Indigenous Forestry in the Americas:
Comparative Environmental Histories in Bolivia and Wisconsin

By

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Abstract

For many indigenous communities forests have powerful cultural, historical, and economic meanings. In this dissertation I explore the meanings of forest management for two indigenous communities. I address three fundamental questions: How do indigenous communities understand their relationship with forests and forest management? Why have they engaged in forest management? How does history shape definitions and practices of sustainability? To answer these questions I use combine historical and qualitative research methods using a case study approach.

The first case study centers on the Menominee Indian Tribe of Wisconsin. I discuss the composition of the Menominee forest in the mid-1800s and argue that differing perceptions of the forest had profound effects on forest management. I discuss the 1890 and 1908 laws that limited harvesting on the Menominee reservation. These laws were the first to set harvest limits in the United States. I also use oral history interviews to understand Menominee perceptions of forest management, sustainability, and the legacy of Menominee forest management. I show how tribal members have used forest management to further Menominee goals, cultural values, and community well-being. Finally, I explore multiple tribal perspectives on forest management in relation to ecological changes.

The second case study centers on forestry in Bolivia. I explore the cultural, historical, and environmental influences that affect forest management and perceptions of sustainability among lowland communities. I explore how lowland indigenous people expressed their demands for territory through a 1990 protest march and outline the Bolivian government's subsequent decision to enact multiple laws including the 1996 Forestry Law. I then use community documents and oral history interviews with Guarayos people to explore their perspectives of sustainability, forest management, and the 1996 Forestry Law. I show that Guarayos people view community forest management as a tool to control their territory and provide community benefits.

Despite different histories, cultures, ecosystems, and values, there are several similarities between Menominee and Guarayos perceptions of forest management. Both the communities have used active forest management—harvesting trees for timber—to foster territorial control; strengthen community well-being; protect the forest; and bolster cultural connections between past, present, and future generations.

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Chapter 1: Introduction and Methods

For many indigenous communities across the Americas, forests have powerful cultural, historical, and economic meanings. Forests provide tribal members with benefits including clean water, carbon sequestration, wood products, cultural resources, and wildlife habitat. In this dissertation, I argue that the legacies of history shape indigenous understandings of forest sustainability. Because indigenous communities in the United States and Bolivia have historically had limited access to economic, societal, and political resources, members of tribal communities have come to view forest management as a way to improve their livelihoods, foster their cultures, and exercise their land tenure rights.[1]

Indigenous communities are responsible for managing significant forest acreage around the world.[2] In the United States alone, 302 indigenous tribes manage approximately 18 million acres of forested lands.[3] In Bolivia, rural and indigenous communities manage almost 1.7 million acres (685,388ha) of forestland.[4] Many indigenous communities are attempting to develop sustainable forestry programs by using active forest management—harvesting trees and selling timber. These attempts raise the question of what sustainable forestry means for these tribes; however, despite the importance of sustainable forest management for these communities, academics and policymakers have paid little attention to the complex issues of sustainability and sustainable forest management within a tribal context. In this dissertation I explore the meanings of forest management for two indigenous groups, one in Bolivia and one in the United States. I address three fundamental questions in the dissertation: In what ways do indigenous communities understand their relationship with forests and forest management? Why have indigenous communities engaged in forest management? How have the histories of these communities shaped their definitions and practices of sustainability?

Community Forestry

Community forestry is a system of forest management that involves community participation, goals of sustainability, and community benefits.[5] Community forestry often implies that the community has control of and responsibility for forest resources and management; forest management produces social and economic benefits; and core management goals include ecological and sustainable uses of the forest.[6] Community forestry links ecological and social systems through active forest management. Community forestry entails communities harvesting their own forests for their own goals.

Factors involved in successful community forestry include: individual and community commitments to maintaining forests and ecosystems; land tenure systems designed to maintain forests; a balance between individual and community interests; flexible management plans embedded in local and national institutions; and agile and entrepreneurial business management that responds to changing markets and engenders community support.[7] Scholarly descriptions of community forestry have also included the following factors: community trust, community reciprocity, shared goals, individual and community social capital, and a set of tools used to make decisions and implement community projects.[8]

Indigenous Community Forestry in the United States

Many American Indian communities use forestry to manage their forestlands and produce multiple community benefits. Federal statutes require federally recognized tribes to manage their forests in accordance with the National Indian Forest Resources Management Act of 1996.[9] The 1996 act declares that forestlands are some of the “most valuable” tribal resources, and requires tribes to manage their forestlands “in a perpetually productive state in accordance with the principles of sustained yield and with the standards and objectives set forth in forest management plans.”[10] Tribal forest management plans outline tribal goals and objectives for forest management. The 1996 act also states that forest management should “promote self-sustaining communities”; protect soil and water resources; and maintain or improve “timber productivity, grazing, wildlife, fisheries, recreation, aesthetic, cultural and other traditional values.”[11] Thus, federal law requires that forest management on American Indian forestlands benefit tribes on multiple levels: social, economic, and ecological.

The goal of community forestry is to conserve forest ecosystems while improving the well-being of communities.[12] In other words, community forestry links the health of ecosystems with the health communities. American Indian forest management often supports broad community goals to improve social, economic, and ecological resources in Indian communities. Further, American Indian forestlands are legally required to promote self-sustaining communities and multiple tribal goals. American Indian forest management is community forestry.

The Menominee Indian Tribe is a world leader in indigenous and sustainable forest management. The tribe was one of the first communities in the United States to articulate a vision for the practice of sustainable forest management. The tribe has actively managed the same forests for thousands of years, and has harvested timber from their forests on a sustainable basis for the past 150 years. Today, the Menominee Forest has more volume and contains higher quality trees than it did in 1854 when the reservation was established.[13] The Menominee people view their current and past culture as based on a profound relationship with their forest. Sustainable forest management in the United States began on the Menominee reservation.

Indigenous Community Forestry in Bolivia

Bolivia is a forested country. Forestland covers 53 million hectares (approximately half of Bolivia's territory), and the Bolivian government has dedicated 41.2 million hectares (77% of all forestland) to forest management by designating the areas as permanent production forests.[14] Within these permanent production forests, 8.5 million hectares are available for sustainable harvesting under government-approved forest management plans.[15]

Over the past 20 years, Bolivia has emerged as a leader in sustainable tropical forestry. Many academics and foresters have attributed Bolivia's success to the 1996 Forestry Law and its regulations.[16] The law required forest management plans, forest inventories, harvest limits, seed tree retention, and annual reports; it also created a professional forestry agency, the Bolivian Forestry Superintendent (Superintendencia Forestal), which held oversight authority for the implementation and enforcement of the regulations. Finally, for the first time in Bolivian history, the law guaranteed the legal right of indigenous communities to manage their forests for timber.

Indigenous communities were the first groups to engage in sustainable forest management in Bolivia, and these indigenous communities created the first certified indigenous forestry operations in South America. Since SmartWood certified the first indigenous forest operation in 1996, many indigenous communities in the Bolivian tropics have initiated community forestry activities. There are currently 83 approved indigenous community management plans covering approximately 16% (1.4 million acres) of the permanent production forests in Bolivia.[17] These plans outline the communities' economic, environmental, and social goals for forest management. For indigenous groups in both Bolivia and the United States, the foundation of forestry is the achievement of community goals; in both countries sustainable forestry began in indigenous communities.

Methods

I use a qualitative mixed-methods approach to answer the research questions in this dissertation. I combine historical research methods with a multiple case study approach as outlined by leading case study researchers.[18] I also use methods from the literature on community participatory research, focusing on what Colin Robson, emeritus Professor of Human and Health Sciences at the University of Huddersfield, called a "real world research" approach. This approach emphasizes that practical mixed-methods and participatory approaches to research can produce meaningful results for the researcher, community, and the academy.[19]

Case Studies

A case study is "an empirical inquiry that: investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used."[20] Case studies answer "how and why questions," and are well suited to describing the complexities of real life and exploring complex phenomenon.[21] Bent Flyvbjerg, a management and planning professor at the University of Oxford, stated that well-designed "case studies often contain a substantial element of narrative. Good narratives typically approach the complexities and contradictions of real life."[22] In addition, the use of multiple methods strengthens case studies, and "combining cross-case and over-time case comparisons" can strengthen inferences generated by case studies.[23]

Case study selection is a methodological component that is critical for the production of supporting arguments and generalization to other cases. I selected two cases that Bennett and Elman would categorize as "most similar cases."[24] In this type of analysis, the cases should be as similar as possible, but should differ in one independent variable and their outcomes. Flyvbjerg described a similar case study method, in which a case study is designed "to obtain information about the significance of various circumstances for case process and outcome (e.g., three to four cases that are very different on one dimension: size, form of organization, location, budget)."[25]

A critical methodological aspect of case study selection is that the case, or cases, must be clearly bounded.[26] I chose the two case study communities based on four criteria. The first—and arguably the most important—criterion was the presence of community support and willingness to participate in the research project. Community input and enthusiasm were critical to the success of the project and quality of the data. The second criterion was that the community must be indigenous. For the purposes of this dissertation, I included Bolivian communities that defined themselves as indigenous. Within the United States, I considered communities that were federally recognized tribes. The third criterion for the case study selection was that the community was currently involved in some form of forest management or forestry activity. The final criterion was the inclusion of two or more case studies that had many similar characteristics but differed on one main management problem or issue.

The Menominee and Guarayos communities met these four criteria. First, each community was interested in working on an environmental history research project to understand factors that promote and inhibit sustainable forest management. Second, both communities self-identified as indigenous and the Menominee community is a federally recognized tribe. Third, the communities are involved in forest management activities. Finally, the cases have many similar characteristics in that the communities are indigenous, they practice community forest management for multiple community goals, they have community governance institutions but they differ in their success over time. These similarities and differences provide important contrasts and highlight factors that promote sustainable community forestry.

Methods from Environmental History

Environmental history approaches can provide important insights into complex interactions between forests and indigenous communities. Environmental history typically examines three key dimensions of environmental change: biophysical elements, political/economic "modes of production," and cultural "structures of meaning."[27] Environmental historians illuminate complex historical human and environmental interactions through narrative. Historian William Cronon defined narrative as “the chief literary form that tries to find meaning in an overwhelmingly crowded and distorted chronological reality."[28] I use historical research methods to craft a narrative of the changes in each of the two case study communities and forests over time. I construct the narrative by using oral history interviews and primary documents.

Data Collection: Interview Data

In August 2008 and June 2009, I interviewed forest professionals and Guarayos community members, and convened community meetings in Bolivia.[29] In the process, I compiled just over 100 pages of field notes. I conducted 16 formal interviews and held 2 community meetings with Guarayos community members and the forestry professionals who work with the communities. Of the 16 interview participants, 2 were women and 14 were men; this gender imbalance occurred because, even though women in the community support forestry, men dominate the community forestry operations in Guarayos. In addition, as a male outsider, Bolivian societal norms limited my access to female participants. I used snowball sampling for interview participants, semi-structured interviews, and semi-structured community meetings to gather data. I considered the sample of community members complete when the answers to the questions became repetitive (saturation) and when participants no longer suggested other people to interview. The interviews lasted 14-62 minutes, with an average of 36 minutes. I digitally recorded the interviews and hired GMR Transcriptions to transcribe the audio recordings. I spot-checked each interview transcription with the audio recordings and made changes whenever I found errors. Prior to conducting the data analysis, I converted each transcript into portable document format (pdf) and read each transcription three times. I then used Adobe Acrobat Professional software to annotate the document with themes and comments. I coded seven major themes in the Guarayos interviews: benefits of forest management, definitions of sustainable forest management, factors affecting forest management, Guarayos values, community decision making, forest management goals, and past events important for Guarayos forest management.[30]

I used similar methods for the Menominee case study. I conducted 20 interviews with Menominee tribal members and 1 interview with a tribal descendant between April and August of 2011. The interview participants consisted of 12 men and 9 women ranging in age from 32 to 70 years of age at the time of the interviews. I used snowball sampling and semi-structured interviews to gather data from interview participants.[31] As with the Guarayos interviews, I stopped interviewing community members when participants began to provide repetitive answers (interview theme saturation). The interviews lasted 28-120 minutes, with an average of 58 minutes. I digitally recorded the interviews and hired GMR Transcriptions to transcribe the audio recordings. I spot-checked each interview transcription with the audio recordings and made changes whenever I found errors. Prior to conducting the data analysis I read each transcription three times. I used Nvivo 9 qualitative analysis software to track and display interview themes and explore my annotated research notes.[32] I coded nine major themes in the Menominee interviews: benefits of forest management, definitions of sustainable forest management, factors affecting forest management, mentions of the clear cutting controversy, Menominee values, tribal decision making, forest management goals, past events important for Menominee forest management, and Menominee sovereignty.

Data Collection: Primary Documents and Archives

In 2008, I visited four document repositories in Bolivia: The Bolivian Forestry Superintendence in Santa Cruz de la Sierra, the Center for Amazonian Forestry Development (Centro Amazonico de Desarrollo Forestal or CADEFOR) in Santa Cruz de la Sierra, San Juan Guarayos community forestry offices in Ascención de Guarayos, and the Cururú Guarayos community forestry offices in Urubichá. I collected almost 1,500 pages of documents including forest management plans, community meeting minutes, community regulations, statutes, and miscellaneous reports. I collected all documents containing information about Guarayos forest management except detailed lists of financial data. I also collected several historical newsletters and oral history interview transcripts related to the 1990 March for Territory and Dignity that are held by the University of Wisconsin library system.[33] I took digital photographs of each document and converted the photographs into portable document format (pdf). I then used Adobe Acrobat Professional software to annotate each document with themes and comments. I coded six major themes in the documents: community reasons for managing the forest, forest management goals, benefits of forest management, factors affecting forest management, definitions and perceptions of sustainable forest management, community organization, and Guarayos values.

I collected historical documents related to Menominee forest management from the archives of the State Historical Society of Wisconsin in Madison, Wisconsin and their Area Research Center in the Cofrin Library at the University of Wisconsin–Green Bay. I searched the archive catalogue and finding aids for references pertaining to the Menominee Indian Tribe of Wisconsin and then narrowed my research to five collections including: the Jay P. Kinney papers (mainly 1910-1933, Kinney was the director of forestry for the US Indian Service); miscellaneous items regarding territorial matters (1841); Menominee Tribal Council Notes (1866, 1941-1942, and 1953-1959); Menominee Tribal Enterprises' records (1954-1976); and the Robert M. Lafollette Papers (1879-1910, 1922-1924). I also used the State Historical Society of Wisconsin's microfilm copies of the National Archive's US Office of Indian Affairs records (1910-1939), which contained reports and information about the Menominee tribe. In total, I used 886 pages of documents from these collections in the analysis.

I also searched the congressional records database in the LexisNexis Congressional Hearings Digital Collection through the University of Wisconsin library system. I used the keyword "Menominee" and searched this database for any document from 1912 or earlier. I found 64 "congressional publications" and 143 "congressional records" that met the search criteria. I also used copies of "Wisconsin Public Land Survey Records: Original Field Notes and Plat Maps," published by the United State General Land Office in 1845-1854, which were digitized and maintained by the Wisconsin Board of Commissioners of Public Lands and the University of Wisconsin Board of Regents. Finally, I used digitized copies of the 1914 Edward

Ayer Board of Indian Commissioners Report on Menominee Indian Reservation and Robert La Follette’s 1911 Autobiography, which I obtained via Google Book Search.

After converting all historical documents related to the Menominee Forest to portable document format (pdf), I read each document at least two times and then coded each one using Nvivo 9 qualitative analysis software.[34] For all documents related to Menominee forest management I used Nvivo 9 to code seven major themes: benefits of forest management, perceptions of forest management (Menominee, non-Menominee, and La Follette), Menominee Forest descriptions, logging before 1890, logging under the 1890 and 1908 acts, selective logging, and clear cutting.

Data Analysis

I analyzed the archival and interview data in three steps. First, I analyzed historical environmental information. Specifically, I examined social and environmental changes over time. I used archival and oral history descriptive sources to generate qualitative arguments about the meanings of forest management and forest change over time. Second, I used the data to summarize the current environmental and social contexts of each case study, including current demographic characteristics, local land use and local livelihoods, and local community organization. For this section I relied mainly on secondary literature. Finally, I analyzed the oral history interviews and group discussions to gain an understanding of the communities’ perspectives on forest management and sustainability. The dissertation manuscript consists of an introduction, five core chapters, and a conclusion. The conclusion is a comparison of the findings from the two case studies.

Qualitative researchers have argued that scholars can use multiple data sources to validate qualitative research findings via a process called triangulation.[35] I validated the results by triangulating data from the individual oral history interviews, community meetings, historical documents, and secondary literature for each community. I compared information from historical documents (e.g., forest management plans, congressional record, and community meeting minutes) to the themes in the oral history interviews. I highlighted similarities and differences between the sources throughout the dissertation. In addition, I validated my findings from the Menominee case study by presenting my research to the College of Menominee Nation's Institutional Review Board; I then incorporated their comments, suggestions, and insights into the final analysis.[36] For the Bolivian case study, I validated the research findings by returning to Guarayos in June 2009 to confirm my initial findings with interview participants. I also provided transcriptions and audio recordings to each participant in the Guarayos study. I incorporated the community comments, suggestions, and my personal observations from this 2009 visit into the final analysis.

Dissertation Chapter Summary

Chapter Two, "Menominee Forests and Environmental History before 1890," explores the environmental and forest history of the Menominee Forest from glaciation to the late 1800s. I examine changes in the forest between the 1850s (when the reservation was established) and the passage of the 1890 Forest Act, which enabled commercial forest harvesting to become the established livelihood of the Menominee people. I use historical photographs, maps, and written descriptions to show that the Menominee Forest was an open pine/oak forest on the Eastern portion of the reservation and a closed maple/hemlock forest on the Western portion of the reservation. I also use historical documents to demonstrate that Menominee tribal members and US government officials perceived the forest differently. I argue that the Menominee Forest contained diverse forest types at the time and that the differing perceptions of the forest had profound effects on its management in the early 1900s.

Chapter Three, "Forest Management History on the Menominee Reservation: The 1890 Forestry Act to the 1973 Menominee Restoration Act," explores the legal and political importance of Menominee forest management. I discuss the 1890 and 1908 laws that limited harvesting on the Menominee reservation. These laws were the first codification of harvest limits in the United States, and the subsequent forestry techniques stood in stark contrast to the cut-and-run logging occurring in the Wisconsin forests surrounding the reservation. I show the ways in which different government and tribal interpretations of these laws affected the forest itself and the Menominee tribe. I review the federal government’s process of legally terminating the Menominee tribe in the mid-1900s after the tribe successfully sued the government for mismanagement of their forest. I conclude the chapter with a brief discussion of the restoration of the Menominee tribe, tribal identity, and forest management in the 1970s.

Chapter Four, "Menominee Oral History: Using Historical Perspectives to Inform Contemporary Sustainable Forest Management," is the last chapter in the Menominee case study. I draw on data from oral history interviews to understand Menominee perceptions of forest management, sustainability, and the legacy of Menominee forest management. I provide a basic overview of contemporary Menominee forest management strategies and then use a detailed examination of the clear cutting conflict to analyze the way tribal members have used forest management to further Menominee goals, Menominee cultural values, and community well-being. I explore multiple tribal perspectives and their development in conjunction with ecological changes in the Menominee forest. Finally, I analyze the ways that various groups within the Menominee community use history when negotiating conflicts over forest management issues.

Chapter Five, "Indigenous Perspectives on Sustainability: The 1990 Indigenous Peoples' March for Territory and Dignity and the Origins of the Bolivian National Forestry Law," is the first of two chapters focusing on the Bolivian case study. In this chapter, I explore the conflicting ideas of sustainability at the core of the 1996 Bolivian Forestry Law to provide a deeper understanding of the complex cultural, historical, and environmental influences that affect forest management, planning, and perceptions of sustainability among indigenous communities in lowland Bolivia. I illustrate the influence of ecological diversity on tropical forest harvesting and the examine the effects of development projects on marginalized indigenous communities and their territories in the second half of the twentieth century. I also explore the way lowland Bolivian indigenous people expressed their demands for territory through a 1990 protest march and outline the Bolivian government’s subsequent decision to enact a number of laws including the 1996 Forestry Law. I use a collection of interviews and first-person indigenous accounts of the 1990 march to analyze indigenous perspectives on sustainability, territory, forest management, and indigenous identity.

Chapter Six, "Community Forestry as a Method of Territorial Control in Guarayos, Bolivia," explores the reaction of one group of indigenous people, the Guarayos, to the 1996 Forestry Law and this community’s view of sustainable forest management. I briefly discuss the history of the Guarayos community in lowland Bolivia. I then use oral history interviews and community documents to explore Guarayos perspectives of sustainability, forest management, and the 1996 Forestry Law. I show that Guarayos people view community forest management as a tool to control their territory and provide benefits for community well-being.

In the conclusion (Chapter Seven), I explore the similarities and differences between the two case studies and histories. Despite different histories, cultures, ecosystems, and values, there are several similarities between Menominee and Guarayos perceptions of the importance of forest management for their communities. Both the Menominee tribe in Wisconsin and the Guarayos community in lowland Bolivia have used forest management to foster territorial control; strengthen community well-being; protect the forest; and bolster cultural connections between past, present, and future generations.

Many indigenous communities perceive forestry as a way to improve their livelihoods, protect their forests, and maintain their cultural heritage. Few academic studies, however, have explored the importance of indigenous forest management from the perspectives of these communities. There is a dearth of information pertaining to indigenous community forestry in the United States. Further, few forestry researchers incorporate indigenous and historical perspectives into research on sustainable tropical forestry in Bolivia. This project provides information that will begin to incorporate indigenous and historical perspectives into the literature on sustainable forestry. The research also adds to a growing body of indigenous and American Indian scholarship by explicitly highlighting Menominee and Guarayos perspectives of their own forest management experiences and goals. The project also provides information that indigenous communities can use to reflect on their own forest management strategies and techniques, which may foster new innovations in community forest management. Finally, the dissertation provides the two case study communities with information they can use in community discussions, decision making, and forestry management. The ultimate goal of the dissertation is to improve decision making, environmental analysis, and the sustainable management of forests in indigenous communities.

Endnotes – Chapter 1

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[29] See Appendix 1 for a list of interview participants in the Guarayos case study and Appendix 2 for a list of the Guarayos case study interview questions.

[30] GMR Transcriptions transcribed all Bolivian interviews in Spanish. I analyzed the interviews in Spanish and translated the direct quotations used in the dissertation into English.

[31] See Appendix 3 for a list of interview participants in the Menominee case study and Appendix 4 for a list of Menominee case study questions.

[32] This analysis method is the same one I used to analyze the Guarayos interviews; however, I used Nvivo 9 software instead of Adobe Acrobat.

[33] All Bolivian documents were in Spanish. I analyzed the documents in Spanish and translated direct quotations used in the dissertation into English.

[34] This historical analysis method is the same as the method I used to analyze the Guarayos documents; however, I used Nvivo 9 software to track and display the coded themes and annotations instead of Adobe Acrobat.

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[36] I will also present each interview participant with a copy of their audio recordings and interview transcripts. These will be permanently stored in the College of Menominee Nation’s library and archive in Keshena, Wisconsin. I will share the research results and transcripts with interview participants and the Menominee community and incorporate their comments, suggestions, and insights into future publications and research based on the oral history interviews. These methods are similar to the indigenous research protocols outlined by Smith, L. T. (1999). Decolonizing methodologies : research and indigenous peoples. London ; New York, University of Otago Press; distributed in the USA exclusively by St Martin's Press, Louis, R. P. (2007). "Can you hear us now? Voices from the margin: using indigenous methodologies in geographic research." Geographical Research **45**(2): 130-139.

Chapter 2: Menominee Forests and Environmental History before 1890

Introduction

In 1854 and 1856 the Menominee people signed their final treaties with the United States government. These treaties ceded the remainder of their ancestral territories—which had once totaled more than 11 million acres—and defined the boundaries of a permanent reservation within 10 Wisconsin townships. In exchange for the territory, the U.S. government was to provide the Menominee people with, among other things, food rations, money, education, a sawmill, and the means to operate the sawmill.[1] The Menominee people fought to retain a homeland within their ancestral lands and to obtain the means to develop a forest-based economy.[2] Since 1856, the Menominee tribe has actively logged the forest, wind and fire have opened and cleared out sections of the forest, and the federal government has even mismanaged portions of the forest through unsustainable timber harvesting and failing to regenerate trees after harvest. Despite this history, the Menominee Forest currently stands out—both literally and figuratively—as one of the most diverse and well-managed forests in the United States (see Figure 1). Although the Menominee tribe has harvested millions of board feet of timber from the forest, the standing volume is larger today than when the first inventories were completed in the 1800s.[3]

In this chapter I argue that the Menominee Forest stands as a testament to Menominee tenacity and political astuteness. In particular, the forest's current ecological condition reflects the Menominee cultural vision of the importance of territory as well as the tribe's belief that they can maintain and enhance their forest while harvesting and milling trees into lumber. I ask the following questions: How has the Menominee Forest changed over time? How have people perceived and conceptualized the forest and forest management at different points in Menominee history? How were the Menominee people able to maintain and profit from forest management throughout their history even though most of Wisconsin's forests were cleared in the 1850s and federal Indian policy focused on farming as a pathway to assimilation? Finally, has the management of the Menominee Forest influenced conservation and forestry outside the Menominee reservation? To answer these questions, I examine changes in the forest between the 1850s, when the reservation was established, and the passage of the 1890 Forest Act, which enabled commercial forest harvesting to become the established livelihood of the Menominee people.

Glaciers and Forests: 10,000 Years of Forest Development

The physical process of glaciation influenced the forests of the Menominee reservation. Beginning two to three million years ago, glaciers repeatedly advanced and retreated across the landscape of what is now northern Wisconsin.[4] The glaciers flattened hills, scraped away vegetation, and prevented new vegetation from growing; when they retreated, they exposed bedrock, deposited sand and rocks, and formed new hills with materials that had accumulated underneath the ice sheet. Glacial meltwater formed lakes and rivers, and as sunlight reached the newly exposed rocks and soils, vegetation recolonized the new landscape.

Ten to fifteen thousand years ago, the glaciers began their most recent retreat in what is now the Menominee Forest in Wisconsin.[5] The glaciers' retreat followed the southeast sloping bedrock and created numerous moraines (unconsolidated rock forming an irregular band of hills that outlines the glacier's margin) along the way.[6] The retreat formed a series of linear northeasterly hills in the Menominee Forest as well as sandy outwash valleys in the southeast portion of the reservation.[7] In some areas the glaciers left behind exposed bedrock while in others they deposited sand, silt, clay, and rocks (called glacial till). Glacial meltwater left sand

and gravel, and created the lakes and rivers that currently occupy the landscape.[8] Below these glacial deposits lies extremely hard granite bedrock—the Wolf River batholith—that is part of the Canadian shield, which formed hundreds of millions of years ago during the Precambrian period.[9] Above the glacial deposits, organic soils have developed over the past ten thousand years, as vegetation began to recolonize the area.

Plant species migrated into the area at different rates, establishing dynamic mixes of individual species.[10] The first plants to recolonize the area were tundra species living on the margin of the glacier: mosses, lichens, shrubs, and small flowering plants.[11] Spruce (*Picea sp.*), tamarack (*Larix laricina*), ash (*Fraxinus sp.*), elm (*Ulmus sp.*), and oak (*Quercus sp.*) quickly followed approximately ten thousand years ago.[12] White pine (*Pinus strobes*) arrived in the area around eight thousand years ago followed by maple (*Acer sp.*) seven thousand years ago. Hemlock (*Tsuga canadensis*) arrived approximately three to four thousand years ago.

Two distinct vegetative and ecological areas have developed in the Menominee Forest since the retreat of the glaciers. To the east and south of the Menominee reservation, species such as pine and oak now dominate the sandy outwash and shallow exposed soils. These sandy soils dry easily and are relatively infertile because sand does not hold water and nutrients well. On the north and west of the reservation, the soils are more finely textured and fertile loams and silt, which are able to hold moisture better than the sandy soils in the southeast. Tree species such as maple, elm, and hemlock, which thrive in the richer soils, dominate the northern and western areas. Throughout the reservation, the glacier created small depressions that became kettle lakes and wetlands. Tree species that prefer swamps and water, such as tamarack, cedar, and alder, became established along the riverbanks and lakes, and in marshy wetlands.

Influences on the Menominee Forest Composition and Ecology

In Wisconsin, forest dynamics and disturbance regimes—the process of tree and forest regeneration, growth, and death—have been a complex interaction among tree species, soil, climate, topography, and scale.[13] With regard to larger events, although catastrophic wind events are common across the Wisconsin landscape, for any given forest stand wind storms occur, on average, only once every 1,200 years.[14] Neither forest type nor species composition has a strong influence on the outcomes of catastrophic wind events. Tornados and other wind disturbances have impacted the Menominee Forest through the centuries, but because of the small size of the forest, these are not frequent events.

The impact of small-scale wind events is much more dependent upon species composition and forest type. In maple/hemlock forests growing in mesic and nutrient-rich loams, small-scale wind throw dominates. Trees in these forest types fall because of age, insect stress, drought stress, ice damage, or local wind events, which create gaps in the forest canopy. Seedlings from tree species that can regenerate in partial shade emerge in the canopy gap and utilize the extra sun, nutrients, and moisture that is no longer taken up by the fallen trees. Over time, this process creates an unevenly aged forest structure, with trees of many ages. Studies estimate that 5-7% of the forest canopy becomes a gap each decade.[15] Small-gap dynamics dominate the closed canopy maple/hemlock forests common in the western and northern portions of the Menominee reservation.

Fire is another disturbance process that has shaped the composition and ecology of the Menominee Forest.[16] Although fire was probably not an important factor in the more mesic maple/hemlock forests, it was a critical factor in pine, oak, and aspen forests. In these forest types, fires historically occurred every 6-18 years.[17] These frequent fires maintained open forest conditions by burning the understory and young seedlings, but not killing all of the canopy trees. Forests that regenerate after fires have a mosaic of same-aged forest stands across the landscape.

Since the glaciers retreated, the Menominee people have lived in the area of what is now the State of Wisconsin and their current reservation. According to tribal oral traditions, the Menominee people have always resided in this area of the Great Lakes, and they have hunted, fished, planted crops, harvested rice, played, and prayed together.[18] Archeological evidence from more than twelve thousand years ago indicates that the indigenous people of what is now Wisconsin lived on the glacial margins.[19] The Menominee believe these people were their ancestors.

More recent archeological evidence, from just before the time of Europeans' arrival in North America, shows that for hundreds of years the Menominee people planted large expansive gardens and occupied seasonally permanent village sites along the Wolf River corridor.[20] These sites generally included conical and linear mounds, storage pits, raised-bed fields, and village sites replete with pottery shards.[21] The Menominee cultivated corn and other crops in numerous raised-bed gardens. Corn cultivation could not have occurred under a forest canopy, suggesting that these areas were not entirely covered by dense forest. Archaeologists and Menominee cultural resource managers have investigated several sites along the Wolf River that contained garden beds totaling over 250 acres.[22] However, research has not yet revealed how many total acres of land the Menominee cultivated before Europeans arrived in North America and what influence that cultivation had on forest composition and extent.

Like other forests across the world, the Menominee Forest is a cultural landscape and the Menominee people played an important role in ecological processes and vegetation management. The tribe cultivated fields, established village sites, and used fire to manipulate forest composition. Menominee oral traditions contain stories about fire and its uses.[23] Thus, geology, ecology, and the Menominee people collectively produced the culturally significant landscape and forest that the Menominee people would fight to retain during nineteenth-century treaty negations.

The Treaty Era 1817-1856: Perceptions of Menominee Forests and Homeland

The Menominee tribe's ancestral territory encompassed approximately eleven million acres, stretching from what is now northeast Wisconsin (west of Lake Michigan), north to the upper peninsula of Michigan, and west to the Mississippi River.[24] Between 1817 and 1856, the Menominee people signed seven treaties with the federal government.[25] By the time the final treaty was signed in 1856, the Menominee had ceded all but 230,400 acres of their estate to the US Government.[26]

Even though much of their territory was eventually lost, the Menominee were strong negotiators throughout the treaty era. Historian David Beck detailed Menominee treaty negotiations, showing that the tribe worked within the US treaty-making system to negotiate terms that would foster the long-term survival of the tribe.[27] Similarly, a tribal history of the Menominee noted that strong tribal leadership helped the tribe through the difficulties of the treaty period.[28] These histories describe difficulties including interpreters not speaking the Menominee language, US officials negotiating treaties with Menominee who were not tribal leaders, and the use of unethical methods to coerce tribal leaders to sign documents.[29] Nevertheless, the Menominee were able to negotiate terms with the US government that would allow them to remain on land within their ancestral territory—a rare accomplishment for tribes in the region.

David Beck and the Menominee Tribe have compiled comprehensive histories of the treaty era. The current analysis, therefore, is not a comprehensive history of Menominee treaty negotiations, but rather an exploration of the Menominee's perceptions of their forest, natural resources, and land use changes during this time of rapid political change; neither Beck nor the Menominee Tribal Historic Preservation Department focused explicitly on these aspects.[30] I use several sources to examine these issues: I analyze the congressional record, accessed through the LexisNexis Congressional Hearings Digital Collection, focusing on timber and forestry laws and documentation of the treaties and negotiations with the Menominee tribe (from 1833-1910). I also use the Jay P. Kinney Papers (1836-1941), the Robert M. La Follette Papers (1879-1910), and Menominee Tribal Councils records (1866; 1941-1942; and 1953-1959) maintained by the Wisconsin State Historical Society in Madison and Green Bay. In addition, I draw upon the autobiography of Robert La Follette. Finally, I use National Archive documents from the Office of Indian Affairs (1893-1911, 1910-1939) including annual reports, inspectors' reports, and other federal documents pertaining to the Menominee tribe.[31]

Treaty Negotiations: 1831-1832

In October of 1832, Menominee tribal members met with US government officials in Green Bay to negotiate changes that the US Senate had proposed to a treaty signed a year earlier in Washington DC.[32] The 1832 negotiations focused on more clearly defining the lands the Menominee agreed to cede to the United States government for settlement and for eastern Indian nations who were being removed from their own homelands by the US government. Records indicate that these negotiations were tense and fraught with emotion. The 1832 treaty negotiations provide insight into how Menominee tribal members expressed their concerns about land use changes, Menominee livelihoods, and natural resources. The negotiations also reveal that the Menominee's reluctance to relinquish their land was based on cultural connections to the land.

During the negotiations, Menominee tribal members stressed their long-standing familial ties to the land. Because of these ties, the Menominee were reluctant to cede their land to the US government. Menominee leaders asserted that the Menominee people had occupied the land that the government wanted the tribe to cede for generations. For example, a Menominee tribal leader named Mahkeemeeteuv, who others referred to as Grizzly Bear, tied his relationship to the land to his family history. Grizzly Bear said, "I told our great father, the President, that my village was at the Buette des Morts…My father lived and died there; I live there, and the principal chief lives there too."[33] In other words, according to Grizzly Bear, the Menominee have a legal right to the land because they have continually occupied and lived there for generations.

Menominee treaty negotiators also explained that their connection to the land was profound and that their community was defined by the land and the forest. As Grizzly Bear concluded, "[t]he forest is our life, and, as you perceive, we do not like to part with it, or any of our land, as we said to you [the Indian commissioner] before."[34] This deep connection between the Menominee community and the forest permeated all of the treaty negotiations.

In the early 1830s, logging and American settlement was just beginning in Northeast Wisconsin.[35] At the time, most of what is now Wisconsin was controlled by several Indian tribes, including the Menominee. Between 1829 and 1848, the tribes ceded a majority of their lands to the US government.[36] Despite the limited logging and settlement at the time, Menominee treaty negotiators were already expressing their views that the settlement and subsequent land clearing was impacting their people. For example, the Menominee were particularly concerned about logging practices and the effects they were having on the availability of fish. Settlers and loggers had constructed dams in streams and rivers to facilitate the movement of timber to sawmills. Addressing Territorial Governor George Porter and US Agent George Boyd during 1832 treaty negotiations, a Menominee band leader named Pe-wait-e-naw described the impact of these dams on the livelihood of Menominee tribal members, "I do not like to have the Menominee river damed [sic] up…. I think these men should be satisfied with cutting down all our best timber and sawing it up, without stopping the fish…. [A]ll I wish is, that the channel of the river may be left open, so that the fish can go up and down, and that we may catch them, as heretofore, to subsist on."[37] Pe-wait-e-naw expressed the belief that the tribe had not ceded the right to hunt, fish, and gather food on the ceded lands.[38] He also illustrated which natural resources were important to the tribe's survival and world view; fishing was their "principal means of subsistence," and logging was impacting the tribe's fisheries.[39] Thus, the long-term survival of the tribe, according to Pe-wait-e-naw, depended on reducing the impact of logging in order to maintain a fisheries resource.

The Menominee were concerned about the impact of non-Menominee settlement on their resources, particularly tribal sugaring and hunting. The Menominee argued that the trees they had used for sugaring were now being used and cut by others. For example, Grizzly Bear,[40] discussing a land dispute with New York tribes that had recently relocated to Wisconsin, stated, "we did not think that we were to give these New York Indians a right to make sugar on our land, and cut down our maple trees."[41] He continued, "[t]hey want to take our land from us without paying for it. They hunt on our land and kill our deer. Have they any right to do so? We are becoming angry—mad."[42]

One Menominee leader, Cheno-ma-bee-mee, suggested a way in which the Menominee people could manage these changes in land use. He stated, “Father, I want to tell you something about the saw mills on our land. The object of our great father [the President] in granting mill privileges, we understand is, that we might derive some benefit from it; that, by having lumber sawed, we could get some of it to have houses made for ourselves…. Look at all these new buildings you see in this country; all the lumber for them was made at Arndt’s mill. He must make a great deal of money; will get rich [sic]…. We do not complain of his having the mill; we only complain that he does not pay us, as he promised.”[43] This statement reveals that Cheno-ma-bee-mee did not believe that lumbering and milling timber were contrary to Menominee values, as long as the benefits accrued to the tribe. Indeed, he was suggesting that lumbering and milling could be important activities for the Menominee as they transitioned to a limited land base.

Like Cheno-ma-bee-mee, Menominee tribal leaders consistently argued that the tribe should manage its own affairs and resources as they dealt with social, ecological, and economic changes. For example, Grizzly Bear believed that the US Government should give the tribe money—cash—so that they could manage their own affairs without the presence of white farmers, carpenters, and mill operators. He noted that the great father (the President) “wished us to have mills; and to make these it will require mill-wrights and carpenters; and we are told that, with these mills, the boards will be sawed to make houses for us. Now, father, we do not want these mills, nor any mechanics among us: we can build our own houses… tell our great father to give us the money—the cash…. Our people know what to do with money.”[44] However, in response to claims that white men, especially farmers, would bring unwanted influences to the Indians, Governor Porter responded with the paternalism common in the 1800s, “your great father knows better than you do what will be for your good.”[45]

1848 Treaty Negotiations

As American settlement and logging expanded throughout Wisconsin, the US government pressured the Menominee to cede their remaining land. The Menominee, however, remained reluctant to relinquish their land. In 1848, unable to forestall a land cession, leaders of the Menominee tribe signed a treaty with the federal government in which they exchanged the last of their ancestral land in Wisconsin for non-Menominee land along the Crow Wing River, west of the Mississippi River in what is now Minnesota.

Almost immediately after signing the treaty, however, the Menominee raised questions about the validity of the document. The Menominee leaders argued that they had been forced into signing "by means of fraud, imposition, and violence practised [sic] upon [them] by the Indian commissioner."[46] Using their political savvy, the Menominee attempted to convince the US government that the 1848 treaty was unjust and that a new treaty should be negotiated.

Although Menominee leaders felt forced to sign the 1848 treaty, they were able to negotiate an important stipulation: tribal leaders would be allowed to visit Minnesota to decide whether this new land would be suitable for their people. If they felt it was not suitable, the tribe had the right to demand that the 1848 treaty be nullified.[47] The Menominee leaders made the trip to Minnesota and deemed the land unacceptable for their people; they refused to relocate and successfully negotiated a new treaty with the United States, which allowed them to remain in Wisconsin on their ancestral lands. As in the treaty negotiations of the 1830s, the Menominee people's ties to their ancestral land and resources were of paramount concern in the negotiations.

For the Menominee, tribal identity was intertwined with their ancestral homelands. The Menominee argued that staying in Wisconsin "was the most important object to be gained by our nation."[48] The tribe argued through a lawyer that "they would not have signed the [1848] treaty…if they had not been induced to believe that, if they did not, they would be removed to the west of the Mississippi, which they dreaded more than all other things, and which was a matter of far more moment to them then money."[49] Skee-o-ni-ni, a Menominee leader, highlighted the link between Menominee identity and their lands in Wisconsin when he asked, "Now if we should go away, what will become of us?"[50] Skee-o-ni-ni's question revealed that the fate of the Menominee people and their homelands were intertwined—one could not exist without the other.

The prospect of being forced out of their ancestral homeland weighted heavily on the hearts of the Menominee people. Sworn eyewitness testimony from the October 1848 treaty negotiations shows that during a tribal council meeting the Menominee Chiefs told William Medill, US Commissioner of Indian Affairs, that "the hearts of the [Menominee] people were loaded with grief" at the prospect of having to leave their homelands. Chief Oshkosh, a Menominee leader, summarized the tribe's predicament when he concluded, "My friends, we cannot do otherwise, we are forced into it."[51] For the Menominee, their tie to their ancestral homeland was the most important issue, and the tribe once again employed their political savvy to negotiate a new treaty that would provide them with a permanent home in Wisconsin.

After intense negotiations, the leaders of the Menominee tribe signed a new treaty with the United States government in 1854 ceding all but twelve townships—432 square miles or 276,480 acres.[52] Language in the treaty indicated the strength of the Menominee desire to remain within their ancestral homeland: "And whereas, upon manifestation of great unwillingness on the part of [the Menominee] Indians to remove to the country west of the Mississippi River, upon Crow Wing, which had been assigned them, and a desire to remain in the State of Wisconsin, the

President consented to their locating temporarily upon the Wolf and Oconto Rivers… for the purpose of giving [the Menominee people]… a permanent home."[53] The treaty also promised the Menominee people a sawmill, technical assistance in running the mill, and money in exchange for the cession of their remaining land in Wisconsin. Under these treaty provisions the Menominee retained some degree of control over their own lands and, for the first time, were able to use forestry, lumbering, and milling to maintain their newly established reservation.

In 1856, the Menominee signed a final treaty that ceded two townships to the Stockbridge and Munsee Indians and established the current reservation boundaries. Although the new reservation was small—only ten townships, or around 234,000 acres, compared to the original 11 million acres—the land contained trees, plants, animals, fish lakes, rocks, and rivers that would allow the Menominee people to sustain themselves not only physically, but also spiritually, culturally, and economically. The negotiations of the Menominee leaders in the mid-1800s set the stage for the tribe to sustain themselves during times of significant change in the nineteenth century and beyond.[54] The Menominee leaders had clearly articulated the importance of their forest and its natural resources. The tribe emerged from the treaty era with a reservation that contained clear boundaries and natural resources and was a contiguous piece of their ancestral lands. Some of the major issues the tribe raised during negotiations concerned land use changes, access to natural resources, and the connection between Menominee identity and their lands. Throughout the treaty era, the Menominee fought hard to remain in Wisconsin because they were concerned about losing control of and access to their forest resources, including fish, game, and trees.

Perceptions of the Menominee Reservation Resources

In the 1850s, the US government signed treaties with Indian tribes to gain land for white settlement. The government also believed that establishing reservations for the tribes would civilize and assimilate Indian people. Indian tribes often entered into treaties because they believed that they had little choice and viewed reservations as a way to provide resources and protection for their people. In addition, for the Menominee, a primary goal was to maintain land within their ancestral territory in Wisconsin.[55] Therefore, while the Menominee interpreter and the US Commissioner described the Menominee Forest and the wildlife resources in a similar way, their perceptions of what these resources meant for the Menominee people differed.

