest Service regularly enters into contracts and collaborative agreements to facilitate joint projects with tribes, which fits the scholarly definition of co-management that is described below. The Ti Bar Demonstration Project (Ti Bar Demo) occurred within the Klamath National Forest (Ukonom Forest District) during the mid-late 1990s. The project was partially completed, and then abandoned around 2000, following a Forest Service leadership change. This work considers why the Ti Bar Demo is viewed by Karuk tribal land managers as one of their most successful collaborations with the agency to date, and explores the tenuous nature of co-management initiatives between the Forest Service and the Tribe.

My case analysis will introduce the idea of "pivot points" where Indigenous communities use existing policy to facilitate new Indigenous resource management institutions and policy change. This concept is a key contribution to the co-management literature, because it helps to break down the binary between assimilationist and transformational modes of co-management arrangements (e.g. Smith, 2013). This case analysis will also underscore the limitations of *de facto* rights (rights in practice), as opposed to *de jure* or legal rights in generating long-term change with resolving Indigenous resource management conflicts, and addressing central issues of Indigenous sovereignty.

This paper begins with a brief literature review. The next section provides case background, including the legal context shaping Karuk-Forest Service relations to date. This is followed by study methods and case study results. Case analysis considers social and political changes that allowed the project to emerge, steps taken to build the Ti Bar Demo as a co-management initiative, and the steps that led to its unraveling. The final section discusses lasting impacts of the Ti Bar Demo co-management initiative, and broader implications for tribal-state relations and land management policy.

II. Natural resource co-management with Indigenous communities

The term co-management refers to the sharing of management power and responsibility between government agencies and local people (Berkes, George, & Preston, 1991; Berkes & Turner, 2006), and comes from "cooperative" or "collaborative" management (Pinkerton, 1989). (See Table 1.1 for definitions of key terms.) Co-management is characterized as a formalized arrangement that facilitates significant participation in resource management decisions by local resource users (Berkes, 2009; Pinkerton, 1989). The concept has developed through scholarship on common pool resources, which critiques the ability of both centralized bureaucracies and deregulated markets to respond to highly contextualized environmental management problems, and emphasizes the role of local knowledge in establishing enduring management systems (Ostrom, 1990, 2009).

The literature describes co-management on a continuum, where the degree of power sharing within co-management initiatives can range from more consultative to more community-driven arrangements (Berkes, 1994; Borrini-Feyerabend et al., 2004). This article uses co-management to refer to scenarios with some level of joint decision-

making. Scholars have also examined conditions facilitating "complete co-management" that encourage more equitable power sharing (Pinkerton, 2003), as well as conditions promoting "adaptive" co-management that encourages evaluation, learning, and adaptation through the management cycle (Armitage et al., 2009).

Co-management scenarios can result in multiple benefits, including increased environmental sustainability and conflict resolution. First, involving local users and local knowledge in resource management has been found to produce highly desirable environmental outcomes that include improved harvest dynamics and increased regulatory compliance, alongside benefits to local livelihoods (Cinner et al., 2012; Jentoft, 2005). Second, co-management forums are often recognized as an effective space for social learning (Armitage et al., 2009; Berkes, 2009; Folke et al., 2005; Plummer & Fitzgibbon, 2004). The concept of social learning is viewed as a cognitive process that takes place in a social context (Bandura, 1977), where learning involves "becoming a full participant in a socio-cultural practice" (Lave & Wenger, 1991) and the participatory process facilitates learning (Ballard et al., 2008). Pinkerton (2003:70) defines social learning in the co-management context as "processes which transform social relations and generate less conflictual ways of addressing difficult joint problems." Thus, under the right conditions, co-management arrangements may provide a platform that facilitate regular interactions and learning among Indigenous communities and government agencies, thereby facilitating mutual agreement among negotiating parties (Dale, 1989; Lertzman et al., 1996).

Yet the literature also includes strong critiques of co-management, particularly on issues of Indigenous self-determination and power sharing. Despite surface level commitments to partnership, multiple scholars view co-management as a strategy for the co-optation of community interests. This is because equitable power sharing is often not achieved, bureaucratic structures continue to privilege government positions, and dominant knowledge systems frequently exclude other worldviews (Nadasdy, 2007; Natcher et al., 2005; Taiepa et al., 1997; Weir, 2009; Arnold et al., 2012). The ability to enforce agreements is contingent upon establishing sufficient levels of legal accountability, funding support, enforcement personnel, and dispute resolution capacity—all of which can be difficult to achieve (Diver, 2012; Mabee et al., 2013; Mabee & Hoberg, 2006). Because of the uneven power relationships between Indigenous communities and federal agencies, there is a risk of co-management becoming a tool for "legitimizing existing practices" (Trosper et al., 2012:184). For example, Smith (2013) critiques "assimilationist" models of co-management that follow the principle, "you cooperate, we'll manage." Smith contrasts this approach to "coexistence" models of co-management that do facilitate Indigenous self-determination.

In addition, existing structural processes often block co-management efforts and social learning opportunities. Knowledge sharing occurs within a political context that is characterized by resource competition between Indigenous communities and non-Indigenous resource user groups (Weinstein, 1998). It follows that communities are cautious about giving away sensitive cultural knowledge in agreements or planning sessions. Furthermore, when knowledge systems diverge, dominant institutional structures typically choose Western science over Indigenous knowledge as the final authority (Nadasdy, 2003). Agency personnel may leverage concepts of "professional expertise" and "objectivity" to privilege agency positions over community perspectives,

thereby overlooking the political interests, cultural biases, and social norms that are inherent to agency culture (Schiff, 1962; Fairfax & Fortmann, 1990; Kaufman, 2006). Another problem occurs when bureaucracies limit definitions of Indigenous knowledge to the category of pre-contact "traditional" practices, which effectively restricts the impact of Indigenous sovereignty claims in contemporary political negotiations (e.g. Vermeylen, 2013; Weir, 2012). In reality, Indigenous cultures and identities are dynamic, incorporating enduring tenets passed down through oral tradition as well as contemporary lifestyles and changing social practices (Menzies & Butler, 2006).

Although the outcomes of Ti Bar Demo ultimately align with many critiques of co-management, this case also supports previous research findings that incremental change can be valuable (e.g. Borrini-Feyerabend et al., 2004). Despite strong institutional barriers that often prevent "equal" power sharing, co-management agreements have been shown to increase resource access for tribal members, generate new tribal management institutions, and increase community influence in decision-making processes (Diver, 2012; Natcher, 2000). My analysis of Ti Bar Demo extends beyond documenting uneven power relations to consider how Indigenous communities like the Karuk Tribe are responding to and interrupting state structures.

To describe how Indigenous communities like the Karuk Tribe are working with existing rule systems to help shift standard policy and address Indigenous sovereignty issues, this article develops the concept of "pivot points". The pivot point concept recognizes that communities are simultaneously using existing policies and subverting them. This concept may help scholars navigate between the extremes presented in the literature, where co-management is simultaneously presented as a tool for "co-optation" or "assimilation", and as an approach to effective policy change and social learning. In this way, this work helps to build a bridge between co-management scholarship that is grounded in an anthropological perspective (e.g. Nadasdy, 2003), and seemingly conflicting literature that is derived from common-property resource management concepts (e.g. Cinner et al., 2012).

Table 1.1. Chapter 1, Key Terms

co-management – the sharing of management power and responsibility between government agencies and local people, which is characterized by a formalized arrangement that facilitates significant participation in resource management decisions by local resource users (Pinkerton, 1989; Berkes, George and Preston, 1991; Berkes and Turner, 2006; Berkes, 2009).

eco-cultural restoration – restoring dynamic ecosystems and human cultures together, as interconnected processes. (e.g. Karuk DNR 1995).

Karuk Aboriginal Territory – Karuk Tribe's historical use area, defined by the Constitution of the Karuk Tribe as amended (2008) and its associated maps as being "all submerged lands, and the beds, banks, and waters of all the waterways within the territory and the Tribe's usual and customary ceremonial, hunting, fishing, and gathering sites" (Constitution of the Karuk Tribe, 2008).

Karuk Tribal Lands – an inclusive term, defined as the Karuk Tribe's "Aboriginal Territory, service areas, and all lands subsequently and hereafter acquired by and for the Tribe, whether within or outside of the Tribe's Aboriginal Territory" (Constitution of the Karuk Tribe, 2008).

prescribed burning – fire that is ignited under known conditions of fuel, weather, and topography to achieve specified objectives (Agee 1993). This case also refers to prescribed burning as the intentional human use of low intensity burns for vegetation management—often for the purpose of decreasing hazardous fuels build up, increasing forest health, and/or checking forest successional stages to enhance desired understory vegetation (e.g. Anderson 2005, 2006).

public trust responsibility – an evolving legal concept that emphasizes the government's responsibility to protect the general public's interests regarding common waters (esp. navigable waters), public lands (esp. parks), and the resources contained within them (such as fisheries or other natural resources). The concept is often invoked with disputes over government regulation of public lands, navigable waters, or tidally influenced lands, when government bodies convey ownership or use rights to private interests, despite potential negative impacts on public use (Sax, 1970).

self-determination – addresses the aspiration of Indigenous groups for "meaningful participation, commensurate with their interests, in procedures leading to the creation of or a change in the institutions of government under which they live" (Anaya, 1993:145).

sovereignty – the power to govern, often achieved through asserting jurisdiction over territory and people (Kickingbird et al., 1983).

Traditional Ecological Knowledge (TEK) – "a cumulative body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment" (Berkes, 1999:7).

tribal trust responsibility – a concept within U.S. federal Indian law that describes a fiduciary obligation held by the U.S. federal government towards federally recognized tribes. Tribal trust responsibility is typically enforced with the U.S. executive branch in relation to tribal lands and resources, where assets are held in trust for a tribe by the federal government. This responsibility was developed out of early U.S. laws establishing congressional power to regulate commerce with Indian tribes and presidential power to make treaties, as well as out of the judicial system with Chief Justice John Marshall's decisions describing the guardianship role held by the U.S. government towards Indian tribes (Canby, 2009).

III. Case Background: Karuk - Forest Service relations

"The Forest Service was instrumental in making the Karuks landless.[11] *There was a lot of discrimination. People here were using the land differently, but it wasn't understood. . . . That wound is still open and hasn't been healed."*

- Anonymous, Karuk tribal member

In Northern California's Klamath Basin, wide swaths of National Forest dominate maps of the Karuk Tribe's Aboriginal Territory and Tribal Land—a land status that remains invisible to most visitors to the area (see figure 1.1). Although Karuk people have historically participated in local timber industry as an important source of employment, there are significant differences in Karuk and Forest Service land management priorities. Different concepts of place and opposing management priorities have led to conflicts between the Forest Service and the Karuk Tribe, such as conflicts over sacred site protection that include the G-O Road case (Grieser, Jacques, & Witmer, 2008) as well as ongoing conflicts over using prescribed burning to enhance cultural resources on federal forestlands (Busam, 2005; Lake, 2007).

The Forest Service has historically focused on timber production. Douglas fir plantations are interspersed across the mid-Klamath landscape, and the pointy tops of young fir trees line the river corridor. In contrast, Karuk land managers often refer to the Douglas fir as a "devil tree". This is because the tree produces no significant food resources, and if left unchecked by burning or thinning, Douglas fir can encroach over valuable subsistence harvest areas. The Karuk Tribe has traditionally used fire as a key management tool to manage the forest landscape as a mosaic of habitats, in order to promote a diversity of cultural resources (Salter, 2004; Busam, 2006; Lake, 2007; Salter, 2004). Priority cultural resources include understory plants used for basketweaving; medicine plants; acorn-producing oak trees, tan oak (matsutake) mushrooms, and other food plants; wildlife used for subsistence purposes, such as deer or salmon; and other species needed for making ceremonial regalia. For the Karuk, the landscape is made up of sacred places. The Tribe continues to practice its World Renewal ceremonies that bring Karuk people together in an effort to "fix the world". Karuk World Renewal philosophy obligates its followers to take on stewardship responsibility for natural resources (Kroeber, 1925; Karuk DNR, 2011; Kroeber & Gifford, 1949; Lang, 2012). Prayer seats and medicine trails continue to be used in contemporary Karuk World Renewal ceremonies, as they have for centuries—despite the fact that a number of ceremonial dance grounds are now located along the highway.

[11] The term "landless" is intended to convey that Karuk people have become unrecognized occupants of their aboriginal territory. Many Karuk families are still living within the mid-Klamath and have maintained connections to family areas.

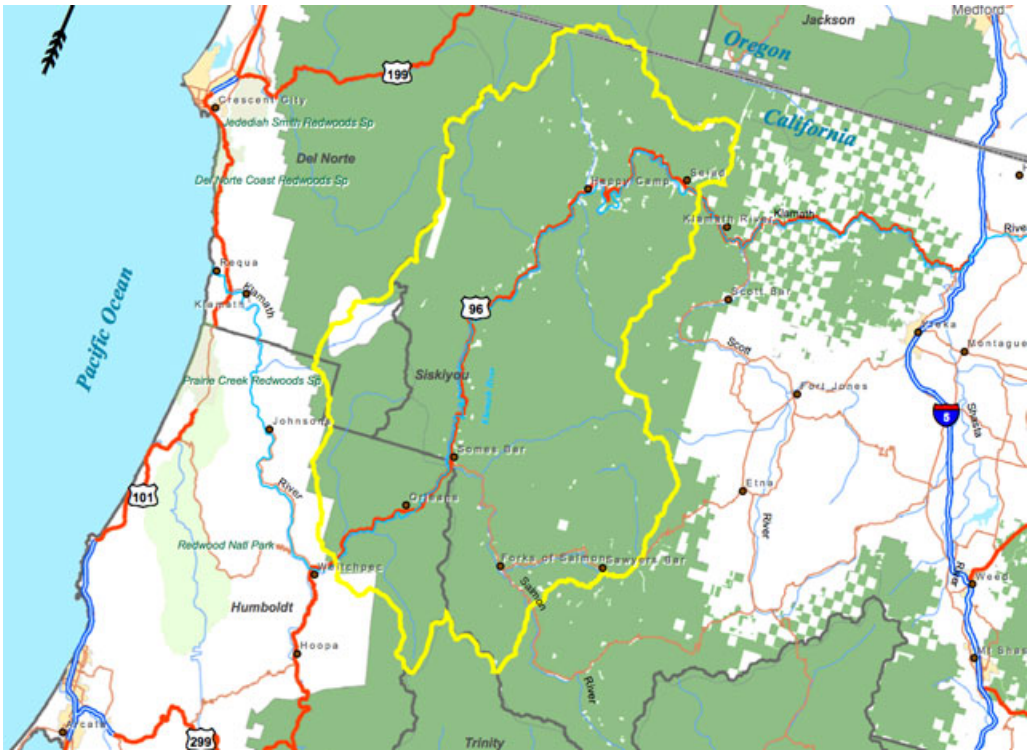

Figure 1.1 Map of Karuk Aboriginal Territory, extending between California and Oregon. National Forest areas are shown in green. Note that the Ti Bar area is located approximately half-way between Orleans and Happy Camp. Map from http://www.karuk.org/territorymap.shtml.

Disputes over land claims have created additional tensions between the Tribe and the Forest Service. The Karuk Tribe is a federally recognized tribe. Its political status was formally confirmed by the U.S. government in 1979.[12] With over 3,500 members, it is one of the largest tribes in California (Karuk Tribe, 2008; Office of the Tribal Chairman, 1995). Yet unlike neighboring tribes, the Karuk Tribe has no reservation. The Tribe currently holds just 827 acres of trust lands (slightly over one square mile), held in trust on behalf of the Tribe by the U.S. federal government (Karuk Tribe, 2007; personal communication, Scott Quinn, May 28, 2014). Although the Karuk Tribe negotiated treaties, these treaties were not ratified by the U.S. Senate, in part due to the massive land grab occurring during the California Gold Rush period (Heizer, 1972; Hurtado, 1988; Johnston-Dodds, 2002). Since no valid treaty was signed to legally cede Karuk territory to the U.S. government, the Karuk Tribe continues to dispute federal ownership of its aboriginal territory (Karuk DNR, 2011). In 1905, the U.S. created multiple Forest Reserves in Northern California's Klamath Mountains as a precursor to today's National Forests (Bower, 1979). Forest Reserve areas overlapped with the majority of the Karuk Aboriginal Territory, which covers approximately 1.38 million acres. As a result of

[12] Letter from the United States Department of the Interior, Assistant Secretary - Indian Affairs, January 15, 1979. The Assistant Secretary writes that he is, "herby directing that the government-to-government relationship, with attendant Bureau services within available resources, be re-established. Accordingly, I am further directing that the tribe be added to all lists of federally recognized tribes maintained by the Bureau of Indian Affairs."

Forest Service jurisdiction, Karuk people have experienced serious difficulties in gaining access to cultural resources on federal forestlands (Karuk DNR, 2011).

The ability of Karuk tribal members to access cultural resources on federal lands has been further limited by federal management regulations, including fire suppression policies and the regulation of subsistence harvest. The criminalization of California Native American burning first began during the Spanish Mission period, when Governor Arillaga's 1793 Proclamation called on Spanish authorities to punish Native peoples for grassland burning (Timbrook, 1982). At the turn of the century, the Forest Service responded to recent wildfire events occurring across the U.S. by adopting an official policy of total fire exclusion (instead of emphasizing management of forest fuel accumulation) (Biswell, 1989). Supporting the Forest Service's message that "fire protection was the foundation of forest conservation," the Weeks Act of 1911 was one key policy that encouraged fire control in National Forests (Pyne, 1982: 61, 167). By 1935, the Forest Service had established a "10a.m. Policy" that required all fires be suppressed by the morning following their first report (FLAME Report to Congress, 2011: 24). After many years of fire suppression, Mid-Klamath forests have become more dense, with smaller forest openings than in pre-suppression years (Skinner, 1995; Taylor & Skinner, 2003). Karuk tribal members directly link fire suppression to decreased production of Karuk cultural resources that depend on fire disturbance (Salter, 2004; Norgaard, 2014).

In addition, enforcement measures imposed by multiple agencies have discouraged Karuk subsistence harvests for salmon, elk, mushrooms, and other traditional foods. For example, fish and game laws have attempted to restrict Karuk fishing, although the Karuk Tribe has not recognized those restrictions. In 1970, after the courts became overcrowded with tribal fishing disputes, the California State Department of Fish and Game decided to regulate non-tribal fishers away from one of the Karuk Tribe's primary subsistence fishing area at Ishi Pishi Falls (American Indian Technical Services, 1982; personal communication, Leaf Hillman, October 22, 2014).[13] But the problem continues. In a recent survey, thirty six percent of respondents reported decreasing their subsistence or ceremonial activities due to questioning or harassment by game wardens (Norgaard, 2005:30).[14]

Theoretically, U.S. federal Indian law has significant implications for federal agencies working with recognized tribes, like the Karuk. The legal doctrine of federal trust responsibility directs the U.S. federal government to uphold a fiduciary duty to manage trust resources for the benefit of tribes as distinct political bodies (Wilkinson & AILTP 2004: 51-62). Indian law scholar Charles Wilkinson explains the implications of tribal trust doctrine as follows, "the case law dictates that, unless Congress clearly authorizes it, federal agencies cannot subordinate Indian interests to other public purposes" (Wilkinson & AILTP, 2004:29). Forest Service policies recognize the special status of U.S. tribes as having governments and laws that preexisted the U.S. Constitution

[13] See California Fish and Game Code 14 CA ADC § 7.50 (b)(91.1) B2. Despite language in Fish and Game Code, the Karuk Tribe does not recognize outside regulation of tribal fisheries, and continues to fish under tribal authority (personal communication, Leaf Hillman, October 22, 2014).

[14] This references Kari Norgaard's 2005 Karuk Heath and Fish Consumption Survey of 90 Karuk tribal members living within Karuk Aboriginal Territory.

(Mitchell, 1997:33).[15]

Federally recognized tribes like the Karuk can hold special use rights within federal forestlands due to their political status, and it is in this legal context that the Karuk Tribe has pursued agreements with the U.S. Forest Service to facilitate co-management. For example, under the U.S. Forest Service Pacific Southwest Region Traditional Gathering policy, tribal members are legally authorized to gather non-timber forest projects on federal lands for non-commercial use without a permit.[16] In addition, current U.S. Forest Service Land and Resource Management Plans have established cultural management areas, as well as contemporary use areas, which recognize the jurisdictional authority of tribes within federal forestlands (USDA Forest Service, 1995a: 4-101, 1995b: IV-33). Furthermore, the Tribal Forest Protection Act of 2004 specifically enables tribes to conduct management activities within federal forests when threats to tribal trust lands may arise from the adjacent federal forestlands. This may occur when dense forest fuel build-up increases the threat of severe wildfire impacts to tribal lands (Trosper et al., 2012). As a more general policy that extends beyond forest management, Executive Order 13175 directs federal agencies to consult with tribal governments on policies that may impact tribes.[17] U.S. law also requires agencies to engage with tribal governments during early scoping stages of environmental assessments (Mitchell, 1997:37).[18]

IV. Research methods

For this research, I have taken a community-engaged scholarship approach. This involved developing my research questions and framework with community members, working through existing and newly created tribal approval processes, and reviewing work in progress with local mentors. In the summer of 2009, I was first invited to visit

[15] Mitchell's *Forest Service National Resource Guide to American Indian and Alaska Native Relations* is intended as a "National Tribal Resource Book" developed for Forest Service leadership. As stated in the guide's Executive Summary, "the focus of this resource book is to help Forest Service line officers and employees gain a clear understanding of how to implement and the U.S. Government's and the Forest Service's American Indian and Alaska Native policies."

[16] See memo on Interagency Tribal Gathering Policy, April 6, 2007, which is referenced in the Forest Service Manual, Chapter 1560 State Tribal, County, and Local Agencies; Public and Private Organizations, Amendment No: 1500-2007-1; Effective Date: July 25, 2007. This policy sets out regional direction regarding the California State Director and Pacific Southwest Regional Forester Traditional Gathering policy, in order to promote consistency between the Forest Service and Bureau of Land Management and collaboration with tribal communities. The policy is supported by 25 U.S. Code, Section 3041, on Cultural and Heritage Cooperation Authority, which authorizes "the Secretary of the Interior to provide forest products, without consideration, to Indian tribes for traditional and cultural purposes."

[17] Forest Service Manual (FSM) Chapter 1560 – State, Tribal County, and Local Agencies; Public and Private Organizations; Amendment No.: 1500-2012-1; Effective Date: July 18, 2012, which requires Federal agencies to consult with Tribes on proposed Federal decisions or projects that have substantial direct effects on tribal rights or interests, as directed by Executive Order 13175 – Consultation and Coordination With Indian Tribal Governments (2000).

[18] Council on Environmental Quality, Executive Office of the President, Regulations For Implementing The Procedural Provisions Of The National Environmental Policy Act, Reprint, 40 CFR Parts 1500-1508 (2005). See Part 2(d)(2), requiring that a federal agency "consults early" with Indian tribes, "when its own involvement is reasonably foreseeable." And Part 1501.7(a)(1), requiring a federal agency to invite the participation of "any affected Indian tribe" in NEPA review.

the mid-Klamath by members of the Karuk–UC Berkeley Collaborative (KBC), a group that fosters synergistic collaborations between the Karuk Department of Natural Resources (Karuk DNR) and Berkeley to support Karuk eco-cultural revitalization.[19] Discussions about community research needs led to the idea for a co-management study focused on the Ti Bar Demonstration Project. Over the next year (2009-10), I partnered with Karuk land managers at the Karuk Department of Natural Resources to study the history of land management affecting Karuk Aboriginal Territory. This collaboration produced the Karuk Lands Management Historical Timeline as a community education tool, and as a framework for understanding the historical events shaping my case study (Diver 2014; Diver et al., 2010). In 2010-11, I worked with the KBC to develop a research protocol governing respectful collaborations between researchers and the Karuk Tribe.[20] In May 2012, the Karuk Tribal Council approved my research proposal to study the Ti Bar Demonstration Project. Throughout the project, I have discussed preliminary findings and shared writing products with KBC mentors. Alongside the research, I have also engaged in synergistic activities, such as hosting Karuk youth at Berkeley for college tours, co-organizing a participatory mapping workshop, grant writing, researching policy issues, and supporting Karuk eco-cultural restoration planning initiatives.

The case study involved conducting participant observation, semi-structured interviews with key informants, and document analysis. Over the five-year study period (from fall 2009 to spring 2014), I visited Karuk DNR collaborators at least once a quarter—with additional visits during peak research periods. Visit lengths ranged from three to ten days. As part of participant observation, I attended Karuk Department of Natural Resources (Karuk DNR) planning sessions, walked through Ti Bar Demo management and restoration sites with project participants, joined Karuk-Forest Service field trips, observed Karuk ceremonies and subsistence activities, assisted with youth workshops emphasizing traditional foods revitalization, and observed community wildfire response activities. I also attended Forest Service listening sessions on revising sacred site policies, several conferences on mid-Klamath prescribed fire issues, and community planning sessions involving the Karuk Tribe and the Forest Service. I also worked with Karuk DNR records of Ti Bar planning activities, and accessed archival documents from the National Archives and Records Administration in San Francisco.

For the interviews, I used the snowball sampling method—a technique in which existing study participants recruit additional respondents from among their acquaintances (Goodman, 1961). I selected key informants who played a role in the Ti Bar Demonstration project, or related initiatives. Over 2012, I conducted a total of 30 semi-structured interviews, which included 10 Karuk Tribe staff, 14 Forest Service staff, and 6 additional community members. Because both the Forest Service and the Karuk Tribe have tribal and non-tribal staff members, I have specified when informants have a tribal affiliation in my writing. According to my research protocol, study informants could choose to use their name in research reports, or to remain anonymous. Thus, any names in this writing are used with the written permission of the individual. Interview questions focused on the history and impact of the Ti Bar Demonstration Project and shifts in the management relationship between the Karuk Tribe and the Forest Service. I also inquired about how the sharing of knowledge and authority played out through the project.

[19] More information at http://nature.berkeley.edu/karuk-collaborative/
[20] See http://nature.berkeley.edu/karuk-collaborative/?page_id=165

V. Co-management case study: Ti Bar Demonstration Project

We want to manage the forest traditionally. In traditional management, fire is the primary tool, so we need to get fire [back] on the landscape. And because of our legal situation, we need to do it with the Forest Service. We need to be able to do it in a co-management capacity, to be able to manage public trust and tribal trust resources simultaneously. And I think the Ti Bar Demonstration Project, by design, was that management tool. *– Ron Reed, Karuk Tribal Member*

Our policies were very important to the Karuk, because they didn't have land. So that particularly added to difficulties and tension. Where tribes have land, they do their thing. . . . I think all along [the Karuk] were trying to establish a historical right to their spiritual places. So that was tough, because it wasn't their land. It was National Forest land under National Forest policies, not Karuk policies. So it was very hard to know how far you go. . . . In terms of the federal policy. The settlement with the tribe was monetary; it wasn't a reservation. And so I think that's the clear policy. And yet that's never going to be okay with the Karuk members, probably.

– Barbara Holder, retired Forest Supervisor, Klamath National Forest

The Ti Bar Demonstration case represents one of the first attempts by the Karuk Tribe to co-manage forestry projects on federal forestlands. Co-led by the Forest Service and the Karuk Tribe in the late 1990s, the Ti Bar Demonstration Project (or Ti Bar Demo) supported several ecological and cultural restoration initiatives implemented within the Ukonom Forest District of the Klamath National Forest.[21] The project was authorized by an Interagency Agreement between the US Forest Service and Bureau of Indian Affairs (BIA). This agreement committed the agencies to working with the Karuk Tribe to establish a tribal Demonstration Project. Stated project goals included selecting and identifying key project areas to "…to illustrate culturally appropriate vegetative treatments in culturally sensitive areas" and to "develop simple, effective processes and techniques that facilitate the creation and utilization of agreements to jointly undertake projects…"[22] For the Karuk Tribe, a key goal was to restore priority cultural resources. Importantly, this was not a pre-formed project; rather, it was tribal land managers who proposed restoration treatments. These treatments applied a new eco-cultural restoration approach to land management—a significant departure from the forest plantation management occurring within the Ti Bar area. The project included prescribed burning components and funding for tribal crews to implement the restoration treatments.

The Ti Bar Demonstration Project area is located within the mid-Klamath's Ti Creek sub-watershed, an area of 6,060 acres, or about ten square miles (Ukonom, 1998:3-1). The area is about mid-way between the towns of Orleans and Happy Camp, and is adjacent to the Katimiin Cultural Management Area, which includes Offield Mountain.

[21] . The Six Rivers National Forest was also involved in project coordination, due to Forest Service cost reductions and consolidations occurring at the time.

[22] Interagency Agreement between the USDI, Bureau of Indian Affairs and USDA, Forest Service, Klamath National Forest, October 4, 1996 p.1, 4. On file with the Karuk Tribe Department of Natural Resources. (I wonder if you should keep a file of scanned docs if the Tribe permits)

"Ti Bar" itself is a wide river bar, formed by that sediment that has accumulated around the mouth of Ti Creek, where it flows into the Klamath River (see figures 1.1 and 1.3).

Although the area is still rich in ecological and cultural resources, the Ti Bar landscape reflects the many socio-ecological changes that have affected Karuk culture and mid-Klamath ecosystems. Whereas the Ti Bar area once supported several Karuk villages, the region now has a minimal Karuk presence: two Karuk families hold small tribal allotments near Ti Bar flat. The family-owned ceremonial dance area on Ti Bar flat currently doubles as a recreational boat launch. Because of its gentle slopes and productive growing conditions, Ti Bar was one of the first places to be logged in the surrounding area. Logging roads were initially built in the 1950s, and timber harvests accelerated in the 1970s (Bower, 1983).[23] During the timber boom period, Karuk people recall the Forest Service dumping herbicides and pesticides in areas used for gathering basketweaving materials. Due to U.S. fire suppression policy, wildlife meadows around Ti Bar have been lost due to forest encroachment. Road construction and landslides have precipitated significant changes in local hydrology. As a result, coho salmon rearing pools on Ti Bar flat, formerly filled with cold creek water that provided fish with an important off-channel refuge during hot summer months, are now disconnected from the Klamath River mainstem and unavailable to migrating salmon.[24] Despite these impacts, many tribal members wish to see the revitalization of cultural resources, including plants that continue to be used for basketweaving and medicines, food plants such as acorn trees and huckleberries, and salmon and elk habitat that persist in the Ti Bar area (see figure 2, below).

This next section highlights some of transformational processes that led to the Ti Bar Demonstration. Table 1.2 summarizes key steps taken to launch the Demonstration Project. This is followed by a discussion of strategic opportunities for building co-management institutions through the Ti Bar Demo. The section then examines some of the structural barriers to co-management that arise with the project. Finally, it analyzes the lasting impacts of the Ti Bar initiative.

[23] USDA Forest Service, Klamath National Forest, Region 5, Proposed Ti Creek Road 4306. 4/22/55. Exhibit "A" map.

[24] The Ukonom and Happy Camp Ranger Districts Klamath National Forest 1998 Report, entitled *Ishi-Pishi/Ukonom Ecosystem Analysis*, classifies the Ti Creek watershed as "impaired" according to its watershed model (p. 5-6). The report also notes the high road density in the area and loss of open meadows, which was ascertained through the analysis of 1944 aerial photos (p. 4-1).

Figure 1.2. Photos of a traditional foods workshop and youth restoration activities held at Ti Bar flat, July 2013.

Getting to co-management: Resisting co-optation

"[We started] realizing that [for] people who don't have a voice in management, you have to use all the tools at your disposal. You can't be one-dimensional. If you are going to be successful, you have to throw everything in the kitchen sink at it. . . . If you are going to get people's attention, you are going to have to demonstrate your ability to be unreasonable at times." - Leaf Hillman, Karuk tribal member

"The long term idea was to get Karuk people into these fuels reductions and being able to manage fire, especially back to burning Offield Mountain . . . . We need to make it a way of life again, because it is an important part of our identity. It's why we're here, and that's being lost. It needs to be revitalized..." - Bill Tripp, Karuk tribal member

Despite the existence of legal frameworks that should support co-management arrangements, getting to the Ti Bar Demonstration Project was extremely difficult. In the early 1990s, the project was facilitated by a series of crisis moments and "coercive forces" (Wood & Welcker, 2008: 401) that precipitated a dramatic shift in state-Indigenous management relationships. At this time, following years of intensive industrial logging in the Pacific Northwest region, the Forest Service was struggling to respond to the 1990 listing of the northern spotted owl under the U.S. Endangered Species Act. The listing precipitated a shut down of much of the timber harvest on public lands across the region, which contributed to a severe economic downturn for timber-dependent communities. In response, the U.S. government created the Northwest Forest Plan (NWFP), which ushered in new concepts of "ecosystem management" and prompted the agency's first hiring of the staff ecologists. One Forest Service representative commented on the NWFP impacts on forestry in Klamath National Forest, "[we] went to harvesting 50 million board feet per year under the Plan. Before, it was five times that—at 250 million board feet per year." Around this same time, the Forest Service was dealing with large wildfires across California, Oregon and Washington (Biswell, 1989), and an increase in large catastrophic wildfires in the Klamath Mountains. This included the 1987 Complex Fire that re-burned earlier Hog Fire areas (Diver et al., 2010; Salmon River Restoration Council).

Table 1.2. Timeline of Events Related to the Ti Bar Demonstration Project

1979 – U.S. government formally acknowledges the Karuk Tribe as a federally recognized tribe

1983/84 – Karuk Tribe protests logging on sacred Offield Mountain

1986 – Klamath River Basin Fishery Resources Restoration Act is passed, thereby providing some opportunities for tribal participation in watershed and fishery management decisions

1987 – Large wildfires occur across California, and in the mid-Klamath (reburning Hog-Off Fire area)

1988 – Karuk Tribe fisheries program begins as a precursor to the Karuk Dept. of Natural Resources

1990 – Endangered Species Act (ESA) listing occurs is approved for the northern spotted owl (threatened)

1993 – Karuk Tribe is invited to join Klamath National Forests (KNF) Land and Resource Management Plan (LRMP) planning team

1994 – Northwest Forest Plan is adopted

1994 –Memorandum of Understanding (MOU) is signed to protect Karuk heritage resources from potential damages resulting from fire suppression actions by Karuk Tribe, KNF, and Six Rivers National Forest (SRNF)—triggered by cultural resource conflicts during Dillon complex fires

1995 – Karuk Tribal Module for the Main Stem Salmon River Watershed Analysis paper is completed

1996 – Ecologist Jon Martin is hired by the Forest Service as the Ukonom and Orleans District Ranger

1996 – Interagency Agreement between the USDI, Bureau of Indian Affairs and USDA Forest Service Klamath National Forest, October 4, 1996 is signed to authorize the Ti Bar Demo project

1997 – Karuk Tribe begins Ti Bar Demo planning

1998 – Karuk Tribe completes Ti Bar mission and treatment proposals, which are adopted by the Forest Service

1998 – Karuk Tribe conducts Steinacher road decommissioning project to protect salmon streams

1998 – Ishi Pishi/Ukonom Ecosystem Analysis is completed to assess watershed health

1998 – Forest Supervisor Barbara Holder (KNF) retires; Forest Supervisor Martha Kettelle (SRNF) is transferred shortly afterwards, and her replacement does not support the Ti Bar project

1999 – Tribal crews complete Ti Bar Demo willow treatment and forest thinning/pile burning

1999 – Offield Mountain Ceremonial Burn project is initiated, but is not completed.

1999 – Orleans and Ukonom District Ranger Jon Martin departs for D.C.

2000 – None of the remaining Ti Bar treatments are initiated; the planned underburn does not occur

2005 – Karuk Environmental Management Practices Demonstration Area (KEMPDA) concept paper is signed, although the document does not directly result in any project activities

2009 – Orleans Community Fire Reduction project impacts Karuk sacred sites

2012 – Memorandum of Understanding for the Katimiin Cultural Management Area is signed by the Forest Service and the Karuk Tribe

2014 – Agreement is signed between the Forest Service and the BIA, supporting the Somes Bar Integrated Wildland Fire Management Project, a pilot project of the Western Klamath Restoration Partnership that is co-led by the Karuk Tribe and its community partners

During the 1980s, there was a growing tribal sovereignty movement in the Klamath Basin. For example, in the mid 1980s, Karuk tribal members and their allies staged direct action protests to stop a helicopter logging sale in cultural areas on Offield Mountain, a sacred place for Karuk people. It was this *de facto* assertion of tribal authority and associated press coverage that initially compelled the Forest Service to begin consulting with the Karuk Tribe on forest management issues. As Karuk DNR director and ceremonial leader Leaf Hillman commented, "You get to the point where people respect you out of fear. Not because it is the right thing to do."

From the late 1980s through the early 1990s, attempted dialogue between the Karuk Tribe and the Forest Service was characterized by high levels of animosity. Leaf Hillman described one meeting between tribal leaders and Forest Service staff that followed the Offield Mountain protests. Tensions were high, and the decision to hold the meeting at the Ukonom Forest District Office, a structure that had been built on top of a Karuk ceremonial area and gravesite, did not help the situation. Hillman described the course of events,

> "So we had gotten a lot of our elders together by this time. There were a lot of them that were there, as it was Pickyavish time at Katimiin. We brought them in force. . . . [but] they [were having] a hard time communicating in a way that meant anything to the audience. . . . I could recognize disrespect when I saw it—the way that [Forest Service staff] were treating [our elders]. Here they were trying to communicate from the heart what this place meant to them. And [Forest Service staff] were not hearing it. And they were not wanting to hear it. They were just wanting it to go away. They were wanting us to go away. . . . And at some point in time, a Karuk man, who is now one of our elders . . . stood up, reached across the table and grabbed the District Ranger by the shirt collar and dragged him across the table. . . . As soon as he let go of him, all of them [the Forest Service staff] quickly got up and made a hasty retreat out the back door, and called the cops. And that was the end of the meeting. So our first attempt to sit down at the table and communicate our position to the Forest Service and find a diplomatic solution to the crisis ended abruptly."

Following the Offield Mountain fiasco, Karuk-Forest Service relations were at a low point. However, monthly meetings continued, and part of the discussion included relocating the Ukonom District office. Not only was the office built upon a tribal burial site, but it was also a geologically unstable area, prone to landslides. During these discussions, the Forest Service offered to appoint a tribal member to the Interdisciplinary Team that was developing the new Land and Resource Management Plan for the Klamath National Forest. The plan was nearing completion, and Hillman refers to the offer as "one of the bones that they tossed out". But he volunteered for the job anyway. During one planning session, Hillman noted that Forest Service planners had recently set aside the Offield Mountain area as a "spotted owl protection zone," which indicated that the agency was not going to do any management in the area. This was the same area the tribe had highlighted as an important cultural site during the Offield Mountain protests. Hillman challenged the Forest Service on the spotted owl designation.

> "I said, 'Where's the surveys?' And they had no surveys to support [it]. They had no spotted owl. So that's where this idea of the Cultural Management Areas came from. . . . [Forest Service staff] weren't really receptive to the idea. But I put it on them. I told them, 'This Katimiin area, this Inam area – you need to quit bullshitting about it and call it what it is. And acknowledge that management in these areas needs to be co-managed by the Tribe."

After receiving additional pressure from tribal leaders, Forest Service officials eventually agreed to the Tribe's request. The Klamath Forest Land and Resource Management Plan (LRMP) established the "Management Area 8" category, a designation that sets aside primary Karuk ceremonial sites and the surrounding landscape as Cultural Management Areas (CMAs). The Klamath Forest LRMP requires that, "The integrity of the area for use by the Karuk Tribe of California is maintained in a manner consistent with their custom and culture" (USDA Forest Service, 1995a). For CMA designated lands, the Karuk Tribe and the Forest Service must establish a Memorandum of Understanding (MOU) that specifies management activities for the CMA and nearby areas. The Klamath National Forest LRMP designation also requires the Forest Service to coordinate with the Tribe on the use of prescribed fire.

Recognizing the high stakes involved in testing out the new Cultural Management Area policy in primary ceremonial areas, Karuk tribal leaders proposed working with the Forest Service on a pilot test at Ti Bar, a less sensitive site that was still important for Karuk cultural use. This brought the discussion to conducting a tribal demonstration project in the Ti Bar area. Bill Tripp explained some of the Karuk Tribe's reservations about working with the Forest Service in the Cultural Management Areas,

> "Because we know how the agency works, we were kind of skeptical. There is not a lot of trust there. And so we didn't want to just go in and test it in the cultural management areas. . . . we didn't want it to be just Forest Service employees [implementing the management]. We wanted to be sovereign…"

These historical events illustrate the power dynamics shaping the relationship between the Forest Service and the Karuk Tribe in the early-mid 1990s, and the initial resistance from the Forest Service to including tribal managers in planning efforts. The Land and Resource Management Plan (LRMP) history also demonstrates the initial reaction of tribal managers to being invited to join Forest Service planning teams, as "throwing a bone." The demonstration project was viewed as an offer that could distract the Tribe from more central concerns, and potentially lead to the co-optation of Karuk interests. It is under such conditions that the Karuk Tribe and the Forest Service strove to initiate a co-management "experiment" with the Ti Bar Demo—a difficult task.

Table 1.3: Key steps to implementing the Ti Bar Demonstration Project

1) Engaging Forest Service leadership, demonstrating political will, and building tribal capacity
- Forest Supervisor Barbara Holder hired Jon Martin—an ecologist by training—as the Ukonom and Orleans Forest District Ranger.
- Martin learned about tribal history and culture, attended Karuk ceremonies, and organized informal events for tribal and agency leaders, such as a Klamath River float trip.
- Forest Service staff moved out of the Ukonom Ranger Office site, due to geologic instability at the site.[25]
- Tribal monitors were hired to work on forest fires, and forestry projects, following the 1994 MOU between the Forest Service and Tribe.
- The Tribe began working with the Forest Service on road decommissioning.

2) Identifying complementary goals and funding
- Forest policy on "ecosystem management" aligned with Karuk goals for restoring cultural resources.
- Improving wildland fire management was another common goal.
- The Forest Service provided seed funding for a forest thinning/underburn treatment.
- The Tribe applied for and received most of its funding through the BIA, and succeeded in funding its pre-burn fuels treatment at $1200/acre (the former standard was $300/acre).
- The Forest Service and the BIA signed an Interagency Agreement to work with the Karuk Tribe in establishing a tribal demonstration project in the Ti Bar area.

3) Generating a "pivot point" with existing policy: Interdisciplinary Team co-leads
- District Ranger Jon Martin created an Interdisciplinary Team (ID Team), a structure used in conducting environmental assessments to support the project.
- Martin assigned ID Team co-leads from the Tribe and from the Forest Service.

4) Planning Karuk eco-cultural restoration treatments
- Tribal land managers spent several months identifying the Tribe's restoration priorities for Ti Bar cultural resources.
- The Tribe's eco-cultural restoration priorities built off of the existing Karuk Tribal Module for the Main Stem Salmon River Watershed Analysis (Karuk DNR, 1995).
- Treatments chosen included a forest thinning/underburn project, a willow stand treatment, and a wetland restoration to restore ecologically and culturally important understory plants.

5) Implementing prescriptions on the ground
- The Tribe rewrote NEPA plans for the Ti Bar Demo project and gained regulatory approvals to conduct the forest thinning and pre-burn treatments.
- Tribal crews completed the willow stand treatment, as well as the selective thinning and pile burning over 189 acres.[26]

[25] Tribal members report that the Ukonom Ranger Office move did not go as planned. According to tribal land managers, the Forest Service initially drafted an MOU, which proposed trading the Ukonom Ranger Office site (now referred to as the Somes Workcenter) for a different area, which has since become the USFS Oak Bottom Workcenter. However, after Oak Bottom construction was completed, tribal members report that the Forest Service went back on its offer to turn over the Ukonom site as tribal property. The rationale given was that the agency was not able to trade for land that it already owned. The Tribe is currently using the Somes Workcenter, but does not own the land there—a traditional village site that continues to be occupied and used by Karuk people today. There is special use permit for the site that was signed by the Forest Service and the BIA (Bill Tripp, personal communication, October 23, 2014).

[26] Personal communication, Bill Tripp, July 5, 2012.

6) Project implosion

- Supportive Forest Supervisors moved on, and new hires were uncomfortable with the close collaboration between the Forest Service and the Tribe.
- Lacking support from his new boss, Martin left his post for a job in D.C.
- The planned underburn and wetland restoration were never conducted.
- Despite future efforts to revive the Ti Bar Demo, the project has been left unfinished.
- The Klamath Environmental Management Project Demonstration Area (KEMPDA) concept paper was signed as part of dispute resolution proceedings, but this did not directly lead to additional collaborative projects .

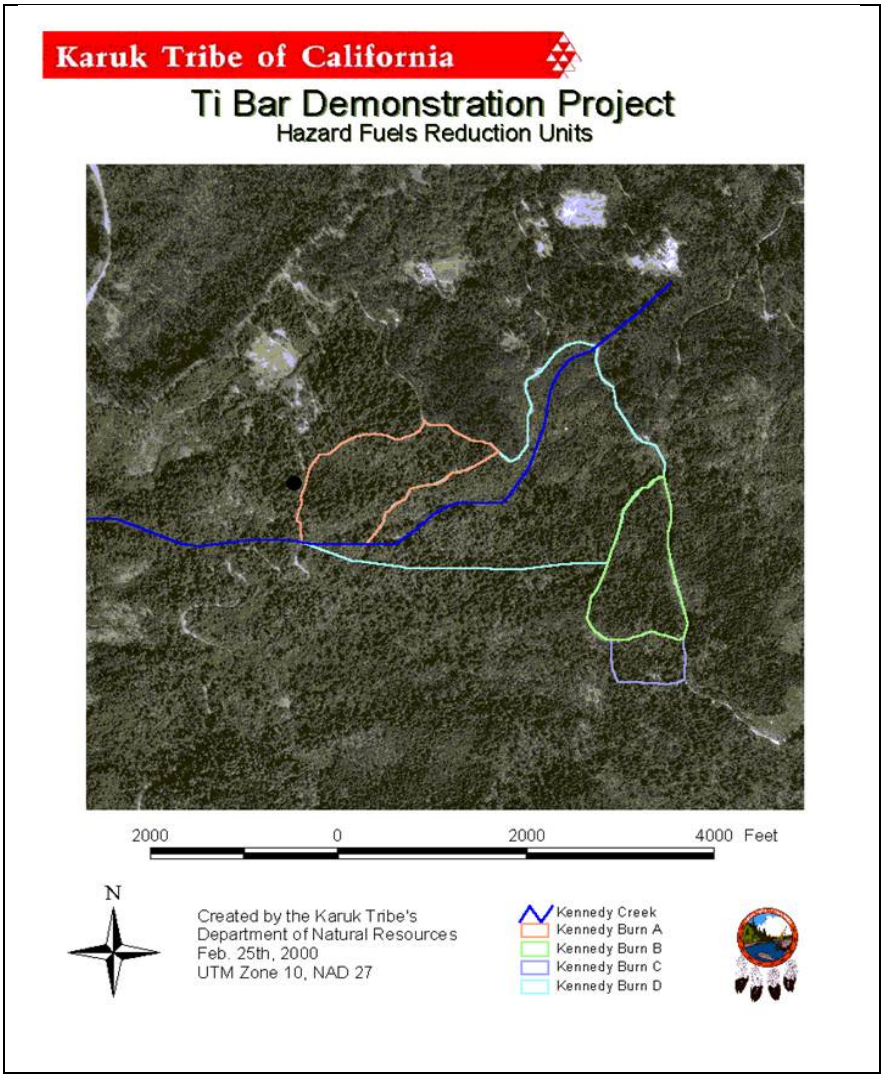

Figure 1.3. Ti Bar Demonstration area of fuels reduction work, completed by tribal crews. Map by the Karuk Department of Natural Resources, 2000.

Approaching co-existence: Post-colonial planning moments

"We expected to be able to build programs, get people jobs, and be in there managing. Not only in the cultural management areas, but as a whole. [It was about] bringing back some of these practices, putting our people to work, and in essence, reteaching our [tribal] people who they are and what they are here to do."

– *Bill Tripp, Karuk tribal member*

"Twenty years ago, co-management was a term that we didn't dare use . . . For Forest Service district rangers . . . co-management implied that authority was being given away. District Rangers didn't have the legal basis to give this [authority] away. However, at the time (and still today), there were ways to share in decision-making through collaboration and partnerships . . . as long as the decision-makers "up-the-line" were supportive.

– Jon Martin, former Ukonom and Orleans District Ranger

The Ti Bar Demo was one of the first efforts to bridge the conflict-ridden relationship between tribal and agency managers in the mid-Klamath, and an important precedent for collaboration. In 1999, tribal teams completed several eco-cultural restoration projects to enhance cultural resources on federal forestlands within the Ti Bar area. These included a willow stand treatment, and a forest thinning treatment with some pile burning (see figure 1.3, above). A number of events facilitated the creation of Ti Bar Demo, and the implementation of several successful restoration treatments (see table 1.3). The following section highlights several of the "post-colonial" planning moments that supported Karuk self-determination within the co-management process.

1) *Establishing respectful relationships, demonstrating political will.* One of the first steps in creating the Ti Bar Demo was having Forest Service leaders engage in relationship building with the Tribe, and demonstrate a commitment to addressing the Tribe's concerns. The new ranger for the Ukonom Forest District, Jon Martin, an ecologist by training, was a pivotal figure in this process. Coming into the District Ranger position, Martin made a personal commitment to educating himself about Karuk culture. Karuk tribal member and cultural biologist Ron Reed described Martin as someone who "hung around long enough to understand what we were talking about." Martin attended ceremonies, spent time learning how the Tribe did things, and built effective working relationships.

Martin organized strategic and informal events that brought together tribal and agency leaders. One such occasion was a Klamath River float trip, which he arranged to connect the Forest Service and river rafting outfitters with tribal land managers. Part of the goal was for trip participants to identify a strategy for ensuring privacy at cultural sites along the river during ceremony times. As Barbara Holder, former Forest Supervisor on the Klamath National Forest, commented,

> "We ended up spending time swimming together in the river, jumping from rafts into the river, and splashing and just being people together. And that was a wonderful way to break any tension and stiffness, and to just be able to talk honestly together. . . When you're in your grubbies with wet hair [laughing], it's pretty easy to get past any formality."

Prior to the Ti Bar Demo, the Forest Service took definitive steps towards recognizing Karuk concerns and interests. For example, the Forest Service moved out of the Ukonom Ranger Office site, and later developed a special use permit with the BIA that supports the Karuk Tribe's use of the site. The Forest Service was primarily responding to the risks involved with maintaining structures in this geologically unstable area, but the decision was still meaningful for the Tribe. Before Ti Bar Demo was initiated, the Forest Service also signed an MOU with the Tribe on protecting Karuk heritage resources from damages resulting from fire suppression actions, which followed 1994 Dillon Complex fires and disagreements over agency operations affecting tribal allotments and cemetery areas. Thus, the Forest Service began hiring tribal monitors on forestry projects and forest fires to help protect culturally important places. In addition, the Tribe began working with the Forest Service on road decommissioning. This program put tribal crews to work removing impaired Forest Service roads, thereby preventing harmful sediment from being washed into salmon streams. Taken as a whole, these actions helped demonstrate the increase in political will that agency officials brought to the Ti Bar co-management project.

2) Identifying a "pivot point." A second key factor to launching the Ti Bar Demo was identifying the "Interdisciplinary Team" (ID Team), an existing management structure that supported the co-management arrangement. ID Teams are frequently used by federal agencies to conduct environmental assessments in accordance with the National Environmental Policy Act of 1990 (NEPA). The ID Team framework simultaneously a) generated a policy fit for Forest Service staff needing to position their work within current policy structures, and b) created a pivot point for Karuk Tribal managers seeking greater authority in management decisions and policy change. District Ranger Jon Martin established ID Team co-leaders or "co-leads": a tribal representative, initially Harold Tripp, who later engaged Ron Reed in the project, due to his family ties to Indian Allotments in the Ti Bar area—and a Forest Service representative, the late Tony Hacking. The ID Team framework, which typically brings together different scientific experts from the Forest Service, established a familiar platform for agency managers to work with tribal land managers as a new kind of "expert."

This arrangement is an example of generating an initial "policy fit" through the existing implementing regulations for NEPA, then working to shift resource management policy and practice by adjusting that policy. The National Environmental Policy Act calls for an "interdisciplinary approach" to planning and decision-making, and NEPA implementing regulations allow for the flexible creation of Interdisciplinary Teams.[27]

[27] Council on Environmental Quality, Executive Office of the President, Regulations For Implementing The Procedural Provisions Of The National Environmental Policy Act, Reprint, 40 CFR Parts 1500-1508 (2005). See Sec. 1502.6 on Interdisciplinary preparation, which states "Environmental impact statements shall be prepared using an inter-disciplinary approach which will insure the integrated use of the natural

The regulations allow for states, local agencies and tribes to act as cooperating agencies.[28] NEPA implementing regulations also require tribal consultation at the early stages of a NEPA assessment, and allow agencies to invite the participation of an affected tribe as part of a scoping process.[29] Another policy fit in this case was the new "ecosystem management" approach to forestry, adopted under the Northwest Forest Plan, which aligned with some of the Karuk Tribe's restoration priorities.

What made the ID Team structure into a "pivot point" was Martin's co-lead structure, which pushed back on standard policy interpretations. The co-lead structure was a very different approach than what current Forest Service staff were used to. Not all Forest Service staff were comfortable with appointing a tribal representative as a full member of the ID Team, or felt that the Tribe had the professional expertise needed to conduct an environmental assessment. Still, the co-lead arrangement moved forward under the District Ranger's authority. This approach was consistent with District Ranger Jon Martin's awareness of the concerns of tribal managers, and his commitment to creative problem solving. And it was the co-lead structure that facilitated a meaningful role for tribal members to plan and implement restoration treatments, according to Karuk eco-cultural restoration values. This arrangement was key for enabling tribal members to push back on standard management approaches that typically excluded Indigenous knowledge and Karuk priorities.