The US government wanted to provide the Menominee with a reservation that would not be impacted by white settlement. The superintendent believed in giving the Menominee land that white settlers would not desire; he wrote, “I consider the country of little value for a white settlement, but well adapted to the Menominie [sic] Indians. A portion of those are inclined to cultivate the soil for their support, and a sufficient quantity of pretty good land will be found for their use. The game and fish will sustain the hunters.”[56] The superintendent also made the suggestion of logging as a means for the Menominee to sustain themselves. He described a sawmill “built on a rock foundation” whose owners were willing to “sell it to the Indians.”[57] However, the way in which the superintendent thought the tribe would ultimately use the mill was unclear, as he also stated, “I am inclined to think they [the Menominee people] may all be persuaded eventually to seek subsistence from agriculture.”[58] The superintendent may have believed that the sawmill would help the tribe clear the land and therefore facilitate the establishment of agriculture among the Menominee. Throughout the 1800s and early 1900s government officials constantly urged the Menominee to become settled agriculturists.[59]

Archival evidence does not allow a detailed understanding of the Menominee people's view of the area that became their permanent reservation in 1856. However, one insight comes from the records of United States Interpreter William Powell. In an 1851 letter to the Commissioner he described the forest and resources as abundant and diverse, and stated "The chiefs are highly pleased with the country, and they say they hope the president will give it to them for a home, where they can live in peace from their enemies."[60] According to Powell, the Menominee leaders were "pleased" because the area contained animals, plants, and trees important to their physical and cultural survival. In other words, the forest was diverse and contained important resources for the tribe's cultural and physical survival. The area was also important to the Menominee because it was in their ancestral territory; this part of the Wolf River was a major spawning grounds for sturgeon, the lakes contained fish, and the area was close to the location of their creation story.[61]

When the reservation was established via treaties in 1854 and 1856, the US government considered the Menominee Forest isolated and marginally valuable. The commissioner of Indian Affairs stated that, with the consent of the State of Wisconsin, the Menominee people were "removed to a remote portion of the extensive tract [of land] they had ceded."[62] The commissioner continued, "this location is, in all respects, suitable for them; and that they can probably remain there for many years without interference with the advancement or interests of the white population."[63]

Despite their view of the land as marginal, US Government officials believed that the reservation would facilitate the "civilization" of the Menominee people. To encourage this transition, they believed that Congress should “provide for their educational and agricultural improvement, for the erection of a grist and saw-mill, a manual labor school, and the employment of other means of education.”[64] The government’s goals for the Menominee were similar to its goals for most Indian tribes: to “civilize” and assimilate Native Americans, and to bring the economic and cultural norms of tribes into line with those of dominant white society.[65] Government officials believed that timber, forests, and sawmills would be a part of this process.

The transition to the new reservation over the next 20 years was not an easy one for the Menominee; their resource base—originally millions of acres—had been greatly diminished. After moving to the new reservation, Chief Oshkosh summarized the feeling of his tribe when he told the Indian Commissioner, “You are aware, I have no doubt, of our present situation of starvation; we have never been so poor and destitute of provisions as we are this year [1853], after the solemn promise of the agents of the government made to us to effect [sic] our removal. It was well understood, when we acceded to the proposition of the government to remove, that we were to be supplied a whole year with provisions, but, as it happened, the provisions lasted only about six months; and even our three thousand dollars of provisions of last year are gone.”[66] Although the reservation was within their ancestral territories and contained diverse resources, the area did not contain sufficient resources for the Menominee people to continue to live as they had in the past.[67] In this context, logging would to emerge as a way for the Menominee tribe to continue to sustain its people on a small portion of their ancestral homeland.[68] Ironically, logging would also provide the Menominee people with a means to maintain their forest and its diversity.

Menominee Forests in the 1850s

By the 1850s, logging began in earnest on the newly ceded lands as loggers, land speculators, and American settlers moved in to stake their claims.[69] The initial logging focused on white pine located close to Wisconsin's large river systems: the St. Croix, Chippewa, Menominee, Wisconsin, and Wolf rivers. Loggers and settlers cleared Wisconsin forests at an exceptional rate, and by the early 1900s, the pine forests were nearly exhausted.[70] Despite its location on the Wolf River, which was the site of some small sawmills and early logging, the Menominee reservation was not logged as heavily as the surrounding areas during the 1850s. In this section, I explore 1) the state of the Menominee Forest and natural resources in the 1850s as ecological and social changes began to Wisconsin's forests and landscapes, and 2) the ways in which the US government and the Menominee people viewed these resources.

To gain an understanding of the composition and state of the Menominee Forest at the time, I analyzed general descriptions of the area in original land survey notes (1839-1854) for the land that would eventually become the Menominee reservation. The Wisconsin Board of Commissioners of Public Lands, and the University of Wisconsin Board of Regents digitized and maintained the land survey records. I also analyzed photographs taken by the Smithsonian Institute's Bureau of Ethnology in the late 1800s, and a 1914 forestry planning map recreated by Menominee Tribal Enterprises.[71] While historians, ecologists, and forest managers have examined these documents separately in the past, no one has yet analyzed them collectively.

Descriptions of the Forest

In September 1851, a group of Menominee leaders, Na-Motte, Wan-ke-cheon, and Osh-ke-hi-na-new, joined Superintendent of Indian Affairs Elias Murray to explore the area designated as the new permanent Menominee homeland in Wisconsin. The inspection journey was part of the agreement the Menominee were attempting to reach with the US government to be allowed to remain in a portion their ancestral territories, despite the 1848 treaty that ceded all their Wisconsin land in exchange for a new home in Crow Wing, Minnesota.

To help them access this very remote portion of Wisconsin, the group hired a boat owner, four rowers, a cook, a hunter, and interpreter William Powell.[72] The group explored a 540-square-mile area, starting from what is now Oconto Falls and traveling in a rectangular pattern. They traveled west 26 miles, crossed the Wolf River, and continued about six more miles. The group then traveled north 18 miles, east 30 miles, and south 18 miles back to their starting point.[73] The trip covered almost half of the present day reservation—the area east of the Wolf River—as well as several townships to the east of the present day reservation.

After returning from the 96-mile journey, Superintendent Elias reported, “I find the country, generally, to be a dry, sandy soil, covered with low scrubby pines, and occasionally a swamp of tamarack and cedar. There is a small portion of good land for agriculture, and a few good sugar camps. There are a great many small lakes, abounding with fish and wild fowl; and bears, foxes and martins appear to inhabit these swamps. The deer are numerous on the plains. There is also some good pine timber.”[74]

The 1853 Report of the Commissioner of Indian Affairs also provided a description of the landscape as seen during the 1851 journey. This account described the area as sandy, open, devoid of good timber, and unfit for agricultural cultivation. The report stated that the land “is a succession of dry sandy ridges, unfit for cultivation, and only thinly timbered with oak and spruce, with the exception of some narrow pine groves and sugar maple bottoms bordering the Wolf River…. The only redeeming quality which this portion of the tract possesses is the numerous beautiful small lakes, or ponds, of clear pure water, which are to be found within sight of each other for many miles in extent. These lakes abound in fish, and afford great relief to the Indians settled about them."[75]

The interpreter on the trip, William Powell, described the land in a similar manner: "dry and sandy but with little timber. It is well watered; may be properly termed pine barrens. The trees are low and scrubby, mixed with the small poplar, or quaking asp[en]. We found a number of small lakes, and a few lots of good lands, and well timbered. We also found a number of cedar and tamarack swamps, there are many signs of bears, deer, and other game. The lakes abound with fish and wild duck."[76] The Menominee Forest that would become the reservation was sandy and dry, but contained abundant habitat for wildlife and fish.

General Land Office Surveys

The 1851 exploration provided the general impression that the Menominee reservation land was sandy, infertile, and filled with lakes and wildlife. However, the exploration was not a systematic survey. Further, the group described only six of the ten townships that would eventually become part of the Menominee reservation—there were no descriptions of the four western townships. Surveyors from the General Land Office (GLO) of the United States Government conducted the first systematic assessments of the land that would become the entire reservation between 1839 and 1854; they surveyed the exterior boundaries of each six-mile-by-six-mile township.[77]

Between 1853 and 1854, government surveyors divided and surveyed the interior sections of each township that would become the Menominee reservation.[78] The surveyors recorded trees, made observations along each section line, and wrote general summaries describing each township. According to these data, the forest to the south and east of the Wolf River contained mostly scattered oak and pine (Figure 2). Maple, beech, and birch dominated the area west of the Wolf River. There were several large non-forested openings in the southern portion of the reservation on both sides of the Wolf River. Finally, there were low-lying swampy areas dominated by spruce, fir, and cedar across the reservation.

After completing the surveys, the General Land Office surveyors wrote general descriptions of each township, which included additional details about the suitability of farmland, the amount of swamp land, and the character of the timber for harvesting. The surveyors described the swamp lands that were scattered throughout most of the townships as dominated by cedar, tamarack, fir, and black alder trees. The reports characterized all of the swamp lands as "unfit for cultivation."[79]

GLO surveyors stated that the southern lands around the Wolf River had "no pine for lumbering and but little that is first rate for farming."[80] Regarding the land near what is now Legend Lake, the surveyors summarized that "the banks of these lakes are generally high with very little timber…"[81] They noted, however, that the northern lands bordering the Wolf River were "heavily timbered. The soil is generally sand 2nd or 3rd rate. Considerable good pine is scattered throughout."[82] In addition, the surveyors characterized portions as "heavily timbered… [with] a large amount of pine valuable for lumbering purposes."[83] The surveyors did not view any of the eastern or southern land as good farming land, but they considered the trees a valuable source of timber.

The GLO surveyors described the western townships of the Menominee Reservation as containing abundant hardwood and softwood timber, areas with young trees, and swamps.[84] The survey notes indicate that portions of the western townships were covered by "thickets of aspen and birch" and other sections had "2nd rate soils [and] an abundance of timber consisting chiefly of elm, maple, hemlock, and [lind]."[85] Some portions were "heavily timbered with a growth of hemlock, maple, elm, and [lind]" and had "thickets of aspen pine and white birch."[86] The presences of forest thickets indicated that there were areas of young trees that were regenerating after recent disturbances. The surveyors also noted that "the timber (of which there is an abundance) consists of elm, maple, hemlock, [lind], and birch."[87] Further, they wrote that "timber is abundant in all parts of the township [T30R14] and consists of maple, elm, hemlock, and [lind], [tamarack], and white birch trees are found along the margins of swamps."[88]

These descriptions of the Menominee Forest in the mid-1800s consistently described the eastern portions of the reservation as having sandy soils, lakes, and areas of open land. The reports characterized the western portions of the Menominee Forest as containing hardwoods and softwoods in various stages of succession. There were swamps and lowlands throughout the forest. While the 1851 journey and the GLO surveys resulted in similar descriptions of the Menominee Forest, US Government officials and the Menominee leaders had very different perceptions of what the forest would mean for the Menominee reservation.

Descriptions of the Menominee Forest in the Late 1800s and Early 1900s

After the establishment of the reservation in 1854, Menominee people moved to the area from throughout Wisconsin.[89] The resources on the reservation, however, were not sufficient to provide for the needs of all of the tribal members. To rectify this situation, Menominee leaders inserted stipulations into the treaties that required the US government to provide the means for agricultural development, education, and logging. Using these resources, Menominee tribal members harvested timber and used small mills to process timber on the reservation. Treaty rules required that the Menominee only harvest timber that they would use on the reservation, as a non-commercial venture.[90] In 1865, the US government allowed the Menominee tribe to harvest “dead and down” timber on the reservation. Records show that from 1865 through 1889, the Menominee harvested over 100 million board feet of timber.[91] In 1890, the federal government passed a law that allowed the Menominee to harvest 20 million board feet of timber per year. From 1890 to 1910, the Menominee people harvested almost 400 million board feet of timber, averaging around 20 million board feet per year, as the law specified.[92]

Next, I examine whether the assessments of the Menominee Forest conducted in the late 1800s and early 1900s, after several decades of timber harvesting on the Menominee reservation, differed from descriptions in the 1850s. To compare the characterizations from the two times, I use written descriptions, photographs, and paintings from an 1893 report on the Menominee completed by the Smithsonian Institute’s Bureau of Ethnology. I also use descriptions found in the reports of federal foresters and a 1914 forest planning map.

In 1893, Walter James Hoffman, MD compiled a report for the Smithsonian Institute’s Bureau of Ethnography based on field work he had conducted on the Menominee reservation beginning in 1890. Hoffman’s report primarily documented Menominee oral traditions and religious customs. He did, however provide several written descriptions of the Menominee Forest. These descriptions provide one perspective on the Menominee Forest four decades after the reservation was established. In a description of the Keshena area west of the Wolf River, Hoffman stated that “pine oak and other trees grow plentiful all over the area.”[93] He added that “north of the village is a high ridge covered in immense pines and oaks” and noted that the ridge “separates the valley of the Wolf River from some marshy lakes to the south.”[94] Hoffman’s descriptions are very similar to the descriptions of the same area in the mid-1800s. While this comparison does not provide enough evidence to show that there were no significant changes in the forests, it does reveal that perceptions of the eastern reservation forests were similar.

Hoffman’s report also included the earliest visual representations of the Menominee Forests in the form of photographs and paintings. These photographs and paintings illustrate what the open scattered pine forests looked like on the east side of the Wolf River. Figure 3 is a painted depiction of a woman constructing a “medicine lodge” and Figure 4 is a photograph of a similar structure. In both images the forest in the background contains scattered open pine—the sky can be seen through the trees and branches—that mirrors the verbal descriptions of area. In Figure 5, the “Camp of Berry Pickers” photograph, the sky is again visible through the trees and branches and a very sparse open forest in the background. Shrubs—presumably berries such as blueberries, blackberries, and strawberries—are also present in the understory of the open forest. These berries typically prefer open habitats and do not usually grow in the shade of a dense forest.

The 1893 report also contains a painting that provides a visual depiction of the closed-canopy sugar maple hardwood forest of the 1890s. While the site of the painting is unknown, this forest type would have been common on the Menominee reservation west of the Wolf River—areas described as having maple forest for sugaring. The painting, titled “Camp of Sugar Makers,” shows Menominee people gathering and processing maple sap into maple sugar (Figure 6). The forest contains large hardwood trees spaced much closer together than those depicted in the photographs above. Further, the sugar camp is located under a closed-canopy forest, while the “medicine lodge” and the berry picker camp are both located in very open areas that are almost devoid of trees. While these photographs and paintings were created to showcase a nineteenth century ethnographic perspective on the Menominee people, they also provide important insight into the appearance of the Menominee Forest in the late 1800s. The variety of habitats shown in these pictures emphasize the diverse nature of the Menominee Forest.

The reports of federal officials living and working on the Menominee reservation provide insights into the state of the Menominee Forest in the early 1900s, just as they did in the mid-1800s. For example, in 1914, US Indian Commissioner Edward Ayers noted that “the forest is distributed in two parts…the east portion of the reserve being of open nature, pine, and Norway, while the western part has a very dense stand, principally hardwoods, hemlock and scattering pine…[A] considerable portion of the reserve [is] good grass land.”[95] The commissioner described two distinct sections of the reservation: one composed of open forest and the other composed of dense closed forest. Ayers also highlighted the presence of grasslands in the open forest because he thought that although this area of the reservation that did not have soils suitable for intensive agriculture, it would be suitable for grazing. At the time, Indian agents were still focused on assimilating the Menominee people through agriculture.

Maps from the early 1900s provide further information about the forest, forest disturbance, and forest ecology. A reproduction of a 1914 forest management planning map provides evidence of the presence of forest disturbances, specifically wind and fire (Figure 7). The map coincides with other descriptions of the Menominee reservation in which closed canopy hardwoods and hemlock dominate the area west of the Wolf River while open scattered pine dominates the area east of the Wolf River. The 1914 map explicitly marks disturbances by outlining areas of “young pine,” “blow down,” “scattered open pine,” and “burned.”

The 1914 planning map differs slightly from the GLO survey maps (see Figure 2). The 1914 map depicts a larger portion of the land west of the Wolf River as scattered open pine, characterizes more area as either “burned” or “young pine,” and shows “pine sawtimber” adjacent to burned areas and within both the hemlock hardwood west of the Wolf River and the open areas to the south east.

There are several possible explanations for the differences between the two maps. The differences could be due to different sampling strategies used to create the maps; they could also be due to the fact that by the early 1900s, the Menominee tribe had harvested around 400 million board feet of timber from reservation forests—the majority was pine. Fires and logging may also have led to the presence of more of young pine, open pine, and burned area in 1914. Throughout the rest of Wisconsin, heavy logging and the construction of railroads were commonly followed by fire; this may have been the case with the Menominee forests as well.[96] In addition, US Indian Agent reports indicate that the Menominee may have been purposefully setting fire to forested areas so they would be allowed to log the fire-killed timber.[97] While the Menominee people contested these claims, fire may still have been more frequent on the reservation than in earlier times. No matter the reason, the forest appears to have changed only slightly from the 1850s to the early 1900s.

Because these maps were created with different methods and at different times, quantifying this analysis with GIS techniques would be difficult. However, these maps are valuable because they provide a visual depiction of the state of the Menominee Forest in the late nineteenth century and the early twentieth century. Despite some minor differences, there is a general continuity in the descriptions of the Menominee Forest between the 1850s and the early 1900s. The descriptions of the Menominee Forest in the early 1900s show that the Menominee reservation was dominated by diverse forest types, large areas of the forest were closed canopy, large areas contained open and scattered pines, and wind and fire had shaped the forest. Photographs, maps, and descriptions collectively report and provide visual representations of the open forest in the eastern portion of the reservation and the closed forest to the west. These documents do not provide evidence that the forest had changed significantly since the reservation was established in the 1850s; however, they do reveal that, compared to the current forests, the land of the middle-to-late nineteenth century contained less open forest and grassland habitat. As I illustrate in the next chapter, this transition had implications for forest management, forest restoration, and community perceptions.

Endnotes – Chapter 2

[1] United States Statutes At Large, "Treaty with the Menominee Indians," (1854); United States Statutes At Large, "Treaty with the Menominee Indians," (1856).

[2] David Beck argued that the Menominee people were able to achieve their own goals as a result of their tenacity, political astuteness, and ability to work with non-Menominee people. See David R.M. Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854* (Lincoln: University of Nebraska Press, 2005); David R.M. Beck, *Siege and Survival: History of the Menominee Indians, 1634-1856* (University of Nebraska Press, 2002).

[3] Menominee Tribal Enterprises, "The Menominee Forest Management Tradition: History, Principles, and Practices," (Menominee Tribal Enterprises, 1997).

[4] See G. Schultz, *Wisconsin's Foundations: A Review of the State's Geology and Its Influence on Geography and Human Activity* (University of Wisconsin Press, 2004), 21.

[5] ibid.

[6] ibid., 195.

[7] M.J. Mitchell et al., *Soil Survey of Menominee County, Wisconsin* (USDA Natural Resources Conservation Service, 2004), 13. The lowest point of elevation on Menominee reservation is 841 feet above sea level and is located in the southeastern sandy outwash valley. The highest elevation on the Menominee reservation is 1,433 feet above sea level and is located among the northeastern hills.

[8] ibid., 153; Schultz, *Wisconsin's Foundations: A Review of the State's Geology and Its Influence on Geography and Human Activity,* 4.

[9] Mitchell et al., *Soil Survey of Menominee County, Wisconsin*, 14.

[10] M.B. Davis, "Quaternary History and the Stability of Forest Communities," *Forest succession: concepts and application. Springer-Verlag, New York, New York, USA* (1981). This research shows that plant communities as researchers currently understand them did not migrate together as groups of species, but rather that individual species migrated at different rates. There is a scientific debate about the rates of migration for species with large seeds. The debate focuses on the fact that large-seeded plants should not migrate as quickly as they appear to have migrated in the Holocene period. Research on this phenomenon has focused on plant dispersal, animal dispersal, water dispersal, and wind (and storm) dispersal. There is, however, another factor that has not been investigated: human seed dispersal. There is a need to investigate the possibility that human communities, such as the Menominee, living on the margins of the glaciers aided the migration of certain plant species. For information surrounding this debate see James S. Clark et al., "Reid's Paradox of Rapid Plant Migration," *Bioscience* 48, no. 1 (1998).

[11] Schultz, *Wisconsin's Foundations: A Review of the State's Geology and Its Influence on Geography and Human Activity*, 23.

[12] Davis, "Quaternary History and the Stability of Forest Communities."

[13] L.A. Schulte et al., "Spatial Controls of Pre–Euro-American Wind and Fire Disturbance in Northern Wisconsin (USA) Forest Landscapes," *Ecosystems* 8, no. 1 (2005).

[14] Charles D. Canham and Orie L. Loucks, "Catastrophic Windthrow in the Presettlement Forests of Wisconsin," *Ecology* 65, no. 3 (1984).

[15] Lee E. Frelich and Craig G. Lorimer, "Natural Disturbance Regimes in Hemlock-Hardwood Forests of the Upper Great Lakes Region," *Ecological Monographs* 61, no. 2 (1991).

[16] See for example: S. J. Pyne, *Fire in America: A Cultural History of Wildland and Rural Fire* (Princeton University Press, 1982); Gordon M. Day, "The Indian as an Ecological Factor in the Northeastern Forest," *Ecology* 34, no. 2 (1953); Cheryl H. Dorney and John R. Dorney, "An Unusual Oak Savanna in Northeastern Wisconsin: The Effect of Indian-Caused Fire," *American Midland Naturalist* 122, no. 1 (1989); DK Maissurow, "The Role of Fire in the Perpetuation of Virgin Forests of Northern Wisconsin," *Journal of Forestry* 39, no. 2 (1941); Omer Call Stewart, Henry T. Lewis, and Kat Anderson, *Forgotten Fires : Native Americans and the Transient Wilderness* (Norman: University of Oklahoma Press, 2002).

[17] B.A. Sands and M.D. Abrams, "A 183-Year History of Fire and Recent Fire Suppression Impacts in Select Pine and Oak Forest Stands of the Menominee Indian Reservation, Wisconsin," *The American Midland Naturalist* 166, no. 2 (2011).

[18] David J. Grignon et al., "Menominee Tribal History Guide: Commemorating Wisconsin Sesquicentennial 1848-1998," ed. Menominee Historic Preservation Department (Keshena: Menominee Tribe of Indians of Wisconsin, 1998), 7; Also see, David J. Grignon et al., "Menominee Indian Reservation Historical Review - Commemorating the Reservation Sesquicentennial 1854-2004," ed. Menominee Historic Preservation Department (Keshena: Menominee Tribe of Indians of Wisconsin, 2004).

[19] David F. Overstreet and Michael F. Kolb, "Geoarchaeological Contexts for Late Pleistocene Archaeological Sites with Human-Modified Woolly Mammoth Remains in Southeastern Wisconsin, U.S.A," *Geoarchaeology* 18, no. 1 (2003).

[20] David F. Overstreet, "The Mero Complex and the Menominee Tribe - Prospects for a Territorial Ethnicity," *The Wisconsin Archeologist* 90, no. 1&2 (2009).

[21] ibid.

[22] ibid. Dr. Overstreet has several maps in this publication. The cultivated sites are generally one square kilometer, or around 250 acres. The site sizes are incomplete, however, because they have not been fully mapped.

[23] See for example Jeff Grignon, "Personal Interview by Michael J Dockry," (Keshena, WI6/7/2011); Dave Napos Turney, "Personal Interview by Michael J Dockry," (Keshena, WI6/1/2011).

[24] David J. Grignon et al., "Menominee Tribal History Guide: Commemorating Wisconsin Sesquicentennial 1848-1998," 13 and 55.

[25] ibid. The treaties included statements of peace and friendship, descriptions of lands ceded by the Menominee to the United States, and provisions to be paid by the United States in return for the land cessions.

[26] For details on the Menominee treaty era see Beck, *Siege and Survival: History of the Menominee Indians, 1634-1856*.

[27] ibid.

[28] David J. Grignon et al., "Menominee Tribal History Guide: Commemorating Wisconsin Sesquicentennial 1848-1998," introduction.

[29] ibid.

[30] See Beck, *Siege and Survival: History of the Menominee Indians, 1634-1856*; David J. Grignon et al., "Menominee Tribal History Guide: Commemorating Wisconsin Sesquicentennial 1848-1998."; David J. Grignon et al., "Menominee Indian Reservation Historical Review - Commemorating the Reservation Sesquicentennial 1854-2004."

[31] Edward E. Ayer, *Report on Menominee Indian Reservation* (Board of Indian Commissioners, 1914); Menominee Tribal Council, "Menominee Tribal Council Notes," in *Green Bay SC138* (Wisconsin State Historical Society Green Bay Archive, 1866); JP Kinney, "Timber Cut on the Menominee Indian Reservation (Compiled from Reports of Agents since 1865. Timber Principally White and Norway Pine)," in *Jay P. Kinney Papers, 1836-1941* (Madison, WI: Wisconsin State Historical Society Archives, 1836-1941); Robert M. La Follette, "Register of the Robert M. La Follette Papers, 1879-1910," in *Robert M. La Follette Papers* (Madison: State Historical Society of Wisconsin); Robert M. La Follette, *La Follette's Autobiography: A Personal Narrative of Political Experiences*, Third edition ed. (The Robert M. La Follette Co., 1911; reprint, Third edition); Robert La Follette, "Robert M. La Follette Papers," in *Robert M. La Follette Papers* (Madison, WI: Wisconsin State Historical Society Archives, 1879-1910); Robert La Follette, "Cutting and Sale of Timber on the Menominee Indian Reservation, Wis.," ed. Report from the Committee on Indian Affairs (59th Congress Second Session, 1907); United States Senate, "Treaty with the Menominee Indians, and the Journal of the Commissioner," in *Ex. Doc. 72*, ed. Twenty Second Congress Second Session (1833); United States Senate, "Message of the President of the United States," in *Ex. Doc. 72*, ed. Thirty Fourth Congress First Session (1856); United States Senate, "Condition of Indian Affairs in Wisconsin," in *Senate Resolution 263*, ed. Hearings before the Committee of Indian Affairs (1908); United States, "Annual Report of the Commissioner of Indian Affairs, for the Year 1851," (G.P.O., [1851], 1851); United States, "Exterior Field Notes T28 R15 - General Description," (General Land Office, 1852); United States, "Interior Field Notes T28 R16 - General Description," (General Land Office, 1853); United States, "Interior Field Notes T30 R15 - General Description," (General Land Office, 1853); United States Satutes at Large, "An Act to Authorize the Sale of Timber on Certain Lands Reserved for the Use of Menominee Tribe of Indians, in the State of Wisconsin," (1890); United States Satutes at Large, "An Act to Authorize the Cutting of Timber, the Manufacture and Sale of Lumber, and the Preservation of the Forests on the Menominee Indian Reservation in the State of Wisconsin," (1908); United States Statutes At Large, "Treaty with the Menominee Indians."; United States Statutes At Large, "Treaty with the Menominee Indians." I used Nvivo 9 research analysis software to organize and help analyze the qualitative data. I used the software mainly to organize historical documents and my research notes, just as historians use note cards for historical analysis. I “coded” each section of every document, which allowed me to display all of the sections labeled with a particular code for my historical analysis. I coded 42 separate themes, including “Menominee Perceptions,” “Non-Menominee Perceptions,” and “La Follette Perceptions.” Non-Menominee Perceptions were generally those of government officials. I specifically coded La Follette Perceptions so I could examine every instance in which Robert La Follette described his intentions, thoughts, or perceptions.

[32] Beck, *Siege and Survival: History of the Menominee Indians, 1634-1856*, 111.

[33] United States Senate, "Treaty with the Menominee Indians, and the Journal of the Commissioner," 86.

[34] ibid., 87.

[35] M. Wyman, *The Wisconsin Frontier* (Indiana University Press, 1998), 158.

[36] See ibid., 162.

[37] United States Senate, "Treaty with the Menominee Indians, and the Journal of the Commissioner." The full quote is “Father, I do not like to have the Menominee river damed [sic] up…. We need to catch plenty of fish; it was our principal means of subsistence. Father, I think these men should be satisfied with cutting down all our best timber and sawing it up, without stopping the fish. I have nothing to say against the grant [treaty land cessions]; our chiefs gave their permission.... Father, did we ever sell all the fish? I have no recollection of doing this. Father, this man says he owns all the fish in that river, and all the cranberries. We never sold all these, did we? Father, all I wish is, that the channel of the river may be left open, so that the fish can go up and down, and that we may catch then, as heretofore, to subsist on.” Also quoted in Beck, *Siege and Survival: History of the Menominee Indians, 1634-1856*, 113.

[38] Historian David Beck illustrates this point in detail. See Beck, *Siege and Survival: History of the Menominee Indians, 1634-1856*, 113.

[39] United States Senate, "Treaty with the Menominee Indians, and the Journal of the Commissioner."

[40] David J. Grignon et al., "Menominee Indian Reservation Historical Review - Commemorating the Reservation Sesquicentennial 1854-2004," 13.

[41] United States Senate, "Treaty with the Menominee Indians, and the Journal of the Commissioner," 82.

[42] ibid., 83.

[43] ibid., 85.

[44] ibid., 86.

[45] ibid., 88.

[46] United States, "Annual Report of the Commissioner of Indian Affairs, for the Year 1851," 291; United States Senate, "Message of the President of the United States," 47.The Menominee leaders noted that the Indian commissioner negotiating the treaty had told the Menominee people that they “had no just title to any of these lands, and that their great father, the President, could drive them off whenever he pleased; and that if their nation did not then agree to make a treaty, he would drive them off to make room for the whites, and then they would get nothing if they did not sign the treaty.” The Menominee leaders argued that they were never paid an amount equal to the actual value of their land. In a general council meeting in 1866, the Menominee Chief reflected on the treaties, saying, “We now understand that in all the treaties from 1836 to this time we have not been allowed the value of our lands.” Menominee Tribal Council, "Menominee Tribal Council Notes."

[47] Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*, xxiii.

[48] United States Senate, "Message of the President of the United States," 24.

[49] ibid., 10.

[50] United States Senate, "Treaty with the Menominee Indians, and the Journal of the Commissioner," 82.

[51] United States, "Annual Report of the Commissioner of Indian Affairs, for the Year 1851," 296.

[52] United States General Land Office, "Wisconsin Public Land Survey Records: Land Survey Information," (Wisconsin Board of Commissioners of Public Lands and the University of Wisconsin Board of Regents). One township is 36 square miles and one square mile is 640 acres.

[53] United States Statutes At Large, "Treaty with the Menominee Indians," 85.

[54] In several books, David Beck has argued that the Menominee people worked well with non-Menominee people to achieve favorable outcomes for the tribe.

[55] Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*, 5.

[56] United States, "Annual Report of the Commissioner of Indian Affairs, for the Year 1851," 308.

[57] ibid., 308.

[58] ibid., 309.

[59] See the annual reports of the Commissioner of Indian Affairs between 1851 and 1911; also see Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*; T. Holm, *The Great Confusion in Indian Affairs: Native Americans & Whites in the Progressive Era* (Univ of Texas Pr, 2005).

[60] United States, "Annual Report of the Commissioner of Indian Affairs, for the Year 1851," 310.

[61] See Chapter 4 and oral history interviews including David J. Grignon, "Personal Interview by Michael J Dockry," (Keshena, WI6/21/2011); Jerilyn R.M. Grignon, "Personal Interview by Michael J Dockry," (Keshena, WI4/8/2011); John Teller, "Personal Interview by Michael J Dockry," (Keshena, WI5/27/2011).

[62] United States, "Annual Report of the Commissioner of Indian Affairs, for the Year 1853," (G.P.O., [1853], 1853), 244.

[63] ibid., 244. In fact, the reservation was remote and serviced only by marginal roads that were impassable in certain seasons of the year until well into the 1930s.

[64] ibid., 290.

[65] See for example Holm, *The Great Confusion in Indian Affairs: Native Americans & Whites in the Progressive Era*. For specific details related to the Menominee see Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*; B. C. Hosmer, *American Indians in the Marketplace: Persistence and Innovation among the Menominees and Metlakatlans, 1870-1920* (Univ Pr of Kansas, 1999).

[66] United States, "Annual Report of the Commissioner of Indian Affairs, for the Year 1853," 292.

[67] Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*.

[68] ibid; Hosmer, *American Indians in the Marketplace: Persistence and Innovation among the Menominees and Metlakatlans, 1870-1920*.

[69] See Chapter 10 "Logging the Pineries" in Wyman, *The Wisconsin Frontier*.

[70] See T.R. Cox, *The Lumberman's Frontier: Three Centuries of Land Use, Society, and Change in America's Forests* (Oregon State University Press, 2010); Wyman, *The Wisconsin Frontier*; Michael Williams, *Americans and Their Forests : A Historical Geography*, vol. 1st paperback, Studies in Environment and History (Cambridge Cambridgeshire ; New York: Cambridge University Press, 1992).

[71] J. W. Powell, "Fourteenth Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution 1892-1893," (G.P.O., [1896], 1893); ibid; United States, "Exterior Field Notes T28 R15 - General Description."; United States, "Interior Field Notes T28 R16 - General Description."; United States, "Interior Field Notes T30 R15 - General Description."; United States, "Interior Field Notes T30 R16 - General Description," (General Land Office, 1853); United States, "Interior Field Notes T30 R13 - General Description," (General Land Office, 1854); United States, "Interior Field Notes T30 R14 - General Description," (General Land Office, 1854); United States, "Interior Field Notes T29 R13 - General Description," (General Land Office, 1854); United States, "Interior Field Notes T29 R14 - General Description," (General Land Office, 1854).

[72] Powell also interpreted for the Menominee on the trip to Crow Wing Minnesota. Powell believed that the Menominee—particularly the hunters—would not fare well in Minnesota due to a lack of game and suitable land for farming. He also believed that the Menominee on the trip were deeply disappointed with the land in Minnesota, despite the fact that the tribal members never spoke to him about it. See Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*, 175-76.

[73] United States, "Annual Report of the Commissioner of Indian Affairs, for the Year 1851," 308.

[74] ibid., 308.

[75] United States, "Annual Report of the Commissioner of Indian Affairs, for the Year 1853," 292.

[76] United States, "Annual Report of the Commissioner of Indian Affairs, for the Year 1851," 310.

[77] The Menominee reservation consists of 10 townships. Townships T30N R13E, T30N R14E, T30N R15E, T29N R13E, T29N R14E, and T29N R15E were first surveyed in October and November 1852. Township T28N R15E was first surveyed in March 1845. Townships T30N R16E and T29N R16E were first surveyed in June 1839. Township T28N R16E was first surveyed in December 1845. Most of the interior section lines within each township were surveyed in 1853 and 1854. See United States General Land Office, "Wisconsin Public Land Survey Records: Original Field Notes and Plat Maps," (Wisconsin Board of Commissioners of Public Lands and the University of Wisconsin Board of Regents).

[78] Each township is divided into 36 one-square-mile sections.

[79] See GLO Field Notes

[80] United States, "Exterior Field Notes T28 R15 - General Description."

[81] United States, "Interior Field Notes T28 R16 - General Description."

[82] United States, "Interior Field Notes T30 R15 - General Description."

[83] United States, "Interior Field Notes T30 R16 - General Description."

[84] It is generally accepted that the use of the term “timber” was used by the GLO surveyors meant pine at that time. I have added commas within the Government Land Office quotations for clarity.

[85] United States, "Interior Field Notes T29 R13 - General Description." The word “lind” is illegible but probably means linden or basswood.

[86] United States, "Interior Field Notes T29 R14 - General Description." The word “lind” is illegible but it probably means linden or basswood.

[87] United States, "Interior Field Notes T30 R13 - General Description." The word “lind” is illegible but it probably means linden or basswood.

[88] United States, "Interior Field Notes T30 R14 - General Description." The word “lind” is illegible but it probably means linden or basswood. The word “tamarack” is illegible but it probably means tamarack.

[89] See map in David J. Grignon et al., "Menominee Tribal History Guide: Commemorating Wisconsin Sesquicentennial 1848-1998," 20.

[90] Hosmer, *American Indians in the Marketplace: Persistence and Innovation among the Menominees and Metlakatlans, 1870-1920*, 28; Cristina Thomsen, Hal Neumann, and John F. Schuttler, "The Forests of the Menominee: Forest Resource Management on the Menominee Indian Reservation 1854-1992," (1999), 30.

[91] Kinney, "Timber Cut on the Menominee Indian Reservation (Compiled from Reports of Agents since 1865. Timber Principally White and Norway Pine)."

[92] ibid.

[93] Walter James Hoffman, "The Menomini Indians," (1893), 37.

[94] ibid., 38.

[95] Ayer, *Report on Menominee Indian Reservation*.

[96] Wyman, *The Wisconsin Frontier*, 275-76.

[97] See, for example, United States Senate, "Condition of Indian Affairs in Wisconsin," 954-56. David Beck also addressed this topic in Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*. Before the 1890 act authorized the Menominee to harvest 20 million board feet of green timber per year, the Menominee were only allowed to harvest dead and down timber. The reports of Indian Agents refer to the Menominee purposefully starting fires to kill trees so they could legally harvest the timber.

Chapter 2 Figures

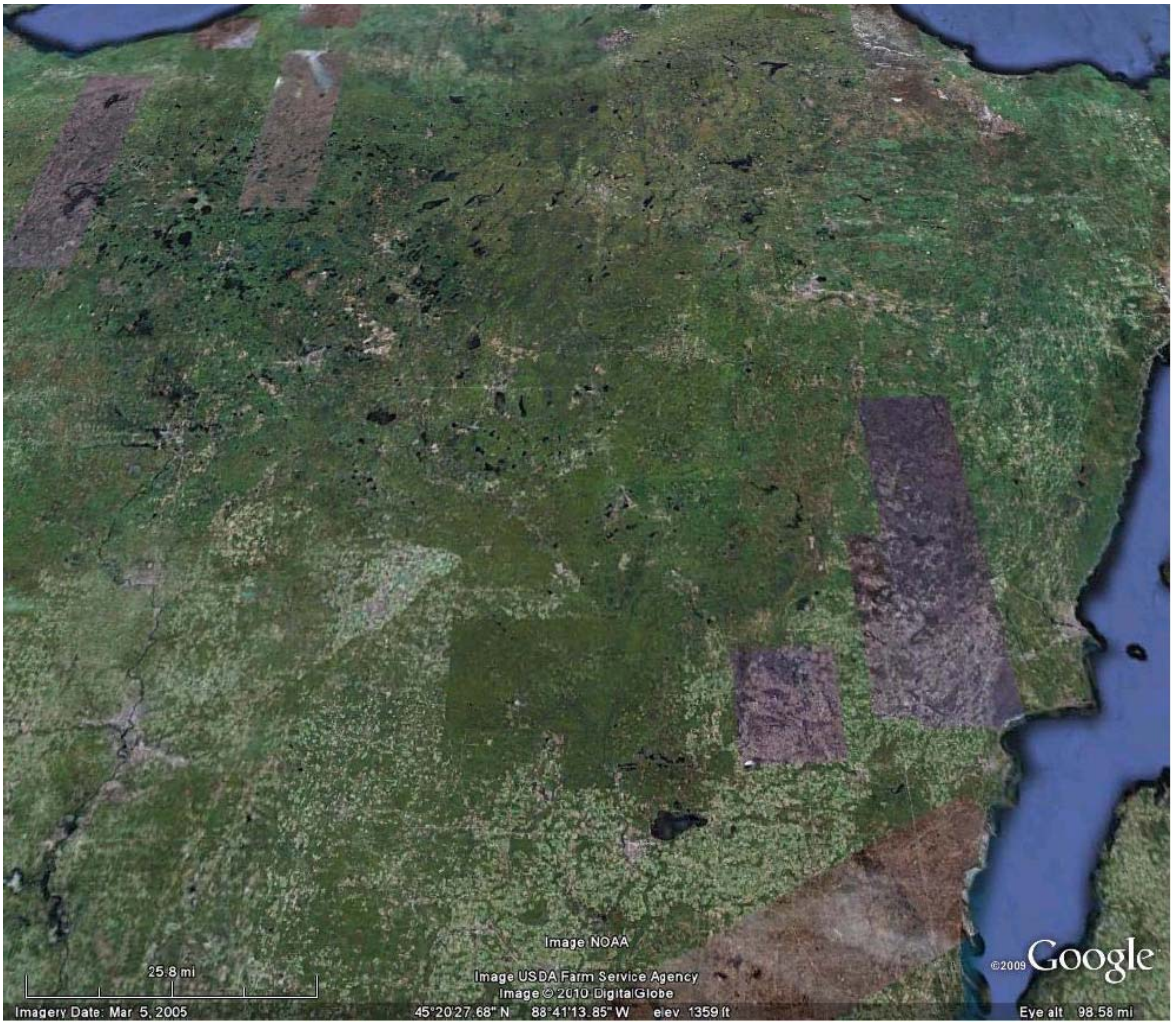


Image NOAA
25.8 mi
Image USDA Farm Service Agency
Image © 2010 DigitalGlobe
©2009 Google
Imagery Date: Mar 5, 2005
45°20'27.68" N 88°41'13.85" W elev 1359 ft
Eye alt 98.58 mi

Figure 1. Satellite image of Wisconsin. Lake Superior is visible to the north, Green Bay to the east, and the Menominee Reservation is in the south central portion of the image. Image used according to Google's Terms of Conditions.

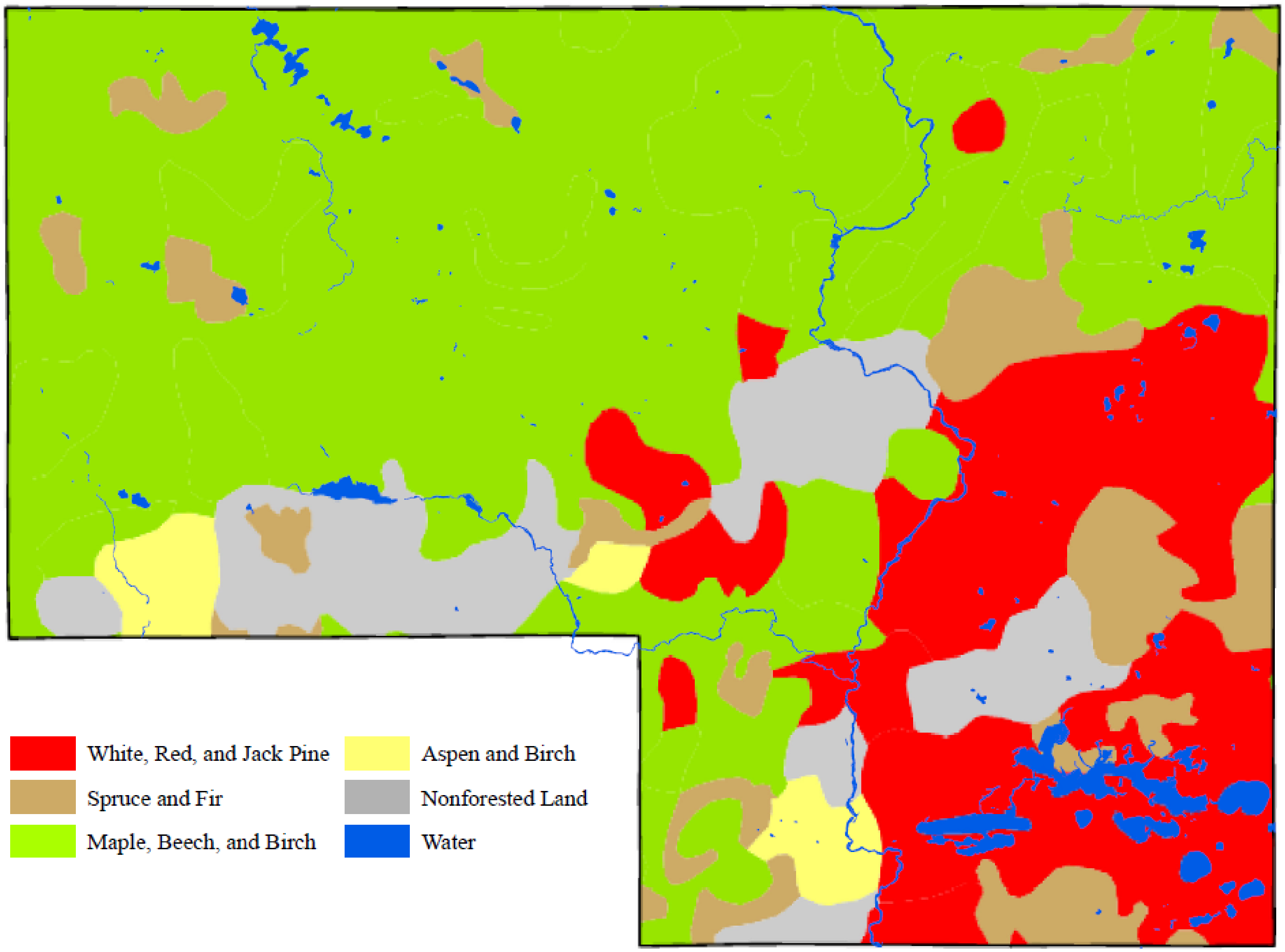
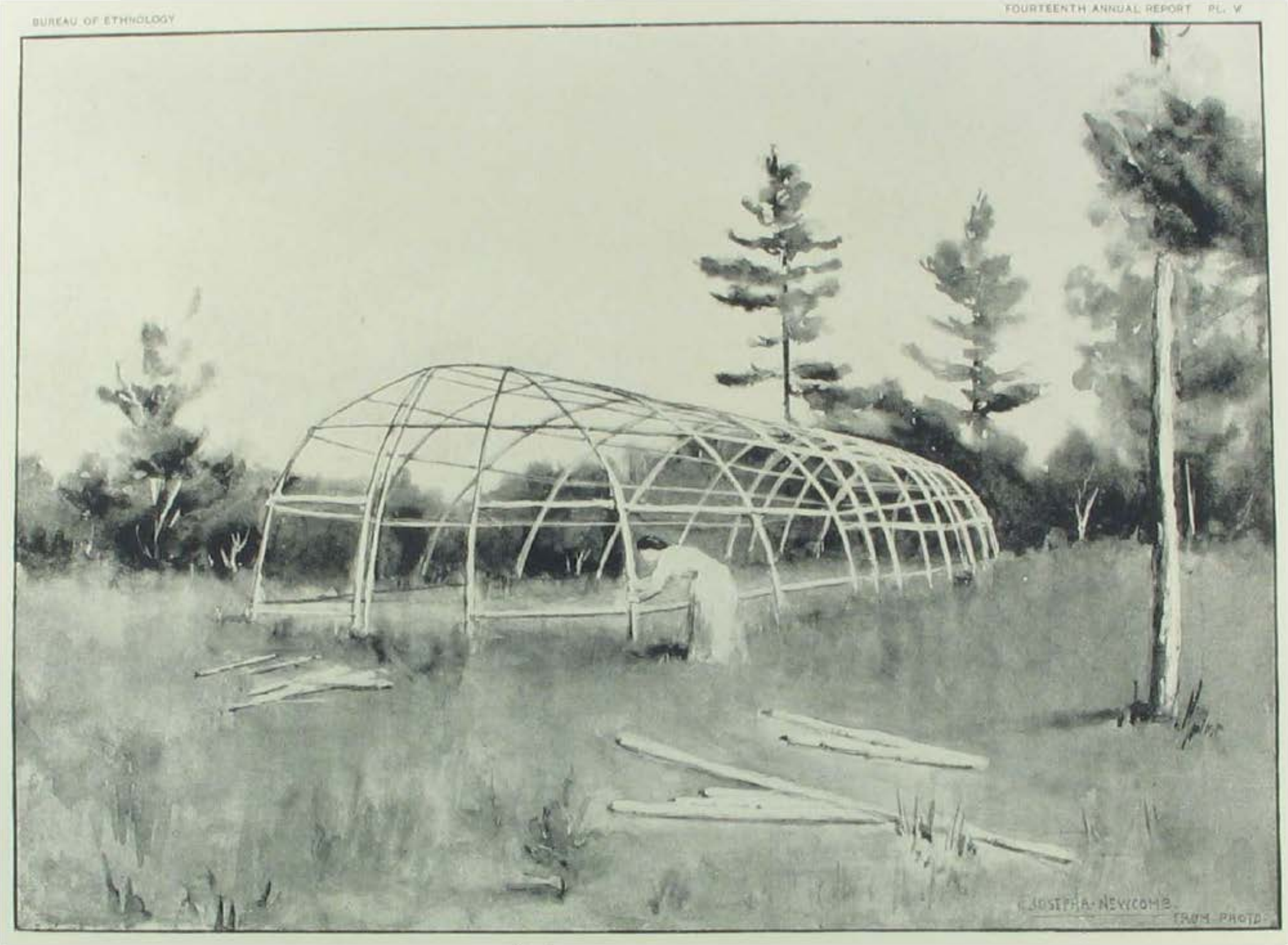
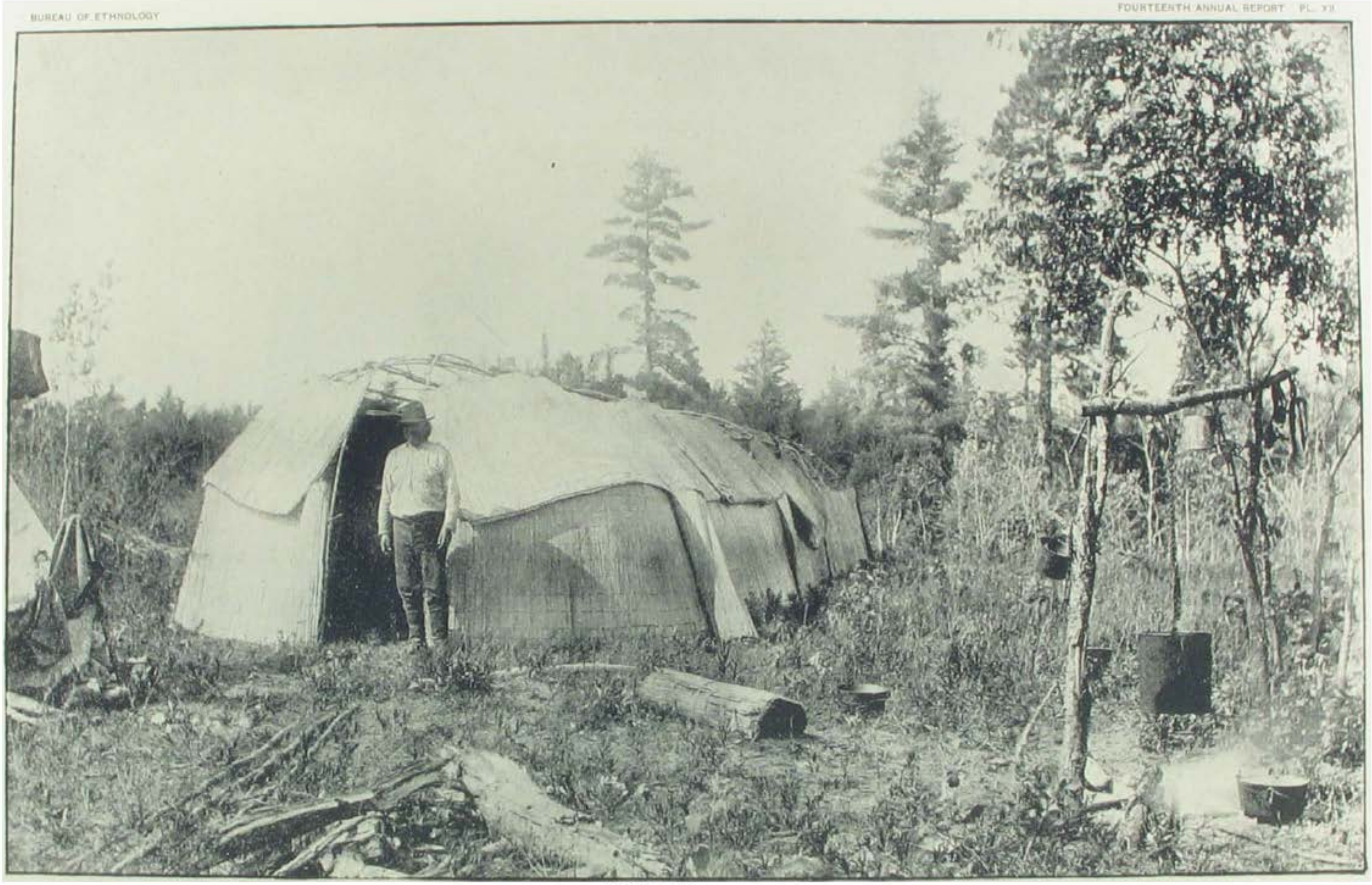

White, Red, and Jack Pine
Spruce and Fir
Maple, Beech, and Birch
Aspen and Birch
Nonforested Land
Water

Figure 2. Forest vegetation based on Government Land Office surveys from 1839-1852. Map shows the Menominee reservation as clipped from data contained in the "Wisconsin Original Vegetation" map created for the Great Lakes Forest Assessment. The water layer shows contemporary water bodies (Legend Lake and Neopit Mill Pond) and is for reference only. Map created by Menominee Tribal Enterprises and the US Forest Service.


BUREAU OF ETHNOLOGY
FOURTEENTH ANNUAL REPORT PL. V
E. JOSEPHA NEWCOMB.
FROM PHOTO

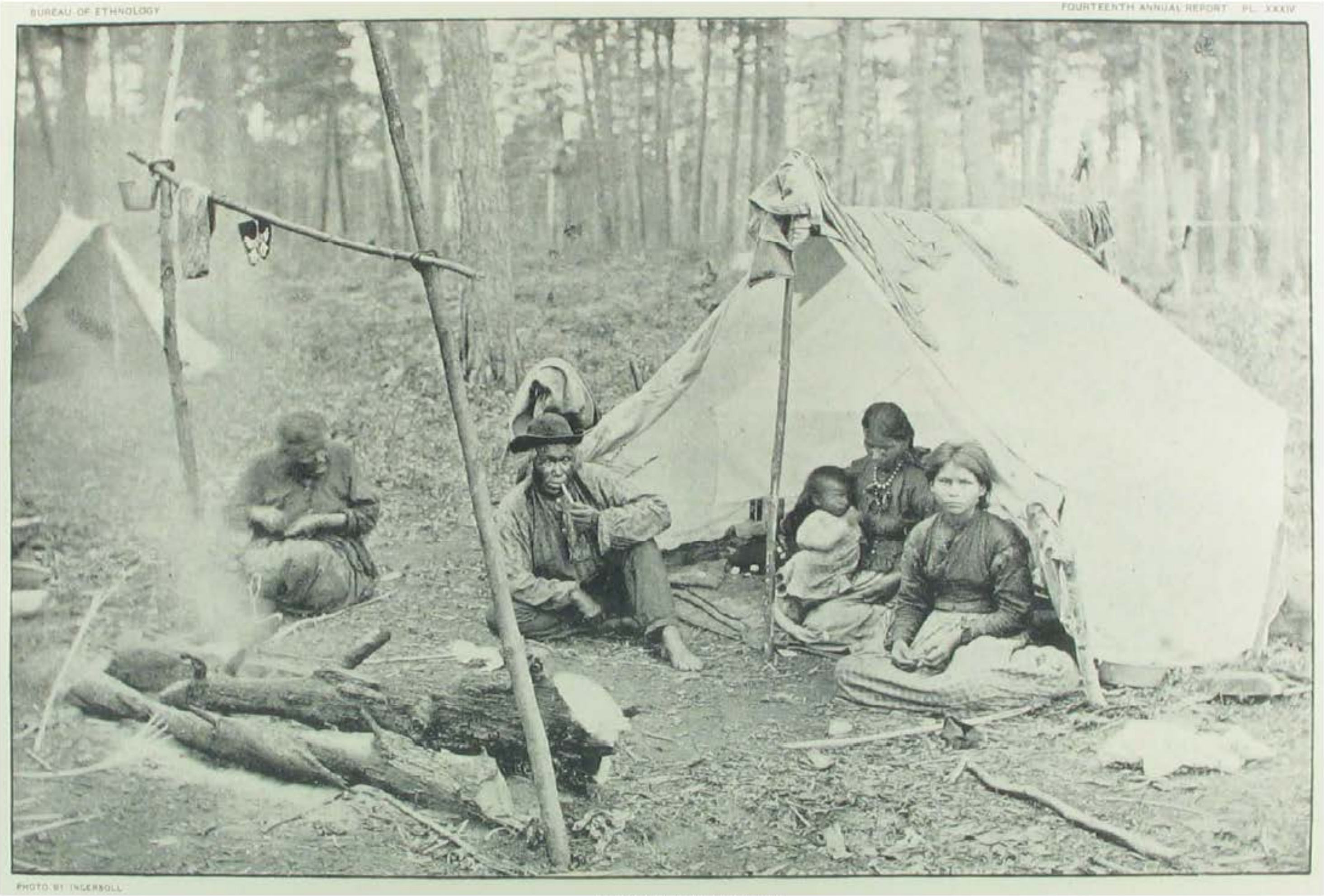
BUILDING OF MEDICINE LODGE

Figure 3. Smithsonian Institute's Bureau of Ethnography 1893 drawing of a Menominee woman building a "medicine lodge." The painting shows scattered open pine in the background illustrating what this forest type would have looked like in the late 1800s.


BUREAU OF ETHNOLOGY
FOURTEENTH ANNUAL REPORT PL. XI

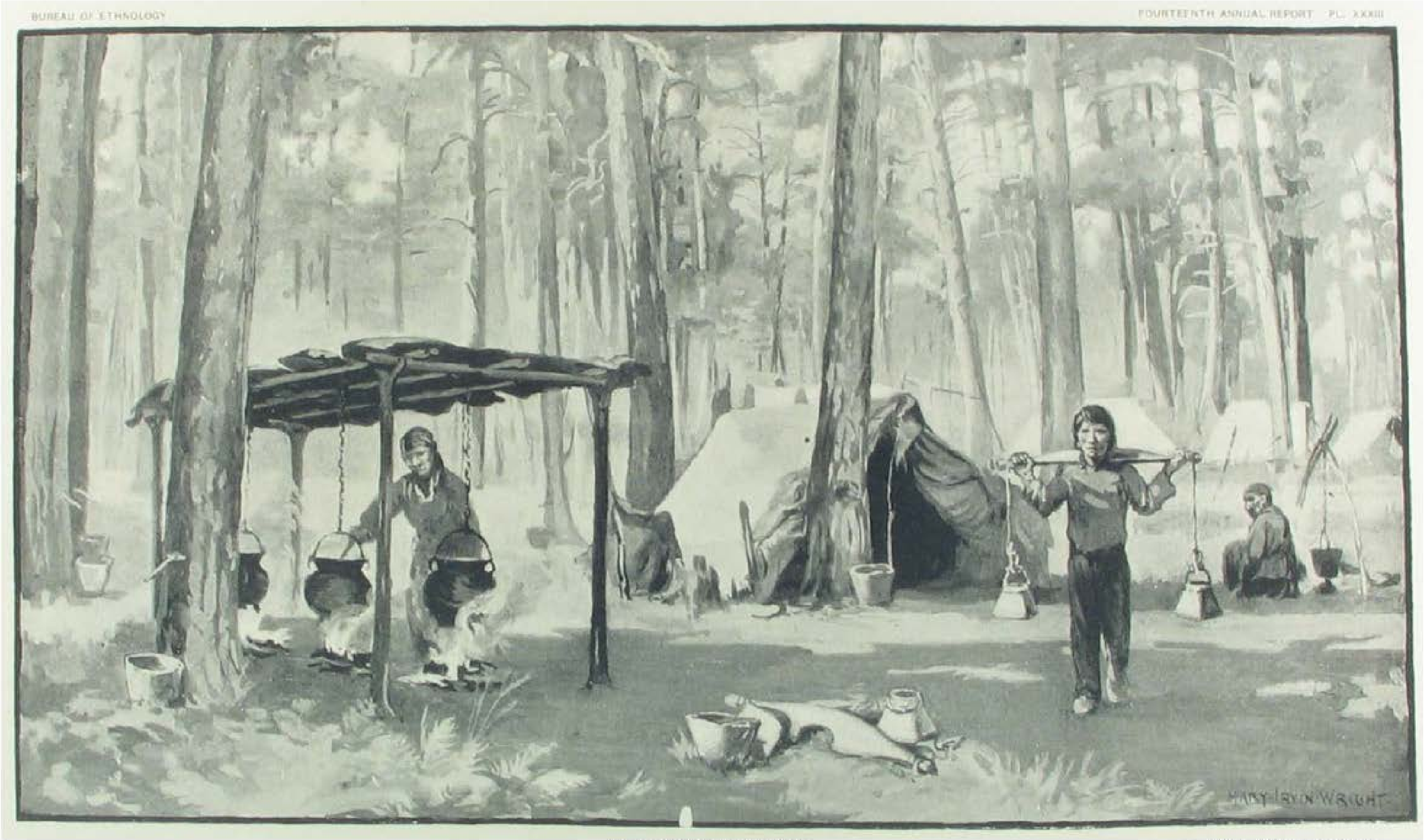
MITÄ'WIKÓ'MIK OF 1892

Figure 4. Smithsonian Institute's Bureau of Ethnography 1893 photograph of a Menominee man in front of a traditional building. The photograph shows scattered open pine in the background and gives insight into what this forest type looked like in the late 1800s.


BUREAU OF ETHNOLOGY
FOURTEENTH ANNUAL REPORT PL. XXXIV
PHOTO BY INGERSOLL

CAMP OF BERRY PICKERS

Figure 5. Smithsonian Institute's Bureau of Ethnography 1893 photograph of a Menominee family at their campsite in a scattered open forest with brushy undergrowth. The photo is titled "Camp of Berry Pickers" and shows another type of open forest on the Menominee reservation in the late 1800s.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MARY IRVIN WRIGHT

CAMP OF SUGAR MAKERS

Figure 6. Smithsonian Institute's Bureau of Ethnography 1893 painting of a group of Menominee at their sugar camp processing maple sap into sugar. The painting is titled "Camp of Sugar Makers" and shows the maple hardwood forest type common west of the Wolf River.

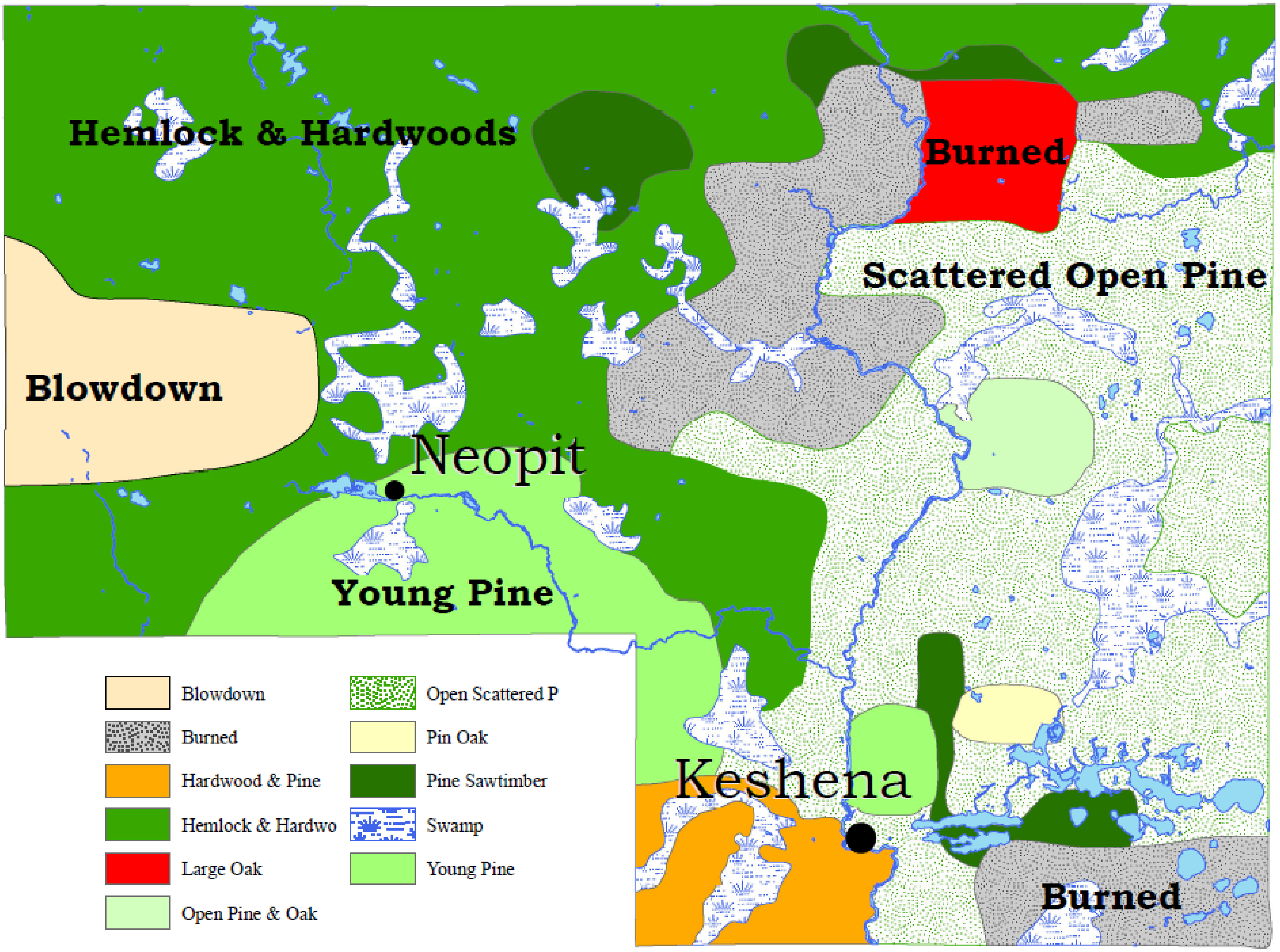
Hemlock & Hardwoods
Burned
Scattered Open Pine
Blowdown
Neopit
Young Pine
Keshena
Burned
Blowdown
Burned
Hardwood & Pine
Hemlock & Hardwo
Large Oak
Open Pine & Oak
Open Scattered P
Pin Oak
Pine Sawtimber
Swamp
Young Pine

Figure 7. Menominee Tribal Enterprise's recreation of a 1914 forest planning map. This map shows much of the forest to be open, burned, blowdown, or regenerating pine. The dark green areas indicate "pine sawtimber." The other portions of the forest are closed canopy dense hemlock and hardwood forests. Map created by Menominee Tribal Enterprises.

Chapter 3: Forest Management History on the Menominee Reservation: The 1890 Forestry Act to the 1973 Menominee Restoration Act

By the late nineteenth century, glaciers, soils, and timber harvesting had shaped the Menominee Forest. Between the mid-1850s and 1890, the Menominee timber harvest was mostly limited to dead and down pine timber logged for personal use on the reservation. It was difficult for the Menominee to profit from logging only dead and down trees because they were not as valuable as standing green timber. Further, at this time the reservation was still remote and was not serviced by many roads or rail lines. For the five decades after the reservation was established, the forest retained much of its original structure and character.

Forests in the rest of Wisconsin, however, were changing rapidly during the late 1800s as the lumber frontier began to move west and north from the shores of Lake Michigan and railroads began to penetrate timber stands further and further away from river systems.[1] In 1889, loggers harvested approximately 5 billion board feet from Wisconsin’s forests—this was one of the peak years for lumber production in Wisconsin.[2] As accessible timber was depleted, logging operations pushed deeper and deeper into remote Wisconsin forests. During this time, the Menominee reservation became less and less remote and its timber became more and more valuable.

In this context of dynamic and diverse forest change, the Menominee tribe initiated the practice of sustained yield forestry—placing annual limits on logging to maintain constant forest harvest levels. This practice represented a new form of forest management that stood in stark contrast to the cut-and-run harvesting occurring throughout Wisconsin and the rest of the United States. Menominee forest management would not only shape the Menominee Forest, but would also inform the concepts of forestry, conservation, and progressivism emerging in the United States.

Defining Menominee Forestry and Progressive-Era Conservation

Today, visitors at the offices of Menominee Tribal Enterprises—the Menominee entity charged with managing the tribal forestry, mill, and business operations—are greeted by a simple plaque commemorating the 100th anniversary of the Menominee sawmill founded in 1908. The plaque contains the following saying, which is attributed to Chief Oshkosh, an important Menominee Chief during the treaty era: "Start with the rising sun and work toward the setting sun, but take only the mature trees, the sick trees, and the trees that have fallen. When you reach the end of the reservation, turn and cut from the setting sun to the rising sun and the trees will last forever".[3] This is one of the earliest definitions of Menominee forest management; the statement clearly outlines the tribe's philosophy of engaging in perpetual harvests while at the same time maintaining the forest. The quotation eloquently lays out a vision for what became known in the early 1900s as sustained yield forestry.

Oshkosh's quote, however, is not the sole basis for Menominee forest management. In this section, I examine the interplay between Menominee and Federal perceptions of forest management, paying particular attention to the constraints that a series of federal laws placed on the forest management options available to the Menominee. I explore a series of research questions: What are the origins of Menominee forest management and how has forest management been defined for the Menominee reservation? How did the Menominee people and federal officials perceive forest management? Did Menominee forest management have a nation-wide influence on forest management concepts or did it primarily impact the Menominee Forest?

To answer these questions, I analyzed primary documents from the US congressional record, US congressional reports, the papers of Robert La Follette and Jay P. Kinney, reports from the Menominee Tribe's historical preservation department, and other documents from the Wisconsin State Historical Society.

Legal Definitions of Forest Management

Specific federal laws have directed Menominee forestry since the 1870s. The first forestry acts allowed the Menominee to harvest "dead and down" timber for their own use.[4] Two key acts, the first in 1890 and the second in 1908, further defined Menominee forest management. These laws formed the basis for Menominee sustained yield forestry. Both laws allowed the Menominee to harvest standing green timber, imposed annual harvest limits, included provisions for hiring Menominee laborers, and mandated that logging proceeds be used to fund the operations.

1890 Act

By the late 1800s, easily accessible pine timber was decreasing in Wisconsin because of extensive logging. The once remote pine resources of the Menominee reservation became increasingly valuable as pine forests decreased in number. Lumber interests, particularly in the city of Oshkosh, became interested in the Menominee pine resources because of its quality and its location close to the Wolf river—a river that fed directly into Lake Winnebago and the Oshkosh mills.[5] Between 1880 and 1890, several Wisconsin legislators tied to Oshkosh lumber interests attempted to pass laws to open the Menominee reservation to timber harvesting. Menominee tribal members refused, believing that they should be the ones to log and benefit from their own reservation resources. Federal law, however, only allowed the Menominee to harvest dead and down timber for personal use or to harvest standing green timber to clear land for farming.

This situation changed in June 1890, when the US Congress approved “An act to authorize the sale of timber on certain lands reserved for use by the Menominee tribe of Indians in the State of Wisconsin.”[6] The act was the result of Menominee leaders pushing for the right to harvest standing reservation timber and was a compromise with the lumber interests that had been pushing to open up logging on the Menominee reservation. The act “empowered” the US Indian agent “to employ at a reasonable compensation said Indians to cut all or any portion of the timber on the lands reserved for the use of said Indians in that State into logs and haul the same to the banks of the rivers.”[7]

The 1890 act engendered several changes on the Menominee reservation. First, the new act compelled the US Indian agent to hire Menominee people to run the logging operations. In addition, the law allowed the tribe to sell the logs and retain the proceeds for their own benefit. While the act allowed the Menominee to log standing green timber on the reservation, it limited that logging to 20 million board feet of timber per year.[8] By limiting the harvest to 20 million board feet, the law intended to spread harvesting opportunities on the reservation over several years. Lawmakers believed that 20 million board feet per year of timber would protect the forest from wholesale clearing, while at the same time teaching the Menominee industry and facilitating the tribe’s assimilation.

During this era, federal officials controlled the majority of activities on Indian reservations and they believed that Indians should be assimilated, specifically, that they should become agriculturists. Logging on the Menominee reservation, federal officials asserted, could facilitate this transition. For example, in a letter from the Indian Affairs Committee urging Congress to pass the 1890 act, Congressman Myron McCord stated that the Menominee Indians “have made considerable advancement in civilization and are soon to take land in severalty under the allotment act…they have made such proficiency in learning the business of logging.”[9] Indian Agent Charles Kelsey noted that the purpose of encouraging “logging is to help them [the Menominee] become better farmers”.[10] In sum, US officials believed that logging was part of the assimilation process and would complement the process of allotment, which they considered inevitable.

The Menominee people, however, had a different vision for their future despite the federal government’s control over the reservation. Tribal members did not view the 1890 act as a way to transition to an agricultural lifestyle, but rather as a way to use their collective resources to provide for the tribe. Many Menominee began to view logging as a way to provide the tribe with needed employment and economic resources. The 1890 law required the tribe’s approval, which was granted through two tribal votes.[11] Many Menominee who were not directly involved in logging supported the law. Historian Brian Hosmer argued that tribal support for the 1890 law indicated that tribal members viewed reservation timber as a collective good or “tribal patrimony,” and believed that the law would provide benefits to all tribal members, not just the few involved in logging.[12] Several Menominee loggers, however, did not initially support the law. Hosmer argued that these loggers did not support the law because they viewed it as a way for the federal government to take away Menominee control of their resources by placing loggers under the control of the US Indian service, which would oversee the operations. Despite these reservations, the tribe eventually voted to accept the 1890 law, in part because, as historian David Beck noted, not approving the law would have led to “economic disaster” and the act afforded the tribe the possibility of economic gains that would benefit the tribe in the years to come.[13]

Menominee people did not intend to trade the forest and their forest-based culture to become industrious farmers. In contrast, they used the 1890 law to provide tribal employment and increase tribal and individual revenue while maintaining the forest and controlling it to the extent they were able. Although some Menominee did participate in agricultural activities, tribal culture revolved around the forest. Despite the intentions of lawmakers, the Menominee tribe used the political and legal systems to achieve their own vision of forest management, maintain their forest, and increase their control over the land.

The 1890 Menominee timber act influenced the way that other Great Lakes tribes viewed forest management. Some Minnesota tribes believed that legislation similar to the 1890 Menominee law could benefit them by allowing them to harvest their own trees and control their reservations. During hearings with the Senate's Committee on Indian Affairs, leaders from the Minnesota Chippewa tribes argued that they should be governed by a law similar to the 1890 act; they asserted that their lands and pine trees should no longer be sold and that they should be able to log their own lands. The leaders believed that a new law would benefit them by protecting their resources, providing employment to tribal members, and ending land sales to non-Indians.[14] Although the US government did not pass such legislation for the Minnesota tribes, their push for a similar law illustrates that the laws governing Indian forestry on the Menominee reservation influenced other tribes.

The 1890 Menominee timber act was the first time that federal law codified a yearly timber harvest limit for forestland in the United States. Although US officials proposed the law to facilitate the assimilation of the tribe, the perceptions and goals of the Menominee transformed the law’s implications—in the context of the Menominee’s actions, the 1890 act was the first law to mandate sustained yield forestry. The 1890 Menominee timber act predated the establishment of the first US Forest Reserves (1891), the Organic Act (1897), and the US Forest Service (1905); in effect, sustainable forestry in the United States began on the Menominee Indian reservation. This was the first time Indian policy had such an important influence on forest management in the United States, but it would not be the last time a Menominee timber law would have wide-ranging and national implications.

The Further Codification of Menominee Forestry in 1906 and 1908

On July 6, 1905 a severe windstorm blew down hundreds of thousands of board feet of timber on a portion of the Menominee reservation that contained some of “the finest hard-wood timber in the world.”[15] Windstorms had impacted the Menominee Forest for thousands of years, but this was a particularly dramatic storm.[16] The commissioner of Indian affairs, Francis E. Leupp, wrote: “A cyclone swept through the western part of the reservation, uprooting and blowing down between 25,000,000 and 30,000,000 feet of timber, mostly classed as hard-wood timber. This includes basswood, elm, hemlock, and maple in the order named. The territory contains comparatively little pine…probably about 5,000,000 feet.”[17]

The 1905 windstorm leveled mostly hardwood forests, which the tribe had not yet harvested extensively on the reservation. The 1905 blow down created opportunities for logging new species on the Menominee reservation, and led to new legislation that allowed logging at a larger scale. If the Menominee were to log the blow-down timber, the tribe would exceed the 20 million board feet annual limit codified in the 1890 law.[18] Therefore, both the US government and the Menominee tribe believed new legislation must be passed quickly, otherwise the timber would deteriorate and lose its value.

To address this problem, in 1906 the US Congress passed a law that outlined a plan to harvest the timber from the 1905 blow down. The law allowed the Menominee Business Committee to cut and sell “dead and down timber” from the blow-down area in addition to the 20 million board feet authorized under the 1890 act.[19] The 1906 act stated that the US Department of the Interior would make contracts with portable sawmill owners, tribal funds would be used to pay expenses, and proceeds would accrue to the tribal account with the US treasury.

The 1906 act proved difficult to implement for several reasons. First, logging dead and down timber is not as profitable as logging standing green timber. In addition, the Menominee tribe did not own any portable mills, and non-Menominee sawmill operators were unwilling to contract with the US government to work on the reservation because the area was remote and transportation was difficult.[20] Further, Menominee tribal members were reluctant to enter into contracts with non-Menominee businesses or individuals because they did not want to cede control of reservation logging to white loggers and sawmill operators. Instead, the tribe wanted the US Government to provide the necessary resources to enable them to harvest and mill their own trees.[21]

To accomplish this goal, the Menominee tribe turned to a political supporter, Wisconsin Republican Senator Robert La Follette, to help them protest the 1906 act. La Follette was a member of the Senate’s Committee on Indian Affairs and had supported tribal interests in the past. In a report from the committee, La Follette argued:

> The business committee of the Menominee tribe of Indians protested against their timber being disposed of in this manner [by loggers under contract with Department of the Interior] and asked that they be permitted to log and manufacture the dead and down timber on the reservation into lumber. They set forth the fact in this way the Indians would not only realize a greater amount of money from the sale of this timber, but that the manufacture of it into lumber would afford a means of employment to a large number of the members of the tribe and such employment would be a means of teaching to the Indians habits of industry.[22]

The tribe asked Senator La Follette to advocate for changing the bill so that it would forbid contracts with non-Menominee loggers; to make their case, the tribe portrayed the change as a way for the US government to facilitate its goal of teaching the Indians industry. La Follette and the Indian Affairs Committee agreed with the Menominee's ideas and emphasized that the tribe should do their own logging; the committee requested that the bill be amended so that "logging is to be done entirely by the Indians, and… in so far as possible, that all who are engaged in its manufacture shall be members of the Menominee tribe."[23] The committee also argued that the "interests of the Indians are safeguarded by providing that all contracts for the sawing and the sale of the lumber shall be made under the direction of and in accordance with rules to be laid down by the Secretary of the Interior."[24] Thus, the Committee on Indian Affairs argued that the Menominee should be doing the logging and manufacturing work on the reservation, but that oversight should be maintained by the Department of the Interior.

Senator La Follette, who was considered a defender and friend of the Indian, supported the Menominee desire to log and mill the timber on their reservation.[25] He viewed the 1906 law as means for lumber companies to steal Menominee timber; La Follette stated that the law seemed to "offer unlimited opportunities for stealing the timber from the Indians."[26] In a 1907 report to the Committee on Indian Affairs, La Follette described his perceptions of the Menominee Forest and forestry. He concluded that "the timber growing upon the Menominee Indian Reservation in

Wisconsin is altogether the finest body of natural timber left standing in the State. With the rapid disappearance of our forests its value constantly increases."[27] La Follette saw Indian forestry as a way to achieve three goals: providing Indian communities a means of supporting themselves, counteracting unsustainable logging, and keeping monopolistic logging interests from taking timber they did not own.[28]

Throughout his tenure on the Indian Affairs committee, La Follette was embroiled in arguments about the nature of Indian ownership of natural resources. Until this time, resources on Indian reservations had been considered US government property.[29] La Follette, in contrast, believed that Indian tribes owned the resources on their reservations. For example, La Follette argued that coal found on Indian lands was the property of the Indians and should not be leased to railroad companies.[30] He fought for Indian coal rights "to see that justice was done to the Indians…."[31] In a similar manner, he argued that the timber resources on the Menominee reservation were the property of the Indians—a claim that the Menominee had made since the treaty era. In a report from the Committee on Indian Affairs, La Follette bluntly asserted, "the timber is the property of the Indians."[32] He believed, as did the Menominee, that the 1906 law had been pushed through Congress by the lumber interests in Wisconsin, and that because the timber was owned by the tribe, the lumber interests should not control logging and milling on the reservation. La Follette argued that "their [the Menominee's] property rights and personal welfare are the matters for consideration."[33] Thus, La Follette concluded that the Menominee alone should be allowed to benefit from the timber on their reservation.

Senator La Follette also argued that giving the Menominee permission to mill and log their own timber was a way to conserve and improve their forest while providing an indefinite economic opportunity. La Follette believed that forestry, if done in a scientific manner, would protect the forest and benefit the tribe in perpetuity. In his 1907 report from the Committee on Indian Affairs he argued,

> it would seem that if the Indians are willing to work upon their own property, they ought to be permitted to do so. It is a class of work in which the Indian ought to be trained. If wisely directed, it will constantly improve their property. If properly protected and conserved, if only fully matured trees selected by a competent forester are cut each season, if the tops and slashings [sic] are carefully burned and all dead and downed timber logged and marketed each year devastating fires can be kept off the reservation and this splendid forest perpetuated. Such a course will provide a healthful and profitable occupation to the Indians and insure their receiving the full value of this rich heritage.[34]

Forestry, La Follette believed, could perpetuate the Menominee Forest and ensure economic and community health for the Menominee people.

Senator La Follette also contended that the government had the responsibility to provide the Menominee with the means to log their trees and mill them into lumber—this meant sawmills. La Follette argued that the "Menominee Indians have shown such aptitude in logging and lumbering as to warrant the belief that they might readily be taught to manufacture the logs into lumber.... If, out of their abundant resources, mills are established for them upon their reservation, if they are trained and made skillful in this important branch of the lumber industry, and if they were then permitted to cut their logs into lumber, they will have an unlimited market for this finished product."[35]

Finally, La Follette concluded, as did the Committee on Indian Affairs, that a tribal capacity to convert logs into boards would "develop the Indians industrially"—a goal of government assimilation policies since the nineteenth century—and provide a greater return on the Indian's property than selling raw logs to non-Indian mills for processing.[36] The committee also noted that the Menominee tribe had ample funds held in trust for them by the US Treasury, and suggested that the US government should purchase "portable or other sawmills" for the tribe.[37]

In 1908, Congress passed the Menominee forestry law championed by Senator La Follette, the Committee on Indian Affairs, and the Menominee tribe. The law, formally titled "An Act to Authorize the Cutting of Timber, the Manufacture and Sale of Lumber, and the Preservation of the Forests on the Menominee Indian Reservation in the State of Wisconsin," soon became known as the La Follette Act. Senator La Follette and many Menominee people believed that the law would encourage the tribe to harvest and process their timber themselves while also preserving the forest.[38]

The La Follette Act maintained the 1890 act's annual limit on harvesting green timber, authorized the building of a sawmill, and required that Menominee tribal members be hired almost exclusively to staff the operation. Further, the act allowed the Menominee to harvest the dead and down timber from the 1905 blow down in addition to the 20 million board foot annual limit. Finally, the act called for the expenditure of funds for the "protection, preservation, and harvest of the [Menominee] forest."[39]

Not only did the La Follette Act provide revenue to the Menominee tribe and protect their forest, it also provided the basis for the Menominee to control their territory and maintain cultural connections to their ancestral homelands. Robert La Follette concluded, "If properly protected and conserved…this splendid forest [can be] perpetuated…the supply of timber will be made continuous" and the Indians "will not only have income from it, but will become independent so far as their own individual efforts are concerned."[40] This legal mandate allowed the Menominee to harvest trees while protecting and controlling their forested land for future generations—goals the Menominee people had been pursuing for decades.

National Implications of the La Follette Act

The La Follette Act was important not just for the Menominee, but also for the United States as a whole because it defined sustained yield forestry for the first time in the United States—not just for Indian lands but also for federal forest management.[41] Progressive leaders such as Robert La Follette and Gifford Pinchot viewed scientific forestry and Menominee forestry in particular as a way to protect forests, provide perpetual harvests, and counteract the cut-and-run forestry tactics employed by timber interests which had depleted the majority of Wisconsin's forests in a few short decades. Historian David Beck argued that the La Follette Act should be seen as part of the progressive-era environmental and forest protection in the United States.[42] Given the ecological and social problems that later developed on some US Forest Service lands, it is somewhat ironic that in 1908 many progressives perceived forestry as a way to preserve forests.

Senator La Follette, a key figure in the American Progressive movement of the early twentieth century, had taken an interest in Indian affairs since his time in the House of Representatives (1884-1890).[43] In his 1911 autobiography, La Follette wrote, "my interest in the Indians, awakened during my service in the House of Representatives…had always been active."[44] When he took a position on the Indian Affairs Committee, La Follette began to study Indian issues in earnest. As he described, "I invested quite a little money in second-hand books on Indians. I also had all the treaties and documents relating to Indians sent to my rooms. It made quite a library. I studied these books diligently, nor was it long before I began to feel a good deal of sympathy with the Indian."[45] La Follette believed that learning about Indian history and issues helped him “develop ‘foolishly sentimental’ ideas against robbing Indian reservations of their pine timber in which they were very rich.”[46]

Senator La Follette viewed his experiences with Menominee timber management as an influence on his progressive political philosophies and his desire to counteract a system of “organized power” in which “corporations and individuals allied with corporations were invited to come in and take what they would…[and] the country might be developed, railroads and factories constructed, towns and cities builded [sic] up.”[47] La Follette’s experiences with political and legislative issues propelled him to defend the rights of individuals in the face of corporate challenges; he explained, “the experiences of my congressional life now come back to me with new meaning—the Ship Subsidy bill, the Oleomargarine bill, the Nicaraguan Canal, the Railroad Rate bill, the Sioux Indian land grant and the Menomonie [sic] timber steal. So out of this awful ordeal came understanding; and out of understanding came resolution. I determined that the power of this corrupt influence, which was undermining and destroying every semblance of representative government in Wisconsin, should be broken…. In the end Wisconsin would be made free.”[48] Robert La Follette traced his drive to dismantle the corrupt corporate/political system in part to his experiences defending the Menominee against logging interests. La Follette’s ideas about Menominee forest management emerged from his overall commitment to progressive-era reforms and values.

La Follette envisioned Indian timber protection as part of the larger progressive struggle to keep power out of the hands of corporations and to strengthen the role of citizens in democracy. In 1910, La Follette drafted a “Declaration of Principles” with the goal of uniting progressive house members and establishing the National Progressive Republican League to promote “popular government and progressive legislation.”[49] The declaration stated that legislation should be enacted “solely for the common good” and that “the conservation of coal, oil, gas, timber, water powers, and other natural resources…belong to the people.”[50] The principles included a promise to support candidates and legislation that would protect natural resources and other public goods in the interest of the people of the United States. For La Follette, this included protecting Indian resources—coal and timber—so that tribes could use and benefit from these resources.