The ID Team framework was key to facilitating shared decision-making authority and communication with Karuk tribal leaders. Although the working relationship between tribal leaders and Forest Service officials was far from perfect, important social learning opportunities evolved over time through having tribal and agency land managers working together in the field. As opposed to having abstract discussions that evoked oppositional stances, project participants learned through management practice. During field-based planning discussion, agency and tribal ID team members compared their knowledge about how specific treatments might achieve desired restoration targets. Such mutual learning was especially important given the uncertainty about how to begin restoration work in a landscape that had undergone so many changes—ranging from fire suppression to road building to clearcuts to cultural change. The opportunity for using both scientific ecological knowledge and Traditional Ecological Knowledge[30] to inform a workable restoration plan was immense. For Former District Ranger Jon Martin, the project emphasized the extent to which mid-Klamath forests are co-constituted with Indigenous cultures, as follows,

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and social sciences and the environmental design arts (section 102(2)(A) of the Act). The disciplines of the preparers shall be appropriate to the scope and issues identified in the scoping process (Sec. 1501.7)."

[28] Ibid. See Sec. 1508.5 on Cooperating Agency, which states that "an Indian tribe, may by agreement with the lead agency become a cooperating agency.

[29] Ibid. See Sec. 1501.7(a) on Scoping, which states "As part of the scoping process the lead agency shall: (1) Invite the participation of affected Federal, State, and local agencies, any affected Indian tribe, the proponent of the action, and other interested persons (including those who might not be in accord with the action on environmental grounds), unless there is a limited exception under Sec. 1507.3(c)."

[30] The parallel terms Traditional Ecological Knowledge (TEK) and Scientific Ecological Knowledge (SEK) are from Kimmerer (2000).

> "The District Ranger job was a huge transition in my career. Prior to that, I had [trained and] worked as an ecologist for about 15 years. I had what I would call a European view of ecology in my head that people and nature were not really connected . . . . and as an agency ecologist my job was to help keep people from doing bad things to the land. Then I met the Karuk—a people that had lived and managed this land for thousands of years. Evidence of their positive impact on the land was everywhere. This was a people that understood what it meant to live in a fire-adapted landscape."

The co-lead format also created tighter communication feedbacks between the Forest Service and the Karuk Tribe. Tightening feedback loops is an important component for improving adaptive management processes (Levin, 1999; Olsson, Folke, & Berkes, 2004), as well as for potentially increasing dispute resolution capacity. Over time, communications became easier, and helped facilitate project implementation. Because the Tribe and the agency were both quite busy and under-staffed in respect to their work demands, communication could often be sporadic. The ID Team format, however, facilitated more regular and direct communications at the operations level, which increased problem solving capability. Importantly, having local tribal members working on the land provided an opportunity to tailor management to fine scale changes on the landscape. Thus, agency and tribal land managers participating in the Ti Bar project were in a good position to jointly negotiate and implement a management response to changing conditions.

3) Creating tribal plans. A third element shaping the Ti Bar Demo as a successful collaboration, and a post-colonial moment, was tribal planning. Before treatments were chosen, the Karuk Tribe spent several months developing desired restoration strategies to enhance priority cultural resources. Ti Bar restoration strategies were, in part, guided by the Karuk Tribal Module for the Main Stem Salmon River Watershed Analysis, a concept paper outlining how Karuk eco-cultural restoration concepts should be applied in the mid-Klamath context (Karuk DNR, 1995). The Tribal Module specifically developed the concept of eco-cultural restoration, which emphasized revitalizing dynamic ecosystems and Indigenous cultures together, because of their intrinsic interconnectedness. The term eco-cultural restoration term speaks to the "false choice"[31] between ecology and culture. Restoring ecological processes is an important part of revitalizing Indigenous cultures, given that it is healthy ecological processes that maintain the natural resources, which many Indigenous communities depend on for their cultural survival. And vice versa: restoring cultural management systems is an essential part of revitalizing local ecosystems, given the ongoing importance of tribal land management practices and stewardship traditions in shaping cultural landscapes, such as the mid-Klamath region. For the Karuk DNR, applying Karuk eco-cultural resource management meant actively managing for understory plants that are most important for Karuk subsistence and ceremonial use. The concept also meant enabling tribal members to perform their inherent responsibility to steward the diversity of wildlife, plants, and non-human entities that make up the mid-Klamath landscape, as part of the Karuk World

[31] This term of "false choice" in the context of nature/culture comes from a conversation with Dr. Jessica Weir, held on May 2, 2014.

Renewal philosophy. Although the Tribe is not opposed to all logging and has benefited from forestry jobs, the eco-cultural restoration concept emphasizes that the economics should not be the primary driver for land management decisions.

A good example of the Karuk eco-cultural restoration approach was the proposed Ti Bar forest thinning/underburn treatment, which refers to a low intensity, broadcast burn of understory brush. One purpose of the forest thinning/underburn was to encourage productivity and disease control for acorn-producing oaks trees, with acorns being a traditional food for the Karuk and also an important food for wildlife. The underburn was also intended to improve the quality of hazel plants, since it is regrowth after low intensity fire that produces strong, straight shoots needed for basketweaving. Additionally, tribal managers hoped that the burning would open up dense forest plantation areas, in order to increase browsing habitat and migration corridors for Roosevelt elk. Another important goal for the burn was to decrease the increase the amount of cold creek water being delivered to primary salmon spawning routes, by decreasing the level of transpiration from dense forest vegetation. Finally, planned underburn benefits included increased wildfire protection for local area residents.

4) Implementing projects with tribal crews. Having tribal crews implement the restoration treatments was also essential to making Ti Bar Demo a meaningful project. Tribal members were directly applying Karuk management principles on-the-ground, and had the flexibility to implement some of the nuances of eco-cultural management in a culturally sensitive manner. By doing the management themselves, tribal crews were able to improvise on the ground, and respond to the cultural resources that they found on individual sites. For example, tribal members could strategically locate brush piles for burning to avoid patches of tan oak (matsutake) mushrooms, an important traditional food that is sensitive to fire. This enabled tribal members to conduct treatments in an adaptive manner—the way that most land managers make site-level decisions. Bill Tripp expanded on the importance of tribal crew members having this decision-making authority and flexibility,

> "So while we were out there, we were cutting hazel. We were doing different things like that. We didn't say in the prescription that we were going to cut 50 hazel patches per acre. We just said that we were going to cut, limb trees, and pile and burn brush less than a certain diameter. But just that kind of prescription was enabling [for] us. We were out there doing it. We were able to do the [things] that we needed to do to enhance the resources. Though not specified in the prescription, we were able to reduce fuels while leaving species such as mature yew and dogwood that are typically smaller in diameter. So in that sense, we couldn't meet the prescription in its entirety. But we were able to make on-the-ground decisions that reduced potential [catastrophic] fire effects as needed.

For tribal managers the project was about trying to find a middle ground between what was addressed in formal prescriptions, and what needed to happen on the land according to Karuk management principles. Although not all of the crew's activities were officially approved by the Forest Service, this was part of what it meant to move towards a post-

colonial planning model and tribal sovereignty. This becomes evident with Bill Tripp's comments on pile burning,

> "So we let a pile get away from us at lunch. And then put it out after lunch. And it burned out a nice little area about the size of this room, like four hundred square feet. That was a little bit outside the scope of NEPA, but we did it. It needed to be done. It had been a long time. We shouldn't have to write NEPA to be an Indigenous people. So I'm not afraid to say that we went a little bit outside the box, because that's exercising our sovereignty. We wouldn't be exercising our sovereignty if we didn't stretch those limits on occasion."

Establishing tribal crews also facilitated social learning opportunities among tribal members. While tribal crewmembers were in the field, they shared different management approaches and family specific knowledge among themselves. In the evenings, tribal participants shared their experience with family members, and thereby continued to develop their understanding of Karuk Traditional Ecological Knowledge (TEK). Harold Tripp suggested that it was through doing work on-the-ground that crewmembers "got trained as being a fix-the-world person." Harold's son Bill Tripp added to this point,

> "If you can't learn from the practice, you can't build Traditional Ecological Knowledge. You can tell someone something, and they may learn the principle behind it. You may let someone see something being done, and then they understand the mechanics. But it isn't until they actually do it where they start to see the deeper connections. Then you actually learn."

Thus, Ti Bar Demo provided an important entry point for the Karuk tribe to enhance priority cultural resources within federal forestlands, and to enhance Traditional Ecological Knowledge among tribal members. The project represented a significant departure from prior arrangements that had excluded the Karuk Tribe. In many ways, Ti Bar Demo was striving to achieve a co-existence model of co-management (Smith, 2013)—where both parties could recognize their differences and pursue a broader set of management approaches than would on their own. Yet it is important to acknowledge that the Ti Bar Demo project did not address the uneven power relations that continued to characterize interactions between agency and tribal managers. Neither did the demonstration project intervene with more landscape-scale restoration issues. The following section emphasizes significant barriers to achieving a successful co-management initiative through the Ti Bar Demo.

Missing the mark: Structural barriers to co-management

My great grandmother told me a lot when I was young. . . . How she got telling me about fire was—I guess I was about four years old—and I was playing with matches by the stove. And she caught me. She told me if I was going to be playing with fire, then I ought to be doing something good with it. She took me outside, and we started burning hazel. By the time I was eight years old, I was burning off big chunks of blackberries just by myself, even when no one else was home. Keeping control of it without any water or anything. It's all about the timing and the conditions. And the way you light it. You can move it around and make it take its own energy out of itself. It's kind of interesting. So it's something that I just did, from four years old and on.

– Bill Tripp, Karuk tribal member

The Native American a lot of times, and especially the Karuk perspective, is built on living a life that is a lot different than the mainstream. For the mainstream people, they get their food from the store. Not that many go out and gather, go hunting, go fishing. . . . . You do things differently, or you think about things differently. . . . And a lot of [the] time, you get criticism for that. And a lot of time, you're not allowed to do things, like prescribed burning. . . . And so having a sense of humor can help you to be able to deflect that and put it in perspective. And that's what it is. [It] is knowing that we're operating under a lot of assumptions.

– Anonymous, Karuk tribal member

Despite many of the positive steps taken through the Ti Bar Demo, the project did not meet its intended goals of demonstrating cultural resource management, or establishing a clear process for creating joint management agreements. The initiative also demonstrated the tenuous nature of existing tribal-state management agreements. This section highlights key moments in the breakdown of the Ti Bar Demo. It considers key structural barriers that prevented the Forest Service and the Karuk Tribe from effectively sharing knowledge and management authority through Ti Bar Demo.

The breakdown of Ti Bar Demo began with turnover in Forest Service leadership. Around the same time that the first Ti Bar treatments were initiated, key project supporters Barbara Holder and Martha Ketelle, the respective Forest Supervisors for the Klamath and Six Rivers National Forests, left their positions. In the fall of 1998, Barbara Holder took a slightly early retirement, and Martha Ketelle was later transferred to another forest. The new Six Rivers Forest Supervisor[32] was not supportive of District Ranger Jon Martin's approach on Ti Bar Demo or other collaborations with the Tribe. As a result, Martin left the Klamath in the fall of 1999 to work in D.C. on roadless issues, and later worked for the Forest Service in Sitka, Alaska. Without support from Forest Service leadership, the remaining restoration treatment planned for the Ti Bar Demonstration project were left undone. Although the Tribe has attempted to revive the Ti Bar Demonstration project, these efforts have been unsuccessful thus far. Martin recalled the course of events,

[32] Because of persisting sensitivities around agency-tribal relations, I have identified the Forest Service employees involved by position and not by name.

> "When I first got to the ranger job, I had a couple years of supportive Forest Supervisors. . . Midway through, I got a new boss with a 180-degrees different philosophy than either of the previous supervisors. The new boss was very uncomfortable with shared decision-making and collaboration, especially with the Karuk Tribe. This was what I would call an old school philosophy . . . [that] reflected the attitude, 'this is my ranch and I'm running it' . . . And the staff was very much in the [same] mode with my new boss. [In their view] we were the ones to propose the projects, as the paid professionals. . . . I saw the writing on the wall and left for D.C."

After Martin's departure, Karuk tribal managers learned that remaining restoration treatments, including the planned underburn, would not move forward, and the ID Team for Ti Bar Demo fell apart. This occurred despite the fact that the Forest Service had listed the planned underburn for Kennedy Creek (in the Ti Bar area) on its official program of work. According to tribal member Harold Tripp, Forest Service staff justified their decisions by suggesting that the Tribe had not taken enough trees out during their mechanical thinning. However, tribal crew member Bill Tripp suspected the cancellation was a face-saving strategy. Ti Bar project leaders had initially planned to run an adaptive management experiment to compare the Tribe's forest thinning/underburn at Kennedy Creek (within the Ti Bar area) to a Forest Service prescribed burn at nearby Carter Creek. After the agency's Carter Creek treatment resulted in an overly hot burn, however, the Forest Service may have wished to avoid the comparison. Several years later, the Tribe engaged the Forest Service in formals consultations, and pursued conflict resolution on the unfinished Ti Bar Demo project. This resulted in the 2005 Klamath Environmental Management Project Demonstration Area (KEMPDA) concept paper, signed by the Forest Service and the Karuk Tribe, which acknowledged the importance of a collaborative management approach, but did not lead to further restoration activity in the Ti Bar area. This missed opportunity speaks to a series of structural barriers to successful co-management between the Tribe and the Forest Service.

1) Sharing decision-making authority. One structural barrier to moving forward on Ti Bar Demo was the reluctance from many Forest Service leaders to share decision-making authority with tribal land managers. As Ti Bar Demo demonstrated, implementation of Forest Service-tribal agreements was highly contingent upon the awareness, acceptance, and political will of individual agency leaders. Jon Martin and the progressive Forest Supervisors whom he initially worked for were an exception to the norm. Because line officers are required to implement directives from their supervisors, they would be unlikely to follow-through on a co-management initiative without a directive from a District Ranger, or other superior.

Frequent turnover of Forest Service leaders was part of the problem with the Ti Bar Demo case. Frequent relocation of Forest Supervisors and District Rangers made it easy to interrupt the delicate momentum around the positive collaborations happening with Ti Bar. According to tribal member Bill Tripp, this was not a one-off event; Forest Service staff that begin to work closely with tribal leaders are typically "sent away." Forest Service transfer policies have broader implications for community-based

management initiatives. Moving staff to different forests is intended to decrease local influence on agency decision-making, and thereby facilitate consistent implementation of Forest Service policies. Yet this policy also means that agency leaders are often making and applying forest policy without the contextual knowledge of the forest systems under their jurisdiction (Kaufman, 2006).

A deeper problem was the disconnect between tribal and agency understandings over who is entitled to management authority, and where that authority should come from. It was not atypical for new Forest Service leaders to bring a sense of "ownership" over the landscape within their administrative area to their job, as exemplified by the attitude described above, of "this is my ranch." Given the many generations of family ties between Karuk people and the mid-Klamath region, this attitude was highly offensive to many tribal members. One tribal member offered the following reflections,

> "The Forest Service is fairly new in the tribe's life in this area. The Tribe has been here much longer. . . and feels more of an attachment to the land than what they see as the transient forest service people coming and going. We've been through a lot of rangers here. But each ranger will seem to have this attitude that this is *their* district. I've even seen it come with rangers on their very first day they show up to work at the district. And it's like, 'Ok, this is your district? A lot of people have been here for a long time, long before you even thought about coming here.' I don't know that they've really thought about it or know that they are coming across as very disrespectful to the people that had already been there."

Forest Service staff often claim that they are "unable" to share authority with tribes due to the agency's mandate to serve the broader public, which is often framed as "public trust" responsibility. Other stakeholders may accuse the Forest Service of being "unfair" or giving "special treatment" to tribes. In this case, the Tribe is viewed as one of many interest groups, not as a sovereign nation, which conflicts with the principles of U.S. federal Indian law. Still, many Forest Service staff are concerned with the potential illegality of giving away management authority that has been vested in their agency by Congress through the Administrative Procedure Act. An additional point made by agency staff is that "rights follow responsibility", meaning that decision-making authority should be held by the party held legally accountable for damages in court. In other words, if a prescribed burn on Forest Service lands were to harm persons or property, the agency assumes that Forest Service officials would be sued. Thus, the Forest Service argues that they should make the decisions about prescribed burning.

The problem with these arguments, however, is that they ignore the government's "tribal trust" obligations, specifically U.S. legal doctrine of federal trust responsibility and tribal self-determination. The federal government holds a fiduciary responsibility to manage trust resources for the benefit of recognized tribes. Laws, such as the Indian Self-Determination and Education Assistance Act of 1975, have established that, whenever possible, tribal members should assume leadership roles in the management of federal programs, so that it is tribes the making decisions about tribal trust resources, rather than federal agencies. As discussed earlier, the unique legal and political status of tribes distinguishes them from municipal governments or other stakeholders, and permits the agency to enter into exclusive agreements and compacts with tribal governments.

Therefore, despite political pressures that may discourage agencies from engaging with tribes, the Forest Service has a legal responsibility to work closely with tribes. This generates additional flexibility for the agency around structuring joint projects with tribal governments, such as the Karuk Tribe. For example, there is a range of options for structuring shared rights and responsibilities through mutual agreements with tribes, including MOUs, which can facilitate stewardship of tribal trust resources.

2) Acknowledging tribal expertise. A second structural barrier was Forest Service assumptions about the nature of expertise, which prevented equitable knowledge sharing. Even though important knowledge exchange did occur in the Ti Bar case, Western knowledge traditions that privileged "scientific expertise" were still valued over Karuk knowledge in the Ti Bar case. Much of the knowledge used in Ti Bar ID Team interactions came from the Western science framework. This dynamic meant that tribal representatives felt personally devalued in the management process. Instead of a collaborative learning opportunity, some tribal representatives saw the Ti Bar process as process for learning how to "disguise" traditional knowledge within the "modern Western science format". This was especially an issue with fire management issues, since Karuk tribal members brought a great deal of knowledge about how to live and manage within a fire-adapted ecosystem to the collaboration, which was not always recognized. Ron Reed reflected on his experience as project co-lead,

> "They had their maps. They had their titles. They had their privileged education that provided that [agency] resource management perspective. And if you didn't relate to them on their level of education, you didn't register. I felt insignificant. I couldn't chime in on their conversation because I developed an inferiority complex. I didn't understand their catch phrases, acronyms, or policies. I found out I had better learn this information. But what jumps [out] at me also right now is that we need to make our own rules. We need to make our own names, our own maps. . . . They wanted me to produce documents much like their team leader that was addressing Forest Management issues in a formal context. So I felt overwhelmed at that point. I couldn't write the reports like him. I also had no desire to learn those ill-fated policies."

To illustrate how this experience extends beyond Ti Bar Demo interactions, another tribal member described an attempt to explain Karuk knowledge to skeptical Forest Service staff within a different context:

> "I was once challenged by an archaeologist [with the question], 'How do you know what these stones are used for? How do you know what your people did?' [It's] because my people are here in situ. They've been here for generations and generations, hundreds and thousands of years. And that knowledge was with them. They excelled at living off the land. That's why they were able to do so well. And we learned that as our oral history. So we're always passing down information. And we're always observing our elders. And they are showing us by their actions what they are doing, how they are living their life. So we do the same thing. And that gives us a little different knowledge than other people have

in this area. And answering the archaeologist's question, 'How do I know what those rocks are used for?' I broke off a fern, a *woodwardia* fern, which we use [for] the vascular bundles. There's two of them that grow inside the plant. We chop it out. A rock works better than metal. [Demonstrating the method] I tried metal, and it just broke up the stem. The vascular bundles that I was trying to get at, it just broke them into pieces. And then I went back to the rock, and I could pound on that stem."

One challenge with convincing agency personnel to recognize Karuk expertise was the difference in respective learning traditions. The Forest Service typically hires staff with technical training, obtained through formalized higher education programs. In contrast, some Karuk tribal managers had not received their high school diploma. Others Karuk DNR staff reported that they taught themselves how to read and write when they began working for the Tribe. In contrast to the Forest Service personnel, many tribal managers learned about land management through an apprenticeship model, which involved experiential learning with family members or knowledgeable elders. This analysis does not intend to overlook the diversity of backgrounds among tribal members, some of whom have professional degrees. However, the Karuk DNR was established with the vision of working from a Karuk perspective. Thus, it was important for early staff members to bring Karuk knowledge to the job, rather than technical training. In the early days of the department, Harold Tripp, a traditional fisherman and the second employee hired at Karuk DNR, reported that they had seven medicine people working there, along with a medicine woman as the secretary.

3) Negotiating value systems. Assumptions about what knowledge system counts determine whose values drive management decisions. Ti Bar Demo outcomes demonstrated that federal agency practices do not necessarily align with tribal laws or norms, and given competing mandates, the Forest Service system typically prevails. For example, when the Forest Service cancelled the Ti Bar underburn, the decision did not take Karuk fire management traditions or spiritual mandates into account. In this way, the Tribe is required to "meet or beat" federal laws and associated scientific standards. Only then are Karuk laws and land management principles considered, which places Karuk ways of knowing in a subordinate position to knowledge structures that privilege Western science, as the dominant framework used by the Forest Service and other organizations.

In the case of the Ti Bar Demo, there were significant differences between agency values and tribal values, which have shaped the land management goals and practice of the respective parties. Ron Reed described tribal management values based on the importance of maintaining spiritual relationships in the watershed,

"We are here to manage for our traditional food base, our regalia species. Period. That's who we are, that's what we do. So if you manage for those species there, you are managing for the entire watershed. . . . Management of a watershed is truly a spiritual relationship. You have prayer spots. You have life providing areas. You have creation stories associated. Everything we need is in that watershed. . . . It is taboo to harvest from our traditional food base if you don't

manage for that traditional food base. So being disallowed to manage our resources is actually a denial of our religious beliefs. And that has got to change."

In Karuk World Renewal philosophy, people are not in control of the environment. Rather, people occupy a small place *within* the environment. This becomes especially evident when considering how subsistence use, land management practices, and spiritual practices all combine to shape Karuk identity. As Leaf Hillman explained,

"It's a way of life. It's our cultural practices. Our management practices and our religious practices. It's all of those things. You can't separate them out and put them into these little boxes, and keep them away from one another. Because they are all integrated as one. And one of the things . . . is understanding that you are not the dominant or superior force in the universe—that you are a piece of the universe, and that you don't have [the] authority to rule the universe. But you've got to figure out what your place in the universe is. And you've got to develop these reciprocal relationships with all the other pieces of that universe. And you've got to learn how to fit into it, not dominate over it or attempt to control it. And what comes with that is, you don't know everything. . . . So you have to learn that faith, that humility. "

Understanding the complexities of the Karuk land ethic, as a spiritual practice rooted in a non-Western knowledge system, has been difficult for many Forest Service staff. As tribal member Harold Tripp commented,

"[Forest Service staff] think it's a joke when we say that we are fix-the-world people who have a responsibility to the Earth. They say, 'Me too. We're the same.'"

The issue in the Ti Bar case was that tribal members found that most Forest Service staff did not recognize the legitimacy of Karuk cultural resource management values. In its defense, the Forest Service was attempting to move towards ecosystem management, an approach that aligned in many ways with Karuk values and Ti Bar Demo. In addition, some individual agency staff were supportive of Karuk resource management values. However, the traditional Forest Service land management ethic of the "greatest good, for the greatest number" does not necessarily account for impacts on plants and animals, for their own sake. And making the shift towards valuing non-merchantable cultural resources has not been easy for agency staff, especially given funding cuts in the agency. Karuk land managers found that it was extremely difficult to elevate Karuk World Renewal philosophies and eco-cultural restoration to the level where agency staff would potentially question existing agency harvest models. Ron Reed shared his views on this disconnect,

[The sentiment from the Forest Service was] 'How are you going to get your money back if you are managing for acorn trees? How are you going to get your money back out? Over here, we're managing a million dollars worth of timber.

> But over there, we're not managing for anything. It's a waste of time.' So that's what I learned about Traditional Knowledge. It wasn't looked at the way it should have been . . . So my experience is that they listened to us. They consulted with us. But they did not bring up the level of importance [of cultural resources], ecologically speaking, that they deserved. And [Forest Service staff] were still managing for the plantation to be logged. They [were] not really managing for a vibrant forest with deer and elk, and again, traditionally based species. So that's how they ran their models.

In addition, high stakes issues, such as cultural survival and religious freedom that were driving Ti Bar Demo for the Karuk Tribe, did not translate for the agency. For the Forest Service, the stakes were actually quite low, and the abandonment of the planned restoration projects did not have significant consequences. Rather, the Forest Service could point to Ti Bar as a reasonable success, in which the agency established an Interagency Agreement with the Tribe, dispersed funds to tribal crews, and implemented several restoration treatments. Conflict resolution proceedings initiated by the Tribe resulted in the 2005 KEMPDA concept paper, and no real land management actions.

4) Assumptions of objectivity. An additional barrier to knowledge sharing was Forest Service assumptions around "objectivity" and "professionalism"—characteristics ascribed exclusively to agency personnel. In contrast to "professional" agency staff, tribal members were ostensibly working outside of a "scientific" process. Thus, involving tribal members would corrupt what would otherwise be a fair and balanced decision-making process. This problem was exemplified by Forest Service "paid professionals" who felt that they should be the ones making decisions in Ti Bar process. Yet, the theory of an interest-free, "impartial" management agency is a poor representation of reality, given that the Forest Service has historically brought its own political interests into management decisions (e.g. Schiff 1962).

There are incidents where Forest Service staff were discouraged from engaging with tribal members to avoid being accused of partisanship, which exemplify a broader trend beyond the Ti Bar case. One non-native Forest Service staff member, who regularly engaged with the concerns of Karuk tribal members, commented that they were often referred to as an "Indian sympathizer" and felt marginalized at work. In addition, multiple tribal members working at Forest Service District Offices felt that their tribal perspectives were not welcomed by agency staff. One tribal member related an experience attending an ID Team meeting on vegetation management, which would address cultural resources valued by tribal people. The individual was asked by a co-worker, "Isn't it a conflict of interest for you to be here?" Other tribal members hired by the Forest Service reported sharing cultural perspectives when they first started their job, but they soon stopped after learning that this was viewed negatively by their peers. This individual commented on the missed learning opportunity,

> "Okay, here's an opportunity. I work for you, [the Forest Service]. I know what I need to say to you to communicate with you in the structure that makes sense for the Forest Service. And then I also know how to talk to the Tribe because I grew up as a tribal member. So you kind of have this bridge. It was never received that

> way. . . . the Forest Service felt that because [you are] a tribal member, that your loyalties lie there. Your loyalties don't lie with us, the Forest Service. . . . So because I felt that the Forest Service didn't want me like that, I didn't push it. I didn't make a nuisance of myself."

It is important to acknowledge several caveats on the problem of excluding tribal perspectives from agency decision-making. First, there is a great deal of heterogeneity within and among Forest Districts. Including tribal perspectives may be more difficult in Klamath National Forest (KNF), as opposed to neighboring forests. This is because KNF is positioned within Siskiyou County, a highly conservative area that has historically relied heavily on timber revenue and is often resistant to government regulation. At Six Rivers National Forests a recent shift has brought tribal people into leadership positions, which seems to have helped with information sharing. Second, not all Forest Service staff have distanced themselves from the Karuk Tribe. Some agency staff members have friends or family who are tribal members, and continue to work with the Tribe. It is also important to note that the problem of marginalizing Indigenous peoples is not just an agency problem, since there is little understanding among the general public about "tribal trust responsibility" or cultural resource management.

Still, the experiences recounted above suggest an "othering" of Karuk perspectives within the Forest Service. The suggestion that tribal members or others who share tribal perspectives within agency decision-making processes are disloyal has led to profoundly negative experiences for some Forest Service employees. It is also worrisome to learn about lost opportunities for productive knowledge exchange, where sharing cultural knowledge would be viewed as a "non-objective" or "partisan" act that threatened the integrity of decision-making processes. In reality, all individuals bring their personal interests and cultural background into decision-making processes, and many times, the most effective and innovative decisions arise from combining a number of "situated" perspectives.

5) Implications of "othering" Karuk perspectives. The "othering" of Karuk perspectives within the agency is an even greater concern given the long history of racism towards Native peoples in the Klamath Basin. These racial tensions are rooted in the history of colonization and the displacement of Karuk people. There is a strong memory among tribal members of Forest Service policies that criminalized Native American burning from the turn of the century onwards, and facilitated the displacement of Karuk people from their aboriginal territory. These memories reflect another missed learning opportunity, where early Forest Service employees overlooked Karuk knowledge about forest management within a fire-adapted ecosystem. As a case in point, tribal members often reference a 1918 letter from Ranger Harley, who described "renegade" Indian people as a "pure cussedness class" of people lighting unauthorized fires in the Orleans Forest District.[33]

[33] A January 30, 1918 letter from Ranger Harley to the Forest Supervisor. The letter spoke to the "fire problem" in the Orleans District, and states, "The Forest Service, in the administration of the Forests, have no more important duty than to keep the fires down to a minimum." The full letter is reproduced in the Chronological History of the Klamath National Forest Volume II Protection and Development 1911-1920,

More recent Forest Service policy decisions have continued to evoke colonial histories of displacement and resource extraction. In the 1980s, for example, the Forest Service burned down remote mining cabins that tribal members were living in. For agency officials abiding by Forest Service policy, these were individuals squatting illegally on public land. Even if these individuals had historical ties to the land, their claim was not legally documented. However, tribal members are quick to explain that settling on old mining claims was one of the few ways that Karuk families could continue living in traditional family areas. This was due, in part, to the discriminatory practices of government officials allocating tribal allotments (parcels of land deeded to Native American people) around the turn of the century. As further cause for concern, local non-tribal community member Sue Terence has noted that these evictions occurred only after concerned community members concerned about the community's drinking water mobilized to stop Forest Service aerial spraying of herbicides, used to accelerate forest plantation growth rates.

While the agency's relationship with tribal members has changed over time, the othering of Karuk people persists in contemporary Forest Service relationships with tribal members. One current Forest Service staffer with Native heritage summed up his experience by saying, "there was not a day when something awkward did not happen." Tribal members working alongside Forest Service crews are sometimes met with derogatory comments. On one occasion, a tribal member was working with an out-of-state fire incident management team being led by an individual named "George Custer," who claimed to be General Custer's grandson. An uncomfortable incident occurred with Custer's team,

> "They were referring to the tribal resource advisors with the acronym CULS. A cull is a sick animal that you shoot and kill out of a herd. It didn't sit right with me because I had never heard any of the other acronyms used to designate crews to actually form a word like that."[34]

In response, there can be a lack of acceptance in the other direction, as well. Tribal members can be highly distrustful towards Forest Service employees, which may include tribal members working for the agency. One tribal member at the agency reported that certain family members view them as a "traitor." Even when an individual Forest Service staff member holds personal beliefs that might position them as an ally for the Tribe, they are associated with the historical dispossession of Karuk people from their

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People, Places, Programs and Events by R.W. Bower U.S.F.S. (Retired) 1979, p. 131. Unpublished manuscript, on file with Six Rivers National Forest.

[34] Another tribal member clarified that the CULS term was used prior to this incident and not invented by Custer's group. (The initial term used by the Forest Service was "Indian Cultural Specialist," which got changed to "Cultural Specialist" or CULS.) This person felt that Custer's team did a good job of working with the tribes in the area, and even suggested steps that could be taken to change the acronym to HGCT, which would better reflect the formal title of tribal "Heritage Consultants." However, the tribe has not had time to formally submit a petition to the federal government. Thus, the term CULS continues to be used, although there are apparently not as many jokes about it as there used to be. This note is not intended to discount the personal discomfort experienced by the individual quoted above, however. The incident reflects the ongoing challenge of dealing with traumatic historical events impacting many tribes, and the ongoing problem of using derogatory terms for Native people.

traditional lands. In the Ti Bar case, District Ranger Jon Martin found that it was extremely difficult to move beyond colonial histories, and explained,

> "It was like driving down the highway and hitting a brick wall. Because [many] people insisted on blaming me for everything that had happened in the last one hundred years. It was not really about me personally. It was about my role in the agency. But that was rather painful until I figured it out."

The Ti Bar case is therefore emblematic of how state-Indigenous relations and regional forest management continue to be informed by colonial histories. Considering the barriers discussed above—the difficulty of negotiating authority, expertise, and assumptions about objectivity—the challenges faced by Ti Bar Demo supporters become more clear. It is particularly important to acknowledge the difficulties that tribal members experienced in attempting to share knowledge and authority with the Forest Service. Despite its achievements with locating areas of complementarity between the Karuk Tribe and the Forest Service, the Ti Bar forum was less effective at dealing with areas of difference, especially differences in knowledge, culture, and values. This disconnect demonstrates how current institutional norms at the Forest Service continue to neglect the embeddedness of mid-Klamath forests in non-Western cultural traditions.

Lasting impacts: Co-management as a catalyst

I was lucky that I was put as a co-lead of a watershed that our family lived at for a very long time. And that's what gave me the strength to overcome barriers and make them mere obstacles. And I think that's what the Ti Bar Demo did for me. It connected me spiritually with something. It was connected in a different way before. Before, it was the harvest part. It was where we hunted. It was where we fished. It was where we went and gathered. It was where we prayed… But now I am up there thinking about management. And that's the part that was stripped from me. My mother was in boarding school. Her father went to boarding school. So that was the piece that was stripped from us—there, in that time period. So now I want to manage. I want to be full. I want my grandkids to understand what a full cup looks like. It's kind of impossible for my kids right now to look, because they've already seen the glass. They've already seen where it's at, and it's been half full. But at least they've seen it half full, and not half empty. So I've got another part of my legacy, and that is my grandchildren. And that's what all this work [is about]. That's what Ti Bar Demo does. It connects me spiritually to my inherent responsibility. And it allows me to connect to my family's legacy.

– Ron Reed, Karuk tribal member

The idea of co-management as a catalyst conveys the lasting impacts of Ti Bar Demo, along with its limitations. Ti Bar Demo had mixed results. The case study suggests specific areas with the Ti Bar projects that could have been improved, in order to maximize the impact of the significant effort put into this process by both the Tribe and Forest Service.

1) *Positive outcomes.* On the one hand, the initiative successfully demonstrated that policies enabling tribal land managers to take a meaningful leadership role in forest management decisions could lead to positive results. The project also demonstrated that co-management in the mid-Klamath is possible—in the form of land management projects that are co-led by the Forest Service and Karuk Tribe. Given the circumstances leading up to Ti Bar Demo, where tribal members needed to engage in direct action protests in order to gain a voice in forest management decision-making, this case exemplifies an important shift in Karuk-Forest Service relations. This case was among one of the first opportunities for tribal members to work with agency staff to restore eco-cultural resources on federal forestlands. Positive aspects of the Ti Bar project that supported an effective agency-tribal partnership included establishing the co-lead framework for shared project leadership that involved starting from tribal restoration goals, and having tribal people conduct the restoration treatments. It is for this reason that the Ti Bar Demo project is still viewed by Karuk tribal land managers as one of their most successful collaborations with the Forest Service to date.

Regardless of its temporary and imperfect nature, the Ti Bar Demonstration Project had important restoration impacts, and enhanced important cultural resources, like hazel and willow for basketweaving. The selective thinning and pile burning completed over 189 acres in 1999 helped open up dense forest stands to benefit wildlife. Following these treatments, local residents reported that elk were able to move through the area. Forest thinning also helped decrease threats of catastrophic wildfire to important plant and animal communities, as well as human residents in the Ti Bar area. Thus, the treatments successfully created several small-level examples of Karuk eco-cultural management.

In addition, Ti Bar created important opportunities for building tribal institutions. Ti Bar helped establish the legitimacy of Karuk tribal crews working on restoration projects, and created much-needed jobs for tribal members. Even after Ti Bar, tribal crews continued to work on Forest Service projects in the surrounding area, which included road decommissioning, selective timber harvests, and a prescribed burn on Offield Mountain. And the practice of funding pre-burn treatments to cover the actual costs was also continued after Ti Bar Demo. The scale of these projects fell short of tribal manager Bill Tripp's long-term goal of relinking landscape-level forest management practices to Karuk spiritual practices at Offield Mountain, yet the site level projects still had positive institution-building affects for the Tribe. Ti Bar Demo restoration initiatives helped move Karuk management objectives forward, brought in funding to Karuk DNR, and provided jobs for local Karuk families.

In what is its most enduring outcome, Ti Bar Demo acted as a catalyst for building alliances that extended beyond the Forest Service. The initiative helped engage non-tribal community members around the Karuk Tribe's vision for reintroducing prescribed fire in the mid-Klamath. Comparing Ti Bar Demo treatments to conventional plantation management helped motivate local landowners to apply for funds to treat their own private property with prescribed burns. Thus, even with limited restoration results, Ti Bar Demo prompted debate, discussion, and spin-off projects, which have continued long after its abandonment. One non-Karuk local resident Toz Soto, who owns a home in the Ti Bar area, explained,

> "With Ti Bar Demo, they thinned and burned. My eyes opened up. [I realized] this is what the forest used to look like. . . . I had never seen anything like that. Even the thought process [was different]—that it was okay to let it burn. It is okay to have dead trees. As kids, we were brainwashed to think fire is bad, because of the media and Smokey the Bear."

Thanks to such alliance building, tribal land managers has been better able to "forum shop" their ideas, a term which refers to approaching institutions and organizations that are most likely to hear one's case and produce a satisfactory result. Early prescribed burning efforts with Ti Bar Demo contributed to the development of the local Orleans/Somes Bar Fire Safe Council, which now supports prescribed burning in the mid-Klamath wildland-urban interface areas. This group has recognized the key role that Karuk people in guiding and implementing fire management, given the Tribe's long experience in the mid-Klamath landscape. Local non-profit organizations, such as the Mid-Klamath Watershed Council (MKWC), have become strong advocates for reintroducing prescribed burning to the mid-Klamath together with the Karuk Tribe. As MKWC director explained,

> "Historically, fire has been a primary management tool of the Karuk Tribe. . . . We don't want to be bringing white people in from the outside to implement burns. Rather, it is about supporting tribal people [who are] reclaiming their burning traditions, in part through training opportunities to build qualifications so they can legally manage the areas that their families did—from years ago—without being hassled by authorities."

Tribal managers have also brought their ideas on upslope management using fire into regional watershed forums, including the former Klamath Basin Task Force. More recently, the Tribe has positioned itself as a thought leader on prescribed fire through the Northern California Prescribed Fire Council, a broad network that promotes the responsible use of prescribed fire across Northern California's fire adapted landscapes. The Tribe is also working with the Fire Learning Network, a Nature Conservancy project that supports adaptive management and multi-stakeholder planning around wildland fire protection and prevention. At the national level, Karuk land managers are engaged in a Congressionally-mandated cohesive wildfire management strategy, and are also participating in a USDA Forest Research Advisory Council (FRAC) to address ongoing forest management issues. Working through these alliances has repositioned the Karuk Tribe within a broader set of nested management institutions, including institutions beyond the Forest Service—another important step towards building legitimacy for Karuk land management approaches. This approach of working with other agencies and organization may be increasingly important given current challenges faced by the Forest Service, as a federal agency that is currently underfunded, understaffed, and struggling to cope with lawsuits. But it is also an approach the requires Karuk tribal members to engage with a large number of external organizations, despite challenges with lack of funds, minimal staff, and constant consultation requests.

The Tribe continues to engage strategically with the Forest Service through government-to-government negotiations. In July 2012, the Karuk Tribe and the Forest

Service signed an historic MOU regarding the Katimiin Cultural Management Area.[35] The goal of creating this MOU was established over fifteen years earlier in the Klamath National Forest Land and Resource Management Plan, and reiterated over ten years earlier within the Ti Bar Demo Interagency Agreement. Such government-to-government agreements help to reinforce the tribe's position as a sovereign government, in part by acknowledging the tribe's continuing interests and jurisdiction over culturally important forest areas. The Tribe is also engaging with the Forest Service at the national level on tribal food security issues, and is working to inform the Forest Service and others of the important linkages between forest management; tribal access to healthy, culturally important foods; and diet-related diseases that are prevalent in tribal communities (Reed & Norgaard, 2010). And in 2014, several new agreements have been signed to support a landscape scale demonstration project, the Somes Bar Integrated Wildland Fire Management Project. This is a pilot project of the Western Klamath Restoration Partnership, which applies Karuk Tribe's land management approaches over a much larger land area. The Tribe hopes that this project may provide a meaningful leadership role to tribal land managers.

2) *Project failures.* On the other hand, it is essential to acknowledge project failures. The project only minimally addressed Ti Bar Demo Interagency Agreement goals. None of the Forest Service projects with tribal crews that followed Ti Bar (e.g. thinning and road decommissioning) involved tribal members in substantive project development and decision-making. The innovative planning and co-lead structures that were pioneered under Jon Martin's leadership continue to stand out in the memory of tribal managers as a unique experience. Since Ti Bar Demo, the Tribe has only been invited to participate in forest management ID Teams as an observer. Discussions with subsequent rangers about reviving Ti Bar Demo have never come to fruition, and these discussions were supplanted by the failed Orleans Community Fire Reduction (OCFR) project, as a multi-stakeholder forum. After Forest Service contractors violated the OCFR agreement, this project further disillusioned both tribal and non-tribal community members about the potential for successful collaboration with the Forest Service (Tucker & Tripp, 2011; Walters, 2009).

The abandonment of the Ti Bar Demo also exposed the weaknesses of the formal agreement authorizing the project. Project follow-through was predicated on having individual champions in place within the Forest Service. The Interagency Agreement that facilitated Ti Bar Demo did not affect *de jure* (legal) rights, or obligate the Forest Service to address the Tribe's management interests. Although Martin's leadership did set the relationship between the Tribe and the Forest Service on a new path, resistance from existing staff who preferred the status quo was too great. Given leadership turnover, it was remarkably easy for the Forest Service to erase the personal relationships that had cemented the collaboration. Thus, the informal relationships, which were so important for initiating the Ti Bar project, were insufficient to support a successful co-

[35] Memorandum of Understanding between the Karuk Tribe and the USDA Forest Service, Six Rivers National Forest Service and Klamath National Forest 12-MU-11051000-028 with the purpose of establishing "a working partnership in relation to management activities within the Katimiin Cultural Management Area as required by Management Area 8 of KNF LRMP (Klamath LRMP 1994)"

management institution over the long-term. This suggests the importance of establishing deeper institutional commitments to collaborative agreements with tribes.

In addition, there is a trade off involved with the alliance building strategy of working through external organizations like non-profits or agencies to achieve Karuk land management goals. Even when helpful projects are accomplished, working with outside organizations often means that tribal members are overlooked for leadership roles, and that tribal capacity building goals are not achieved. In addition, the intellectual contributions from tribal members are easily absorbed by outside groups. This can occur when tribal managers make significant comments on policy-making initiatives that are not directly credited, and are later passed off as the work of an agency specialist, for example. Such lost opportunities for increasing institutional growth, legitimacy, and recognition that are sorely needed by tribal government are coupled with a lost opportunity for personal growth for tribal members. Tribal members who are looking to revitalize their reciprocal relationships with the landscape as part of a broader spiritual and social obligation may not be able to do so when land management activities are assigned to partner organizations. As Ron Reed puts it "I can't overlook the fact that somebody else is doing tribal trust management *for me*." If the Karuk Tribe is going contribute sensitive cultural knowledge to a project, it is important for the tribe to gain management authority in return. Although Ti Bar Demo promised to provide authority to tribal land managers, the Forest Service did not ultimately follow through on that promise in the end.

Clearly, there is a great deal of work that still needs to be done to support tribal self-determination, which was not achieved through Ti Bar Demo. Tribal managers also recognize that they are in the compromised position of wanting to manage cultural resources on aboriginal territory that is held under the jurisdiction of the U.S. Forest Service. Even if the Tribe is still working through the legal system to correct the injustices that inherent to their situation, the current situation necessitates co-management approaches. Thus, the Karuk Tribe is not enthusiastic about engaging in collaboration for collaboration's sake. Rather, the Tribe looking for projects that generate meaningful outcomes for current and future tribal members. Ti Bar Demo was therefore part of an interim goal of facilitating on-the-ground restoration initiatives, material effects which were intended to improve tribal access to cultural resources and facilitate intergenerational knowledge transmission—two important factors for Karuk cultural survival. As tribal member Bill Tripp puts it,

> "I get frustrated. We need to work together. It's time for people to come together and do things for the benefit of the land and the plants and animals. It needs to be the focus. If we have to meet in the middle on issues, we have to meet in the middle. But at this point, I can't even consider that unless I can be 100% guaranteed that we are going to start this process of revitalizing intergenerational knowledge accumulation, and adapting practices on the landscape to do what they are supposed to be doing—and to help revitalize the purpose of why we are even here from a tribal or cultural standpoint. We are given hands to help nature in its processes, not to work against it. When economics drives the outcome, we see detrimental effects. That's what I was always told when I was little. So that's where I see we need to go. And it does take everybody."

Although actualizing joint management has proven to be difficult, Karuk land managers remain committed to working with federal agencies, and other community stakeholders. Clearly, there is still much work to be done in addressing the original goals of Ti Bar Demo, and the Karuk Tribe is still looking to reopen the project.

VI. Conclusions

In conclusion, co-management in the mid-Klamath is not a panacea, nor the end goal, a finding that is consistent with other cases (Borrini-Feyerabend et al., 2004). The Ti Bar Demo co-management arrangement did not eliminate uneven decision-making structures that have historically excluded Karuk voices from Forest Service decision-making. And building alliances with outside organizations has not addressed the broader challenges of increasing tribal self-determination or other social justice issues. Thus, initiatives like Ti Bar Demo are best viewed part of a broader strategy—one tool among a range of approaches that may help the Karuk Tribe with revitalizing their culture, building self-governance, and regaining traditional lands.

The case study introduces the idea of "pivot points," as a concept that reflects the tension between cooptation and transformation, which is inherent to co-management initiatives. Through the Ti Bar Demo project, the Karuk Tribe and its allies identified existing government policies that offered a preliminary "fit" with the Tribe's eco-cultural restoration goals. Tribal land managers then proceeded to work with the existing policy framework, while simultaneously pushing back on that framework to address tribal self-determination interests. The pivot point concept further helps to explain how agency personnel worked with existing rule systems to help shift standard policy, and create new Indigenous resource management institutions—even if these were temporary institutions in the Karuk case.

This case also demonstrates that gaining *de facto* rights (rights in practice), while useful, is a partial gain for Indigenous communities that are looking for long-term change with land management. The Ti Bar Demo was tenuous from the start, because the project was highly contingent on having particular individual champions in key Forest Service leadership positions. A greater level of legal accountability is required if co-management arrangements, such as the Ti Bar Demo, are to become more than a temporary space for negotiating knowledge and authority between parties. Projects that exist at the discretion of an individual Forest Supervisor or a District Ranger do not provide a practical solution for building long-term partnerships between tribes and government agencies. To create a more lasting arrangement, additional accountability measures are needed to ensure agreements are upheld, irrespective of changing government priorities and leadership (e.g. Mabee et al., 2013). In general, tribal managers are looking for agreement frameworks that have "more teeth", meaning greater capacity for legal enforcement or independent conflict resolution.

The Ti Bar case also raises broader questions about how dominant groups are engaging with Indigenous knowledge. In many cases, Indigenous knowledge has become popular primarily because of its perceived utility for locating creative solutions to environmental problems in a time of global change. Ti Bar Demo offered a glimpse into respectful knowledge sharing and social learning with Indigenous communities like the Karuk Tribe. Yet in many ways, this case demonstrated how the rigidity of Forest

Service structures prevents learning from Indigenous perspectives. Structural barriers have prompted tribal managers to focus on partnerships beyond the Forest Service. Furthermore, agency bureaucracies often overlook sovereignty issues that are central to Indigenous perspectives and interests. The assumption that tribal managers can effectively export Indigenous knowledge to agency "professionals," such that agency staff can then act on that knowledge without the direct participation of Indigenous peoples is highly problematic. Ti Bar Demo emphasizes the need for shared decision-making authority, alongside forums that facilitate knowledge exchange through mutual practice and adaptation.

In considering structural barriers to co-management, it is also important for anyone hoping to address these barriers through scholarship, policy, or practice to recognize that individual resource conflicts with tribes often emanate from greater injustices. In the Ti Bar case, we see how Karuk-Forest Service interactions continue to be shaped by colonial histories. The criminalization of Indigenous burning in the mid-Klamath is a case in point, where U.S. federal policy on fire suppression and the associated shift in forest state has precipitated the need for the forest restoration (e.g. Huntsinger and McCaffrey, 1995), being attempted through eco-cultural restoration initiatives like Ti Bar Demo. This observation begs the question, how can federal agencies begin to address the foundational injustices underlying contemporary resource management conflicts with tribes? What can be done to facilitate more post-colonial moments in natural resource management? Can joint landscape restoration initiatives play a role in healing tribal-agency relationships (e.g. Middleton, 2010), and help to address the invisibility of Indigenous knowledge that prevails in most land management forums? These questions speak to the possibility of applying restorative justice frameworks to natural resource management with tribes as a topic for future research.

Finally, this study demonstrates how Karuk tribal land managers are attempting to broaden the sense of responsibility around creating more sustainable relationships between people and the land—as a responsibility that is held by all resource users. All members of human society, along with many non-humans, pay the price for management that ignores the needs of future generations. In Karuk philosophy and tribal law, one's ethical responsibility to care for natural resource stems from an understanding of the long-term relationship between humans and the land. Perhaps it is through such ethical and legal frameworks, conceptualized by Indigenous peoples like the Karuk, that meaningful tribal participation in public lands management, and the alignment between tribal trust and public trust responsibility, becomes more clear.[36]

[36] The idea of creating effective change by identifying the alignments between public trust responsibility and tribal trust responsibility comes from Karuk tribal member Ron Reed.

Chapter 2: Giving back through collaborative research

Chapter 2 is comprised of two articles published in the *Journal of Research Practice Special Issue: Giving Back in Field Research, Volume 10, Issue 2, 2014.*

Section 1 of this chapter presents the main article on the theme "Giving Back Through Collaboration in Practice." This article is entitled *Giving back through collaborative research: Towards a practice of dynamic reciprocity* and has been included in this dissertation with the co-author's permission. This main article provides the theoretical framing for my community-engaged scholarship work, and specifically draws on my Karuk case study. The article also compares case findings for several "Research Notes," contributed by four different authors who are all pursuing collaborative research with communities.

Section 2 of this chapter presents my Research Note, entitled *Giving back through time: A collaborative timeline approach to researching Karuk Indigenous lands management history.* This writing provides my personal reflection on developing the *Karuk Lands Management Historical Timeline,* as a key example of my community-engaged scholarship experiences with community research partners at the Karuk Tribe Department of Natural Resources.

Chapter 2: Section 1, Main Article

Giving back through collaborative research: Towards a practice of dynamic reciprocity

Sibyl W. Diver & Margot N. Higgins

Abstract:
In this thematic section, contributors critically examine their attempts to put community engaged scholarship into practice as a means of giving back. In this form of research practice, informants become community research partners, who work with academic researchers to co-create research questions, protocols, and outcomes. Following participatory and feminist research principles, the authors in this section describe their work balancing research and action, as part of a broader social change project. The authors also discuss their efforts to generate more even power dynamics in their research collaborations with marginalized communities, and the challenges that arise in doing so. As community engaged scholars, the authors find the research process to be as important as, and interconnected to, their research products. Thus, the collaborative research process becomes an ongoing and dynamic form of giving back in itself.

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Collaborative research reminds us of being invited to a friend's home for a holiday dinner. We indulge in rich conversation and consume just a little too much pie. Our friends have graciously juggled all the preparations. We help with the dishes, but find ourselves wondering: Is this really enough? What can we offer in return that would adequately convey our gratitude?

The following articles capture the experiences of four scholars who give back through community-engaged research. We authors (Diver, Vaughn, Higgins, and Sarna-Wojcicki) are all working in communities that we plan to be connected to, like family, for the long run. We recognize the history of extractive research in the areas where we work as an ongoing problem. We see collaborative research as part of a solution that addresses the need for benefit sharing and some of the inevitable power imbalances that are intrinsic to the relationships between academic researchers and community members. Yet we also recognize our limitations. In our efforts to contribute our fair share, we find that collaborative research methods resist an exacting measure of what is given and what is received. We may never know the long-term research impact, or fully understand the complex power dynamics that play out through our research. Despite our best intentions, the community benefits that we hope for may be limited, or may not be realized at all. Furthermore, our research might have unexpected negative consequences.

Starting from this premise, the Research Notes in this section consider the complexities of our attempts at "giving back," which we discuss in terms of collaborative

research practices that break down hierarchical power relations and facilitate benefit sharing with communities. In the present article, we discuss some of the principles of community-based participatory research and feminist research that shape our work. First, we address some of the key questions in participatory research, including how we approach the concept of expertise. How are we engaging with the academy's expectations, while also recognizing the limits of our knowledge? We consider the work of feminist scholars who recognize the role that our particular class, race, and gender plays in shaping social relations. How do we address the uneven power relations that inevitably arise from our respective positions as academic and community researchers? Second, we consider the many forms that giving back through collaborative research can take. We describe our common challenges and attempted responses to them, as we negotiate issues of expertise and partnership in our research practice.

Through this article, we discuss our desire to achieve *dynamic reciprocity*, which we define as an ongoing practice of exchange for mutual benefit between academic and community research partners. We examine our own efforts to achieve a more equitable distribution of research benefits, while being reflexive about our researcher role. We arrive at the idea of collaborative research as a reciprocal, dynamic process that requires humility, practiced both through our theoretical framings and our everyday interactions.