Conservation and progressive causes were interrelated. For example, during 1906, Senator La Follette asked Gifford Pinchot—a progressive leader as well as a forester and conservationist—for advice on forestry and conservation issues related to Menominee timber management legislation.[51] Four years later, on September 2, 1910, Pinchot gave a speech in Milwaukee in support of La Follette’s primary election campaign for reelection to the US Senate in which he linked La Follette to both progressivism and conservation. The New York Times quoted Pinchot as saying,

> It has been made clear that the special interests are about to take refuge behind the State’s rights doctrine as against National conservation. Senator La Follette has made his deeds square with his words as one of the strongest supporters of National action for conservation within the National sphere. He was, I understand, the first man to suggest the protection of the coal lands in the public domain, and he has been a strong supporter of the proposed Appalachian and White Mountain National forest from the first. He does not propose to turn the resources which belong to all the people over to the States at the behest of the special interests, because he sees, as we all do, that behind this proposal lies the effort to escape all regulation by the people.[52]

Pinchot believed that La Follette was a strong national leader who was protecting natural resources for the American people, thus linking progressivism with conservation. When La Follette won his primary bid, he acknowledged the link between conservation and progressive values as he thanked Pinchot; he stated, “I do not regard the victory in Wisconsin as in any sense a personal triumph. It was a great victory for our [progressive] cause. It could not have been achieved had it not been for the work which you [Pinchot] and other of our friends from Wisconsin did…. I thank you for the good work which you did in your Milwaukee speech. Our cause is winning all along the line and I trust that the progressives will fare as well in the general election as they have in the primaries."[53]

In the early twentieth century the influence of Menominee forestry extended well beyond the borders of the Menominee reservation. Legislation governing the Menominee Forest was the first to mandate sustained yield forestry. Leaders from other tribes considered Menominee legislation a model for their own forest management policies. The belief that forest management should benefit the public—in this case Indian owners—and the idea that timber could be produced in a manner that both created jobs and conserved resources were essential aspects of national conservation strategies and progressive politics.

Logging after the La Follette Act: Differing Interpretations of Forest Management

While the 1908 La Follette Act clearly outlined sustained yield forestry as a way to foster a perpetual harvest, the implementation of the statute led to different interpretations of forest management. The 1908 Act included language that initially involved both the newly established US Forest Service (within the Department of Agriculture) and the Department of the Interior; the law stated "that the Secretary of the Interior be, and he is hereby, authorized and directed…to cause to be cut and manufactured into lumber the dead and down timber, and such fully matured and ripened green timber as the forestry service shall designate, upon the Menominee Indian Reservation."[54] Congress intended this language to mean that the US Forest Service would mark the timber to be harvested and the Secretary of the Interior would implement timber harvesting and the manufacturing and sale of lumber. Thus, in 1909 and 1910 foresters from the US Forest

Service marked the trees to be harvested on the reservation.[55] The timber was marked and harvested in a manner that ensured that "an adequate stand of trees [was] left to provide the basis for subsequent cuttings at proper intervals of time."[56] Soon after, however, logging and timber management on the Menominee reservation became embroiled within larger arguments between the Department of Agriculture and the Department of the Interior.[57] After 1910, personnel from the Department of the Interior began to exclude the US Forest Service from forest management on the reservation.[58]

Managers from the Department of Agriculture (home of the US Forest Service) and managers from the Department of the Interior held different views on forestry. From 1910 until 1926, the superintendents that the Department of the Interior placed in charge of the Menominee reservation implemented logging operations that mirrored the clear cutting that was occurring off the Menominee reservation.[59] The superintendents believed that the selective marking of timber practiced by the US Forest Service was financially ineffective, unproven, and unnecessary for the implementation of the La Follette Act.[60] In addition, the superintendents did little to reforest clear-cut areas and did not implement procedures to reduce the risk of fires following logging operations.[61]

The Department of the Interior's forestry methods continued until 1926 when Lloyd Grapp, Department of the Interior forester at the Menominee Indian Reservation, began to utilize selective logging once again. Many of the clear-cut areas were not regenerating naturally, and there was not enough artificial planting to reforest these areas. Grapp believed that selective logging would offer a way to protect the forest and maintain a sustained yield; therefore, he reinstituted selective logging and reforestation in order to facilitate a perpetual harvest and protect the forest as mandated in the 1908 La Follette Act.[62]

In spite of the Department of the Interior's initial preference for clear cutting and lack of emphasis on reforestation in the early twentieth century, forestry increased Menominee economic resources—which translated into homes, aid to schools, employment, and infrastructure—and served as a means to support the entire Menominee community. By 1913, the fund for Menominee tribal members—called the four percent fund because four percent of logging profits were contributed to the account—contained $230,000.[63] Hosmer estimated that two-thirds of able-bodied Menominee males worked in the logging and milling operations in 1913.[64] Profits from the logging and milling operations also continued to add to the Menominee account held in trust with the US Treasury.

Over the next several decades, the tribe used logging proceeds to support tribal education, operate a tribal hospital, provide needed cash to individual tribe members, and pay many of the costs of federal management.[65] Although the Menominee were not wealthy, logging provided a way for the tribe to support its members while protecting the forests.

The 1930s through the 1950s: Mismanagement Lawsuits

Despite the benefits of forest management and the gains made by the Menominee community, the tribe did not let the US government's interpretation and implementation of the La Follette Act go unchallenged. The La Follette Act required that the US government manage the Menominee Forest in a manner that would foster a perpetual harvest, which included regenerating the forest in a way that would always increase its value.[66] In the first few years after the passage of the La Follette Act, the government managed the Menominee Forest in a way that the tribe believed did not meet the act's requirements. When the Department of the Interior began to abandon the practice of selective cutting after 1910, the Menominee people protested.

The Menominee were not against harvesting timber—they had been doing that for decades—but the tribe was against external control of logging operations, cutting practices that degraded the forest resources by causing fires, and failing to regenerate harvested areas. The Menominee people believed that the Interior Department's management was violating the La Follette Act.

To address the Menominee's grievances, in 1935 US Congress passed a law allowing the Menominee tribe to sue the US Government for damages—including violations of the 1908 La Follette Act—in the US Court of Claims.[67] The Menominee brought a lawsuit based on the US government's failure to meet the requirements of the La Follette Act. The tribe argued that the US Forest Service did not mark timber, harvesting was not done in a sustained yield manner, forestry practices did not perpetuate the Menominee Forest, and logging debris was not disposed of in a manner that would prevent fires. In 1951 after decades of litigation, the case was finally adjudicated and the Menominee tribe was awarded 8.5 million dollars. The settlement was added to the tribal trust account held by the US Treasury.[68] This victory legally reinforced the La Follette Act and Menominee sustained yield forestry as a way to perpetuate and protect the Menominee Forest.[69]

Termination

The Menominee's legal victory was short lived; shortly after the settlement the US government started the process of relinquishing their trust responsibilities for the Menominee tribe. Logging operations and the lawsuit had provided the tribe with significant resources and by the 1950s the Menominee had their own hospital, utilities, telephone lines, and sawmill, as well as large cash reserves held in trust with the US government. The US government considered the

Menominee one of the wealthiest American Indian tribes in the US, which, according to the US government, made the tribe a perfect candidate for a new federal Indian policy—termination.

Beginning in the mid-1940s, the United States developed the policy of termination as a way to finally assimilate American Indians into the "American" mainstream and allow the federal government to "get out of the Indian business."[70] In 1954 Congress identified the Menominee as a tribe that could become economically self-sufficient and whose members could transition from communal property holders under the ward of the United States to independent private property holders. Senator Arthur Watkins from Utah, the main proponent of the termination policy, claimed that Indian tribes "want all the benefits of the things we have highways, schools, hospitals, everything that civilization furnishes, but they don't want to help pay their share of it." [71] Watkins' statement was ironic and inaccurate: the Menominee supported their own services—including federal salaries—through their logging and milling operations.

The US government legally terminated the Menominee Indian Tribe in 1954 and the transition began in 1961.[72] For the Menominee and other terminated tribes, termination had major economic, social, cultural, and environmental consequences. Almost overnight, the process of termination transformed the Menominee tribe from one of the most prosperous American Indian communities in the country into one of the poorest, as the Menominee Indian Reservation became Menominee County.

Termination represented a loss of control of tribal resources for the Menominee people. Before termination, the Menominee operated a successful logging operation, sawmill, and hospital. After termination, the tribe was no longer entitled to federal assistance and was required to follow state regulations. Without federal assistance, the tribe was unable to upgrade their sawmill and other infrastructure. The tribal hospital was closed because it did not meet all state requirements. One of the most dramatic changes brought about by termination was the conversion of tax-free federal trust lands into private lands subject to state taxes. Federal Indian reservations are not subject to state taxes, but when the Menominee reservation became Wisconsin's 71st county, the Menominee community became liable for state taxes on every acre of their land. To facilitate the transition away from federal recognition, the government and Menominee leaders formed a company, Menominee Enterprises Inc., to control Menominee land and business assets. Each former tribal member received stock in the company. Both Menominee and non-Menominee trustees administered the company and were responsible for paying state taxes on Menominee forestland and logging operations.[73]

The financial burden of supporting the newly formed Menominee County was enormous. County governments in Wisconsin rely on property taxes to fund essential services such as road maintenance, health care, and schools. Before termination, the federal government had been responsible for many of these costs on the Menominee reservation, but after the transition, Menominee county was responsible for all these costs. Social welfare costs were also extremely high in Menominee County because of extreme poverty and a local economic depression caused in part by termination. At the time, one Menominee Enterprises Inc. official stated, "I would have to say our biggest problem right now is the enormous welfare burden."[74] As the only major economic force in Menominee county, Menominee Enterprises Inc. was charged with the daunting task of producing sufficient revenues to provide essential services for the Menominee community, which was not an easy task because most of the reservation was forested and dedicated to sustained yield forestry. The Menominee sawmill was the major economic driver in the county, but forestry and sawmill operations did not provide enough revenue to satisfy the needs of the county or the Menominee population.[75]

Menominee Enterprises Inc. entered into an agreement with a development company to raise tax revenue by developing and selling vacation lots around an engineered lake, Legend Lake. The creation of Legend Lake was especially devastating for the Menominee people because it permanently transferred land out of tribal control. Land sales to non-Menominee individuals raised many questions about the core of Menominee society and values.

For many tribal members, termination created uncertainty about how the Menominee could maintain their community and forest. In a 2011 interview, Marshall Pecore, Menominee Tribal Enterprise's forest manager and a tribal decedent, explained that tribal members "didn't know which way to go. We were a county for quite a while. Is the forest going to be here? Is the mill going to be here? What does that mean about us? I think those were all unanswered questions. What social fabric's going to exist?"[76] Pecore described a deep uncertainty about the future during the time of termination. Tribal members questioned whether the forest that had sustained their people and which their ancestors had fought to maintain would continue to exist as a resource for the Menominee people.

The loss of land severed Menominee cultural and ecological connections to the forest. Gary Besaw, a Menominee tribal member, elected legislator, and dean at the College of Menominee Nation, described this feeling during a 2011 interview: "I look at how we permanently destroyed that area….You look at that connection of the rice, and what that did for the aquatic species that used that wild rice…. We destroyed it in my eyes."[77] For Besaw, the creation of Legend Lake destroyed the fish, wild rice, duck habitat, and cultural and historical connections to the area. Dave Grignon, Menominee Tribal Historic Preservation Officer, echoed these feelings: "I've seen a once beautiful string or chain of nine spring-fed lakes—[we] would canoe there, each one of them, and it was just beautiful. Then, the next day, you hear bulldozers going. You just see dams going up and now they're gonna create this lake out of all of these pristine, spring-fed lakes. And you wonder, 'Why are you doing this?' Just to sell land on it."[78] Termination affected both the Menominee people and their forest. Verna Fowler, President of the College of Menominee Nation characterized the extent of the loss; she explained that "termination was such a—was a catastrophic event for us, and…our forest…. But that was the feeling. It was lost. It was gone…. It saddened you, but there was nothing you could do about it…we knew that the land was lost forever."[79]

For many Menominee people a profound sense of loss accompanied termination, land sales, and the creation of Legend Lake. Termination led to severe economic, social, and ecological losses, which continue to affect tribal members. Menominee people consider the termination of the tribe in the 1950s and the subsequent consequences important events for Menominee forest management. Over half of the interview participants directly mentioned the impacts of termination on the Menominee people and the forest. For the Menominee people, termination was the nadir of the twentieth century.

Restoration

Termination and subsequent land lot sales gave rise to a Menominee protest organization called Determination of Rights and Unity for Menominee Stockholders (DRUMS). DRUMS members coordinated a forum for Menominee people to express their opinions about termination and land sales, and organized protests on the reservation and in cities throughout the Midwest.[80] The protesters linked the land to both past and future generations and tribal identity. True Menominee people, they argued, would oppose land sales. In a letter to the DRUMS newsletter, one tribal member pleaded "Stop all land sales now and keep your cultural and God-given heritage which your ancestors fought so hard [to] keep for you".[81] Another DRUMS newsletter article declared that the land "was passed on to us for today by our fathers and grandfathers and their ancestors so that we Menominees of today would have a place of our own…REMEMBER Menominees! When your land is all gone your tribal identity will disintegrate..."[82] A third article proclaimed, "…selling off our precious homeland to non-Menominee is threatening the future of our tribe and our children's birthrights as Menominee Indians."[83] By equating tribal identity to the ancestral lands and connecting it to generations across time, DRUMS members were able to rally the Menominee community, stop land sales, and eventually pave the way for the federal restoration of the Menominee tribe.

Restoration also united the Menominee tribe around a renewed focus on maintaining the Menominee land base. The Legend Lake development resulted in land loss and environmental changes, which served as a rallying point for the Menominee people. Joan Delabreau, elected Menominee legislator, explained that Legend Lake "rallied people around to stop that land sales and destroying our resources. I think that's significant. I think restoration was significant."[84] Restoration allowed the tribe to once again codify sustained yield forestry as a main goal of tribal resource management.

On December 22, 1973 the federal government officially restored the Menominee tribe when President Richard Nixon signed the Menominee Restoration Act.[85] Restoration stopped the loss of land and reaffirmed the federal trust responsibility to the tribe outlined in treaties. Restoration also gave the tribe a chance to reorganize tribal institutions; the tribe created a restoration plan and constitution. The tribal constitution created a nine-person tribal legislature (Menominee Tribal Legislature or MTL) with the "executive and legislative powers of the Tribe including the power to make and to enforce laws."[86] In addition, restoration provided an opportunity for the Menominee tribe to create new governmental structures. John Teller, a Menominee tribal member and former tribal chairman, explained, “It was a terrible thing to be terminated as a tribe, but it was kind of a pretty good thing that through the restoration process, we were able to rewrite and modernize our constitution and bylaws and deal with the issue of forestry.”[87]

The new constitution codified self-determination and the principle of sustainable yield forestry by stating, “The Tribal Legislature in dealing with the United States in the management of tribal land and interests therein shall seek federal protection of the right of the Tribe to self-determination and shall avoid federal domination. All tribal forest lands shall be managed on a sustained yield basis according to the provisions of the Forest Management Plan.”[88] The constitution also established the “principle business arm of the Tribe,” which is now called Menominee Tribal Enterprises (MTE).[89] To run MTE, the constitution created a board of directors with 12 members who would be elected by the voting members of the Menominee tribe.[90] The primary duties of the business arm of the tribe were to “log, manage, and reforest the tribal forest land, and to manufacture, market, sell and distribute timber, forest products, and related products.”[91] Thus, the Menominee tribe would elect both a legislature to enact laws and a board of directors to oversee and guide the forestry and sawmill operations.

Today, tribal members believe that restoration provided an opportunity for the Menominee people to reassert tribal control of reservation resources and further codify sustained yield forestry as their forest management goal. Susan Waukau, a Menominee tribal member, concluded, “the Menominee Restoration Act included the mandate for sustained yield forest operations and required that all Menominee Forest land be managed according to the forest management plan. [This is] very important today, key today in how we manage our forest here for the Menominee people."[92] Gary Besaw explained that termination and the subsequent development of Legend Lake allowed the Menominee to reorganize their tribal institutions and subsequently refocus their efforts on the tribal control of resources; he noted, "I think the development of Legend Lake also helped us to put brakes on just the whole concept of land management and water management in general. We understood that whole domino effect of not really as a tribe controlling things, but letting a few people manipulate decisions."[93]

In sum, the Menominee constitution 1) established MTL, an elected legislative body, 2) created an elected board of directors for MTE, 3) required the forest to be managed on a sustained yield basis, and 4) required the development of a forest management plan. Although these four components of the constitution have sometimes led to tension in the practice of forest management and the consideration of forestry in the context of tribal sovereignty, the Menominee constitution made it clear that forestry was an important aspect of Menominee tribal sovereignty.

Conclusion

Since 1856 when the final Menominee treaty was ratified, forest management has been important for the Menominee community, the Menominee Forest, and the Menominee economy. A forest management style that would protect and perpetuate the Menominee Forest was first codified in 1890 and 1908; laws passed in these years limited the total amount of timber harvested per year and required that forestry be conducted in a manner that would always perpetuate the forest. Chief Oshkosh's call to harvest only mature trees across the reservation in order to ensure that the Menominee Forest would last forever also illustrates the value placed on perpetuating the forest. These principles and laws were the first sustained yield forest management regulations in the United States.

The practice of sustained yield forestry on the Menominee reservation has developed along with the ecological and geological nature of the Menominee Forest itself. In the 1800s and early 1900s, the reservation's forests were ecologically diverse. In some areas—particularly the southeastern portions of the reservation—the forests were open and interspersed with grasslands, berries, and savannas. There were young pine stands, evidence of fires, and windstorms. Magnificent pine stands and closed-canopy maple/hemlock hardwood forests dominated the western portions of the reservation. Lakes, wetlands, and rivers abounded with fish and wildlife.

Since the treaty era the Menominee tribe fought to remain in Wisconsin, fought to retain their forests as adjacent forestland was depleted in the 1850s, used their interpretation of early forestry laws to protect their forest and provide jobs, and even successfully sued the US government for mismanagement and unsustainable clearcutting in the early 1900s. Despite different interpretations and implementations of forest management on the Menominee reservation, clear forest management goals and definitions of sustainability have been important for tribal community life and natural resource management. Clearly articulated visions for forest management have persisted through time—from Chief Oshkosh's famous words, the La Follette Act of 1908, the mismanagement lawsuits of the middle 1900s, and the restored tribal constitution. Sovereignty and control of tribal resources have been integral components of the Menominee's values, forest management goals, and definitions of forestry. The Menominee interacted amongst themselves and with non-Menominee people to maintain a portion of land within their reservation, create an economy that supports the entire tribal community, and protect their forests.[94]

In the next chapter I outline current Menominee forest management philosophies and practices. I examine the ecological, historical, and cultural values that permeate Menominee forest management. I illustrate what happened when the ecology of forests clashed with community perceptions of forest management on the Menominee reservation and what these events meant for the tribe’s management goals. Finally, I explore oral history interviews with Menominee people to reveal how certain tribal communities view forest management, what they believe were the important historical events that influenced Menominee forest management, and how they define sustainability.

Endnotes – Chapter 3

[1] See chapter six in T.R. Cox, *The Lumberman's Frontier: Three Centuries of Land Use, Society, and Change in America's Forests* (Oregon State University Press, 2010); David R.M. Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854* (Lincoln: University of Nebraska Press, 2005).

[2] Michael Williams, *Americans and Their Forests : A Historical Geography*, vol. 1st paperback, Studies in Environment and History (Cambridge Cambridgeshire ; New York: Cambridge University Press, 1992), 195.

[3] In almost every interview I conducted for this project, the respondent mentioned Chief Oshkosh. In fact, during the time I spent working with the College of Menominee Nation and the Menominee tribe it was rare to discuss forest management or sustainability and not have this quote be retold. I have not been able to find the origin of the quote, however. Many authors using the quote cite G. D. Spindler and L. S. Spindler, *Dreamers without Power: The Menomini Indians* (Holt Rinehart and Winston, 1971). as the source for the original quotation; however Spindler and Spindler attribute the quote to a tribal member "citing a tribal leader's advice" about sustainability in a Milwaukee Journal article from November 1, 1969. The quote parallels the 1908 La Follette Act and the congressional record surrounding the act, however Chief Oshkosh died approximately 50 years before the act was passed. Also see David J. Grignon et al., "Menominee Indian Reservation Historical Review - Commemorating the Reservation Sesquicentennial 1854-2004," ed. Menominee Historic Preservation Department (Keshena: Menominee Tribe of Indians of Wisconsin, 2004), 8.

[4] Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*, 71-72.

[5] ibid., 53-55.

[6] United States Satutes at Large, "An Act to Authorize the Sale of Timber on Certain Lands Reserved for the Use of Menominee Tribe of Indians, in the State of Wisconsin," (1890).

[7] ibid.

[8] ibid. It is unclear how congress calculated the 20 million board feet of timber per year limitation.

[9] Myron McCord, "Sale of Timber Reserved for Menominee Indians: Letter to House of Representatives," (House of Representatives, 1890).

[10] Quoted in Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*, 55; David R.M. Beck, *Siege and Survival: History of the Menominee Indians, 1634-1856* (University of Nebraska Press, 2002).

[11] Menominee tribal governance at the time was organized through voting at tribal council meetings. Councils were open to all members of the Menominee tribe. While the US government was actively trying to change Menominee governance structure by working with individual tribal leaders instead of the entire tribal membership, the Menominee were using open tribal councils to help them retain some control over reservation affairs. See Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*, 54.

[12] B. C. Hosmer, *American Indians in the Marketplace: Persistence and Innovation among the Menominees and Metlakatlans, 1870-1920* (Univ Pr of Kansas, 1999), 60-61.

[13] Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*, 55.

[14] Committee on Indian Affairs Senate, *Chippewa Indians of Minnesota*, 55-3, Febuaray 1 & 3, 1899 1899. "The plan thus briefly outlined is the same as that pursued with reference to the sale of the timber of the Menomonee

Indians of Wisconsin, in the law of June 12,1890. That law seems to be working well and satisfactorily for and to the Menomonees [sic], and we see no reason why it would not so work in our case. If Congress could do that for the Menomonees [sic] for all of their timber lands, why may it not do it for us for so much of our timber lands as have not already been disposed of under the existing law."

[15] Elmer A. Morse, "Cutting Timber on the Menominee Reservation of Wisconsin," in *Congressional Record*, U.S. House of Representatives (March 16, 1908), 3411.

[16] See for example J.T. Curtis, *The Vegetation of Wisconsin: An Ordination of Plant Communities* (University of Wisconsin Press, 1959; reprint, Second Printing 1971); M.B. Davis, "Quaternary History and the Stability of Forest Communities," *Forest succession: concepts and application. Springer-Verlag, New York, New York, USA* (1981); Benjamin Allen Sands, "Assessing the Impact of Historical Fire Regimes and Logging on Forest Composition, Structure, Regeneration, and Radial Growth on the Menominee Tribal Lands, Menominee County, Wisconsin" (M.S., Pennsylvania State University, 2008); B.A. Sands and M.D. Abrams, "A 183-Year History of Fire and Recent Fire Suppression Impacts in Select Pine and Oak Forest Stands of the Menominee Indian Reservation, Wisconsin," *The American Midland Naturalist* 166, no. 2 (2011).

[17] Francis E. Leupp, "Letter from the Commissioner of Indian Affairs, December 7, 1905," (Published in 59th Congress First Session, 1906).

[18] Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*.

[19] United States Satutes at Large, "An Act to Authorize the Cutting of Timber, Sawing into Lumber, and Sale of Timber on Certain Lands Reserved for the Menominee Tribe of Indians, in the State of Wisconsin," (1906).

[20] W. H. Farr, "Letter from the Green Bay Indian Agency, Keshena, Wis., Septembe 30, 1905," (Published in 59th Congress First Session, 1906).

[21] Robert La Follette, "Cutting and Sale of Timber on the Menominee Indian Reservation, Wis.," ed. Report from the Committee on Indian Affairs (59th Congress Second Session, 1907).

[22] Robert La Follette, "Sale of Timber on Certain Lands Reserved for the Use of the Menominee Tribe of Indians, in the State of Wisconsin," ed. Report from the Committee on Indian Affairs (59th Congress First Session, 1906).

[23] Ibid.

[24] Ibid.

[25] See T. Dreier, *Heroes of Insurgency* (Human life publishing company, 1910), 28; Robert M. La Follette, "Register of the Robert M. La Follette Papers, 1879-1910," in *Robert M. La Follette Papers* (Madison: State Historical Society of Wisconsin).

[26] Robert M. La Follette, *La Follette's Autobiography: A Personal Narrative of Political Experiences*, Third edition ed. (The Robert M. La Follette Co., 1911; reprint, Third edition), 59.

[27] La Follette, "Cutting and Sale of Timber on the Menominee Indian Reservation, Wis.."

[28] The Menominee tribe was not the only tribe to enlist the help of Senator La Follette in an attempt to gain the right to harvest and profit from their own reservation timber. The Lac Courte Oreille tribe sent a letter to La Follette on April 24, 1906 asking for help with the "gross injustice" of the current "methods of doing business with the Indians, which are taking the Indian's pine from them without adequate compensation." The tribal leader also asked that La

Follette support legislation that would “provide for the selling of the land and the timber when the Indian desires by himself….” in Letter to Senator Lafollette form George Scheff, Chief of Band of Indians on Lac Courte Orielle Reservation. May 14, 1906Robert La Follette, "Robert M. La Follette Papers," in *Robert M. La Follette Papers* (Madison, WI: Wisconsin State Historical Society Archives, 1879-1910).

[29] Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*, 52.

[30] La Follette, "Robert M. La Follette Papers." Letter to W. Reid President of Reid Coal Company April 6, 1906.

[31] Ibid. Letter to J.W.C. Springstun, Secretary, Caney Commercial Club April 6, 1906.

[32] La Follette, "Cutting and Sale of Timber on the Menominee Indian Reservation, Wis.."

[33] Ibid.

[34] Ibid.

[35] Ibid.

[36] Ibid.

[37] Ibid.

[38] United States Satutes at Large, "An Act to Authorize the Cutting of Timber, the Manufacture and Sale of Lumber, and the Preservation of the Forests on the Menominee Indian Reservation in the State of Wisconsin," (1908).

[39] Ibid.

[40] Quoted in H. H. Chapman, *The Menominee Indian Timber Case History: Proposals for Settlement* (1957). from a Report to the House Committee on Indian Affairs. No. 1068, 60th congress, 1st session February 26, 1908.

[41] Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*, 72.

[42] Ibid., 72.

[43] La Follette, "Register of the Robert M. La Follette Papers, 1879-1910."

[44] La Follette, *La Follette's Autobiography: A Personal Narrative of Political Experiences*, 377.

[45] Ibid., 58.

[46] Ibid., 56.

[47] Ibid., 164.

[48] Ibid., 164.

[49] Ibid., 494.

[50] Ibid., 495.

[51] See for example the Letter to Lafollette from Gifford Pinchot on April 16, 1906; (The April 9th, 1906 letter from Lafollette to Pinchot is not found in the La Follette Papers) La Follette, "Robert M. La Follette Papers."

[52] New York Times, "Pinchot Aids Lafollette. He Says He Was First to Make a Conservation Issue.," *New York Times* 1910.

[53] Letter from Lafollette to Pinchot. circa September 7, 1910. La Follette, "Robert M. La Follette Papers."

[54] United States Satutes at Large, "An Act to Authorize the Cutting of Timber, the Manufacture and Sale of Lumber, and the Preservation of the Forests on the Menominee Indian Reservation in the State of Wisconsin."

[55] Chapman, *The Menominee Indian Timber Case History: Proposals for Settlement*, 5.

[56] Ibid., 5.

[57] See for example J.L. Penick, *Progressive Politics and Conservation: The Ballinger-Pinchot Affair* (University of Chicago Press Chicago, 1968); C. Miller, *Gifford Pinchot and the Making of Modern Environmentalism* (Island Press, 2001).

[58] Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*. Beck also noted that part of this controversy had to do with the dispute between Gifford Pinchot, Chief Forester of the US Forest Service, and Richard Ballinger, Secretary of Interior. Both agencies, were in effect struggling to assert their jurisdiction over land management within federal jurisdiction. See also, Penick, *Progressive Politics and Conservation: The Ballinger-Pinchot Affair*; Miller, *Gifford Pinchot and the Making of Modern Environmentalism*; G. Pinchot, *Breaking New Ground* (Island Pr, 1998).

[59] Chapman, *The Menominee Indian Timber Case History: Proposals for Settlement*.

[60] Ibid.

[61] Ibid., 14.

[62] Ibid., 27.

[63] Hosmer, *American Indians in the Marketplace: Persistence and Innovation among the Menominees and Metlakatlans, 1870-1920*, 92.

[64] Ibid., 93.

[65] Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*, 134.

[66] Chapman, *The Menominee Indian Timber Case History: Proposals for Settlement*; Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*, 135.

[67] Beck, *The Struggle for Self-Determination : History of the Menominee Indians since 1854*.

[68] Ibid., 135.

[69] See ibid.

[70] Referenced in David R. Wrone, "Impact of Termination Upon the Menominee Tribe, 1954 to 1995," (1996), 195.

[71] Charles F. Wilkinson, *Blood Struggle : The Rise of Modern Indian Nations*, vol. 1st (New York: Norton, 2005). Watkins quote is referenced on p. 68-69.

[72] Wrone, "Impact of Termination Upon the Menominee Tribe, 1954 to 1995," 194.

[73] Ibid.

[74] James Frechette, a Menominee Enterprises official, as quoted in Clarus Backes, "How Do You Bring a 4,000-Year-Old Tribe into the American Mainstreem? Simple. First, You Eliminate the Reservation," *Chicago Tribune* 1969.

[75] See ibid; Wrone, "Impact of Termination Upon the Menominee Tribe, 1954 to 1995."

[76] Marshall Pecore, "Personal Interview by Michael J Dockry," (Keshena, WI6/1/2011).

[77] Gary Besaw, "Personal Interview by Michael J Dockry," (Keshena, WI4/24/2011).

[78] David J. Grignon, "Personal Interview by Michael J Dockry," (Keshena, WI6/21/2011).

[79] Verna Fowler, "Personal Interview by Michael J Dockry," (Keshena, WI5/2/2011).

[80] See N.C. Peroff, *Menominee Drums: Tribal Termination and Restoration, 1954-1974* (Univ of Oklahoma Pr, 2006).

[81] Letter from Mrs. Louise Tomow Kitchku[n] to Determination of Rights and Unity for Menominee Stockholders (DRUMS), "Newsletter," in *Menominee Enterprises Records 1954-1976* (Green Bay, WI: State Historical Society of Wisconsin - Green Bay Area Research Center, April 4, 1972). The DRUMS Newsletter became an important outlet for Menominee to express their feelings about land sales and other tribal issues. One Newsletter stated, "…our newsletter is the only vehicle they [tribal members] have for expressing their utter frustration with Company policy, politics and management."Determination of Rights and Unity for Menominee Stockholders (DRUMS), "Newsletter," in *Menominee Enterprises Records 1954-1976* (Green Bay, WI: State Historical Society of Wisconsin - Green Bay Area Research Center, July 14, 1972).

[82] Determination of Rights and Unity for Menominee Stockholders (DRUMS), "Newsletter," in *Menominee Enterprises Records 1954-1976* (Green Bay, WI: State Historical Society of Wisconsin - Green Bay Area Research Center, July 1, 1972). The reference to Spirit Rock refers to a Menominee oral tradition that states the Menominee people will cease to exist when Spirit Rock disintegrates.

[83] Determination of Rights and Unity for Menominee Stockholders (DRUMS), "Newsletter," in *Menominee Enterprises Records 1954-1976* (Green Bay, WI: State Historical Society of Wisconsin - Green Bay Area Research Center, March 25, 1972).

[84] Joan Delabreau, "Personal Interview by Michael J Dockry," (Keshena, WI5/20/2011).

[85] See Peroff, *Menominee Drums: Tribal Termination and Restoration, 1954-1974*.

[86] Menominee Tribal Legislature, "Constitution & Bylaws of the Menominee Indian Tribe of Wisconsin," (Menominee Indian Tribe of Wisconsin, 1991), 3.

[87] John Teller, "Personal Interview by Michael J Dockry," (Keshena, WI5/27/2011).

[88] Menominee Tribal Legislature, "Constitution & Bylaws of the Menominee Indian Tribe of Wisconsin," 26.

[89] Ibid., 26.

[90] Ibid., 30.

[91] Ibid., 26.

[92] Susan Waukau, "Personal Interview by Michael J Dockry," (Keshena, WI10/10/2011).

[93] Besaw, "Personal Interview by Michael J Dockry."

[94] B. C. Hosmer, "Creating Indian Entrepreneurs: Menominees, Neopit Mills, and Timber Exploitation, 1890-1915," *American Indian Culture and Research Journal* 15, no. 1 (1991); Brian C. Hosmer, "Reflections on Indian Cultural "Brokers": Reginald Oshkosh, Mitchell Oshkenaniew, and the Politics of Menominee Lumbering," *Ethnohistory* 44, no. 3 (1997); Hosmer, *American Indians in the Marketplace: Persistence and Innovation among the Menominees and Metlakatlans, 1870-1920*.

Chapter 4: Menominee Oral History: Using Historical Perspectives to Inform Contemporary Sustainable Forest Management

Introduction

The Menominee have emerged as global pioneers in the field of sustainable forestry. The tribe has actively managed their forests for thousands of years, and for the past 150 years they have harvested timber from their reservation on a sustainable basis. Today, the Menominee Forest has a larger volume of timber and higher quality trees than it did in 1854 when the reservation was established. The Menominee tribe achieved these successes in the face of a persistent struggle to retain the right to control the forests. The previous two chapters examined the tribe's negotiations with outside groups over control of the forest. This chapter focuses on negotiations within the tribe, exploring how different groups within the tribe have resolved conflicts over the meanings and value of forests.

Beginning in the 1990s, tribal foresters on the Menominee reservation began to fear that their history of selective logging would lead to the loss of forest diversity. Shade-tolerant species such as maple that had once been controlled by fire or other disturbances had come to dominate the understory of the forest, while pine and oak stands were becoming less abundant. To control the growth of maple and encourage the growth of pine, foresters began intensely harvesting certain stands of timber using a technique called "shelterwood harvesting." Many tribal members perceived these harvests as essentially clearcuts, and responded with anger and disappointment. To the foresters, these intensive harvests were a useful tool for restoring forest diversity, but to many community members, it seemed likely that these harvests would destroy what they most valued about their forests.

This chapter explores the evolving conflict within the Menominee community over perceptions of clearcutting, using the conflict as a lens through which to examine the ways different groups within the community value and define forestry. After describing the current philosophy of Menominee forest management, I turn to a detailed exploration of the clearcutting conflict. I address the following key questions: Do various groups in the community continue to view forestry as a way to further Menominee goals, Menominee cultural values, and community well-being? How do various community members define sustainable forest management and how do these definitions shape their position on conflicts concerning forest practices? How have tribal members' understandings of the history of the Menominee Forest shaped their views of the forest? How do various groups use history when they negotiate conflicts over forest management issues such as clearcutting? To address these questions, I use tribal planning documents such as the Menominee Tribal Enterprises (MTE) forest management plan (Forest Plan), 20 oral history interviews with Menominee tribal members, and one interview with a tribal descendant.

Forest Management Goals

Menominee forest management currently provides the community with a multitude of benefits; forestry, logging, and millwork provide members with meaningful employment, health care, and community services.[1] Forest management provides a cultural connection to the land, tribal history, and community.[2] Forestry serves as a powerful expression of tribal sovereignty. The Menominee people, however, continue to wrestle with important questions about community identity and how best to manage their complex forest. Tribal members engage in heated community debates about silviculture, forest planning, and the economics of forest management. Despite these differing views, the tribe still manages the forest using sustained yield forestry techniques and annually harvests about 1.2% of the total forest volume or around 20 million board feet of timber—the same quantity first defined in the 1890 federal regulations.[3]

Since the 1800s, the Menominee have used timber harvesting to maintain their land, build economic resources that support the well-being of the tribal community, and exercise tribal control over the affairs of their territory.[4] The economic and commercial nature of timber harvesting and milling is a critical factor that allowed the Menominee people to achieve these goals. In *American Indians in the Marketplace* and *The Struggle for Self-Determination*, historians Brian Hosmer and David Beck, respectively, illustrated that the Menominee people achieved their goals by adapting to the changing nature of the economic landscape while maintaining cultural values and ties to the forest.[5]

Menominee foresters estimate that since the establishment of the reservation in 1856, the Menominee have harvested a total of more than 2.5 billion board feet of timber.[6] Foresters estimate that the forest currently contains about 1.7 billion board feet of standing timber—more than the volume of timber on the reservation in the mid-1800s.[7] Adrian Miller, former President of Menominee Tribal Enterprises, stated "we're the best practical example of sustainability in the world because we've cut our forest over two-and-a-half times completely, and we have a half a billion more feet in our forest now than we started with."[8] In addition the timber growing in volume, the quality of the sawtimber has increased over time.[9] These trends are a result of Menominee values, forest management techniques, and tribal goals.

MTE Forest Management Plan and Tribal Documents

One of the foundations of Menominee forest management is the Menominee Tribal Enterprises Forest Management Plan (Forest Plan).[10] The Forest Plan is an official document that outlines the goals, objectives, and methods for managing the Menominee forest resources. The plan states that the goal of Menominee forest management is “to maximize the quantity and quality of sawtimber grown under sustained yield management principles while maintaining the diversity of native species.”[11] In other words, the tribe seeks to maximize harvests to support their economic and cultural goals, while at the same time maintaining forest diversity to support their ecological goals.

Detailed forest inventories and maps facilitate the process of management for diversity in the Menominee Forest. Menominee Tribal Enterprises aligns ecological habitat types—the ecological potential of a stand—with the stands of trees actually growing in the forest—forest cover types. Figures 1 and 2 show the habitat types found on the reservation and Figure 3 shows the current forest cover types.[12]

To facilitate the goal of forest diversity, the Forest Plan outlines a detailed list of forest cover types that should be “featured” in each ecological habitat type (Figure 4). Foresters chose the featured cover types because they are the most productive species for a given habitat type—these species have the best potential for sawtimber, are ecologically suited to the site, and are competitive with other species known to grow in the habitat type.[13] Menominee Tribal Enterprises outlines both dominant and associated species for each habitat type to allow managers flexibility in achieving the goal of diversity. The foresters specifically manage the forest to encourage the growth of dominant species, while associated species are those likely to exist given the sivilcultural systems used to manage the dominant species on a given habitat type.[14]

Foresters manage the Menominee Forest by comparing the forest cover type inventory, the ecological habitats, and the featured cover type goals found in the Forest Plan. The Forest

Plan also outlines specific goals for acreages, amounts, and age classes. Foresters then make decisions about the most appropriate management activities to achieve the plan goals for a given site. If the current forest cover type is the same as the featured cover type, forest management focuses on maintaining and enhancing the quality of that cover type. When the current forest cover type is not the featured cover type, management focuses on converting the forest to the featured cover.

The Menominee also use a detailed forest inventory system called Continuous Forest Inventory to monitor the effects of management activities on the forest and gauge whether the activities are achieving forest management goals. Continuous Forest Inventory is a systematic fixed-plot inventory, which the tribe implemented in the 1950s and typically repeats every ten years.[15] Fixed-plot surveys measure the same trees over time in a given area, allowing foresters to assess the effects of management activities. Interview participants confirmed that this inventory procedure has allowed Menominee forest managers to determine how their management activities affect the forest and measure whether their actions are achieving their forest management goals.

The second goal of the Forest Plan is to maximize the quantity and quality of sawtimber—to produce large economically valuable trees while maintaining ecological diversity. Specifically, the Forest Plan establishes the goal of growing featured trees for as long as they remain healthy and vigorous. The Forest Plan places this goal within the Menominee historical context; the plan states: “This concept is based upon the direction chosen by earlier Menominee leaders who recognized the need to harvest trees for economic survival at a speed (or intensity) under which the forest can replace itself.”[16] According to the Forest Plan, maximizing the quantity and quality of sawtimber involves growing the tree species most ecologically suitable to a given area, harvesting trees when they become unhealthy or less vigorous, and harvesting at a rate at which the forest can replace itself.

Maximizing the quantity and quality of sawtimber also promotes forest health according to Menominee Tribal Enterprises.[17] To create high quality sawtimber, Menominee foresters harvest trees that are of lesser quality and leave the highest-quality timber for future harvests. If foresters have a choice between two trees, they harvest the one that is less healthy or the one that may not survive until the next harvest cycle. Using these procedures, the Menominee have been able to achieve their dual goals of increasing the quantity and quality of timber, while maintaining forest diversity and promoting forest health.

In summary, Menominee forest management is based on the goals outlined in the Forest Plan, detailed inventories of the forest cover, and the ecological habitats of the reservation. The foundation of Menominee forestry is understanding the underlying ecological potential of a site and focusing management on the tree species that grow best in each stand. If a given portion of the reservation's forest does not already contain the tree species that are most well suited to that ecological habitat, the management plan focuses on converting the forest to the desired species. If the current forest type is optimal for the ecological habitat, the management plan focuses on perpetuating that forest type. Menominee foresters use the Continuous Forest Inventory system to monitor forest management goals and actions.[18] If management actions are not achieving the goals of the Forest Plan, forest managers adjust their management strategy.[19]

The Clearcutting Conflict

Recent Menominee conflicts over clearcutting can only be understood in the context of a deeper understanding of the history of Menominee forestry. For over 100 years, Menominee tribal members have described their particular style of forest management as one that provides the tribe with a perpetual harvest. Menominee foresters have focused on single-tree selection as the means to achieve a perpetual harvest, and this technique came to have a powerful cultural meaning for the tribe, even as its unintended ecological consequences became evident to some foresters within the community.

Sustained yield forestry has been a part of Menominee forest management since the 1890 and 1908 laws placed limits on annual harvests. Tribal and federal laws, the tribal constitution, and tribal forest management plans require sustained yield forestry. For the past several decades, forest management plans have explicitly stated that the goal of forest management is to "maximize the quantity and quality of sawtimber grown under sustained yield management principles while maintaining the diversity of native species."[20] During this time, forest management has focused primarily on single-tree and group selection. Selection harvesting has been an important tool for foresters—they maintain uneven-aged forest structures by harvesting small groups of trees rather than the majority of trees in a large area. This type of harvesting mimics small scale natural forest dynamics, in which natural forces create relatively small gaps and shade-tolerant seedlings such as maple fill these gaps. Over time, selection harvesting creates a mosaic of small, medium, and large trees across the landscape.

About 30 years ago, foresters became concerned that single-tree selection conflicted with the ecological needs of white pine—a shade-intolerant tree. Single-tree selection fosters shade-tolerant species—species that regenerate in the shade. Sugar and red maple, which grow across a wide area of the Menominee Forest, are classic shade-tolerant species. When foresters practice single-tree and group selection in areas that primarily contain shade-intolerant trees such as white pine, the forest composition begins to shift toward shade-tolerant species such as maple.

White pine typically grow in even-aged stands that originate after a disturbance event—logging, wind, fire, or a combination of these. The pine stands on the Menominee reservation are typically even aged. Inventory data shows that the Menominee Forest contains older white pine stands but few young or regenerating white pine.[21] Briefly, the overstory includes shade-intolerant white pine, while shade-tolerant species such as maple dominate the understory; this pattern is the result of fire exclusion and a focus on single-tree selection harvesting since the 1920s.

Concerned that inventory data indicated a long-term shift in species composition, about 30 years ago Menominee forest managers began efforts to systematically regenerate white pine. White pine needs light and bare mineral soil to regenerate—conditions that have historically been produced by wind and fire, but are not created by selective cutting. To remedy this situation and achieve what the foresters believed was the tribal goal of ecological diversity, foresters began using even-aged harvesting techniques on appropriate habitat types in an effort to regenerate white pine and produce a diversity of age classes across the Menominee Forest; the use of these techniques continues today. Tribal foresters employ methods such as harvesting a majority of the trees in a stand but leaving enough trees to "shelter" the seedlings. In addition, they expose mineral soil to promote the natural or artificial establishment of seedlings and use anchor chains, fire, and herbicides to reduce competition from other tree species. Once the new pine seedlings are established, much of the remaining canopy—the shelter—is harvested. Adrian Miller, former President of Menominee Tribal Enterprises explained that if one goal of the Menominee community is to maintain white pine, foresters must support the ecological system within which white pine can become established. Miller stated, "there are only two ways to get pine forests back into the forest...either through shelter-cuts, which are delayed clearcuts, or a massive forest fire. Every pine stand on our reservation…date[s]…back to a massive forest fire."[22] Miller explained that in the absence of fires foresters would need to use even-aged management techniques to regenerate white pine.

Foresters' Perceptions of the Conflicts

These new techniques proved controversial, in part because few tribal members remembered how open forests once were on the reservation. Foresters such as Jeff Grignon, a tribal member and Menominee Tribal Enterprises forester, expressed concern that the reduced incidence of fire has changed both the forest and people's perceptions of the forest. The current generation, Grignon said, is accustomed to a closed forest because they have never seen how open the Menominee Forest once was; he noted: "I've talked to a lot of elders where they say they could stand on County [Highway] M in South Branch and see almost all the way off the reservation….We used to use fire to open areas throughout history. My grandmother has told me stories…. Without… being able to use fire since the reservation was established, it's become more and more closed.[23] Although elders remember that the forest was once more open and that the Menominee people have always manipulated their forests, fire suppression has influenced younger tribal members' perceptions of how the reservation forest should look.

Other tribal members agreed with Grignon. Marshall Pecore, Menominee Tribal Enterprises forest manager and Menominee descendant, concluded that many tribal members no longer understand traditional fire use and forest succession. He explained,

> Historically…[the Menominee] understood that if they wanted pine, they had to put the fire in there to kill the hardwood and to get the seed down on the ground so it could grow and not be out-competed by the hardwood…some people don't see that anymore, and [forest succession] kind of creeps up on you….Half of the forest, the eastern side of the forest in the late 1800s… didn't have much [sic] trees on it. It wasn't because they were cut over, it was

> because the tribal members were burning it prior to that time routinely and keeping the trees off of it.[24]

According to Pecore, many tribal members no longer have a personal sense of historical fire management, the large scale of that management, or the presence of early successional species that fire created in the eastern portion of the Menominee reservation.

The ecological conditions required for the regeneration of white pine—open conditions, bare mineral soil, and a good year for pine cones—have at times conflicted with tribal perceptions of a healthy forest. Tribal legislator Gary Besaw noted that there was not always a good pine cone crop that would naturally regenerate a white pine shelterwood, and that the lack of a good crop required foresters to use fire or herbicides to prepare the area for planting.[25] Besaw explained that pine regeneration is constrained by the ecology of the species; pine does not sprout like aspen, but requires aggressive management with fire or herbicides and natural regeneration is not always predictable. Although the community wants to maintain pine, the ecological needs of the species may conflict with people's perceptions and desires for rapid regeneration.

Unlike the massive Western clearcuts or the Wisconsin land clearing of the 1800s, Menominee pine management is conducted on a comparatively small scale, which, according to tribal proponents, makes clearcutting compatible with Menominee tradition. Tribal member Adrian Miller explained that while some tribal members are against even-aged management, Menominee Tribal Enterprises' clearcuts are small in focus and culturally sensitive; he stated, "the clearcutting that we do are [sic] done in real small plots, very small. It's not immense like it has been in the past with other managers, especially non-indigenous managers…. I think there's a fear there that some people think we might do that…. You gotta trust your tribal people and trust management because they love that forest just as much as the other people do, and they would never do that."[26]

Similarly, Forest Manager Marshall Pecore explained that even-aged management on the Menominee reservation is different than liquidation harvests that happen without the goal of regeneration. Pecore stated, "I think people confuse clearcutting to regenerate a forest with what you see on the news with forest liquidation, where they actually liquidate—or they've seen some land owner either sell his property and some guy goes in and clips all the trees down and he has no thought process for what's gonna happen after he puts those trees down and sells them to some mill or whatever. Here on the Menominee, that's just another step to regenerate for that next generation."[27] He continued, "the biggest element why clearcutting gets a bad rap, to me, for tribal members is they hear—off the reservation you hear of some club taking on some big timber company or somebody out West—especially out West, stop clearcutting and all the rest of it, but they're not—they call it clearcutting, but what they're stopping is liquidation. In our case around here, that's just a step to regenerate the forest back to aspen, back to white pine, or back to red oak."[28]

Tribal Identity, Historical Understandings, and Even-Aged Pine Management

Many tribal members believed that the intensive harvests were contrary to Chief Oshkosh's vision of starting at one end of the reservation and only harvesting sick and mature trees.[29] For example, Maggie Escalante, a tribal member and College of Menominee Nation administrator, believed that forest management should return to previous methods, which she described as in line with "how Chief Oshkosh put it"; Escalante explained that the foresters "did real good management then. They did not do clearcut… but [now] they are changing the management…we are not going to have big trees….Our kids are not going to ever experience those big trees because of the management they are doing now."[30] Escalante's concerns about forest management are grounded in her memory of Chief Oshkosh's wishes for the tribe; she connects her view of history to future generations. History, she implies, matters because it provides continuity for the forest and community.

Some tribal members believe that the shift to clearcutting reflected a shift away from management for ecological and community goals and toward management for purely economic goals. Laurie Reiter, a tribal member and forestry committee member, said, "A long time ago, we used the woods for survival, not just to build houses and get the lumber out of there. We used it…to keep the animals there, keep the bees there, keep everything there. A lot of this clearcutting is lumber-orientated, so, that's where I have problems."[31]

The interviews revealed that memories of historic events shaped the controversy over forest management. The new harvests looked like clearcuts, and many tribal members associated clearcutting with outsiders coming onto Menominee lands to log and clear farms in the second half of the nineteenth century. Further, tribal members recalled that federal forest managers had controlled the forest and approved logging that led to the devastation of tribal lands in the early 1900s, resulting in a successful lawsuit against the US Forest Service for mismanagement and unsustainable clearcutting of Menominee forests.

Gary Besaw, a tribal legislator and College of Menominee Nation dean, said that tribal members have had a negative opinion of clearcutting since the time of the timber barons and the Menominee lawsuits against the federal government: "Clearcutting was viewed as ugly from back when the pine barons came through here… [and since the] mismanagement concerns."[32] Norman Shawanokasic, Menominee Tribal Enterprises board member, agreed that some tribal members view clearcutting as a component of the historical dispossession of Menominee territory,[33] Several participants indicated that many tribal members believe clearcutting is contrary to Menominee historical understandings and practices and is incompatible with Menominee identity.

Jeff Grignon stated that tribal members “hear the stories [from]... their elders… about the 1930s when, in fact, the forest service was involved in the clearcutting in the middle part of the reservation, and there’s some awful fires going on…. But if it’s being managed like it was for thousands of years… we used… low-intensity fires, but multiple times over years…. A lot of that [sic] being passed on about the clearcuts… gave a bad image of what was going on at the time.” According to Grignon, memories of the fires and clearcuts that led to the Menominee lawsuit continue to influence people’s perceptions of forest management and fires.

Clearcutting and Tribal Identity

Tony Waupachick, Jr., a Menominee forester, noted that he hears tribal members complain about clearcutting and he believes these complaints are due to the profound connection Menominee people have with the forest. Waupachick explained that Menominee people have a “connection with the forest. People don’t wanna see it change. They’re used to it looking a certain way…. The forest is a part of them. So by changing it with all-age management, where you’re replacing them [the trees] with something else…they don’t really wanna see any changes out there.”[34] Waupachick concluded that Menominee people are part of the forest and the forest is part of them; if the forest is harvested and changed it affects people’s sense of identity.

Dave Napos Turney, a Menominee tribal member, exemplified this perception; he expressed that clearcutting was not a management technique the Menominee should use to harvest trees. Turney described seeing “all these openings and that shouldn’t be…. [An elder tribal member] once told me right out, he pointed his finger to the woods and he says if you ever see clearcutting, that's not supposed to be. That's not Menominee way. We never do that. He says, you always look, and you look at ten trees and you pick three trees out of there, and he says them are the ones you take and you leave the rest."[35] By sharing a personal story of an elder telling him that clearcutting was not the "Menominee way," Turney emphasized that Menominee culture, the forest, and selection harvesting are part of Menominee identity and history.

Clearcuts changed some tribal members' perceptions of the forest and caused tribal members to lose their sense of the area's identity. One tribal legislator, Myrna Warrington, explained that some of the even-aged harvests have caused Menominee people to lose their bearing; she stated, "you have this beautiful forest all around you wherever you drive. You got the trees, you know? Then, you come upon something like that; it takes away the identity of that road, for one thing. You kinda lose your spot. You know, this is not familiar anymore."[36] Because Menominee identity is closely linked to the forest, if tribal members believe that current management practices are harming the forest, they believe that their identity as Menominee is being assaulted.

Dave Napos Turney believed that clearcutting also affected the animals living in the forest; he related a story about a bear entering a community housing development and concluded that clearcutting was the cause. Turney stated, "we're cutting down their homes... we're clearcutting, where are they gonna go?"[37] To Turney, there was not a "bear problem, there's a human problem."[38] This situation was especially worrisome to Turney because of the Menominee people's connection to the bear and other forest animals; he explained that the bear was "the symbol of our people…They are the first Menominee… and we don't respect them… that's what upsets me.[39]

Al Pyatskowit, a Menominee tribal member, forestry committee member, and retired high school teacher, described the opinions he had heard from community members: “I’ve heard people talk about it is because of how ugly it looks…. It’s just because it looks so ugly with nothing there.”[40] Dale Kakkak, a tribal member and College of Menominee Nation marketing specialist, summarized tribal members’ opinions: “Menominees do not like to see an area cut down [in] that wide of an area. It just does not seem natural.”[41] Maggie Escalante reflected this characterization; she indicated that she can understand what the foresters are doing in certain areas, but in others, “it looks like a bomb went off.”[42]

Regeneration Concerns

Regeneration of the forest after harvest has been a critical issue for the Menominee tribe for generations. Regeneration was a major element of the mismanagement lawsuits—the tribe successfully argued that the federal government failed to regenerate the area sufficiently. Some tribal members continue to cite regeneration failures as the reason they are against even-aged management. For example tribal legislator, Rebecca Alegria, noted, “I think [our ancestors] would be very upset that some of this isn’t being replanted or regenerated. I know that. I know that there’s several of these elders who were dying, crying, saying don’t let this happen. Don’t let this happen; replant, regenerate what was cut.”[43]

At times, tribal regeneration concerns have led to broader ecological concerns. Laurie Reiter, a forestry committee member, concluded that the forest is “in your blood and you don’t wanna see all of that gone…. By taking that out for five to ten years… you don’t know what you’re doing to the environment. No one has thought of animals, birds, insects even. So, you’re altering it somehow. We don’t know that effect yet…. We know that that’s wrong. Something is not gonna connect somewhere along the line."[44] Reiter expressed fear that clearcutting might alter the environment in unknown ways; she feared the repercussions of the technique because the Menominee people are connected to everything that comprises the Menominee Forest.

Differing Perceptions of Goals for Diversity

Some tribal members considered even-aged management a way to provide diversity and wildlife habitat. Gary Besaw, for example, noted that after an even-age harvest there is a habitat that serves as "a natural magnet for a lot of animals."[45] Besaw believes that if tribal members are not out in the woods, hunting or otherwise, they won't understand the relationship between harvesting and diversity: "Their assumption is that cutting all of the trees and making it barren that first year and the first two or three years is such a bad thing and we're raping this land."[46]

Other tribal members believed that clearcutting reduces diversity. Dale Kakkak said, "Well, it seems it is viewed as disrupting the forest. It is taking away from certain habitat[s] of animals and creating that open spot where it wasn't previously open."[47] Rebecca Alegria related a story about medicines disappearing after a harvest. Alegria expressed a concern shared by some elder tribal members; she explained, "There was a cut that was done behind Zoar, and they called it a shelter-wood, but it is a clearcut. Once a year, some elders go up there and they have their own areas they go into, you know, and they went up there to harvest some bitterroot and it was all gone. It was all gone."[48] Similarly, John Teller described tribal concerns over management techniques, wildlife, and medicines. Concerns about even-aged management went "way beyond aesthetics" to include herbicide use and how that affects berries and medicines.[49] According to Teller, "there is [also] a concern that the native plants and medicines that grow in those areas are pretty much curtailed during the regeneration season."[50]

Some tribal members were concerned that even-aged forest management had a harmful effect on hunting. Patrick Waukau expressed that he and his father believed that clearcutting and shelterwood harvests were sometimes bad for wildlife. Waukau stated that his father believes that forest management has changed and “thinks it is all clearcutting and that is bad. I can see where he is coming from because it does look bad. Especially where we hunt, it ruins whole areas for a long time. We have to change where we hunt.”[51] Waukau continued, noting that tribal members liked “seeing the forest, the way it is and the way they are used to seeing it…. With the selective cutting… you didn’t see… whole plots of trees taken down.”[52] Waukau further explained that harvesting negatively affects hunting areas that tribal members have used for decades because it disrupted the animals’ pathways.

Factors Affecting Conflict Resolution and Forest Management

Some tribal members became increasingly upset as foresters began using even-aged management more frequently. Arguments erupted at tribal meetings and within the community. Power shifted within the tribal legislature and Menominee Tribal Enterprises board of directors—sometimes the newly elected officials were sympathetic to clearcutting concerns and other times they supported the foresters. More recently, however, arguments about clearcutting have abated; tensions remain, but have lessened. What facilitated the resolution of these intense conflicts surrounding Menominee timber management? Interview participants noted several central factors that helped groups within the tribe reach a common understanding of best practices: education, shared identity as a forest-based people, shared meanings of the forest, and a shared sense of the importance of tribal sovereignty.

Communication and Education

The Menominee community used both communication and education to ease forest conflicts. Gary Besaw, who was serving on the forestry committee at the time, helped establish educational signage explaining several harvesting practices. After erecting signs around the reservation, the "argument people would have, coming forward to say, oh they clearcut it, and they destroyed everything, and there's nothing there. Well, they don't have that argument anymore because you've educated them or you've brought some sort of valid evidence forward so they can see that."[53] Educational signs are useful because they remain in place as the forest regenerates; tribal members can watch as the forest comes back. Further, as Besaw explained, education through demonstration has changed people's view of even-aged forest management; they have seen for themselves that even-aged management does not leave behind a barren landscape. Tribal educator Al Pyatskowit reached a similar conclusion: "every now and then the clearcutting comes up, shelter wood-cutting, people don't quite understand what that's all about, and once they begin to understand why it's taking place, then they seem to realize that, oh, okay, well, hopefully we're gonna have a much better forest because of this."[54]

Some tribal members are actively supporting educational programs in which the tribal youth learn about forestry and forest management. The College of Menominee Nation is working with Menominee schools to develop sustainability and forestry education curriculum. Myrna Warrington, a College of Menominee Nation employee and tribal legislator, explained that she has "always taken the stand that we need to teach our high school kids about forestry and the cutting practices, and when you see an open area, there's a reason for that. It's because they need to regenerate."[55] Warrington explained that she is pushing the tribe to teach high school students about forestry and forest management practices so that children will understand that foresters use even-aged management to regenerate forests.

Joan Delabreau, a Menominee legislator, described how she began to understand the goals and reasons underlying certain even-aged forest management activities implemented by tribal foresters. Delabreau stated that Menominee Tribal Enterprises has “gotten a little bit better [about communicating]; when you see this is an aspen cut with a sign and stuff like that... Until I really sat down and talked to [the foresters] I was, like, what the hell are you clearcutting for. That’s not the practice here. That’s a Western practice. But when you get into where they did it where there was the old fires—a lot of people even forgot about the old fires—or other areas that something grew up that shouldn’t have been there.”[56] After a harvest, Delabreau explained, “you see this big light show shining in, and you will never get to see that big canopy or the big trees again. And I think that’s the startling part of it… people gotta understand [that] you’ll never see it, but your children will.”[57]

As even-aged harvested areas regenerate and mature into young forests, tribal members are less likely to consider this management technique destructive. Melissa Cook said that the clearcutting controversy is less intense now than it was in the 1990s—partly because of education and partly because the trees have regenerated in many areas: “I think clearcutting was a really hot issue probably in the 90s. I hear less of it now. I think, in part, that some of the areas that were controversial now have grown up and they don't look the same, so there has been some more trust… we're [also] trying to educate on how did that site look in the past and what are some of the variables that are not here anymore of how this forest came to be.”[58]

Menominee Identity and Values

Not all participants had a negative view of conflict and conflict resolution; some saw the process as a necessary part of managing the forest. Some interview participants explained that there have always been arguments about how to manage the forest. When a resource is as important as the forest is to the Menominee people, there are bound to be heated discussions about its management. Some tribal members even argued that the disagreements and arguments about forest management actually produce better management decisions. Dale Kakkak concluded that "there [have] always been conflicting views on how the forest needs to be managed. The community view, the forestry, and the Menominee Tribal Forestry Department, sometimes they conflict in the practices that they do."[59] Melissa Cook reflected a similar idea and related it a historical perspective that incorporates multiple viewpoints: "I think there's always gonna be issues about forest management because it's always important to the Menominee people. If there wasn't ever any issues or controversy or dialogue then I would worry because it's not important to us."[60]

As Cook recognized, the Menominee people share a common history and culture. This common foundation does not mean, however, that every Menominee tribal member shares identical cultural values or historical experiences, or that all members have the very same relationship to the forest. Yet, despite some minor differences, most Menominee interview participants agreed that the forest—and everything it entails—is an integral part of Menominee identity. This common identity is one reason that the Menominee community has been able to negotiate conflict and manage their forest. "We are forest people. We are people of the forest," stated Dave Grignon, Menominee Tribal Historic Preservation Officer.[61] Jeff Grignon, a Menominee Tribal Enterprises forester, agreed, stating that the forest is "our identity, something that can't readily be taken away from us. It used to be our lifeblood was the forest. We cured ourselves with the forest, we fed ourselves through the forest, we interacted with nature and our spirit through the forest. It's very, very important."[62] Menominee identity is inseparable from the forest.

Menominee values have also facilitated conflict resolution in the community. Menominee tribal members indicated that love and respect for the land were core tribal values and these values helped account for the success of Menominee forest management. For example, Adrian Miller, former Menominee Tribal Enterprises president, stated that the forest has been managed "using the principles of love and respect of the land."[63] Miller continued, "The biggest thing that I think that protects our forest is our overall love of the land and respecting the water, respecting the land, respecting the trees, respecting the air, and that."[64] Myrna Warrington, a tribal legislator, concluded that "people really love the forest areas, and look after it, report things that are going on that they think are problems."[65]

Menominee values related to the forest often contain a spiritual or religious dimension. Some tribal members describe the forest as a place for worship. Dale Kakkak shared that it "is just beautiful to have a place [the forest] to go out and relax. To go out and look at what God created… It is not just an hour a week in church that you can worship. You can go out there and you can give thanks for everything that way…. It is a place to… worship."[66] These Menominee tribal members described an identity that is inextricably connected to their forest.

Menominee Sovereignty and Forest Management

One of the most serious concerns tribal members expressed about clearcutting was a perceived loss of control over the forest. Because control and sovereignty are linked, in this section I explore the ways in which the Menominee interview participants viewed sovereignty and its links to forest management.

Tribal communities and academic departments have engaged in many debates about what sovereignty is and what it means.[67] Felix Cohen, in his classic treatise on American Indian Law, argued that Indian tribal sovereignty was not something granted by the US Congress, the US Constitution, or treaties. Rather, Cohen defined tribal sovereignty as an “inherent power… which has never been extinguished” by Congress.[68] Cohen explained that one important aspect of sovereignty is the power to regulate property within the jurisdiction of the tribe.[69] Indian law scholar Charles Wilkinson outlined several other “fundamental powers of Indian tribes” that arise from tribal sovereignty—the power to: establish a government, determine membership, enforce laws, administer justice, exclude persons from the reservation, and charter business organizations, as well as the possession of sovereign immunity.[70] Although it has been centuries since tribal nations in the United States have possessed absolute sovereignty, these fundamental powers formed the basis for core tribal values.

For many of the Menominee community members I interviewed, tribal sovereignty explicitly involved control of the forest. Sovereign powers are important for tribal forest management because tribes set forest management goals, organize their government to work toward those goals, and organize legal structures to protect the forest and land from outsiders and regulate their property—in this case their forests. For example, Dave Grignon explained that the current management structures were the result of the 1973 Menominee Restoration Act because it “gave us back our sovereignty, and we started making our own laws, and enforcing our laws, and that’s what sovereign means…. Managing our forest,… people getting educated again…to take care of this place."[71] Many participants believed that sovereignty is a critical prerequisite for the Menominee tribe to manage their own forest according to their own beliefs and goals.

For some interview participants, sovereignty was more than a legal status. Gary Besaw stated that sovereignty was the "ability to make our own decisions and control ourselves… how we live, and how we identify with our surroundings and our world… and to be truly sovereign, is to be blessed with that ability to control that or have a say in that."[72] In this context, sovereignty included incorporating cultural values in the management of tribal forest resources.

Tribal sovereignty is closely linked to the forest for many tribal members. For example, Joan Delabreau said that sovereignty is "something you always end up carrying with you…. we derive it from our land base and [it relates] to who we are."[73] Laurie Reiter, a forestry committee member, said that the Menominee government came from the forest; she said, "whenever you talk about the forest, your governmental structure has to be addressed because our forest developed our government. That's how deep our forest is in our way of living. It developed our government…. We didn't develop to maintain law and order like most communities… our trees developed us and that's different. It's really different."[74]

Some tribal members consider the relationship between sovereignty, the forests, and Menominee identity sacred. Rebecca Alegria, a tribal legislator, explained that the forests are "sacred to the Menominee people and all of our descendants, all of our family. Our ancestors are buried here. They're scattered throughout the forest. Our ancestors, our chiefs, our medicine people, our relatives are buried all over out in the forest. The forest is our life. You eat deer meat, you eat bear meat, you eat the turkey and all the animals out there, and that's a part of us that will continue on, and that's sovereignty."[75] To Alegria, sovereignty is a part of Menominee identity and connects relationships in the past to the present and future.[76]

Some tribal members saw sovereignty as a way to protect Menominee forests and territory from outside forces and people. Dave Napos Turney related a dream he had that illustrated sovereignty as a way for the Menominee to protect their land. In his dream, Turney saw the Menominee reservation with a fence around the boundary. The fence was "keeping outsiders out….That dream is very powerful and it's coming true…. That's what we had to do to protect our land. …That law [sovereignty] is that fence… that's our protection.[77] For Turney, Menominee sovereignty is a way to protect the Menominee Forest from outside forces trying to take tribal resources. Turney argued that the laws and Menominee sovereignty have allowed the tribe to survive and transition into the modern era.

Interview participants indicated that tribal sovereignty is connected to forest management in multiple and complex ways. First, the legal construct of sovereignty is related to forestry. For the Menominee, the legal connection between sovereignty and forest management is outlined in the tribal constitution, which states that the Menominee Indian Tribe of Wisconsin is a sovereign nation and is organized "for the common good, to govern ourselves under our own laws and customs, to maintain and foster our tribal culture, to protect our homeland and to conserve and develop its natural resources, and to insure our rights guaranteed by treaty with the Federal Government."[78] The Menominee constitution was designed to protect and conserve Menominee land, resources, and culture; it dictates that sovereignty is to be used to manage the forest for the "common welfare" of the tribe.

Menominee people also understand forestry in the context of tribal sovereignty and have used forestry to exercise sovereign control over their forests and lands. For example, Adrian Miller, former President of Menominee Tribal Enterprises, said "you also set your laws about your forestry to exclusive use. Exclusive use means that… [if] you're not a tribal member, you can’t come upon our land, and then you enforce that law…. There’s an issue of sovereignty there… [we keep] people from hunting or taking our fish, bringing diseases in.”[79] Tribal Historic Preservation Officer Dave Grignon described the relationship between sovereignty and forestry as “our ability to have control of what we do in the forest. We have our own management—people that are managing the forest beneath that sovereignty. That’s sovereignty working for us.”[80] John Teller depicted a similar relationship between forestry and sovereignty: “even with our limited sovereignty, we have the right to manage the forest in the way we see fit.”[81] Sovereignty in this sense has allowed the tribe to manage their forests to achieve tribal goals.[82]

In conclusion, Menominee interview participants viewed sovereignty as a legal concept that allowed the tribe to make laws and control their resources. However, interview participants expressed that sovereignty was more than a legal status—they considered sovereignty a part of Menominee identity. In particular, sovereignty was related directly to the tribe’s ability to control and protect their natural resources over time. For many Menominee interview participants, forestry has been a way to express Menominee sovereignty throughout time.

Conclusion

For Menominee tribal members, forest management involves negotiating different understandings of history and territory. Forest management has sustained the Menominee people since the reservation was established in 1856. Forestry and timber production has provided economic resources that have allowed the community to control their land base, maintain their forest resources, and foster their culture. Interview participants understood forestry in a historical context that included Chief Oshkosh’s vision of sustainable forestry, the establishment of the tribal sawmill, successful lawsuits against the federal government for mismanagement of the

Menominee Forest, termination, and restoration. For the Menominee people interviewed in this project, this series of historical events was an important part of tribal identity and forest management.

Menominee forest management, according to interview participants, has been important to the community for multiple and complex reasons. Participants explained that Menominee values, Menominee leadership, and national and tribal legislation have helped the Menominee people manage their forest resources. Interview participants overwhelmingly relied on a historical and cultural understanding to explain Menominee forestry and their profound connection to the forests. Sustainable forestry, according to the interview participants, must incorporate history, ecology, and Menominee values.[83] These values include a connection with past, present, and future generations, as well as respect for the relationships among Menominee people, wildlife, fish, water, plants, and trees. Sustainability must also balance economics with Menominee values, and forestry operations must provide the tribe and individual tribal members with economic resources, which will foster community wellbeing.

I have argued that Menominee understandings of forest management, sustainability, and sovereignty should be understood within the historical context of the Menominee people's struggle to maintain their land and foster their culture. For Menominee people, a historical understanding of forest management is important; however, a historical understanding is not sufficient to management their forest and resolve conflict. Tribal members have different perceptions and interpretations of Menominee history and cultural values. For example, some interview participants interpreted Chief Oshkosh's vision of sustainable forestry as a mandate for selective logging, while others believed the chief's vision supported even-aged management as a way to regenerate white pine. Menominee identity is tightly linked to the Menominee Forest and land, but Menominee perceptions of the forest have shifted over time as fire suppression and fire use have changed the character of the forest on some parts of the reservation.

These interviews suggest that Menominee foresters can find ways to align tribal goals for diversity, economic success, cultural uses, and forest protection with management techniques focused on regenerating white pine and other fire-dependent species. First, increased opportunity for collaboration between forest managers and the community might foster greater understanding and trust. Collaboration can occur via regular meetings, field trips to harvest areas, and educational opportunities. Another possible way to align forest management techniques with tribal goals would be to modify silvicultural techniques so they are more culturally appropriate and aesthetically pleasing to the Menominee community. For example, forest managers could experiment with different spatial arrangements of harvests and arrangements of leave trees; this practice has been successful for tribally managed fire-adapted species in Montana and could be adapted for Menominee management.[84] Foresters could also actively seek community input about the temporal and spatial layouts for harvest. By actively seeking input into forest management techniques, foresters will engage the community at a more profound level, and in turn will increase both the knowledge of community members and their own knowledge.

As indicated in the interviews, the Menominee tribe has agreed on a few common goals for forest management. One of the most important goals, and one which the Menominee have shared for generations, is the protection of the Menominee land and forest. Active forest management—harvesting and regenerating trees—has been a way for the Menominee to achieve this goal. Another common goal shared by interview participants is that management should be holistic and sustainable. Interview participants agreed that forest management should create economic resources for tribal members and the tribe itself, but not at the expense of the ecological or social goals for the forest. An understanding of the historical, ecological, and social context within which the Menominee people have managed their forests is necessary to understand their forest management goals. Melissa Cook, the director of the Sustainable Development Institute, explained the situation eloquently: “I see [forestry] as a community endeavor. It's an integration of a long historical vision [with] values of the Menominee people [and] integrated with the management techniques that are applied today.”[85]

Endnotes – Chapter 4

[1] For example, Dr. Verna Fowler, the founding president of the College of Menominee Nation, said “The Menominee have always looked upon the forest as the entity that sustains them, as well as including within that, since the mill was established, looking at the mill as the backbone of our economy, providing jobs for people to support their families, and to support the tribe in their efforts…. On the whole, we recognize its importance to the economy and for providing for the Menominee tribal members in terms of their health, and welfare.” Verna Fowler, "Personal Interview by Michael J Dockry," (Keshena, WI5/2/2011). See Appendix 5 for more information from Verna Fowler and how Menominee values are incorporated into the College of Menominee Nation. Also see C.M. Mater, *Menominee Tribal Enterprises Sustainable Forestry to Improve Forest Health and Create Jobs*, ed. Sustainable Forestry Working Group, The Business of Sustainable Forestry Case Study (John D. and Catherine T. MacArthur Foundation, 1999). where she states that during the 1990s the Menominee Tribal Enterprises sawmill had lower profits than industry but that they retained 40-50% more employment that comparable sawmills. J. Clements and D. Marcouiller, "Regional Economic Impacts of the Menominee Tribal Enterprises Forestry and Mill Operations," (University of Wisconsin Extension, 2008). shows that during 2007 the MTE sawmill 27% of the jobs in Menominee County, 45% of direct economic output of the county (51% of direct and indirect output). They show that the total impact of the sawmill in 2007 was $108 million dollars which accounted for 14% of the total sawmill output for northern Wisconsin.

[2] See T. Davis, *Sustaining the Forest, the People, and the Spirit* (State Univ of New York Pr, 2000); L. Nesper and M. Pecore, "The Trees Will Last Forever: The Integrity of Their Forest Signifies the Health of the Menominee People," *Cultural Survival Quarterly* 17, no. 1 (1993); M. Pecore, "Menominee Sustained-Yield Management: A Successful Land Ethic in Practice," *Journal of Forestry* 90(1992); R.L. Trosper, "Indigenous Influence on Forest Management on the Menominee Indian Reservation," *Forest Ecology and Management* 249, no. 1-2 (2007).

[3] I calculated this percentage based the following estimates: a total standing volume of 1.7 billion board feet and an annual harvest of 20 million board feet. Harvest entries for even-aged silvicultural prescriptions on the Menominee reservation typically occur every 15 years. Even-aged silvicultural prescriptions—shelterwoods—for oak and pine typically receive pre-commercial treatments for approximately the first 50 years and then thinning occurs every 15 years with final rotations at around 150 years. Rotations for aspen clear-cuts are typically 50-80 years with no thinning. The forest management plans call for even-aged harvesting—shelterwoods and clear-cuts—on 0.3% of the forested acreage per year. There are 218,153 forested acres managed for timber on the Menominee Indian Reservation. Source: Menominee Tribal Enterprises, "Harvest Acres Prepped through End of Ly00;," (Keshena: Menominee Tribal Enterprises Forest Management, 2001).

[4] David R.M. Beck, The Struggle for Self-Determination : History of the Menominee Indians since 1854 (Lincoln: University of Nebraska Press, 2005); B. C. Hosmer, American Indians in the Marketplace: Persistence and Innovation among the Menominees and Metlakatlans, 1870-1920 (Univ Pr of Kansas, 1999).

[5] Beck, The Struggle for Self-Determination : History of the Menominee Indians since 1854; Hosmer, American Indians in the Marketplace: Persistence and Innovation among the Menominees and Metlakatlans, 1870-1920.

[6] Menominee Tribal Enterprises, "The Menominee Forest Management Tradition: History, Principles, and Practices," (Menominee Tribal Enterprises, 1997).

[7] Adrian Miller, "Personal Interview by Michael J Dockry," (Neopit, WI5/26/2011).

[8] Ibid.

[9] Menominee Tribal Enterprises, "Menominee Indian Reservation Tree Quality Trends 1963-1988," in *The Menominee Forest - General Statistics* (Menominee Tribal Enterprises, 1996).

[10] Menominee Tribal Enterprises, "Menominee Tribal Enterprises Forest Management Plan 1995-2005," (Menominee Tribal Enterprises, 1995).

[11] Ibid.The Menominee tribe is in the process of revising their management plan. The revision has been difficult because of different understandings of the roles and responsibilities of MTE and the Menominee Tribal Legislature (MTL); these differences are highlighted in some of the oral history interviews for this project. The differences in opinion focus on the interpretation of the Menominee Tribal Constitution and the Menominee restoration documents. Some tribal members believe that the MTL has the ultimate authority to sign the forest management plan and send it to the Bureau of Indian Affairs, while other tribal members believe that MTE has that authority. Because both MTE and MTL are elected bodies that are officially recognized in the Menominee constitution, these issues have not been easy to resolve.

[12] Ecological habitat types are representations of the forest and land's ecological potential. Habitat typing in Wisconsin was developed by John Kotar. See J. Kotar, J.A. Kovach, and C.T. Locey, *Field Guide to Forest Habitat Types of Northern Wisconsin* (Dept. of Forestry, University of Wisconsin-Madison and Wisconsin Dept. of Natural Resources, 1988). There are 12 habitat types on the Menominee reservation. See Menominee Tribal Enterprises, "The Menominee Forest Management Tradition: History, Principles, and Practices."

[13] Menominee Tribal Enterprises, "The Menominee Forest Management Tradition: History, Principles, and Practices," 26.

[14] Ibid.

[15] Timothy E. Moriarty, David W. Wilson, and Robert P. Bizal, "Forest Management Planning and Integrated Resource Management Planning in Indian Country," *Evergreen Magazine*, no. Winter 2005 - Spring 2006 (2005).

[16] Menominee Tribal Enterprises, "Menominee Tribal Enterprises Forest Management Plan 1995-2005," 3.

[17] Menominee Tribal Enterprises, "The Menominee Forest Management Tradition: History, Principles, and Practices."

[18] Continuous Forest Inventory, or CFI, is the standard inventory methodology used by the Bureau of Indian Affairs and tribal forest managers. CFI is a fixed plot inventory where all trees are inventoried about once every 10 years. The inventory system provides data that forest managers can use to understand the impacts of specific management actions as well as information to track forest trends.

[19] See Appendix 6 for a more detailed exploration of the oral history interviews and the tribal goals for forest management.

[20] Menominee Tribal Enterprises, "Menominee Tribal Enterprises Forest Management Plan 1995-2005."

[21] Menominee Tribal Enterprises, "Menominee Indian Reservation Tree Quality Trends 1963-1988."

[22] Miller, "Personal Interview by Michael J Dockry." Also see, Gary Besaw, "Personal Interview by Michael J Dockry," (Keshena, WI4/24/2011). Besaw stated that "If we want to grow more pine… we gotta cut the trees down. A long time ago nature would wait until a fire… or tornados… created that opening. So now we have to come back and mimic that somehow. How we do that is we clear cut."

[23] Jeff Grignon, "Personal Interview by Michael J Dockry," (Keshena, WI6/7/2011).

[24] Marshall Pecore, "Personal Interview by Michael J Dockry," (Keshena, WI6/1/2011).

[25] Besaw, "Personal Interview by Michael J Dockry." According to Besaw, the difficult nature of reestablishing white pine stands leads some tribal members to “pick one or two places where they know that’s not working [and say]… look at what’s happening here. You cut all of those pine, and now we got these young Popple and soft maple growing here, and they're gonna complain and holler around.”

[26] Miller, "Personal Interview by Michael J Dockry."

[27] Pecore, "Personal Interview by Michael J Dockry."

[28] Ibid.

[29] See Appendix 7 for more interview participant’s thoughts about Chief Oshkosh.

[30] Marguerita Escalante, "Personal Interview by Michael J Dockry," (Keshena, WI4/8/2011).

[31] Laurie Reiter, "Personal Interview by Michael J Dockry," (Keshena, WI5/23/2011). The Forestry Committee is comprised of Menominee tribal members appointed by the tribal legislature to work on forestry issues. The Menominee legelsature—and their forestry committee—are separate from Menominee Tribal Enterprises. Both the Menominee legislature and Menominee Tribal Enterprises are governed by elected representitives voted in by enrolled tribal members. See the section on Restoration in Chapter 3 for more information on tribal governance structure.

[32] Besaw, "Personal Interview by Michael J Dockry."

[33] Norman Shawanokasic, "Personal Interview by Michael J Dockry," (Keshena, WI5/9/2011). Shawanokasic stated, “some of the tribal people, and I can't speak for them, but I'm assuming that they felt part of their land was being taken… maybe they do have the perception that something is being taken from them because of the results of the treaties, and the dwindling of the Menominee land from way back.”

[34] Tony Waupachick Jr., "Personal Interview by Michael J Dockry," (Keshena, WI5/31/2011).

[35] Dave Napos Turney, "Personal Interview by Michael J Dockry," (Keshena, WI6/1/2011).

[36] Myrna Warrington, "Personal Interview by Michael J Dockry," (Keshena, WI4/27/2011).

[37] Turney, "Personal Interview by Michael J Dockry."

[38] Ibid.

[39] Ibid.

[40] Al Pyatskowit, "Personal Interview by Michael J Dockry," (Keshena, WI5/3/2011).

[41] Dale Kakkak, "Personal Interview by Michael J Dockry," ed. Michael J. Dockry (Keshena, WI4/4/2011).

[42] Escalante, "Personal Interview by Michael J Dockry."

[43] Rebeca Alegria, "Personal Interview by Michael J Dockry," (Keshena, WI6/7/2011). Other tribal members also expressed concerns about regeneration. For example, Susan Waukau said that the tribe must monitor regeneration and management changes if the forest was not regenerating after harvest (Susan Waukau, Interview, 10/10/2011). Waukau explained, “it’s also the regeneration of those units, we would like, I would like to see them measurable, that they are coming back before you could ever clear cut another segment is what we clear cut five years ago, where are we at with that? Ten years ago where are we at? Are these areas being regenerated? I don’t think we’ve ever really had that question answered. Where are we at with the clear cuts in the past and making sure this

harvesting method is doing what we want it to do. If it's not, then we definitely need to be listening to the people and addressing those issues."

[44] Reiter, "Personal Interview by Michael J Dockry."

[45] Besaw, "Personal Interview by Michael J Dockry."

[46] Ibid.

[47] Kakkak, "Personal Interview by Michael J Dockry."

[48] Alegria, "Personal Interview by Michael J Dockry."

[49] John Teller, "Personal Interview by Michael J Dockry," (Keshena, WI5/27/2011).

[50] Ibid.

[51] Patrick Waukau, "Personal Interview by Michael J Dockry," (Keshena, WI4/8/2011).

[52] Ibid.

[53] Besaw, "Personal Interview by Michael J Dockry."

[54] Pyatskowit, "Personal Interview by Michael J Dockry."

[55] Warrington, "Personal Interview by Michael J Dockry."

[56] Joan Delabreau, "Personal Interview by Michael J Dockry," (Keshena, WI5/20/2011).

[57] Ibid.

[58] Melissa Cook, "Personal Interview by Michael J Dockry," (Keshena, WI10/7/2011). Menominee Tribal Enterprises board member, Shawanokasic also noted that educational efforts have reduced the contentious nature of clearcutting; he explained that clearcutting "was a big issue back in the day. We had some tribal members up in arms over the clearcutting, but the more you educate and explain to some of the tribal members, I think the better off we are." Shawanokasic, "Personal Interview by Michael J Dockry."

[59] Kakkak, "Personal Interview by Michael J Dockry."

[60] Cook, "Personal Interview by Michael J Dockry."

[61] David J. Grignon, "Personal Interview by Michael J Dockry," (Keshena, WI6/21/2011).

[62] Grignon, "Personal Interview by Michael J Dockry." Other interview participants expressed similar ideas. For example, Gary Besaw explained, "We were always told you're no different than that tree or that deer, a bear or those fish, you're the same as them." Reiter, "Personal Interview by Michael J Dockry." stated that the forest "means everything to the [Menominee people]." Besaw, "Personal Interview by Michael J Dockry." Jerilyn Grignon also indicated that the forest makes her who she is. She explained, "knowing about the forest helps me be more of who I am…. When you go into the Menominee forest, you are part of belonging to it." To these Menominee people, there is no separation between the people and the forest; they believed the forest was part of the people and the people were part of the forest. The Menominee people deeply value the forest and all it entails. Jerilyn R.M. Grignon, "Personal Interview by Michael J Dockry," (Keshena, WI4/8/2011).

[63] Miller, "Personal Interview by Michael J Dockry."

[64] Ibid.

[65] Warrington, "Personal Interview by Michael J Dockry."

[66] Kakkak, "Personal Interview by Michael J Dockry."

[67] See for example J. Barker, *Sovereignty Matters: Locations of Contestation and Possibility in Indigenous Struggles for Self-Determination* (Univ of Nebraska Pr, 2005).

[68] F.S. Cohen, "Handbook of Federal Indian Law," (1942): 122-23.

[69] Ibid., 143-44.

[70] C.F. Wilkinson, *Indian Tribes as Sovereign Governments*, Second edition ed. (American Indian Resources Institute, 2004), 33-36.

[71] Grignon, "Personal Interview by Michael J Dockry."

[72]Besaw, "Personal Interview by Michael J Dockry."

[73] Delabreau, "Personal Interview by Michael J Dockry."

[74] Reiter, "Personal Interview by Michael J Dockry."

[75] Alegria, "Personal Interview by Michael J Dockry."

[76] Not all interview participants believed that sovereignty was more than a legal status; see the interview by Waukau, "Personal Interview by Michael J Dockry."

[77] Turney, "Personal Interview by Michael J Dockry."

[78] Menominee Tribal Legislature, "Constitution & Bylaws of the Menominee Indian Tribe of Wisconsin," (Menominee Indian Tribe of Wisconsin, 1991), 1.

[79] Miller, "Personal Interview by Michael J Dockry."

[80] Grignon, "Personal Interview by Michael J Dockry."

[81] Teller, "Personal Interview by Michael J Dockry."

[82] Forestry, according to some tribal members, has strengthened both the Menominee community's shared concern for the forest and Menominee sovereignty. Waupachick Jr., "Personal Interview by Michael J Dockry." explained this dual relationship: "I think they [forestry and sovereignty] are connected. I think there's a greater sense of connection [because of the lines that forest management created on the landscape]. Now the way the land looks, there's just a greater connection [to the forest]." Waupachick Jr. saw a direct relationship between forestry and sovereignty because forestry techniques created a unique forest for the Menominee, and, in turn, the forest fostered Menominee identity and understandings of sovereignty.

[83] See Appendix 8 for information about the College of Menominee Nation's Sustainable Development Institute's definition of sustainable development.

[84] For example, Victoria Yazzie worked with tribal members to rank and evaluate the cultural appropriateness of different silvicultural prescriptions on the Flathead Indian Reservation. V.L. Yazzie, "A Cultural Ethic in Tribal

Forest Management and Self-Determination: The Human Dimension of Silviculture" (The University of Montana, 2007).

[85] Cook, "Personal Interview by Michael J Dockry."

Figures - Chapter 4.