1. Applying Participatory and Feminist Research Frameworks

Community-based participatory research (CBPR) is an orientation to research that begins by identifying a research topic of importance to the community and proceeds with the aim of combining knowledge and action for social change that benefits the community (Cornwall & Jewkes, 1995; Minkler & Wallerstein, 2003). The objectives of participatory research include benefiting local people—not simply doing research for the advancement of science or academic careers. Participatory research is also intended to be a conduit for a broader social change project, which balances research and action (Freire, 1970, 1982; Minkler, 2010; Stoecker, 2003). We also acknowledge that CBPR can take on multiple forms (Shirk et al., 2012), and that CBPR does not always achieve its intended goals (Pain & Francis, 2003).

Despite these caveats, we have found CBPR to be a useful research framework that intersects with our giving back project in three important ways. First, this framework requires us to ask the explicit question, who benefits from the research? How and when do benefits occur? And, how do we understand what benefits are meaningful to specific local communities? Second, the participatory approach is concerned with shifting the balance of power, where research subjects—who may come from a different gender, race, class or nationality than ourselves—become our research partners. Third, participatory researchers value both process and product, meaning the processes by which we interact with community research collaborators and the products for social change that we co-create with community members are equally important (Hall, 1982; Israel et al., 2010).

One of the main points discussed in the participatory research literature is the level of community participation, which is often viewed on a continuum (e.g. Minkler & Wallerstein, 2003). Many strive to deepen the level of community engagement in their research, especially in the formation of research questions. Participatory research suggests that addressing questions that are relevant to the community is essential for increasing community engagement, and deepens research impacts (Minkler & Hancock,

2003; Sclove, 1995). Furthermore, it is when communities research their own questions and produce their own knowledge that social change becomes possible. Community members may leverage participatory research projects to build power within the community, and thereby create "new forms of subjectivity that offer enabling futures" (Cameron & Gibson, 2005).

As with participatory research, many feminist scholars identify social change as a primary goal and seek to disrupt the uneven power relations that exist within the communities where we work, and also between academic and community research partners (Alkon, 2011; Collins, 1986; Frisby, Maguire, & Reid, 2009; Maguire, 1996; Stephens, 2012). However, feminist perspectives distinctly contribute a framework for recognizing the "specificity of gender or other social positionings, in terms of what strategies are chosen and what sites of resistance are created" (Weiner, 2004). By explicitly acknowledging gender, class, race, ethnicity and other social positions, we are better able to identify the power dynamics that shape whose voices are heard, and whose voices are silenced.

Feminist scholars argue that we must directly engage with such power imbalances by exposing the partiality of our own perspective as academic researchers. As Donna Haraway (1988) has noted, "only a partial perspective promises objective vision." We can only understand something from a particular, situated point of view—and as Haraway argues, that view and the reality it perceives is forever partial and unstable:

> How to see? Where to see from? What limits to vision? What to see for? Whom to see with? Who gets to have more than one point of view? Who gets blinkered? Who wears blinkers? Who interprets the visual field? (Haraway, 1988: p. 587)

Feminists also leverage *standpoint theory*, which suggests that our ability to learn increases when our inquiry starts from the standpoint of community members and their lived experiences. According to standpoint theory, all perspectives cannot equally represent the lives of communities that have historically been excluded. The researcher herself will not generate the same research questions or findings as when knowledge comes from community members themselves (Haraway, 1988; Harding, 1995, 2004, 2008, Sangtin Writers Collective & Nagar, 2006).

In addition, critical feminist scholarship emphasizes the researcher's responsibility to avoid reproducing social hierarchies through her collaborations with marginalized communities. As Kim England writes, "In our rush to be more inclusive and conceptualize difference and diversity, might we be guilty of appropriating the voices of 'others'?" (England, 1994, p. 81). Therefore, feminists advocate for self-reflexivity—the self-critical scrutiny of oneself that accounts for the researcher's own position in society, based on class, gender, ethnicity, and so forth.

In taking this approach, the researcher must address the hierarchies that are embedded within institutions for "higher" education, which privilege the academy as the sole source of expertise and contribute to a "dominant 'class system of the intellect'" (Carroll, 1990; Nagar, 2013). Feminist and participatory researchers can facilitate the ability of community partners to interrogate and challenge the knowledge produced within the academy. For example, researchers can work towards shifting the language of

the academy by rejecting hierarchical terms, such as research "subject," or by avoiding unnecessary academic jargon. Another solution is to provide communities, as experts in their own right, with the opportunity to represent themselves (Fortmann, 2008). Co-authoring stories with communities is a helpful approach when the project supports a "polyvocal framework attuned to a complex politics of difference" (Connolly 2012; Nagar, 2013, p. 5).

Yet researchers must acknowledge their own limitations in understanding community experiences, a process that itself engenders no small amount of humility (Tervalon & Murray-Garcia, 1998). Co-learning or "knowledge hybridity" is a central element of the community-engaged research experience (Reid, Williams, & Paine, 2011; Wallerstein & Duran, 2010). In addition, feminist scholars recognize the multiple and emerging epistemologies that exist within the feminist research practice (Wolf, 1996) and that we academics are learners, too.

Feminist scholars further emphasize that their approach is a work in progress. For example, Nagar (2013) refers to the "messiness of representation in alliance work," given the challenges of representing research findings with diverse communities. Or we may find that marginalized community members, who risk negative repercussions by challenging existing social norms, may prefer not to engage in feminist action research (Reid, 2006). Reid calls on us to recognize change at the individual and collective scale, and to stay modest with our goals: "Taking action can contribute, in small or big ways, to changing the lives of those involved in such projects. Life changes, if taken collectively, can eventually lead to structural and policy change" (Reid, 2006, p. 327).

2. Our Common Challenges with Collaborative Research

We now consider the collaborative research experience of the authors providing the four Research Notes in this section. The authors connect the theory of participatory and feminist research to their respective giving back projects. They highlight examples from their field work that speak to their attempted solutions to common challenges with collaborative research. The four authors in this section also recognize some of the limitations to CBPR that they have experienced, and reflect on their ongoing questions regarding research practice. They specifically discuss efforts to negotiate their roles as community-engaged researchers and to achieve greater reciprocity in their research relationships, as challenges that are faced by many participatory researcher scholars (Israel, Schulz, Parker, & Becker, 1998; Maiter, Simich, Jacobson, & Wise, 2008; Minkler, 2004).

While all four community-engaged researchers here are "giving back" in different ways, they converge on a central question: Is it ever enough? They attempt to give back through our research, yet they still discover that the community gives more than they are able to contribute. For example, Sibyl Diver's field reflection describes a collaborative timeline project, which she co-designed through a formal collaboration between the University of California, Berkeley and the Karuk Tribe, located in northern California (supported by the Karuk-UC Berkeley Collaborative). Diver relates her surprise in learning that her assumptions about giving back as an "altruistic project" were all wrong; despite her intent of giving to community partners, she found the community was giving her even more to her, by sharing knowledge, meals, homestays, and friendship. In the end, she found it was the time invested in establishing respectful and ongoing

relationships with community members that mattered most. Giving back is therefore more fluid than she expected, and difficult to track.

In our effort to address this dilemma as a common challenge, we recall the work of feminist scholars, who suggest setting modest goals and emphasize that desired outcomes for transformative change are co-constituted with the research process. Ultimately, we suspect that we can never really give "enough." As all of our research reflections demonstrate, there are multiple sites for giving back through the research process, including daily interactions with community members, the research design process, collaborative workshops, or community review forums—each bringing its own challenges. Yet, all of the authors in this section still worry about whether their research outcomes are providing meaningful benefits to community partners.

All four researchers struggle with the power dynamics that are implicit to their privileged academic position, and strive to interrupt traditional power hierarchies and inequities through their work. For example, Mehana Vaughan, who is working with a native Hawaiian fishing community near her hometown in Kaua'i, expresses her concerns regarding community report-back sessions that sometimes place her in the uneasy and unfamiliar role of an authority figure. To address this issue, Vaughan has organized gatherings that allow community members to both share a meal and review research progress. This allows community members to talk with one another in dialogue, and to collectively share impressions. Vaughan "craves immediate and tangible means of reciprocation," and finds that is important to take the time to organize such informal sharing spaces that empower community members to engage with research results, and also with one another. It is in such spaces that we can set aside traditional power structures, if at least for a moment.

As another example, Margot Higgins works in remote Alaskan communities within and on the periphery of Wrangell Saint Elias National Park and Preserve, where she was formerly employed as the director of a non-profit organization. Many researchers preceding her have visited remote Alaska communities without returning with their results, or only sharing results among particular academic or agency audiences. This history has made earning community trust a challenging and necessary part of her work. Recognizing this, she initiated her research project by visiting the community during the less accessible winter season and presenting her initial research project at a community meeting. There, she asked what questions mattered most to community members. During her subsequent visits, she has spent a great deal of time exchanging experiences with community members, thereby establishing rapport and understanding how the community's interests have changed over time. She has also shared drafts of her writing with community members and incorporated their feedback.

CPBR scholars often strive to influence contentious political processes, yet such aspirations may lead them to fall back on the expert status that they are granted as academics—a difficult issue for those researchers who are trying to emphasize the value of community expertise. Daniel Sarna-Wojcicki's research on collaborative watershed management in the Klamath River Basin, which is also supported by the Karuk Tribe-UC Berkeley Collaborative, speaks to this challenge. Like the other authors in this section, Sarna-Wojcicki often gives back through community volunteering and small gestures. However, he has found it more difficult to figure out how to do research that matters to the community—while simultaneously taking academic courses that questioned the very

nature of scientific practices and expertise. Sarna-Wojcicki's reflections consider the problematic nature of pursuing participatory research outcomes given the highly contested nature of Klamath Basin water issues. Even while his research engages with ideas of partial knowledge, he is also sensitive to local needs for performing objectivity in multi-stakeholder debates. In some cases, community partners ask us to be experts, even as we try to reframe our position as learners. Thus, political realities may create tensions between emphasizing and deemphasizing our "expert" status as academic researchers.

Another common challenge is finding the time to fully engage with communities, given our limited energy and resources. By taking a collaborative research approach that involves multiple stages of iteration and review (McTaggart, 1991), we ask more of ourselves, and we ask more of our community partners. This is a challenge for busy communities who may not have the extra time to attend a community gathering or to sit with us over a long meal. And it is also a challenge for researchers who are struggling to study, teach, write, publish, and take care of responsibilities at home. For example, Vaughan writes about her discomfort with bringing research results to the homes of her community partners because of the time that it takes to go through preliminary findings. And Sarna-Wojcicki discusses an important, but time consuming process of designing a formal community research protocol with community partners.

As part of our solution to these limitations, the authors in this section focus on issues that are consistent with community agendas and long-range goals, many of which they take on as their personal goals. In striving to create more community-driven projects, however, we find ourselves involved in a two-way conversation that takes their respective interests into account. Our collaborations require us to be transparent about our own needs and interests as academic researchers, even as we work to address community goals. In addition, the respective goals and needs of academic and community researcher partners often change over time, which may require us to adjust the research project midstream.

The Research Notes demonstrate the range of experiences that the authors have had with developing community-engaged projects. In Vaughan's case, it was through her fieldwork that she learned about the fishing community's interest in studying what happens with the fish that they catch. In response to community interest, Vaughan designed a study to track subsistence harvest and distribution patterns among family networks. For Higgins, her work began as an ethnographic study investigating how climate change is affecting the lives and livelihoods of park residents. As her work has progressed, she is working more closely with community collaborators to determine how to make this knowledge more accessible to decision-makers, while remaining mindful of local power dynamics. In Diver's case, she came to the community with a strong interest in co-management, which community members shared. Community partners then pointed her to a specific case study and primary research questions. As yet another scenario, following initial community discussions, Sarna-Wojcicki switched his research topic to address community concerns about local watershed management.

To further consider the question whether we are giving back "enough," we return to the self-critical scholarship of feminist researchers. We look to the solutions that they pose, such as addressing uneven power relations through practicing self-reflexivity, making power relations more visible, and disrupting dominant discourses that are based

on social hierarchies. We reflect on our own attempts to emphasize partial and situated knowledges, change the language we use, and collaborate on writing projects through our respective research initiatives.

For Diver, the Karuk Lands Management Historical Timeline was a fundamental tool for starting from the standpoint of Karuk tribal land managers and shifting the "language" that we use to convey research results. Diver is concerned about the structural barriers of academic writing that prevent communities from accessing research findings. She therefore tries to create visual and artistic research outputs with which community members can engage. In the timeline project, youth artwork helped embed the research in the context of ongoing relationships between local people and this landscape, and to include visual storytelling. By creating a visually oriented, place-based education tool that makes Karuk perspectives legible to a wider audience, Diver hopes that the Timeline will help shift the balance of power in future natural resource management decision making. Having a key tribal collaborator as a co-author was also an important component of the research process. Thus, the collaborative timeline process and outcome play a role in empowering Karuk voices to talk back to existing historical accounts of local and regional land management.

Through her research, Vaughan has worked to reconfigure assumptions about concepts of expertise that have affected her own community. In addition, her work with local fishers in her home community also demonstrates how the imagined divide between research process and product can be collapsed through CBPR. A key moment in empowering local community partners is exemplified by Vaughan's participatory study to track subsistence catch and distribution among community members. By tracing the exchange of fish between family and friends, this study showed that Indigenous subsistence practices continue to feed community networks extending throughout the Hawaiian Islands and to the U.S. mainland. Following a request from community members, she has shared this research with the head of the state resource management department, as a way to make Indigenous fisheries practices and needs heard by state-based decision makers. As part of Vaughan's research approach, community members presented findings in public forums, which helped build the confidence of these individuals and strengthened new spokespersons within the community. In this way, the research process facilitated an essential project outcome.

For Higgins, the research process has provided an opportunity to engage in reflexivity that recognizes current knowledge hierarchies. Higgins is hoping to increase the credibility of local knowledge about land change events within the National Park, while also being reflexive about her position as a community-engaged researcher. By working with community members who are monitoring changes in the land, she has observed concrete changes in the local environment alongside local community members. Through this process, her own perspectives of land change events have shifted, along with her perspectives regarding the divisions and commonalities between federal agency scientists and local observers. The long-term observations of many native Alaskans, in particular, have become clearer to her. By documenting the richness of community observations that the National Park Service is not necessarily aware of—without simply giving this knowledge away to government agencies and potentially harming local people—Higgins seeks to dispel agency stereotypes of community observations as "anecdotal" evidence. Thus, her goal is to support community members who want their

knowledge to be used to address rapidly changing climate, social conditions, and local subsistence needs.

Sarna-Wojcicki's work directly engages with the concept of "situated knowledge" in the context of science-driven decision-making processes. For Sarna-Wojcicki, doing research to support the needs of Karuk research partners means evaluating local watershed collaborations according to community-driven indicators, which incorporate principles of procedural and distributive justice. His work identifies who benefits from collaborative watershed management and uncovers places where Karuk knowledge is being excluded "in the name of science." By engaging with Haraway's (1988) ideas of "situated knowledge," Sarna-Wojcicki has adopted a rich practice of reflexivity, which has transformed his understanding of science as a dialogue or negotiation among myriad actors. He is also working through an established community review process. Both Sarna-Wojcicki and Diver have teamed up with Karuk-UC Berkeley Collaborative partners to create a formal collaborative research protocol that establishes community oversight for their projects, as well as for the research that comes after them. Through this protocol, tribal members are recognized as formal research mentors, with the authority to approve or reject proposed research projects.

In reflecting on our collaborative research efforts, we have found that learning from feminist scholars helps us to acknowledge our own privilege and redistribute authority through the collaborative research process. We become more aware of the power that we hold in representing community knowledge through our academic writing, and we work to recognize our "partial knowledge." We attempt to engage with community partners from the very beginning of the research process, and to gauge the community's interest in a collaborative research project. We gain an appreciation for community standpoints, and envision strategies for shifting entrenched power structures. We are mindful of how power is exerted in the post- fieldwork write up and dissemination of research findings (Wolf, 1996, p. 2). We strive to co-author research outputs with community members or request community review of research findings.

Despite our best intensions, however, we often find ourselves in the role of "expert." The institutional structures that we work within continue to emphasize the divide between academics and communities. Sometimes communities ask us to play the expert role, as part of addressing a current political issue. Thus, even while we seek to dismantle the historically engrained expectations of academic elites and reposition ourselves as collaborators, there are times when we leverage our positions of privilege to support the alliance building that we do together with our community research partners. For example, as a researcher, we may help link allies across the different worlds of policy makers, scientists, and community members (Ballard & Belsky, 2010), or help create knowledge that travels (Turnbull, 2003)—although we do not always have control over where the knowledge ends up. Our individual efforts with collaborative research are sometimes contradictory, inevitably shaped by the contested politics of expertise.

3. Concluding Thoughts: Dynamic Reciprocity

This article discusses how the four scholars writing for this special issue on the theme of Giving Back Through Collaboration in Practice are engaging with participatory and feminist research principles. We aspire to building respectful community research partnerships, while we continue to ask ourselves hard questions about our research

practice. How can we claim expertise as members of an academic community, while simultaneously putting questions marks around that knowledge and inviting critique from the communities we study? How do we shift academic norms to a new paradigm, where knowledge is co-constituted between academic and community research partners? How do we respond to the inevitable contradictions in representation that surface in working with diverse communities?

As our own experiences and those within this special issue show, giving back is not a purist endeavor: we are not able to give back to all community members, and we may only give back in small ways. Neither is giving back a one-way project. Rather, we give back through reciprocal relations, which do not operate simply on a tit-for-tat basis. Reciprocity extends far beyond individual acts of providing economic resources or sharing our research findings. It is not so much a direct accounting of exchange between researchers and communities, as it is a process for "seeking reciprocal relationships based on empathy and mutual respect" and sharing knowledge (England, 1994, emphasis added). Just as communities pass on their knowledge to the academic researcher, we may also provide communities with useful insights or additional perspectives from the academy.

Recognizing our limitations, we have found that giving back through collaborative research involves dynamic reciprocity. It is not a static process. It is time and context dependent—contingent on momentary circumstances and particular community needs. The extent and impact of our giving back changes over time, as do our perceptions of our researcher role and local needs. Meaningful benefits may be intangible, fleeting, or they may not emerge for a long time. Sometimes we may not get it right the first time. We learn how to better give back as our community relationships deepen. As Sarna-Wojcicki writes, we hope that the relationships we build with community research partners can help keep us on the right track. We have come to realize that sometimes establishing a meaningful long-term relationship is, in itself, a form of giving back.

Finally, as we move forward in this dynamic endeavor, we recognize that our role as researchers, who are striving for ethical and authentic partnerships with community partners, is not always a comfortable one. Sometimes we feel the squeeze of responsibility pressing in on all sides, as if the new pair of pants we wore to that holiday dinner is now too tight after the meal. Yet after we stride alongside new friends and collaborators, there is a reshaping of the social fabric. Our role begins to take its form. We find there is give and take. There is a moment when we feel the garment fits better—even if it is not a perfect fit.

Chapter 2: Section 2, Research Note

Giving back through time: A collaborative timeline approach to researching Karuk Indigenous lands management history

Sibyl W. Diver

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As a graduate student researcher, I struggle with understanding how to make my work more useful for the communities that I work with. Academic research often excludes local communities from knowledge production by using the written word instead of oral communication, employing specialized academic language, and reinforcing multiple layers of social hierarchy. This reality has led me to focus on collaborative research methods that incorporate visual formats as a means of giving back to community research partners. As one such example, I launched the Karuk Lands Management Historical Timeline project—a collaborative research initiative with the Karuk Tribe. Together, student and community research partners produced a 15-foot long artistic timeline on lands management history and community impacts within the Karuk Tribe's ancestral territory in Northern California. The visual timeline is available online and on display at the Karuk People's Center in Happy Camp, California (see figure 2.1).

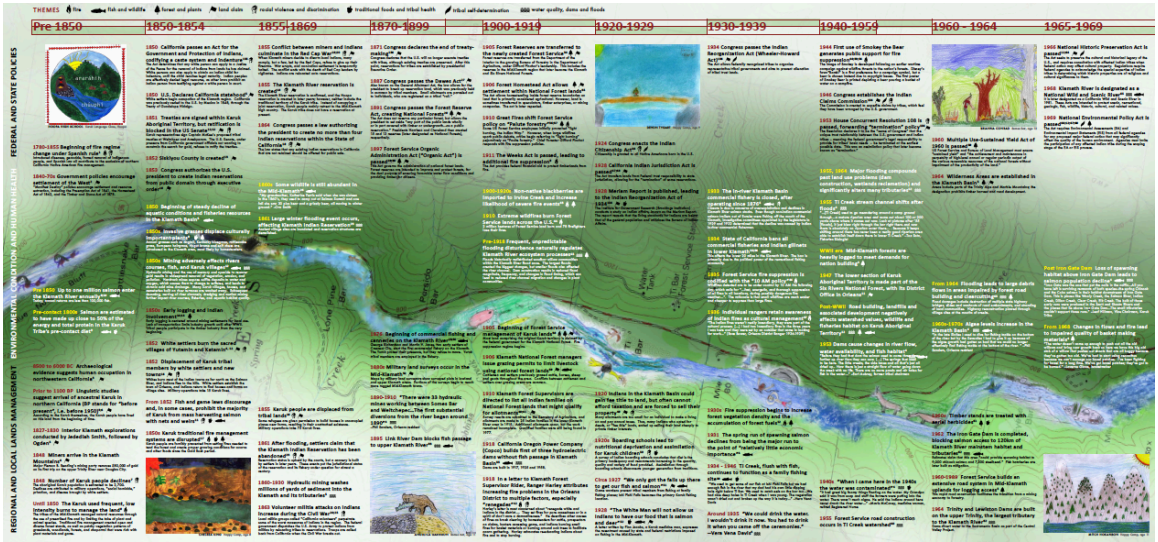

Figure 2.1. This section of The Karuk Historical Lands Management Timeline represents an artistic, fifteen-foot display that summarizes land use policies, management practices, and environmental health conditions affecting Karuk people and landscapes from 1850-present. The full text is available at http://karuktimeline.wordpress.com.

This research note introduces our collaborative timeline research methods and analyzes some of our successes and challenges around giving back to community partners. Our approach emphasizes both product and process, where the research product—a visual timeline—created a transformative community education tool, and where the research process helped build reciprocal co-learning relationships between academics and community members. Importantly, the project evolved in relation to our commitment to feminist research principles that include respecting situated knowledge, practicing reflexivity, and working from the viewpoints of marginalized communities. The amount of time dedicated to relationship building was an integral part of the collaboration.

My graduate research focuses on natural resource governance with Indigenous communities in the Pacific Northwest. As a non-Indigenous person, I first learned about Indigenous land rights issues while working for a non-profit organization to support grassroots Indigenous and environmental leaders in the Russian Far East. During my first summer of graduate school, the Karuk-UC Berkeley Collaborative (KBC) group invited me to visit the Klamath River and meet tribal managers at the Karuk Tribe's Department of Natural Resources (KDNR). In our meetings, tribal leaders voiced a need for academic research that could address current land management challenges faced by the Tribe, and expressed interest in studying barriers and opportunities to collaborative resource management. Working with tribal members, I began developing a research project on this topic.

I initiated the research with a literature review, which I conducted in the context of a graduate course on citizen participation. Together with four classmates and Karuk colleagues, I started a group project to document the history of lands management in the mid-Klamath region from 1850 to present. We, the student researchers, began with reading and analyzing reference materials, including over 100 items from tribal and government archives, libraries, and other sources. In order to synthesize this vast pool of data, we devised a timeline format.

Visiting the Klamath River and learning from the local community was essential to the project. We students set out from Berkeley on an 8-hour drive, winding up the Klamath River canyon. During our travels, we shifted from 50-minute class blocks to "river time." Our planned 2-hour morning session turned into a day-long conversation and a salmon barbeque with community members. For the first item on our agenda, I had planned on presenting our archival research, but instead, our community partners started us off with a Karuk cultural resources training. We tasted roasted peppernuts, handled basket weaving materials, compared different types of acorns, and learned how Karuk cultural burning was essential to maintaining tribal access to traditional foods and fibers.

Our student researcher group then presented the initial timeline research findings. Together with community partners, we took a red pen to the 15-foot timeline poster that spanned the community room walls. We had frank discussions about local resource politics. We listened to the frustrations of Karuk tribal managers around their efforts to fulfill culturally embedded resource management responsibilities on federally designated National Forest land. We discussed the ways in which federal and state policy had impacted Karuk people and their traditional lands, as well as Karuk community responses to these impacts. After returning to Berkeley, these conversations helped us as student researchers to refocus our efforts, based on the lived experience of Karuk people.

At the end of the semester, we submitted our draft timeline for review to our community partners and professors. It is important to note that the timeline was text-only at this point in time (see figure 2.2). Through critical dialogue, we realized that the text-only timeline did not reflect the place-based community that we had just visited. We decided to redesign the timeline around Klamath River images. Over the next semester, we organized the Klamath Art Contest. Local youth submitted artwork representing their relationship to the riverimages of favorite family swimming places, eerie river fog, Karuk legends, and the mountainous mid-Klamath landscape. In return, we sent the contestants small prizes and certificates, and also recognized youth artists in the final timeline. Sketches of people and animals now populate our rendition of the Klamath River, which runs through the center of the timeline to create what our tribal partners refer to as a "cultural riverscape."

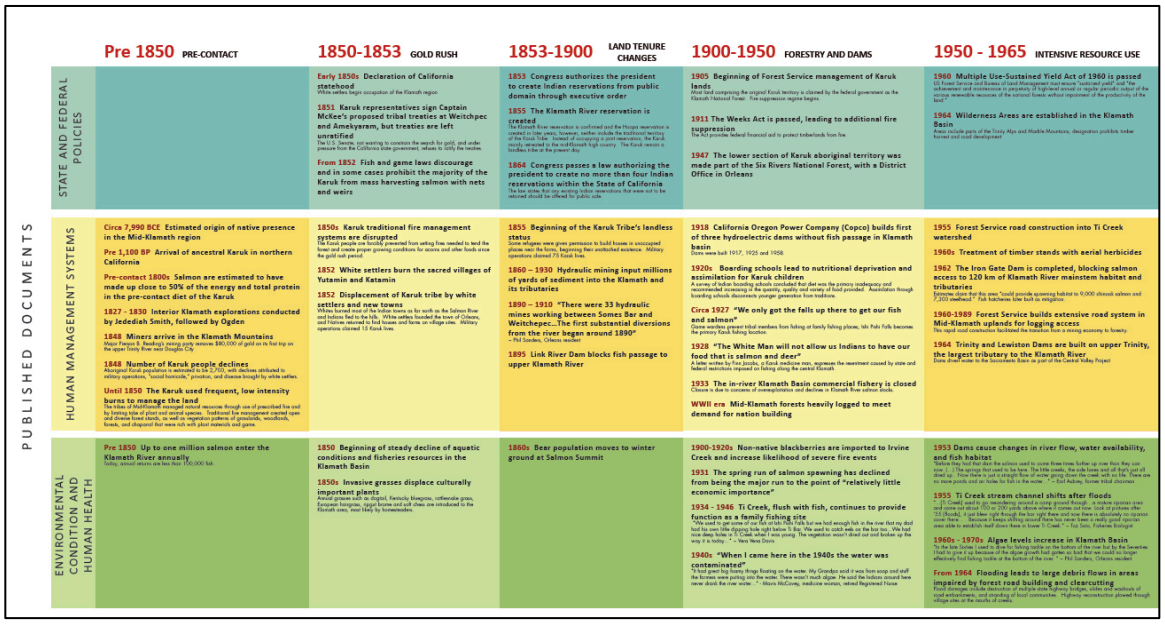

Figure 2.2. This is a section of the initial, text-only version of The Karuk Historical Lands Management Timeline, prior to our redesign.

Although there is not ample space here to fully describe and analyze our collaborative timeline methods, I will highlight several "giving back" moments that we experienced, both in terms of our collaborative research product and process.

(a) The timeline product helped to situate historical information around the Karuk Tribe's lived experience. By linking Karuk knowledge with existing academic literature, the timeline provided additional legitimacy to local knowledge. By referencing policies that had displaced Karuk people and their management practices from the mid-Klamath region, the timeline provided structural explanations for current social and environmental problems. One Karuk partner commented that the timeline's effectiveness came from describing "the community story and the managerial story together," thereby producing a credible historical record that could help influence policy makers.

(b) The timeline highlighted steps already taken by the Karuk Tribe to achieve its vision for eco-cultural restoration, which proved to be an empowering experience for

tribal managers. One of our Karuk collaborators told us, "I usually feel like I am beating my head against the wall, but now I feel like we are getting somewhere." By laying out the historical context, the timeline demonstrated how much the Tribe had accomplished in rebuilding Karuk governance institutions, despite colonial histories of cultural displacement and resource extraction. This context also helped explain why the tribe's current restoration efforts were so challenging, particularly with negotiating management decisions affecting cultural resources on lands now designated as federal forest. Thus, the timeline created a new history of mid-Klamath land management that could talk back to the dominant historical record and reaffirm contemporary Karuk self-determination efforts.

(c) The timeline process supported reciprocal learning relationships between researchers and community partners. Traveling to the river helped students to gain a more situated understanding of Karuk knowledge. Meeting in person allowed everyone to feel more comfortable asking questions and facilitated co-learning. It was through conversation and dialogue that student researchers gained a better understanding of the priority issues for Karuk managers, and that community partners were able to provide their guidance on the project. Given the rich, place-based nature of our discussion, the timeline provided a key framework for helping student visitors locate and understand community experiences, even when students lacked contextual information. As one Karuk colleague explained, "It was all about the sharing of information to create an educational unit."

(d) Presenting research findings though a visual format and including youth perspectives helped make our historical analysis more accessible and relevant to community members—both in terms of product and process. One Karuk partner commented on the vital importance of including youth perspectives in the final product; this created an opportunity for the next generation of community leaders to have a voice on current land management issues. Youth artwork also provided a personal connection for local audiences, who were often drawn to the illustrations contributed by their family members or other local youth. Furthermore, our decision to take the time required for revising the timeline demonstrated our commitment, as student researchers, to honoring the place-based, inter-generational perspectives of Karuk people, as part of relationship building.

Creating the collaborative timeline relied on an iterative process, with many challenges along the way. One challenge was allowing enough time to ensure a successful collaboration. Because of the iterations, this project required about nine months to complete—about twice the amount of time we planned for. However, extending the time frame resulted in a more respectful process and impactful product. A second challenge was determining how to best represent the timeline collaboration, given the diversity of the Karuk community. We were careful to describe the project as a close collaboration with the Karuk Department of Natural Resources that had been approved by Tribal Council. Yet, we acknowledge that the project would benefit from broader community engagement over a longer time period. Our third challenge was the linear nature of the timeline, which does not currently allow for updates. We would like to develop an interactive, web-based format that allows for a living and changing document. This interactive version would ideally place greater emphasis on thematic linkages, and allow for user comments on evolving issues. As a final challenge, the Karuk resource

managers that we worked with were mostly male. By reviewing transcripts of interviews with female Karuk leaders, we did include more women's perspectives, yet this remains a project limitation. More recently, the Karuk Department of Natural Resources has shifted its activities towards traditional foods and fibers. The traditional foods framework creates an opening for additional community voices, including more female perspectives, to engage with current natural resource management issues.

In reflecting on this experience, the timeline changed my perspective on giving back. I had previously assumed that giving back was primarily an altruistic activity. Yet through the collaborative timeline, I found that establishing an effective community-engaged research project meant that both sides benefit, and giving back is better understood in the context of reciprocal relationships. Even while student researchers attempted to emphasize community benefits, I found that students benefited immensely from the collaboration. The timeline project helped students gain a deeper understanding of Karuk perspectives on Indigenous land management—a perspective that is rarely taught within the academy.

For myself, as a graduate student beginning my dissertation research, the timeline was a highly effective approach to conducting an initial literature review. Instead of my reading historical materials in a vacuum, the collaborative timeline helped me begin my research from a situated perspective—emphasizing the lived experience of community partners. The timeline was also a quick way to demonstrate my usefulness as a researcher to the community, as opposed to waiting several years for a completed dissertation. In this way, the timeline process helped me to initiate a more productive community-engaged dissertation project.

The most important aspect of the collaborative research, however, was the time spent creating a more reciprocal relationship between student researchers and community partners. This partnership did not proceed according to a prescribed agenda. Rather, it was a give-and-take process that evolved over time. During our community visit, local collaborators taught us how to be good partners. This meant staying flexible and moving slowly—taking the time required to learn together. Because of our respectful process, this became the first of many collaborative projects that I have now undertaken through the Karuk–UC Berkeley Collaborative (KBC), further described by fellow KBC member Daniel Sarna-Wojcicki (in this issue).

When interacting with my colleagues, I realize how fortunate I am to share a first language with community partners who are located within a day's driving distance of my home. Still, I hope that the collaborative timeline approach helps provide a tool that supports others pursuing feminist research methodologies—through facilitating co-learning and generating place-based, visual research outputs.

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Chapter 3: Negotiating Indigenous Resource Management: Co-production of knowledge, social order, and the Xáxli'p Community Forest

Introduction: A case of Indigenous Resource Management

Natural resource management negotiations between Indigenous communities and government agencies are often characterized by a high degree of distrust and conflict over lands and resources (Taiepa et al., 1997; Usher, 2003; Wilkinson, 2005; Hibbard et al., 2008; Tindall et al., 2013). Contestations over knowledge, values, and worldviews, which play out in the context of uneven power relationships, often prevent parties from working together (Nadasdy, 1999, 2003; Diduck et al., 2005; Natcher et al., 2005). Despite such conflicts, Indigenous communities in many countries continue to organize new governance bodies and processes to support natural resource management by and for Indigenous peoples (e.g. Borrini-Feyerabend et al., 2004; Cornell, 2013; Mantunga, 2013), which I refer to here as Indigenous Resource Management (IRM) institutions. This concept of IRM acknowledges that Indigenous-led institutions are always operating within imposed political constraints, but also asserts that Indigenous peoples choose for themselves how and when to operate within these constraints (Bruyneel, 2007; Cornell, 2013).

Recognizing that communities are diverse and that IRM institutions take different forms (Agrawal & Gibson, 1999; Watson, 2003; Anderson, 2005; Aggarwal, 2008), this article focuses on more formalized institutions that support the community-driven land management decisions by Indigenous peoples. Formalized IRM institutions may assist Indigenous communities with increasing access to federal funds and decision-making forums, for example, which in turn support community access to cultural resources (e.g. Lane, 2005; Sanders, 2008; Diver 2012). Such institutions may also help Indigenous communities coordinate among or within themselves on cultural, legal or business issues (e.g. Long et al., 2003; Kingi, 2008; Weir, 2009; Te Aho, 2010). Formalized IRM institutions can also help Indigenous communities interact with government agencies on natural resource management issues across multiple state jurisdictions, (e.g. Cornell & Kalt, 1998; Curran and M'Gonigle, 1999; Donoghue et al., 2004; Middleton, 2011). This is in contrast to less formal management institutions, such as internal community protocols, norms, or rules that support ongoing community land use. These informal sets of management rules may be rooted in a long history of community caretaking over fishing or gathering areas, for example, and communities may adapt such rules to fit changing conditions over time. Thus, long-standing community management protocols often inform contemporary Indigenous management today, including the work of formal IRM institutions (e.g. Anderson, 2005; Diver, 2012).

This study evaluates the negotiation and implementation of the Xáxli'p Community Forest (XCF), a new Indigenous Resource Management institution that holds both self-determination and sustainable resource management as central goals.[37] This analysis addresses the question: how do communities build effective Indigenous

[37] Pronunciation of the Lillooet or St'át'imc language is best gained from listening to a native speaker. See the "Learn our Language" section of the First Voices website at http://www.firstvoices.com/en/Northern-Statimcets/welcome. Based on linguistic studies the 'x' in 'Xáxli'p' is pronounced as a 'friction' sound, made with the tongue in the same position as with a 'k' (Bouchard 1973). However, further reading on St'át'imc orthography is recommended to guide a more precise pronunciation (see appendix 1).

Resource Management (IRM) institutions, despite issues of uneven power dynamics? The XCF was established by the Xáxli'p Indigenous community[38] and the British Columbia (B.C.) Ministry of Forests, following a twenty-year negotiation process over forest management on contested lands, which began in the late 1980s. After working through a complex community planning process and a challenging set of negotiations, the Xáxli'p Indigenous community established the XCF as a new Xáxli'p management institution that is committed to ecological and cultural restoration. Today, the XCF has exclusive management authority over forestry operations within the majority of Xáxli'p traditional territory, located around Fountain Valley near the town of Lillooet, B.C. in Canada.

Overall, the XCF case provides an example of an Indigenous community exercising self-governance by taking control of environmental planning and natural resource management on contested lands, and initiating its own restoration forestry program. In some ways, this is an exemplar case, since it has not been widely replicated by other B.C. Indigenous communities; conventional forestry and joint venture operations are the regional norm. The case, however, also provides a general framework for understanding broader Indigenous self-determination struggles—where communities are simultaneously grappling with environmental sustainability, rural economics, cultural survival, and aboriginal land claims. A full account of the case study is presented in Diver (in review).

In this article, I use the concept of co-production of knowledge and social order (Jasanoff 2004) as an analytic tool to better understand how IRM institutions like the XCF are created. I also use the idea of Indigenous articulations (Clifford, 2001) to better understand the significance of the community mapping and planning processes that established the Xáxli'p community's mission and vision for the XCF. This article begins with a review of relevant literature. I then provide a brief overview of XCF history and research methods to introduce my case study. This is followed by case analysis, which focuses on key knowledge production processes supporting Xáxli'p environmental planning, which result in the XCF. Community maps and plans, and the planning processes behind them, represent Xáxli'p articulations of sustainable forest management.

Through my analysis, I will show how the simultaneous negotiations of knowledge and politics set the terms for the XCF, as an emerging Indigenous Resource Management institution. I will also show how the Xáxli'p Indigenous community used Western science as an effective communication tool in government negotiations. In this sense, Western scientific knowledge formats did not replace Traditional Ecological Knowledge (TEK); rather, the Xáxli'p community strategically linked scientific maps and plans with Xáxli'p TEK to forward community interests. Xáxli'p plans effectively engaged with a subset of Xáxli'p knowledge and Western scientific knowledge, which community negotiators then used to support Xáxli'p land management goals in a specific context. By recognizing the contingent and ongoing nature of knowledge production that

[38]The local community refers to itself simply as "Xáxli'p. However, for the purposes of this paper, I use the longer phrasing of "Xáxli'p Indigenous community" or "Xáxli'p community". In doing so, my purpose is to avoid confusion for readers who are not familiar with local speech conventions. Xáxli'p people often use the term "community" to refer to themselves, and the term "Nation" when speaking about the collective of Indigenous communities that makes up the broader St'át'imc Tribe. you can. It avoids confusing your reader.

is shaping (and shaped by) shifting political negotiations, these findings offer an alternative to existing models of "knowledge integration" between Indigenous knowledge and Western science that is sometimes presented in the literature.

I. Relevant literature

Traditional Ecological Knowledge (TEK), Western science, and knowledge hierarchies

Debates about the relationship between Western science and Traditional Ecological Knowledge, especially in terms of what knowledge is recognized in bureaucratic management decisions, are at the heart of scholarly discussions on Indigenous Resource Management issues. Scholars and practitioners often use the concept of Traditional Ecological Knowledge (TEK) to emphasize how particular Indigenous perspectives regarding the environment can differ from Western scientific perspectives (e.g. Berkes, 1999; Turner et al., 2000; Turner, 2005; Menzies & Butler, 2007). Agrawal (1995), however, has argued that the supposed differences between Indigenous knowledge and Western scientific knowledge are not so great in practice. Numerous scholars have explored places of overlap and difference between TEK and Western science (Turnbull & Watson-Verran, 1995; Berkes, 1999; Agrawal, 2004; Barnhardt & Kawagley, 2005). And researchers have identify bridging points between TEK and Western scientific knowledge that can be leveraged with environmental management decision-making (Ford & Martinez, 2000; Higgs, 2005; Turner & Berkes, 2006; Berkes, 2009; Lertzman, 2010; Bohensky & Maru 2011; Vaughan, 2012).

Despite clear evidence of linkages, identifying a framework that brings TEK and Western scientific knowledge traditions together in a way that recognizes the complexities involved with applying Indigenous knowledge to IRM decision-making has proven to be difficult. For example, attempts to represent knowledge production as a "joint" endeavor that effectively "integrates" Western science and Indigenous knowledge (e.g. Dale & Armitage, 2011; Armitage et al., 2011; Idrobo & Berkes, 2012) often fail to account for the political negotiations that determine whose knowledge counts. The idea of "knowledge integration" is somewhat misleading, because it does not address the underlying problems of uneven power dynamics and competing interests that are central to Indigenous Resource Management negotiations. The concept fails to address the factors contributing to hierarchical divisions between knowledge systems, since historical and contemporary resource management forums have often positioned Indigenous knowledge as being subordinate to Western scientific knowledge (Nadasdy, 2003, 2007). In addition, a knowledge integration concept that envisions combining different knowledges into an integral whole implies that negotiating parties bring a pre-formed knowledge system to the negotiating table. Yet, Indigenous knowledge traditions are always adapting, and Traditional Ecological Knowledge (TEK) is dynamic set of ideas and practices, which is both responding to and informing contemporary environmental science and resource management decision-making processes (Berkes et al., 2000; Turner et al., 2003; Menzies & Butler, 2007; Wyatt et al., 2011; Diver, 2012; Edmunds et al., 2013).

Because not everyone's knowledge or interests are valued equally by society, it is important to acknowledge that Indigenous knowledge systems are negotiated within a

political and economic context (Agrawal, 1995; Nadasdy, 2003; Feit & Spaeder, 2005, Menzies & Butler 2006; Diver, 2012; Spak, 2013). Feminist science scholars pay particular attention to knowledge hierarchies that shut out the perspectives of marginalized communities, and they strive to interrupt these patterns within dominant society. Considering "sciences from below," Harding (2008) demonstrates that Western science is one knowledge system among many. Haraway (1988) argues that all knowledge is situated within a person's lived experience. Correspondingly, Haraway critiques practitioners of positivist science for claiming that scientific knowledge production is "objective" and can therefore be separated from the lived experience of the scientist producing that knowledge. This proposition assumes that, unlike the non-scientist, rigorous practitioners of "objective science" bring a mindset of disinterested impartiality to their work and resulting truth claims. Haraway compares the assumptions of objective science to a false illusion or "god trick," and instead, asks individuals to recognize the limitations of their knowledge, which is inherently limited to a partial perspective (Haraway, 1988: 581-583). To address these issues, feminist scholars call for increased self-reflexivity from scientific researchers, greater recognition of power differentials in social relations, and more attention to the voices of marginalized communities (e.g. Harding, 1995, 2004; Alkon, 2011). To address the knowledge hierarchies that present structural barriers to IRM, researchers must go beyond theorizing "bridging" concepts of knowledge production and delve into the particular and uneven political contexts in which knowledge is being produced.

Co-production of knowledge and social order

Sheila Jasanoff's (2004) use of *co-production of knowledge and social order* offers an alternative perspective, which embraces the political context of knowledge production and science that is shaping Indigenous Resource Management negotiations and practice. Working at the science-policy interface, Jasanoff (2004) defines co-production as an analytic approach that shows how ways of knowing the world (natural and social) are inseparably linked to the ways in which people seek to organize social order. As a useful concept for understanding how Indigenous communities and their allies create new IRM institutions, Jasanoff's co-production framework does not separate knowledge contestations from political conflict, but rather recognizes the co-evolution of knowledge and politics. Jasanoff's approach differs significantly from discussions in "co-management" literature, which emphasize collaboration and social learning outcomes (e.g. Dale & Armitage, 2011; Armitage et al., 2011). Accounting for knowledge hierarchies, Jasanoff's version of co-production emphasizes the messy interplay between the production of scientific knowledge and political context in environmental problem solving (Miller, 2004; Thompson, 2004). The concept also considers the role that science and society play in shaping environmental problems and solutions. Thus, co-production explores, "how knowledge making is incorporated into. . . governance, and in reverse how practices of governance influence the making and use of knowledge" (Jasanoff, 2004:2-3). The co-production lens helps direct systematic lines of inquiry that include the "emergence of knowledges, institutions, and identities related to environmental change" (Jasanoff, 2004:6). This analytic frame discourages uni-directional explanations of scientific knowledge determining politics, or politics determining scientific

knowledge. Instead, co-production emphasizes the simultaneous ordering of knowledge and politics, of science and society.

As described in the following sections, applying Jasanoff's co-production framework to the Xáxli'p Community Forest case demonstrates how a transition in knowledge about land (Fountain Valley) goes hand in hand with a transition in politics around Indigenous Resource Management (Xáxli'p Community Forest Agreement tenure). Through a series of Indigenous-state negotiations, new forms of knowledge about the land are co-produced together with new forest policy.

Based on my case analysis, I argue that existing concepts of "knowledge integration" are insufficient to explain how and why Indigenous communities like the Xáxli'p community are currently engaging in science, policy, and natural resource management. Rather, I recognize the political barriers to IRM negotiations and consider how Indigenous communities can effectively engage in resource management negotiations through a co-production scenario, where Indigenous communities are simultaneously shifting knowledge and politics to change status quo resource management policy. In the case of the XCF, this involves having Xáxli'p community members initiate their own environmental planning processes, identify strategic knowledge convergences with allies within a specific political context, and assert their knowledge and interests in government-to-government negotiations. The result is the Xáxli'p Community Forest (XCF), a newly established IRM institution that governs forest management within Xáxli'p traditional territory.

Indigenous Articulations

To further address the problems that arise with presenting a generalized concept of knowledge integration, I also use James Clifford's (2001) concept of Indigenous articulations. In writing about Indigenous identity, Clifford draws on Stuart Hall's "articulation" theory (Clifford, 2001; Hall et al., 1986). To introduce the articulation concept, Hall envisions an articulated lorry with a trailer hitch, which allows the option of hooking or unhooking a trailer to one's vehicle. The two parts are connected to each other, but through a specific linkage that can be broken. It is a linkage that is not necessary, determined, absolute or essential for all time (Grossberg, 1986; Hall et al., 1996; Clifford, 2001). Hall's work builds on Gramscian concepts of ideas having material force, where philosophical discourse shapes the thoughts and actions of broader society (Gramsci, 1971). Gramsci's writing implies that particular constructions of ideas, which adequately reflect the current political and historical context, will be taken up by society at large and lead to cultural change (Gramsci, 1971:330, 341).

Clifford (2001) argues that it is through careful linkages or "articulations" that Indigenous peoples form new representations of Indigenous identity in a contemporary and changing world. As Clifford describes it, the Indigenous articulation concept "offers a nonreductive way to think about cultural transformation and the apparent coming and going of 'traditional' forms'" (Clifford, 2001: 478). There is no single "authentic" way for Indigenous peoples to express their identity. Rather, "communities can and must reconfigure themselves, drawing selectively on remembered pasts" (Clifford, 2001: 479). The articulation concept is especially important given the problems that Indigenous peoples have experienced during political negotiations with state governments, which

often require Indigenous peoples to portray themselves as having "traditional" and "unchanging" cultures in order for their rights to be recognized (e.g. Hann, 1998; Deloria, 2002; Vermeylen, 2013). In this case, I use Indigenous articulations to describe the intentional and careful linkages that Indigenous peoples are creating between Traditional Ecological Knowledge and Western science, and to discuss how the Xáxli'p community created specific Indigenous articulations through community plans.

II. Case overview and methods: The Xáxli'p Community Forest (XCF)

The Xáxli'p Indigenous community is one of eleven Indigenous communities that make up the larger St'át'imc Tribe. The Xáxli'p community comes from Fountain Valley, an area located near the town of Lillooet in British Columbia, Canada (see Figure 3.1, map). Xáxli'p people and their ancestors have a long history in this place, with evidence of people occupying the area around 8,000 years ago and nearby archaeological sites characterized by dense villages dated to between 1,600 and 2,600 years ago (Hayden, 1992; Prentiss and Kuijt, 2012:30,100). As of March 2013, the Xáxli'p community's registered population was over a thousand people, with about one-third of the community living on reserve lands located near the town of Lillooet. The word "Xáxli'p" means "the brow of the hill," and describes one of the areas where many Xáxli'p people live—a terraced slope that looks out over the Fraser River, an important salmon spawning river. Xáxli'p people refer to their ancestral lands as *Xáxli'p Survival Territory*, an area of about 31,419 hectares (Xáxli'p Community Forest Corporation, 2009). Although Canadian government entities classify the majority of Xáxli'p Survival Territory as provincial Crown lands—federal or public land that is managed by the Province of British Columbia—the Xáxli'p community continues to assert its aboriginal title, which has never been extinguished through a treaty, or otherwise.

The Xáxli'p community supports itself through a mixed economy. This includes subsistence use involving salmon fishing, hunting, and gathering, as well as natural resource jobs, and other sources of employment. During the 1970s and 1980s, forestry operations by outsiders intensified in the area. Although the Xáxli'p community is not opposed to logging, the trend towards intensified timber production and clearcut logging led to strong community opposition. In the early 1990s, Xáxli'p community members organized roadblocks to prevent logging companies from accessing Xáxli'p Survival Territory. At this same time, Xáxli'p community leaders were looking for a way to protect the land and the water within their territory from extractive industrial uses and environmental contamination. After meeting forest ecologist Herb Hammond with Silva Ecosystem Consultants in the mid-1980s, Xáxli'p community leaders and Hammond began discussing watershed protection strategies, including Ecosystem-based Planning methods.

In the late 1990s, the Xáxli'p community initiated its own land use planning processes, which evolved into a community proposal to create the Xáxli'p Community Forest (XCF). The community's XCF concept proposed creating opportunities for Xáxli'p community members to conduct eco-cultural restoration of Xáxli'p territory. The aim of eco-cultural restoration is for people to work towards restoring complex ecosystems and restoring dynamic cultural management systems that shape the landscape at the same time, thereby recognizing the interconnections between ecological and cultural processes.

Both Xáxli'p community members living in Fountain Valley, and non-Xáxli'p people formed the XCF negotiation team. Xáxli'p elders consistently advised the team. A number of Xáxli'p community members on the team had already been working for years to create Xáxli'p self-governance institutions and increase community control over Xáxli'p Survival Territory. Although some community leaders phased out of the XCF project over time, others have stuck with the initiative for about twenty years. The team's external advisors, which included forestry consultant Herb Hammond, Indigenous mapping advisors, and a lawyer, were trusted individuals who had worked with the Xáxli'p community for some time. Before engaging with the XCF team, Herb Hammond had spent many years working with the Xáxli'p community on forest-related assessments of Xáxli'p Survival Territory.

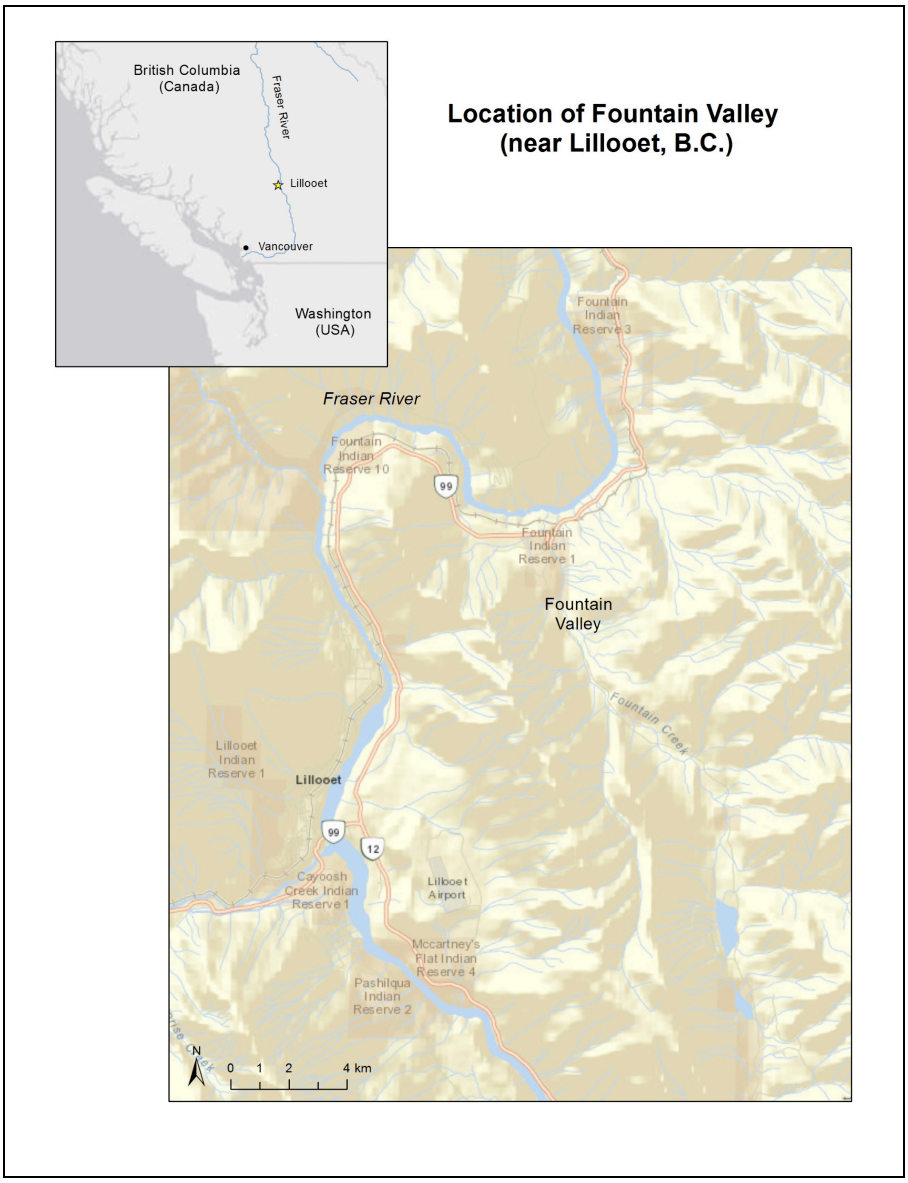

Figure 3.1. Location of Fountain Valley. Map by Kristina Cervantes-Yoshida. Note that Xáxli'p Survival Territory extends beyond the boundaries of this map.