Abbreviation	Scientific Name	Common Name
QV	Quercus/Vaccinium	Pin Oak/Blueberry
PMV(Q)	Pinus/Maianthemum/Vaccinium(Quercus)	White Pine/Lily of the Valley/Blueberry(Oak)
AQVib	Acer/Quercus/Viburnum	Sugar Maple/Red Oak/Maple Leaf Viburnum
AQVib(Ha)	Acer/Quercus/Viburnum(Hamamelis)	Sugar Maple/Red Oak/Maple Leaf Viburnum (Witchhazel)
AFVib	Acer/Fagus/Viburnum	Sugar Maple/American Beech/Maple Leaf Viburnum
TMC	Tsuga/Maianthemum/Coptis	Hemlock/Lily of the Valley/Goldthread
ATM	Acer/Tsuga/Maianthemum	Sugar Maple/Hemlock/Lily of the Valley
ATFD	Acer/Tsuga/Fagus/Dryopteris	Sugar Maple/Hemlock/American Beech/Shield Fern
ATDH	Acer/Tsuga/Dryopteris/Hydrophyllum	Sugar Maple/Hemlock/Sheild Fern/Virginia Waterleaf
AFAd	Acer/Fagus/Adiantum	Sugar Maple/American Beech/Maidenhair Fern
AH	Acer/Hydrophyllum	Sugar Maple/Virginia Waterleaf

Figure 1. Ecological Habitat Types found on the Menominee Reservation. Figure based on information in “The Menominee Forest Management Tradition: History, Principles, and Practices." Menominee Tribal Enterprises, 1997.

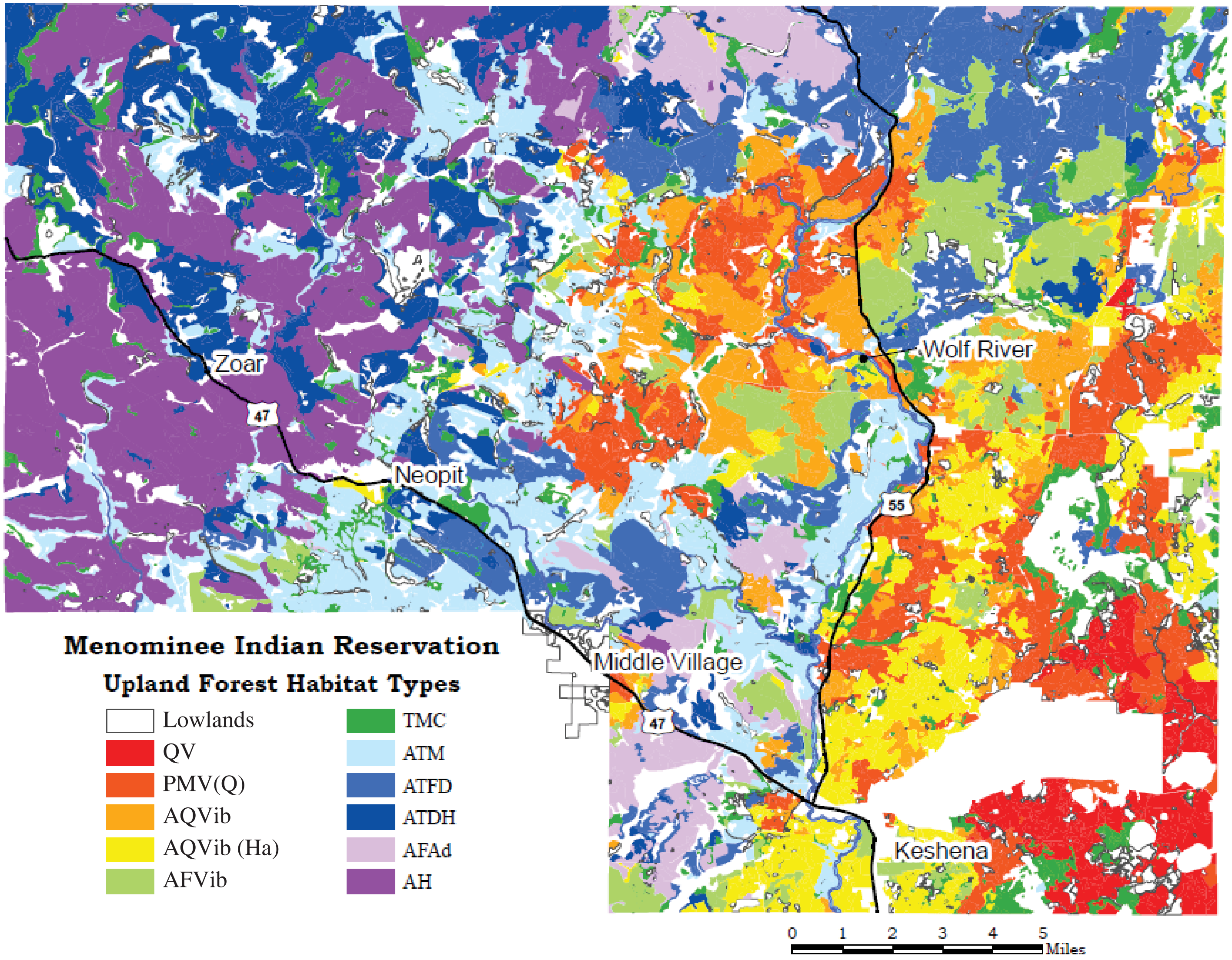
Zoar
47
Neopit
Wolf River
55
Middle Village
47
Keshena
Menominee Indian Reservation
Upland Forest Habitat Types
Lowlands
QV
PMV(Q)
AQVib
AQVib (Ha)
AFVib
TMC
ATM
ATFD
ATDH
AFAd
AH
0
1
2
3
4
5
Miles

Figure 2. Ecological Habitat Types on the Menominee Reservation. Map created by Menominee Tribal Enterprises. See Figure 1 for definitions.

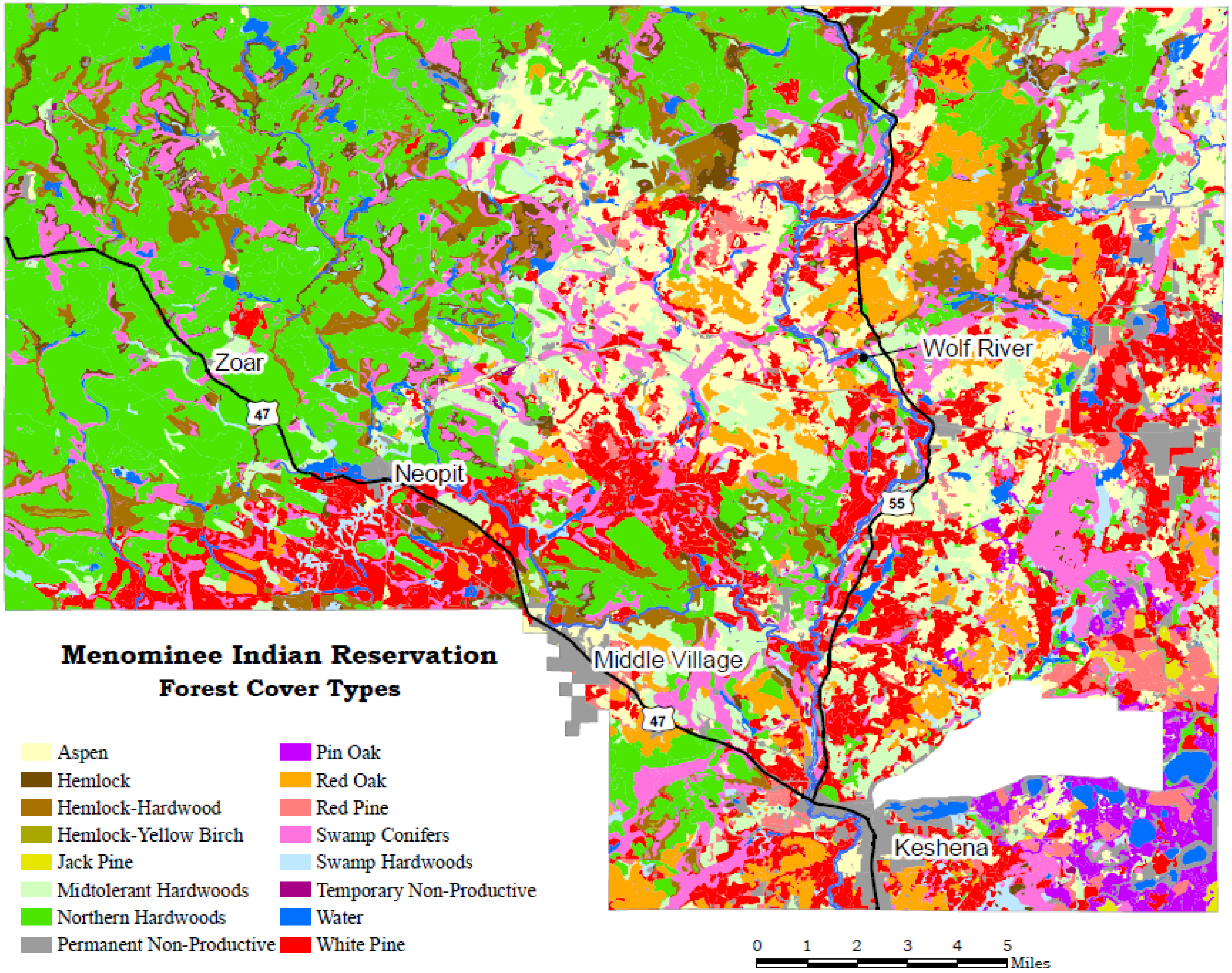
Menominee Indian Reservation
Forest Cover Types
Aspen
Hemlock
Hemlock-Hardwood
Hemlock-Yellow Birch
Jack Pine
Midtolerant Hardwoods
Northern Hardwoods
Permanent Non-Productive
Pin Oak
Red Oak
Red Pine
Swamp Conifers
Swamp Hardwoods
Temporary Non-Productive
Water
White Pine
Zoar
47
Neopit
Wolf River
55
Middle Village
47
Keshena
0
1
2
3
4
5
Miles

Figure 3. Forest Cover Types on the Menominee Reservation. Map created by Menominee Tribal Enterprises.

Habitat Type	Featured Cover Type
QV	Red Pine, White Pine
PMV(Q)	Red Pine, White Pine
AQVib	White Pine, Mid-Tolerant Hardwoods, Red Oak
AQVib(Ha)	White Pine, Mid-Tolerant Hardwoods, Red Oak
AFVib	White Pine, Mid-Tolerant Hardwoods, Red Oak
TMC	Hemlock, Yellow Birch, Swamp Confiers, Swamp Hardwoods
ATM	White Pine, Hemlock, Sugar Maple, Yellow Birch, Mid-Tolerant Hardwoods, Red Oak
ATFD	Hemlock, Yellow Birch, Sugar Maple
ATDH	Hemlock, Yellow Birch, Sugar Maple
AFAd	Sugar Maple, Mid-Tolerant Hardwoods, Red Oak
AH	Sugar Maple

Figure 4. Featured Forest Cover Types of the Menominee Forest. Figure adapted from information in “The Menominee Forest Management Tradition: History, Principles, and Practices." Menominee Tribal Enterprises, 1997.

Chapter 5: Indigenous Perspectives on Sustainability: The 1990 Indigenous Peoples' March for Territory and Dignity and the Origins of the Bolivian National Forestry Law

Introduction

In 1996, the Bolivian government enacted a new national forestry law that established the Forestry Superintendence (Superintendencia Forestal), a national forestry institution, and required that Bolivian forestry meet certain tenets of ecologically sustainable professional forest management. The law required the development of forest management plans, the completion of forest inventories, the retention of seed trees, and the incorporation of harvesting limits. By mandating that harvest activities follow scientific forestry principles and establishing an institution that could enforce regulations, the Bolivian government intended to ensure that the forest would be available for future harvesting. In addition, the 1996 law allowed community and indigenous forestry operations to manage their own forested territories, while continuing to recognize private industrial concessions.[1]

In this chapter, I explore the conflicting ideas of sustainability at the heart of the 1996 Forestry Law to provide a deeper understanding of the complex cultural, historical, and environmental influences affecting forest management, planning, and perceptions of sustainability among indigenous communities in lowland Bolivia. Professional foresters derive their ideas about sustainability from forest science, while indigenous communities throughout Bolivia hold ideas of forest sustainability that have their origins in traditional understandings of territory; beliefs about the relationships between community and forest; and a dedication to maintaining relationships among past, present, and future generations. I analyze the social, environmental, and historical context surrounding the drafting of the 1996 forestry law and explore the ways in which indigenous communities in lowland Bolivia were involved in the broad social changes that occurred in the 1990s. I examine the understanding of sustainability among the lowland indigenous people and the ways in which this understanding was linked to communities' own concepts of territory, forest management, and indigenous identity.

The Complex Historical and Environmental Landscape

Ecological Complexity and Forestry in Bolivia

Bolivia is one of the most ecologically and biologically diverse countries in the world; it is a landlocked country located in the center of South America and almost half of its national territory is covered by forest.[2] Bolivia ranges in elevation from 100-200 meters above sea level in some areas of the lowland Amazonian tropics to 6,542 meters above sea level at the peak of Sajama Mountain.[3] Scientists have classified the ecological zones of Bolivia using a number of different categories. Two scientists working with the Bolivian Simon Patiño Foundation, Gonzalo Navarro and Mabel Maldonado, classified Bolivia into four major bio-geographic regions: Andean, Grand Chaco, Brazilian-Parana, and Amazonian (see Map 1).[4] Bolivian forests are also extremely diverse. Scientists estimate that the forests include 18,000–20,000 species of vascular plants.[5] In addition, scientists have classified more than 2,700 species of trees in the country.[6] Of these species, forestry products scientists have estimated that over 200 could be managed for forest products.[7] Bolivia's forests are also home to 319 species of mammals, over a quarter of the 1,100 mammal species found in South America.[8] There are over 1,000 species of birds, and hundreds of species of fish and reptiles.[9] Bolivia is also a center for geophysical diversity, domesticated plant diversity, and cultural diversity.[10] Local indigenous communities in Bolivia have their own cultural and ecological classifications and understandings of this natural diversity, but only in the past two decades have scientific studies begun to explore the ways in which indigenous knowledge can inform natural resource management.[11]

Studies have revealed that indigenous populations in Bolivia have managed and altered forest soils, hydrologic systems, and vegetation. Before the Spanish conquest, large indigenous populations created vast earthen walls that altered the hydrology to create savannah and forest islands in an area called Llanos de Moxos.[12] Adjacent to Moxos, in an area within Guarayos indigenous territory in the department of Santa Cruz, scientists have found anthropogenic dark soil formations composed of charcoal and pottery shards—often called by their Brazilian name, *terra preta*.[13] Researchers from Bolivia and the United States have theorized that long-lived vegetation in this area of Guarayos is the result of past human land use and subsequent abandonment.[14] The Bolivian tropical rainforest is, in part, a cultural landscape resulting from past indigenous land use practices and subsequent historical abandonment.

Tropical Forest Diversity and Timber Harvesting

Despite the diversity of tree species in tropical forests, timber brokers and loggers have only considered a few species valuable. This has led to widespread selective harvesting for only a few species. From the 1500s to the 1900s, forest management throughout South America consisted of selective logging—high-grading—of a few valuable species. In the 1500s, Portuguese loggers selectively logged Brazilwood (Caesalpinia sp.) and exported it to Europe for use in red dye. The use of selective logging expanded over the next several centuries, and eventually included species such as mahogany (Swietenia macrophylla) and Spanish cedar (Cedrela fissilis), which were used to make ships and fine furniture in Europe and the United States.[15] Loggers and timber brokers favored selective harvesting over clearcutting entire forests for economic, ecological, logistical, and geographical reasons. Economically, only certain tree species could be sold in the export market; ecologically, the exportable species grew at low densities within the forest; and geographically, accessibility was limited mainly to river systems. While selective harvesting did not remove the entire forest cover, the commercial value of accessible forests often decreased dramatically after selective harvesting because of the subsequent scarcity of commercial species.

Lowland Bolivia, in contrast to other parts of South America, was extremely inaccessible until the mid-twentieth century because of limited infrastructure.[16] Therefore, the lowlands forests of Bolivia were not harvested for timber until the 1960s. Loggers began to selectively high-grade much of the forest in Guarayos, Bolivia for valuable species—mahogany and Spanish cedar—in the 1960s, and intensified the use of this practice throughout the late 1970s and into the 1980s.[17]

Scientific forest management—management designed to ensure consistent yields and the regeneration of commercially important species—began in South America and the tropics in the early 1900s, but did not reach lowland Bolivia until much later. In 1911, the recently created US Forest Service began a systematic study of sustained yield tropical forestry in both the New and Old World Tropics.[18] Under the instruction of Gifford Pinchot, George Ahern developed methods and institutions to foster scientific forestry in the Philippines at the turn of the twentieth century. In 1911 the US Forest Service established the US Tropical Forest Experimental Station in Puerto Rico.[19] Despite these efforts to study and promote tropical forest management, by the 1950s, there was still relatively little scientific management and regeneration of forests in Latin America. The sheer diversity and ecological complexity of tropical forests, a lack of professional foresters in Latin America, and weak institutional structures for the management and enforcement of forestry laws hindered scientific forest management in the region.[20]

Timber Harvesting in Bolivia

The history of forest harvesting in Bolivia is directly related to the accessibility of forests. Before the 1950s, timber harvesting was limited to forests close to either the larger population centers such as Santa Cruz de la Sierra and Trinidad, both departmental capitals, or the shores of navigable rivers. Poor transportation networks limited the scale and intensity of timber harvesting in this era. During the 1960s and 1970s, improvements to the overland transportation infrastructure in Bolivia increased accessibility to interior forests, and harvesting in Bolivia expanded dramatically.

The increase in harvesting was particularly acute in the Northern parts of the department of Santa Cruz—an area that includes the traditional forests of the Guarayos people. Some foresters have described the increase in Santa Cruz as the "most important expansion of timber harvesting" in the Bolivian lowlands.[21] Because of the extreme diversity of forests and the lack of a market for the majority of tree species found in Bolivian forests, timber harvesting consisted of the high-grade selective logging of mahogany (*Swietenia macrophylla*), Spanish cedar (*Cedrela fissilis*), and Spanish oak (*Amburana cearensis*)—the three most commercially valuable species.[22] This type of logging did not remove the entire forest, but did degrade the quality and economic potential of future harvests.

Timber harvesting pressure on indigenous communities in the Beni and Santa Cruz Departments increased when the construction of a modern highway in the 1980s connected the departmental capitals of Trinidad and Santa Cruz de la Sierra. Because it passed through

Ascensión de Guarayos, the capital of the Guarayos communities, the highway increased the accessibility of the forests of the indigenous Guarayos people. The highway intensified the pressure to log the adjacent forests and led to increased demand for timber and land for other intensive uses such as cattle ranching among non-indigenous people. Lowland indigenous communities in the area rarely received the economic benefits of these new activities.

The effects of road construction on deforestation and land tenure pressures affecting indigenous people is not limited to lowland Bolivia. A large body of literature has documented a processes in which roads increase access to forests, forests are high-graded, and landless communities colonize the area and begin slash and burn farming, which eventually leads to the replacement of forest with farmland.[23] Deforestation is also associated with weak land tenure regimes.[24] However, the causes of deforestation are neither simple nor linear; rather, deforestation occurs because of a complex interplay between institutional, social, economic, and household factors.[25] Within this complexity, a common theme is that deforestation often displaces the local indigenous people who lived and worked within the forest before land use changes. This is precisely the scenario that transpired for the Guarayos communities in Bolivia: the construction of the interdepartmental highway in the 1980s facilitated increased deforestation and raised issues of forest management and land tenure.

Improved overland transportation networks (i.e., roads) also increased interaction between highland people, political elites, and lowland indigenous people. The road infrastructure was minimal to non-existent in the Bolivian lowlands until the 1960s, at which time the Bolivian government expanded the road network into the lowlands and enacted policies to encourage internal migration from the highlands to the lowlands. Gudrun Birk, writing for the Indigenous

Central of the Original Communities of Lomerio, described the aftermath of the road network penetrating into the lowland forests: “it became clear that not only were there more people living [in the lowlands] than previously thought but also that the laws regulating land tenure were insufficient and badly managed.”[26] Because Guarayos’ land tenure was not secured by government title, government road-building projects in the indigenous communities opened access to Guarayos land, which in turn created opportunities for interactions between people with different cultural backgrounds.

The 1974 Forestry Law

While road construction and increased access began to raise land tenure issues in indigenous communities, the Bolivian government, in accordance with recently passed national regulations and laws, implemented a new forestry regime that changed indigenous communities’ relationships with forest ownership and control. Indigenous communities in Bolivia had no rights to manage their forests until the 1990s.[27] Before 1996, Bolivia’s first national forestry law, which was enacted in 1974, dictated forest management.[28] Under the 1974 law, the Bolivian state owned the trees and all forest resources.[29] In addition, the Bolivian state controlled harvesting and access to all Bolivian forestlands—public and private—by only granting harvest permits to entities that could demonstrate their ability to manage and process the timber.[30] Indigenous communities did not have the resources to demonstrate an ability to manage and process timber. Thus, after the passage of the 1974 forestry law, indigenous communities who had lived in and managed forestlands in their communities for hundreds of years were not legally considered the owners of their forest resources.

As the economist Pablo Pacheco and his colleagues argued, the 1974 forestry regulations essentially excluded small, midsize, and indigenous landholders from forest management in favor of companies with extensive capital and large sawmills.[31] Because private land holders, colonists, and indigenous communities did not qualify for legal permits, they were left to either employ black market middle-men to harvest and sell their timber or directly participate in small-scale illegal harvesting for sale on the black market.[32] In addition, the 1974 law placed a state forestry agency that, according to several studies, was notoriously inefficient, corrupt, and marred by political favoritism, in charge of regulating large-scale timber harvesting.[33]

Indigenous communities and foresters believed that several factors made forestry practices in Bolivia under the 1974 law unsustainable. First, logging consisted of high-grading selective species, which depleted the forest both economically and ecologically. Timber harvesting was not planned according to management plans or professional forestry tenants, and did not include provisions for regeneration or sustainable harvest yields. Second, lowland indigenous communities were not integrated into the legal structures governing forest management, and had limited political and economic resources to devote to forest management activities. Finally, state institutions were unable and unwilling to enforce sustainable forestry practices, and access to lowland forests continued to increase because of better transportation networks. By 1990, indigenous communities in lowland Bolivia began to believe that local forestry practices were damaging their territories and causing them to lose control of the ways their territories were used.[34]

Tensions began to build in indigenous communities across the Bolivian lowlands as roads and forest harvesting began to open forestlands to new uses. At the same time, the forestry regime was changing—the Bolivian government began to enforce management regulations that excluded indigenous communities from the Isiboro-Sécure National Park, which had been established in the 1960s.[35] In 1988, the Mojos, Sirinó, and Chimanes indigenous communities, which were directly impacted by the national park, began to organize to regain territorial control of the park and stop timber harvesting that the communities believed was unsustainable. In 1990, these indigenous communities formed the nucleus of a broad indigenous protest movement organized around the goals of regaining control of their forests and territories and gaining wider recognition of their rights and cultures from the larger Bolivian society.

The March for Territory and Dignity: The Fight for Territorial Control

Facing new pressures from road-building, highland migration, and logging, indigenous lowland communities began to organize to regain control of their territories in the 1980s as conflicts over land tenure and land use began to increase in the Bolivian lowlands. The struggle for land tenure and control of territory was not new to the lowland indigenous people of Bolivia. These groups had actively fought for control of their territories since the Spanish incursion in the seventeenth century.[36] However, the movement that began in 1988 differed from earlier struggles because the land use changes occurred in response to increased access to traditional territories.

Although the indigenous movement that began in 1988 initially represented the interests of the lowland communities who considered their territory to be part of the Isiboro-Sécure National Park, it soon expanded to include indigenous communities from other lowland areas in Bolivia and came to be represented by the pan-Indigenous organization the Indigenous Confederation of the Bolivian Orient (CIDOB).

I explore several question in this section: How the 1990 indigenous protest march transpire? Who were the participants and what were their demands? What effect did the march have on the larger Bolivian society? Did the protest march influence the Bolivian government and legislation? Did the protest march affect indigenous perceptions? Finally, did the march have lasting effects on Bolivian forestry and the involvement of indigenous communities? I address these questions by using data from a set of primary sources, including interviews compiled in 1991 during a seminar convened by the Instituto Latinoamericano de Investigaciones Sociales to discuss the 1990 march. I also use a first-hand account of the march written by Arnaldo Lijerón Casanovas, a Bolivian educator, historian, academic, and indigenous cultural expert.[37] The major secondary source for this section is an analysis conducted by a Bolivian sociologist, Zulema Lehm, in 1999. These works have not been translated into English and thus scholars in the United States have rarely used this data.

Improved transportation networks, increased access to forests, the establishment of national parks, and forest harvesting in lowland Bolivia between the 1950s and the 1990s degraded the commercial value of forests and, in the view of the indigenous people, decreased community control of their territories. To highlight these problems, a group of lowland Bolivian indigenous people gathered for a protest march on August 15, 1990. The march became a platform from which indigenous communities presented their demands to the larger Bolivian society. The marchers traveled 650 kilometers—from the Beni Department in the Amazonian Tropics up through the Andean mountains, over high Andean passes, to La Paz, the highest national capital in the world at 14,000 feet above sea level. Approximately 300 indigenous leaders, elders, children, men, and women set out into what they described as “the unknown” as they began their march toward the capital city of La Paz.[38] The participants called the protest the March for Territory and Dignity (*Marcha por el Territorio y la Dignidad*); their main goals were to raise awareness of and respect for lowland indigenous people among the broader Bolivian society and to demand access to their traditional territories and natural resources.

Initially, the Mojos, Sirinó, and Chimanes indigenous communities organized the march when the Bolivian national government established the Isiboro-Sécure National Park on land that the communities considered part of their traditional territory.[39] The indigenous communities in the vicinity of the park complained that the management regulations excluded indigenous communities and did not allow indigenous uses. The communities also objected to not being involved in decisions about the park. These communities believed that the government did not have the right to exclude them from their territory. For these communities, being excluded from the national park was a direct affront to their indigenous cultures because their concept of territory was broader than a geographic location; territory also included their indigenous cultures. These indigenous communities also wanted the ability to harvest timber in the area, something that was not allowed in a national park Their exclusion from the protected area prompted the communities to form several indigenous community organizations and organizing workshops through which they discussed their issues with the Bolivian national government.

At the same time that the Mojos, Sirinó, and Chimanes communities were expresing concerns about being marginalized in the protected area, other lowland indigenous communities began to argue that they were losing control of their own territories as outside interests took advantage of improved access to forest resources. For example, the Indigenous Confederation of the Bolivian Orient (CIDOB) was founded in 1982 with the goal of organizing the indigenous communities of Chiquitanos, Ayoreos, Guarayos, and Guaraníes.[40] CIDOB's mission was to "support and contribute to the consolidation of property rights of the indigenous communities… and [to work toward] a legal framework that guarantees the management and utilization of their natural resources. [CIDOB] focuses its efforts on community health, opportunities for indigenous youth education and professionalization, and equity."[41]

CIDOB, like the communities in the vicinity of the national park, organized a group of indigenous communities to fight for territorial control and the right to use their indigenous natural resources. CIDOB members were a critical component of the 1990 march. Thus, indigenous communities from Santa Cruz—including the Guarayos communities who were a part of CIDOB—and eventually the highland indigenous communities joined the cause and supported the March for Territory and Dignity.[42] The seemingly isolated issue of the exclusion of indigenous communities from a national protected area became a unifying theme that many indigenous communities understood. These communities believed that if one community could be excluded from their lands, all communities were vulnerable.

The marchers' ranks grew to 800 strong as they passed through numerous pueblos, cities, and indigenous communities, including Trinidad, Puerto Almacén, Fatima, Bermeo, San Ignacio, San Francisco, San Lorenzo, the multi-ethnic communities of the Chimanes forest, El Campanario, El Villar, San Borja, Embocada, Yucmo, Coroico, Inicua, Cumbre de Marimonos, Sapecho, Alto Beni, Bella Vista, Carrasco, Caranavi, Chojña, Choro, Challa, Yolosa, Sacramento Alto, Chuspipata, Pongo Alto, Unduavi, Pongo Bajo, Chuquiaguillo (the gateway to La Paz), and finally, La Paz.[43] The sheer number of communities that welcomed and joined the protesters illustrated that the fledgling indigenous movement was, at its core, community based. A wide variety of indigenous communities expressed a desire for greater control of their resources and greater respect from powerful segments of Bolivian society.

According to Lijerón Casanovas, not only did the march grow in size as it progressed, but the level solidarity among other indigenous communities also increased.[44] As evidence of the growing solidarity, the marchers described being welcomed into most communities with traditional songs, music, food, water, and shelter. The marchers themselves promoted solidarity by sharing their own music and dances with many communities along the route. To the marchers, this sharing of food, shelter, music, dance, and even sports solidified the bond among indigenous communities.

According to Lijerón Casanovas' first-hand account of the march, many of the marchers later recounted the event in epic terms, stressing the hardships they endured to emphasize the significance of their journey. Participants described roads of thick mud, torrential downpours, blistering heat, sun, freezing rain, rocky ground, and high altitude, as they marched closer and closer to La Paz. The marchers recounted battling fierce tropical insects along the sandy riverbanks.[45] Some members told of fellow participants becoming deathly ill along the route, while others spoke of their bare feet and bodies reverberating with pain caused by gravel, stones, and high altitude—things not found on the sandy roads of their lowland communities—when they reached the foothills of the Andes. Marchers later recounted that these hardships only strengthened their resolve and they began to repeat the unofficial slogan "Only God will stop the march."[46]

Indigenous Demands for Territory and Dignity

The 1990 marchers had specific demands concerning territory and dignity, but what did those two terms mean to the marchers? How did they define territory? How did they define dignity? How did the Bolivian government respond to their demands and definitions? Finally, did the protest experience change the indigenous marchers and their communities?

One of the major demands of the indigenous marchers was territory. Territory can hold different meanings for different people and cultural groups. The Concise Oxford Spanish Dictionary defines *territorio* as, "(*área, superficie*) territory; (*división administrativa*) region, territory."[47] The Oxford English Dictionary defines territory as "the land or district lying round a city or town and under its jurisdiction" and "the land or country belonging to or under the dominion of a ruler or state. Often applied contextually to the land or country itself of a state…."[48] Both the Spanish and English definitions focus on the land itself, ownership of that land, and by extension, jurisdiction of that land. However, the indigenous marchers in lowland Bolivia defined territory differently.

As documented in the primary source material describing the 1990 march, for indigenous marchers the concept of territory went beyond land, ownership, and jurisdiction, to include animals, plants, rivers, lakes, soil, rocks, human communities, and the spiritual and cultural relationships among these components. According to the marchers, territory connected indigenous communities to the past and the future, forging a link between their ancestors who were buried in the area and the generations yet to be born. Territory also included cultural recognition and indigenous communities' rights to use their resources. The marchers' definition of territory incorporated human society, ecology, economics, and relationships between the past and present. Thus, for the indigenous marchers territory was intimately intertwined with sustainability.

The marchers' concept of territory—which was related to their understandings of sustainability—presumed that human beings are a part of the natural world rather than separate from it. Jorge Añez, a Chimane indigenous council representative and march participant, described this concept during the 1991 workshop when he stated, "The government has given us a territory and we are thankful for that. We, the Chimanes, and I believe that the other indigenous people too, need territory. We do not want to destroy the forest because… the forest has been ours, our home, our house, where our ancestors have lived for many years, where we have always lived and where we will always live."[49] Añez's comment illustrates that under the indigenous definition of territory, human communities, indigenous community rights, and forests are all connected.

The lowland indigenous marchers described territory in terms that included both Western and indigenous definitions. As Evelio Aranzibida, a Guaraní indigenous leader and CIDOB's economic secretary, stated during the 1991 workshop, "In CIDOB we try to demonstrate that territory is the integral concept that approximates the true concept [relationship] that we have with respect to natural resources, the soil, the subsoil; but, in judicial terms, in legal terms, the concept of territory is not compatible with the current legislation."[50] At the same workshop, Brazilian indigenous leader Jorge Terena described the situation: "The governments and the Indians are always clashing, fighting one with the other for territory, the land. For history, we Indians are owners of the land, for the law, the government is the owner of the land. Who is the one that has the right?"[51] Finally José Urañawi, an indigenous leader and CIDOB representative at the workshop, stated simply, “Our land is our home in that we live and die [there] and our future generations will continue living [there].”[52] These protesters were demanding that the Bolivian government accept a definition of territory that integrated both legal status and cultural concepts.

The other major demand of the indigenous marchers was *dignidad* (dignity). The original demands made by the communities near the Isiboro-Sécure National Park and the Santa Cruz-Trinidad highway were, at the core, demands for dignity. These communities sought dignity by demanding the legal recognition of indigenous organizations and traditional authorities; improved economic, health, and educational conditions in communities; and the respect for and the recuperation of indigenous cultures.[53] The 1990 marchers embraced these embodiments of dignity and made them the central focus of their protest.

Thus, among the marchers dignity included respect and cultural recognition from the larger Bolivian society. The lowland marchers believed that the majority of people in Bolivia neither recognized nor respected their cultures and communities. Protesters noted that their indigenous cultures had been denigrated since the arrival of the Spaniards in South America and were still denigrated by the more powerful segments of Bolivian society. The marchers also equated territory with culture and community survival. Because they considered their cultures a part of their territory, they believed that an affront to their territories was an affront to their cultures. In other words, because the indigenous people believed that both their communities and their cultures defined their territory, territorial exclusion and unsustainable forestry practices were direct assaults on their dignity.[54]

By demanding both territory and dignity, lowland indigenous communities in Bolivia were demanding the legal right to use their territories—they were demanding an end to both policies that opened their lands to forest harvesting by outside interests and policies that excluded indigenous use in protected areas. The indigenous communities demanded the right to control their territories and use them in traditional ways; however, they also demanded the ability to use their territories for modern forest management. Under the 1974 forestry law, indigenous communities were not legally eligible to bid on the concessions or harvest the timber in their communities because they did not have the economic resources to both harvest and process timber as legally required. Further, these communities lacked the political power and infrastructure needed to secure government contracts. While the 1974 law was in effect, the only way for indigenous communities to harvest forests was to do so illegally. Many indigenous communities recognized the potential to harvest forests in a sustainable manner, but because there was no legal mechanism to do so, sustainable forest management seemed illusory. The 1990 marchers wanted to change this situation. One marcher, Jorge Añez, stated this goal clearly during the 1991 workshop designed for participants to reflect on the march: “We do not want to harvest the forest illegally, we want to harvest it under a sustainable management [system], rational forest management; but, for this we need to harvest the forest in a legal way.” In other words, the marchers were demanding a legal recognition of indigenous territories and the right to legally harvest the forest in a sustainable manner.[55]

Implications for the March and Forestry

The march lasted more than 30 days and raised the profile of indigenous rights, territory, and dignity throughout Bolivia and the rest of the world. The widespread support from myriad

Bolivian indigenous communities meant that when the marchers arrived in La Paz, the Bolivian national government could not ignore their demands without risking their ability to maintain their hold on power. Because indigenous people comprise the majority of Bolivia's population, the government feared that an indigenous populous unified against the regime could quickly bring about the collapse of the government.

The indigenous communities ended their march in La Paz on September 17, 1990. A year later Mauro Bertero Gutiérrez, a Bolivian government minister and observer of the march stated,

> In great measure, and in an environment of frank and sincere dialogue, their [the indigenous peoples'] approaches were responded to by our government…. [The march] constitutes a milestone in our country, because it is not just the State, but the people, civil society as a whole, that takes the responsibility for dimensions of their neglect [*asumen la dimensión de su olvido*]. This is what I reiterate, more than the decrees, more than the written pages, what Bolivians took on with this march was the recognition of the indigenous peoples as a renewed social actor that is able to establish a new social-cultural scene and qualitatively support the development of our society.[56]

Thus, Bertero Gutiérrez—a government official—understood the 1990 march as a historic social change in which Bolivian society began to recognize the culturally diverse indigenous peoples.

The indigenous communities themselves also viewed the march as a turning point that united disparate cultures and communities and engendered solidarity among both the lowland and highland people. By the end of the march, the indigenous people of Bolivia recognized their cultural differences and shared problems; they began to understand that most of their problems were either directly or indirectly related to land.

In the immediate aftermath of the 1990 March for Territory and Dignity, the Bolivian government and lowland indigenous leaders began to discuss an agreement to recognize two million hectares of land as indigenous territories. The Bolivian president codified this agreement on September 24, 1990 through several supreme decrees (22609, 22610, 22611, and 22614) that established indigenous territories and changed the Isiboro-Sécure National Park to the Isiboro-Sécure Indigenous Territory and National Park (the Spanish acronym is TIPNIS). While these supreme decrees represented a shift toward the recognition of indigenous peoples in lowland Bolivia, they were not national laws and therefore legally enforceable. Any Bolivian president can issue or change supreme decrees, but laws require legislative approval—a process that often takes more time than a simple presidential decree. Full legal recognition and enforceability would come only after continued protests and pressure from lowland indigenous people and two subsequent marches.

The Bolivian government eventually reformed its constitution in 1994 and again in 1995. One important concept that the government incorporated into the revised constitution was the idea that Bolivia was a "multiethnic and pluricultural" nation. Another important change was the creation of Indigenous Communal Territories (*Tierras Comunitarias de Origen* or TCOs).[57] The Bolivian government intended for TCOs to become the center of lowland peoples' cultures and livelihoods. The Bolivian Government and the indigenous communities viewed the TCOs as places where indigenous people could develop their own resources and communities according to their own cultures and values. [58]

Additionally, the constitutional revisions stated that the Bolivian state was to respect the social, economic, and cultural rights of indigenous peoples, particularly in regard to indigenous territories. This was a clear response by the Bolivian government to the lowland indigenous communities' demands for territory and dignity, because the previous constitution, enacted in 1952, recognized only two major highland indigenous groups, the Quechua and Aymara, both from the Andean highlands. Additionally, the previous constitution did not designate anything similar to Indigenous Community Territories.[59]

After yet another march on the capital, two more important laws were passed in 1996: the Agrarian Reform Law (INRA) and the 1996 Forestry Law (La Ley Forestal or Ley N^{o} 1700). These laws expanded the legal sphere in which indigenous peoples operated by recognizing indigenous communities, or people, and their right to communally controlled territories.[60] INRA provided the legal framework to implement and designate the Indigenous Community Territories that were outlined in the reformed constitution.

The 1996 Forestry Law was part of larger political changes transpiring in Bolivia in the 1990s; the law represented a significant change in national governance but it was not the only change.[61] The 1996 Forestry Law expanded the new rights in the reformed constitution and the Agrarian Reform Law by allowing indigenous communities to use their territories for forest management. The 1996 law provided the legal framework for indigenous people to use forest management as a tool for controlling their territories. The 1996 Forestry Law also led to the rise of scientific forest management in Bolivia on indigenous, state, and private forest lands. Thus, the new constitution established Indigenous Communal Territories, INRA provided a way to specify and create these territories, and the 1996 Forestry Law provided the means for indigenous communities to manage their forest resources within these territories.

The Bolivian Forestry Law: Indigenous Community Territories and the Basis of Sustainable Forestry

Scientific Forest Management

Forest management in Bolivia changed significantly with the passage of the 1996 Forestry Law. The Bolivian government passed the new law with the intention of providing an institutional and technical framework for the sustainable management of Bolivia’s forestlands.[62] The 1996 law gave indigenous communities the right to harvest timber within the Indigenous Community Territories that were outlined in the reformed constitution and delineated through the Agrarian Reform Law. The 1996 Forestry Law gave indigenous communities the opportunity to exercise their land tenure rights and provided a legal mechanism for them to harvest their forests.

The 1996 Forestry Law is predicated on the idea that sustainable forest management is only possible through the implementation of appropriate and regulated management practices. The law implemented these practices via specific regulations and requirements. The law required the development of a General Forest Management Plan (PGMF), which required a forest inventory, an operational harvest schedule, and an annual harvest plan that specified a minimum cutting cycle of 20 years, minimum diameters of harvested trees, and the identification of seed trees and land characteristics. The management plan required the creation of maps for different management areas in the unit. These maps outlined the division of forest management areas into logging compartments, annual harvest areas, designated areas protected from harvest, and transportation routes. The 1996 Forestry Law also required a plan for obtaining and processing wood, and the establishment of permanent monitoring plots to evaluate the impact of timber harvesting in the forest. Foresters were to leave small trees for future harvests and leave 20% of harvestable trees to serve as seed trees. Thus, the law required sustainable planning and harvesting, forest regeneration, timber processing, transportation, monitoring, and evaluation.[63]

The 1996 Forestry Law guaranteed indigenous communities the exclusive rights to harvest timber within the Indigenous Community Territories. The law would regulate commercial forest harvesting activities in the Indigenous Community Territories, but did not require permits for traditional and domestic use. This limited government intervention both provided indigenous communities wide latitude for cultural and traditional activities and ensured their access to timber for sustainable harvest. In short, the 1996 Forestry Law incorporated the core demands of the 1990 March for Dignity and Territory.[64]

In the eyes of both the indigenous community and professional foresters, the requirements of the 1996 law transformed the practice of forestry in Bolivia from an unsustainable, unregulated, and unplanned system into a more sustainable, ordered, and planned system. Miguel Angel Ramírez Aldaya, a professional forester working with the Guarayos community, described the impacts of the 1996 forestry law in a 2008 interview:

> Before Law 1700, the forestry law, the indigenous communities [participated in] forest management of sorts but not with an entrepreneurial vision, that [forestry] could produce money, but more… in the sense of subsistence [*supervivencia*], to cut timber to make their houses, to make things in their communities, and a few engaged in illegal logging [*piratería*], illegal commercialization of these forests; but with Law 1700 and their previous demand from the national government for their TCO, Indigenous Community Territory, they have been able to rely on a geographic space where they can work legally within a legal framework.[65]

As Ramírez Aldaya's comments suggest, the law was transformative for indigenous communities because forestry became a legal option communities could use to produce revenue while protecting their territories.

Oscar Yamba Añeoinda, an indigenous leader from the Guarayos community of Cururú, reiterated these points when he explained that without the 1996 Forestry Law his community would still sell timber, "but they would sell timber illegally as pirated [wood]…. Pirating… is not applying the forestry law… for them [the illegal loggers] there are no seed trees… from end to end they harvest [everything]."[66] During a group interview, a Guarayos community leader from San Juan described the time before his community held the title to their TCO—before the forestry law. He stated, "In those times, truthfully, the businessmen were given our natural resources.… but not a cent returned [to us]; it did not even generate work [for us]…. The law itself, the forestry law supports us to work in a sustainable manner."[67]

According to interview participants, forest inventories required under the law have produced significant economic returns in indigenous communities by: 1) increasing forest productivity via the identification of commercial species and their incorporation into management and marketing plans, 2) providing better maps and planning and therefore decreasing harvest operational costs, and 3) increasing the cost effectiveness of road construction.[68] While the 1996 Forestry Law did not eliminate illegal logging in lowland Bolivia, both professional foresters and community members believe that the law greatly improved the situation by allowing indigenous communities to consolidate their land tenure rights and use natural resources in a legal manner.

Despite these improvements, local communities considered some aspects of the 1996 law problematic. Forest management in complex tropical ecosystems such as those found in Bolivia requires specific scientific expertise and knowledge, which is often lacking in indigenous communities. Guarayos has the lowest rates of secondary and postsecondary educational attainment in Santa Cruz.[69] In Bolivia, forestry professionals, scientists, and local communities have only recently acquired this knowledge.[70]

During the 1990s, the Bolivian government, non-governmental organizations (NGOs), and international governments began to implement managed forestry activities as well as scientific forestry research and extension to support that management. Indigenous communities were involved in some of the early voluntary certification programs in Bolivia; however, these communities had to rely on outside expertise and funding for management, because they lacked the educational capacity to train their members in forest management.[71] While the professional foresters and NGOs hired by the indigenous communities agreed that sustainable forest management was the goal, understandings of sustainability differed between these managers and indigenous communities; I explore these differences in the next chapter.