Over twenty years of government negotiations over natural resource management and land claims issues preceded Xáxli'p Community Forest (XCF) negotiations (see figure 3.2, below). However, this case analysis focuses on negotiations between the Xáxli'p community and the B.C. Ministry of Forests[39] that occurred in the late 1990s through the mid-2000s. Several key political changes laid the groundwork for the initial Xáxli'p Community Forest proposal. First, several landmark Canada Supreme Court legal decisions acknowledged the existence of aboriginal title and rights (the 1990 Sparrow and 1997 Delgamuukw Decisions).[40] Additional court rulings established new requirements for government consultation and the accommodation of aboriginal title and rights, which created an impetus for forestry revenue sharing with First Nations (2004 Haida Decision).[41] Second, when the Xáxli'p community participated in road blocks to prevent clearcut logging, the Xáxli'p community's control over road access helped establish *de facto* Xáxli'p control over Fountain Valley forests. Third, in the early 2000s, B.C. government expanded opportunities for creating Community Forest Agreement tenure when the government approved a timber take-back program. This program allowed B.C. government agencies to buy back timber shares from large commercial logging companies, and redistribute them to other forest users, including B.C. aboriginal communities.

The community's XCF proposal did not succeed on the first try. In the early 2000s, the XCF negotiating team developed the first XCF proposal as an Interim Measure within the B.C. Treaty Process. Initiated in 1993, this was a modern day treaty process, aimed at settling outstanding land claims with B.C. First Nations. In 2001, B.C. government representatives were prepared to accept the XCF proposal through the Treaty Process. However, due to community concerns regarding treaty negotiation and other factors, a majority of the Xáxli'p community voted to reject the Treaty Process, and the Community Forest proposal contained within it. At this time, the Xáxli'p negotiating team abandoned the initial XCF proposal. Around 2004, the B.C. Ministry of Forests adopted new government programs—called Forest and Range Agreements (FRA) or Forest and Range Opportunity Agreements (FRO)—to provide Indigenous Nations with short-term forestry licenses and funding. The XCF negotiating team members revived the XCF proposal around this time. In 2006, the Xáxli'p community and B.C. provincial government signed a Forest and Range Opportunity (FRO) Agreement, which differed significantly from standard FROs. This FRO Agreement provided the Xáxli'p community with a direct invitation to apply for a Community Forest Agreement (CFA) tenure, an unusual precedent that enabled the Xáxli'p to move forward on its XCF proposal through the FRO process. Following FRO Agreement approval, the Xáxli'p community began implementing the eco-cultural restoration components of the XCF with

[39] The official name is now the Ministry of Forests, Lands and Natural Resource Operations. For consistency and simplicity, I use the former name "Ministry of Forests" or "Ministry" throughout this paper.

[40] Delgamuukw v. British Columbia, [1997] 3 S.C.R. 1010. <http://scc.lexum.org/decisia-scc-csc/scc-csc/scc-csc/en/item/1569/index.do>, accessed February 25, 2013.
R. v. Sparrow, [1990] 1 S.C.R. 1075 (Her Majesty the Queen v. Ronald Edward Sparrow) <http://scc.lexum.org/decisia-scc-csc/scc-csc/scc-csc/en/item/609/index.do> , accessed November 1, 2013>

[41] Haida Nation v. British Columbia (Minister of Forests), [2004] 3 S.C.R. 511 <http://scc.lexum.org/decisia-scc-csc/scc-csc/scc-csc/en/item/2189/index.do>, accessed February 25, 2013.

support from forest district officials. On February 1, 2011, the B.C. Ministry of Forests approved the final Xáxli'p Community Forest Agreement.

This in-depth case study is based on semi-structured interviews with key informants, participant observation, and document analysis. These methods helped me examine how the Xáxli'p community established the XCF as a new IRM institution, despite unequal power relations with government agencies. From 2009-2011, I conducted primary fieldwork over a total of 16 weeks, and also made additional visits to the Xáxli'p community following this period. Using the snowball sampling method, a technique where existing study participants suggest future respondents from among their acquaintances (Goodman, 1961), I selected interviewees who had a direct role in XCF negotiations or implementation. I interviewed 18 Xáxli'p community members, staff and consultants, and also interviewed 15 current or former Ministry of Forests staff and consultants working at the local, district, and provincial levels. According to my research protocol, study informants could choose to use their name in research reports, or to remain anonymous. Thus, any names in this writing are used with the written permission of the individual. Participant observation opportunities included working out of the XCFC office, attending planning sessions with elders, joining Xáxli'p Forest Crew training sessions and field assessments, sitting in on board meetings, attending youth activities, and participating in community events. In fall 2013, I conducted a preliminary review of research results with Xáxli'p Community Forest board members and other community members, which informed my final analysis.

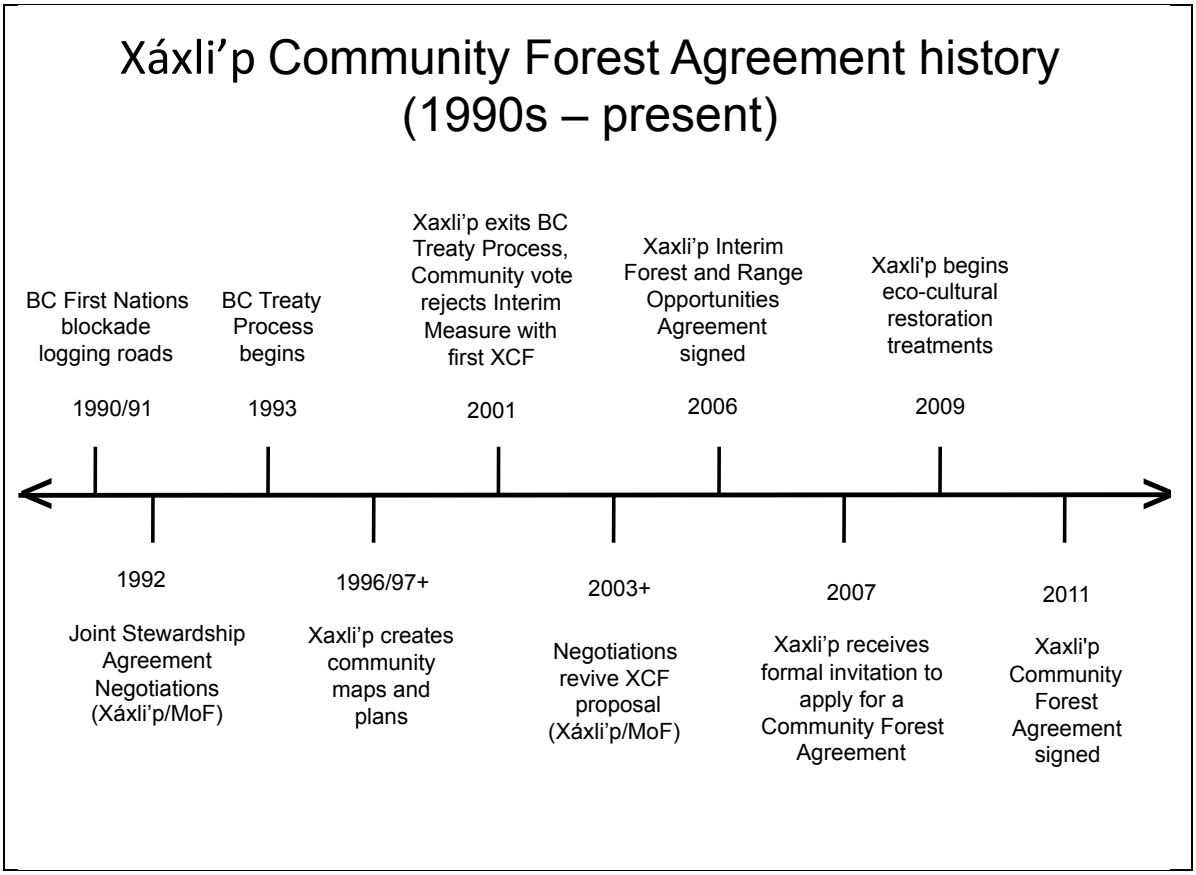

Figure 3.2. Timeline of events leading up to the Xáxli'p Community Forest (XCF) Agreement.

III. Case Analysis

A) Xáxli'p maps and plans as Indigenous articulations

Articulating knowledge: Community mapping and planning

This section considers how the Xáxli'p community developed its mapping and environmental planning process in response to unproductive political negotiations with B.C. government representatives occurring in the mid-1990s. The Xáxli'p community developed its community plans from 1997-99. These two plans—the Xáxli'p Traditional Use Study (TUS), also known as *Ntsuwa'lhkalha Tl'ák̲men* [Our Way of Life], and the Xáxli'p Ecosystem-based Plan (EBP)—now form the basis for the XCF. The Traditional Use Study and the Ecosystem-based Plan were part of a Xáxli'p knowledge production strategy that facilitated Xáxli'p community leaders taking control of the environmental planning processes. Xáxli'p maps and plans are also key examples of Indigenous articulations, a central component of this analysis. The Traditional Use Study and Ecosystem-based Plan are simultaneously cultural histories, scientific plans, and political documents. Both planning methods leverage new computer-based mapping technology and Geographic Information System (GIS) spatial analysis tools. The Xáxli'p community brought on mapping consultant and human ecologist Martin Weinstein to advise them on their Traditional Use Study, a strategy used by other Canadian First Nation communities to establish aboriginal use and occupancy on contested lands (Weinstein 1997, 1998; Tobias 2000, 2009). The Xáxli'p community also invited Herb Hammond to work with them on developing an Ecosystem-based Plan, a method that Hammond pioneered to address industrial forestry impacts to local community water supplies (Hammond, 1991, 2009).

Xáxli'p community leaders used their maps and plans to address the communication challenges and unbalanced power dynamics they had experienced in treaty negotiations and joint resource planning initiatives in the mid-1990s. Through community planning processes, Xáxli'p people strategically decided for themselves what knowledge and language was needed to communicate the community's land management values and goals. Scientific advisors functioned as strategic allies to strengthen the case for community self-management of Xáxli'p Survival Territory according to Xáxli'p values. The plans were useful because they leveraged scientific knowledge and technologies that were familiar to and influential with government representatives. By communicating Xáxli'p goals through the formalized scientific representations contained in their maps and plans, the XCF negotiating team was able to shift IRM negotiation dynamics with government representatives. As Xáxli'p board member Herman Alec explained, "What we learned through the years was that you could sit there and talk with the Minister or Deputy Minister for hours, and they would never grasp what you wanted."

Thus, these plans helped produce a new articulation of Xáxli'p land management values through leveraging both Xáxli'p Traditional Ecological Knowledge (TEK) and Western scientific knowledge. Importantly, the Xáxli'p community developed these plans through workshops with trusted non-Xáxli'p advisors. Government negotiators were not involved in plan development, and there was no government agency template for the Xáxli'p plans. The planning process also created a space for the broader Xáxli'p community to develop consensus and internal legitimacy for a collective vision of Xáxli'p land management. This was important because many community members had

grown up in the timber industry and were proponents of industrial forestry, while others supported less intensive forestry. Roger Adolph, Xáxli'p elder and chief during intensive planning periods in the late 1990s, described how the plans articulated common values for Xáxli'p land use. This involved thinking of the land and all of its inhabitants as being interdependent, while also acknowledging the local forestry economy,

> "Our role back then was just to save Fountain Valley from logging, clearcut logging actually. We weren't opposed to logging, but we were opposed to clearcut logging. Mainly to protect the water. That was our main goal. And from that, with the water, of course, there's the plants, the animals, and all the other living beings that we wanted to protect, including the berries. Because what we were beginning to see disappearing was because of clearcut logging. A lot of our cultural activities were in danger."

For the Traditional Use Study (TUS), the Xáxli'p mapping team, trained by cultural mapping advisor Marty Weinstein, conducted community interviews. The mapping team asked elders and an additional cross-section of Xáxli'p cultural practitioners about all the ways they had used the land over the course of their lives. The interviews resulted in recorded oral histories and individual "map biographies," which are spatial representations of all the ways that community members used their traditional territories over the course of their lives (cf. Tobias, 2009). In the Xáxli'p case, some individuals were especially knowledgeable about hunting areas in the high country, while others were specialists in culturally important plants typically gathered in the valley bottom. Thus, individual maps were overlaid to produce "thematic maps," which combined the knowledge of different individuals around different land uses. In this way, the Xáxli'p mapping team documented hunting places and trails, gathering places for berries, food plants, or medicines, and place names in Xáxli'p language. Reflecting the deep cultural significance of the mapping project, Elder Maggie Adolph re-named the study *Ntsuwa'lhkalha Tl'ák̲men*, which roughly translates to "Our Way of Life" in Xáxli'p language.

To develop the Xáxli'p Ecosystem-based Plan (EBP), the Xáxli'p community worked with forest ecologist and community advisor Herb Hammond to identify and map sensitive ecological and cultural areas. Working with Xáxli'p elders and cultural practitioners, Hammond first compiled information from community workshops, aerial photographs, and existing ecological data. He then used landscape ecology modeling approaches and GIS overlay analysis to propose a network of cultural and ecological reserves that extended over the entirety of Xáxli'p Survival Territory, which he then refined with community members. Finally, working with Xáxli'p community members, Hammond modeled the reserve network at multiple spatial scales. Reserves included sensitive wetland areas, wildlife areas, and cultural use areas—together with the corridor linkages between them. The remaining areas were potential sites for sustainable use, which could include timber harvest. The XCF negotiation team later used Xáxli'p cultural and ecological reserve network maps to support XCF negotiations and applications.

Strategic convergences: Co-creating knowledge representations

To create the Xáxli'p Ecosystem-based plan, Xáxli'p community members and forestry advisor Herb Hammond conducted a series of workshops, which included in-depth discussions about the intersections between Xáxli'p Traditional Ecological Knowledge and Scientific Ecological Knowledge pertaining to Xáxli'p land use.[42] My intent with discussing Traditional Ecological Knowledge and Western science here is not to emphasize a dichotomy or define the multiple knowledges involved, but rather to consider how Xáxli'p and non-Xáxli'p experts co-created knowledge representations. Workshop participants learned together how to understand and articulate Xáxli'p land use values. They also learned together about the values and principles of landscape ecology. One part of these discussions included articulating the linkages between culture and ecology, particularly the important role that the local ecology plays in supporting Xáxli'p cultural survival. As Chief Arthur Adolph commented,

> "I think having cultural and ecological components within this [the Xáxli'p Community Forest] is really important, so that we are able to ensure that we still have a culture that's going to continue for generations. Because, basically, what we have is our culture and traditions that depend on a healthy environment."

The translation process was not always easy, however, and it took time to find the right language to connect Hammond's ecological terms, and the terms used by Xáxli'p elders. Community leader Herman Alec commented about how community elders responded during the workshops,

"Sometimes Herb would talk about ecosystems, and it would take a long time for some of the elders. And they would say, 'Oh, I think he's talking about the water.' [Laughing] I remember Ernie Adolph would say, 'I think I understand what he's saying. He's using a little different language than we would, but…' [Laughing] And it took meetings like that to try and find the right word in the scientific language that would fit the words of why you do something on the land."

In this way, workshop discussions between Xáxli'p community members and scientific advisors coalesced around the fundamental goal of protecting Fountain Valley water supplies. Thus, the group discussed all of the ecosystem processes that help maintain water quality and quantity within Xáxli'p Survival Territory, including the role of healthy forest stands in maintaining water balance. In addition to the water issues, common understanding also converged around cultural keystone species (Garibaldi and Turner 2004), like *sxwa7s* (sockeye salmon, *Oncorhyncus nerka*), or *xúsum* (soapberries, *Shepherdia canadensis*). The community also identified sacred high country areas and hunting trails as cultural use zones that required protection.

After locating these connections, the next step was choosing an appropriate knowledge representation that would impact government negotiations. This required community negotiators to be sensitivity to the power relations among negotiating parties, as well as the status ascribed to particular knowledge systems. Once Xáxli'p had prepared its community maps and plans, the Xáxli'p community could more successfully

[42] The parallel terms Traditional Ecological Knowledge (TEK) and Scientific Ecological Knowledge (SEK) are from Kimmerer (2000).

leverage the scientific categories and language within them in political negotiations over forest management. As other scholars (e.g. Nadasdy, 2003) have pointed out, science often becomes a dominant knowledge framework in state-driven negotiations. However, as described below, the Xáxli'p community did not look solely to the Western scientific representations to support their negotiations, but rather viewed them as an additional communication tool. Further discussion of the XCF case below will show how scientific plans were used in service of the community's political goals, and used by Xáxli'p community negotiators in combination with other communication strategies.

Generating policy impact: Scientific knowledge and beyond

Preparing community maps and environmental plans in the late 1990s laid the groundwork for further negotiations over forest management in the early 2000s. The maps were formalized, scientific representation of Xáxli'p land use values and goals, and these new representations helped shift dominant knowledge about the Fountain Valley landscape. As a first example, maps changed the dominant understanding of Xáxli'p Territory from small postage-stamp Indian reserves that interrupted a large government timber supply area, to a much larger territory that encompassed a complex ecological and cultural landscape. In a counter-mapping strategy, whereby communities contest dominant state conceptions of forestlands by developing their own maps (Peluso, 1995), the Traditional Use Study/Our Way of Life maps demonstrated that Xáxli'p land use extended over a large area that extended throughout Xáxli'p Survival Territory. This challenged standard B.C. Ministry of Forests maps that usually represented the landscape area as an unused, blank space.[43]

As a second impact, the scientific maps and plans helped change the dominant understanding of sensitive land areas around Fountain Valley. Xáxli'p plans specifically helped shift forest policy by justifying the community's preferences for lighter harvests and forest thinning, which were driving the community's XCF proposal. The Xáxli'p Traditional Use Study and Ecosystem-based Plan helped accomplish this by redefining the generalized land classification categories typically used for government maps of Xáxli'p territory. In contrast, Xáxli'p community leaders and their scientific advisors created mapping categories that fit the specific landscape characteristics of Fountain Valley and Xáxli'p land uses. For example, the Traditional Use Study (TUS)/Our Way of Life maps introduced distinct land use categories for cultural use, including contemporary subsistence use. And the Ecosystem-based Plan (EBP) maps used more protective definitions of wetlands and riparian habitat zones that differed from typical Ministry standards. The community mapping team used GIS mapping technology to apply its habitat and cultural use categories across the entirety of Xáxli'p Survival Territory, not just along well-traveled trail systems. By overlaying EBP-defined ecologically sensitive areas and TUS-defined culturally sensitive areas, the Ecosystem-based Plan also helped demonstrate some of the interactions between the local culture and ecology. Ultimately, the mapping team's reclassifications resulted in a more fine scale, locally-specific planning model. The primary outcome was that a larger land area was classified as "sensitive lands" that were inappropriate for resource extraction, which

[43] These Traditional Use Study/Our Way of Life maps are the intellectual property of the Xáxli'p community, and so cannot be reproduced here.

communicated that a greater percentage of Xáxli'p territory required protection than suggested by Ministry of Forest maps. This shift had significant implications: according to the EBP, only 30% of the territory was classified as appropriate for logging, which compares to 70% of the area in government logging plans. Herman Alec shared one of the community's maxims that reflect the XCF approach, "Don't look at the big trees, look at the little ones."

Third, maps and plans presented information in an influential scientific communication format that government representatives could understand. At the same time, the community took precautions to maintain control of Xáxli'p knowledge and carefully avoided sharing fine-scale data. Maps are a quick, visual way of demonstrating complex land use and are also a highly valued communication format within dominant society. Thus, scientific mapping and planning helped produce concise, influential, and transportable knowledge about Xáxli'p Survival Territory, which Turnbull (2003) refers to as "knowledge that travels." In order to protect community-owned information, the Xáxli'p community chose to self-fund the Traditional Use Study to ensure that raw data and maps would be held by the community, and not by government agencies. The Xáxli'p community then developed a conservative approach to sharing high-level community knowledge with the government through Xáxli'p forest policy statements. Because the community never handed over their maps and data to government agencies, these documentations of community knowledge could not be used to advance government interests without Xáxli'p peoples' involvement. Thus, the Xáxli'p community's limited sharing policy ensured that the maps and plans did not become "captured knowledge"—knowledge that is given over to outside interest groups to the detriment of community interests.[44]

For those who would criticize the plans as simplifying complex Indigenous knowledge concepts, I would emphasize that the scientific maps provided only a partial translation of Xáxli'p knowledge about the land that was appropriate for the purpose at hand. The maps and plans provided a powerful tool that supported Xáxli'p negotiating positions and current eco-cultural restoration activities. In addition, local community members understood the plans to be works in progress, which the community could later adapt to fit its needs. Finally, the Xáxli'p scientific planning approach was not separated from local context. Rather, Ecosystem-based Planning was carefully situated within Xáxli'p Survival Territory, since forest ecologist and community advisor Herb Hammond had walked the Fountain Valley landscape for years prior to developing plans with the community. Community members and scientific advisors had also established personal relationships before engaging in the planning process, which facilitated a co-learning process.

In addition, planning and negotiation processes did not focus entirely on creating formalized maps and plans, but also embraced additional forms of knowledge representations and communication strategies. First, many community planning sessions involved in-person discussions with Xáxli'p elders. Much of the knowledge that guided the Traditional Use Study/Our Way of Life maps was conveyed as oral histories, and it

[44] This follows Weinstein (1998) on issues of "captured heritage" with cultural mapping. Avoiding knowledge capture becomes especially important when there are competing resource users groups. Communities may choose not to share data in order to prevent open access to cultural and ecological resources, as well as to prevent agencies from bypassing direct consultation with community leaders.

was often the memories of these sessions, rather than the maps themselves, that have guided XCF implementation. Second, Xáxli'p community leaders emphasized staying connected to the land during government negotiations, thus recognizing the importance of the community's experiential knowledge. Whenever possible, the community organized field trips and held meetings with Ministry representatives on Xáxli'p territory, so that the experience of being on the land informed negotiations. Third, the Traditional Use Study/Our Way of Life maps were used in negotiations through in-person sharing sessions, with elders at the table who could act as appropriate interpreters for Xáxli'p knowledge. Map duplication was not permitted. In this way, the maps were not stand-alone, disembedded representations of Xáxli'p knowledge. Rather, I would describe the maps as a place marker and a symbol for the larger body of Xáxli'p knowledge that is embodied in the land and people. This aligns with comments on the importance of directly involving Xáxli'p elders made by Pauline Michell, a Xáxli'p community member who participated in planning workshops and multiple government negotiation sessions, and former Xáxli'p Councillor,

> "A lot of times, you have a document, and sometimes . . . it is just words. But when you have someone at the table that always brings the focus back to the people at the table, like when you have the old people, [they remind you that] this is why water is important to us . . . So they were always bringing ourselves and whoever we were negotiating with back to what was instilled in them growing up off the land."

The mapping, planning, and negotiation *process* was itself a form of impactful experiential knowledge that facilitated community learning from elders. Thus, planning workshops provided an organizing point for community knowledge sharing, discussion, and consensus-building. Creating a transparent, participatory process that included elders who garnered a high level of respect across the community meant that Xáxli'p plans could not be sidelined as representing the interests of a few, or as the interests of B.C. government. In addition, experiences organized around the planning processes that got people out "on the land" were extremely memorable for some. Elder Nelson "Tuffy" Doss, who continues to guide the XCF as a board member, described a three-day field trip to Bald Mountain. Doss explained how the trip helped bring the community together across generations,

> "All the elders were up there then… And a lot of the kids, they walked up—hiked all the ways up. It seemed like those young guys, they practically ran up there! [Laughing] . . . Twaxmen, [an elder], he brought the kids over to that one snow bank. He got those kids sleigh riding up there. They were having fun there. Yeah, that was ok."

The experiential knowledge of elders was also essential for guiding community planning. For example, on one community field trip, Xáxli'p elders observed degradation of high country alpine areas, a change that was not initially detected by others. Accessing local knowledge in this way can help prevent the problem of "shifting baselines," where lack of data and inadequate time series can lead to the acceptance of

environmental degradation as the status quo (Pauly, 1995). In addition, having respected elders present during community planning workshops helped validate the XCF for community members coming from a conventional forestry background, who remained skeptical of the XCF proposal. Ultimately, having community discussion forums with elders led to a single, clear proposal—despite the diversity of community perspectives. The XCF proposal could then be brought to the negotiating table as a community-supported plan. In this way, the Xáxli'p community created a careful, collective process to define the community's political priorities and appropriate knowledge convergences, represented within Xáxli'p plans.

Thus, I would describe this case as an example of locating strategic convergences among knowledges—where community members drew on specific elements of TEK and Western scientific knowledge traditions to fulfill their needs within a particular resource management negotiation. Community maps and plans were not solely a TEK project or a scientific project; nor were they an example of knowledge integration. What Xáxli'p plans accomplished was to engage with a subset of Xáxli'p knowledge and Western scientific knowledge, which could be used to support Xáxli'p land management goals in a specific context. In this way, the community created a *new articulation* of Indigenous Resource Management that could influence current politics—an idea that is consistent with Clifford's (2001) Indigenous articulations concept.

B) Negotiating the XCF Agreement: Co-production of knowledge and politics

In this second section, I discuss how politics and knowledge shaped one another through negotiations over the XCF Agreement between the Xáxli'p community and B.C. government. Although there were multiple attempts to negotiate the XCF, I focus on negotiations over the Community Forest tenure that occurred between 2003-2006. I address reasons why B.C. government representatives initially resisted the XCF proposal. I also consider factors that ultimately facilitated agreement between Xáxli'p community and B.C. government—a process that relied both on knowledge translations, as well as translations of interests (Latour, 1987). In addition, I highlight key moments where knowledge about the Fountain Valley that was shared and accepted in state-Indigenous negotiations was co-constituted together with broader political shifts surrounding aboriginal land tenure and forest policy.

This section focuses on community initiatives to mobilize support for a new XCF application, which occurred several years after the 2001 Xáxli'p community vote rejecting the B.C. Treaty Process, along with the initial XCF proposal. Around 2003, B.C. government began negotiating economic measures with aboriginal communities through Forest and Range Agreements (FRAs), which later became Forest and Range Opportunity Agreements (FRO Agreements). One purpose of the FRA/FRO Agreement was to fulfill the government's legal responsibility to share forestry revenue with aboriginal communities, as an accommodation to existing aboriginal title and rights. In what could be viewed as a containment strategy, however, Ministry negotiators were only offering a limited form of forestry tenure called Non-replaceable Forest Licenses (NRFLs, pronounced NER-fulls). The Xáxli'p community refused the government's NRFL offer, and instead made a counter-proposal: initiating a Community Forest Agreement (CFA) through the FRA/FRO process.

There are numerous reasons why Ministry of Forests representatives preferred the Non-Replaceable Forest Licence (NRFL) to a Community Forest Agreement (CFA) policy solution. First, the NRFL was a short-term, non-renewable license that involved a smaller government investment. The NRFL policy was an effective mechanism for facilitating one-time salvage logging projects on aboriginal territories, which had been affected by recent Mountain Pine beetle outbreaks. Second, the NRFL supported a more "legible" forestry policy for Ministry bureaucrats (Scott 1998). The Non-Replaceable Forest Licence (NRFL) permitted multiple forestry companies to operate anywhere within a large, existing timber harvest supply area. In contrast, a Community Forest Agreement (CFA) provided a single license holder with exclusive harvest rights within a specific tenure area, which could potentially jeopardize other local timber operations within a given harvest supply area. The CFA approach also required defining the boundaries and rationale for creating many small tenure areas, as opposed to managing multiple operators within a single large area. Third, the NRFL allowed the Ministry to maintain control over a large, contiguous land base. In contrast, a CFA would create long-term and exclusive aboriginal control over separate tenure areas. If replicated widely, this would be worrisome precedent for the Ministry and major industry players, as a shift that could threaten existing bureaucratic management and forest tenure structures.

Nonetheless, despite a long and persistent struggle, Xáxli'p negotiators succeeded in asserting community interests in negotiations and establishing the XCF according to the terms desired by the Xáxli'p community. The Xáxli'p community's strategy involved negotiating disparate knowledges and politics over forest management within the FRO/FRA framework. Using the co-production of knowledge and social order as a lens, the next section analyzes how Xáxli'p and government negotiators arrived at a compromise agreement, which simultaneously met core Xáxli'p community interests and existing B.C. legal requirements. I specifically consider several examples of how knowledge and politics co-evolved through XCF negotiations.

Coming to (dis)agreement: Negotiating knowledge and politics

1) Creating policy fit. Discussions between Xáxli'p leaders and government negotiators were one important site for negotiating the knowledge and politics of how community needs could fit with existing government policies. Many agency representatives commented that there was no existing policy framework to support Xáxli'p self-determination goals for forest management within Xáxli'p Survival Territory. Despite the appearance of a structural impasse, Xáxli'p leaders and their advisors identified B.C. Community Forest policy as a pathway that was consistent with current B.C. legal frameworks, and also with Xáxli'p goals. The existing Community Forest Agreement (CFA) tenure policy was essentially a self-determination policy that could recognize community management goals and jurisdiction over all forestry activity in a designated forest area. The problem, however, was that the Community Forest Agreement (CFA) policy option was not being offered through B.C. government's current Forest Range and Opportunities Agreement (FRA/FRO) process. In addition, there was no obvious incentive for the Ministry to make the necessary policy changes that would allow the adoption of a Community Forest through a Forest and Range Opportunity Agreement (FRA/FRO). The Ministry continued to favor the Non-

Replaceable Forest Licence (NRFL) option, which would only provide the Xáxli'p community with very limited rights.

To move negotiations forward, Xáxli'p community negotiators identified strategic points of connection between the Ministry's NRFL proposal and the Xáxli'p CFA proposal to create a policy link between the two opposing outcomes. Ultimately, the government agreed to support the Xáxli'p Community Forest Agreement (CFA) under one condition—that the amount of timber harvest offered to the Xáxli'p community under the CFA proposal was equivalent to the amount of timber available under a Non-Replaceable Forest Licence. The rationale for shifting from one policy framework to the other was a mathematical conversion based on timber volume, which legitimized the proposed XCF tenure area under existing government standards. This allowed for a key policy change—a Community Forest Agreement (CFA) tied to Xáxli'p Survival Territory that could be offered within the existing Forest and Range Opportunity Agreement (FRO/FRA) framework. Importantly, it was only through lengthy negotiations that the Xáxli'p community and the Ministry reached this compromise.

More recently, an additional policy fit between Ministry standards and the XCF has co-evolved with B.C. neoliberal politics that encourage government deregulation. As part of government downsizing, the Ministry of Forests had adopted a "professional reliance" management policy. Under this policy, the B.C. Ministry of Forestry has devolved a number of former government regulatory responsibilities to professional contractors; individual forestry corporations can now contract with professional foresters (instead of working with government representatives) to certify their environmental compliance (Pinkerton et al., 2008). Despite the unconventional nature of the XCF, devolving forest management responsibility to the Xáxli'p community matches the overall political trend of decreased government oversight for B.C. forestry. Thus, in a somewhat ironic development, we encounter an example of the Ministry's support for the XCF as an Indigenous self-determination initiative that is co-constituted with B.C. neoliberal politics.

2) Establishing legitimacy of community knowledge and values. Another co-production moment occurred when Xáxli'p negotiators inserted community plans within their legal government-to-government agreements. During negotiations with B.C. government, Xáxli'p negotiators emphasized cultural survival and eco-cultural restoration, with community jobs and revenue representing just one component of the larger XCF project. However, Ministry officials primarily viewed the XCF as an economic development opportunity, and as a tool for reducing legal liability by referring to the XCF as an accommodation of aboriginal title and rights. Thus, Xáxli'p community negotiators used Xáxli'p plans to reframe the XCF in such a way that challenged Ministry assumptions, and legitimized Xáxli'p priorities.

Xáxli'p plans contained strategic knowledge representations that presented and justified an alternative approach to the conventional forestry methods, which have traditionally been supported by the Ministry. First, although a number of Ministry staff remained uncomfortable with the Xáxli'p community's forest restoration goals, Xáxli'p plans exceeded the Ministry's minimum standards for sustainability. This helped neutralize bureaucratic arguments opposing the XCF. Parties could at least agree on minimum stewardship requirements, even while disagreeing on other aspects of forest

management. Second, Xáxli'p negotiators insisted on inserting language into the government-to-government agreement, which formally referenced Xáxli'p plans as primary governance documents for the XCF.[45] This approach was possible because existing B.C. Community Forest policy supported the principle of having forestry goals defined by communities. In this way, inserting community values into the XCF agreement did not involve convincing government representatives to agree with Xáxli'p approaches (given that B.C. Community Forest frameworks created the policy space for Xáxli'p management values to prevail), but rather required clear evidence demonstrating that the Xáxli'p project adhered to existing B.C. law and policy.[46] Once Xáxli'p plans were formally recognized within the FRO Agreement, the Xáxli'p community used this document in the next stages of negotiation to defend its proposal for the final CFA Agreement to prioritize forest restoration for cultural use purposes, which meant taking a lighter cut than the Ministry would have liked—thereby producing a significant shift in local forest management practices.

3) Disputing land rights. The XCF also co-evolved with politics affecting aboriginal title and rights. Despite government classifications of Xáxli'p Survival Territory as provincial Crown lands, the Xáxli'p community continued to assert its unextinguished claims to aboriginal title and rights over the area. While the Ministry had historically minimized the importance of such claims, recent lawsuits had forced the Ministry of Forests to provide some level of government accommodation of existing aboriginal title and rights, such as the 2004 Haida Decision. Thus, legal requirements for "accommodation" created a new political incentive for the Ministry to approve the XCF.

The Xáxli'p community was wary of the government's "accommodation" framework, however. For example, there was some ambiguity about whether FRO policy could be used to coerce aboriginal communities into relinquishing legal rights or a settlement offer in future court proceedings. Technically, B.C. policy required Indigenous communities who accepted a Forest and Range Opportunities (FRO) Agreement to acknowledge government accommodation of aboriginal interests, refrain from filing court claims in respect to accommodation, and refuse support for direct actions that interfered with logging operations on Indigenous lands.[47] In practice, however, it was unclear whether or how government agencies would enforce these requirements. Regardless of such ambiguity, Xáxli'p negotiators wanted to ensure the community's future ability to pursue Xáxli'p aboriginal title and rights through the courts. Xáxli'p representatives therefore demanded changes in the FRO agreement that included adding specific assurance language stipulating "no prejudice" to existing aboriginal title and rights, meaning that the XCF Agreement would not affect future legal

[45] The final FRO Agreement did not include any details on Xáxli'p plans, but simply referred to the plan names as official guiding policies.

[46] Several Ministry staff emphasized that B.C. forest policy has established maximum limits on timber harvest; however, there is no legal requirement for "minimum" harvest levels.

[47] Ministry of Forests, Lands and Natural Resource Operations, First Nations Relations Branch. Frequently Asked Questions on Forest and Range. See "What are the key elements of a Forest and Range agreement?" http://www.for.gov.bc.ca/haa/FRA_faq.htm#da3, Accessed May 19, 2013. Ministry of Forests. Strategic Policy Approaches to Accommodation. Final Draft, July 31, 2003. See "Provisions regarding term, suspension or cancellation of the agreement."
http://www.for.gov.bc.ca/haa/Docs/Accomodation_Policy_final_draft_10.pdf Accessed May 19, 2013.

determinations regarding Xáxli'p land claims. Final agreement language also referred to the Xáxli'p FRO as an "interim agreement," signifying that the community was continuing to assert land claims to its aboriginal territory.[48] In this way, Xáxli'p knowledge and values regarding land use and unresolved political dispute over aboriginal title and rights were co-constituted through the XCF terms of agreement.

4) Translating interests, asserting Indigenous sovereignty. Political negotiations over the XCF also co-evolved with a shift in environmental knowledge, particularly around land change events. In general, Xáxli'p and the Ministry representatives disagreed about the extent of environmental impact resulting from past forest management. For example, the Xáxli'p community viewed clearcut forestry as an act of mismanagement by government and industry that had damaged the land, while government representatives defended clearcut approaches as being environmentally sustainable. However, both parties were concerned about other land change events, including recent outbreaks of mountain pine beetle infestations and severe wildfires. Based on these shared views, the parties converged around the need for active forest management. Although parties still disagreed on the particulars of how and for whom forest management should be conducted, they generally agreed on the utility of active forest management, as opposed to a strict preservationist approach. This shift in focus helped mobilize and translate agency interests into support for the XCF.

Importantly, however, not all Ministry officials viewed the negotiation as a win-win scenario. Junior staff members responsible for implementing Forest and Range Opportunity (FRO) policy would not initially consider the XCF proposal. Prior to the parties signing the 2006 FRO Agreement, negotiations almost fell apart. After several rounds of unproductive meetings with regional staff and consultants, Xáxli'p negotiators finally demanded a meeting with the Minister of Forests. It was only after Xáxli'p negotiators insisted on a direct negotiation with senior officials, who were interested in the greater political context and had the authority to change existing policy, that Xáxli'p representatives were able to gain Ministry approval for the community's XCF proposal. It was ultimately the Deputy Minister, who went against junior staff recommendations, and approved the XCF proposal, based on higher level political interests. These interests included the Deputy Minister's desire to resume active forest management in the Fountain Valley area—as well as a desire to establish better working relationships with First Nations communities, and to fulfill the Ministry's legal obligations. Since the Xáxli'p community had demonstrated its ability to assert its rights to Xáxli'p Survival Territory by blocking clearcut forestry on their lands, Ministry officials had little choice but to recognize *de facto* Xáxli'p authority over local land management. Thus, the Xáxli'p community created the conditions that ultimately forced the Ministry to negotiate with them—if active forest management was going to occur on Xáxli'p Survival Territory. In this way, the establishment of the XCF was a close call, which was contingent upon the environmental knowledge *and* political understanding of particular individuals within the Ministry.

[48] See Xáxli'p Interim Agreement on Forest & Range Opportunities, Signed September 28, 2006. Note clause 11.3. http://www.for.gov.bc.ca/haa/Docs/Xaxlip%20signed.pdf

5) Negotiating forestry economics. Coming to agreement on the XCF also required negotiating knowledge and politics about forestry economics. For Xáxli'p community leaders, economics was one component of the larger XCF project. Xáxli'p plans emphasized the primary importance of protecting sensitive ecological and cultural resources, and then introduced balanced use of forest resources as a secondary priority. The Xáxli'p community had designed the XCF to provide community jobs and steady income over the long term, which meant foregoing some short-term profits. In contrast, the Ministry viewed the XCF as an economic engine, with timber sales and business operations providing a funding mechanism for community development initiatives. Despite these different perspectives, however, both parties were interested in generating some level of economic benefit from the XCF.

As discussions about the XCF's economic potential evolved, the Ministry became more comfortable with the Xáxli'p community's proposal. Xáxli'p did provide a business plan within their Community Forest application. Since the Xáxli'p community had prevented industry access to Fountain Valley, the Ministry preferred a small increase in timber harvests to the status quo of no harvest within Xáxli'p Survival Territory. Even though the Ministry questioned XCF economic models, the two sides converged on a common understanding about the practical limitations to reaping extensive profits from the XCF. Projections of limited profits were due to the recent decline in timber markets, the decrease in commercial interests in Xáxli'p Survival Territory, and the area's environmental condition, which included poor growing conditions, steep slopes, and prior high grading of the forest.

6) Community persistence in negotiations. Looking back, it is important to acknowledge the persistence of Xáxli'p community leaders in advocating for the community's knowledge and interests in highly challenging government negotiations. Initially, Xáxli'p and the Ministry representatives disagreed on almost all of the XCF agreement components, including the government policy framework that could be used, allowable forest practices, available funding sources, XCF area size, allowable cut within the area, government-to-government consultation protocols, and other issues. Xáxli'p negotiators were fully aware of the power imbalances at hand, and fought hard against government proposals that would have compromised meaningful decision-making authority for Xáxli'p people. Without having dedicated funds to support negotiations, many Xáxli'p community members volunteered their time and energy to advocate for the XCF. During negotiations the Xáxli'p team had to surmount multiple bureaucratic blocks. This included demanding access to higher level officials with the authority to change policy. Even after the Community Forest Agreement was signed, XCF proponents still had to jump through administrative hoops to gain B.C. approval for XCF operations. Despite the many frustrations, however, XCF negotiations ultimately did provide a political arena through which Xáxli'p people could assert their knowledge, interests, and authority to create new possibilities for Xáxli'p land management.

While the XCF does provide the Xáxli'p community with control over forestry, it is important to recognize that the XCF is not a panacea. Community leaders view the XCF as an interim agreement, based on the policy tools available to them at the time. The self-governance task at hand—for the community to run its own community forestry program—is not an easy one. While the Community Forest Crew has completed multiple

restoration projects, ensuring adequate funding and continued community involvement in the project remains a challenge. The community is still working to address broader issues of establishing its aboriginal title and rights. Threats from non-forest uses, such as mining, are ongoing.[49] Nonetheless, the XCF is a step in the right direction as an example of a strong IRM institution being run by Indigenous community members to support collective community interests.

In summary, this section's analysis of XCF negotiations demonstrates that knowledge production cannot be understood separately from political context. Rather, knowledge and politics around the XCF were co-produced through negotiations over land use. These negotiations took place despite uneven power dynamics, and the community actively developed political strategies to address power imbalances. Xáxli'p community decisions to limit information sharing of fine scale data provides one example. Xáxli'p political strategies included taking control of knowledge production through community-driven environmental planning processes. In this way, Xáxli'p knowledge of the land shaped the politics of forest management, just as the political conditions of the time shaped the types of knowledge that the community brought to the negotiating table. At the end of a long and challenging process, Xáxli'p negotiators were successful in getting community plans inserted into formal government-to-government agreements, thereby instantiating and accrediting Indigenous land use values and self-determination goals within dominant policy frameworks.

Conclusion

In conclusion, this article uses a co-production lens to evaluate negotiations leading up to the Xáxli'p Community Forest, thereby providing new insights into how Indigenous Resource Management institutions are created. Despite barriers to Indigenous self-determination, new and effective Indigenous institutions may emerge through the simultaneous negotiation of knowledge and politics. As a case in point, the XCF provided the community with the exclusive right to forest management within the majority of its traditional territory—a political shift that was co-produced along with new articulations of Xáxli'p knowledge. The XCF institution has also been an effective vehicle for legitimizing Xáxli'p management authority, generating funds to support Xáxli'p forestry programs, and developing the local capacity and knowledge needed to implement Xáxli'p land use values.

As Indigenous communities are working to establish their own resource management institutions, some scholars are understandably skeptical of bureaucracy and Western science as potential mechanisms for co-opting Indigenous community values (Nadasdy, 2003). Yet as the Xáxli'p case illustrates, Indigenous communities are always working with constraints set by dominant society, and they are using a wide range of tools at their disposal to achieve Indigenous self-determination goals.[50] The XCF

[49] The XCF tenure does not give the Xáxli'p community control over below-ground resources. Currently 10,734 hectares of Xáxli'p Survival Territory is held as a mineral claim that is owned by a private company. This amounts to about one-third of Xáxli'p Survival Territory or about one-half of the XCF area. The Xáxli'p community is now fighting the exploration of this mineral claim.

[50] These ideas build on a discussion with Philip "Sam" Deloria regarding the need to go beyond problem recognition and identifying creative solutions Indigenous communities are taking to achieve self-determination, as part of a conference panel on "Natural Resource Management and Indigenous

demonstrates an instance where—despite legitimate concerns about government funding and bureaucracy—the Xáxli'p community produced its own governance body for managing Xáxli'p Survival Territory under the B.C. Community Forest policy, such that the XCF is concurrently recognized as a legitimate management institution by both Xáxli'p people and B.C. government.

Considering the theoretical implications of this case, the Xáxli'p community's environmental planning approach helps extend beyond existing concepts of "knowledge integration" between Traditional Ecological Knowledge and Western science. In this case, the linkage between TEK and science was carefully constructed by the Xáxli'p community members with their allies. In order to be effective, the linkage needed to accepted by both the broader Xáxli'p community and government negotiators. By starting with Xáxli'p elders' knowledge, XCF proponents gained generate acceptance of the Community Forest proposal within the Xáxli'p community. In addition, presenting powerful scientific formats, such as GIS mapping, alongside Traditional Ecological Knowledge (TEK) helped Xáxli'p community representatives to justify community control over their traditional territory within government negotiations. Thus, Xáxli'p plans were not intended to build a permanent bridge between knowledge systems, in the sense of permanent infrastructure that supports ongoing traffic exchange, regardless of driving conditions. Rather, I argue that this arrangement is better viewed in the context of "articulation" theory (Grossberg, 1986; Hall et al., 1996; Clifford, 2001), where Indigenous communities may hitch together (or unhitch) ideas coming from TEK and science for a specific purpose. The articulation between knowledge systems that is created through Xáxli'p plans is not unchanging or complete; rather, the plans are "living" documents. The articulations within them may shift over time, and the community may choose to de-link TEK and scientific concepts under certain circumstances. Therefore, I think about the Xáxli'p planning process as a knowledge convergence—an intentional and contingent meeting place created by an Indigenous community, at a particular political and historical moment.

The concept of Indigenous articulations helps to clarify what is at stake with the XCF case and other Indigenous resource management negotiations: the ability to claim legitimacy for new kinds of knowledge constructions within ongoing and changing political negotiations. As TallBear (2013) points out, decisions by Indigenous peoples to use dominant scientific frameworks are "political acts" that affect Indigenous sovereignty. Thus, Indigenous articulations like the Xáxli'p plans cannot be taken as a static representation of Indigenous knowledge. This means that Indigenous articulations cannot simply be exported to government agencies as a finished product. Rather, government agencies need to recognize the importance of engaging in ongoing conversation with Indigenous communities, in order to understand how community needs are evolving in the power-laden environments of resource management decision-making.

In the Xáxli'p case, the convergence of different knowledge traditions worked because the Xáxli'p planning processes were initiated by Indigenous community members and started from the point of view of Xáxli'p elders. Community workshops with scientists then facilitated deep conversation and co-learning about connections

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Peoples: Knowledge, Territory, and Sovereignty" at the Native American and Indigenous Studies Association annual meeting, Mohegan Territory, Connecticut, June 4, 2012.

between elders' experiential knowledge and local landscape ecology. As Harding (1995, 2008) points out, choosing to see the world from the standpoint of individuals, who are typically excluded from decision-making, may lead to rigorous insights and new knowledge, as occurred in the XCF case. By conducting environmental planning on Xáxli'p Survival Territory with Xáxli'p people—not just using generalized land use categories—XCF proponents came up with a new understanding of the landscape and forestry goals that differed significantly from agency approaches. Furthermore, the new knowledge representations of Xáxli'p maps and plans were used, not instead of, but rather *in addition to* embodied, experiential knowledge held by community members. Thus, the XCF approach differs from disembodied scientific projects that ignore community standpoints.

As an additional theoretical insight, the co-production lens demonstrates that although identifying new knowledge convergences in Xáxli'p plans is important, this is still insufficient for understanding how the XCF came into being. Xáxli'p knowledge representations developed in community plans were co-constituted with Indigenous-state politics. The co-production approach provides a helpful language for discussing how knowledge co-evolves with political context, which in turn provides insight into how seemingly intractable knowledge contestations can sometimes be resolved. Thus, this work considers how Indigenous communities may achieve meaningful shifts in dominant knowledge structures and natural resource policy, despite uneven power relationships.

Finally through a co-production analysis of the XCF case, I argue that the knowledge and politics of Indigenous land management co-evolve through a continual process. Working with Traditional Ecological Knowledge (TEK) as a set of adaptive practices can be part of that evolving process. The implication is that disempowered Indigenous communities can have a significant impact on political outcomes, particularly when community members come together to strategically produce "knowledge that travels." Co-production also demonstrates the importance of communities exercising *de facto* management authority and asserting their political influence to affect dominant policy—in whatever form that this takes. It is through the co-production process that knowledge, policy norms, and the material world are interacting and changing to potentially create openings for Indigenous self-determination, such as the Xáxli'p Community Forest.

Chapter 4: Shifting access: Protecting the land and reclaiming Indigenous sovereignty through the Xáxli'p Community Forest

The Community Forest Agreement is an interim measure. . . . Someday we will sign a treaty or somehow get our land back. And when we do, it's going to be intact, the way we wanted to get it in the first place. It's going to be whole...

- Herman Alec, Xáxli'p Community Forest Corporation board chair

"Always remember it [the Xáxli'p Community Forest] was without prejudice to aboriginal title and rights. That was the key. . . . And at the same time, it's creating some employment for our members. And not only that. We are [also] doing some work on the land. That's where it's needed. Like spacing [of trees] . . . . From what I see going on the land, I'm satisfied. Because that's where it counts—is out there. It's important what's on paper too. But what happens out there is where it counts. I don't see any clearcut logging. And that's good."

- Roger Adolph, Xáxli'p elder and former Xáxli'p chief

Introduction

Natural resource management has long been a point of conflict between Indigenous communities and government agencies—whether the dispute involves fish and wildlife, water and forests, or mineral and petroleum resources. In the post-colonial context, many Indigenous communities maintain strong ties to their traditional territory, but lack full jurisdiction over their traditional territories. Thus, negotiations with Indigenous peoples over resource management conflicts are intertwined with long-term boundary disputes over land claims. International bodies, such as the United Nations, are increasingly recognizing the rights of Indigenous peoples, and the Canadian government has passed laws that recognize the existence of aboriginal rights. Still, political shifts supporting aboriginal title and rights are happening slowly, while resource extraction projects continue to impact Indigenous lands at a fast pace. Such challenges lead to these questions: How can Indigenous communities exert influence over their traditional territories in the interim period, while land claims remain unsettled? How do Indigenous communities use existing law and policy to access and gain authority over important ecological and cultural resources within their traditional territories? And, how can communities pursue government agreements that address their desire to protect the land and reclaim aboriginal land rights, without sacrificing one or the other?

This work draws on the Xáxli'p Community Forest (XCF)[51] as a case study of state-Indigenous resource management negotiations occurring around Fountain Valley, near Lillooet, British Columbia (B.C.), Canada. This study specifically examines how Xáxli'p community leaders strategically framed the XCF as an interim agreement, which was part of an ongoing community strategy to protect Xáxli'p territory and gain

[51] Pronunciation of the Lillooet or St'át'imc language is best gained from listening to a native speaker. See the "Learn our Language" section of the First Voices website at http://www.firstvoices.com/en/Northern-Statimcets/welcome. Based on linguistic studies the 'x' in 'Xáxli'p' is pronounced as a 'friction' sound, made with the tongue in the same position as with a 'k' (Bouchard 1973). However, further reading on St'át'imc orthography is recommended to guide a more precise pronunciation (see appendix 1).

recognition for Xáxli'p title and rights. Through their negotiations, the Xáxli'p community effectively used B.C. law and policy to secure forest tenure over the majority of its traditional territory and to facilitate ecological and cultural restoration. In the Xáxli'p case, the idea of land protection refers to active restoration, including forest thinning, which achieves Xáxli'p goals for protecting local water resources, enhancing priority ecological and cultural resources, and preventing clearcut logging. To address high levels of community distrust in B.C. government, Xáxli'p community leaders worked hard to negotiate an agreement that increased community control over forest management, while avoiding unintended political consequences.

Choosing to negotiate with B.C. government on the Community Forest was a high stakes decision for the Xáxli'p community for a number of reasons. First, the Xáxli'p community had to contend with standard government policies suggesting that monetary compensation or land tenure offered could be used to "accommodate" aboriginal title and rights; this was a policy approach that the Xáxli'p community did not agree with. Second, there were community concerns regarding whether government agreements would recognize Xáxli'p land management values, or B.C. government would require the Xáxli'p Community Forest (XCF) to follow conventional forestry practices that were not supported by community members. Third, there were fundamental contradictions about requesting a forest tenure, which required the Xáxli'p community to pay B.C. government annual rent and fees (albeit reduced amounts) for using lands that the Xáxli'p community continues to claim as its own. Fourth, community members were concerned about revealing sensitive cultural information to government agencies, which could potentially compromise Xáxli'p negotiating positions in the future. Finally, it was difficult to find funds to support Xáxli'p community planning initiatives.

At the same time, choosing *not* to negotiate on the XCF was also a high stakes gamble, which could result in a stalemate over land management with B.C. government. Such a stalemate would allow urgent land management problems affecting Xáxli'p cultural survival to persist for years to come. Therefore, to move forward on the XCF, the Xáxli'p community pursued creative negotiation strategies that pushed back on government standards to address community concerns. Xáxli'p community negotiators paid careful attention to the risks involved in XCF negotiations, and through their persistent work, avoided tradeoffs that could potentially compromise community values.

Looking back on XCF negotiations, this article explores some of the tensions with Indigenous Resource Management around access to territory and community relationships to the land. The work engages with Ribot and Peluso's *theory of access* (2003) as a tool for making visible the shifts in resource access that are realized through the XCF. I also use access analysis as a tool for understanding government interests in pursuing the XCF. To better understand XCF negotiation processes, I introduce two additional theoretical concepts that extend beyond Ribot and Peluso's access model. First, in order to explain how the XCF connects the dual goals of land protection and land rights, I introduce the concept of the *third space of sovereignty*. Although Ribot and Peluso's access mechanisms illustrate shifts in power relations, it is less helpful for envisioning how different kinds of access mechanisms intersect in practice. The *third space* concept provides an additional framework that recognizes how property rights strategies connect with other access strategies employed in the XCF case. Second, to address the cultural significance of the landscape, I develop the idea of *natureculture*

relations, referring to deeply embedded, reciprocal community relationships with the landscape. I discuss natureculture relations as an additional access mechanism that extends beyond the economic and political gains currently emphasized in Ribot and Peluso's (2003) theory of access. In this case, Xáxli'p negotiators effectively leveraged B.C. Community Forest policy to gain recognition for reciprocal relationships between Xáxli'p people and the Fountain Valley landscape, which later had the material effect of ensuring lighter timber harvests on Xáxli'p territory.

In this article, I draw on other key terms to describe what is at stake for the Xáxli'p community in XCF negotiations (see table 4.1). The concept of *self-determination* describes the primary aspirations of the Xáxli'p community in pursuing the XCF. Self-determination signifies the "normative grounds for the decolonizing process" that address the desire of Indigenous groups for "meaningful participation, commensurate with their interests, in procedures leading to the creation of or a change in the institutions of government under which they live" (Anaya, 1993:143, 145). I also use the term *Indigenous sovereignty* to refer to the power to govern, which includes having jurisdiction over people and territory (Kickingbird et al., 1983). *De jure* rights refer to rights are derived from laws (e.g. titles, permits, licenses), while *de facto* rights to describe rights "in practice." *Indigenous community* or *First Nation community* is used to refer to present day communities whose ancestors were living in Canada prior to the arrival of European colonists in North America. I use *IndigenousrResource management* to refer to natural resource management by and for Indigenous communities, with an emphasis on formalized institutions (Anderson, 2005; chapter 3, this volume). The *Xáxli'p community*[52] is the group of Indigenous people with ties to the Fountain Valley area who self-identify as being Xáxli'p. The term *Xáxli'p Survival Territory*, coined by Xáxli'p elder Tommy Adolph, describes the land base that has been historically used and defended by Xáxli'p people (Herman Alec, interview with author, August 4, 2010).

This article addresses the XCF as a case of Indigenous resource management negotiations in three parts. I begin with introducing the Ribot and Peluso's (2003) theory of access, together with additional theoretical frameworks addressing the tensions of political territory and natureculture relations that are fundamental to the XCF case. I then present background context for the Xáxli'p Community Forest case study. Finally, I analyze the XCF case by engaging with access analysis, third space strategies, and natureculture relations, as a suite of tools for understanding how the XCF has shifted community access to land and resources.

I. Indigenous resource management and the theory of access

Indigenous resource management agreements

Direct Indigenous participation in natural resource policy making has been a central element of Indigenous self-determination movements, and in a number of cases,

[52]The local community often refers to itself simply as "Xáxli'p". However, for the purposes of this paper, I am using the longer phrasing of "Xáxli'p community". In doing so, my purpose is to avoid confusion for readers that are not familiar with local speech conventions. Xáxli'p people do use the term "community" to refer to themselves, and reserve the term "First Nation" or "Nation" when speaking about the collective of Indigenous communities that make up the broader St'át'imc Nation.

has contributed to increased community control over natural resources and Indigenous lands (AFSC, 1970; Tennant, 1990; Wilkinson, 2005). In addition, researchers have defined conditions under which more equitable power sharing between Indigenous communities and state actors can occur, in order to support meaningful community control over natural resource management decisions. Some of these ideas are explored in the literature on collaborative management, or *co-management*, which is defined as the sharing of management power and responsibility between government agencies and local people (Berkes, George, & Preston, 1991; Berkes & Turner, 2006). For example, scholars have analyzed conditions that contribute to more "complete" co-management (Pinkerton, 2003), empowered co-management (Goetze, 2005), or strategic co-management (Notzke, 1995).

There is much skepticism among many Indigenous communities in Canada over resource management agreements between Indigenous communities and government agencies, however. Such skepticism is based on a long history of government agencies dispossessing Indigenous peoples of land and resources through so-called "agreements," with unjust treaty negotiations and inadequate reservation allocations as a case in point (Drake-Terry, 1989; Fleras & Elliott, 1992; Harring, 1998). Even with more recent laws and policies recognizing Indigenous sovereignty and self-determination goals, uneven power relations continue to be a problem with Indigenous-state negotiations over natural resource management (Pinkerton, 1989; Nadasdy, 2003; Taiepa et al., 1997, Armitage et al., 2007; Mulrennan & Scott, 2013). Additionally, Indigenous communities are often reluctant to negotiate when management agreement frameworks have been developed by government agencies and facilitate state-driven agendas (Feit & Spaeder, 2005). As Feit (2005) has pointed out, the messy nature of Indigenous-state resource management agreements can drive both Indigenous community resistance and state coercion.

Theory of access

Recognizing the complexity involved with negotiating Indigenous resource management initiatives, such as the XCF, this article uses Ribot and Peluso's (2003) *theory of access* to understand the potential gains and losses at stake in the XCF case. In their theory of access, Ribot and Peluso (2003:158) have expanded traditional theoretical understandings of property as a "bundle of rights," and instead focus on "a bundle of powers" that create access. They define access as "the ability to benefit from things—including material objects, persons, institutions and symbols" with an emphasis on gaining the *ability* to benefit, rather than establishing the *right* to benefit (Ribot and Peluso, 2003:153).

Ribot and Peluso's (2003) theory of access defines two types of mechanisms by which people gain, control, or maintain access to resource benefits. These include *rights-based mechanisms* and *structural/relational mechanisms.* Rights-based mechanisms facilitate or limit access through written laws or through social conventions, and may include property rights. *Structural/relational mechanisms* influence access through economic structures or other kinds of social relations, including access to knowledge, authority, technology, markets, capital, or labor (Ribot & Peluso, 2003: 160). By mediating power relations, particularly relations between state agencies and Indigenous communities, such structural/relational mechanisms can affect a community's ability to

access natural resources, regardless of whether a shift in property rights occurs. For example, Ribot (1998) describes how charcoal commodity chain market structures in Senegal play an integral part in shaping the ability of different actor groups to access natural resource benefits, where access is contingent on market mechanisms.

In order to analyze Indigenous resource management negotiations like the XCF case study, I am placing the theory of access in conversation with two additional theoretical frameworks. Ribot and Peluso's access mechanisms do provide a useful framework for separating out different kinds of strategies for shifting access to land and resources, which communities may depend on for their livelihoods and subsistence. However, in many cases access mechanisms are not operating in isolation from one another, and additional frameworks are needed to understand how community resistance strategies may combine rights-based and structural/relational mechanisms. As a case in point, the Xáxli'p community's long-term goal of asserting aboriginal land rights is intertwined with its pursuit of the XCF as an interim strategy for protecting the environment within Xáxli'p aboriginal territory from extractive industrial use. Therefore, the concept of third space strategies, discussed below, will help examine how property rights strategies connect with other Xáxli'p strategies for shifting resource access.

Additionally, Ribot and Peluso's (2003) theory of access primarily focuses on economic and political gains. While these are important elements of Indigenous resource management negotiations, they are not the most important goals in the XCF case. Because Ribot and Peluso's access analysis framework defines resource benefits in very general terms, it is easy to imagine scenarios where communities exchange control over land and resources for monetary benefits, as a reasonable negotiation outcome. However, in the Xáxli'p case, the community is primarily pursuing the XCF as an opportunity for forest restoration and cultural revitalization. Thus, I introduce the concept of natureculture relations as an additional access mechanism, which recognizes how establishing formal government recognition for the reciprocal relationships that exist between Xáxli'p people and the land through XCF negotiations produced a useful shift in state-Indigenous power relations for the Xáxli'p community.

The importance of territory and "third space" strategies

Ongoing territorial disputes over aboriginal title and rights form the backdrop for XCF negotiations. Therefore, it is essential to consider how political territory factors into this case. On one hand, political geographers downplay the role of political territory in defining contemporary forms of national sovereignty, and suggest that territory now plays a more limited role in shaping contemporary international relations (Agnew, 1994; Ong, 2000). Agnew (1994) cautions scholars to avoid what he refers to as the "territorial trap." Instead of privileging an all-powerful territorial state, Agnew points to evolving, multi-scalar interactions between territorial states and broader socioeconomic structures. In an increasingly globalized society, the political authority of individual territorial states may be replaced by other loci of authority, such as international trade organizations and global corporations (Agnew, 1994; Ong, 2000). Additionally, given a global governance system that recognizes international law and human rights, Indigenous nations lacking political territory have had some success in claiming political representation alongside territorial states in international forums such as the United Nations (Anaya, 1991).

On the other hand, there are serious implications to downplaying the role of political territory for Indigenous communities, particularly disempowered communities, which are competing with extractive industries for access to land and resources that are part of their traditional territory. Scholars of Indigenous politics point to ownership of or control over political territory as a key struggle for Indigenous sovereignty (Kickingbird et al., 1983; Tsosie, 2001). Disputes over extractive resource management practices are tightly coupled with the underlying issue of who has legal jurisdiction over territory. Gaining *de jure* rights to exclude others from accessing resources within a specific political territory can help legitimize local enforcement actions and prevent uncontrolled, open access conditions for resource users (Ostrom, 1990). As an alternative strategy, some Indigenous communities draw on the concept of inherent sovereignty to support Indigenous communities that reject the *de jure* authority of government agencies and claim *de facto* control over traditional territories (e.g. Tsosie, 2009).

Kevin Bruyneel's (2007) third space of sovereignty analytic offers a cautionary note to such dualistic propositions, which present political territory as either essential or irrelevant to Indigenous-state negotiations. His work recognizes how some communities engage in multiple, intersecting strategies to shift power relations, which may include strategies for changing property rights, as well as other types of access mechanisms. Bruyneel (2007) emphasizes strategies for engaging with dominant state structures to increase community access to Indigenous territory, while simultaneously resisting those structures that limit Indigenous sovereignty. Bruyneel's third space analytic is one response to seemingly intractable, zero-sum disputes over political territory between government agencies and Indigenous communities, where one party's gain is necessarily the other party's loss. Writing about the U.S. context, Bruyneel advocates for a "politics-on-the-boundaries" approach, where Indigenous struggles exist "neither simply inside nor outside the American political system" (Bruyneel, 2007:xvii, 20). This third space concept reflects Indigenous self-determination strategies, where Indigenous communities are resisting political boundaries that "limit the ability of indigenous peoples to define their own identity and develop economically and politically on their own terms" (Bruyneel, 2007:xvii).

The third space analytic recognizes that Indigenous peoples often use existing government policy as a tool to advance their own interests. This involves identifying productive policy negotiation spaces, where communities can assert Indigenous sovereignty goals and push back on dominant state policies—despite the persistence of colonial systems that often limit progress on territorial disputes and rights-based access for Indigenous peoples. For example, a third space strategy in the U.S. context could be a tribe that is struggling with government negotiations over land claims, which chooses to pursue a casino project to fund its own land purchases. Another example of a third space strategy is the work of Maori geographer Hakopa (2011), who is creating mapping innovations that blend Geographical Information Systems (GIS) technologies and oral narratives in order to assist intergenerational knowledge transmission among Maori Indigenous communities. In contrast, standard mapping applications in New Zealand/Aotearoa have focused on addressing positional territorial negotiations through slow moving court-based tribunals. But since working through treaty settlements may not directly address urgent cultural survival issues, Hakopa is supporting Maori sovereignty through an alternate mapping context. Thus, in cases where there is little political space

for negotiating territorial disputes—or where territorial disputes are not the only issue at hand—Indigenous communities may consider third space negotiation strategies that engage government officials through issues and policies where there are some overlapping interests, as part of an ongoing and shifting strategy with asserting Indigenous sovereignty. Over time, such third space initiatives may contribute to policy changes that affect territorial disputes and aboriginal rights. In other words, strategic opportunities for Indigenous communities may emerge through recognizing and leveraging the partiality and changing nature of state policies—some of which can promote meaningful policy change, and others of which limit Indigenous sovereignty.

In this context, I define third space strategy as a politics-on-the-boundaries approach to Indigenous struggles over territory, sovereignty, and resource management, where Indigenous communities both engage *with* and push back *on* dominant government policies, by simultaneously working inside and outside government structures. In the Xáxli'p case, the third space analytic helps explain the importance of understanding the XCF as an "interim measure," rather than an end point. Further, the third space analytic frames the Xáxli'p Community Forest as an opportunistic resistance strategy, which is intended to support ongoing community struggles to regain aboriginal title and rights. This view helps to resolve community tensions around signing a government agreement to protect the land, while continuing to pursue aboriginal land claims through other channels.

Incorporating natureculture relations

Ribot and Peluso's (2003) theory of access and Bruyneel's (2007) third space strategies both assist with understanding XCF outcomes in the context of ongoing territorial disputes over aboriginal title and rights. However, in order to understand the broader significance of the XCF case as a dispute over forestry practices, this article develops an additional concept of natureculture relations, described below. Connecting the natureculture relations concept to the theory of access, I discuss natureculture relations as an additional access mechanism. This additional category of analysis helps extend Ribot and Peluso's theory of access beyond social relations that emphasize markets and economic values (e.g. Ribot, 1998). Making this shift is especially important for the XCF case given primary community goals for restoring reciprocal relations between Xáxli'p people and the land, which include ensuring active land stewardship by Xáxli'p people within Xáxli'p Survival Territory.

Developed by feminist theorist Donna Haraway (2003), the concept of naturecultures is intended to help scholars move beyond the dichotomy between nature and culture, as well as between humans and non-humans—dichotomies that are often associated with Western knowledge traditions (MacCormack & Strathern, 1980; Merchant, 1980; Pickering, 1995). Such 'separation thinking' (Weir 2012) can be traced back to the Enlightenment period when knowledge "based on science, reason, and rationality had more authority than knowledge based on religion, intuition, and emotion" (Weir 2009:4). In this way, universalist and utilitarian aspects of Western knowledge traditions have challenged the validity of Indigenous knowledge systems, which emphasize the interconnected relations among humans, animals, plants, and the landscape that emerge from within a specific place (Weir 2012). Yet as Haraway (2003:8) writes,

"conceiving of 'nature' and 'culture' as either polar opposites or universal categories is foolish." In lieu of such "misplaced concreteness," Haraway introduces the term naturecultures to account for the complex ways in which humans and non-humans are co-constituted, co-evolving through their relationships. An individual being does not preexist its relations with other beings, and "the relating is never done once and for all" (Haraway, 2003:6,12). An important element of Haraway's project is respect for difference, in order to "encourage ethical relating, within or between species" (Haraway, 2003:51).

Haraway's writing converges with Vine Deloria Jr.'s (1999, 2001) analysis of Indigenous knowledge and its departures from Western knowledge traditions. Like Haraway, Deloria also critiques Western thought traditions for their "misplaced concreteness" (Deloria, 2001:6). Deloria emphasizes human and non-human interconnections and writes the following about Native American Indian worldviews, "The best description of Indian metaphysics was the realization that the world, and all its possible experiences, constituted a social reality, a fabric of life in which everything had the possibility of intimate knowing relationships, because, ultimately, everything was related" (Deloria, 2001:2). Deloria views such knowing relationships for Indigenous people as being both historical (with space/time relevance) and personal.

Building on Haraway, I define natureculture relations as the mutual and ongoing relations between humans and non-humans that co-constitute complex ecological and cultural landscapes—landscapes that are embedded within the cultural identity of many Indigenous peoples. Incorporating natureculture relations into access analysis recognizes the interdependent and historical relationships between humans and the landscape that are at the core of Xáxli'p identity. In this case, Xáxli'p community negotiators effectively shifted power relations by gaining government recognition for Xáxli'p natureculture relations, when the XCF agreement recognized the legitimacy of community plans (and the values within them) as governing policies for the XCF.

Table 4.1. Chapter 4, Key Terms

Access means "the ability to benefit from things—including material objects, persons, institutions and symbols" with an emphasis on the *ability* to benefit, rather than establishing the *right* to benefits (Ribot and Peluso, 2003:153). As opposed to thinking about the metaphor of a "bundle of rights" that is used in property theory, Ribot and Peluso (2003) suggest thinking about access as a "bundle of powers".

De facto rights refer to rights "in practice," where rights may not recognized by government laws, but instead have a "socially sanctioned base in customary or conventional legitimacy" (Ribot and Peluso 2003:156).

De jure rights refer to rights that are derived from laws or legal mechanisms (e.g. titles, permits, licenses).

Indigenous community or *First Nation community* is used to refer to present day communities whose ancestors were living in Canada prior to the arrival of European colonists in North America.

Indigenous resource management means natural resource management by and for Indigenous communities, with an emphasis on formalized institutions (cf. Anderson, 2005; chapter 3, this volume).

Indigenous sovereignty refers to Indigenous peoples establishing the power to govern, which includes having jurisdiction over people and territory (Kickingbird et al., 1983).

Natureculture relations describes the mutual and ongoing relations between humans and non-humans that co-constitute complex ecological and cultural landscapes—landscapes that are embedded within the cultural identity of many Indigenous peoples (cf. Haraway 2003).

Self-determination signifies the "normative grounds for the decolonizing process" that address the desire of Indigenous groups for "meaningful participation, commensurate with their interests, in procedures leading to the creation of or a change in the institutions of government under which they live" (Anaya, 1993:143, 145).

Third space strategies refers to Indigenous communities taking a politics-on-the-boundaries approach to struggles over territory and resource management, where Indigenous communities both engage with and push back on dominant government policies by simultaneously working inside and outside government structures (cf. Bruyneel 2007).

Xáxli'p community is the group of Indigenous people with ties to the Fountain Valley area who self-identify as being Xáxli'p.

Xáxli'p Survival Territory is a term was coined by Xáxli'p elder Tommy Adolph, which describes the land base that has been historically used and defended by Xáxli'p people (personal communication, Herman Alec, August 4, 2010).

II. XCF case study background

Research methods

This research is based on interviews with key actors in Xáxli'p Community Forest negotiations and XCF implementation (15 government, and 18 community interviews), and participant observation conducted over three summers from 2009-2011. Community research partners at the Xáxli'p Community Forest Corporation have reviewed this work. According to my research protocol, study informants chose whether to use their name in research reports, or to remain anonymous. Thus, any names in this writing are used with

the written permission of the individual. A full account of the Xáxli'p CFA history and negotiations process is presented in Diver (in review).

Historical context – aboriginal title and rights in B.C.

Although B.C. First Nations have persistently advocated for their rights and achieved significant shifts in dominant law and policy over time (Fleras & Elliott, 1992; Duff, 1997), the colonial history of Indigenous peoples in British Columbia (B.C.) is characterized by great injustice. Unlike other regions of Canada, the Province of B.C. historically neglected to negotiate treaties with the majority of its Indigenous peoples (Duff, 1997). Treaties were signed in the eastern and central parts of Canada, as a tool for colonial governments to legally clear land title. As a last stop for European settlers migrating west across North America, B.C. was initially governed by fur traders, who did not prioritize treaty negotiations beyond a few treaties with Vancouver Island Indigenous communities (Fleras & Elliott, 1992; Duff, 1997). Additionally, B.C. passed its own laws to enable easy government appropriation of Indigenous lands. In 1874, passage of the B.C. Land Act allowed the province to alienate land without regard for aboriginal title (UBCIC; Drake-Terry, 1989:113-116).

Although a full history of legal decisions affecting B.C. First Nations is beyond the scope of this paper, it is important to note a major policy shift that occurred with the 1973 legal case *Calder et al. v. Attorney-General of British Columbia*, in which the Supreme Court of Canada affirmed the concept of aboriginal title (UBCIC; Berger, 1983; Rotman, 1996). In response to the Calder Decision, Canada's territories and federal government began negotiating land settlements with Indigenous communities in the Canadian North. Some settlements included co-management agreements, which created joint resource management boards involving state and Indigenous representatives, which have had mixed success (Notzke, 1995; Spak, 2005; Kofinas, 2013; Nadasdy, 2013).

Another important shift occurred with the passage of Section 35 of Canada's Constitution Act of 1982, which legally recognized the existence of "aboriginal and treaty rights." Although the concept of aboriginal rights was left largely undefined, the new Constitution committed Canada to addressing aboriginal rights that had not been previously extinguished by law (Tennant, 1990; Duff, 1997). The implications of Section 35 have played out through multiple court decisions. In the landmark 1990 case *Ronald Edward Sparrow v. Her Majesty the Queen*, the Supreme Court of Canada ruled that aboriginal rights to fish for food continue to exist in non-treaty areas of B.C., based on Section 35 (UBCIC; Tennant, 1990; Harring, 1998). In the 2004 legal case *Haida Nation v. British Columbia (Minister of Forests),* the B.C. court of appeals determined that aboriginal title "encumbered" Crown rights to forest lands; therefore, the Ministry of Forests now offers economic accommodations to First Nation communities for timber harvests occurring on "Crown" lands that overlap with First Nations' traditional territories (Sanders, 2000; Beatty, 2002).[53] Issues of aboriginal title and rights

[53] Ministry of Forests. Interim Policy. First Nation Access to Timber Tenure Through Sections 43.5 and 47.3 of the Forest Act. October 31, 2002.
www.for.gov.bc.ca/haa/Interim_Direct_Award_Policy_Oct_31_2002.pdf, accessed February 25, 2013.
Also see, Ministry of Forests, Lands and Natural Resource Operations. First Nations Relations Branch.

continue to play out through cases, such as the recent 2014 Supreme Court of Canada ruling on *Tsilhqot'in Nation v. British Columbia*, where the court first recognized aboriginal title over a particular land area and determined that B.C. had breached its duty to consult with the Tsilhqot'in Nation.[54] The decision suggests that, in order to avoid future legal problems, government institutions should obtain consent from First Nations before developing resources in areas with unsettled land claims (Abouchar et al., 2014; Osler's Aboriginal Law Group, 2014).

After years of neglecting the treaty issue, B.C. initiated modern treaty negotiations in the 1990s. The B.C. Treaty Commission was established in 1993 to negotiate land issues with First Nation communities (UBCIC). The B.C. government reports there are currently sixty First Nations participating in the B.C. Treaty process. However, only a small number of First Nations have signed final agreements. Two First Nations are currently listed as having effective agreements (B.C. Treaty Commission), with the 2000 Nisga'a Nation Final Agreement as an additional example of completed negotiations (AANDC; Nisga'a Nation; Sanders, 2000). In 1993, the Xáxli'p community itself engaged in the B.C. Treaty negotiations, but eventually became disillusioned with the process; the negotiations required extensive time and resources from Xáxli'p community leaders, and community members were highly concerned about paying back the mounting debt incurred through the treaty process. In 2001, the majority of the community voted to exit treaty negotiations. Through this vote, the Xáxli'p community also rejected an early version of the Xáxli'p Community Forest, which was initially developed as part of the treaty process.

After exiting treaty negotiations, a number of political changes at the provincial level contributed to shifts in Xáxli'p community strategy. After 2001, the New Democratic Party, which was the ruling political party in B.C and supported the treaty process, lost in provincial elections. Shortly afterwards, the Liberal Party, which did not support the treaty process, came into power (Diver, Hammond, & Adolph, 2010). Given this shift, the Xáxli'p community focused on negotiating resource management issues through the XCF, as a stand alone proposal that was not connected to treaty negotiations.

The Xáxli'p Community Forest

Xáxli'p is one of eleven Indigenous communities that make up the larger St'át'imc Nation. The Xáxli'p community comes from Fountain Valley, characterized by steep mountainous terrain and the Fraser River canyon (see figure 4.1). Located near the town of Lillooet in British Columbia, Canada, the community refers to this place as Xáxli'p Survival Territory (see figure 4.2). Following a series of bilateral negotiations over forest management between the Xáxli'p community and B.C. Ministry of Forests, both parties signed the Xáxli'p Community Forest Agreement in 2011. The Community Forest effort is part of an evolving set of *de jure* and *de facto* strategies asserting Xáxli'p sovereignty,

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Agreements with First Nations. Forest Tenure Opportunity Agreements – Direct Awards. https://www.for.gov.bc.ca/haa/FN_Agreements.htm, accessed February 25, 2013.

[54] Tsilhqot'in Nation v. British Columbia, https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/14246/index.do

which include direct action protests, government negotiations, and lawsuits (see table 4.2, below).

As discussed in the previous section, the XCF case has unfolded in the context of a long struggle over aboriginal title and rights in B.C. The Xáxli'p community has consistently asserted its claims to Xáxli'p Survival Territory, with the 1911 Declaration of the Lillooet Tribe as an important reference point. The 1911 Declaration was signed when the Xáxli'p community joined a group of Northern St'át'imc tribal communities in challenging B.C. colonial incursions on First Nation lands and claimed its position as the "rightful owners of our tribal territory."[55] As part of a growing B.C. Indigenous self-determination movement in the 1980s, the Xáxli'p community engaged directly with the Ministry of Forests over forestry practices and land use policy. In the early 1990s, Xáxli'p frustration with ongoing clearcut logging led to a series of community road blockades. In the mid-late 1990s this was followed by direct negotiations between the community and the Ministry on joint resource management, a process that ultimately failed.

Figure 4.1 Xáxli'p Community Forest crew members view Sallus Creek clearcuts in the high country, part of the Xáxli'p Community Forest area that is targeted for restoration. Photo by S. Diver.

[55] The 1911 Declaration of the Lillooet Tribe was signed at Spences Bridge by 16 different St'át'imc Chiefs, including Chief Fransois Thomas Adolph for "La Fountain Indians" (Xáxli'p community). In response to government pre-emption of reserve lands at Seton Portage, the Declaration affirms the Tribe's united commitment to a treaty rights movement (not treaty – to retain rightful "ownership" over traditional lands), asserts St'át'imc sovereignty, and rejects B.C. government land claims to St'át'imc Territory (Smith 1998: 54, 1911 Declaration). http://www.statimc.net/declaration.html, Accessed June 23, 2013.

Figure 4.2. Location of Fountain Valley. Map by Kristina Cervantes-Yoshida. Note that Xáxli'p Survival Territory extends beyond the boundaries of this map.

After becoming discouraged with joint resource management negotiations, as well as the B.C. Treaty Process, the Xáxli'p community decided to take control of natural resource planning and initiated its own community mapping strategy (see chapter 3). In the late 1990s the Xáxli'p community developed a series of community plans—entitled the Xáxli'p Traditional Use Study (TUS) or *Ntsuwa'lhkalha Tl'ákmen* [Our Way of Life] Study, and the Xáxli'p Ecosystem-based Plan (EBP), which were partly funded by Resource Access Negotiations funds, a federal program supporting First Nation community negotiations. Around 1999, Xáxli'p community leaders and their advisors

identified a new B.C. policy supporting Community Forest development, which they felt could support the Xáxli'p community's self-determination interests. After the community's rejection of the first Xáxli'p Community Forest proposal in 2001, as well as multiple rounds of negotiations over a new XCF proposal in the early 2000s, the Xáxli'p community and the Ministry of Forests finally signed a framework agreement—the 2006 Xáxli'p Interim Agreement on Forests and Range Opportunities (FRO). With the FRO Agreement in place, the community began building the Xáxli'p forestry program. This was followed by the signing of the 2011 Xáxli'p Community Forest (XCF) Agreement, which is currently being implemented by Xáxli'p community members.

After years of rigorous negotiations over terms of agreement, the 2006 Xáxli'p Interim Agreement on Forest and Range Opportunities (FRO) and the 2011 Xáxli'p Community Forest (XCF) Agreement led to numerous benefits to Xáxli'p people. The FRO Agreement provided the Xáxli'p community with several years of government funding and confirmed Xáxli'p management plans as guiding policies for the initiative. Gaining legal recognition for Xáxli'p plans helped guarantee the Xáxli'p community's right to establish a lighter harvest within the final 2011 XCF Agreement (see chapter 3, this volume; Diver, in review). The XCF Agreement provided a renewable, 25-year forest tenure over the XCF area that is held exclusively by the Xáxli'p community. Thus, the XCF Agreement provided the Xáxli'p community with jurisdiction over forest management activities for a large portion of off-reserve lands (see figure 4.3, below). The Xáxli'p Community Forest tenure area (24,531 hectares) covers 78% of Xáxli'p Survival Territory (31,419 hectares). As a point of comparison, Xáxli'p reserve areas amount to a total area of 1,581.6 hectares, or 5% of Xáxli'p Survival Territory.

The XCF Agreement confirmed the Xáxli'p community's *de jure* ability to exclude other forest users from the XCF area and make its own decisions over forest management according to Xáxli'p land use policy. Although Xáxli'p community leaders are not opposed to all logging, the XCF pursues timber harvest opportunities as a secondary benefit from forest restoration. The primary focus for the XCF is thinning former plantation areas and dense forest stands to support ecological and cultural restoration initiatives, which enhance berry production, restore wildlife habitat, and protect local water resources. Thinning overgrown forest stands is also intended to produce healthier and more valuable trees that will meet long-term timber production goals for the XCF. The byproducts of restoration thinning have provided winter firewood for community elders. The Xáxli'p Community Forest Corporation (XCFC), which has its own by-laws and board of directors, is the primary management body. XCF decision-making is also guided by Xáxli'p Chief and Council and community members. The XCFC has hired a full-time Forest Crew, made up of Xáxli'p community members, and a non-Xáxli'p Community Forest Manager, who work together to implement forest operations. The Xáxli'p Forest Crew works alongside Xáxli'p Range Riders, who monitor and enforce Xáxli'p land use policy across Xáxli'p Survival Territory.

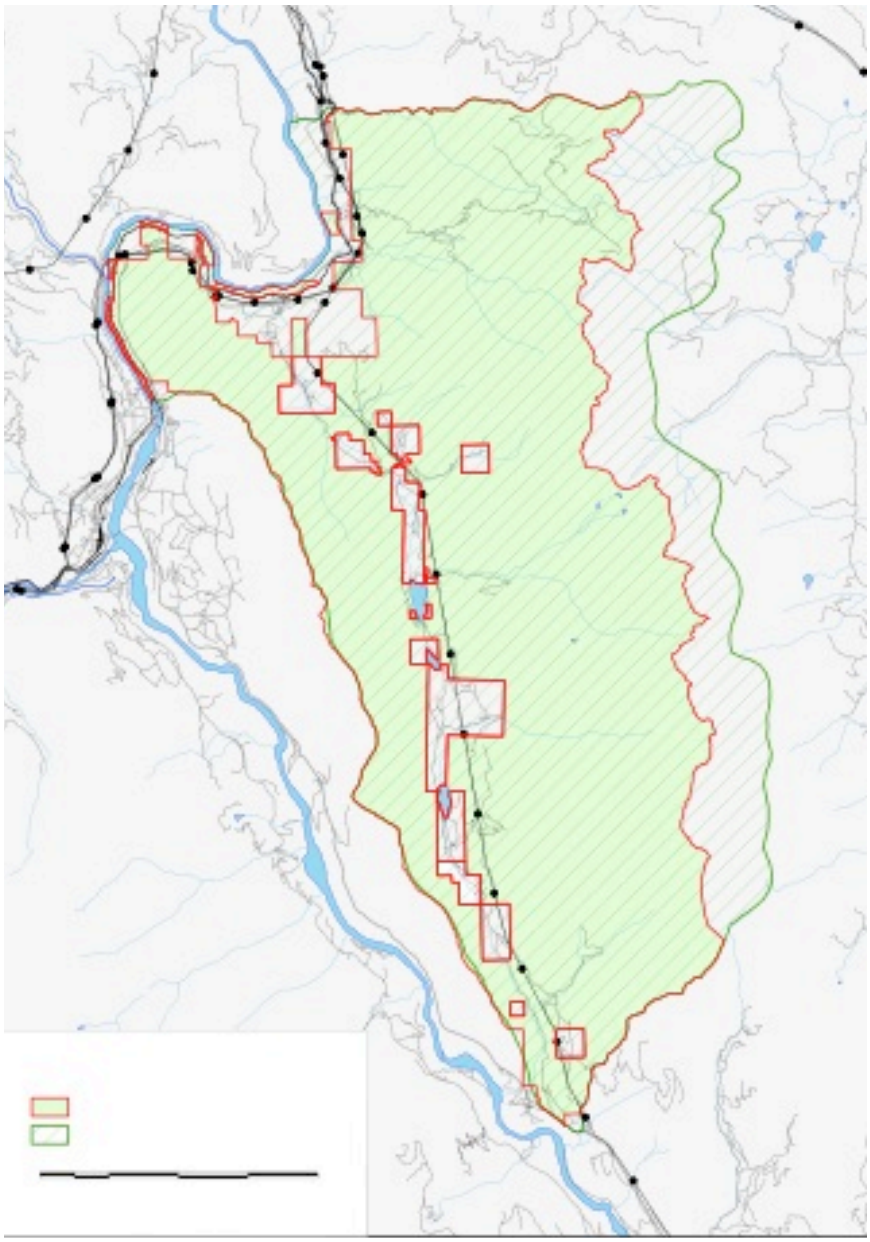

Figure 4.3. Map showing Xáxli'p Community Forest (green shading, red outline) relative to Xáxli'p Survival Territory boundaries (diagonal lines, green outline). Courtesy of the Xáxli'p Community Forest Corporation, www.xcfc.ca.

While the Xáxli'p Community Forest Agreement tenure provides a high level of decision-making authority to the community, there are some limits to Xáxli'p community authority over the XCF area. First, there are several overlapping tenures within the XCF area, such as range management areas and mining claims. Mining exploration is a serious concern for the Xáxli'p community: 10,734 hectares of Xáxli'p Survival Territory (one-third of the Territory or about one-half of the XCF area) is currently held as a mineral claim that is owned by a private company. The Xáxli'p community is now fighting the exploration of this mineral claim. Second, despite the high level of community decision-making control with the XCF, the community must still adhere to

minimum provincial B.C. standards for sustainable timber harvest. Third, although the XCF Agreement provides Xáxli'p with a lease permitting Xáxli'p forest management within the XCF area, it does not convey land title to the community. B.C. government still classifies the area as "Crown land," made available to the community through a forest tenure and approved by the Ministry.

The Xáxli'p community does not agree with this last viewpoint, and is continuing to pursue aboriginal land claims based on inherent sovereignty. Therefore, XCF leaders frame XCF as an "interim agreement" that forwards the community's goal of applying Xáxli'p land management values to its territory, while continuing to pursue the long-term goal of establishing government recognition of aboriginal land title. As XCF board member Herman Alec has stated, the XCF is part of an ongoing Xáxli'p strategy to both "*protect the land* and *get it back*," a goal that is rooted in the 1911 Declaration of the Lillooet Tribe (see footnote 55.)

Xáxli'p community strategies for protecting the land and reclaiming territory

Strategies for protecting Xáxli'p Survival Territory	Mechanism	Material effect
Getting the land back, Establishing aboriginal title and rights (future)	Potentially a treaty, settlement negotiation, or court case (*de jure*)	Xáxli'p is seeking full legal authority to exclude any type of resource user or activity from its territory, thus preventing negative impacts to the land from mining or other extractive industries.
Establishing legal access conditions that recognize Xáxli'p forest jurisdiction and Xáxli'p land management values (late 1990s-2011)	e.g. Xáxli'p Community Forest, or other Indigenous Resource Management agreement (primarily *de jure*, some *de facto*)	Xáxli'p gains the legal ability to exclude *some* resource users (forestry) from its aboriginal territory. Xáxli'p values around natureculture relations are legally recognized as the governing principles for natural resource management activities within government agreements. Thus, Xaxlli'p can prevent clear cut logging from occurring within its territory. Xáxli'p can also lead its own forestry initiatives that take a lighter cut and prioritize cultural resources. Increased community capacity increases ability to monitor other uses.
Excluding outsider access through direct action (late 1980s, early 1990s)	e.g. community members organizing road blocks (*de facto*)	Xáxli'p excludes other resource users by asserting Xáxli'p traditional laws and values with extractive resource users. No clear cut logging can occur within the territory. Most active forestry projects in the area are stopped.

Table 4.2. Ongoing strategies (*de facto* and *de jure)* used by the Xáxli'p community to facilitate immediate land protection efforts and long-term aboriginal title and rights strategies (to "protect the land" and "get it back"). *De jure* rights are rights gained through legal mechanisms. *De facto* rights are rights in practice, where rights may not recognized by government laws, but instead have a "socially sanctioned base in customary or conventional legitimacy" (Ribot and Peluso 2003:156).

III. Analyzing the XCF

Access analysis

The following section uses Ribot and Peluso's (2003) access analysis framework to unpack the different kinds of community benefits derived from the XCF, and to also understand how the XCF Agreement affected the B.C. Ministry of Forests. The first part of this section considers the wide range of community benefits and access mechanisms generated in this case, including the creation of jobs for Xáxli'p community members, an increase in community decision-making authority, and an increase in community knowledge. I then examine the kinds of benefits received by the Ministry of Forests, such as increased access to markets and authority. This section includes a discussion of potential losses for respective parties. Understanding potential tradeoffs involved in Indigenous resource management negotiations is essential to understanding Xáxli'p community strategies. This analysis is not simply intended to present this case in terms of winners and losers, but also attempts to outline the complexity of XCF resource management negotiations.

A) Shifting access with the XCF

Xáxli'p community benefits

Recalling that access to resource benefits can be understood through rights-based mechanisms (both *de jure* and *de facto*) and structural/relational mechanisms, the primary *de jure* right gained by the Xáxli'p community was forest tenure. By providing the Xáxli'p community with exclusive and long-term management authority over the Community Forest area, the XCF tenure gave the Xáxli'p community the legal right to exclude other forest users over the majority of Xáxli'p Survival Territory. The XCF Agreement also recognized the Xáxli'p Community Forest Corporation (XCFC) as the primary governance body for the XCF area. Furthermore, the XCF Agreement formally acknowledged Xáxli'p land management plans as the governing documents for Xáxli'p forestry operations. As a result, it was Xáxli'p people and their chosen advisors, not provincial government representatives, who became the legal decision-makers over everyday XCF land use decisions and operations. The XCF Agreement also confirmed the community's XCF proposal to operate according to Xáxli'p management values, which involves taking a lighter harvest than would be expected under standard Ministry forestry models.

In terms of *de facto rights* gained by the Xáxli'p community, the XCF increased the presence of Xáxli'p community members on the land, thereby facilitating the Xáxli'p community's ability to detect undesired land uses beyond forestry activities. Prior to the XCF, Xáxli'p members did informal monitoring of land use and successfully asserted *de facto* rights to stop clearcut forestry and mining operations within their territory. Now, the Xáxli'p Forest Crew and Xáxli'p Range Riders monitor activities on the land on a daily basis, thereby improving community enforcement capability. For example, Xáxli'p Range Riders have identified areas where recreational vehicle users are driving in sensitive alpine grasslands. In response, the community has worked with its neighbors to

block vehicle entrance points. In addition, the XCF office has established itself as a reliable point of contact on land use issues, and neighboring landowners regularly report land use transgressions to the XCF Forest Manager. These shifts in management practice are important given that the XCF Agreement primarily allocating forest use rights to the Xáxli'p community within the XCF area. Regardless of legal constraints, the Xáxli'p community continues to assert *de facto* authority over all land use activities throughout the entirety of Xáxli'p Survival Territory.

In terms of structural and relational mechanisms, the XCF has created several new mechanisms for increasing community access to the land. These include mechanisms for producing *knowledge* and accessing *authority,* which have facilitated important benefits for the Xáxli'p community. First, XCF planning processes created a community-driven forum for knowledge production that brought together elders, cultural practitioners, young people, technical advisors, and other community members to discuss Xáxli'p land management values and goals. Community planning sessions that produced the Xáxli'p Traditional Use Study (TUS) or *Ntsuwa'lhkalha Tl'ákmen* [Our Way of Life] Study, and the Xáxli'p Ecosystem-based Plan (EBP) established a memorable learning opportunity for many community members, which reinforced Xáxli'p goals for land stewardship. These sessions helped generate a collective community vision for the XCF, rooted in Xáxli'p knowledge. Having non-Xáxli'p allies involved in documenting these sessions helped produce maps and plans that strengthened the community's position in government negotiations. Second, the XCF created the Xáxli'p Community Forest Corporation (XCFC) as a new Indigenous management institution, which has become a central space for holding and applying community knowledge on Xáxli'p land management practices. The XCF institution has enhanced Xáxli'p community knowledge by hiring and training the Xáxli'p Forest Crew. These are young Xáxli'p community members, guided by Xáxli'p elders and cultural practitioners, who are regularly implementing forest restoration plans on the land. Before the XCF, some of the XCF Crew members had worked in forestry outside of Xáxli'p territory, but never at home, and never under the direction of Xáxli'p cultural practitioners. Third, XCF directors, Xáxli'p Ranger Riders, and community elders and knowledge holders are teaching Xáxli'p children about Xáxli'p land management values through family workshops, and events such as summer camps. There is also a strong desire to create a school-based curriculum based on the XCF. By increasing land-based knowledge in its young people, the XCF is facilitating intergenerational knowledge transmission and community access to Xáxli'p land and culture for the next generation.

The XCF has also helped the Xáxli'p community to gain access to land and resources through *labor* and *technology*—with job creation for community members as a primary goal. The employment and training provided to Xáxli'p community members is an important component of XCF as a social-environmental enterprise. Workshops provided by Silva Ecosystem Consultants, the Xáxli'p community's main external partner and scientific advisor on the XCF, have offered extensive training in restoration forestry for Forest Crew employees and supported cultural trainings by elders and practitioners. Thus, Xáxli'p people employed through the XCF are simultaneously gaining knowledge about the land and receiving regular salaries that allow them to support their families. Additional XCF benefits are achieved through access to new technologies, such as computers, map plotters, and forestry equipment. Learning to use

such technologies has enhancds the skills of Xáxli'p Forest Crew members. Making use of these technologies, such as GPS (Global Positioning System) mapping units to inventory a new restoration site, or digital photography to conduct photo point monitoring of a thinning project, has allowed the Xáxli'p community to plan, implement, and evaluate its own forest restoration prescriptions. After gaining such advanced skills, many of the Xáxli'p Forest Crew members could go elsewhere to earn a larger salary, but it is the combined benefit of having decent jobs and always gaining new *knowledge*—knowledge about Xáxli'p culture and territory taught by elders, or new technical skills taught by scientific advisors—that has made for a stable, dedicated XCF Forest Crew.

Additional mechanisms that are shifting access in this case include *capital* and *markets*. The XCF initiative has raised operating capital for Xáxli'p (albeit limited amounts) through agency programs that support aboriginal participation in the forestry sector. Also, the community will receive any monetary benefits that arise from Xáxli'p management, primarily from forest thinning. Because the XCF does not involve a joint-venture partner, future proceeds will go solely to the Xáxli'p community. The XCF envisions monetary gains as offsetting program costs, particularly salaries for Xáxli'p community members and restoration costs. This unconventional approach is possible because the XCF Agreement has established the Xáxli'p community as the legal tenure holder (a shift in property rights), which has resulted in a shift in market relations. The community can now legally sell its own logs and wood products, and hopes to take advantage of niche markets for sustainable forest products. Because the XCF is free to operate on its own terms, the community can choose to pace its harvests in a way that does not damage the land, thereby avoiding clearcuts and maintaining the integrity of local ecosystems.

Benefits to the Ministry of Forests

In terms of rights-based access to natural resources, Ministry of Forests did devolve long-term use rights to the Xáxli'p community through the XCF agreement in a *de jure* sense. Yet this shift did not signify a major change for the Ministry. This is because the XCF did not decrease the Ministry's *ability to access* Fountain Valley timber resources in practice. This assessment is based on the understanding that the Xáxli'p community had previously asserted its *de facto* rights to prevent clearcut logging in Fountain Valley for twenty years prior to XCF approval. Even though the Ministry previously held the legal authority to offer a timber lease within Xáxli'p Territory, it could not allocate timber rights in practice because Xáxli'p controlled road access. In addition, due to the unprofitability of harvest conditions in the late 2000s, around the time the XCF agreement was signed, there were no timber companies operating within the XCF area to lobby for Ministry opposition to the Xáxli'p community's proposal. In addition, as the government entity that is legally empowered to lease forest tenures, the B.C. Ministry of Forests still retained its overarching rights over forest management within the XCF area, and still expected to receive benefits from Xáxli'p payments of annual rent and timber harvest fees. Thus, even though the XCF did convey forest tenure to the Xáxli'p community, as a change in *de jure* rights, I view the XCF as a neutral shift for the Ministry since *de facto* rights remained the same.

Benefits provided by the XCF to the Ministry of Forests are best understood through exploring the social relations with the structural/relational mechanisms affecting resource access. First, by approving the XCF, the Ministry established a more effective working relationship with the Xáxli'p community and shored up the Ministry's *authority* as a capable governance body. In the Ministry's view, the XCF helped address existing legal requirements for government agencies to consult with Indigenous communities. As one Forest Tenures Officer at the Ministry explained, "We have to consult with the First Nations—both government and the license holders. Licensees are fully aware that, without First Nations, they cannot do business." By resolving conflicts over forest management, the Ministry could work more effectively with the Xáxli'p community on implementing projects and other decision-making processes, thereby improving Indigenous-state relations.

The XCF also generated benefits for the Ministry through generating additional *capital* and supporting existing timber *markets*. For example, future XCF timber harvests should provide the B.C. government with some capital gains, albeit limited amounts, through annual rent and some stumpage payments. Although Ministry plans using standard forestry models would have resulted in more intensive harvests and additional revenue outputs from the XCF area, Ministry officials felt that some level of harvest from Xáxli'p Territory was better than nothing at all, which was the status quo in the Xáxli'p case. In addition, Xáxli'p timber would be processed by nearby mills, thereby supporting B.C. forest industry infrastructure and timber markets.

Other users

Other user groups that were not formally regulated by the XCF included groups engaged in recreation, grazing, and mining. Although a full discussion of other land users is beyond the scope of this paper, it is important to recognize the potential negative impacts from non-forestry resource users to the XCF area. These groups continue to be a concern for the Xáxli'p community, and ongoing impacts to Xáxli'p cultural areas in the high country, including spiritual sites, are worrisome. For example, ranchers sometimes allow their cattle to graze outside designated tenure areas, with impacts to sensitive alpine areas and traditional foods, such as *skwen-kwín* (Western spring beauty or Indian potatoes, *Claytonia lanceolata*) that are just recently beginning to flower again in some high country areas after several years of excluding cattle. Recreational vehicle users also use Xáxli'p high country trails, with impacts to alpine flora. As mentioned earlier, mining exploration in the high country are another serious concern, especially given potential mining impacts to Fountain Valley stream systems.

In considering the ability of Xáxli'p community to influence outside user groups, the XCF did not legally empower Xáxli'p community to manage for non-forestry activities. Still, establishing the Xáxli'p Community Forest Corporation as a strong, community-driven institution has allowed the Xáxli'p community to assert itself through *de facto* regulatory responses, which have helped curtail potentially damaging or extractive activities occurring within or adjacent to its territory. In addition, the community is still able to pursue legal recourse to undesirable projects planned for Xáxli'p Survival Territory through other avenues, such as legally mandated government-to-government consultation processes.

Significantly, B.C. neighboring First Nation communities are another relevant group of resource users. As part of the XCF approval process, B.C. law required the Xáxli'p community to consult on the XCF proposal. All but one neighboring First Nation community supported the XCF initiative. Although it approved of the project's restoration goals, this First Nation community failed to support the XCF because it claimed part of Xáxli'p Survival Territory as part of its own aboriginal interest area, thereby illustrating the complicated role of political territory in First Nation community relations. Ongoing negotiations with neighboring First Nation communities continues to be part of XCF management.

Protecting against losses

Throughout XCF negotiations, both Xáxli'p community negotiators and the Ministry of Forests worked to avoid significant losses and protect their interests. This resulted in multiple conflicts, which threatened to derail negotiations on a number of occasions. To protect against lost government access to timber, the Ministry initially opposed the XCF. Xáxli'p community negotiators went to great lengths to convincing Ministry officials to view the XCF as a neutral proposal that did not threaten B.C. government's timber interests. It was only after Xáxli'p gained access to the Deputy Minister of Forests, who approved the XCF initiative, that many B.C. government representatives recognized the Ministry's ability to gain net benefits through the XCF.

Another major point of concern for the Ministry was the issue of creating a precedent for establishing other long-term, exclusive First Nation forest tenures across B.C. If the XCF model was broadly extended to other First Nations, the timber industry could lose access to a significant amount of forest area, and potentially suffer monetary losses that the Ministry felt it could not afford. Ultimately, the Deputy Minister of Forests recognized that the B.C. Community Forest policy provided B.C. government with a high level of discretion over tenure allocation decisions, thereby minimizing the risk of widespread application of the XCF model. So, after several years of negotiation with Ministry officials, the Deputy Minister's decision was the deciding factor that moved the XCF proposal forward.

On the community side, Xáxli'p negotiators almost walked away from the negotiations due to boundary disagreements. Although the Xáxli'p community wanted the XCF to cover the entirety of Xáxli'p Survival Territory, the Ministry wanted to constrain XCF boundaries. The final boundary was a compromise that included about 75% of Xáxli'p Survival Territory. Xáxli'p negotiators viewed the Ministry's negotiating position as an ongoing effort to protect the government's interests in generating revenue from timber harvests within Xáxli'p Survival Territory and adjacent areas. This compromise, which resulted in an incomplete level of protection for Xáxli'p Survival Territory, further emphasized the importance of community negotiators framing the XCF as an "interim agreement." Regardless of this disappointment, the final XCF still represented a huge net gain for the Xáxli'p community (see figure 4.3). Also, Xáxli'p community leaders intended to assert their interests over the entirety of their territory, regardless of *de jure* limitations contained within the XCF Agreement.

The Xáxli'p community had additional concerns over entering into an agreement that might limit future land claims. Therefore, Xáxli'p negotiators needed to ensure that

the XCF Agreement would not be interpreted as an accommodation of aboriginal title. This was a significant challenge, because the Ministry's Forest and Range Opportunity (FRO) Agreements were initially developed in response to court decisions for the express purpose of accommodating aboriginal title and rights. In what I view as a true third space, politics-on-the-boundaries strategy, Xáxli'p negotiators insisted on assurance language in the 2006 FRO Agreement, which stipulated that the XCF would move forward with "no prejudice to aboriginal title and rights." This legal language meant that the agreement should not be interpreted by the courts as affecting future claims. In this way, the Xáxli'p community rejected the coercive aspect of Ministry policy, even as the community moved forward in signing the XCF Agreement with government officials.

Understanding access outcomes

Relative change in access through different mechanisms for the Xáxli'p Community and the Ministry of Forests through the XCF

Forms of Access	Xáxli'p Community	Ministry of Forests
Rights-based mechanisms of access		
De jure rights	+	-
De facto rights	+	o
Structural and relational mechanisms of access		
Access to technology	+	o
Access to capital	+	+
Access to markets	+	+
Access to labor	+	o
Access to knowledge	+	o
Access to authority	+	+

To indicate shifts in access, Table 1 indicates gains (+), losses (-), and no change (o) for each group.

Table 4.3. This table compares changes in access that have occurred for the Xáxli'p community and Ministry of Forests following XCF implementation, across a range of access mechanisms. The table specifies whether an increase (+), decrease (-), or no change (o) in access has occurred.

To summarize the relative change in access for the Xáxli'p community and the Ministry of Forests through the XCF, table 4.3 (above) identifies different access mechanisms contributing to gains and losses for respective parties. This table compares changes in access that occurred for the Xáxli'p community and for the Ministry across a range of rights-based and structural/relational mechanisms. This analysis demonstrates that the XCF resulted in no immediate losses for the Xáxli'p community. Ribot and

Peluso's (2003) access analysis framework also helps to identify the many different kinds of community gains achieved through the XCF initiative, thereby emphasizing the complexity of access mechanisms operating within this case.

As another important finding, my analysis shows that both sides avoided major losses in rights-based access in XCF negotiations. On the Ministry of Forests side, the XCF did not precipitate significant government losses regarding rights-based access to timber resources. The XCF did devolve *de jure* forest management rights to the Xáxli'p community. But, because Xáxli'p had already asserted *de facto* control over its core area, the transfer of the Xáxli'p Community Forest tenure was effectively a neutral decision that did not cost the Ministry significant losses. On the Xáxli'p side, the agreement did not threaten future Xáxli'p land claims. Even after signing the XCF Agreement, the Xáxli'p community continues to take the moral stance that B.C. government has never gained permission to take or use its traditional territory, and asserts its interests over all of Xáxli'p Survival Territory. It is for this reason, the lack of direct rights-based losses, that both government and community representatives were able to remain at the negotiation table over the many years required to generate the final XCF Agreement.

B) *Third-space strategies*

By examining points of intersection between access analysis and additional theoretical frameworks, the next two sections illustrate complex issues around territory and sustainability that arise through the XCF, as an Indigenous resource management negotiation. This section examines third space strategies, and connects this concept to the Xáxli'p community's dual goals for achieving land rights and land protection. The section that follows discusses Xáxli'p natureculture relations, and presents the natureculture relations concept as an additional access mechanism that results in a lighter timber harvest for Xáxli'p territory.

As an additional framework for interpreting XCF outcomes, the concept of third space strategies assists with understanding how rights-based access mechanisms are interacting with structural/relational mechanisms over time. One of the central questions of this case focused on how Xáxli'p community negotiators created the political space for the Xáxli'p Indigenous community to both work with existing government policies on resource management, and to simultaneously reject government policy on title and rights. The Xáxli'p community's commitment to gaining government recognition for Xáxli'p *de jure* rights over the community's traditional territory is an ongoing struggle, which required rejecting elements of status quo government policies, like the Forest Resources and Opportunities program. Still, the Xáxli'p community moved forward in working with B.C. government on the XCF, as an initiative that provides important land protections and builds towards the community's land claims.