The 1996 Forestry Law clarified some aspects of forest management, but land tenure remains unclear in certain areas. This lack of clarity has at times caused conflicts between indigenous communities, non-indigenous communities, municipal governments, and NGOs. Some of these conflicts have developed because non-indigenous peoples do not thoroughly understand the history and culture of indigenous peoples. Land tenure disputes have occurred in Guarayos, and some indigenous leaders have even attempted to illegally sell communal property without the consent of their people. A forest management law was not sufficient to ensure land tenure security.[72]

In the past few years the Bolivian government has also changed its implementation of the 1996 Forestry Law; new regulations abolished the Forestry Superintendence and established the Authority for Land and Forests (Autoridad de Tierra y Bosques or ATB). The ATB combines land and agricultural management with forestry management. Because this transition is so recent, researchers have not yet examined its effects. Farming, land use, and forestry are related, and thus there are many positive aspects to combining these governmental functions; however, the effects of implementation remain unclear. During my field visit to Guarayos in 2009, the ATB was not enforcing the new laws efficiently. For example, the Guarayos community apprehended a load of illegal wood, but waited more than four days for an ATB official to arrive and enforce the law. Further, the ATB staff in Guarayos I interviewed informally during a seminar on Latin American Forestry Management and Policy (which I organized with the US Forest Service and the University of Florida) did not have a clear understanding of the forestry law, their positions, their legal responsibilities, ATB's institutional goals, or how they planned to proceed with their responsibilities.

Conclusion

The Bolivian indigenous movement that emerged on the national and international stage in August and September of 1990 was a reaction to the historical realities of Bolivia. Indigenous people began to openly reject hundreds of years of social, political, and cultural exclusion. Bolivia's lowland indigenous movement can also be seen as part of a larger indigenous movement throughout the world. Since the 1960s, indigenous groups have organized around issues of culture, territory, respect, and environmental protection. In the 1980s and 1990s, Bolivia's fledgling indigenous organizations interacted with other indigenous organizations in the Americas.[73] In 1990, Bolivia's indigenous communities banded together to explicitly demand the recognition of their own concepts of territory, dignity, and equality.

Despite the gains achieved by Bolivian indigenous communities in the wake of the 1990 March for Territory and Dignity, these communities continue to face many challenges including a lack of economic resources, internal disputes, paternalism from outside entities, a lack of political influence, insufficient infrastructures, and, in some cases, the realities of remote locations. In 2011, indigenous communities organized another march to protest a road that the Bolivian government had proposed, which would bisect the Isiboro-Sécure Indigenous Territory and National Park (TIPNIS). The march, known as the VIII Indigenous March, received immense press coverage in Bolivia and internationally. The “eighth marchers” argued that the road proposal violated their constitutional right to prior consultation on any project within their territory. After violent confrontations and outrage from many sectors of the indigenous population, the Bolivian government canceled their plan for the road. This situation was ironic in many ways, most of all because the Bolivian president came into power based on widespread support from the indigenous population. The VIII Indigenous March illustrates the power of the lowland indigenous population, their political savvy, and their continued efforts to control their territory.

In spite of the challenges they’ve faced, indigenous leaders and the people they represent have made great strides to protect their territorial rights and cultures, and improve their livelihoods. The suite of laws passed in the 1990s in the wake of the March for Territory and Dignity has increased the political, economic, environmental, and cultural opportunities for indigenous people in Bolivia. Indigenous leaders and community members have improved their communities by clearly articulating their demands, forming practical alliances with national politicians, and soliciting international support.[74] The March for Territory and Dignity initiated the political representation and inclusion of the lowland Bolivian peoples in Bolivian government and society. In addition, the march led to the codification of indigenous populations' rights to maintain and use their territory. For indigenous communities in lowland Bolivia, territory and culture are inextricable.[75] In the next chapter, I explore the ways in which indigenous communities have used forestry to maintain the connections between territory and culture and exercise their territorial rights.

Endnotes – Chapter 5

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[9] Barthlott, W. and M. Winiger (1998). Biodiversity: a challenge for development research and policy, Springer Verlag.

[10] Ibid.

[11] Zimmerer, K. (1994). "Local soil knowledge: answering basic questions in highland Bolivia." Journal of soil and water conservation **49**(1): 29, Berkes, F. (1999). Sacred ecology : traditional ecological knowledge and resource management. Philadelphia, PA, Taylor & Francis, Berkes, F., J. Colding, et al. (2000). "Rediscovery of Traditional Ecological Knowledge as Adaptive Management." Ecological Applications **10**(5): 1251-1262, Ford, J. and D. Martinez (2000). "Traditional ecological knowledge, ecosystem science, and environmental management." Ecological Applications **10**(5): 1249-1250, College of Menominee Nation Sustainable Development Institute (2004). Sharing Indigenous Wisdom-An International Dialogue on Sustainable Development. Inaugural Conference Proceedings., Keshena, WI, College of Menominee Nation Press.

[12] Denevan, W. M. and University of California (1966). "The aboriginal cultural geography of the Llanos de Mojos of Bolivia.", Erickson, C. L. (1995). "Archaeological methods for the study of ancient landscapes of the Llanos de Mojos in the Bolivian Amazon." Archaeology in the lowland American tropics: current analytical methods and applications: 66, Mayle, F. E., R. P. Langstroth, et al. (2007). "Long-term forest–savannah dynamics in the Bolivian

Amazon: implications for conservation." Philosophical Transactions of the Royal Society B: Biological Sciences **362**(1478): 291.

[13] These areas of Bolivia—Llanos de Moxos and Guarayos—will form a central part of this section of the dissertation. People from Llanos de Moxos and Guarayos have managed these forests for centuries and Moxos were one of the first groups to organize the 1990 March for Territory and Dignity.

[14] Paz Rivera, C. and F. E. Putz (2009). "Anthropogenic soils and tree distributions in a lowland forest in Bolivia." Biotropica **41**(6): 665-675.

[15] Tucker, R. (2000). Insatiable Appetite: The United States and the Ecological Degradation of the Tropical World, University of California Press.

[16] Klein, H. S. (1992). Bolivia : the evolution of a multi-ethnic society. New York, Oxford University Press. According to Klein, however, the Bolivian government first began to look to the lowlands to develop riparian trading routes to the Atlantic Ocean between 1841 and 1880; despite this early development, broader infrastructure did not materialize until the 1940s and 1950s. p.121.

[17] Pacheco B, P. and D. Kaimowitz (1998). Municipios y gestión forestal en el trópico boliviano. La Paz, Bolivia, Centro Internacional de Investigaciones Forestales : Centro de Estudios para el Desarrollo Laboral y Agrario : Taller de Iniciativas en Estudios Rurales y Reforma Agraria : Proyecto de Manejo Forestal Sostenible, Pacheco Balanza, P. (2001). Políticas forestales y acceso a los recursos del bosque. Las tierras bajas de Bolivia a fines del siglo XX: tenencia, uso y acceso a la tierra y los bosques. M. Urioste and D. Pacheco. La Paz, PIEB - Programa de Investigacioín Estrateígica en Bolivia**:** 25-52, Zarin, D. (2004). Working forests in the neotropics: conservation through sustainable management?, Columbia Univ Pr.

[18] Tucker, R. (2000). Insatiable Appetite: The United States and the Ecological Degradation of the Tropical World, University of California Press.

[19] Ibid. The British established a tropical research institute in Trinidad in 1920.

[20] Ibid.

[21] Pacheco Balanza, P. (2001). Políticas forestales y acceso a los recursos del bosque. Las tierras bajas de Bolivia a fines del siglo XX: tenencia, uso y acceso a la tierra y los bosques. M. Urioste and D. Pacheco. La Paz, PIEB - Programa de Investigacioín Estrateígica en Bolivia**:** 25-52.p. 29

[22] Fredericksen, T., F. Putz, et al. (2003). "Sustainable forestry in Bolivia: beyond planned logging." Journal of Forestry **101**(2): 37-40, Nebel, G., L. Quevedo, et al. (2005). "Development and economic significance of forest certification: the case of FSC in Bolivia." Forest Policy and Economics **7**(2): 175-186, Peña-Claros, M. and M. J. Dockry (2010). Bolivia. Forests and Forestry in the Americas: An Encyclopedia. F. W. Cubbage, Society of American Foresters and International Society of Tropical Foresters.

[23] See Vandermeer, J. H. and I. Perfecto (1995). Breakfast of biodiversity: the truth about rain forest destruction, Institute for Food and Development Policy Oakland, CA, Rudel, T. K. (2008). "Meta-analyses of case studies: a method for studying regional and global environmental change." Global Environmental Change **18**(1): 18-25, Lu, F., C. Gray, et al. (2010). "Contrasting Colonist and Indigenous Impacts on Amazonian Forests." Conservation Biology **24**(3): 881-885, Marsik, M., F. R. Stevens, et al. (2011). "Amazon deforestation: Rates and patterns of land cover change and fragmentation in Pando, northern Bolivia, 1986 to 2005." Progress in Physical Geography **35**(3): 353, McCarthy, S. and L. Tacconi (2011). "The political economy of tropical deforestation: assessing models and motives." Environmental Politics **20**(1): 115-132.

[24] Mendelsohn, R. (1994). "Property rights and tropical deforestation." Oxford economic papers: 750-756.

[25] Rudel, T. and J. Roper (1996). "Regional patterns and historical trends in tropical deforestation, 1976-1990: a qualitative comparative analysis." Ambio. Stockholm **25**(3): 160-166, Godoy, R., K. O'neill, et al. (1997). "Household determinants of deforestation by Amerindians in Honduras." World Development **25**(6): 977-987, Rudel, T. and J. Roper (1997). "The paths to rain forest destruction: crossnational patterns of tropical deforestation, 1975-1990." World Development **25**(1): 53-65, Geist, H. J. and E. F. Lambin (2002). "Proximate causes and underlying driving forces of tropical deforestation." Bioscience **52**(2): 143-150.

[26] All translations in this paper are my own unless otherwise noted; they are based on my understanding of Bolivian Spanish and the context of the interview. I place translations in the main text of the paper and original Spanish language quotations in footnotes. Quote from Birk, G. (2000). Dueños del bosque : manejo de los recursos naturales por indígenas chiquitanos de Bolivia /c texto, Gudrun Birk = Owners of the forest : natural resource management by the Bolivian Chiquitano indigenous people. Santa Cruz de la Sierra, Bolivia, Apoyo para el Campesino-Indígena del Oriente Boliviano.p. 149.

[27] Pacheco Balanza, P. (2001). Políticas forestales y acceso a los recursos del bosque. Las tierras bajas de Bolivia a fines del siglo XX: tenencia, uso y acceso a la tierra y los bosques. M. Urioste and D. Pacheco. La Paz, PIEB - Programa de Investigacioín Estrateígica en Bolivia**:** 25-52.p. 30

[28] Pacheco, P., W. de Jong, et al. (2010). "The evolution of the timber sector in lowland Bolivia: Examining the influence of three disparate policy approaches." Forest Policy and Economics **12**(Journal Article): 271-276.

[29] This is similar to the way natural resources were historically managed under Spanish rule—natural resources were the property of the Crown.

[30] Pacheco, P., W. de Jong, et al. (2010). "The evolution of the timber sector in lowland Bolivia: Examining the influence of three disparate policy approaches." Forest Policy and Economics **12**(Journal Article): 271-276.

[31] Ibid.

[32] Ibid.

[33] Ibid.

[34] See Pacheco, P. (2006). Descentralización forestal en Bolivia : implicaciones en el gobierno de los recursos forestales y el bienestar de los grupos marginados. La Paz, Bolivia, CIFOR : CIID/IDRC : Plural Editores, Pacheco, P., W. de Jong, et al. (2010). "The evolution of the timber sector in lowland Bolivia: Examining the influence of three disparate policy approaches." Forest Policy and Economics **12**(Journal Article): 271-276, Peña-Claros, M. and M. J. Dockry (2010). Bolivia. Forests and Forestry in the Americas: An Encyclopedia. F. W. Cubbage, Society of American Foresters and International Society of Tropical Foresters, Peña-Claros, M., R. Guzman, et al. (2011). Bolivia. Sustainable Management of Tropical Rainforests: the CELOS Management System. M. J. A. Werger. Paramaribo zuid, Suriname, Tropenbos International Suriname.

[35] The Isiboro-Sécure National Park was essentially a “paper” park until the government began to enfore the regulations in the 1980s.

[36] Also, in colonial times, lowland indigenous peoples actively fought Spanish incursion to their territories. See Klein, H. S. (1992). Bolivia : the evolution of a multi-ethnic society. New York, Oxford University Press. Arrien, M. and R. Salazar (2005). Comunidad y Bosque: Guía para la evaluación participativa del impacto socioeconómico de proyectos comunitarios de manejo forestal. Santa Cruz de la Sierra, Bolivia, World Wildlife Fund - WWF & Apoyo Para el Campesino Indigena del Oriente Boliviano - APCOB. p.7

[37] Lijerón Casanovas, A. (1991). De la resistencia pacifica a la interpelacion historica : (crónica preliminar de la Marcha Indígena por el Territorio y la Dignidad). Publicación #26 CIDDEBENI. Trinidad, Beni, Bolivia, Centro de Investigación u Documentación para el Desarrollo del Beni. **26:** 1-26, Libermann C, K. and A. Godínez G (1992). Territorio y dignidad : pueblos indígenas y medio ambiente en Bolivia. Bolivia; Caracas, Venezuela, Instituto Latinoamericano de Investigaciones Sociales; Editorial Nueva Sociedad, Lehm, L. A. (1999). Milenarismo y movimientos sociales en la Amazonia boliviana: La búsqueda de la loma santa y la marcha indígena por el territorio y la dignidad, Centro de Investigación y Documentación para el Desarrollo del Beni.

[38] Lijerón Casanovas, A. (1991). De la resistencia pacifica a la interpelacion historica : (crónica preliminar de la Marcha Indígena por el Territorio y la Dignidad). Publicación #26 CIDDEBENI. Trinidad, Beni, Bolivia, Centro de Investigación u Documentación para el Desarrollo del Beni. **26:** 1-26. p. 4

[39] Lehm, L. A. (1999). Milenarismo y movimientos sociales en la Amazonia boliviana: La búsqueda de la loma santa y la marcha indígena por el territorio y la dignidad, Centro de Investigación y Documentación para el Desarrollo del Beni. p. 100

[40] Indigenous Confederation of the Bolivian Orient (CIDOB). (2007, 2007). "La Confederación de Pueblos Indígenas de Bolivia CIDOB."   Retrieved 1-25, 2012, from http://www.cidob-bo.org/index.php?option=com_content&task=view&id=12&Itemid=41.

[41] Ibid. "…apoyar contribuir en la consolidación del derecho propietario de los pueblos indígenas sobre las TCO,s y cuentan con un marco legal que garantiza la administración y el aprovechamiento de los recursos naturales. La estructura orgánica fortalecida, con participación plena de las organizaciones (regionales, centrales intercomunales, etc.), una adecuada atención de salud, jóvenes indígenas con oportunidad suficientes de educación y profesionalización con enfoque de equidad."

[42] Lijerón Casanovas, A. (1991). De la resistencia pacifica a la interpelacion historica : (crónica preliminar de la Marcha Indígena por el Territorio y la Dignidad). Publicación #26 CIDDEBENI. Trinidad, Beni, Bolivia, Centro de Investigación u Documentación para el Desarrollo del Beni. **26:** 1-26.; Lijerón Casanovas noted that CIDOB's role in the march began with full support. During the middle of the march they declared that the objectives had been met and they pulled out. Finally, when the march ended and negotiations were underway in LaPaz, CIDOB once again declared their support of the movement. Marchers viewed this oscillation of support as politically motivated. Añeoinda Yamba, O. (8/22/2008). Personal Interview by Michael J Dockry. Urubichá, Santa Cruz, Bolivia. Yamba Añeoinda reported that the marchers believed the people and communities that CIDOB represented supported the cause even if the CIDOB leadership did not. p.2 Yamba Añeoinda also indicated in his interveiw that the Guarayos leadership was involved with the 1990 march.

[43] Lijerón Casanovas, A. (1991). De la resistencia pacifica a la interpelacion historica : (crónica preliminar de la Marcha Indígena por el Territorio y la Dignidad). Publicación #26 CIDDEBENI. Trinidad, Beni, Bolivia, Centro de Investigación u Documentación para el Desarrollo del Beni. **26:** 1-26.

[44] The marchers were also supported by the Catholic Church. Priests said mass during several stops along the route and a mass was held in La Paz when the marchers arrived.

[45] Lijerón Casanovas, A. (1991). De la resistencia pacifica a la interpelacion historica : (crónica preliminar de la Marcha Indígena por el Territorio y la Dignidad). Publicación #26 CIDDEBENI. Trinidad, Beni, Bolivia, Centro de Investigación u Documentación para el Desarrollo del Beni. **26:** 1-26. p. 8

[46] Ibid.

[47] (1998). territorio. The Concise Oxford Spanish Dictionary (Spanish-English). N. Rollin, Oxford University Press.

[48] (2000). territory. The Oxford English Dictionary Online, Oxford University Press.

[49] Roper, J. M. (2003). "Bolivian Legal Reforms and Local Indigenous Organizations: Opportunities and Obstacles in a Lowland Municipality." Latin American Perspectives **30**(1): 139. p.141; Birk, G. (2000). Dueños del bosque : manejo de los recursos naturales por indígenas chiquitanos de Bolivia /c texto, Gudrun Birk = Owners of the forest : natural resource management by the Bolivian Chiquitano indigenous people. Santa Cruz de la Sierra, Bolivia, Apoyo para el Campesino-Indígena del Oriente Boliviano. p.153; Jorge Añez quoted in Libermann C, K. and A. Godínez G (1992). Territorio y dignidad : pueblos indígenas y medio ambiente en Bolivia. Bolivia; Caracas, Venezuela, Instituto Latinoamericano de Investigaciones Sociales; Editorial Nueva Sociedad. p. 41, "El gobierno nos a dotado de un territorio y nosotros le agradecemos por ello. Nosotros los chimanes, y creo que también los otros indígenas, necesitamos territorio. No queremos destruir el bosque porque… el bosque ha sido nuestro, nuestra casa, nuestra vivienda, donde nuestros antepasados han vivido por muchos años, donde siempre hemos vivido y donde siempre viviremos."

[50] Evelio Aranzibida for the Confederación Indígena del Oriente Boliviano (CIDOB) quoted in Libermann C, K. and A. Godínez G (1992). Territorio y dignidad : pueblos indígenas y medio ambiente en Bolivia. Bolivia; Caracas, Venezuela, Instituto Latinoamericano de Investigaciones Sociales; Editorial Nueva Sociedad. p. 30. "…tratamos de demostrar que el territorio es el concepto integral que se aproxima a la verdadera concepción que nosotros tenemos respecto a los recursos naturales, al suelo y al subsuelo; pero en términos jurídicos, en términos legales, el concepto de territorio no es compatible con la legislación actual";

[51] Jorge Terena quoted in ibid. p. 130. "Los gobiernos y los indios están siempre luchando, peleando uno con otro por el territorio, la tierra. Por la historia, los indios somos dueños de la tierra, por la ley, el gobierno es dueño de la tierra. Quien es el que tiene derecho?"

[52] José Urañawi quoted in ibid. p. 34. "Nuestra tierra es nuestra casa en la cual sobreviviremos y moriremos y nuestra futuras generaciones seguirán viviendo".

[53] Lehm, L. A. (1999). Milenarismo y movimientos sociales en la Amazonia boliviana: La búsqueda de la loma santa y la marcha indígena por el territorio y la dignidad, Centro de Investigación y Documentación para el Desarrollo del Beni. p.102.

[54] Lijerón Casanovas, A. (1991). De la resistencia pacifica a la interpelacion historica : (crónica preliminar de la Marcha Indígena por el Territorio y la Dignidad). Publicación #26 CIDDEBENI. Trinidad, Beni, Bolivia, Centro de Investigación u Documentación para el Desarrollo del Beni. **26:** 1-26, Libermann C, K. and A. Godínez G (1992). Territorio y dignidad : pueblos indígenas y medio ambiente en Bolivia. Bolivia; Caracas, Venezuela, Instituto Latinoamericano de Investigaciones Sociales; Editorial Nueva Sociedad, Lehm, L. A. (1999). Milenarismo y movimientos sociales en la Amazonia boliviana: La búsqueda de la loma santa y la marcha indígena por el territorio y la dignidad, Centro de Investigación y Documentación para el Desarrollo del Beni.

[55] Jorge Añez quoted in Libermann C, K. and A. Godínez G (1992). Territorio y dignidad : pueblos indígenas y medio ambiente en Bolivia. Bolivia; Caracas, Venezuela, Instituto Latinoamericano de Investigaciones Sociales; Editorial Nueva Sociedad. p. 41. "Nosotros no queremos aprovechar ilegalmente el bosque, queremos aprovecharlo bajo un sistema de manejo sostenible, un aprovechamiento racional; pero, para esto necesitamos aprovechar el bosque de una forma legal."

[56] Mauro Bertero Gutiérrez quoted in ibid. p. 59. "En gran medida, y en un ambiente de diálogo franco y sincero, sus planteamientos fueron respondidos por nuestro gobierno. Se emitieron decretos y resoluciones importante. Sin embargo, tan importante como el logro de sus reivindicaciones es el sentido histórico de esta marcha. Constituye un hito en nuestro país, por el que no solamente el Estado, sino el pueblo, la sociedad civil en su conjunto, asumen la dimensión de su olvido. Es por esto que reitero, más allá de los decretos, más allá de los papeles escritos, que lo que los bolivianos asumimos con esta marcha fue el reconocer a los pueblos indígenas como un renovado actor social

capaz de establecer un nuevo escenario sociocultural y aportar de manera cualitativa en el desarrollo de nuestra sociedad…. [Los pueblos amazónicos] lucharán…pero quieren hacerlo con singularidad, manteniendo su identidad, su lengua, sus costumbres, ejerciendo sus derechos a la tierra y sus recursos… quieren… la construcción de una Bolivia plural y democrática….” ; Birk, G. (2000). Dueños del bosque : manejo de los recursos naturales por indígenas chiquitanos de Bolivia /c texto, Gudrun Birk = Owners of the forest : natural resource management by the Bolivian Chiquitano indigenous people. Santa Cruz de la Sierra, Bolivia, Apoyo para el Campesino-Indígena del Oriente Boliviano. p. 150.

[57] This term *Tierras Comunitarias de Origen* has been translated this way, but some sources translate it as Indigenous Community-Owned Land. The most accurate translation would be Original Community Land. The indigenous concept of territory, as I argue, is larger than just land and the term TCO does not translate into an understanding of indigenous territory that matches indigenous perspectives. I use the more common translation, however to avoid confusion with other English language information about Bolivian forest management.

[58] Libermann C, K. and A. Godínez G (1992). Territorio y dignidad : pueblos indígenas y medio ambiente en Bolivia. Bolivia; Caracas, Venezuela, Instituto Latinoamericano de Investigaciones Sociales; Editorial Nueva Sociedad, Birk, G. (2000). Dueños del bosque : manejo de los recursos naturales por indígenas chiquitanos de Bolivia /c texto, Gudrun Birk = Owners of the forest : natural resource management by the Bolivian Chiquitano indigenous people. Santa Cruz de la Sierra, Bolivia, Apoyo para el Campesino-Indígena del Oriente Boliviano, Colectivo de Estudios Aplicados al Desarrollo Social (CEADES) (2004). Manejo Forestal Comunitario en la TCO Guarayos. Santa Cruz, Bolivia, CEADES, Colectivo de Estudios Aplicados al Desarrollo Social.

[59] Libermann C, K. and A. Godínez G (1992). Territorio y dignidad : pueblos indígenas y medio ambiente en Bolivia. Bolivia; Caracas, Venezuela, Instituto Latinoamericano de Investigaciones Sociales; Editorial Nueva Sociedad. p. 64; Birk, G. (2000). Dueños del bosque : manejo de los recursos naturales por indígenas chiquitanos de Bolivia /c texto, Gudrun Birk = Owners of the forest : natural resource management by the Bolivian Chiquitano indigenous people. Santa Cruz de la Sierra, Bolivia, Apoyo para el Campesino-Indígena del Oriente Boliviano. p. 151-152; and Roper, J. M. (2003). "Bolivian Legal Reforms and Local Indigenous Organizations: Opportunities and Obstacles in a Lowland Municipality." Latin American Perspectives **30**(1): 139. p.142.

[60] Assies, W. (2002). "From rubber estate to simple commodity production: Agrarian struggles in the Northern Bolivian Amazon." Journal of Peasant Studies **29**(3): 83-130. The 1990 March for Territory and Dignity, which is considered the “First March,” was followed by a “Second March” by indigenous peoples in 1996 and a “Third March” in 2000. The First March raised awareness of indigenous peoples and their demands. The Second March facilitated the passage of legislation based on indigenous demands. The Third March focused on the implementation of the new laws and regulations. Birk, G. (2000). Dueños del bosque : manejo de los recursos naturales por indígenas chiquitanos de Bolivia /c texto, Gudrun Birk = Owners of the forest : natural resource management by the Bolivian Chiquitano indigenous people. Santa Cruz de la Sierra, Bolivia, Apoyo para el Campesino-Indígena del Oriente Boliviano. p. 155; Pacheco, P. (2006). Descentralización forestal en Bolivia : implicaciones en el gobierno de los recursos forestales y el bienestar de los grupos marginados. La Paz, Bolivia, CIFOR : CIID/IDRC : Plural Editores. p. 39; and Roper, J. M. (2003). "Bolivian Legal Reforms and Local Indigenous Organizations: Opportunities and Obstacles in a Lowland Municipality." Latin American Perspectives **30**(1): 139. p. 143; Today Indigenous Community Territories are widely accepted throughout Bolivia; even the conservative departmental government of Santa Cruz de La Sierra supports indigenous communities’ rights to their territories. An official publication states, “…the Departmental Government looks to guarantee the access to land, giving priority to our indigenous and rural communities, [in support of] the National Agrarian Reform Law.” Prefectura del Departamento de Santa Cruz (2006). Dirección de Recursos Naturales y Medio Ambiente: Política Departamental de Acceso y Uso Sostenible de los Recursos Naturales Renovables de Santa Cruz. Santa Cruz de la Sierra, Bolivia, Prefectura del Departamento de Santa Cruz. “…el Gobierno Departamental busca garantizar el acceso a la tierra, dando prioridad a nuestras comunidades indígenas y campesinas, apoyando al INRA.”

[61] In the 1990s the Bolivian government began to implement many “neoliberal” policies and to privatize formally state controlled resources like water. See Kohl, B. (2006). "Challenges to neoliberal hegemony in Bolivia." Antipode **38**(2): 304-326, Kohl, B. H. and L. C. Farthing (2006). Impasse in Bolivia: Neoliberal hegemony and popular resistance, Zed Books, Pacheco, P. (2006). Descentralización forestal en Bolivia : implicaciones en el gobierno de los recursos forestales y el bienestar de los grupos marginados. La Paz, Bolivia, CIFOR : CIID/IDRC : Plural Editores, Postero, N. G. (2007). Now we are citizens: Indigenous politics in postmulticultural Bolivia, Stanford Univ Pr.

[62] Peña-Claros, M. and M. J. Dockry (2010). Bolivia. Forests and Forestry in the Americas: An Encyclopedia. F. W. Cubbage, Society of American Foresters and International Society of Tropical Foresters.

[63]Ferroukhi, L. (2003). Municipal Forest Management in Latin America. Bogor, Indonesia, Center for International Forestry Research & International Development Research Center. p. 26; Sanchez De Lozada, G. (1996). Ley Forestal. **Ley N° 1700**. Peña-Claros, M. and M. J. Dockry (2010). Bolivia. Forests and Forestry in the Americas: An Encyclopedia. F. W. Cubbage, Society of American Foresters and International Society of Tropical Foresters.

[64] Collao A, J. (2005). Aspectos básicos de la Ley Forestal No 1700, del 12 de Julio de 1996. Santa Cruz, Bolivia, Prefectura de Santa Cruz Dirección Departamental de Recursos Naturales y Medio Ambiente Unidad de Manejo de Recursos Naturales. p.9.

[65] Ramírez Aldaya, M. A. (8/21/2008). Personal Interview by Michael J Dockry. Asunción de Guarayos, Santa Cruz, Bolivia. p.8 “Antes de la ley 1700, de la ley forestal, las comunidades indígenas de alguna forma realizaban manejo forestal pero no con esta visión empresarial de que pueda redituar el dinero, sino más bien con un sentido más… más como… más de supervivencia, tumbar palos para hacer sus casas, para hacer cosas en su comunidad, y algunos pocos hacían piratería, comercio ilegal de estos bosques; pero con la ley 1700 y con la anterior demanda…al gobierno nacional [de] una TCO, su Tierra Comunitaria de Origen…, lo cual les ha permitido contar con un espacio geográfico donde ellos puedan trabajar legalmente en el marco de la legalidad.”

[66] Añeoinda Yamba, O. (8/22/2008). Personal Interview by Michael J Dockry. Urubichá, Santa Cruz, Bolivia. p. 6 “…iban a vender madera pero asi sin…como pirataria…. La piratería lo que… eso no, eso es lo que no aplica por la ley forestal…—Para ellos no hay ni semillero que se vea digamos remanente, no lo dejan, le meten pero de punta a punta.”

[67] Canahuira, L., C. Enríquez, et al. (8/20/2008). Group Interview by Michael J Dockry. Asunción de Guarayos, Santa Cruz, Bolivia. p. 2 “Porque, aquellos tiempos, de verdad, los empresarios eran—que les daban los recursos naturales de nuestro—o sea, de, de nuestra tierra, ¿no? De nuestra TCO, pero, no regresa… No, no regresaba ni un centavo, no nos generaba ni, ni el trabajo ni siquiera…. La ley mismo nos respalda, la Ley Forestal nos respalda que lo trabajemos en forma sostenible.”

[68] BOLFOR, a non-governmental organization funded by USAID played a large role in helping the Bolivian Government in the drafting and implementation of the forestry law. Stearman, A. M. (2006). "One step forward, two steps back: The Siriono and Yuqui community forestry projects in the Bolivian Amazon." Human organization **65**(2): 156-166. Redford, K. H. and M. Painter (2006). Natural Alliances Between Conservationists and Indigenous Peoples, Wildlife Conservation Society. Redford, K. H. and A. M. Stearman (1993). "Forest-dwelling native Amazonians and the conservation of biodiversity: interests in common or in collision?" Conservation Biology(Journal Article): 248-255.

[69] Instituto Nacional de Estadística. (2001). "Bolivia: Poblacion por sexo y area según Departamento, Provincia y Municipo, Censo 2001." Retrieved Web Page, 2010, from http://www.ine.gov.bo/indice/visualizador.aspx?ah=PC20102.HTM.

[70] A good article about the lack of ecology science in tropical forest management can be found in: Sheil, D. and M. Van Heist (2000). "Ecology for tropical forest management." International Forestry Review **2**(4): 261-270.

[71] Nittler, J. B. and D. W. Nash (1999). "Certification International Forestry-The Certification Model for Forestry in Bolivia." Journal of Forestry **97**(3): 32-40, Stearman, A. M. L. (2006). "One Step Forward, Two Steps Back: The Sirionó and Yuquí Community Forestry Projects in the Bolivian Amazon." Human organization **65**(2): 156-166.

[72] In the case I am presenting from Guarayos, Bolivia the forestry law was seen by indigenous community members and forestry professionals as a way to foster land tenure security. However, a forestry law alone is not sufficient to foster land tenure. There are cases, in Peru for example, where scientific forestry laws do not foster land tenure security. See Smith, J., V. Colan, et al. (2006). "Why policy reforms fail to improve logging practices: The role of governance and norms in Peru." Forest Policy and Economics **8**(4): 458-469.. There are also examples similar to Guarayos where indigenous communities use resource management—in this case payment for environmental services—to foster more secure land tenure. See Lastarria-Cornhiel, S., M. Morales Feijóo, et al. (2012). Efforts to Secure Indigenous Communal Land Rights in Northwest Ecuador—A Vital Foundation for Direct Incentive Forest Conservation Programs. Lessons about Land Tenure, Forest Governance and REDD+: Case studies from Africa, Asia and Latin America. L. Naughton-Treves and C. Day. Madison, WI, UW Madison Land Tenure Center.

[73] For example, participants in the 1991 workshop included indigenous people and organizations from Brazil, Colombia, Peru, Mexico, and Ecuador. See Libermann C, K. and A. Godínez G (1992). Territorio y dignidad : pueblos indígenas y medio ambiente en Bolivia. Bolivia; Caracas, Venezuela, Instituto Latinoamericano de Investigaciones Sociales; Editorial Nueva Sociedad.

[74] See, for example, Alem Rojo, A. (2007). La participación indígena en Bolivia: refundar en clave de pluralidad. Estudios sobre participación política indígena: Bolivia Colombia Ecuador México Panamá Peru. C. Zeledón Mangel. San José, Costa Rica, Instituto Interamericano de Derechos Humanos. p. 13; Walsh, C. (2000). "Políticas y significados conflictivos." Nueva Sociedad Nº **165**(Journal Article). p. 126; McDaniel, J. (2002). "Confronting the Structure of International Development: Political Agency and the Chiquitanos of Bolivia." Human Ecology **30**(3): 369-396. p. 383-386; Charnley, S. and M. R. Poe (2007). "Community Forestry in Theory and Practice: Where Are We Now?" Annual Review of Anthropology **36**(Journal Article): 301.; Ferroukhi, L. (2003). Municipal Forest Management in Latin America. Bogor, Indonesia, Center for International Forestry Research & International Development Research Center. p. 38, 39 and Stearman, A. M. (2006). "One step forward, two steps back: The Siriono and Yuqui community forestry projects in the Bolivian Amazon." Human organization **65**(2): 156-166. p. 162; Prefectura del Departamento de Santa Cruz (2006). Dirección de Recursos Naturales y Medio Ambiente: Política Departamental de Acceso y Uso Sostenible de los Recursos Naturales Renovables de Santa Cruz. Santa Cruz de la Sierra, Bolivia, Prefectura del Departamento de Santa Cruz. p. 12, 16; Pacheco, P. (2006). Descentralización forestal en Bolivia : implicaciones en el gobierno de los recursos forestales y el bienestar de los grupos marginados. La Paz, Bolivia, CIFOR : CIID/IDRC : Plural Editores. p. 51, 53; Contreras-Hermosilla, A. and M. T. V. Riós (2002). Social, Environmental and Economic Dimensions of Forest Policy Reforms in Bolivia, Forest Trends; CIFOR. p. 19.

[75] See Roper, J. M. (2003). "Bolivian Legal Reforms and Local Indigenous Organizations: Opportunities and Obstacles in a Lowland Municipality." Latin American Perspectives **30**(1): 139. p. 143; Vallejos B, C. (1998). Ascensión de Guarayos: indígenas y madereros. Municipios y gestión forestal en el trópico boliviano. P. Pacheco B and D. Kaimowitz. La Paz, Bolivia : Centro Internacional de Investigaciones Forestales : Centro de Estudios para el Desarrollo Laboral y Agrario : Taller de Iniciativas en Estudios Rurales y Reforma Agraria : Proyecto de Manejo Forestal Sostenible**:** 489. p.80; Boscolo, M. and M. T. V. Rios (2007). Forest Law Enforcement and Rural Livelihoods in Bolivia. Illegal Logging: Law Enforcement, Livelihoods and the Timber Trade. L. Tacconi, Earthscan**:** 191-217. p. 204, 214; Alem Rojo, A. (2007). La participación indígena en Bolivia: refundar en clave de pluralidad. Estudios sobre participación política indígena: Bolivia Colombia Ecuador México Panamá Peru. C. Zeledón Mangel. San José, Costa Rica, Instituto Interamericano de Derechos Humanos. p. 16.

Chapter 6: Community Forestry as a Method of Territorial Control in Guarayos, Bolivia

Introduction

Indigenous communities in Bolivia place a strong value on forests; these communities are searching for meaningful and culturally appropriate ways to understand, measure, and practice sustainable forest management. Many indigenous communities view forest management as a way to simultaneously improve their livelihoods, foster their culture, and exercise their land tenure rights. Forest management has produced tangible benefits such as clean water, carbon sequestration, wood products, and expanded wildlife habitat. Despite the importance of indigenous forest management, academics and governments have paid little attention to understanding the complex meanings of sustainability and sustainable forest management within an indigenous context.[1] The goal of this chapter is to provide a deeper understanding of the complex cultural, historical, and environmental influences affecting forest management, planning, and perceptions of sustainability among indigenous communities in lowland Bolivia.

I explore the responses of two indigenous communities in the Guarayos Indigenous Community Territory (*Tierras Comunitarias de Origen Guarayos* or TCO *Guarayos*), Cururú and San Juan, to the 1996 Forestry Law. I examine the ways these two communities engaged with foresters' ideas of sustainability, which are derived from economic and cultural contexts that differ from indigenous contexts. I also analyze the practical implications of the 1996 Forestry Law by focusing on how the two Guarayos communities used forestry to increase their territorial control. I ask the following research questions: Were the Guarayos communities able to incorporate the 1996 Forestry Law into their relationship with the forest, or did they reject the new laws and ideas about forest management? Did the changes in forest management initiated by the 1996 Forestry Law reflect indigenous demands for territory and dignity as expressed in the 1990 march? Did forest management lead to tangible benefits for the Guarayos communities and, if so, how do the communities perceive these benefits in relation to territorial control? Did the 1996 Forest Law present new challenges to the Guarayos communities with regard to territorial control?

In August 2008 and June 2009, I visited the Cururú and San Juan forestry operations in the Guarayos TCO in the lowland province of Guarayos in the Bolivian Department of Santa Cruz de la Sierra. During the visits, I met informally with community members and professional foresters; conducted 15 formal interviews; convened two community meetings; compiled over 100 pages of field notes; and collected close to 1,500 pages of documents—including management plans, community meeting minutes, community regulations and statutes, and reports—from indigenous community forestry offices, the Bolivian Superintendent of Forestry, and regional and local offices of the Centro Amazonico de Desarrollo Forestal (Amazon Center for Sustainable Forest Enterprise or CADEFOR).

Bolivian Forest Management

In the late 1990s, foresters, academics, and development workers heralded Bolivia has a world leader in sustainable tropical forest management.[2] Forestland covers 53 million hectares (approximately half of Bolivia's territory), and of those, the Bolivian government has designated 41.2 million hectares (77%) as permanent production forests.[3] Within the permanent production forests, 8.5 million hectares are available for sustainable harvesting under government-approved forest management plans created under the 1996 Forestry Law.[4] Approximately 83 approved indigenous community management plans cover about 16% (1.4 million hectares) of the permanent production forests, and 51 approved management plans supervise private industry on about 3.9 million hectares (46%).[5] Municipal governments, non-lowland indigenous communities, and private land holders manage the remaining areas. Within the department of Santa Cruz, the government has approved 156 management plans on 4.4 million hectares of permanent production forests. Nine indigenous communities actively manage 281,537 hectares (6% of the 4.4 million hectares) via approved management plans in the department.[6]

Voluntary certification systems have become common in Bolivia. Although private industries, rather than indigenous communities, manage most certified forestland in Bolivia, indigenous communities in lowland Bolivia were the first communities in the country to achieve a voluntary certification. In 1996, SmartWood certified an indigenous community forestry operation in Lomerío de los Chiquitos in the department of Santa Cruz. This was the first time any Bolivian land owner earned a voluntary forestry certification, and Lomerío de los Chiquitos was the first indigenous community to be certified sustainable in South America—an historic event for indigenous peoples in the tropics.[7] Currently, the Forest Stewardship Council (FSC) certifies about 14% (1.2 million hectares) of Bolivia’s forest harvesting. The indigenous forestry operation of the Cururú in Guarayos has 26,420 hectares of certified forest, while the remaining certifications are for industrial, private, and municipal community forests.[8]

Indigenous forest management is an important component of the Bolivian forestry sector. However, indigenous communities often lack the economic resources, machinery, and infrastructure possessed by private industries. Further, indigenous management areas are often inaccessible or their economic value has declined because their most valuable timber has been logged.[9] Many indigenous communities believe that they have not always received the resources and attention from the Bolivian government necessary to manage their forests sustainably.

On December 18, 2005, the Bolivian people elected their first indigenous president, Evo Morales Ayma, raising hopes for many indigenous communities. In his inaugural address, president Morales explained that he intended to change the political system for all Bolivian people—especially marginalized indigenous communities—by ending policies that "auctioned…and looted our natural resources."[10] At the beginning of his address Morales declared, "These [indigenous] communities are the absolute owners of this noble land, of these natural resources."[11] The president promised to end Bolivia's "historical problem" of inequality and the repression and humiliation of indigenous people by incorporating indigenous communities into the political, social, and economic mainstream of the country. Morales stated, "The 500 year campaign of indigenous– black–populist resistance has not been in vain…. We are here to say the resistance is over…. Indigenous people, workers, [and] every sector, [are here] to put an end to this injustice, to put an end to this inequality, to put an end above all to the discrimination, oppression where we have been put down as [indigenous people]."[12]

Despite Morales' rhetoric, lowland indigenous peoples report that they are still struggling to improve their individual livelihoods, community infrastructure, and economic opportunities, and to maintain control over their forestlands while fostering their cultures.[13] Indigenous communities also continue to express interest in finding ways to both incorporate their cultures into forestry management and provide a wide range of community benefits that go beyond economics. [14]

Guarayos

In 1990, the Bolivian government established the Guarayos province within the department of Santa Cruz in response to indigenous demands to provide political and ethnic continuity for the Guaraya people.[15] The creation of the new province was one of the changes that the Bolivian government enacted in response to pressure from indigenous communities in the 1990s. The Guarayos province is the newest province in the country and the provincial capital is Ascensión de Guarayos. Ascensión de Guarayos lies on the main highway connecting Santa Cruz de la Sierra and Trinidad, the capitals of the Santa Cruz and Beni departments, respectively (see Map 1 and Map 2). The Guarayos Indigenous Community Territory (TCO Guarayos) occupies the majority of the province; however, there are a variety of both indigenous community and industrial forest management areas within the province.

Guarayos province measures 7,667 square kilometers and has about 31,577 residents, the majority of whom are Guaraya.[16] The climate is humid subtropical, and the area receives more than 160 centimeters of rain annually.[17] The municipality of Guarayos is located in the Brazilian-Parana ecological region, which is on the border of the Amazonian bio-geographical region and is noted for its biological diversity—some scientists consider it more diverse than the Amazonian region.[18] Navarro and Maldonado classified Bolivia into nine bio-geographic provinces; Guarayos is a transitional forest and straddles the Cerrado and Beni provinces. The Beni province is relatively small and characterized by seasonal flooding, grasslands, forest islands, lakes, and rivers.[19] In Guarayos, the Cerrado province is known by ecologists as the Seasonal Evergreen Chiquitano forest and contains deep well to medium drained soils (ferralsols and acrisols).[20]

The vegetation in Guarayos is a mixture of Brazilian-Parana and Amazonian species that includes three main groups: Amazonian trees, palms, and aquatic plants on poorly drained soils close to lakes and rivers; deciduous and semi-deciduous tree species from the dryer Chiquitano forests on well drained soils; and xeric species on poor soils and rock outcroppings.[21] Forest inventories in Guarayos have identified 281 tree species; of these, 220 (78%) are considered scarce and are found at the low density of about 7 per hectare. The other 61 species (12%), are considered common and are found at a rate of more than 70 trees per hectare. These 61 common tree species represent about 90% of all trees over 20 centimeters diameter at a height of one meter in Guarayos. The most abundant species in the area are *Hura crepitans* and *Terminalia amazonica,* known in Bolivia as *ochoó* and *verdologo*.[22] Figure 1 shows the 22 most common tree species in Guarayos.