Through the XCF, the Xáxli'p community leveraged existing B.C. Community Forest policy to pursue its goal of land protection *in parallel to* ongoing disputes over aboriginal title and rights. Xáxli'p community negotiators accomplished this by framing the XCF as an "interim agreement," advancing Xáxli'p management control over Xáxli'p territory under B.C. Community Forest policy, while continuing to assert Xáxli'p land claims. As discussed earlier, a key aspect of negotiations was ensuring that the XCF did not compromise the Xáxli'p community's long-term goals on aboriginal title. Xáxli'p

negotiators accomplished this by pushing back on government on standard Forest and Range Opportunities (FRO) policy, and entering into government agreements with "no prejudice to aboriginal title and rights." In other words, the XCF Agreement was not predicated on the resolution of the broader land title issue.

At the same time, the XCF also *intersected with* the community's efforts to gain recognition for Xáxli'p aboriginal title and rights. One way that this intersection occurred was by establishing the Xáxli'p Community Forest Corporation (XCFC) as a strong Indigenous Resource Management institution, which has generated additional recognition of Xáxli'p people as capable and legitimate land managers. Another way that the XCF supported Xáxli'p community land claims was by making a direct the link between Xáxli'p traditional land use and contemporary Xáxli'p forest management. Establishing this connection may help demonstrate *continuous use* by Xáxli'p people of their traditional territory, as one of the prerequisites for establishing aboriginal title (see Bull, Housser & Tupper, LLP 2014). Continuous land use is supported by the Xáxli'p Traditional Use Study or *Ntsuwa'lhkalha Tl'ák̲men* [Our Way of Life] that documented sustained traditional land use practices by Xáxli'p elders and current cultural practitioners. Continuous land use is also supported by written plans (the Xáxli'p Traditional Use Study and Ecosystem-based Plan) that articulate how Xáxli'p traditional laws governing land use practices apply to contemporary forest management. In addition, through working with Xáxli'p elders, the XCF has provided a new space to ensure that Xáxli'p traditional laws are respected and followed within a contemporary land management context.

Another third space component of XCF negotiations occurred when the Xáxli'p community developed its own forest management plans as governing policies for the XCF. These plans are based on Xáxli'p land management values. The Xáxli'p community successfully negotiated to validate these plans, including the community values within them, within their government-to-government agreements, thereby gaining recognition for Xáxli'p plans under provincial law and policy. Due to high levels of community distrust for government officials, formal recognition of community plans in formal agreements was non-negotiable for the Xáxli'p community. Convincing B.C. government to adopt this provision was not easy, though. Not all of the Ministry staff agreed with Xáxli'p viewpoints, yet the Xáxli'p community ultimately circumvented their concerns by incorporating their values into agreements under the banner of the "Xáxli'p Ecosystem-based Plan" and "Xáxli'p Traditional Use Study." Since only the titles of the plans were included in the formal Agreement, and plan details were retained by the Xáxli'p community, I view this as a "smuggling act" that both achieved Xáxli'p policy goals and avoided sharing sensitive cultural information with government officials. In later negotiations, legal recognition of Xáxli'p plans turned out to be an essential factor for upholding Xáxli'p standards for a lighter timber harvest within the XCF area.

Additional politics-on-the-boundaries moments with the XCF included negotiating specific terms for the XCF area, harvest levels, and a time frame for which the XCF Agreement would be valid. During their negotiations, the Xáxli'p community did not accept Ministry standards "as is". Rather, Xáxli'p negotiators carefully identified the terms of agreement that they needed, and persistently pushed back on Ministry standares. For the Xáxli'p community, the XCF needed to be a long-term tenure that

covered the majority of Xáxli'p Survival Territory. The XCF proposal also planned to take a lighter harvest than would normally be allocated under Ministry of Forest models. The Ministry initially resisted all of the community's stipulations (see Diver, in review). Ministry negotiators initially attempted to force Xáxli'p into planning for a larger timber harvest, or "annual allowable cut," within the XCF area. In response, Xáxli'p negotiators asserted the Xáxli'p community's right to set a smaller harvest, based on the legal recognition of Xáxli'p maps and plans in its 2006 FRO Agreement. Furthermore, Xáxli'p negotiators pointed out that there were no Ministry regulations stipulating a "minimum cut." Instead, regulations established a maximum cut with the purpose of creating minimum environmental standards for timber companies, not a problem for the Xáxli'p community's restoration-focused proposal. After several years, the persistence of Xáxli'p negotiators paid off when the final terms of the 2011 XCF agreement met most community requirements, with the exception of the XCF area boundary compromise.

Understanding the XCF as a third space strategy is important for explaining how XCF negotiators gained community support for the XCF, despite widespread distrust of government negotiators. XCF proponents accomplished this feat by framing the XCF as an "interim agreement" or "interim measure," which was not connected to treaty negotiations. Applying the third space analytic to the Xáxli'p case helps to explain how community leaders averted a zero-sum game conflict that could have shut down negotiations between the Ministry and the Xáxli'p community (and *did* shut down the first 2001 attempt to gain community approval for the XCF). The XCF proposal was important to the Xáxli'p community, given ongoing threats to health of natural resources within Xáxli'p territory arising from the lack of active stewardship (e.g. dense, overstocked Douglas fir forests contributing to wildfire risk, watershed management problems, and insufficient wildlife habitat). In addition, XCF negotiations helped validate Xáxli'p land management approaches. In this way, XCF negotiators' use of the interim measure framing create additional political space for the Xáxli'p community to accept the XCF as an initiative that could address existing resource management issues, while the community continued to pursue aboriginal title.

The discussion of third space is not intended, however, to suggest that the community should avoid direct conflicts over aboriginal title and rights, or ignore threats posed by coercive government policy. Rather, third space strategies address the dynamic nature of Indigenous-state negotiations over territory that are continually unfolding. Ongoing resource management and territorial negotiations are responding to changing environmental conditions, and shifting global economic factors. While I envision the third space analytic as a politics-on-the-boundaries approach, I do not intend to suggest that important issues of aboriginal title and rights should not be directly addressed through the courts, or otherwise. But, by gaining control over forest resources through XCF negotiations, my analysis demonstrates how Xáxli'p people moved ever closer towards addressing environmental changes within their territory, revitalizing Xáxli'p culture, and realizing self-determination.

C) ***Natureculture relations***

In this section, I develop the additional concept of natureculture relations in conversation with Ribot and Peluso's theory of access. I consider the importance of Xáxli'p plans for articulating community understandings of Xáxli'p natureculture relations within XCF negotiations. I also discuss natureculture relations as a primary mechanism by which the Xáxli'p community has derived benefits from the XCF. In the XCF case, gaining formal recognition for these plans, particularly the land management values embedded within them, was essential to achieving meaningful community access to land and resources decisions. Illustrating how Xáxli'p land management approaches differed from Ministry approaches, the natureculture relations concept demonstrates how, for many Xáxli'p community members, any gains in Xáxli'p management authority that overlooked the long-standing social ties between Xáxli'p people and the landscape would have compromised the integrity of the XCF.

Xáxli'p land use plans are founded on Xáxli'p values, part of a living culture that emphasizes the reciprocal relationships between the land and Xáxli'p people. These values emphasize *limited use* of the landscape, in order to protect the water, plants, animals, soil, rocks, and all the *interconnected* elements of Fountain Valley (Xáxli'p CFA, 2012). It is these relationships that have sustained Xáxli'p people within this particular territory for generations (e.g. ensuring the presence of water and food sources, wildlife habitats, and spiritual places). Many Xáxli'p people pride themselves on their commitment to sustainable use, and the community's ability to survive within such a small valley. In this way, Xáxli'p values relate to Deloria's (2001) concepts of relatedness as a central element of Indigenous knowledge.

Xáxli'p land management values also include the principle that those who benefit from the land must share those benefits and take responsibility for land stewardship; this ensures that future Xáxli'p generations may also receive benefits from the land base. In other words, "Humans cannot remove resources without giving back to land, animals and plants what they require to grow and reproduce" (Weinstein, 1995:2). Thus, an additional part of Xáxli'p land management is protecting non-human resources for their own sake. In the words of XCF board chair, Herman Alec, "The elders always used to say… we have to look after the animals. We have to look after the four-leggeds, the birds, the land for the berries, the river for the fish, and the mountains for the deer." In this way, Xáxli'p land use values share similarities with Haraway's (2003) concept of natureculture, particularly the idea that humans and non-human relations are co-constituted and co-evolving. According to Xáxli'p knowledge traditions passed down by elders, it was the ancestors of Xáxli'p people today that "learned the rules of proper land use from the place that is Fountain Valley." The way that Xáxli'p elders see it, the land and its people are inseparable from one another (Weinstein, 1995).

Given the arid landscape that surrounds Fountain Valley, another Xáxli'p natureculture relation involves protecting the water as a primary priority, an essential Xáxli'p land management value. Xáxli'p elders have connected initial hydrological changes in the valley with logging in the high country and prioritized water quality as a central concern (Weinstein, 1995:4). Accordingly, Xáxli'p people are looking for land management practices that maintain and restore the local hydrological cycle. As Xáxli'p elder Roger Adolph put it, "We always say, 'without water, we have no land.'" In his

report on Xáxli'p environmental values, Weinstein (1995:4) conveyed the wisdom of Xáxli'p elders that "The traditions recognize water as the connector. Water looks after people, fish, animals and trees." This is especially true for Fountain Valley, where local creeks and lakes provide a reliable water supply in an otherwise dry climate zone. The benefits from protecting the water are not just intended for Xáxli'p people. Forest Crew member Doug Mitchell explained his enthusiasm for XCF forest restoration projects that focus on enhancing local water flows by saying, "We're salmon people. We always talk about the water. Water is our main concern. We have to do our part to get water into the Fraser [River] so that the water will cool down for the fish returning to spawn. That's why I thought it was pretty cool to work up at the headwaters at Sallus Creek. We could do our little part to get that water into the main stream."

Such values that emphasize Xáxli'p natureculture relations have deeply informed the Xáxli'p Community Forest mission: "Considering the needs of present and future generations, Xáxli'p Community Forest Corporation (XCFC) carries out ecologically and culturally sustainable land use for the benefit of *Xáxli'pmec* [Xáxli'p people] and the other beings in Xáxli'p Survival Territory" (XCFC; Silva Ecosystem Consultants, 1999). The XCF has also been instrumental in supporting Xáxli'p management goals, particularly the complex set of reciprocal relationships between Xáxli'p people and Fountain Valley. This has meant developing forest management practices that apply a landscape ecology approach, which includes protecting water, enhancing forest health, and maintaining cultural sites over the long-term. For example, the XCF Forest Crew is working to restore a more open forest in order to keep more water in the ground. Given the dense overstocked nature of local Douglas fir plantations, the XCF focus is on removing small Douglas fir trees, and leaving the big trees. The Forest Crew also leaves large trees on the ground to act as "sponges," which slowly release water through the dry summer season. The Xáxli'p community, therefore, supports the XCF as a strategy for maintaining and restoring intact habitats and healthy ecosystem processes, which all beings within Fountain Valley depend on for their existence. Xáxli'p people also benefit from such protective land management actions through improvements to culturally important resources that support the subsistence use and cultural survival of many Xáxli'p people.

In the context of analyzing XCF negotiations, I also view Xáxli'p natureculture relations as an access mechanism. When B.C. government representatives agreed to recognize Xáxli'p planning documents, and Xáxli'p values contained within them, within their XCF legal agreements, this generated an important shift in community access to the land. B.C. government's decision essentially conferred the legal right for Xáxli'p people to manage the land according to their own sets of traditional laws and norms. Thus, the Xáxli'p community gained the right to take a lighter harvest through its forestry operations, and to initiate its own eco-cultural restoration projects. This meant working through the XCF to adopt forestry prescriptions that emphasized caring for the water supply, food sources, and habitats needed by Fountain Valley plants and animals, as well as the Xáxli'p community as a land-based people. It meant that Xáxli'p people increased their ability to look after spiritual places and geographical places that are important to Xáxli'p identity. It also meant working through the XCF to transfer Xáxli'p land management values and knowledge to the next generation of Xáxli'p people.

Natureculture relations, therefore, were an important mechanism that extends

beyond Ribot and Peluso's (2003) access framework by which Xáxli'p people could access resource benefits. Natureculture relations are one of the primary resource benefits valued by Xáxli'p people, which cannot be reduced to economics and are not necessarily shared by the Ministry of Forests. The concept of natureculture relations encourages understanding of non-economic benefits that are an important part of the social relations that connect people and nature. In the Xáxli'p case, the complex relationship between Xáxli'p people and Fountain Valley includes, but is not limited to, economic components. Xáxli'p land management principles emphasize benefits for Xáxli'p people, as well as protecting the land for its own sake. In the XCF case, the idea of natureculture relations extends beyond the concept of "ecosystem services" to address the Xáxli'p community's social obligations to steward the land. As former chief Art Adolph stated, "I think that, for Xáxli'p, and probably a number of other native people, the connection to the land is really strong. And for Xáxli'p, I think that strong connection and that direction from the elders means we need to protect the land and especially the water. I think that was some of the foundation for the Community Forest Agreement. Basically, we are looking at the need to generate an economy, but not to have the economy govern our decision-making."

Thus, through my analysis, I view Xáxli'p natureculture relations as a dynamic set of values that are rooted in the longstanding connection between Xáxli'p people and the particular landscape that is Fountain Valley. Although a full treatment of this relationship extends beyond the scope of this discussion, this article provides a starting place for understanding how Xáxli'p natureculture relations have guided the XCF, and also, how the XCF has enhanced Xáxli'p natureculture relations, as a primary resource benefit for the community. In a more general sense, examining the XCF through natureculture relations demonstrates how social obligations can arise from coupled relations between humans and nature. Such complex obligations between people and landscapes need to be accounted for within state-Indigenous negotiations over resource access. This case shows that gaining formal recognition of these social obligations in the context of Indigenous resource management negotiations can have material benefits for Indigenous communities like Xáxli'p.

Conclusion

In conclusion, access analysis has provided one framework for understanding how Indigenous communities can exert influence over their traditional territories through complex Indigenous resource management negotiations. In the XCF case analysis, I specifically used the access analysis framework as a tool to 1) understand benefits being negotiated and the multiple mechanisms that facilitated community resource benefits, 2) analyze competing interests among government agencies and Indigenous communities, 3) discuss third space strategies that operated as part of complex, ongoing state-Indigenous negotiations over resources and territory, and 4) introduce the access mechanism of natureculture relations.

One advantage of Ribot and Peluso's (2003) access framework is that it can be used to unpack who benefits from Indigenous Resource Management negotiations, and how those benefits are realized. In the XCF case, this access framework provides one way of seeing the multiple mechanisms by which the XCF Agreement facilitated

significant community gains through increasing community resource access, despite real threats of coercive government policy. Several key factors that increased Xáxli'p access to land and resources included the Xáxli'p community gaining forest tenure over the majority of Xáxli'p Survival Territory; establishing XCF Indigenous resource management institutions that increased community self-governance capacity; achieving formal government recognition of Xáxli'p plans and the community management values contained within them; and pursuing the XCF as an interim measure that was approved Xáxli'p community members and by B.C. government, with no prejudice to aboriginal title and rights. By identifying changes in government access to land and resources, Ribot and Peluso's access framework can also provide a means of identifying areas where potential tradeoffs or government coercion may be occurring.

Yet understanding what made the XCF a "successful" agreement for Xáxli'p people requires viewing the XCF project purpose from a community standpoint. This case study points out that Xáxli'p negotiators were consistently working to address the dual goals of protecting the land and reclaiming aboriginal land rights. In other words, the Xáxli'p community was concerned both with gaining legal title over its traditional territory and ensuring a healthy land base, as a requirement for protecting culturally important resources and Xáxli'p cultural survival.

Therefore, the issue of land protection was a key priority addressed by the XCF. For many Xáxli'p community members, the landscape cannot be reduced to market values. Thus, I introduced natureculture relations as an additional mechanism by which the Xáxli'p community is shifting access. It is through natureculture relations that we can better understand XCF stewardship goals and appreciate that the XCF is not simply a boundary conflict or community development project. At its core, the XCF is driven by Xáxli'p community interests in maintaining and restoring access to land-based resources that are needed for Xáxli'p cultural survival, as well as fulfilling the Xáxli'p community's cultural responsibility to protect Fountain Valley and its non-human elements for their own sake.

Gaining government recognition over Xáxli'p territorial rights was another important element of this case. To examine how the Xáxli'p community used existing law and policy to achieve its land protection goals, despite outstanding territorial disputes, this article has introduced the concept of third space strategies. I used the third space concept to discuss how Indigenous communities strategically work through existing policy frameworks, while simultaneously generating space for community negotiators to push back on those frameworks—similar to the "pivot point" approach, described in chapter 1 (this volume). The XCF "interim" agreement entailed working with government policy through B.C. Community Forest policy, and against government policy on aboriginal title and rights. The third space analytic helps explain how the XCF continues to be a community resistance strategy, even though the Xáxli'p community worked through existing B.C. government policy to realize XCF goals.

One important lesson from the XCF is that shifts in access do not just "happen" on their own. Significantly, Xáxli'p community negotiators never accepted standard government policy terms "as is". Rather, community negotiators were constantly pushing back on standard government policies in order to address community needs. Community leaders worked creatively with whatever tools at hand to "*protect the land* and *get it back."* Given the choices available, the XCF Agreement was the best option at the time

for the Xáxli'p community to control what happened on Xáxli'p territory—a commitment to Indigenous sovereignty that is rooted in the 1911 Declaration of the Lillooet Tribe. Thus, the XCF case represents a struggle for land, both as political territory and as a component of cultural survival, occurring through Indigenous resource management negotiations.

Chapter 5: Learning from the Xáxli'p Community Forest (excerpt from *Community Voices: The Making and Meaning of the Xáxli'p Community Forest)*

This is an excerpt from a 167-page community report, entitled *Community Voices: The Making and Meaning of the Xáxli'p Community Forest*. This is a report to the Xáxli'p Community Forest Corporation (XCFC), which uses community quotes and place-based images to document the history of the Xáxli'p Community Forest Program. This section of the report is presented here with permission from XCFC, and will be web published at www.xcfc.ca.

The excerpt below is the closing chapter of the report. It refers back to concepts, such as Xáxli'p management values, that are discussed in more detail within other sections of the publication. These concepts are also thoroughly discussed in chapters 3 and 4 of this dissertation. Because the report is intended for a broader audience, this chapter does not directly reference social or ecological theory.

Notes on cover art, following page:
This is not intended to be an exact image of Fountain Valley, but is rather conceptual artwork representing a complex place. The concept was inspired by multiple people and events: conversations with Rosemarie McKeon about my experience learning about Xáxli'p Survival Territory, Vera Doss's photograph of xúsum (soapberry) bushes stretching up towards the mountains, Herman Alec's descriptions of Xáxli'p cultural practices across the seasons, as well as design ideas from Lichia Liu that included connecting the mountain tops to the river. It is mountains snowmelt that ultimately flows into the mainstem Fraser River to help keep the water cool for migrating salmon in the summer. To explain some of the interconnected elements of Fountain Valley represented here, the buttercups flower in the spring and signal that the Spring Salmon is coming up the river—the yellow of the buttercup evokes the yellow of the salmon's eye. When the grasshoppers start singing, this means that it is time for drying the summer sockeye along the river. Traditionally, sticks from Tsáqwəm bushes (saskatoon) were gathered by Xáxli'p people and used for many parts of drying the salmon. Drawn by Lichia Liu.

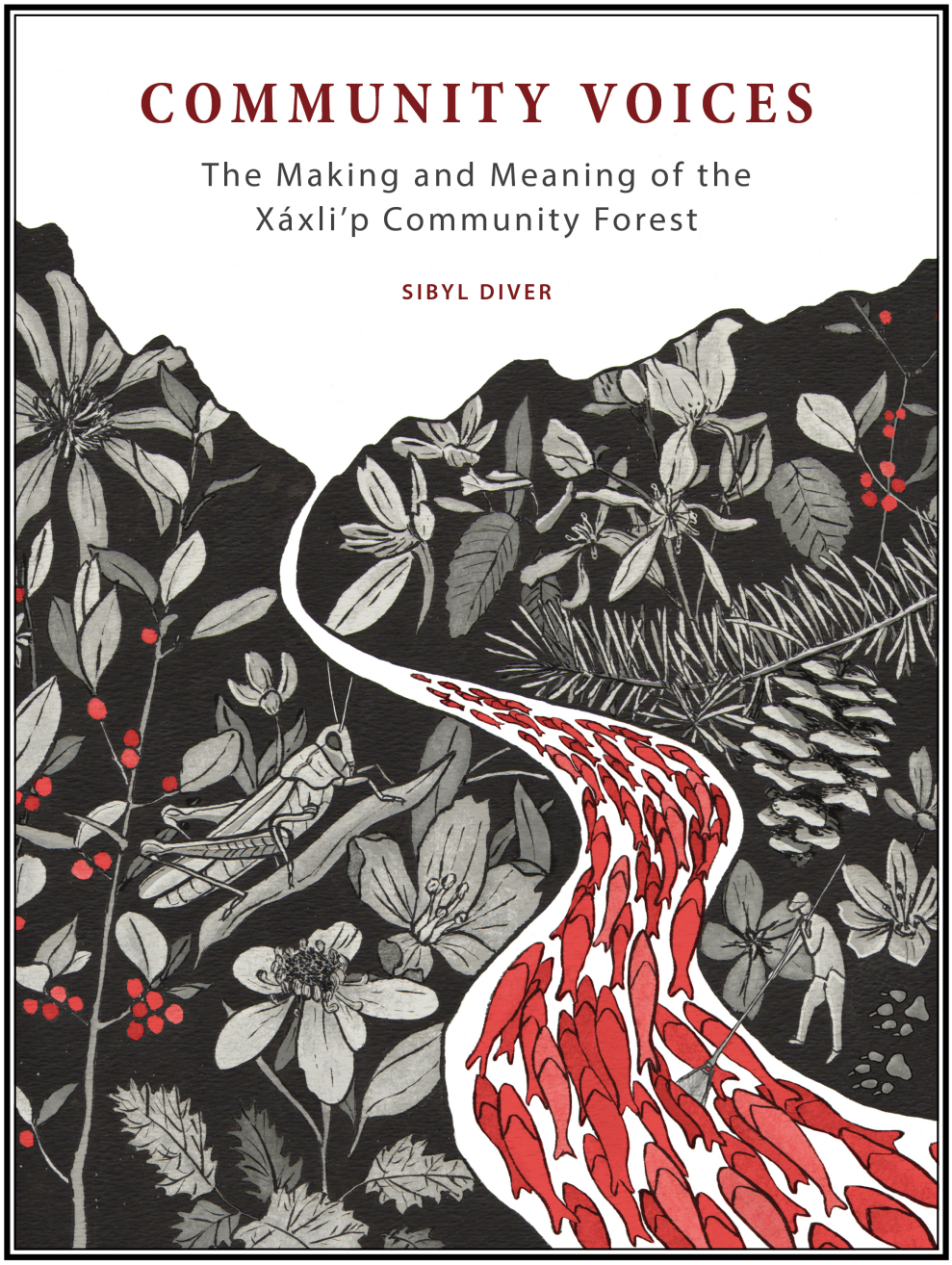

Figure 5.1. Artistic representation of Fountain Valley, representing interconnected relationships between the Xáxli'p Indigenous community and the land. By Lichia Liu.

The report, *Community Voices: The Making and Meaning of the Xáxli'p Community Forest*. tells the story of events that have shaped the Xáxli'p Community Forest (XCF) as an evolving example of how Indigenous communities are redefining sustainability and asserting their sovereignty through natural resource governance. Through the Xáxli'p Community Forest (XCF), the Xáxli'p community worked through existing B.C. government policy to gain exclusive jurisdiction over forest management within the majority of its traditional territory. The primary goal of the community's XCF proposal was to enable Xáxli'p community members to manage the land according to Xáxli'p community values, which emphasize eco-cultural restoration. Achieving the XCF according to the Xáxli'p community's desired terms required significant policy changes. One of the reasons that Xáxli'p community negotiators reached agreement with the B.C. Ministry of Forests in XCF negotiations was because the community positioned itself as an assertive First Nation community with a strong vision and clear implementation plans.

This case has much to teach those who are striving towards land management approaches that address society's sustainability needs and social justice responsibilities. The Xáxli'p Community Forest (XCF) is a special case because it represents a positive example of Indigenous communities taking on both environmental sustainability and self-governance goals. At the same time, this case has broad implications because it demonstrates how Indigenous communities are strategically engaging in government-to-government negotiations over resource management. This case demonstrates how Indigenous communities are effecting policy change on broader issues of environmental sustainability, cultural survival, and Indigenous sovereignty. In particular, the Xáxli'p Community Forest provides a window into an adaptive management model that can help policy-makers better incorporate cutting-edge concepts of natural resource governance into practice.

The Xáxli'p Community Forest (XCF) is on the forefront of change during a transitional time for Indigenous rights and natural resource management policy. Recent shifts in law and policy on Indigenous rights now require British Columbia government to take aboriginal title and rights into account. There have also been significant changes in scientific theories of natural resource management. While "maximum sustainable yield" dominated the utilitarian focus of twentieth century resource management, new resource management concepts—such as ecosystem services, sustainability science, food security, restoration ecology, and adaptive management—are now reshaping dominant concepts of land management.

Despite these changes, there is still a great deal of uncertainty about how state-based institutions can move forward on natural resource management with Indigenous communities in practice. State agencies have been slow to implement the twenty-first century resource management approaches described above. Unresolved issues of aboriginal land claims, value differences between state bureaucracies and communities, declining state budgets, and industry control over resource access all create serious barriers to innovation.

Thus, the Xáxli'p Indigenous community is a community to learn from. It is pioneering a land management approach that grapples with resource sustainability, rural economics, cultural survival, and the politics of indigenous land claims—all at the same time. For example, by pursuing eco-cultural restoration on their aboriginal territory, XCF

leaders are refusing the nature/culture divide (see figure 5.1 for an illustration of Fountain Valley). By working with scientists and community experts, the Xáxli'p community is refusing the divide between Western scientific knowledge and Indigenous knowledge, between "expert" and "non-expert". And by establishing long-term economic goals, the XCF rejects false choices between economic development and eco-cultural sustainability.

In addition, the Xáxli'p case helps unpack the barriers to shared decision-making and how these barriers can be surmounted. The Xáxli'p Community Forest (XCF) negotiations reveal how difficult it can be to make compromises in the area of Indigenous resource management. Reaching agreement in this case required multiple negotiations over several decades, even while both parties supported the reintroduction of selective timber harvest in Fountain Valley. This was because the Xáxli'p community was unwilling to compromise on its central values, or to accept existing state policies "as is." The ability of the parties to keep those negotiations moving in this case is of particular interest. The Xáxli'p community's sophisticated strategy of both resisting and engaging with government is a key learning outcome.

Finally, recent developments of the Xáxli'p Community Forest clarify that even after an agreement between sovereigns is reached, the process of implementing a community initiative is no easier. In this way, the Xáxli'p community has shifted from rights-based struggles to self-governance struggles—meaning that the challenges with negotiating self-governance authority over Xáxli'p forests has evolved into the practical challenges of governing land management operations according to Xáxli'p values.

Interpreting lessons for Indigenous resource governance

In this chapter, I evaluate practical lessons learned from the XCF. First, I situate myself in the analysis. I then provide a brief project history and consider Xáxli'p self-determination achievements gained through the XCF. Next, I highlight several key strategies applied to Xáxli'p negotiation strategies and initial project implementation. While acknowledging that all Indigenous communities are distinct cultures shaped by different social, political, and economic contexts, I provide my own interpretation of how communities and government agencies may learn from the Xáxli'p case example. Finally, I discuss policy implications from this case around sustainability, Indigenous land claims, and self-determination, and opportunities for positive change.

To place my own intentions in context, this report is an applied project that attempts to situate the XCF in the practice of community-driven natural resource management. This project is intended to reflect my understanding of XCF history back to the local community. I have chosen to present much of the story in language chosen by Xáxli'p representatives, but I also acknowledge my own role in creating the report framework and patching individual interview excerpts together. Thus, this chapter attempts to draw out lessons that are relevant to a variety of audiences, and is written as a policy report that summarizes points of learning for Indigenous and non-Indigenous policy-makers.

As I insert myself into this story, I hope that my own situated perspective may offer insights across multiple boundary lines. My research has exposed me to both the government and community viewpoints, yet I acknowledge that my interpretation may not represent the views of either Indigenous communities or government agencies. I

bring my own views to this analysis as a person who supports Indigenous self-determination and community-based natural resource management initiatives; however, at the same time, I am mindful of the important and challenging arbitration role that may be played by centralized resource management agencies, functioning across multiple and overlapping jurisdictional areas. Agency representatives are charged with ensuring that minimum environmental standards are met, achieving fair distribution of benefits, and generating funds to support public infrastructure. My hope is that this process-focused exploration of how the XCF unfolded will offer relevant insights to both communities and agencies, despite long-standing histories of resource conflict.

Case overview: Historical and legal context

As a brief synopsis of case history, the Xáxli'p Community Forest has emerged over twenty years of negotiation and planning (see figure 5.2, below). In the early 1990s conflicts over land and resources came to a head when the Xáxli'p community engaged in direct action protests over clearcut logging within its aboriginal territory. In the early-mid 90s, the Xáxli'p community and provincial government began parallel negotiations over a treaty and over joint resource management, which both ultimately failed. In the late 1990s, however, the Xáxli'p community held community workshops that led to the creation of two Xáxli'p land management planning documents, the Traditional Use Study and Ecosystem-based Plan.

This was followed by a strategy shift. When the Xáxli'p community learned about a new B.C. Community Forest policy, community leaders decided to develop their own Community Forest proposal. The first Xáxli'p Community Forest proposal was developed in 2000 through the B.C. Treaty process as an "Interim Measure," but this was rejected by the Xáxli'p community in 2001. Additional Xáxli'p Community Forest proposals culminated in the 2006 Xáxli'p Interim Agreement on Forest and Range Opportunities, where the B.C. Ministry of Forests invited the Xáxli'p community to submit a Community Forest Agreement Tenure application and agreed to provide Xáxli'p with direct funding support. The B.C. Ministry of Forests and the Xáxli'p community signed the final Xáxli'p Community Forest Agreement in 2011.

Even before reaching the final XCF agreement, the Xáxli'p community created the Xáxli'p Community Forest Corporation (XCFC) and began implementing XCFC programs in 2008. This process involved developing Xáxli'p governance structures, training Xáxli'p staff, and implementing ecological and cultural restoration. XCFC leaders designed a program that is governed by Xáxli'p Community Forest Corporation board members. Program implementation is conducted by the Xáxli'p Community Forest Crew, the, Xáxli'p elders, as well as long-time community advisor and professional forester Herb Hammond. Xáxli'p Chief and Council and the community at-large provide further oversight for XCF activities.

Ongoing contestations over aboriginal title and rights form the backdrop for this case. The Xáxli'p community claims ownership over its traditional lands, which it refers to as "Xáxli'p Survival Territory." At the same time, British Columbia classifies these areas as government-owned provincial "Crown lands". However, recent court rulings have strengthened aboriginal land claims in B.C. Even while courts have left many aspects of aboriginal title and rights undefined, the existence of aboriginal title and rights

has been recognized within Canada's Constitution Act (1982), and upheld in key Canada Supreme Court decisions, including the Sparrow decision (1990) and Delgamuukw decision (1997).

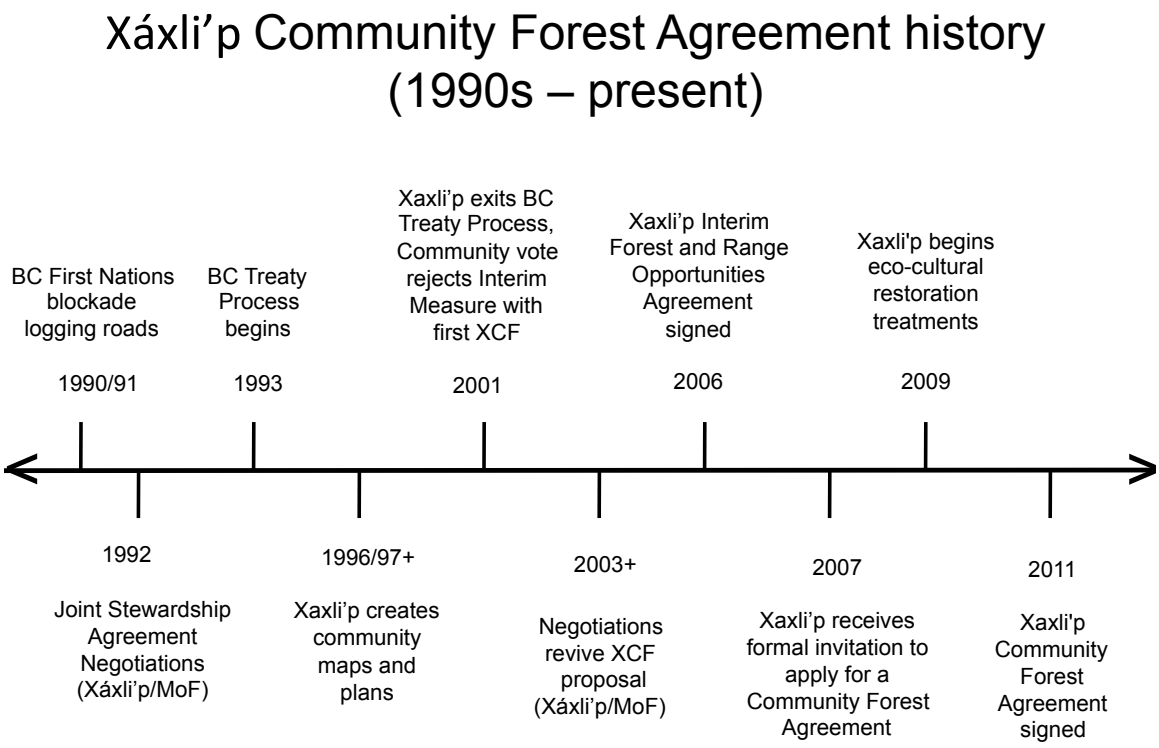

Figure 5.2. Timeline of events leading up to the Xáxli'p Community Forest (XCF) Agreement.

As an additional shift towards policies supporting aboriginal title and rights, the legal case Haida Nation v. British Columbia (Minister of Forests), [2004] 3 S.C.R. 511 determined that the Canadian government has a duty to consult and accommodate First Nations' interests prior to granting third party interests or exploiting resources on lands where Aboriginal title is claimed—even before the courts have confirmed First Nation land claims. The consultation requirement can provide Indigenous communities the opportunity to oppose projects that may affect contested lands. In addition, accommodation requirements have led B.C. government to adopt revenue sharing policies that redistribute some forestry income to Indigenous communities. Although B.C. has not resolved many Indigenous land claims issues, such interim policies have compelled government officials to address some of the social justice issues around natural resource management impacts to aboriginal territories (see chapter 4).

With this context in mind, the following section considers some of the self-determination achievements of the Xáxli'p Community Forest. For the Xáxli'p community, this includes pursuing resource management activities that forward ecologically and culturally sustainable use of Xáxli'p Survival Territory, according to Xáxli'p land management values. Key achievements include gaining community

management control over Xáxli'p territory, asserting Xáxli'p priorities for lighter timber harvests, ensuring that the majority of economic benefits from local forestry activities go to the Xáxli'p community, creating meaningful jobs for Xáxli'p youth, and cultivating a range of benefits that extend beyond economic development goals to support Xáxli'p cultural survival.

Steps toward self-governance: Xáxli'p Community Forest achievements

The Xáxli'p Community Forest Agreement tenure supports Xáxli'p community self-governance in multiple ways. As one example, the XCF has increased community governance authority over aboriginal lands. The agreement provided the Xáxli'p community with **exclusive jurisdiction over forest management activities** for a large portion of off-reserve aboriginal territory. The Community Forest tenure area (24,531 hectares) covers **78% of Xáxli'p Survival Territory** (31,419 hectares). As a point of comparison, B.C. previously recognized community governance authority primarily within Xáxli'p reserve areas (1,581.6 hectares in total, or 5% of Xáxli'p Survival Territory). By signing the XCF agreement, B.C. government now recognizes Xáxli'p jurisdiction over land use decisions for a much larger area.

Another key success is the **formal recognition of governance authority** for Xáxli'p community plans. **The Xáxli'p Traditional Use Study and Ecosystem-based Plan** now governs management decisions for the Xáxli'p Community Forest. This is a formal requirement that was built into the Xáxli'p Interim Agreement on Forest and Range Opportunities (FRO) with the province. The requirement was also built into Xáxli'p bylaws governing the Xáxli'p Community Forest Corporation. By first developing community land management plans on its own terms and then taking a hard-line stance on negotiations, the Xáxli'p community inserted what is essentially Xáxli'p law into government-to-government management agreements.

The XCF enhanced Xáxli'p self-governance authority because **B.C. Community Forest policy frameworks support community self-determination**, and thereby allow Xáxli'p land management policies to diverge from standard land management approaches in selected ways. For example, as opposed to the maximum annual harvest limit suggested by B.C. Ministry of Forests of 25,683 cubic meters, the **Xáxli'p community is initially planning a much lighter timber harvest of 4,900 cubic meters a year** (about 20% of the Ministry's proposal). As another point of contrast, the Xáxli'p community has insisted on **forestry planning for a 250-year time horizon**. As opposed to non-replaceable licenses, provided to other communities in their FRO agreement, the Xáxli'p community has established long-term jurisdiction over land use practices within most of Xáxli'p territory. This allows the Xáxli'p community to prevent clearcut logging within most of its aboriginal territory, to actively manage the land according to Xáxli'p values supporting eco-cultural restoration (see chapter 4), and to plan for the long term.

The XCF also provides Xáxli'p with more certainty, flexibility, and control in making long-term harvest decisions. For example, as a forest management institution that is recognized by B.C. government and the Xáxli'p community, the **Xáxli'p Community Forest program has the legitimacy it requires to practice sustainable forestry**, such as managing for multiple species, practicing selective forestry, and applying eco-cultural restoration techniques. Having exclusive rights to timber within the

Community Forest Area means the Xáxli'p community **can legally prevent logging permits from being issued to conventional timber companies** within a large area. At the same time, the community intends to sell its own timber on the open market. Because of its decision to pursue sustainable harvest practices, Xáxli'p has the **opportunity to access niche markets for ecologically and culturally sustainable wood**. In this way, the Xáxli'p community can leverage niche markets, and generate some income through a balanced use approach, which is consistent with Xáxli'p land management values.

As an additional self-determination achievement, the Xáxli'p Community Forest Agreement helps **redistribute forestry income and other benefits to the community** primarily through jobs, and some limited forestry revenue. Since the community has historically not benefited from forestry activities within its territory, the XCF facilitates greater **social and economic justice** for the Xáxli'p community. Going beyond realized income, the XCF provides meaningful resource management jobs, skills, and education for Xáxli'p community members. In terms of future log sales, the XCF does not have a joint venture corporate partner that would take a percentage of revenues, so the Xáxli'p community will **receive the full share of economic benefits** (albeit small amounts that arise from restoration forestry activities). Because Xáxli'p people and selected advisors are making operational decisions, the Xáxli'p community will also be able to develop business plans that work for the community over the long term.

In what may be its greatest success, the XCF program is **teaching Xáxli'p youth** about Xáxli'p Survival Territory from a combined cultural and ecological perspective, thereby facilitating **intergenerational knowledge transmission and building self-governance capacity** within the next generation. Young Xáxli'p community members working with the XCFC are going out on the land, traveling the traditional trail systems, and learning to identify culturally important plants, animals, and places throughout Xáxli'p Territory. XCFC field trips also provide an opportunity for youth, elders, and other community members to learn from one another. The increased presence of Xáxli'p people on the land also means the community is better able to **enforce its land use policies** and achieve self-governance goals in practice (see chapter 3).

Thus, in summary, the XCF helped to achieve the following outcomes benefiting the Xáxli'p Indigenous community:

- exclusive jurisdiction for Xáxli'p the over forest management activities within the majority of its territory
- formal recognition of Xáxli'p community plans, as XCF governing policies
- community self-determination over forest practices, which allows for a lighter timber harvest
- legitimacy of XCF programs to practice sustainable forestry, exclude other timber corporations, and access niche markets
- economic benefits, realized through XCF jobs and modest timber harvests
- intergenerational knowledge transmission, and community capacity building.

Acknowledging limitations to XCF authority

While there are many successes, Xáxli'p leaders also recognize the limitations of the XCF initiative and are quick to point out that they do not expect to achieve all of the community's self-determination goals through the Community Forest. Rather, the initiative is viewed as an "Interim Measure"—a term borrowed from the B.C. Treaty process to signify a step in the right direction, although there is more work to be done. For example, the initiative does not address central issues of aboriginal title on disputed lands. The Xáxli'p community's goal of getting the land back remains.

While the terms of the Xáxli'p Community Forest Agreement tenure ensure that there is a high degree of community control over the initiative, B.C. government continues to play a role. Even though provincial government is not engaged in day-to-day operations, the B.C. Ministry of Forests is still involved in regulatory aspects of the Xáxli'p Community Forest. The XCF still operates within B.C. legal frameworks that regulate all forest tenure holders. Thus, B.C. government exercises its regulatory authority over the XCF in several areas. These include enforcing minimum forest stewardship requirements for harvest, setting XCF timber harvest area boundaries and maximum timber harvest volume (annual allowable cut), and collecting rent and stumpage payment requirements—meaning a portion of the timber value from trees harvested on "Crown lands" must still be paid to government agencies. As with any forest tenure holder, B.C. law also requires the Xáxli'p community to consult with neighboring First Nation communities when land management activities may impact their territorial interests.

As another limitation to Xáxli'p governance authority, the Community Forest only provides partial jurisdiction over Xáxli'p Survival Territory. The XCF Agreement is formally limited to forestry activities; it does not increase Xáxli'p legal jurisdiction over additional land use activities that may threaten the land base, such as mining, hunting, and recreational vehicle use. As an additional limitation, the Xáxli'p Community Forest area encompasses most, but not all, of Xáxli'p Survival Territory—due to boundary compromises. Despite these limitations on Xáxli'p jurisdiction, the community continues to claim *de facto* authority, or authority in practice, over all land use activities occurring within the entirety of Xáxli'p Survival Territory, based on its inherent sovereignty and on the existence of aboriginal title and rights. This means that the community often exercises its inherent authority, even while this authority has not been confirmed by B.C. courts.

Weighing risks: Avoiding coercion and unintended consequences

In taking a step back from the XCF and considering the challenges faced by other Indigenous communities facing similar high-stakes resource management conflicts, it is important to weigh possible self-determination gains against potential losses. There is always a danger of community interests being marginalized or co-opted through government negotiations. However, many Indigenous communities, like Xáxli'p, are acutely aware of the power imbalances at the negotiating table and are working to strategically leverage whatever existing legal and policy frameworks are available to

them in order to achieve their self-determination goals. The Xáxli'p Community Forest example helps demonstrate that coercion is not inevitable.

The Xáxli'p community has succeeded in asserting Xáxli'p management goals within B.C. legal frameworks, a process which included implementing two important negotiation strategies with government agencies. First, by getting Xáxli'p goals and community plans incorporated into legal government-to-government agreements, the Xáxli'p Community Forest Agreement helped actualize Xáxli'p land management authority. Second, gaining additional legal jurisdiction through the XCF Agreement tenure has helped the Xáxli'p community enforce community land use standards with outside user groups in a *de facto* sense—particularly with the regulation of hunters, recreational vehicle users, and ranchers operating within Xáxli'p Survival Territory.

The following section describes key strategies that contributed to the XCF success and also some of the associated challenges. These strategies include articulating community goals, being persistent in negotiations, and following community values in self-governance initiatives. Some of these strategies may be useful to other Indigenous communities. At the same time, the lessons from the Xáxli'p Community Forest may not apply to cases where there are no legal institutions supporting aboriginal title and rights. Still, this next section attempts to identify some of the key processes that were part of creating the Xáxli'p Community Forest as an Indigenous resource management institution.

Key strategies and challenges: (1) Practicing self-governance and following community land management values

One important XCF strategy was to create Xáxli'p self-governance institutions that are guided by strong community values. The Xáxli'p community has created the Xáxli'p Community Forest Corporation (XCFC) as the primary XCF governance body, which also reports to Xáxli'p Chief and Council and the broader Xáxli'p community. With a Community Forest Agreement in place, conflicts with B.C. government are no longer the main barrier to Xáxli'p land management. Yet, this does not mean the work has become easier; there are just different kinds of challenges. In many ways, the Xáxli'p community's focus has shifted from rights-based struggles to self-governance struggles. For example, the XCFC board is now tasked with raising funds and engaging the broader Xáxli'p community in XCF operations. Continuing to follow Xáxli'p core values despite these challenges is an essential part of the Xáxli'p self-governance strategy, and this requires the same persistence from XCF members and supporters as the initial government-to-government negotiations.

Following a values-based approach for the Xáxli'p Community Forest has meant creating a careful planning process that allowed the community to articulate its own land management values for eco-cultural restoration (see chapters 3 and 4). This involved an extensive series of participatory community workshops and the TUS mapping sessions, as well as scientific analysis of Xáxli'p Territory that was conducted by trusted Xáxli'p advisors. Following Xáxli'p values has involved developing community plans that describe how the community will restore cultural and ecological resources within Xáxli'p Survival Territory, also referred to as "eco-cultural restoration". Community plans also discuss how Xáxli'p Traditional Ecological Knowledge (TEK) relates to contemporary

land management practices. This approach has translated into Xáxli'p forestry practices that include working with elders, taking a lighter harvest over a larger land area, managing to enhance long-term timber value, restoring culturally important understory plants, and protecting water sources.

As an example of values-based management through eco-cultural restoration, one Xáxli'p restoration site was designed primarily to maximize berry production from soapberry or xúsum bushes in former community berry-picking areas, with community firewood harvest realized as a side benefit. As another example, XCFC has chosen to selectively thin smaller, less valuable trees in forest stands today, in order to grow larger and more profitable trees for future harvests. This means timber harvest goals are not the primary goal in restoration site selection. Instead, harvest plans are designed to work with broader community goals around restoring cultural and ecosystem services on Xáxli'p territory.

The XCFC also practices adaptive management, a more flexible management approach that ensures learning-by-doing is incorporated into ongoing revisions of management goals and plans. For example, in one restoration area where the Forest Crew was thinning out dense forest stands, XCFC members learned from elders that some dense areas are needed to supply the community with strong fishing poles, used in making Xáxli'p dip nets. In response to feedback from cultural practitioners, XCFC redesigned their restoration treatments to leave some dense fir patches that produce strong, slow-growing fishing poles. In this way, the Xáxli'p Community Forest provides an essential forum for community dialogue, where management decisions are made based on constant discussion and reevaluation with community members and elders. Thus, the Xáxli'p Community Forest Corporation has created a structure to support an adaptive management approach that responds to community observations about changing land conditions and shifting community needs—an important element of applying Traditional Ecological Knowledge to land management.

Governing according to Xáxli'p values also means supporting the well-being of Xáxli'p people, who are part of the complex web of relations that make up Xáxli'p Survival Territory. Thus, one important goal for the XCF has been to provide good jobs for the community. As of fall 2013, the project supports four full-time jobs for Xáxli'p members. The Xáxli'p community has leveraged the XCF program to access government grants supporting additional work opportunities. This has included jobs for Xáxli'p youth to cut firewood for community elders and a new Range Rider program that supports Xáxli'p horse-back patrols for monitoring land use activity in sensitive alpine areas. Both initiatives are managed by the XCFC office, which provides the administrative infrastructure needed to support both existing and future Xáxli'p natural resource management jobs.

Connecting Xáxli'p youth with the land is at the center of Xáxli'p governance values. Community Forest jobs have already allowed four young community members to gain intimate knowledge of Xáxli'p Survival Territory. Because their livelihood is connected to forest restoration, Forest Crew members are able to do work that both protects the land and provides for their families. In this way, building a restoration economy provides alternative jobs for some community members, who previously worked for industrial extraction projects in order to make ends meet. XCFC is also working to involve children and their families in the restoration work. XCF leaders have

envisioned a Community Forest teaching curriculum centered around Xáxli'p land management values. The Xáxli'p Community Forest has begun its teaching initiatives by hosting numerous field trips for community members. In addition, last summer, the Xáxli'p community led a Ranger Rider summer camp for youth. In this way, the XCF is part of the Xáxli'p community's broader strategy for cultural survival.

This discussion does not intend to suggest that Xáxli'p community members have an easy job of pursuing the XCF as a self-governance initiative that adheres to Xáxli'p values. For the Xáxli'p Community Forest, values-based governance means forgoing some short-term gains in order to achieve long-term benefits for future Xáxli'p generations. Thus far, many Xáxli'p community members have supported this approach. However, the Xáxli'p community is faced with a broad spectrum of funding needs, which includes addressing high levels of unemployment and other social problems. Understandably, there is pressure from within the community to generate additional income from timber harvests. In addition, there are other threats to the land, beyond clearcut logging, which are not directly addressed by the XCF.

This social reality puts additional pressure on XCFC to demonstrate results to the broader community, in order to maintain community support for the long-term project vision. Because many of the elders who initially galvanized community support for the eco-cultural restoration approach have now passed on, today's community leaders are now working to educate current Xáxli'p members about the project history. As part of their community engagement strategy, the Xáxli'p Community Forest Crew has recently renewed the TUS mapping process, and they are surveying Xáxli'p people about current subsistence use practices and needs. The Forest Crew and XCF manager are also building community awareness of XCFC achievements through newsletter articles, community presentations, field trips, and conversations with family and friends.

Another significant self-governance challenge is successfully enacting long-standing Xáxli'p values of land management, even as dominant societal values and conventional forestry approaches push back on the XCF vision. The Xáxli'p Community Forest was conceived as a cultural survival initiative, which extends far beyond immediate political or an economic goals. Yet the initiative cannot avoid being shaped by the dominant social, economic, and political factors in B.C. today. In response to this challenge, Xáxli'p Community Forest leaders continue to articulate why they have chosen to depart from conventional forestry models, particularly in conversations with community members who have been trained to work with industrial forestry models. In doing this work, the Xáxli'p community is teaching a new approach in natural resource management not just within the community, but also with their neighbors, representatives of government agencies, and the forestry industry. As part of this work, XCF leaders acknowledge that there are challenges to the restoration forestry approach, as a land management strategy that does not simply maximize immediate economic gains.

Funding is one of the biggest challenges to Xáxli'p self-governance and values-based approach. In today's wage economy, Community Forest activities require funding support for salaries, as well as equipment and transportation expenses. It will be some time before the Xáxli'p community can build Community Forest capacity to a point where forestry income can cover a portion of costs, but XCF forest restoration approaches are aiming to produce a renewable supply of high value timber over the long term. In the meantime, the community must subsidize costs through donations, grants or

government programs. As with other restoration forestry models, this work requires that beneficiaries of the timber boom period contribute towards restoring ecosystem functions that many support healthy forest regrowth and balanced use in the future.

The Xáxli'p Community Forest Corporation will continue to fundraise even after Xáxli'p timber sales are online. This will be a significant task in part because of unfavorable market conditions for current B.C. timber sales, which means limited income potential for the time being. Another major challenge for the Xáxli'p community is that the highest value timber within their aboriginal territory has already been cut, so initial harvests will be low value trees. This is part of the Xáxli'p community's justification for requesting additional funding from government agencies, which have profited substantially from earlier harvests. At the end of the day, the project is not designed to generate a monetary profit as its primary goal, but instead hopes to reap many other kinds of community benefits. Xáxli'p Community Forest staff and advisors are taking on this governance challenge by working hard to get initial log sales online, looking for niche markets, fundraising for additional support, and educating the community about the kinds of benefits that they will receive from the project.

Key strategies and challenges: (2) Articulating community goals through maps and plans

Xáxli'p maps and plans were important tools for articulating Xáxli'p knowledge and achieving Xáxli'p management goals to ensure culturally and ecologically sustainable land use in Xáxli'p aboriginal territory. The Xáxli'p community plans worked through two main pathways. First, the Xáxli'p community took control of the natural resource planning process. Second, the community negotiated key elements of Xáxli'p plans into government policy. By adopting a proactive and participatory planning process, the Xáxli'p community leveraged the power of a united community voice to achieve Xáxli'p self-determination goals. By developing scientific plans to articulate fundamental concepts of Xáxli'p relationships to the land and management values in negotiations and agreements, the community used maps as scientific communication tools to contest dominant concepts of "Crown lands" that promoted maximum utilization of forest resources. Sections of these formalized planning documents that communicated Xáxli'p knowledge and community goals at a high level were also helpful tools for communicating with selected allies within the B.C. Ministry of Forests.

Xáxli'p community planning was a careful, internal process that leveraged multiple types of knowledge and expertise. Maps and plans helped communicate Xáxli'p goals for ecologically and culturally sustainable land management in a systematic, scientific format. Even when the plan content was primarily Traditional Ecological Knowledge from Xáxli'p elders, the maps and plans documented elements of Xáxli'p oral histories in a systematic manner. This is not to say that understanding points of overlap between multiple knowledge systems occurred automatically, or that embedded community knowledge lost relevance through planning. Xáxli'p elders played a key role in identifying appropriate linkages and translations between Xáxli'p Traditional Ecological Knowledge (TEK) and Western scientific knowledge. For example, ecological concepts around hydrology and forest management linked to community understandings of the importance of water in Xáxli'p Survival Territory.

At the same time, scientific language was not sufficient to fully communicate Xáxli'p goals, and the maps and plans were never intended to be stand-alone. When government representatives were invited to review sensitive, fine-scale information, Xáxli'p people needed to be present to interpret information for the viewer, and no duplication of the maps was permitted. In this way, Xáxli'p people could ensure correct understanding of the materials in the context of the decision-making process at hand. In addition to using scientific language, Xáxli'p planning and negotiations incorporated the experiential knowledge of elders. Field trips on the land and meetings held on Xáxli'p Survival Territory helped ground negotiations in Xáxli'p knowledge that is embodied in its people and the land.

By representing Xáxli'p knowledge in a new way, maps and plans helped shift government knowledge of Xáxli'p relationships to the land and reshape policy options. First, using newly developed Geographic Information System (GIS) technologies, maps and plans provided an easily accessible format for communicating Xáxli'p knowledge and goals within negotiations with government. Backed by the legitimacy of the scientific method, the maps provided a quick and authoritative tool for demonstrating Xáxli'p land use goals and comparing these to government plans. Second, Xáxli'p maps shifted government understanding of Xáxli'p Survival Territory from a small, unused timber supply area interrupted with postage-stamp Indian Reserves to a much larger, complex ecological and cultural landscape. Third, Xáxli'p maps reflected a careful analysis of the land base that differed from a state agency approach. The precise, visual analysis of culturally and ecologically sensitive areas in Xáxli'p maps allowed the Xáxli'p community to justify why the community needed to protect certain areas to agency representatives, and illustrated how the community approach differed from government proposals. Finally, planning workshops provided an organizing point for the diverse collective of Xáxli'p community members to share knowledge among themselves, learn from elders, and build community consensus around a set of common goals.

Importantly, the Xáxli'p community was careful not to give away culturally and politically sensitive information during government negotiations (see chapter 3). Although sharing knowledge is important to facilitate interest-based negotiations, information sharing can also erode a community's political influence by rendering direct community participation in decision-making processes unnecessary. Sharing information about important locations, such as the Xáxli'p community's traditional trail system, could also endanger Xáxli'p land and resources by facilitating open access conditions for outside interest groups, such as recreational hunters. The Xáxli'p community took precautions to protect culturally and politically sensitive information by self-funding its Traditional Use Study, prohibiting duplication of sensitive maps and plans, and presenting maps at in-person information sharing sessions together with elders who could act as real-time interpreters for Xáxli'p knowledge.

At the same time, it is important to acknowledge the tension between sharing information for the purpose of effecting social change and withholding information for the purpose of protecting Indigenous community interests. In this case, some level of information sharing was necessary to allow the Xáxli'p community to achieve its goals in negotiations with B.C. government representatives. Thus, instead of giving away fine-scale information, Xáxli'p prepared high level policy documents, such as the Xáxli'p Forest Policy and the XCF Agreement application. This allowed the community to share

coarse-scale information with Ministry of Forests representative on their position and interests, while keeping fine-scale information in the hands of the Xáxli'p community and trusted scientific advisors.

Key strategies and challenges: (3) Patience and persistence in negotiations

The Xáxli'p community's persistent, never-give-up approach was essential to overcoming negotiation challenges. Aligning political support from B.C. government and the Xáxli'p community was a challenge that required multiple XCF proposals over multiple years. From the community side, the initial XCF proposal was rejected when it became entangled with internal community politics, concerns over incurring debt with the Treaty Process, and general frustration or skepticism about treaty negotiations. From the provincial government side, early XCF proposals were rejected when they raised concerns about setting a precedent for forest tenure allocations, which government contended it could not afford to replicate for other Indigenous communities. It was the Xáxli'p community's political savvy in conducting government-to-government negotiations, along with the willingness of Xáxli'p community leaders to do the challenging consensus-building work at home, that moved Community Forest negotiations forward, despite multiple conflicts that threatened to derail negotiations (see chapter 4).

On the community side, the XCF proponents had to take more time than initially anticipated to develop community consensus and establish a strong negotiating position. The failed "Interim Agreement" XCF proposal may have simply moved too fast for the community. With the FRO Agreement negotiations that followed, the Xáxli'p negotiating team also did not achieve the terms of agreement that they wanted on the first try. On several occasions, Xáxli'p negotiators walked away from the table when political conditions were not conducive to core needs. At other times, the community compromised—as with the community's decision to accept a final Community Forest boundary that covered most, but not all of Xáxli'p Survival Territory. Importantly, the Xáxli'p community rejected numerous compromise agreements offered by the B.C. Ministry of Forests when the proposed compromise did not provide the community with meaningful decision-making authority over the long term, or otherwise undermined the primary Xáxli'p interests.

After many years of government negotiations, Xáxli'p learned to expect regular turnover of government negotiators. During B.C. treaty negotiations in the late 90s, for example, senior government officials often removed government negotiators who began to identify with Xáxli'p views. Such removals meant the Xáxli'p community was forced to return to square one in presenting their interests to new government treaty negotiators and undermined effectiveness of negotiations. Although such turnover created a lack of continuity in negotiations and barriers to reaching agreements, Xáxli'p community representatives continued working to engage the new B.C. government negotiations coming to the table. Xáxli'p negotiators also learned to be highly persistent about engaging higher level policy makers, as opposed to only working with junior level or regional staff. Xáxli'p negotiators learned about the importance of accessing senior government officials in the early 2000s, when government agencies hired contract negotiators to work with the Xáxli'p community. From the perspective of senior

officials, using contract negotiators helped them preserve long-term relationships between full-time Ministry officials and the community. However, contractors and lower ranking Ministry of Forests staff lacked the authority to approve policy changes within the existing Forest and Range Opportunities (FRO) policy framework. In initial FRO negotiations, government representatives resisted changing policy to accommodate the Xáxli'p community's proposal. Government staff explained they "had no mandate" for this initiative; there was "no policy fit" and "no precedent." This was highly problematic given the lack of fit between Xáxli'p community interests and existing forestry policy.

Xáxli'p negotiators achieved policy change by accessing the Deputy Minister of Forests, as a senior official capable of providing a "mandate" for the XCF, thereby changing existing policy. B.C. government's initial resistance can be partly understood by recognizing the structure of hierarchical bureaucracies, where line-officers are tasked with following existing policy formulas and only top-level officials have the flexibility to shift policy mandates. In my interviews, I found that several line officers emphasized how law and policy are always in flux. This illustrates the point that despite working in bureaucratic structures that resist change, agency staffers often recognize that policy change is a necessary part of running a successful government institution. For the Xáxli'p community though working through a hierarchical bureaucracy to reach senior decision-makers created significant frustration, inefficiency, and additional costs. Yet, the Xáxli'p community's perseverance in demanding government-to-government negotiations with high level officials ultimately did pay off with a CFA mandate.

The Xáxli'p community was also tenacious in cultivating key allies within state agencies and emphasizing political arguments supporting their interests. Ultimately, the Xáxli'p team had to convince the Deputy Minister that the Xáxli'p proposal was aligned with B.C. government interests and responsibilities. In this case, there were multiple incentives for B.C. government to remain at the negotiating table, and—over multiple rounds of negotiations—the Xáxli'p community achieved its desired terms of agreement.

A number of social, political, and environmental factors incentivized the Ministry of Forests to approve the XCF. First, recent land change events in B.C.—including increasing risks to B.C. forests and communities from mountain pine beetle infestations, severe wildfire events, climate change—meant that both government agencies and the Xáxli'p community desired active forest management on Xáxli'p Survival Territory. Second, due to the Xáxli'p community's history of blocking logging access to Xáxli'p Survival Territory, the Xáxli'p community had created the political conditions whereby B.C. government had no choice but to negotiate with Xáxli'p leaders before any local management could occur. Third, decreasing commercial interests in Xáxli'p timber due to poor growing conditions, steep slopes, prior harvests of the highest quality timber (high grading), and the recent decline in timber markets meant there was currently little to no industry opposition to the Xáxli'p Community Forest. Fourth, evolving legal obligations required B.C. government to accommodate aboriginal title and rights, a responsibility that the government could fulfill by reaching an XCF agreement with the Xáxli'p community. Fifth, state policies aimed at shrinking government and a major budgetary crisis in the Ministry of Forests had led to decreased agency funding and regulatory capacity; thus, government had no choice but to support more locally-based management decisions by all B.C. forest tenure holders and timber operators, which now included the Xáxli'p community.

The Xáxli'p community was also proactive in addressing the potential impact of a Community Forest Agreement tenure on aboriginal title and rights. In particular, the community needed to ensure that they did not lose ground on their legal claims by agreeing to participate in a government-driven accommodations process. Xáxli'p negotiators were particularly wary of strings attached to Forest and Range Opportunities (FRO) agreement funding. The Xáxli'p community addressed this concern by working with its lawyers to develop specific FRO language that reserved their right to pursue future legal claims. In their government-to-government agreements, Xáxli'p leaders inserted the language of "interim agreement" and "no prejudice" to signal the community's ongoing land claim and inherent sovereignty over Xáxli'p Survival Territory.

As a further indication of the Xáxli'p community's deep commitment to the XCF proposal, the agreement was negotiated over multiple community leadership cycles. Even when new chiefs and new councilors were elected, the Xáxli'p community stuck by this initiative. One exception was the community's rejection of the 2001 Interim Measure. Yet even after this loss, Xáxli'p XCF proponents worked to redesign and resubmit the proposal to the broader Xáxli'p community outside of the treaty process. This persistence can be traced to fundamental teachings of Xáxli'p elders about valuing Xáxli'p Survival Territory, the participatory workshops that helped generate community consensus on common land use goals for the XCF proposal, and the consistent leadership of Xáxli'p and non-Xáxli'p volunteers and advisors, who were willing to do the legwork required to make this initiative come to life.

Ultimately, the Xáxli'p community gained important concessions from B.C. government negotiators: fundamental changes in FRO policy that allowed for the Community Forest Agreement tenure invitation, the ability to take a lighter harvest, exclusive Xáxli'p authority over forestry within much of their aboriginal territory, and increased start-up funding. Xáxli'p community negotiators achieved these policy changes because the community positioned itself as a First Nation community with a strong vision and clear implementation plans. The Xáxli'p community's reputation for being assertive, particularly given their history of direct action, helped them tremendously in establishing agreement over the community's terms for the XCF. In this way, the Xáxli'p community consistently positioned themselves as a strong negotiating partner to B.C. government that was not going away any time soon.

Building off of these three overarching strategies: 1) creating self-governance institutions that follow core community values, 2) articulating goals through community maps and plans, and 3) being persistent in government-government negotiations, the next section introduces some of the specific lessons learned from the Xáxli'p Community Forest negotiation and implementation experience. This section is particularly concerned with elements of XCF negotiations that enabled the Xáxli'p Indigenous community and the Ministry of Forests to remain at the negotiating table over so many years. Another point of discussion is the shifting power relations over time that helped the Xáxli'p community reach agreement with B.C. government, without subverting the integrity of the original Xáxli'p Community Forest proposal. The section begins with lessons, which may be relevant to other Indigenous communities, then discusses lessons for government agencies, and concludes with selected policy recommendations (see table 5.1 for a summary of strategies and lessons, below).

Learning: (1) For Indigenous communities

One of the first lessons is that **Indigenous communities must determine for themselves when compromise is desirable and when it is not**. Compromise is a difficult endeavor, especially for Indigenous communities who have lived through many occasions of government coercing Indigenous communities into unfavorable positions. Thus, there may be times when terms of agreement are non-negotiable. On several occasions, the Xáxli'p community walked away from the table. In these cases, the community successfully resumed negotiations at a later date, when political and economic conditions become more favorable. Stopping and restarting negotiations, however, required extra energy and effort from community members. Some community members regret not taking the first XCF Interim Agreement in 2001, as there was also the loss of benefits that could have been realized through an earlier agreement. On other occasions, the Xáxli'p community chose to compromise, even though the Xáxli'p community took a highly principled stance on the XCF proposal, overall. This case helps demonstrate how Indigenous communities can push for meaningful policy change, even while carefully considering some areas of compromise.

The XCF also teaches how communities are **reshaping existing policy to support Indigenous resource management**. Initially, there was no existing B.C. government policy that would support the specific tenets of the XCF proposal, so Xáxli'p worked to reshape policy. In this case, Xáxli'p strategically merged two different policy options—the Community Forest Agreement and the FRO (an economic accommodations measure). Building from existing policies meant the Xáxli'p proposal was easier to accept for government staff, because there was "a little bit of precedent," as one government official put it. Second, despite the reality of uneven negotiating conditions that often disempower First Nation communities, legal changes around aboriginal title and rights have created grey areas around B.C. First Nation policy. This meant there was some flexibility for shifting policy in the XCF case. And third, there was some common ground with both parties wanting to reestablish active land within Xáxli'p Survival Territory. The lesson here is that Xáxli'p community achieved its goals by taking on the creative and challenging work of proposing and defending its own version of forest management policy, and not accepting current policy "as is."

Another lesson is the value of **prioritizing proactive and participatory community planning**. Xáxli'p participatory planning sessions helped the community clearly articulate its goals on its own terms (see chapter 3). In contrast to government driven plans, the community and its advisors chose the content and format community plans. In addition, the Xáxli'p community planning process helped a diverse group of community members develop consensus around common goals. Such consensus-based planning and written plans can help prevent confusion and divisiveness within Indigenous communities that may occur during high stakes government negotiations.

There are also significant lessons about how communities are **leveraging science to support Indigenous self-determination**. In this case, scientific communication tools, like maps and formalized plans, helped the Xáxli'p community lobby B.C. government in language that government officials could understand, thus creating a legible starting point for government-to-government negotiations. The community also leveraged the power of science, as a socially dominant knowledge framework, to help

produce legitimacy for Xáxli'p community proposals. At the same time, the community's scientific plans did not provide all of the information needed for decision-making, but rather were used together with oral testimony from Xáxli'p elders and community members. It is important to note that these scientific plans were created by the community, along with its trusted advisors, and that the community did not give away the detailed information contained within its plans to Ministry officials.

The Xáxli'p Community Forest demonstrates the importance of **considering the strategic role of community resistance**. Moments of community assertiveness were sometimes viewed in a negative light as "obstructionist" or "militant". However, direct resistance can play a critical role in shifting unbalanced power relationships, especially when government agencies hold greater funds and political influence than communities. Indigenous communities are often in the position where they need to assert themselves through direct action in order to become a relevant political player. In the Xáxli'p case, the community's assertiveness with resisting logging access to Fountain Valley incentivized B.C. government to negotiate with the community over the XCF, in order to reintroduce active forestry to Xáxli'p territory.

Furthermore, the Xáxli'p case teaches us the importance of **recognizing limitations in government capacity**. Despite their frustrations with government officials, Xáxli'p community negotiators acknowledged the systemic limitations faced by government representatives. Government agencies are not all knowing, do not have unlimited access to funds, and are not static or monolithic entities. There were also limitations in government capacity to understand Indigenous perspectives. Few government agency staff are trained in First Nation policy or deeply familiar with First Nation cultures, and they are trained to function in a bureaucratic hierarchy. For example, some government officials felt they were unable to support the XCF proposal because they were legally mandated to follow existing policy. Many saw themselves as being responsible for serving the needs of the broader public, as opposed to the specific needs of First Nation. In this context, it is important to acknowledge that the political will to adopt policies supporting Indigenous rights is contingent upon public understanding and recognition of Indigenous rights. Xáxli'p community negotiators were not generally happy with government negotiators. Nevertheless, despite moments of anger or disappointment, Xáxli'p community negotiators managed to maintain a working relationship with B.C. government representatives. Xáxli'p leaders also worked hard to articulate how their proposals aligned with government interests and responsibilities, as well as to identify individual allies within government who would champion the XCF proposal. Finally, throughout negotiations, Xáxli'p representatives treated individual government representatives with dignity and respect.

A final lesson from the Xáxli'p case is the importance of both parties **anticipating the time and effort required for enacting change**. Reaching an initial management agreement that satisfied Xáxli'p terms required extensive resources and more time than anyone anticipated. Generating realistic expectations about the long-term nature of these negotiations is important. For example, on the community side, the amount of time and resources required for treaty negotiations undermined negotiations at critical moments, such as when the Xáxli'p community voted down the 2001 Interim Measure. On the agency side, the amount of time required to finalize timber harvest applications has created suspicion among some agency staff members that the Xáxli'p

Community is only interested in land protection and does not intend to harvest trees. To address these issues, XCF leaders are constantly working to build awareness and realistic expectations for XCF goals and outcomes.

Learning: (2) For government agencies

For government agencies, one lesson is the importance of **educating agency staff about Indigenous cultures, history, and policy**. In this case, Ministry staffers in aboriginal affairs liaison positions were aware of changing aboriginal law and policy. These individuals were also aware of the historical and cultural context required for understanding a case like the Xáxli'p Community Forest. For this reason, the involvement of aboriginal affairs liaisons in XCF policy discussions helped prevent an impasse with negotiations on several occasions. At the same time, having aboriginal affairs staff at government agencies is not a panacea for resolving ongoing state-Indigenous conflict. Rather, the Xáxli'p case demonstrated the importance of more agency staff developing greater cultural competency in working with aboriginal peoples, as well as greater understanding of the current social and political aspects of First Nation forestry, as well as the changing legal landscape.

The case reminds bureaucratic government agencies to **view policy making as more of an evolving art form than as an established science**. The Xáxli'p case helps to reveal some of the hidden flexibility within government agencies. For example, the Xáxli'p case emphasizes how layers of bureaucracy may interact in unpredictable ways. Government bureaucrats can be important allies in problem solving with complex Indigenous resource management issues. This may mean that agency staffers take an active role in shaping new policy, including junior staff who can help bring these issues to the attention of senior officials. The Xáxli'p case also demonstrates how natural resource negotiations with First Nations can open up policy space for useful dialogue on issues, such as sustainability, which align with agency's "public trust" mandate. In addition, B.C. government policy on aboriginal forestry is unfolding in the context of the current legal landscape, where laws now recognize the existence of aboriginal title and rights. Therefore, despite the propensity of many agency staffers to support status quo resource management, government agencies are now legally responsible for adapting policy to address Indigenous self-determination and benefit sharing. This requires more creativity and flexibility among agency representatives.

Another helpful lesson is the importance of **developing a range of policy options that support Indigenous resource management**. Although replicability can be important for centralized bureaucracies, different First Nations have different needs. This can make one-size-fits-all policies ineffective. To its credit, the Ministry of Forests recognized that Xáxli'p community land management goals were distinct from other First Nation community forestry initiatives. For other community groups, FRO policies supporting short-term, non-replaceable forest licenses were helpful because they allowed First Nation communities to benefit from current mountain pine beetle salvage logging. Addressing the Xáxli'p community's interests in establishing long-term forest management by Xáxli'p people, however, required new policy. As another example of the Ministry of Forests' efforts to provide multiple policy options, the agency has

recently developed the First Nation Woodland Licence, which now exists alongside existing forest tenure options.

The XCF also demonstrates how government agencies can **look to progressive communities for policy approaches that address long-term sustainability concerns**. Government agencies are struggling to understand how newer concepts of ecosystem services, sustainability science, food security, restoration ecology, and adaptive management—all aspects of the Xáxli'p Community Forest approach—can inform resource management practices. Agencies are also struggling to identify policy frameworks that support devolved management and still adhere to forest stewardship requirements, such as the Community Forest model. Yet forestry projects that embrace tenets of sustainable management can be threatening to agency bureaucrats. As a case in point, the B.C. Ministry of Forests initially opposed the XCF proposal because it required permitting lighter harvests and because it delegated management authority to local people. However, agencies can learn from communities like Xáxli'p that are breaking away from status quo forestry models and striving to incorporate long-term sustainability into their resource management strategies.

In addition, it is clear that unresolved **land claims continue to be a central issue for Indigenous communities**. Resource management agreements are helpful in this regard because they delegate resource management authority to Indigenous peoples. However, the Xáxli'p community views management agreements, such as the Xáxli'p Community Forest Agreement as an "interim" solution to the broader issue of aboriginal title and rights. This case is a reminder of government's responsibility to resolve long-standing land claim disputes with Indigenous communities, which cannot be limited to economic accommodations or interim agreements.

As a related lesson, successful Indigenous resource management agreements may **require assurance language regarding unresolved issues of aboriginal title and rights**. The Xáxli'p case demonstrates that government-to-government agreements on natural resource management issues must be sensitive to issues that arise from having disputed, overlapping land claims. For example, typical terms of agreement for non-Indigenous tenure holders that include making payments to provincial government as "rent" and "fees" are called into question when legal precedents of "aboriginal title and rights" or "federal trust responsibility" are at play. After many years of losing court cases on aboriginal title and rights, B.C. has addressed this issue by minimizing fee requirements for Indigenous communities in the new First Nations Woodland Licence. The Xáxli'p case shows that, in order to reach an agreement with government agencies, Indigenous communities may need to demand assurance language, which protects their ability to address issues of aboriginal title and rights in future court cases.

Learning: (3) Selected policy recommendations

Sustainability: Policy makers should learn from examples like the XCF about how to move natural resource policies beyond twentieth century management models, address long-term sustainability needs, and provide ecosystem services. The XCF case is contingent upon governments offering communities long-term, area-based forest tenures – which B.C. government has provided. What is also necessary, however, is government policy that allows for less intensive timber harvests, moves beyond single

species management (including non-timber forest products), and seriously considers ecosystem function in complex socio-ecological systems. These are all actions being taken by the Xáxli'p community, despite the initial absence of government support. Given current economic models, succeeding with this progressive initiative will not be easy. Still, the Xáxli'p community presents a unique opportunity for government policy makers to learn from a community that is practicing long-term economic thinking and environmental stewardship, with an eye towards the needs of future generations.

Rather than dismissing the Xáxli'p Community Forest as a one-off case, government policy makers should work directly with Indigenous groups like the Xáxli'p community to strategically develop new policies that help to align ecological sustainability, economics, and cultural survival approaches—a difficult conundrum for all of society. To address current skepticism among government staff and others, communities like Xáxli'p will need to articulate the long-term economic arguments for pursuing culturally and ecologically sustainable management, and engage the broader public on this issue.

Indigenous land claims: Policy makers should continue to address outstanding aboriginal land claims, and Indigenous communities should continue to view "interim measure" frameworks with a critical eye. Indigenous Nations in Canada are still working to confirm aboriginal title and rights in government negotiations or through the courts. At the same time, "interim measures" have been put in place to help multiple parties pursue common land and resource management goals in the interim period before the courts have settled individual claims. On the one hand, the "interim measures" concept is helpful for acknowledging the existence of Indigenous land claims, and potentially supporting Indigenous resource management. This approach creates the policy space for both sides to move forward on active resource management practices that can benefit both communities and state governments.

On the other hand, it is also important to recognize that negotiations cannot end at an "interim measure." Communities must continue to be wary of potential unintended consequences of interim measure policies that complicate future Indigenous land claims. The Xáxli'p community responded to this issue by incorporating assurance language in policy documents that clarified their agreement to move forward on the Xáxli'p Community Forest with "no prejudice" to aboriginal title and rights. As an additional issue, current policy changes with Ministry of Forests revenue sharing policies have led to new overlapping land claims among Indigenous communities. This may create a confusing account of territorial claims that could hinder future progress in resolving land claims in the future.

Table 5.1. XCF Lessons for Indigenous Communities and Government Agencies

1. XCF LESSONS FOR INDIGENOUS COMMUNITIES

- Determine circumstances where compromise may or may not be possible
- Reshape existing policy to support Indigenous resource management
- Prioritize proactive and participatory community planning
- Leverage science to support Indigenous self-determination goals
- Consider the strategic role of community resistance
- Recognize limitations in government capacity
- Anticipate the time and effort required for enacting change

2. XCF LESSONS FOR GOVERNMENT AGENCIES

- Educate agency staff about Indigenous cultures, history, and policy
- View policy making as more of an evolving art form than an established science
- Develop a range of policy options that support Indigenous resource management
- Look for policies that address long-term sustainability concerns
- Recognize that land claims continue to be a central issue for Indigenous communities
- Incorporate assurance language regarding unresolved issues of aboriginal title and rights

3. SELECTED POLICY RECOMMENDATIONS

Sustainability: Policy makers should learn from examples like the XCF about how to move natural resource policies beyond twentieth century management models, address long-term sustainability needs, and provide ecosystem services.

Indigenous land claims: Policy makers should continue to address outstanding aboriginal land claims, and Indigenous communities should continue to view "interim measure" frameworks with a critical eye.

Self-determination: Policy makers should work with Indigenous communities to create new policy space for solving resource management problems. This requires ensuring that Indigenous communities have the resources to self-determine their own goals and negotiate on a more level playing field.

Self-determination: Policy makers should work with Indigenous communities to create new policy space for solving resource management problems. This requires ensuring that Indigenous communities have the resources to self-determine their own goals and negotiate on a more level playing field. Fair negotiations on high stakes Indigenous resource management issues will depend on addressing this funding

disparity, in order to support Indigenous Nations working to protect their lands and intractable resource management problems. Through careful planning and strong leadership, the Xáxli'p community worked hard to level the playing field in government-to-government negotiations, which opened up a pathway for both parties to benefit. This effort required a large investment of time, energy, and funding over more than twenty years—and the work continues today. In this case, the Xáxli'p community did succeed in accessing government funding resources, developing its own resource management plans, and engaging in extended government negotiations. As a result, state agencies gained new insights on natural resource management approaches that could address legal requirements for accommodating aboriginal title and rights and serve the greater public interest. By working through XCF negotiations, the Xáxli'p community also created policy space for the Ministry of Forests to develop new forest management policy.

These policy shifts were only possible, however, because of the persistent organizing, planning, and fundraising work by Xáxli'p community leaders. In order to pursue an initiative like the XCF with a unified voice, communities need to be able to access resources to conduct their own participatory community planning. In additional to support for local planning, communities also need to gain access to legal and scientific support, as well as travel funds and overhead costs, in order to directly engage with government and company representatives on a more level playing field. As the XCF case shows, ensuring access to higher level officials who have the authority and flexibility to shift policy mandates is essential for successful government-to-government negotiations. This requires funding for participatory community planning, technical support for communities, and public education efforts that convey why additional investments in Indigenous self-determination are necessary and worthwhile for the broader public.

The Xáxli'p case also provides a lens into a problem faced by all people—if we do not learn how to manage our landscapes for long-term sustainability, we will be unable to protect our basic needs for survival. Furthermore, if we do not learn how to account for the historical injustices of colonialism, it will be more difficult to move forward as an interconnected, multicultural society. The matters at stake are the health of the environment, and the future of the distinct Indigenous communities that depend on it.

Conclusion: Towards a case comparison: Examining the Xáxli'p Community Forest (Xáxli'p Community) and the Ti Bar Demonstration Project (Karuk Tribe)

The dissertation addresses two case studies of Indigenous resource management negotiations involving forest management—with the Karuk Tribe in California (U.S.) and the Xáxli'p Indigenous Community in British Columbia (B.C., Canada).[56] Both cases emphasize eco-cultural resource management initiatives that reflect the desires of the respective Karuk and Xáxli'p communities to protect land and resources for the long term, as a key element of cultural survival. Working through these cases, I ask several questions that consider how Indigenous-state negotiations are shaping the legitimacy and outcomes for Indigenous resource management initiatives. These include 1) how is Indigenous knowledge shaping natural resource management policy and practice? 2) how does access to land and resources shift through Indigenous resource management agreements? and 3) how do co-management approaches affect Indigenous sovereignty and self-determination?

Up until this point, the dissertation has focused on the individual cases, in order to address the complexity that arises from them. In this conclusion, I briefly address individual case findings, along with associated theoretical and policy implications. I then provide an initial case comparison, which discusses some of the similarities and differences between cases, the political context shaping respective case outcomes, and broader implications for Indigenous resource management that arise from bringing these cases together. A full case comparison, including a deep analysis of the many differences between the U.S. and Canadian political, legal, and regulatory structures, is beyond the scope of this discussion and presents an opportunity for future work. I end by examining several additional areas for future research.

Learning from individual cases

Theoretical implications

In this dissertation, I have demonstrated that Indigenous resource management issues cannot be reduced to a simplified conflict over knowledge or politics. Rather, they are intertwined. Using the Xáxli'p case, my analysis has shown that the intersection between knowledge production processes and political negotiations occurring with the Xáxli'p Community Forest (XCF) can be understood using Jasanoff's (2004) analytic of the *co-production of knowledge and social order*. Although proponents of Indigenous knowledge may not see themselves engaging in politics, this work has demonstrated how Indigenous knowledge is actually co-constituted with resource politics, including political negotiations over aboriginal land claims. I also emphasize that Indigenous resource management is a dynamic process. Contemporary articulations of Indigenous knowledge

[56] Pronunciation of the Lillooet or St'át'imc language is best gained from listening to a native speaker. See the "Learn our Language" section of the First Voices website at http://www.firstvoices.com/en/Northern-Statimcets/welcome. Based on linguistic studies the 'x' in 'Xáxli'p' is pronounced as a 'friction' sound, made with the tongue in the same position as with a 'k' (Bouchard 1973). However, further reading on St'át'imc orthography is recommended to guide a more precise pronunciation (see appendix 1).

are always shifting with changing political conditions. Thus, the strategic Indigenous articulations (Clifford, 2001) or linkages between Traditional Ecological Knowledge (TEK) and Western science developed through these cases should not be viewed as a permanent or static "integrations" of TEK and Western science. The implication of this finding is that Indigenous community representatives need to be involved in every step of resource management processes, and cannot simply export Indigenous knowledge to government agencies or other external groups for generalized application.

In addition, these case studies have found that the conflicts over resource access are rooted in two interconnected community goals: achieving sustainable land management practices, and gaining recognition of aboriginal land rights as a social justice issue. Therefore, understanding how Indigenous resource management agreements shift resource access requires a careful assessment of the relative opportunities and threats posed to Indigenous communities in relation to community aspirations. By using Ribot and Peluso's (2003) *theory of access* as a tool for understanding the Xáxli'p case, I have presented one method for unpacking the range of community benefits received through the Xáxli'p Community Forest (XCF), and the mechanisms that facilitated those benefits. Viewing access analysis in conjunction with two additional theoretical frameworks, *third space strategies* and *natureculture relations*, creates an even better understanding of XCF negotiations. To address the problem of pursuing sustainable land management through state policies that often challenge aboriginal land rights, I have developed the concept of third space strategies (Bruyneel, 2007), which explains how the Xáxli'p community worked both inside and outside existing government structures to establish the XCF as an "interim measure." To address the core community goal of land protection, I have developed the concept of natureculture relations (Haraway, 2003) to emphasize the importance of Xáxli'p land management values, which are based on the community's reciprocal relationship with the land. This case demonstrates how natureculture relations may become a mechanism for increasing community access to the land, when such relations are recognized through dominant government policy and result in material effects for the land, and for community access to the land.

Through my research with the Karuk Tribe, I have shown that co-management is one tool for negotiating the legitimacy for Indigenous resource management. This study has demonstrated how co-management forums act as a *catalyst* for shifting resource access, even if project outcomes do not always match stated objectives. Co-management forums can assist communities like the Karuk Tribe with identifying key *pivot points* within existing policy that can help the community pursue its goals. I have developed the pivot point concept to explain how community negotiators are working with existing policy frameworks that begin to address their interests, and are simultaneously pushing back to change policy standards. The idea of pivot points also recognizes the tensions between cooptation and transformation, both recognized as potential outcomes from co-management arrangements. In addition, this case analysis has found that Indigenous resource management agreements (or co-management agreements) stand a better chance of facilitating long-term policy change, if they are institutionalized through existing governance bodies, particularly through government agencies. Having adequate legal structures and funding resources to enforce agreement commitments is also essential to achieving meaningful benefits for Indigenous communities over the long term.

Policy implications

The individual case studies in this dissertation have also demonstrated how the Karuk and Xáxli'p communities are building their own Indigenous resource management institutions, which operate according to community values. As these cases have shown, there are clear limitations and challenges to doing so. In the Karuk case, pursuing Indigenous resource management initiatives required working with supportive agency leaders—individual champions in key authority positions who were willing and able to push for unorthodox projects and institutional change. Yet, in the Karuk case, going beyond personal relationships and creating the political space for Indigenous resource management to co-exist with agency standards at the institutional level was problematic. Indigenous communities remain concerned that negotiations with agencies will force them to give away sensitive cultural information. Another concern with sharing information is that external organizations—not tribal governments—will continue to lead resource management initiatives, thereby removing opportunities for Indigenous self-determination and community capacity building. A primary implication of both studies is the importance of generating funding support for Indigenous resource management institutions, as well as government programs that support them. Establishing additional community capacity and acknowledgement for Indigenous resource management institutions is also especially important, given that complex, multi-jurisdictional arrangements with Indigenous territories and federal forestlands demand a significant amount of attention from limited numbers of tribal land managers. Practicing community-engaged scholarship that supports respectful collaborations between Indigenous community research partners and academic researchers may be part of that capacity building and acknowledgement process.

Towards a case comparison

In addressing the primary questions posed in this dissertation, this section breaks down some of the similarities and differences between the Xáxli'p Community Forest initiative (involving the Xáxli'p community and the B.C. Ministry of Forests) and the Ti Bar Demonstration project (with the Karuk Tribe and U.S. Forest Service). I compare the case context, similarities in community strategies, and differences in the respective case outcomes. I particularly focus on understanding how knowledge sharing occurs, the distribution of decision-making authority, and changes in land management practices that are achieved through Indigenous resource management agreements.

Case similarities: Strategic approaches to working with state structures

In considering case similarities, it is helpful to acknowledge the similar histories that both communities have had with pressuring government agencies to shift land management practices that affect their traditional territories. Both the Karuk and Xáxli'p communities initially engaged in direct action protests of clearcut logging in the early 1990s, which graduated into Indigenous resource management negotiations with government forestry agencies in the late 1990's and 2000's. Although both communities have used a variety of strategies, directly engaging with government agencies has been a

necessary step for establishing the legitimacy of Indigenous resource management initiatives. State forestry agencies are the institutional bodies that claim jurisdiction over Indigenous lands that overlap with federal forestlands, and it is these government institutions that are responsible for enforcing minimum levels of environmental stewardship among competing user groups. Gaining recognition for Indigenous resource management has therefore been important in both cases, even though both communities have remained skeptical about whether government forestry agencies, which have historically advocated for extractive timber development, can function as good stewards of the land and the cultural resources that the respective communities depend on.

To consider the first two dissertation questions on Indigenous knowledge and shifting access to land and resources, I discuss two community strategies that address the tensions involved in simultaneously working with and resisting government policy. In the first section on *Indigenous articulations*, I emphasize the importance of eco-cultural restoration as a concept that strategically links Indigenous worldviews to scientific frameworks and existing government policies—in order to shift status quo resource management policy. In the second section, I develop the idea of pivot points to convey the push/pull that occurs when community leaders engage with existing (but imperfect) policy frameworks, and then push back on those frameworks in order to address primary community interests.

1) How is Indigenous knowledge shaping natural resource management policy and practice?

Eco-cultural restoration as an "Indigenous articulation"

In both cases, the Xáxli'p and Karuk communities have taken a proactive approach to addressing resource management issues that impact their traditional territories by choosing to develop their own community land management plans. These communities are not simply responding passively to government initiatives. In their respective plans, both communities have leveraged the concept of *eco-cultural restoration* to help clarify community land management goals and values within government negotiations. (See glossary for a review of this concept, and other key terms, appendix 2.) In my analysis, I interpret the eco-cultural restoration concept as an Indigenous articulation (Clifford, 2001), which links community goals of restoring ecological systems and restoring Indigenous cultures. Restoring ecological processes is an important part of revitalizing Indigenous cultures, given that it is healthy ecological processes that often maintain the resources communities depend on for their cultural survival. And vice versa: restoring cultural management systems is an essential part of revitalizing local ecosystems. This is because of the long history of Indigenous land management that has shaped the cultural landscapes of Xáxli'p and Karuk territory. In these places, Indigenous communities and their land management systems have historically shaped the local ecology, and continue to embrace land stewardship as part of contemporary Indigenous resource management institutions.

The eco-cultural linkage does important work for both communities, at multiple levels. First, the concept resists the false choice between nature and culture that often shapes government-driven resource management decisions. Second, it brings together

different knowledge systems: Traditional Ecological Knowledge (TEK) and Scientific Ecological Knowledge (SEK) that follows Western knowledge traditions (Kimmerer, 2000). Third, it connects innovative Indigenous land management approaches to existing government policy frameworks that support ecosystem management. Granted, the linkage of eco-cultural restoration is incomplete; TEK and Western science are distinct knowledge systems that only overlap in some respects (e.g. Barnhardt & Kawagley, 2005); and Indigenous management approaches do not fully fit within government structures (e.g. Nadasdy, 2003). Still, it is through the carefully articulated eco-cultural restoration concept that the Xáxli'p and Karuk communities are strategically hitching Indigenous worldviews onto scientific frameworks, and hitching Indigenous community interests onto government policies in order to influence particular land management decisions.

As a case in point from the Karuk case study, the Ti Bar Demonstration Project (Ti Bar Demo) shifted standard Forest Service land management practices by applying eco-cultural resource management approaches to restoration initiatives on federal forestlands. The eco-cultural restoration concept helped connect tribal management priorities to Forest Service ecosystem management goals, and also helped legitimize the Tribe's adaptive management approach with agency partners. One important moment in the Karuk case study occurred when tribal crews conducted eco-cultural restoration treatments at Ti Bar—a situation that was made possible by having tribal and agency representatives as project co-leads. While written prescriptions developed by the Karuk Tribe with the Forest Service emphasized cutting and pile burning, tribal crews also treated hazel plants, a fiber used for basketweaving. The hazel treatments were not written down as part of the formal prescription. But, by having tribal members as project co-leads who were implementing restoration treatments in the field, the Karuk Tribe had the flexibility to make site-level decisions. This included enabling tribal members to enhance culturally and ecologically important understory plants, like hazel or tan oak acorns—plants that are not typically prioritized within Forest Service prescriptions. In this way, the Ti Bar Demo forum provided an opening for tribal land managers to create and implement their own policies of eco-cultural restoration, as an Indigenous articulation, even though these ideas were not incorporated into agency policy.

In the Xáxli'p case, articulations of eco-cultural restoration occurred primarily through a collective community mapping and planning process, which generated the land management plans now being implemented by the Xáxli'p Forest Crew. Xáxli'p planning involved organizing internal workshops that helped build community consensus around the land management priorities now driving the Xáxli'p Community Forest (XCF). Xáxli'p plans specifically leveraged Traditional Ecological Knowledge (TEK) held by respected elders, who emphasized the long-standing relationship between Xáxli'p people and Fountain Valley. Working with TEK made sense to a diversity of Xáxli'p families and helped establish community consensus around the XCF. Xáxli'p plans also used ecosystem science, particularly landscape ecology and GIS (Geographic Information Systems) mapping techniques, to translate the community's vision into a scientific format that could better influence state policy. Xáxli'p plans, and the eco-cultural restoration articulations within them, were ultimately recognized within formal government agreements as XCF guiding policy—which created additional legitimacy for the plans as a valid approach to XCF management. A key element of Xáxli'p strategy was that the

community worked with its allies to develop its *own* understanding of the linkages between ecological and cultural restoration, and between TEK and Western science. Only then did the community present its views to government negotiators.

Although the conceptual linkages contained in eco-cultural restoration—between ecology and culture, and between TEK and Western science—did lead to material effects in both cases, it is important not to overstate the level of acceptance for Indigenous knowledge occurring within government agencies. For both the Xáxli'p and Karuk communities, negotiating with government agencies over the application of Indigenous knowledge to forest management was extremely challenging. In the Karuk case, Karuk tribal managers often felt that agency staff did not respect Indigenous knowledge, and did not recognize Karuk land management values that were rooted in Karuk World Renewal philosophy. In the Xáxli'p case, discussions of Xáxli'p ways of knowing required extensive conversation with agency staff over field trips and negotiation sessions, but the community found that government participants in these shared learning experiences were quickly replaced with new people, who had no conceptual context for what the Xáxli'p community was trying to accomplish, or did not agree with Xáxli'p cultural values. In both cases, a few project champions within agencies understood community values, and believed in them as a new and creative path to land management. It was these individuals who latched on to the Indigenous articulations being put forward through community plans, and who supported proposals for Indigenous-led resource management initiatives. Unless these individuals had support from higher-level officials or were themselves in decision-making roles, however, it was difficult for them to be effective advocates for community-driven projects.

Thus, in evaluating the extent to which Indigenous knowledge shaped government policy, neither the Indigenous articulations in community management plans, nor the Indigenous knowledge contained within them were accepted by government agencies as the new norm, or as a generalizable path for land management policy. In the Xáxli'p case, agency leadership recognized the XCF as an exception to standard policy. Agency officials felt that the Xáxli'p approach should not be applied as a precedent for other community initiatives, yet the XCF was adopted because of broader political reasons that made it more appealing for high level agency officials to support the XCF than to reject it. In the Karuk case, agency leadership only accepted Karuk eco-cultural restoration approaches being applied through the Ti Bar Demo project for a short period of time; the project was abandoned after a turnover of Forest Service leadership. According to tribal land managers, the land management initiatives involving the Tribe and the Forest Service that followed Ti Bar Demo have not replicated the co-lead format or engaged the Karuk Tribe at the same level, which suggests that the Ti Bar project did not lead to meaningful changes at the institutional level. This analysis makes the point Indigenous articulations may not be the best tool for shifting the thinking of highly bureaucratic government institutions, although they can help with legitimizing Indigenous-led projects or building community consensus. And, as discussed below, Indigenous articulations can also help with locating individual champions within heterogeneous agencies, which contain individuals who are open to supporting new management approaches involving Indigenous peoples—and who need cross-over concepts like "eco-cultural restoration" in order to gain traction within the agency for unorthodox projects.

2) How does access to land and resources shift through Indigenous resource management agreements?

"Pivot points" for gaining access

Both the Karuk and Xáxli'p communities have a history of strongly asserting aboriginal rights within their respective traditional territories, an issue that is interconnected with natural resource management negotiations involving Indigenous peoples. In understanding how the Karuk and Xáxli'p communities have engaged with government policy on resource management, while rejecting policies that limit aboriginal rights, I have developed the concept of *pivot points*. To characterize the community strategies used in these cases, the pivot point concept describes the practice of *following* existing government policy, while simultaneously *pushing back* on government standards to address community needs. When communities and the advocates working with them latch onto existing government policy, which is already recognized as legitimate, this can help smooth the way for communities to achieve policy change. I refer to this approach as a third space strategy, because it involves working both inside and outside government structures, in order to open up possibilities for Indigenous sovereignty.

I illustrate this point through the two cases. In the Karuk case, community advocates mobilized a primary pivot point when a supportive Forest Ranger used the existing Interdisciplinary Team policy framework (or ID Team) to facilitate a leadership role for the Karuk Tribe in managing federal forestlands. The ID Team framework is widely accepted and used by agencies to conduct environmental assessments under the National Environmental Policy Act (NEPA). This made the ID Team framework an appropriate policy to use in evaluating eco-cultural restoration initiatives planned through the Ti Bar Demo. Given the Tribe's interest in pursuing eco-cultural restoration, leveraging existing U.S. environmental policy under NEPA provided a useful policy fit. The non-standard part of how the policy was used in this case was that the supportive Forest Ranger named Karuk land managers as ID Team co-leads. It was the co-lead arrangement that pushed back on existing Forest Service norms by making Karuk people relevant experts, with meaningful involvement in resource management decision-making. For tribal land managers, gaining co-lead status was essential for recognizing Karuk sovereignty and facilitating material effects on the ground, which supported Karuk eco-cultural restoration goals.

With the Xáxli'p case, the main pivot point was B.C. Community Forest policy. Xáxli'p community leaders and their allies had identified new B.C. Community Forest policy as a useful framework because it allowed for significant community control over a specific forest area, and because it recognized local community goals as the driver for forest management decisions. But Xáxli'p negotiators also realized that they needed to work with other government policies, specifically Forest and Range Opportunity (FRO) Agreements, which did not initially fit community needs. This meant that—to even get to a place where it could submit a Community Forest application—the Xáxli'p community had to engage in government negotiations and push back on existing policy structures. The Xáxli'p community did not accept the standard terms being offered to them through the FRO, or through B.C. Community Forest policy. After much perseverance, Xáxli'p finally received a mandate from the Deputy Minister of Forests

that approved the Xáxli'p community's request to initiate the XCF application through an FRO Agreement, along with other terms of agreement requested by the Xáxli'p community. This was a significant policy shift, because FRO Agreements typically funded short-term, small-scale forestry initiatives, which was not what the Xáxli'p community was looking for in its XCF proposal.

In my case analysis, I also found the pivot point concept to be an important tool for understanding the perspectives of agency personnel. Forest management agencies are typically organized in bureaucratic hierarchies. Line officers are expected to follow existing agency policies. Typically, new approaches to solving problems must fit within a pre-existing protocol, or run the risk of being considered illegitimate (e.g. Kaufman, 2006). Although individuals in agency leadership positions have some flexibility in shifting policy or setting new mandates, supportive agency leaders still need to provide a rationale for adopting unorthodox proposals, and must confirm that a given proposal adheres to the agency's broader policies and legal mandates. Thus, in the Xáxli'p and Karuk cases, shifting policy to address local Indigenous community interests required linking new ideas to existing agency structures and rules. Several B.C. agency representatives described this process as identifying a "policy fit," which I view as the first step in identifying a potential pivot point. Coming up with a workable pivot point also requires adapting existing policies to address community interests, and resisting status quo policy standards.

In both the XCF and Ti Bar Demo the initial policy fit provided a loose fit with community interests, and offered just enough traction for individual agency champions to work with tribal land managers in making the necessary adjustments to respond to community goals. Having a productive working relationship with selected agency staff helped Indigenous communities to explore how they could work with existing rule systems to create something new, and thereby address community priorities. Agency officials needed an existing policy linkage to validate the respective community proposals to other agency staff, who were less supportive. Thus, I view the pivot point policies described above as a critical moment for agency leaders, as well as for Indigenous community members. It was the pivot point offered by the ID Team framework and B.C. Community Forest policy that allowed Indigenous and agency representatives to work together in making policy shifts forwarding new Indigenous resource management initiatives, which respected community land management values, Indigenous self-determination principles, as well as selected components of agency policy frameworks.

This is not to suggest that collaborating around such pivot points was easy. Even when community and agency representatives agreed to explore areas of mutual interest through existing policy, there were risks involved for both parties. Indigenous communities had to consider unintentionally validating agency positions that they did not agree with, or exposing themselves to coercive government policies, as part of participating in a government-sponsored project. This included the risk of inadvertently losing ground on disputed aboriginal land claims. On the government side, agency representatives were being asked to stretch existing protocols and policies in ways that may not have been popular with other agency staff, and sometimes went against existing agency culture. In addition, some of the policy changes made could have been viewed as a violation of existing regulations, depending on who was interpreting those regulations.

Agencies also had to consider the possibility of an individual Indigenous resource management agreement setting a precedent for how the agency would be expected to work with other Indigenous communities, and any related political and economic costs of such a precedent.

For such collaborations to work, support from higher levels of leadership for the Indigenous resource management agreements being negotiated was required in both cases. Despite the existence of B.C. Community Forest policy, it was only at a higher bureaucratic level that agency officials had the flexibility to make an exception to the rules, and to approve the innovative terms of agreement that the Xáxli'p community brought to their Community Forest proposal. It was the Deputy Minister of Forestry who had the authority to reclassify the XCF as a legitimate proposal under agency policy—a political decision that was based on weighing the benefits and risks involved with implementing the XCF. It follows that line officers at the local level did not have the authority to implement the XCF on their own. In the words of several B.C. Ministry of Forests representatives, agency staff "needed a mandate" from higher-ups in order to move forward on the XCF. In the Karuk case, the eco-cultural restoration approach initially provided a connection point with a supportive Forest Ranger who moved the Ti Bar Demo forward as a co-management initiative. But without a Forest Supervisor who were willing to back up the co-management initiative at a higher level, the Forest Ranger's authority turned out to be insufficient to pursue the Ti Bar Demo project over the long term. Thus, this case analysis found identifying existing government policies that can function as a pivot point to be a useful strategy for promoting Indigenous resource management initiatives—under the condition that community members could successfully cultivate support from higher levels of agency leadership.

Case differences: Co-management as a catalyst

Despite similarities among community strategies, the respective cases had significantly different outcomes that were shaped by their individual circumstances. In considering the third dissertation question regarding co-management and outcomes, I discuss the role of Indigenous resource management or co-management agreements as a catalyst for change, even if the nature of that change is unknown. Describing co-management as a catalyst points out the uncertainties around co-management outcomes, thereby acknowledging the inherent risks involved with pursuing Indigenous resource management agreements. While agreements may facilitate community benefits, Indigenous communities are not immune to forces of co-optation that often shape negotiations with powerful government agencies. In this section I discuss some of the differences in case outcomes—including the level of legal rights afforded to each group, the scale of restoration projects, and project time frames. I then examine differences in the institutional arrangements that were used to support Indigenous resource management initiatives across the cases. Finally, I touch on some of the macro-level drivers shaping the individual cases. In comparing different case outcomes, this work is not intended to suggest that one community had a better strategy than the other, but rather seeks to understand how different circumstances shaped the respective resource management negotiations for each community.

3) How do co-management approaches affect Indigenous sovereignty and self-determination?

Differences in case outcomes

In terms of the Karuk case outcomes, the Ti Bar Demo project was relatively short-lived, but still had a positive impact for the Karuk Tribe. The project successfully enhanced particular cultural resources in the Ti Bar area—including hazel and willow for basketweaving. According to local residents, the thinning and burning conducted by tribal crews opened up forest areas to allow elk migration through what was previously a dense Douglas Fir plantation, and also decreased the threat of high intensity wildfire to local homes. As an additional impact, Ti Bar Demo provided tribal managers with the opportunity to demonstrate Karuk management approaches and thereby helped build additional legitimacy for tribal management institutions—within and beyond the Forest Service. This shift has facilitated opportunities for tribal leaders to forum shop their ideas among other organizations and agencies. Tribal managers have since become regional thought leaders on prescribed fire, and have helped create organizations such as the Northern California Prescribed Fire Council.

The Ti Bar Demo project also posed risks to the Tribe, which included the possibility of authorizing Forest Service treatments that could cause additional harm to valuable cultural resources. To decrease this risk, tribal land managers chose to conduct the demonstration project at Ti Bar, instead of primary ceremonial sites. It was only in 2012, ten years after initiating the Ti Bar Demo, that the Tribe signed a Memorandum of Understanding with the Forest Service regarding management of the Katimiin ceremonial area. Another concern with Ti Bar was its focus on small-scale treatments, which could be interpreted as "throwing a bone" to distract tribal members from landscape scale management issues. This was a real concern for some tribal managers, who wanted to use the Ti Bar Demo to launch landscape scale restoration. Still, this analysis views small scale restoration projects at Ti Bar as a highly valuable project output, which established a precedent for co-management and supported Indigenous institutions. At the same time, it is important to acknowledge that, given community concerns around fire management at the landscape level, the Karuk Tribe cannot accept patch-scale restoration initiatives as an end point.

In reviewing Xáxli'p case outcomes, the Xáxli'p Community Forest (XCF) Agreement was a significant win for the community. This was because the final XCF Agreement adopted almost all of the desired terms set out by Xáxli'p community negotiators, including the community's stipulation that the XCF be managed according to community plans—the Xáxli'p Ecosystem-based Plan and Traditional Use Study, also known as the *Ntsuwa'lhkalha Tl'ák̲men* [Our Way of Life] Study. Through the XCF, Xáxli'p gained community control over forest operations within the majority of its territory. By association, the community gained its own forest management institutions and the right to take a much lighter timber harvest than requested by agency personnel. The XCF also brought the community a number of good jobs, restoration projects, some limited timber harvest, and a framework for intergenerational knowledge transfer. The XCF is a long-term Indigenous resource management initiative, which continues to be implemented today. A number of XCF restoration projects have now been completed,

and community members are implementing land management activities within their territory, participating in XCF governance bodies, and attending community workshops on eco-cultural restoration.

One major risk with the Xáxli'p case was whether B.C. government would interpret the Xáxli'p Community Forest Agreement as an accommodation of Xáxli'p aboriginal title and rights—based on B.C. Forest and Range Opportunity (FRO) Agreement policy. To address this concern, Xáxli'p included assurance language in its FRO Agreement, which stipulated that the agreement would be made "with no prejudice to aboriginal title and rights." This amendment was a direct contradiction to stated FRO policy. Nevertheless, both parties signed the amended agreement language. In a more general sense, the Xáxli'p community was highly skeptical of signing any kind of agreement addressing aboriginal land rights. When the initial XCF proposal was attached to the B.C. Treaty Process, for example, Xáxli'p community members voted down the proposal, in part because of the community's distrust for the treaty process. This meant that in order to build community consensus around the XCF, project supporters had to pursue the initiative outside of treaty negotiations. They also had to assure community members that the XCF was recognized as an "interim" measure, meaning that the resource management agreement would not place limitations on the community's long-term goal of getting the land back.

In considering whether self-determination can be achieved through Indigenous resource management agreements, there can be strong differences in the degree of impact offered by a given agreement. For example, in these two cases the Xáxli'p and Karuk communities reached very different levels of community control through their respective resource management negotiations. In the case of the XCF agreement, the XCF governance structure placed Xáxli'p community members in charge of day-to-day forest operations within the XCF area. In the Karuk case, the opportunities for establishing greater community management autonomy over certain forest areas were more limited. The Ti Bar Demo provided a helpful forum for tribal managers to begin planning and implementing Karuk land management approaches on federal forestlands, as part of a larger, multi-stakeholder group. Yet the Ti Bar Demo initiative was not lasting, and the Karuk community is still working with the Forest Service to define governance structures that can facilitate productive, joint management initiatives through government-to-government negotiations. These findings demonstrate that there is no guarantee that Indigenous resource management agreements will provide communities with a desired outcome, although they do provide an additional opportunity for negotiation and for asserting community interests with dominant government agencies. Given the history of Indigenous voices being excluded from resource management decisions, such opportunities may be significant for facilitating shifts in status quo government policies.

Institutional arrangements: de facto versus de jure rights

The outcomes described above indicate another major difference between the cases—the Karuk and Xáxli'p communities' respective ability to establish *de jure* versus *de facto* rights through their agreements. Ti Bar Demo primarily led to increased *de facto* rights. In other words, despite some changes in land management practices, legal rights did not shift for the long run. The interagency agreement authorizing the Ti Bar Demo

project was not fully implemented, and the project's co-lead model was never replicated. For the Karuk Tribe, the real increase in resource access occurred through building additional tribal institutions and alliances that increased the Tribe's access to management authority. In contrast, the Xáxli'p Community Forest led to an increase in both *de jure* and *de facto* rights. In this case, resource management negotiations resulted in a tenure shift that increased Xáxli'p legal control over 75% of its territory, and also produced a lasting Indigenous resource management institution for governing the XCF. Although gaining forest tenure over the XCF area did not represent an outright change in land ownership for the Xáxli'p community, the XCF Agreement did provide a fairly stable structure supporting community management authority over the XCF area. And because of the initial funding provided to the Xáxli'p community through government agreements, the community was able to launch its own forest restoration initiatives. This produced a major increase of rights in a *de facto* sense for the Xáxli'p community. The increase in community capacity gained through the XCF program was key, since gaining "paper rights" supporting community management—without gaining the resources needed to practice community management on-the-ground—can be a serious issue.

In comparison to the Ti Bar Demo, the *de jure* changes provided by the XCF provided more lasting and larger scale benefits to community members. For the Xáxli'p community, the additional legal accountability provided through a formalized Community Forest tenure created something more than a temporary agreement. This was achieved, in part, due to the political and legal pressure for B.C. government agencies to accommodate aboriginal title and rights, as discussed below. Earlier direct action community protests that involved asserting community *de facto* rights also played a role in community success. By preventing clearcut logging within Xáxli'p territory early on, the Xáxli'p community effectively prevented major timber interests from operating within their core area. This was part of the reason that no industrial interests protested the XCF proposal during XCF negotiations. This illustrates an important interaction between multiple strategies, which came together to support the XCF initiative. As discussed in the section on macro-level drivers, below, the Karuk Tribe did not benefit from the same political drivers, which helped motivate longer-term legal changes in resource access in the Xáxli'p case.

For the Karuk, the strategy of asserting *de facto* rights laid the groundwork for negotiating Ti Bar Demo and has continued to play an important role in motivating resource management negotiations with the U.S. Forest Service. In a general sense, there are ongoing legal pressures for the Forest Service to fulfill its tribal trust responsibility with the Karuk, as a federally recognized tribe. Yet, in the Ti Bar Demo case, the formal agreement that authorized the project, an Interagency Agreement between the Bureau of Indian Affairs and the U.S. Forest Service, did not have staying power. When restoration treatments proposed through Ti Bar Demo were left undone, there were virtually no political consequences for the Forest Service. Yet this outcome has significant implications for Karuk tribal members. Important ecological and cultural resources in the Ti Bar area continue to be impaired, and Karuk families are still unable to fulfill their social and spiritual obligations to actively manage the land and cultural resources. As evidenced by the unraveling of Ti Bar Demo, the impetus for moving the project forward came from a small group of individuals; it was not an institutional commitment. This case study points out that, in order for long-term change to occur, joint management

agreements require additional legal and institutional backing than what was offered for the Ti Bar project. This was especially important in the Karuk case, given the turnover within Forest Service leadership that occurred midstream during project implementation.

Even if legal pressures to accommodate Indigenous interests in the U.S. are not as strong as in Canada, this cases analysis demonstrates a need for the Karuk Tribe and the U.S. Forest Service to develop more effective institutions and tools to support meaningful agreements between parties. Given that the interagency agreement model used to facilitate the Ti Bar project was not the right tool for resolving serious cultural resource management disputes between the Forest Service and the Karuk Tribe, it appears that alternate agreement formats need to be explored. This should include agreement models that support third party adjudication and meaningful conflict resolution capacity. More effective formats may emulate some of the institutions supporting Columbia River co-management, recognized as a longstanding and successful tribal-state resource management initiative (Diver 2012). Regardless of whether the term "co-management" gets used, co-management-like institutions will continue to be important for guiding Karuk-Forest Service relations and governing mid-Klamath forest management. Because the Karuk Tribe has no reservation and has only a few parcels held in trust, tribal land managers have little choice but to identify joint management strategies for managing cultural resources on federal forestlands. On the U.S. Forest Service side, the federal agency is legally obligated to fulfill its fiduciary responsibility to protect Karuk tribal trust lands and resources. It is also in the agency's best interest to address tribal concerns out of court, and to avoid direct action protests that erode the agency's reputation. Thus, the U.S. Forest Service is also interested in identifying a forum where agency and tribal land managers can exchange information, identify common ground, and engage in joint problem solving. The fact that there are clear motivating factors on both sides to develop more productive Indigenous resource management forums signals that positive change may be possible.

Macro-level drivers: shifting political context

There are, of course, macro-level factors contributing to the different outcomes in these two cases. These factors are contingent upon the changing social, political, and economic contexts within which the Karuk Tribe and Xáxli'p Community are working. Each community has created its own natural resource management institutions, based on the resources and policies available to them—thereby following the principle that you have to start from where you are. Building on existing experience with bureaucracies, negotiations, and resource management, each community has continued to adapt and grow its respective governance institutions in response to changing political contexts. As a result of shifting community capacity and new political developments, different outcomes become possible over time. In this way, implementing smaller projects can lead to larger scale initiatives.

As a case in point, one of the main drivers for the Xáxli'p case included shifts in Canadian laws recognizing the existence of aboriginal title and rights (see chapter 4.) When land claims have not been extinguished through treaties, recent Canadian court decisions have established that B.C. government agencies need to provide accommodations for aboriginal title and rights. In addition, given a 2014 legal decision,

it may now be in the best interest of government agencies to obtain formal consent from First Nations communities before moving forward on development projects that affect aboriginal lands project—a shift that would require government agencies to extend beyond accommodation measures. It is in this context that Xáxli'p has moved away from negotiations over "joint resources management" and towards self-governance initiatives like the XCF, which allow for more direct community control of Xáxli'p traditional territory. Although this is a much broader issue beyond the scope of this dissertation, it is important to note that the U.S. legal system has not recognized the existence of aboriginal title to the same extent as in Canada in respect to unceded Indigenous territories. In other words, the fact that the Karuk Tribe did not sign a valid treaty formally ceding its traditional territory to the U.S. government currently has little bearing, in a practical sense, on the Tribe's current political negotiations with the Forest Service—even if the Tribe maintains its moral stance that it has not given up rights to Karuk Aboriginal Territory. Thus, under the U.S. legal system, even if the Karuk Tribe has been afforded some use rights within federal forestlands (see chapter 1), tribal decision-making authority over land management decisions occurring outside reservation lands or the small number of tribal trust lands held by federal government on behalf of the Tribe has been severely limited in practice.

Broader issues: The intersection of sustainability and social justice

Protecting the land and getting it back—restorative justice issues

These cases demonstrate the importance of understanding the interconnections between sustainability and social justice that occur with Indigenous resource management negotiations. For community members seeking to restore their reciprocal relationships with the land, it is not useful to gain rights to lands that no longer have the capacity to support the ecological and cultural resources, which community members depend on. Similarly, addressing the environmental management problems affecting Indigenous lands—without acknowledging the histories of displacement and resource extraction that led to those problems—is highly problematic. This is because working exclusively through an environmental management framework fails to address the fundamental social justice issues driving natural contemporary resource management conflicts.

Addressing both sustainability and social justice issues at the same time can be difficult, however. In cases where political contestations over territory area remain unresolved, agencies may avoid addressing fundamental political issues of Indigenous land rights. Instead, agencies may focus on environmental issues to help bring groups together, and develop a sense of urgency around resource management initiatives. In the Karuk case, for example, points of mutual agreement with Forest Service officials have arisen around threats of catastrophic wildfire and build up of forest fuels—a contemporary forestry management challenge that is tied to years of wildfire suppression policy. Another area of common ground with forest management in Northern California and in B.C. has been the need to address pest or diseases outbreaks threatening forest health, such as mountain pine beetle, sudden oak death syndrome, or Port Orford cedar root disease.

Although environmental issues are a legitimate point of connection and can help groups transcend disparate politics, the social justice issues are still vitally important. As demonstrated by these cases, inadequate recognition of the social justice issues shaping environmental problems often blocks progress on Indigenous resource management negotiations. These cases illustrate some of the many social justice issues that deeply intertwined with Indigenous resource management initiatives. First, in both the Karuk and Xáxli'p cases, extensive resource extraction has occurred on Indigenous lands under the direction of government agencies. Given the relentless history of timber removal under agency management, Indigenous leaders in both communities view establishing community management authority as a prerequisite for achieving more sustainable forest management. Second, the Karuk and Xáxli'p communities are both working to protect natural resources (often non-timber resources) that are essential components of their cultural identity. But because forest management agencies were originally organized around the principle of avoiding "capture" by local interests (e.g. Kaufman, 2006), and because agency cultures have constructed a narrow view of "professional expertise" (e.g. Fairfax & Fortmann, 1990), Indigenous viewpoints have historically been excluded from agency decision-making—despite legal frameworks that emphasize tribal trust responsibility (see chapter 1). Third, although establishing territorial jurisdiction for Indigenous communities would help address ongoing Indigenous resource management disputes in the Xáxli'p and Karuk cases, land title has been awarded to newcomers in ways that are difficult to reverse. Reinstating ownership for Indigenous community members to their traditional family areas is often prohibitively expensive, or politically fraught. Among other issues, the lack of signed treaties with Indigenous peoples has made the recognition of Indigenous sovereignty over important cultural areas a muddled and frustrating process.

This raises the issue of what can be done in a contemporary context to rectify the histories of dispossession and environmental impacts affecting Indigenous land and resources, which continue to affect Indigenous communities today. Would more explicit recognition of the social justice aspects of land management help to provide a more complete picture of Indigenous community interests, and thereby lead to greater access for Indigenous peoples to their traditional lands and resources? Can new government policies begin to address the injustices underlying contemporary Indigenous resource management conflicts, by addressing aboriginal rights within the realm of natural resource management? Can we identify broader policy solutions that address Indigenous sovereignty over traditional territories and the valuable cultural resources within them?

One approach to addressing both the sustainability and social justice aspects of Indigenous resource management could involve exploring restorative justice solutions. For example, as one meaningful step towards healing agency-Indigenous relationships (cf. Middleton, 2010), we could build on existing restorative justice models by developing government-funded Indigenous restoration initiatives. Such initiatives could build off of examples like the XCF and the Ti Bar Demonstration project, but could also do more to explicitly acknowledge the links between establishing Indigenous resource management programs and resolving historical injustices. This step would only begin to address the cultural trauma of colonial era displacement and resource extraction that continues to impact Indigenous peoples and their traditional territories. But, by recognizing some of the root causes of negative Indigenous-state relationships, and by

acknowledging the ongoing social and environmental impacts of government land management policies, we may be more likely to realize productive relationships between Indigenous communities and government resource management agencies in the future.

Moving forward on Indigenous resource management initiatives alone is not sufficient to address the greater issue of Indigenous land rights. Given the importance of territorial jurisdiction that is emphasized by both the Xáxli'p and Karuk communities, it is difficult to image a solution to Indigenous resource management conflicts that does not directly address land ownership frameworks. This observation reiterates the findings of other scholars (e.g. Borrini-Feyerabend et al, 2004) that Indigenous resource management agreements are not a panacea, or even the end goal. Rather they are part of a broader set of negotiations over land, self-determination, and cultural survival. While natural resource management may address some aspects of Indigenous-state conflicts, these issues require attention from government leaders that extend beyond officials working with forest management agencies.

Building respectful research partnerships

Government agencies are not the only institutions that are well positioned to address some of the social justice issues impacting Indigenous communities. Academic institutions also have an opportunity to address some of the broader social justice issues discussed above. Researchers working on projects that relate to Indigenous lands can acknowledge the injustices that are embedded in environmental and land management decisions involving Indigenous communities. Another part of this restorative justice work relates to research methods. For example, as part of the Karuk-UC Berkeley Collaborative's work, Berkeley academics are explicitly joining an "effort to begin mending problematic relationships among universities, researchers, and Indigenous peoples" (Practicing Pikyav, 2013:1). The Karuk-UC Berkeley Collaborative[57] is a partnership between the Karuk Tribe and UC Berkeley researchers working together with their allies to enhance the eco-cultural revitalization of the people and landscapes within Karuk ancestral lands.

Academics working with Karuk tribal partners through the Collaborative are cognizant of research approaches that exclude local communities from knowledge production, and are instead working to include community research partners in co-creating research projects with practical outcomes (Diver 2014). This process involves negotiating issues of expertise and thinking creatively about how to share benefits. Developing productive, reciprocal relationships between academic and community research partners requires humility and patience, and the research relationships develop over time (Diver & Higgins 2014). Working through the Collaborative to establish respectful partnerships between academic and community researchers is especially important given the history of Berkeley's relations with California tribes. The

[57] Through a multi-year process that engaged Karuk community members and their partners, the Karuk-UC Berkeley Collaborative was co-created by Karuk tribal member Ron Reed, UC Berkeley professor Tom Carlson, and UC Berkeley researcher Jennifer Sowerwine. In the fall of 2008, Karuk-UC Berkeley Collaborative members presented this initiative to the Karuk Tribal Council. The Collaborative has launched an initiative to co-create a set of guiding principles, currently set out in the document "Practicing Pikyav," that can govern future research projects with the Karuk Tribe.

Collaborative's work may also transfer to other scenarios, such as attempts to establish collaborative management relationships between Indigenous communities and government agencies. Learning from the Collaborative's work may be especially valuable in considering how to break down hierarchical assumptions of expertise that often prevent resource management "professionals" and research "scientists" from recognizing the legitimacy of Indigenous viewpoints (see chapter 1).

Future research directions

Governance of natural resources

This work suggests the need for additional research on Indigenous resource management in multiple areas. First, there is a need for research on current macro-level policy drivers affecting the governance of federal forestlands. Although the Indigenous resource management arrangements discussed in this dissertation have resulted in the devolution of forest management authority to Indigenous community groups (to different degrees), it is important to consider whether such initiatives can be replicated into the future. This question is particularly relevant in cases where Indigenous territories are located within federal forestlands.

Recent events in B.C. and California forest management suggest a trend towards decreasing government regulation. Given current economic shifts, government forest management agencies in both regions have lost funding and prestige. In the case of the B.C. Ministry of Forests, the recent downturn in the B.C. forest sector, due to the 2008-09 collapse in the U.S. housing market, resulted in a funding gap for the agency, which has been forced to lay off many employees. These economic challenges also coincided with B.C. neoliberal government policies affecting forest management (Pinkerton et al., 2008). Under the policy framework of "professional reliance", some of the roles formerly performed by agency employees are now being performed by registered professional foresters. What will happen to government management functions in forestry if agencies continue to be defunded, and greater regulatory responsibility is shifted to the private sector? How will collaborative management initiatives be continued if government agencies become stretched so thin that they can no longer afford to be engage in meaningful relationship-building activities with Indigenous communities?

Shifts in government capacity with performing environmental regulation also have implications for Indigenous communities. In some ways, decreasing government regulation over timber harvest has helped to increase Indigenous self-determination, with community-driven initiatives like the XCF as a case in point. Despite their rejection of paternalistic government policies, however, Indigenous communities like Xáxli'p and the Karuk are not looking for federal governments to abdicate their regulatory role. U.S. Indigenous community advocates sometimes refer to the challenges of maintaining the "positive aspects" of federal trust responsibility. Even while intense conflicts between communities and government agencies persist, Indigenous communities still depend on government agencies to enforce basic environmental regulations. This is because government agencies play an essential role in challenging industrial developments threatening Indigenous lands and resources—and also public trust resources.

As B.C. timber markets bounce back, it is unclear how government agencies will respond to community restoration initiatives in the forestry sector. Initial drivers for both the XCF and Ti Bar Demonstration Project included policy shifts that ratcheted back some of the commercial timber production occurring on public lands. What will happen if market conditions improve, and government agencies become less supportive of community-driven restoration projects that render limited profits? And where will future operating funds come from for projects like the XCF and Ti Bar Demo if communities are no longer able to make a compelling case for government support?

Another helpful research area in terms of forest governance would be to explore changes in Pacific Northwest community forest initiatives. Of particular interest are potential changes in the level of government support for community forests, given decreasing funding allocations for forest management agencies.[58] In B.C., there are a number of community forests now operating[59], including a number of First Nation community forests. In a recent policy change, however, new First Nations Woodland Licences were created to provide a specific forest tenure area to First Nation communities. The new policy does not necessarily supplant B.C. Community Forest programs, but more research is needed to understand its implications. In Northern California, community forests are not widely established, and there is no equivalent to B.C. forest tenure systems. Yet there are still some examples of community forests that would inform future research. This includes the Weaverville Community Forest that includes sections of the Shasta-Trinity National Forests. There are additional examples of community forests in Northern California, which are located on private lands.[60]

Finally, additional research is needed on the complex interaction between environmental regulation and the social justice that occurs with Indigenous resource management. In the exemplar cases presented here, both the Karuk and Xáxli'p communities incorporated environmental and cultural sustainability as core land management goals. Yet, what about cases where the political interests of the day (of either government agencies or Indigenous community governments) do not prioritize sustainability across generations? Given this alternate scenario, environmental regulations that are enforced by government agencies may provide important checks on development. Unfortunately, given the challenges discussed in this dissertation—including uneven power relations, resource competition, and the persistence of colonial attitudes in agencies—government implementation of environmental regulations in a fair manner, which does not disproportionately impact Indigenous communities, has proven to be difficult (cf. Diver, 2012). There is also the issue of government agencies avoiding regulatory responsibilities, given difficult political conflicts over resource management policy and environmental regulations. It is therefore important to consider the unique role that contemporary Indigenous-state governance institutions can play in negotiating

[58] See www.for.gov.bc.ca/hth/timber-tenures/agreements/fnwl/fnwl-index.htm
[59] See http://www.bccfa.ca/.
[60] The Weaverville Community Forest initially became with agreements with the BLM, but now includes the Shasta Trinity Forest, http://tcrcd.net/wcf/index.htm. Examples occurring on private land include the Redwood Forest Foundation, Inc. (RFFI) http://www.rffi.org/AboutRFFI.html; the Yurok Tribal Community Forest, planned for lands that have been purchased by the Tribe from large timber companies http://www.yuroktribe.org/documents/phaseIpressrelease.pdf; the Arcata Community Forest, on municipally owned land http://www.cityofarcata.org/departments/environmental-services/city-forests/forest-history.

environmental policy, and sometimes stimulating more effective environmental regulation than government agencies can accomplish when functioning alone (cf. Diver, 2012).

Indigenous-led restoration in times of environmental and social change

Another area for future research is the range of issues shaping Indigenous-led restoration initiatives. This is especially interesting given rapid changes in our environment, and also policy change on aboriginal title and rights. Part of this dissertation deals with the linkages between Traditional Ecological Knowledge and Western science that are articulated through contemporary Indigenous resource management programs. Given growing concerns over global change, public interest in the linkage between TEK and Western science has been increasing. This development suggests a broader question for resource management: will uncertainty around global change impacts help address the invisibility of Indigenous knowledge that prevails in land management forums, and encourage innovations that build on Indigenous knowledge? Or will such uncertainty paralyze forestry agencies that are working within a set of established management policies, and struggling to protect themselves from legal liability?

In the Karuk case, local discourse on global change centers around the threat of catastrophic wildfire to the mid-Klamath area, where catastrophic wildfire is carefully differentiated from low intensity, prescribed burns. Multi-stakeholder conversations have converged around the fear of having catastrophic fires burn up all the resources that people care about, regardless of the disparate interests among stakeholders. Discourse on an impending environmental crisis seems to have created opportunities for including Karuk land managers in land management decisions, since many tribal members have retained deep knowledge about how to live within a fire-adapted landscape.

At the same time, after one hundred years of fire suppression, Klamath Basin forests are in a new forest state, which differs significantly from what forests looked like under traditional Indigenous management. Some of these differences include the increased density of forest stands, increasing fuel loads building up in the forest understory, and the predominance of dense conifer stands. Also, as with many Indigenous communities that have lost part of their Traditional Knowledge due to assimilation policies and other traumatic historical events, the Karuk Tribe is now working to rebuild its Traditional Ecological Knowledge. There is significant uncertainty involved with relearning and applying Indigenous management approaches in the context of such unprecedented forest conditions. Yet, even though not everyone agrees on a single path forward, a broad alliance of mid-Klamath community members that includes the Karuk Tribe is pursuing forest planning processes that grapple with the uncertainty involved with fire management. There are still a number of questions about how Indigenous knowledge can be incorporated into contemporary forest management. The issue of Indigenous participation in forest management also relates to the liability issues that concern the U.S. Forest Service, an agency that has been besieged with lawsuits. The reality of dealing with such uncertainty suggests the question, what kinds of policy shifts are needed to allow the agency to take on the inherent risks of conducting adaptive management experiments with Indigenous communities? And how can we create new

laws and policies that might reduce cases of agency paralysis resulting from liability concerns—while still ensuring that sustainable management occurs?

In the Xáxli'p case, the Xáxli'p Indigenous community's restoration initiatives intersect with a very different kind of liability that relates to Canadian legal decisions on aboriginal title and rights. As described earlier (chapter 4), recent court decisions have shifted a greater level of responsibility for addressing impacts to aboriginal lands onto the shoulders of government agencies. This is the case even if aboriginal title has not yet been conveyed to First Nations communities through a treaty or lawsuit. In other words, First Nations communities that have not ceded their traditional territories through a treaty can be viewed as "owners in waiting", until such time that their aboriginal title cases are heard in a court of law. Given recent legal decisions strengthening aboriginal title and rights, how can agencies create clear consent processes with First Nations communities? How can ongoing disputes over aboriginal title be addressed through natural resource management?

Given the environmental challenges and political challenges with addressing Indigenous land claims in a contemporary context, there is also a need for additional research that explores how Western science and Traditional Ecological Knowledge are being taken up by Indigenous resource management programs. This question should be answered through community-engaged research programs that cover a wide range of cases. Working with Pacific Northwest Indigenous communities that are running their own programs on a wide range of environmental and resource management issues. In addition to Indigenous-led restoration projects happening around the Xáxli'p community in B.C. and the Karuk community in Northern California, it would be useful to examine case studies in Washington and Oregon. This might include climate adaptation programs developed by the Tulalip Tribe, First Foods programs being led by the Umatilla Tribe, coastal management programs negotiated by Olympic Peninsula tribes, Nisqually Delta restoration with the Nisqually Indian Tribe, dam removal on the Elway River with the Lower Elwah Klallam Tribe, and many salmon restoration programs being run by many Northwest tribes.

Forest policy, traditional foods, and food security

One additional area for further study is the intersection of food security and forest policy. In both cases, community management goals include restoring traditional foods and fibers, as important cultural resources that are linked to community health. Traditional foods and fibers include a wide variety of understory plants, such as huckleberries, soapberries, acorn producing tanoak trees, mushrooms, as well as plants species used for basketweaving like hazel, beargrass, and many others. They also include important wildlife species, such as salmon, trout, deer, or elk. Increasingly, Indigenous communities like the Karuk Tribe have linked decreased access to traditional foods with disproportionately high levels of diet related disease within their community. Thus, forest management policies that prevent Indigenous management for traditional foods are implicated in broader public health issues affecting Indigenous communities (Norgaard, 2005; Reed & Norgaard, 2010). By explicitly making the link between the availability of healthy traditional foods, government land management policy, and community health, Indigenous communities are effectively reframing natural resource management

challenges as environmental justice and environmental health problems, with obvious social justice implications.

Focusing on traditional foods also reframes natural resource management as an issue that affects the whole community. Whereas forestry and fisheries are often male-dominated fields, reframing resource management challenges as a food production problem creates opportunities for involving more women, children, and families in land management issues. In the Karuk case, youth education programs that focus on traditional foods and fibers have opened up opportunities for tribal land managers to engage with the next generation of land stewards and cultural practitioners. Teaching about management of traditional foods in the community is a complex process that involves learning about government policy issues, as well as Karuk family traditions. This is because restoring traditional foods requires both tribal land management that restores habitat conditions (a process that often involves negotiating with forest management agencies), as well as revitalizing cultural caretaking traditions that support the sustainable production and use of traditional foods and fibers (traditions that are passed down within Karuk families).

In the Klamath Basin a number of Native American tribes, including the Karuk Tribe, are pursuing multiple initiatives to enhance food security for community members. Tribal land managers recognize that building a more sustainable regional food system requires making the connection between sustainable food systems and sustainable forest management. Additional research is needed to understand the barriers and opportunities for enhancing traditional forest foods that have been prioritized by the Karuk Tribe. Of particular interest are current laws and policies that affect Karuk land management practices on traditional territories, which are now designated as U.S. National Forest. Additional research is needed to identify the current sets of working rules and policies that could be used to ensure more sustainable access to traditional forest foods for tribal members in the future. This could include an analysis of current agroforestry policies within the Forest Service, or additional policy research on interagency agreement models to facilitate traditional foods management by and for Indigenous communities.

Closing thoughts

I view this research as an important step towards building additional legitimacy for the work Indigenous communities like Xáxli'p and the Karuk are doing to restore the ecosystem functions that affect their respective cultures, as well as to revitalize cultural traditions that benefit local ecosystems. Whether communities are working through a co-management framework or other governance structures, this dissertation recognizes the difficulty involved in creating Indigenous resource management initiatives, like the Xáxli'p Community Forest and the Ti Bar Demonstration Project, that do not follow a preexisting policy template. This study also acknowledges the work that government agencies can play in validating Indigenous resource management initiatives—through crafting new policy, providing funding, or supporting enforcement initiatives that uphold community-driven land management policy. Both cases have shown that building Indigenous resource management initiatives requires a significant amount of time and resources, both in terms of community and government investments.

Another important topic of this dissertation is the range of strategies used by Indigenous communities and their allies to facilitate Indigenous resource management initiatives. These case studies draw attention to the complexities of using existing forest management policies to support Indigenous community interests. Through the Karuk and Xáxli'p cases, I have discussed the strategy of using existing policy as a pivot point to facilitate changes in natural resource governance with Indigenous peoples. The pivot point concept recognizes that the political drivers for Indigenous resource management negotiations are located somewhere in between the extremes of cooptation and transformation. It is not one or another. Rather, Indigenous community negotiators in these cases were strategic about identifying an existing policy framework that could give them some traction with government agencies, and then pushing back through negotiations to address key policy limitations. In this way, Indigenous communities and their allies can take advantage of selected government policies that advance their interests, without compromising their core values. Despite the ongoing tensions that communities may experience with working with government agencies, this research has shown that Indigenous resource management negotiations can help build legitimacy for Indigenous institutions and community land management goals, which contributes to policy change.

These case studies also demonstrate that, if future Indigenous resource management initiatives are going to be successful, there is much work to do. Although government agencies often state an interest in collaborating with and learning from Indigenous peoples, these cases demonstrate that a greater commitment is required for such goals to be realized in practice. The uncertainty of global change events is motivating an increasing openness among government and scientific leaders to learning from the diversity of knowledge and experience that make up our society. But it is one thing to convene a workshop on Indigenous knowledge, and another thing to incorporate such different knowledge systems into a preexisting bureaucratic and hierarchical land management structure. Making a commitment to working with Indigenous communities requires going beyond conceptual discussions and addressing hard issues involving resource access and Indigenous land rights. And if we are to avoid recapitulating a history of broken promises and assimilationist government policies, incorporating Indigenous knowledge and interests into resource management practice will require significant human and monetary resources.

Yet these cases also show that Indigenous community leaders and their allies are already doing serious work to create positive change and generate successful Indigenous resource management initiatives. Perhaps it is by following such examples and by bringing together a diversity of thought processes, along with our collective resources, that we can begin to restore connections between human and environmental systems. This could be just one step towards solving the many societal and environmental problems that we face—and solving these problems in an ethical manner that acknowledges marginalized communities, and respects humans and non-humans alike. As we see from the Xáxli'p and Karuk cases, these efforts require vision, risk-taking, and patience, but it is possible to make it work. As Karuk tribal member Harold Tripp put it so well, we have to keep plugging along.

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Appendix 1: Xáxli'p pronunciation

Community language revitalization programs are an important step towards addressing the history of colonization and loss of Indigenous languages. As with many aspects of Indigenous knowledge, learning can ideally occur within the local community context—where teaching can happen on the land and with knowledgeable community members. The oral tradition is important, in part, because the act of writing down knowledge that is embedded in particular cultures and places can sometimes lead to misinterpretation and confusion. Thus, pronunciation of the Lillooet language is best gained from listening to a native speaker.

Scholars have nonetheless developed a written version of the Lillooet language and its Fraser River dialects (also referred to as the Northern St̓át̓imcets or St'at'imc language) spoken by Xáxli'p people. To avoid confusion among language learners, Xáxli'p people avoid English spelling and use their own spelling system/orthography. See the "Learn our Language" section of the First Voices website at http://www.firstvoices.com/en/Northern-Statimcets/welcome.

The discussion below offers a description of St'at'imc orthography, as the correct writing system for the language, which should be used to guide a more precise pronunciation—ideally with guidance from a native speaker.

Although the local community uses "Xáxli'p" as the conventional spelling for its name (see www.xaxlip.ca), linguist Jan van Eijk explains that there are three different orthographies used to spell Xáxli'p, which include the (more or less standard) Amerindianist transcription, and the practical orthographies designed by Jan van Eijk or Randy Bouchard (personal communication, Jan van Eijk, October 27, 2014). These are:

Amerindianist: xáxɬəp
van Eijk orthography: cácl'əp
Bouchard orthography: xáxl'ip

Using the Ameriindianist orthography xáxɬəp as a starting point (also see the van Eijk's (2013: 235) *Lillooet-English Dictionary*), I discuss how existing linguistic studies can be used to guide pronunciation by a non-speaker of St'at'imc language. Note that there are differences between the Amerindianist transcription, and the van Eijk and Bouchard practical orthographies, which are discussed in van Eijk (1997).

x – represents a special sound in St'at'imc language that has no corresponding symbol in the English alphabet (Bouchard et al. 1973:4). According to Bouchard, 'x' is pronounced as "a 'friction' sound, which is made with the tongue in the same position as with a St'at'imc 'k' (pronounced similarly to an English 'k') (Bouchard et al. 1973:4, Hayden 1992:35). Van Eijk further explains that the 'x' is a velar fricative that is "produced with the back of the tongue close to the velum (the soft part of the palate) and with the air squeezed out through the narrow opening between the back of the tongue and the velum." This 'x' differs from the raspier sound that is represented by the Amerindianist symbol 'x̌' (pers. com., Jan van Eijk, October 27, 2014).

á - represents a St'at'imc vowel, whose pronunciation can "vary from the 'e' of English 'bet' to the 'a' of English 'bat' (pers. com., Jan van Eijk, October 27, 2014). In both the Bouchard and the van Eijk systems, a stress sign is provided over the vowel that is pronounced the loudest when a word contains two or more vowels (Bouchard et al. 1973:2, van Eijk dictionary 2013:xiii).

x - pronunciation for the symbol 'x' is described above.

Í - the symbol 'Í' represents "an 'l' with (to simplify things a bit) a simultaneous burst of air (glottal stop), i.e. the same burst of air one often hears before the vowels in 'uh-oh!'" (pers. com., Jan van Eijk, October 27, 2014). Other linguists also describe the 'l' as being weakly glottalized or "exploded" (Bouchard et al.1973:1).

ə - the symbol 'ə' is used to represent a "rather 'dull' vowel (so-called schwa) that is written 'e' in, for example, 'market' or 'tandem' or as 'a' in, for example, 'along.' It can have a number of variant pronunciations." And in this case, "it sounds a bit like the 'i' of English 'pit'" (pers. com., Jan van Eijk, October 27, 2014).

p - the symbol 'p' is pronounced similarly to the English "'p' in 'spill' (but not like the 'p' in 'pill,' which is heavily aspirated in English, but not in Lillooet)" (pers. com., Jan van Eijk, October 27, 2014).

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Appendix 2: Glossary of terms

Note: Terms are defined in the context of this dissertation, and reflect how I am using theoretical concepts to analyze my case studies.

Access (or resource access) – a term derived from Ribot and Peluso's (2003) theory of access, meaning "the ability to benefit from things – including material objects, persons, institutions and symbols" with an emphasis on the *ability* to benefit, rather than establishing the *right* to benefits (Ribot and Peluso, 2003:153). As opposed to thinking about the metaphor of a "bundle of rights" that is used in property theory, Ribot and Peluso suggest thinking about access as a "bundle of powers".

Annual Allowable Cut (AAC) – the B.C. Ministry of Forests uses a set of rules and formulas to define and regulate how much timber can be harvested throughout the province. The agency uses Annual Allowable Cut (AAC) as the primary measure of timber harvest. AAC refers to the number of cubic meters of wood (timber volume) that can be legally harvested within a particular area over a year's time

British Columbia Ministry of Forests (B.C. Ministry of Forests) – this agency has undergone several name changes. Although the current name is the Ministry of Forests, Lands and Natural Resources Operations, I am using the term Ministry of Forests for consistency. This refers to the provincial level government agency that sets and enforces forestry regulations, and conducts forest management planning in British Columbia. The Ministry of Forests is responsible for issuing various forms of forest tenures to different licensees across the region. It has management jurisdiction over areas classified as provincial "Crown lands."

B.C. New Democratic Party (NDP) – this is the social-democratic political party in British Columbia, which is a branch of Canada's NDP. In the early 1990s, the NDP was voted into power at the B.C. provincial level and played an important role in developing the B.C. Treaty Process with First Nations. Before losing to the Liberal Party in 2001 elections, NDP government representatives began developing Interim Measure Agreements with First Nations that could survive the upcoming election.

B.C. Treaty Process – historically, British Columbia did not sign treaties with the majority of aboriginal communities within the province. However, a number of key Supreme Court decisions and the Canada Constitution Act of 1982 recognized the existence of aboriginal title and rights, and B.C. government initiated the B.C. Treaty Process in 1992 to facilitate modern day treaty negotiations. Although a few First Nations communities have successfully reached a final agreement with B.C. government, many other First Nations chose not to participate or exited the process before reaching final stages of negotiations.

Co-management – the sharing of management power and responsibility between government agencies and local people, which is characterized by a formalized arrangement that is intended to facilitate significant participation in resource management decisions by local resource users (Pinkerton, 1989; Berkes, George and Preston, 1991; Berkes and Turner, 2006; Berkes, 2009). In practice, co-management operates on a continuum, where the degree of power sharing within co-management initiatives can range from more consultative to more community-driven arrangements (Berkes, 1994; Borrini-Feyerabend et al., 2004).

Community-based participatory research (CBPR) – an orientation to research that begins by identifying a research topic of importance to the community and proceeds with the aim of combining knowledge and action for social change that benefits the community (Cornwall & Jewkes, 1995; Minkler & Wallerstein, 2003). The level of community participation in the research may vary along a continuum (e.g. Minkler & Wallerstein, 2003).

Community Forest Agreement (CFA) tenure – an exclusive forest license, which may be offered by B.C. government to an aboriginal or non-aboriginal community, to conduct forestry operations over a specific land area—with the primary intent of supporting forest management that forwards a set of community-defined goals. Full term CFA tenures, which extend from 25-99 years and are renewable, have been available since 2009.

Co-production of knowledge and social order – an analytic approach developed by Sheila Jasanoff in the science and technology studies literature that shows how ways of knowing the world (natural and social) are inseparably linked to the ways in which people seek to organize social order. Co-production explores, "how knowledge making is incorporated into. . . governance, and in reverse how practices of governance influence the making and use of knowledge" (Jasanoff 2004:2-3). Emphasizing the simultaneous ordering of knowledge and politics, of science and society, the concept may be used to understand the role that science and society play in shaping environmental problems and solutions.

De facto rights – rights "in practice," where rights may not recognized by government laws, but they typically have a "socially sanctioned base in customary or conventional legitimacy" (Ribot and Peluso 2003:156).

De jure rights – rights that are derived from laws or legal mechanisms (e.g. titles, permits, licenses) (Ribot and Peluso 2003).

Eco-cultural restoration – restoring dynamic ecosystems and human cultures together, as interconnected processes (e.g. Karuk DNR 1995). The term eco-cultural restoration term speaks to the "false choice"[61] between ecology and culture. Restoring ecological processes is an important part of revitalizing Indigenous cultures, given that it is healthy ecological processes that maintain natural resources, which communities depend on for

[61] This term of "false choice" in the context of nature/culture comes from a conversation with Dr. Jessica Weir, held on May 2, 2014.

their cultural survival. And vice versa: restoring cultural management systems is an essential part of revitalizing local ecosystems, given the ongoing importance of tribal land management practices in shaping cultural landscapes.

Ecosystem-based Plan (EBP) – a community-based approach to land use planning that aims to achieve ecological and culturally sustainable land use. The Xáxli'p community began developing its Ecosystem-based Plan (EBP) around 1996 with Herb Hammond and Silva Ecosystem Consultants, Ltd. By overlaying maps of sensitive cultural areas and sensitive ecological areas together, the Xáxli'p community was able to map out both culturally and ecologically sensitive areas where timber harvest should be avoided within Xáxli'p Survival Territory. In consultation with elders and cultural practitioners, the community was then able to identify remaining areas that could be considered appropriate for sustainable forestry or other types of development.

Feminist research methods – a wide range of evolving research approaches that seeks to disrupt the uneven power relations that exist within the communities where we work, and also between academic and community research partners (Alkon, 2011; Collins, 1986; Frisby, Maguire, & Reid, 2009; Maguire, 1996; Stephens, 2012). Feminist perspectives distinctly contribute a framework for recognizing the "specificity of gender or other social positionings, in terms of what strategies are chosen and what sites of resistance are created" (Weiner, 2004). By explicitly acknowledging gender, class, race, ethnicity and other social positions, feminist researchers seek to identify the power dynamics that shape whose voices are heard, and whose voices are silenced. Feminist research approaches also suggest that inquiry should start from the standpoint of community members and their lived experiences (Haraway, 1988; Harding, 1995, 2004, 2008, Sangtin Writers Collective & Nagar, 2006).

First Nations Woodland Licence (B.C., Canada) – around 2010, the B.C. legislature approved the First Nations Woodland License as a new form of long-term, area-based forest tenure, available only to First Nations that have entered into an "interim agreement" with B.C. government. With the First Nations Woodland Licence, First Nations are not required to pay B.C. government full annual rent fees, which are typically associated with an area-based license.

Forest and Range Agreement (FRA) – developed around 2004, the FRA policy was initially intended to help government agencies respond to legal requirements to "accommodate" B.C. First Nation communities for aboriginal title and rights claims that have yet to be litigated. Funding programs intended to share forestry revenues gained from logging on aboriginal lands as a form of "economic accommodation". Forest and Range Agreements (FRAs) provided First Nations with program funding and the opportunity to receive a short-term forestry license as part of an "economic accommodation measure".

Forest and Range Opportunity Agreement (FRO) – in response to First Nation complaints about paternalistic language in the original FRA policy, the Ministry of Forests replaced FRAs with Forest and Range Opportunity Agreements (FROs) around 2005. The typical FRA/FRO Agreement provided First Nation communities with the opportunity to receive a 5-year forestry license to harvest within a general timber supply area and program funding. Working through the new FRO programs, the Xáxli'p community requested a Community Forest Agreement (CFA) tenure, as an exclusive license to manage forests within Xáxli'p traditional territory.

Geographic Information Systems (GIS) – GIS is a map-based spatial analysis computer program that can be used as a land use decision-making support tool. The approach builds off of earlier environmental planning methods that used transparent map overlays. Developed by Ian McHarg and others, the earlier approach was sometimes called "factor mapping" or "suitability analysis." This involved shading different landscape factors that could affect land use, mapping this information on transparencies, and combining spatial data by layering multiple transparencies of interest. In the Xáxli'p case, GIS mapping was used as a spatial analysis tool that helped identify culturally sensitive areas and ecologically sensitive areas within the Xáxli'p Survival Territory, as well as other areas that might be more "suitable" for sustainable development.

Indigenous articulations – a concept developed by James Clifford (2001) that describes describe the careful linkages or "articulations" that Indigenous peoples are creating to form new representations of Indigenous identity in a contemporary and changing world. I use this concept to concepts make visible the intentional linkages that some Indigenous communities are creating between Traditional Ecological Knowledge (TEK) and Western science, as well as linkages between Indigenous community interests and existing government policy. These are not necessarily permanent linkages (Grossberg 1986, Hall et al. 1996, Clifford 2001), but are rather dynamic connections developed within a specific cultural and socio-political context.

Indigenous community – present day communities whose ancestors were living in Canada and the U.S. prior to the arrival of European colonists in North America. In the Canadian context, the term First Nation community may also be used.

Indigenous resource management – natural resource management by and for Indigenous communities (cf. Anderson, 2005; chapter 3, this volume).

Indigenous resource management institutions (IRM institutions) – although IRM institutions take different forms (Agrawal and Gibson 1999, Watson 2003, Anderson 2005, Aggarwal 2008), this article focuses on more formalized institutions that support the community-driven land management decisions by Indigenous peoples. Formalized IRM institutions may support Indigenous communities in their interact with government agencies on natural resource management issues across multiple state jurisdictions, (e.g. Cornell and Kalt 1998, Curran and M'Gonigle 1999, Donoghue et al. 2004, Middleton 2011). This is in contrast to less formal management institutions, such as internal community protocols or norms supporting ongoing community land use.

Karuk Aboriginal Territory – the Karuk Tribe's historical use area, defined by the Constitution of the Karuk Tribe as amended (2008) and associated maps as being "all submerged lands, and the beds, banks, and waters of all the waterways within the territory and the Tribe's usual and customary ceremonial, hunting, fishing, and gathering sites" (Constitution of the Karuk Tribe, 2008).

Karuk Tribal Lands – an inclusive term, defined as the Karuk Tribe's "Aboriginal Territory, service areas, and all lands subsequently and hereafter acquired by and for the Tribe, whether within or outside of the Tribe's Aboriginal Territory" (Constitution of the Karuk Tribe, 2008).

Karuk Tribe – a federally recognized tribe that comes from the mountainous area in the middle-section of the Klamath River. Karuk Aboriginal Territory, which covers approximately 1.38 million acres, extends across the boundary of California and Oregon. The Karuk Tribe is often distinguished from neighboring tribes based on its distinctive language, designated as part of the Hokan language group (Bright 1978). With over 3,500 members, it is one of the largest tribes in California (Karuk Tribe, 2008; Office of the Tribal Chairman, 1995). Yet unlike neighboring tribes, the Karuk Tribe has no reservation, and its political status was formally confirmed by the U.S. government in 1979.[62] See http://www.karuk.us/.

Lillooet – this is the name of the present day town located about ten minutes to the south of Xáxli'p Survival Territory in B.C., Canada. The town of Lillooet is based within the aboriginal territory of Cayoose Creek (Sekw'el'was), one of the Indigenous communities that make up the broader St'át'imc Nation. The word "Lillooet" was previously used as a general term to represent the St'át'imc Nation or Lillooet Tribe. The word "Lillooet" is also closely related to the word "Lil'wat". However, "Lil'wat" refers to the Mount Currie (Lil'wat) Indigenous community – another distinct aboriginal community that is part of the St'át'imc Nation.

Natureculture relations – describes the mutual and ongoing relations between humans and non-humans that co-constitute complex ecological and cultural landscapes—landscapes that are embedded within the cultural identity of many Indigenous peoples (cf. Haraway 2003).

Non-replaceable Forest License (NRFL) – this is a form of volume-based tenure that provides the licensee with the ability to operate short-term forestry projects, typically over a five-year period, within a general forest area. Unlike other forms of tenure that can be renewed before the lease term ends, this is a non-renewable lease. The Ministry of Forests initially offered the Xáxli'p community a five-year NRFL as part of a Forest and Range Agreement (FRA)/FRO Agreement. However, Xáxli'p did not accept this offer.

[62] Letter from the United States Department of the Interior, Assistant Secretary - Indian Affairs, January 15, 1979. The Assistant Secretary writes that he is, "herby directing that the government-to-government relationship, with attendant Bureau services within available resources, be re-established. Accordingly, I am further directing that the tribe be added to all lists of federally recognized tribes maintained by the Bureau of Indian Affairs."

Pivot points – a conceptual term that I have developed to describe existing government policies that provide a starting point for Indigenous communities to negotiate self-determination and policy change through both resisting and engaging with government standards.

Prescribed burning – fire that is ignited under known conditions of fuel, weather, and topography to achieve specified objectives (Agee 1993). This case also refers to prescribed burning as the intentional human use of low intensity burns for vegetation management—often for the purpose of decreasing hazardous fuels build up, increasing forest health, and/or checking forest successional stages to enhance desired understory vegetation (e.g. Anderson 2005, 2006).

Public trust responsibility – an evolving legal concept that emphasizes the government's responsibility to protect the general public's interests regarding common waters (esp. navigable waters), public lands (esp. parks), and the resources contained within them (such as fisheries or other natural resources). The concept is often invoked with disputes over government regulation of public lands, navigable waters, or tidally influenced lands, when government bodies convey ownership or use rights to private interests, despite potential negative impacts on public use (Sax, 1970).

Self-determination – the "normative grounds for the decolonizing process" that address the desire of Indigenous groups for "meaningful participation, commensurate with their interests, in procedures leading to the creation of or a change in the institutions of government under which they live" (Anaya, 1993:143, 145).

Sovereignty – the power to govern, often achieved through asserting jurisdiction over territory and people (Kickingbird et al., 1983).

St'át'imc Nation – the Xáxli'p community is part of the St'át'imc Nation, previously referred to as the Lillooet Tribe. The St'át'imc Nation is the broader tribal group that is made up of eleven distinct aboriginal communities – each with its own government. These communities are all based in B.C.'s Southern Interior region around the middle sections of the Fraser and Lillooet rivers, and they share some similarities in language and culture. Each community has political representation within the St'át'imc Chiefs Council (SCC), previously the Lillooet Tribal Council. See http://www.statimc.net/

Stumpage – this is the price that a logging company pays to a current landowner for the right to harvest from a given land base. This price is set based on the number of trees harvested, or "per stump". In Canada, provincial governments claim jurisdiction over the majority of forestlands, so stumpage is paid to provincial agencies. Canada's stumpage rates, measured in dollars per timber volume (cubic meters of wood), are determined by legislation and may vary according to the type of tenure agreement. In addition to stumpage, a logging company may also be required to pay "annual rent" to the provincial government as a set fee.

Ti Bar – a wide river bar, formed by that sediment that has accumulated around the mouth of Ti Creek, where it flows into the Klamath River. The area is located about mid-way between the towns of Orleans and Happy Camp within the mid-Klamath region. The term Ti Bar or Ti Creek is also used to refer to Ti Creek sub-watershed, an area of 6,060 acres, or about ten square miles (Ukonom, 1998:3-1).

Ti Bar Demonstration Project – a *de facto* co-management initiative between the Forest Service and the Karuk Tribe in the late 1990s to conduct several Karuk eco-cultural restoration projects within federal forestlands, located within the Ukonom Forest District of the Klamath National Forest. The project was authorized by an Interagency Agreement between the US Forest Service and Bureau of Indian Affairs (BIA), which committed the agencies to working with the Karuk Tribe to establish a tribal Demonstration Project. While some of the planned restoration projects were completed, others were abandoned after a shift in Forest Service leadership.

Third space strategies – this term is based on Kevin Bruyneel's (2007) "third space of sovereignty" analytic. I have developed this term to refer to Indigenous communities taking a politics-on-the-boundaries approach to struggles over territory and resource management, where Indigenous communities both engage with and push back on dominant government policies by simultaneously working inside and outside government structures.

Traditional Ecological Knowledge (TEK) – TEK is often recognized as a subset of broader and dynamic Indigenous knowledge. Although TEK can take multiple forms and can be defined in multiple ways, one working definition of TEK developed by researcher Fikret Berkes (1994) is, "a cumulative body of knowledge and beliefs handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment."

Tribal trust responsibility – a concept within U.S. federal Indian law that describes a fiduciary obligation held by the U.S. federal government towards federally recognized tribes. Tribal trust responsibility is typically enforced with the U.S. executive branch in relation to tribal lands and resources, where assets are held in trust for a tribe by the federal government. This responsibility was developed out of early U.S. laws establishing congressional power to regulate commerce with Indian tribes and presidential power to make treaties, as well as out of the judicial system with Chief Justice John Marshall's decisions describing the guardianship role held by the U.S. government towards Indian tribes (Canby, 2009).

Xáxli'p – (see appendix for pronunciation guidelines) refers to the aboriginal community that comes from Xáxli'p Survival Territory (Fountain Valley and surrounding areas in south-central British Columbia, Canada). The community was previously referred to as the Fountain Band. The word "Xáxli'p" means "brow of the hill," and one part of the community lives on the "benches" or "terraces" of land, which look out over the Fraser River. Although Xáxli'p language has additional words that describe the particular place, people, and language, the word "Xáxli'p" is used in multiple ways within the English language context:

> ***Xáxli'p Indigenous community (collective noun)*** – this is the collective group of people who identify them selves as members of the Xáxli'p community. This includes individuals living on reserve and off reserve, throughout Canada and beyond.
>
> ***Xáxli'p (noun)*** – this can be an individual member of the Xáxli'p Indigenous community, or the collective group of people who are Xáxli'p as described above, or the place where Xáxli'p people come from, namely Xáxli'p Survival Territory.
>
> ***Xáxli'p (adjective)*** – Xáxli'p can refer to someone or something that is related to the Xáxli'p people and their distinct culture.

Xáxli'p Community Forest Agreement (XCF Agreement) – this refers to the Community Forest Agreement tenure, signed by B.C. government and the Xáxli'p government in 2011. The XCF Agreement established a Community Forest area that covers the majority of Xáxli'p Survival Territory (about 75 percent). The XCF Agreement provided the Xáxli'p Indigenous community with long-term, exclusive timber harvest rights within the XCF area. The Xáxli'p community was formally invited to apply for the XCF by the Ministry of Forests. The invitation was authorized by the 2006 Xáxli'p Interim Agreement on Forest and Range Opportunities (FRO) Agreement, which stipulated that XCF management would occur according to Xáxli'p community plans – the Xáxli'p EBP and TUS/Our Way of Life Study.

> ***Xáxli'p Community Forest*** – this is general term used to refer to the overall Xáxli'p Community Forest program and all of its components.
>
> ***Xáxli'p Community Forest Corporation (XCFC)*** – this is the legally recognized institution created by the Xáxli'p community to govern the XCF. The XCFC board is the primary governance body. Xáxli'p Chief and Council, as a collective body, are the single stockholder and provide oversight for the XCFC board.

Xáxli'p Survival Territory – this is the land that Xáxli'p people come from and have defended for many generations as their aboriginal territory. This a land area of 31,419 hectares or 320 square km, which is based in and around the Fountain Valley. The Territory is located about ten minutes to the north of Lillooet, B.C., along the middle section of the Fraser River. Xáxli'p elder Tommy Adolph coined the term "Xáxli'p Survival Territory" during B.C. Treaty negotiations to describe the integral and long-enduring relationship that exists between Xáxli'p people and the land (personal communication, Herman Alec, August 4, 2010).

Xáxli'p Traditional Use Study (TUS), also the Ntsuwa'lhkalha Tl'ákmen or Our Way of Life (Traditional Use Study/Our Way of Life) – this was a self-funded, Xáxli'p community-based initiative that mapped aboriginal land use and occupancy on Xáxli'p Survival Territory. The TUS/Our Way of Life Study was conducted both for the purpose of documenting Xáxli'p cultural use for future Xáxli'p generations and for resolving land and resource management disputes with B.C. provincial government. According to Herman Alec, Xáxli'p elder Maggie Adolph referred to the TUS study as *"Ta temixwlhkalha múta ntl'ákmenlhkalha,"* which can be translated from Xáxli'p language into English language as the following, "This is our land and our way of life."

Xusum or xwúsum – this is an important traditional food that is enjoyed by many Xáxli'p community members. It also known as soapberry, soopolallie, or *Sheperdia canadensis*. The plant produces red, bitter berries, which contain a natural, low-sudsing detergent called saponin. Xusum is sometimes processed into juice, which can be stored as a concentrate and then diluted for drinking. It can also be whipped into a foam and eaten as "Indian ice cream," a term that is used by Xáxli'p community members and other Indigenous communities.

Western scientific knowledge – as with Traditional Ecological Knowledge (TEK), Western scientific knowledge can take on multiple forms and has multiple definitions. However, researcher Arun Agrawal (1995) describes society's expectations of Western science as being "guided by empirical measurements and abstract principles that help order the measured observations to facilitate the testing of hypotheses." He further notes that Western science "aims at a more analytical and abstract representation of the world" and also "builds general explanations that are one step removed from concrete realities and which result in insights that can be used for problem-solving in many different contexts." Importantly, Agrawal does not see these knowledge traditions as being exclusive to Western science—rather he suggests that society has created a false dichotomy between Traditional Ecological Knowledge and Western scientific knowledge. I refer to Agrawal's definition here because he emphasizes points of overlap between Western science traditions and Indigenous knowledge, as does the XCF case study.