According to the Holdridge Life Zone Classification System, Guarayos is a humid subtropical moist forest.[23] The annual mean temperature is approximately 22.6 degrees Celsius; the annual precipitation of around 160 centimeters is concentrated in the months of November through March.[24] The climate in Guarayos, and most of Bolivia, is characterized by a summer rainy season that lasts from October to April. A corresponding dry season takes place during the winter months from May to September. During the winter season *surazos*, periods of colder temperatures caused by colder air masses traveling from the southern portions of South America to the tropics, are common.

Guarayos Forest Histories

The Guarayos people live in the lowland plains and forests between the Moxos people of the Beni and the Chicatano people of Santa Cruz.[25] Linguistically, the Guarayos are part of the

Tupi-Guaraní cultural group that includes the Chiriguanos, Sirionó, and Guarusag’we people.[26] The group migrated to their present location in eastern Bolivia from what is now Paraguay during the fifteenth and sixteenth centuries and established communities in 1575.[27] Today, the Guarayos people describe their migration as part of a millenarian cultural movement that migrated in search of the “Sacred Hill” or the *Loma Santa*.[28]

The lowland communities of Bolivia have struggled to maintain their territories and cultures since the incursion of Spanish-speaking missionaries in the eighteenth century. The Guarayos, like other indigenous communities in the area, resisted colonial missionaries in the late eighteenth century by fleeing into the forests to avoid being captured. The first Guarayos “reductions” or settled communities were established in 1793, 1807, and 1820. Pilar García Jordan, a Spanish historian, argued that the 1820 reduction—which eventually became Ascensión de Guarayos—was populated willingly by Guarayos people who believed that by moving to the Franciscan settlement they would not be forced to leave their lands.[29]

While the Guarayos had contact with other indigenous peoples of the lowland tropics, they had little contact with Europeans until priests from the diocese of Santa Cruz de la Sierra and the Franciscan order established missions in the area in the mid-1800s.[30] From that time until the 1940s, the missionaries required the Guarayos people to work without pay.[31] Forced work continued into the 1940s as secular *mistizo* administrators organized by the state replaced the missionary bosses. Although the missions required the Guarayos people to serve as unpaid laborers, they were allowed to continue using their lands; this situation changed in the 1940s when Bolivian secular society began a broad appropriation of Guarayos resources and land.[32]

The appropriation of Guarayos land and resources intensified after the 1952 Bolivian Revolution led by the Nationalist Revolutionary Movement (*Movimiento Nacionalista Revolucionaria* or MNR). Before 1952, 6% of Bolivian land owners controlled 92% of the cultivated land in Bolivia.[33] A large mobilization of the highland peasant and indigenous majority placed extreme pressure on the MNR to reform Bolivia's land tenure and agricultural system. The two groups called on the government to grant indigenous communities and syndicates the titles to the hacienda land that was formally owned by large landholders; as a result, the breakup of the hacienda system spread across highland Bolivia.[34] However, in contrast to their view of the Andean highlands, the revolutionary government considered the lowlands sparsely populated, underutilized, and available for private investment; therefore, the revolutionary land reforms did not extend to the indigenous communities who had lived in the lowlands of Santa Cruz de la Sierra for centuries.[35] Instead, the revolutionary government facilitated private investment in the area by granting land titles to politically connected individuals and syndicates; the government generally did not grant land titles to Guarayos or other lowland indigenous communities.[36]

Against the backdrop of the Cold War and the expanded U.S. intervention in Latin America during the 1950s and 1960s, Bolivia's revolutionary government wanted to maintain a smooth relationship with the U.S. government.[37] The private development of the vast natural resources in Santa Cruz, including timber, petroleum, and expansive land for large-scale agriculture and cattle grazing, could facilitate a good relationship. The Bolivian government mobilized massive economic resources—much of which came from the United States—to promote economic security and growth by providing food, education, and health, and establishing a modern road system.[38] In fact, the United States had been promoting development in the Santa Cruz region even before the 1952 revolution through the implementation of the Bohan Plan, a 1942 development plan named for its author, a United States diplomat.[39] In spite of the 1942 plan, however, Santa Cruz had received little governmental assistance prior to 1952; this changed as new aid money, the Agrarian Reform Law of 1953, and the Economic Plan of the National Revolution of 1954 funneled resources into the development of the entire region.[40]

Improvements to the Santa Cruz transportation infrastructure facilitated greater access to the Guarayos forest by non-indigenous logging companies, which led to an increase in logging. During the 1980s, the indigenous peoples of Guarayos and other communities began to react to what they perceived as the unsustainable use of their own resources at the hands of outsiders. The communities organized around a common demand for the right to control their territories.[41] Despite their efforts, however, non-indigenous people increasingly logged and expropriated the traditional territories of indigenous communities.[42]

Guarayos: Community Forest Management in Practice

In the wake of the 1990 protest march, the Bolivian government's establishment of the Isiboro-Sécure Indigenous Territory and National Park bolstered the Guarayos communities. The Bolivian government also reformed the constitution and created a new land classification, Tierras Comunitaria de Origin (Indigenous Community Territory or TCO). The Guarayos communities in lowland Bolivia wanted to petition the government to establish their own TCOs, but needed a central leadership committee to represent the multitude of communities behind the petition. Thus, the Guarayos people organized the Central Organization of Native Guarayos Communities (Central de Organizaciones de Pueblos Nativos de Guaryos, or COPNAG) to solicit a TCO.[43]

The purpose of COPNAG was “to exercise the right to territory and access and control of its natural resources, as a foundation for integral human development, based on [*Guaraya*] cultural identity”[44] In 1996, COPNAG petitioned the Bolivian government to establish the TCO Guarayos. The government granted the establishment of TCO Guarayos in stages, with portions added to the TCO between 1999 and 2001.[45] One of COPNAG’S official responsibilities was to represent and support Guarayos communities if they wanted to organize to manage forests within the TCO Guarayos.

COPNAG does not manage the TCO Guarayos directly, rather, individual Guarayos communities affiliated with organization manage the TCO. The communities are required to petition COPNAG to develop a management plan for a portion of the TCO. Currently, TCO Guarayos has management plans in place for seven Guarayos communities including Cururú and San Juan. Because there are so many communities within the TCO Guarayos, it is important to explore why these two communities organized to manage their forests.

On July 19, 2000, the central governing body of the Guarayos community of Cururú signed an inter-institutional agreement to develop a forest management plan. The signatories included COPNAG, the local municipal government, and BOLFOR II (a local non-governmental organization dedicated to sustainable forest management and funded by the United States Agency for International Development).[46] The agreement outlined four key principles that would govern in Guarayos forest management: indigenous self-management, economic sustainability, equality, and defense of the TCO from third parties.

The agreement clarified that the Guarayos indigenous people were the legitimate proprietors and benefactors of the management plan and that they would be responsible for the majority of the activities involved in the creation and execution of the plan. The agreement also established the idea that forest management should be self-funding. Further, the agreement stated that the project should foster social responsibility and increase solidarity among association members and the rest of the Guarayos community. The community of Cururú believed that forest management benefits extended to all Guarayos communities who, as indigenous Guarayos people, were also rightful owners of the territory. Finally, the agreement stated that the community should conduct forest management at a scale large enough to ensure sustainable production and in a way that would protect the TCO Guarayos from the activities of third parties. In other words, the community was outlining a way to use forest management to defend their territory. The agreement revealed four core goals of the Cururú community: to control their resources, to sustain their economy, to protect the forest resources for all Guarayos, and to defend their territory from outside interests.[47]

Indigenous forestry organizations in Bolivia often lack the technical and financial resources to manage their forests and fulfill the requirements of the 1996 Forestry Law. Therefore, indigenous communities have formed partnerships with both governmental and non-governmental organizations. Because neither San Juan nor Cururú had the technical skills to produce a forest management plan or comply with the 1996 Forestry Law requirements, the communities entered into agreements with BOLFOR II for technical assistance in all aspects of forest management. The communities also signed agreements with COPNAG, which held the legal title and had the authority to regulate the TCO Guarayos . Agreements between the community and the municipal government were necessary to guide yearly planning and forestry operations within community forestry areas. Finally, the communities entered formal legal contracts with a professional forest manager to prepare a forest management plan and an annual harvesting plan, and to report annual harvesting accomplishments for approval by Bolivian forest service, the Superintendencia Forestal.[48]

The documents codifying these legal agreements revealed that the communities had several explicit expectations of their partners. For example, the contracts with professional foresters reiterated two of the communities' goals for forest management: economic sustainability and control over forestry in their territory. The contract stated that the contractor was obligated to hire Guraryos community members.[49] The contracts also stated that the professional forester has the responsibility to prepare all the technical work and that the community of Cururú, in coordination with COPNAG, had the legal responsibilities for forest management. These documents express the communities' continued desire to use forest management to control their territory; moreover, the communities used these legal agreements to control specific harvesting operations, suggesting that they were concerned about losing control over their forests to professional foresters.

To explore the initial goals and concerns Cururú members had for forest management, I next analyze the minutes from a crucial 2001 community meeting held by the Cururu.[50] This community meeting essentially created the foundation of Cururú forestry, setting out the goals and procedures by which the community would manage their forests. The minutes reveal that, for Guarayos leaders, forest management meant passing down the right to the territory to their children and ending irresponsible timber harvesting practices that negatively impacted future harvests. For example, Señor Ambrosio Yaboo, a Cururú community leader, called on the members of the community to come together to "elaborate a forest management plan [so] the forest management would be done in a responsible manner."[51] Yaboo said, "if we continue living now from the resources of the forest we will allow the children of our children to also have this right."[52] The municipal mayor reiterated and expanded on Yaboo's sentiments, explaining that that the fundamental objectives of the forest management plan were to "consolidate the territory through sustainable use of the natural resources and to generate additional income to the economy of the community members with the goal of achieving better living conditions."[53] The mayor's statement expresses his belief that forest management would improve the living conditions of the Guarayos people, provide secure property rights, and allow the community to manage their territories on their own.[54]

The meeting also specifically outlined the way that any revenue would be divided. Once operating costs were covered, 3.5% of the remaining revenue would go to COPNAG, 5% to the Cururú community government, and 15% to the entire community in the form of social projects or projects to increase the community's forest management capacity.[55] These percentages are present in numerous documents related to Guarayos forest management.[56]

While the community members recognized that they lacked the expertise to manage the forests themselves, meeting minutes show that they were determined not to turn over all responsibility for forest management to outside experts. For example, the minutes show that members unanimously agreed that "every member of the community had the responsibility to protect [their forest management] area and to respect and make others respect the forest management plan."[57]

At the end of the 2001 meeting, a community member named Señora Lorgia Nico suggested voting for community members who would represent the community in a forestry directorate that would organize forest management for the community. The proposed forestry directorate would consist of a forestry coordinator and individuals responsible for administration and finance, forestry inventory and a commercial census, harvesting, and commercialization. The community decided to vote for two people for each technical post so that training and knowledge would be spread among more community members.[58]

At the conclusion of the 2001 community meeting, the president of COPNAG stated that forest management would "demonstrate to the entire society that we the *Indigenas* can manage our own resources. Today, we are doing this with wood, tomorrow we will try to use [our resources] in a more integrated manner. That being said, we should be very cautious and very respectful with the management of the resources, that they are for the all Guarayos people."[59] Forest management, according to the COPNAG president, was a way to show that the Cururú community could manage their own resources for the benefit of all the Guarayos people—it would serve as a stepping stone to future community management and control of all community resources, not just timber.

With the legal and institutional structures in place, the Cururú community believed that the success or failure of their forestry operations would depend on the community members themselves. The community meeting that established Cururú forestry ended with each community member signing their names to their community ledger. Each signature symbolized the community's commitment to forest management as a way to provide economic benefits and land tenure security and to pass on their ecological legacy to their children.

Guarayos Perceptions of Forest Management

Community perceptions of sustainability

There are many definitions of sustainability; some focus on economics, others on ecological systems or social and institutional structures, and yet others on the interaction between these dimensions.[60] In this next section I analyze how Guarayos community members understood sustainability to include opportunities for future generations, links to the past, connections with the natural world, and the 1996 Forestry Law.

One way that Guarayos community members described sustainable forest management focused on passing forests and opportunities to future generations. Oscar Añeoinda Yamba, forestry technician and Cururú community member, explained that forest management ensured that "there would be work for oneself, their children, and their grandchildren."[61] For Luis Canahuira, a San Juan forestry leader, sustainable forest management would "not take all of the trees" in the interest of preserving the forests for the children in the future.[62] Many Guarayos community members defined sustainability as protecting the forest for the future, but also referenced the 1996 Forestry Law. For example, the community understood that the diameter limits in the harvesting regulations went beyond the law's requirements to leave trees for future harvesting, but believed that trees should be left for the children and grandchildren of the next generation.

For many Guarayos people, sustainable forest management not only provides for the future but also provides links to the past and to Guarayos culture. Several interview participants from Guarayos explained that sustainability provides a connection to both the past and the community’s forest-based culture. Francisco Sapiopuka Vaca, a member of the San Juan community, explained this concept; he stated that the community can manage the forest in a sustainable manner “because [the community] is an ancient people, we have legends…it would not be good to cut down [all] the trees… it is something sacred…. With this [forest] we live… my father always tells me that thanks to the trees it rains. And because of this... they want to harvest only the trees that are in certain conditions, not cut, [not] clear cutting all of the trees. The members of our [forestry community] are indigenous, the community is completely ancient.”[63]

Many indigenous peoples of the Americas believe in the importance of human and community relationships with the natural world. Indigenous people often believe that there is no separation between “nature” and human beings—humans are part of nature. Several interview participants in Guarayos described their relationships with and connections to the natural world. Cayetano Enríquez, a San Juan community member reflected that “the trees…are like brothers. They have life and they give us life too.”[64] Another San Juan community member, Francisco Sapiopuka, explained, “before, my grandparents… cleared small areas of land. They cut down one hectare, two at the most. And they petitioned *Tumpa*, or God, who is the owner of the forest, of the river, and everything. They had to do that… they prayed before cutting down trees because everything has an owner, all of the forest and because of the forest there is everything, the wild animals are important…. [O]ur grandparents always told us to maintain the forest.”[65] Finally, one interview participant stated simply, “The forest gives us life and it also needs us too.”[66] In the Guarayos communities, relationships to the forest and territory are an integral aspect of identity.

A major theme throughout the interviews and community meetings was that community members in Guarayos consistently defined sustainable forest management by explicitly referring to the national forestry law.[67] For example, Cayetano Enríquez said that “good forest management is to be well organized… and also good management is to be able to administer it… and another… is to follow [the regulations] of the forestry law.”[68] Enríquez continued, “sustainable management is if there are four trees, we leave one, one as a seed tree… for the future [generations]. The forestry law says this…for our children and grandchildren”; he concluded that without the forestry law “we run the risk of pirates [illegal loggers].”[69] Jacob Macue, a Cururú community member and forestry technician, described his understanding of sustainability: “I understand sustainability is to make a management plan… of every species that is harvested one has to leave a seed tree… so as not to lose the species. If we harvest everything we will be left with nothing. [If we don’t leave seed trees] we will be left without timber and I believe it will also affect the animals… that way we would not have forest… or [we would be left with] timber that is of no use to us.”[70] The idea of leaving seed trees, or trees that are not harvested so that they can produce seed for future trees, comes directly from the 1996 Forestry Law. Finally, one Cururú community member, Oscar Añeoinda Yamba, summarized community sentiment:

> good management for me is to apply a little of what is the forestry law. The forestry law does not permit damage to the forest. This for me, for all of us, is good management. If we remove 100%, if we don’t leave anything, there will not be anything for the future [generations]. One has to think that the children are coming in the future and I believe that we have planted… I believe that they are going to be able to harvest [the forest] again. This is why we follow the forestry law… because without the forestry law this would not be….[71]

In conclusion, Guarayos community members included four main components in their definitions of sustainability: 1) opportunities for future generations, 2) links to the past and culture, 3) relationships and connections with the natural world, and 4) the 1996 Bolivian forestry law.

There are four reasons that indigenous communities in remote regions of lowland Bolivia define sustainable forest management by citing a national law, even though these references may seem surprising. First, in the early 1990s, through their involvement in and support of the 1990 protest march, indigenous communities played a major role in petitioning the government to draft the forestry law; this involvement led the government to incorporate community demands into the law and caused indigenous people to have a personal attachment and identification with the law. Second, indigenous communities perceived that the law greatly improved forest management in their communities by requiring a management plan and ensuring forest regeneration. Before this time, logging in Bolivian forests had occurred without regard to planning or regeneration. Third, the law strengthened the rights of indigenous communities by further codifying their right to territory. The forestry law has served as a vehicle for indigenous communities to exercise control over the TCOs granted to these communities in Bolivia's reformed constitution and the 1996 Agrarian Reform Law (*Instituto Nacional de Reforma Agraria* or INRA). Finally, because the law led to more sustainable management and fostered greater territorial control, community members believed it would enable them to pass their cultural connections and economic opportunities to future generations.

Community perceptions of the benefits of forest management

Forest management provided direct benefits to Bolivian communities. Many Guarayos people explained that forestry benefited the community by providing money for community health, education, and infrastructure. Jacob Macue, a Cururú community member, concluded that the forest management plan "benefits the entire community by providing for health care [and] education."[72] Another Cururú community member, Oscar Añeoinda Yamba, stated, "we decided to sell our wood so that we will have the money to support good education and health care. This is the most important."[73] Other community members explained that forest management provides the community with resources to improve roads and build high-quality houses that resist forest fires. Interview participants agreed that the forest management plan, which is required by law, provided direct benefits to the community in the form of education, health care, and infrastructure.

All of the Guarayos interview participants noted that forest management provided jobs for community members. Several interview participants explained that community members obtain work and income via forestry, and the community uses forestry's financial benefits to fund health care and education. Participants also stated that they support the Guarayos TCO and all of the associated communities.[74] Serifin Sakuru Siager, a community member and translator, said that forest management provides opportunities for community members to work within their own community and not have to leave to find work.[75] The economic importance of forest management was extremely important to Guarayos community members; however, it was not the only benefit.

Passing benefits down to future generations of Guarayos people was also important to interview participants; they did not want short-term economic gains to decrease future opportunities. Guarayos community members often referred to their children and grandchildren as *los futuros* (the futures), and explained that forest management provides opportunities for *los futuros*; their testimony explicitly outlined an intergenerational vision for the benefits of forest management. Luis Canahuira Moirenda, San Juan community president, stated that for the future benefit of their children, forestry should "not finish off all of the trees."[76]

Another important forest management benefit that community members discussed was the opportunity to control their territory. The following statements from Guarayos community members illustrate this point: Reyes Iraipi Biracoti, a San Juan community member said, "Since a law was passed [the 1996 Forestry Law]… we, the indigenous people, have the right to use our land. [We have] the title as an Indigenous Community Territory [TCO]."[77] Community members made a direct connection between the 1996 Forestry Law and the agrarian reform law; they explained that the 1996 Forestry Law was a way to exercise their rights to the TCO that had been granted in the agrarian reform law. Iraipi Biracoti also noted that the forestry law helps the community because "suddenly this government [may] want to clear the land here. We protect our area to conserve it and so others do not come from other communities [to deforest it]."[78] Like many other indigenous communities, the Guarayos believed that they must exercise their territorial rights to maintain them.[79]

In conclusion, community members from Guarayos discussed four main categories of community benefits derived from sustainable forest management: 1) community health, education, and infrastructure; 2) jobs and income; 3) opportunities for future generations; and 4) exercising community land tenure.

Forest management plan goals

For the interview participants, the 1996 Forestry Law (and its subsequent regulations) was one of the primary reasons that indigenous communities were able to manage forests sustainably. The 1996 law required indigenous communities to prepare management plans for their forestry operations. Because the indigenous communities in the area usually lack the technical forestry qualifications necessary to draft a forestry plan compliant with the 1996 law, professional foresters must prepare the forest management plans in Guarayos. Therefore, in indigenous communities such as the Cururú and San Juan in Guarayos individuals who are not members of the communities have drafted the forest management plans.[80] These professionally drafted forest management plans both provide insight into how professional foresters view forest management and outline the benefits derived from management. Because they are community documents, forest management plans also illustrate communities' views on forest management. More importantly, forest management plans show the ways in which community views intersect with professional understandings of forest management.[81]

Working with outside experts creates an additional layer of complexity for local communities, possibly making it difficult for them to achieve their goals of resource protection and autonomy. Analyzing forestry plans, oral history interviews, and the community meetings I conducted in 2008 with members of the San Juan and Cururú communities allows me to explore whether the forest management plans prepared by professional foresters reflect community goals. I address two primary questions: First, how much power and control did local communities surrender by relying on outside experts to prepare their management plans? Second, were communities able to successfully negotiate with professional foresters and thereby ensure that their own goals were not subsumed by the technical expertise of the professionals?

To address the technical aspects of the 1996 Forestry Law, forest management plans focus on the sustainability of forest resources. However, the plans not only detail silvicultural practices, but also include statements about land tenure and territorial control, issues central to the local communities.[82] In addition, the plans contain clauses that reflect the importance the community places on maintaining forests and future harvests. For example, Cururú's management plan dictates that the harvesting of species and volumes will not "threaten the productive sustainability of the forest."[83] Both the Cururú and San Juan forest plans state that their specific objectives include: ensuring the sustainable management of their areas through annual harvests and permanent production; generating monetary income for families, their communities, and indigenous organizations; and strengthening the institutional management capacities of indigenous organizations, including their own technical forest management teams.[84]

My analysis suggests that professional foresters and indigenous community members see some of the same benefits of sustainable forestry, but their views often differ in important ways. First, and perhaps most importantly, professional foresters working with the Guarayos communities focus on economic strategies as one of the major factors leading to a successful community forestry operation. Miguel Angel Ramírez Aldaya, a professional forester in Guarayos, stated that the "principal theme is that they [the indigenous communities] do not have the economic capacity… even though Cururú now has a business [oriented] vision… but even so, it is difficult for them to walk by themselves, or it is to say that external support is important to facilitate their work."[85]

Community members in Guarayos noted that while economics were important, they had a somewhat different understanding of economic success. To these interview participants, economics meant jobs now and in the future, community infrastructure, education for their children, and health. Although the Guarayos community's vision of economic benefits differs from the economics espoused by some forestry professionals, the community has been able to incorporate the professional forestry vision while expanding it to include community benefits that reflect with their own visions and goals.

Interestingly, indigenous communities and professional foresters share the goal of territorial consolidation. For example, Rudy Guzmán Gutiérrez, a professional forester specializing in community forestry, understands community forestry benefits as first and foremost related to land tenure; he stated, "I believe the first benefit of… community forestry… is the consolidation of their [the community's] customary rights to the forest and resources".[86] Guzmán Gutiérrez also noted that "it is not just having a right, but you must exercise the right, and one way to exercise the right is through forest management."[87]

Community forestry, according to Guzmán Gutiérrez, should encompass more than just harvesting trees, it should include an "integrated vision of territory" and zoning for integrated uses. This type of plan can consolidate land tenure by defining boundaries—who can be in the area and what can occur in the territory as well as who and what must stay outside the territory. Guzmán Gutiérrez stated, "if you have a holistic vision of [land] use, where you have units of use and all of these are part of integrated territorial management, obviously you are not only consolidating your territory, but you are also demonstrating who is outside of the territory."[88]

Zulema Lehm, another community forestry professional, also noted that some indigenous communities view natural resource management and community forestry as a way to consolidate and manage their territories. Citing her experiences working with indigenous communities since the 1980s, Lehm reported that the communities have recognized that "the central theme of the strategy for [indigenous community] development passed through the theme of natural resource management."[89] Lehm continued, "One has to think how community forest management is going to support global management of [indigenous] territory, this way forest management is not just focused on forest management but it can support a system of general territorial management."[90]

Management plans and community meeting minutes were surprisingly consistent with respect to both the indigenous and professional foresters' perspectives on the benefits of forest management. While there is some variation concerning the importance of economics, there is a significant degree of agreement between indigenous communities and professional foresters, suggesting that indigenous communities have been able to incorporate their visions of sustainable forest management into the legal structure of Bolivian forest management.

Conclusion

The vision of sustainable forestry outlined in the 1996 Forestry Law is based on the tenets of professional forest management, but these tenets do not necessarily conflict with either the indigenous Guarayos community's understanding of sustainability or with the community's concepts of the benefits derived from forestry. In fact, the communities have used the 1996 law to support their own ideas of community benefits, land tenure, and sustainability.

Among the Guarayos indigenous people, the perceptions of sustainable forest management are deeply entwined with the 1996 Bolivian Forestry Law. Community testimony from indigenous people in Asunción de Guarayos, Bolivia clearly shows that the national forestry law and its requirements express indigenous definitions of sustainability. This scenario may seem counterintuitive; however, I have argued that indigenous communities played a major role in petitioning the Bolivian government to draft the forestry law via the 1990 march for territory and dignity. The involvement of these communities led to a personal attachment to and identification with the law as seen in the testimony from Asunción de Guarayos. Further, the forestry law has greatly improved forest management in indigenous territory. Finally, because it has served as a vehicle to exercise control over Indigenous Community Territories, the forestry law has strengthened the rights of indigenous communities. The 1990 March for Territory and Dignity marked a turning point for indigenous lowland people in Bolivia. The march engendered changes in national laws and attitudes among the broader Bolivian society, and these changes led to a recognition of lowland people, their cultures, and their territory.

Indigenous communities viewed the 1996 Forestry Law as an instrument to gain a greater degree of control over their territory. For indigenous communities like Guarayos, this process involved defining their own community goals and demands while negotiating forest management practices with professional foresters and international development specialists. To be able to control their territory through forest management, the communities needed to develop partnerships and build their own expertise so they could create and implement forestry management plans—challenging tasks within the complex ecological and social systems in lowland Bolivia. Forest management also required communities to navigate a web of supracommunal indigenous institutions, sub-national and national governmental institutions, and international initiatives, many of which had different sets goals for forest management. For the Guarayos communities of San Juan and Cururú, control of their territories and natural resources was not only a critical component of forest management, but also critical to their identity as indigenous Guarayos people. Members of these communities understood territorial control as a community responsibility.

Endnotes – Chapter 6

[1] For information on the benefits of indigenous forestlands, see Dockry, M. J. and H. Youngbear-Tibbetts (2007). Forest Ownership, Tenure, and Social System: Indigenous/Native Tribes Owners and Rights, USA. Encyclopedia of Forestry. F. W. Cubbage, Society of American Foresters and International Society of Tropical Foresters. This article was written about indigenous communities in United States, but the concepts are applicable to indigenous peoples in Bolivia.

[2] Colectivo de Estudios Aplicados al Desarrollo Social (CEADES) (2004). Manejo Forestal Comunitario en la TCO Guarayos. Santa Cruz, Bolivia, CEADES, Colectivo de Estudios Aplicados al Desarrollo Social, BOLFORII. (2008). "Bolivia's Forest Profile." Retrieved 5-7-2008, 2008, from http://www.bolfor.org/contenido_ing/perfil_forestal.asp, Peña-Claros, M. and M. J. Dockry (2010). Bolivia. Forests and Forestry in the Americas: An Encyclopedia. F. W. Cubbage, Society of American Foresters and International Society of Tropical Foresters, Peña-Claros, M., R. Guzman, et al. (2011). Bolivia. Sustainable Management of Tropical Rainforests: the CELOS Management System. M. J. A. Werger. Paramaribo zuid, Suriname, Tropenbos International Suriname.

[3] BOLFORII. (2008). "Bolivia's Forest Profile." Retrieved 5-7-2008, 2008, from http://www.bolfor.org/contenido_ing/perfil_forestal.asp, Peña-Claros, M., R. Guzman, et al. (2011). Bolivia. Sustainable Management of Tropical Rainforests: the CELOS Management System. M. J. A. Werger. Paramaribo zuid, Suriname, Tropenbos International Suriname.

[4] The remaining permanent production forests are not currently being harvested for timber because no group has prepared management plans or requested state approval for harvesting. Quevedo, L. and J. L. de Urioste (2010). El Manejo Forestal en las Tierras Bajas de Bolivia. Informe del Estado Ambiental de Bolivia 2010. La Paz, Bolivia, Liga de Defensa del Medio Ambiente (LIDEMA), Camera Forestal de Bolivia (CFB). (2012). "Cobertura Forestal de Bolivia." Retrieved March 4, 2012, from http://www.cfb.org.bo/cfbinicio/wfrmCobertura.aspx.

[5] Quevedo, L. and J. L. de Urioste (2010). El Manejo Forestal en las Tierras Bajas de Bolivia. Informe del Estado Ambiental de Bolivia 2010. La Paz, Bolivia, Liga de Defensa del Medio Ambiente (LIDEMA).

[6] Camera Forestal de Bolivia (CFB). (2012). "Cobertura Forestal y Areas Bajo Manejo (Santa Cruz)." Retrieved March 4, 2012, from http://www.cfb.org.bo/cfbinicio/wfrmCobertura.aspx.

[7] Birk, G. (2000). Dueños del bosque : manejo de los recursos naturales por indígenas chiquitanos de Bolivia /c texto, Gudrun Birk = Owners of the forest : natural resource management by the Bolivian Chiquitano indigenous people. Santa Cruz de la Sierra, Bolivia, Apoyo para el Campesino-Indígena del Oriente Boliviano. p.138, 214

[8] Camera Forestal de Bolivia (CFB). (2012). "Certificación Forestal." Retrieved March 4, 2012, from http://www.cfb.org.bo/cfbinicio/wfrmCertificacion.aspx. Certified hectares in Bolivia have decreased, but the causes are unknown. Between 2005 and 2008, more than 2.2 million hectares were certified, but the total decreased to 1.7 million hectares in 2009 and 1.1 million hectares in 2010 and 2011. Espinoza, O. (2011). Unpublished-Collaborative Project Proposal: Forest Certification in Bolivia: A Status Report.

[9] Based on my informal interviews with community members in lowland Bolivia. Also see Associates for Rural Development (2002). Bolivia Country Analysis of Tropical Forests and Biological Diversity - USAID/Bolivia's Country Strategy 2004-2009. **Contract No. LAG-I-00-99-00013-00**.

[10] Morales Ayma, J. E. (2006). Discurso de Posesión del Presidente Juan Evo Morales Ayma en el Congreso Congreso Nacional de Bolivia, 22 de enero de 2006. La Paz, Bolivia. http://www.presidencia.gob.bo/discursos1.php?cod=9.

[11] Ibid.

[12] Ibid.

[13] These were general sentiments expressed to me by many indigenous people and foresters during my field work from 2002 to 2009.

[14] Central Intelligence Agency. "The World Factbook - Bolivia." Retrieved Web Page, 2008, from https://www.cia.gov/library/publications/the-world-factbook/geos/bl.html. (accessed 5/7/2008); BOLFORII. (2008). "Bolivia's Forest Profile." Retrieved 5-7-2008, 2008, from http://www.bolfor.org/contenido_ing/perfil_forestal.asp.; Healy, K. (2001). Llamas, weavings, and organic chocolate : multicultural grassroots development in the Andes and Amazon of Bolivia. Notre Dame, Ind., University of Notre Dame Press.; Also, personal observations and discussions with indigenous communities in Bolivia during field work from 2002 to 2009. During this work I spoke with indigenous community forestry leaders and community members who expressed interest in improving their forestry operations and managing for more than economic resources. See Associates for Rural Development (2002). Bolivia Country Analysis of Tropical Forests and Biological Diversity - USAID/Bolivia's Country Strategy 2004-2009. **Contract No. LAG-I-00-99-00013-00**. for a summary of the 2002 study tour.

[15] Pacheco B, P. and D. Kaimowitz (1998). Municipios y gestión forestal en el trópico boliviano. La Paz, Bolivia, Centro Internacional de Investigaciones Forestales : Centro de Estudios para el Desarrollo Laboral y Agrario : Taller de Iniciativas en Estudios Rurales y Reforma Agraria : Proyecto de Manejo Forestal Sostenible. p. 87 In 1990 there was a new recognition of lowland indigenous communities in Bolivia. The 1990 March for Territory and Dignity played a role in changing the Bolivian government's understanding and recognition of lowland communities. Around the time of the 1990 march, the Bolivian government recognized the territorial rights of several indigenous communities. The Bolivian government's establishment of a new province based on ethnic and social identity is consistent with the increased recognition of territorial rights. However, according to indigenous accounts at the time, community members believed that the government promoted changes that would placate indigenous demands without granting full territorial rights to communities. Lijerón Casanovas, A. (1991). De la resistencia pacifica a la interpelacion historica : (crónica preliminar de la Marcha Indígena por el Territorio y la Dignidad). Publicación #26 CIDDEBENI. Trinidad, Beni, Bolivia, Centro de Investigación u Documentación para el Desarrollo del Beni. **26:** 1-26.

[16] Instituto Nacional de Estadística. (2001). "Bolivia: Poblacion por sexo y area según Departamento, Provincia y Municipo, Censo 2001." Retrieved Web Page, 2010, from http://www.ine.gov.bo/indice/visualizador.aspx?ah=PC20102.HTM. Pacheco B, P. and D. Kaimowitz (1998). Municipios y gestión forestal en el trópico boliviano. La Paz, Bolivia, Centro Internacional de Investigaciones Forestales : Centro de Estudios para el Desarrollo Laboral y Agrario : Taller de Iniciativas en Estudios Rurales y Reforma Agraria : Proyecto de Manejo Forestal Sostenible. p. 51.

[17] Pacheco B, P. and D. Kaimowitz (1998). Municipios y gestión forestal en el trópico boliviano. La Paz, Bolivia, Centro Internacional de Investigaciones Forestales : Centro de Estudios para el Desarrollo Laboral y Agrario : Taller de Iniciativas en Estudios Rurales y Reforma Agraria : Proyecto de Manejo Forestal Sostenible. p.51.

[18] Navarro, G. and M. Maldonado (2002). Geografía ecológica de Bolivia: Vegetación y ambientes acuáticos. Cochabamba, Bolivia, Centro de Ecología Simón I. Patiño.

[19] Ibid. p. 158. The Cerrado province is one of the largest ecosystems in South America and is extremely diverse.

[20] Ibid. p. 121.

[21] Ibid. P. 123.

[22] Superintendencia Forestal de Bolivia (1999). Potencial de los bosques naturales de Bolivia para producción forestal permanente. Santa Cruz, Bolivia. p. 17.

[23] Fundación Amigos de la Naturaleza (FAN) and Wildlife Conservation Society (WCS) 1994 report cited in Pacheco B, P. and D. Kaimowitz (1998). Municipios y gestión forestal en el trópico boliviano. La Paz, Bolivia, Centro Internacional de Investigaciones Forestales : Centro de Estudios para el Desarrollo Laboral y Agrario : Taller de Iniciativas en Estudios Rurales y Reforma Agraria : Proyecto de Manejo Forestal Sostenible. p. 58.

[24] From a 1995 CORDECRUZ study cited by ibid. p. 58.

[25] Habig, M. A. and J. M. Espinosa (1946). "The Franciscan Provinces of South America." The Americas **2**(3): 335-356. p. 340.

[26] Colectivo de Estudios Aplicados al Desarrollo Social (CEADES) (2004). Manejo Forestal Comunitario en la TCO Guarayos. Santa Cruz, Bolivia, CEADES, Colectivo de Estudios Aplicados al Desarrollo Social. p. 65.

[27] Ibid. p. 65. Also, personal communication with Municipal leader (look up name in notes from LAISM conference) in Ascensión de Guarayos

[28] Pacheco B, P. and D. Kaimowitz (1998). Municipios y gestión forestal en el trópico boliviano. La Paz, Bolivia, Centro Internacional de Investigaciones Forestales : Centro de Estudios para el Desarrollo Laboral y Agrario : Taller de Iniciativas en Estudios Rurales y Reforma Agraria : Proyecto de Manejo Forestal Sostenible, Lehm, L. A. (1999). Milenarismo y movimientos sociales en la Amazonia boliviana: La búsqueda de la loma santa y la marcha indígena por el territorio y la dignidad, Centro de Investigación y Documentación para el Desarrollo del Beni.

[29] García Jordán, P. (2006). "Yo soy libre y no indio: soy guarayo" : para una historia de Guarayos, 1790-1948. Lima, Instituto Francés de Estudios Andinos.

[30] Habig, M. A. and J. M. Espinosa (1946). "The Franciscan Provinces of South America." The Americas **2**(3): 335-356, Pacheco B, P. and D. Kaimowitz (1998). Municipios y gestión forestal en el trópico boliviano. La Paz, Bolivia, Centro Internacional de Investigaciones Forestales : Centro de Estudios para el Desarrollo Laboral y Agrario : Taller de Iniciativas en Estudios Rurales y Reforma Agraria : Proyecto de Manejo Forestal Sostenible. Also see García Jordán, P. (2006). "Yo soy libre y no indio: soy guarayo" : para una historia de Guarayos, 1790-1948. Lima, Instituto Francés de Estudios Andinos.

[31] Pacheco B, P. and D. Kaimowitz (1998). Municipios y gestión forestal en el trópico boliviano. La Paz, Bolivia, Centro Internacional de Investigaciones Forestales : Centro de Estudios para el Desarrollo Laboral y Agrario : Taller de Iniciativas en Estudios Rurales y Reforma Agraria : Proyecto de Manejo Forestal Sostenible.

[32] Ibid.

[33] Klein, H. S. (1992). Bolivia : the evolution of a multi-ethnic society. New York, Oxford University Press. p. 228.

[34] Ibid. p. 232 & 234.

[35] Ibid. p. 235 & 237

[36] Pacheco B, P. and D. Kaimowitz (1998). Municipios y gestión forestal en el trópico boliviano. La Paz, Bolivia, Centro Internacional de Investigaciones Forestales : Centro de Estudios para el Desarrollo Laboral y Agrario : Taller de Iniciativas en Estudios Rurales y Reforma Agraria : Proyecto de Manejo Forestal Sostenible. p. 59; Klein, H. S. (1992). Bolivia : the evolution of a multi-ethnic society. New York, Oxford University Press. p. 237.

[37] Klein, H. S. (1992). Bolivia : the evolution of a multi-ethnic society. New York, Oxford University Press. p. 233. Actually, the United States thought the Bolivian revolutionary government was more fascist than communist. Even so, the Bolivian government did not want the United States to believe that they were part of a communist threat, especially in light of the major land reforms based on agricultural unions.

[38] Ibid. p. 239.

[39] Urioste F. de C, M. and D. Pacheco B (2001). Las tierras bajas de Bolivia a fines del siglo XX : tenencia, uso y acceso a la tierra y los bosques. La Paz, PIEB. p. 157.

[40] Klein, H. S. (1992). Bolivia : the evolution of a multi-ethnic society. New York, Oxford University Press. p. 239; Urioste F. de C, M. and D. Pacheco B (2001). Las tierras bajas de Bolivia a fines del siglo XX : tenencia, uso y acceso a la tierra y los bosques. La Paz, PIEB. p. 157.

[41] See previous chapter and Libermann C, K. and A. Godínez G (1992). Territorio y dignidad : pueblos indígenas y medio ambiente en Bolivia. Bolivia; Caracas, Venezuela, Instituto Latinoamericano de Investigaciones Sociales; Editorial Nueva Sociedad.

[42] Vallejos B, C. (1998). Ascensión de Guarayos: indígenas y madereros. Municipios y gestión forestal en el trópico boliviano. P. Pacheco B and D. Kaimowitz. La Paz, Bolivia : Centro Internacional de Investigaciones Forestales : Centro de Estudios para el Desarrollo Laboral y Agrario : Taller de Iniciativas en Estudios Rurales y Reforma Agraria : Proyecto de Manejo Forestal Sostenible**:** 489. p. 51, 60-61.

[43] COPNAG is a member of CIDOB, one of the participants in the 1990 March for Territory and Dignity.

[44] Central de Organizaciones de Pueblos Nativos de Guarayos (COPNAG) (2006). Untitled. San Juan Folder AFI-SJ 2006 Ascención de Guarayos, Bolivia, San Juan and BOLFOR II Forestry Office Folders. **AFI-SJ 2006**. "cuyo propósito es ejercer el derecho al territorio y al acceso y control de sus recursos naturales, como base del desarrollo humano integral, a partir de su identidad cultural."

[45] Farel Salas, A. F. (2007). Plan General de Manejo Forestal Comunitario - Tierra Comunitaria de Origen - Guarayos - Asociación Forestal Indígena San-J uan (AFI-SJ).

[46]Cururú Community (2000). Convenio interistutional para la elaboracion y ejecucion de un plan de manejo forestal en la comunidad de Cururú-TCO Guarayos 3. pdf page 28,

[47] Documents from the San Juan community showed similar forestry management goals and principles for their organization. See for example Farel Salas, A. F. (2007). Plan General de Manejo Forestal Comunitario: Tierra Comunitaria de Origen - Guarayos Asociación Forestal Indígena San Juan (AFI-SJ). Santa Cruz, Bolivia, Superintendencia Forestal Offices.

[48] Cururú Community (2001). Contracto de Servicos Profesionals**:** 2. pdf page 33. Also see annexes in Farel Salas, A. F. (2007). Plan General de Manejo Forestal Comunitario: Tierra Comunitaria de Origen - Guarayos Asociación Forestal Indígena San Juan (AFI-SJ). Santa Cruz, Bolivia, Superintendencia Forestal Offices.

[49] The Menominee also fought for local tribal hiring in the 1890 law and then again in the 1908 law.

[50] Cururú Community (2001). Acta de Consulta a la Asamblea Forestal en Area de la TCO Guarayos (Plan General de Manejo Forestal Cururú). Untitled Folders. Urubicha, Guarayos, Bolivia, Cururú Forestry Office Folders. The community of Cururú assembled all community members, including their "traditional representatives," as well as the municipal authorities and representatives of COPNAG on the morning of April 19, 2001 at 9:30. The formal community meeting was designed for consultation with the general assembly—every member of the Cururú

community—about the decision to develop a management plan to harvest forest within the TCO Guarayos. Key topics covered at the meeting included the objectives of the forest management plan and community expectations concerning forest management; direct and indirect benefits, benefit distribution, and the form the community forestry organization would take; and community responsibilities, including how the community would control and monitor the forest management area. The minutes also indicate that during the meeting the municipal authority (the mayor) stated that "his government is in the service of the Indigenous communities within his jurisdiction and he will support with all his power this type of initiative [forest management]."

[51] Ibid.

[52] Ibid.

[53] Ibid. He continued: "….to get property rights of the forest management area and that the community manages autonomously within the legal framework and the regulations and that they are able to administer transparently and that the distribution of benefits reaches the community."

[54] Members of the San Juan community expressed similar ideas about forest management. See community meeting minutes in the annex of Farel Salas, A. F. (2007). Plan General de Manejo Forestal Comunitario: Tierra Comunitaria de Origen - Guarayos Asociación Forestal Indígena San Juan (AFI-SJ). Santa Cruz, Bolivia, Superintendencia Forestal Offices.

[55] Cururú Community (2001). Acta de Consulta a la Asamblea Forestal en Area de la TCO Guarayos (Plan General de Manejo Forestal Cururú). Untitled Folders. Urubicha, Guarayos, Bolivia, Cururú Forestry Office Folders.

[56] These percentages are similar in San Juan documents and are repeated in numerous documents related to Guarayos forest management.

[57] Cururú Community (2001). Acta de Consulta a la Asamblea Forestal en Area de la TCO Guarayos (Plan General de Manejo Forestal Cururú). Untitled Folders. Urubicha, Guarayos, Bolivia, Cururú Forestry Office Folders.

[58] Ibid. pdf page 43

[59] Ibid.

[60] There are many examples of different definitions. See: World Commission on Environment and Development (1987). Our common future. Oxford ; New York, Oxford University Press, Ostrom, E., L. D. Schroeder, et al. (1993). Institutional incentives and sustainable development : infrastructure policies in perspective. Boulder, Westview Press, Elkington, J. (1994). "Towards the Sustainable Corporation: Win-Win-Win Business Strategies for Sustainable Development." California management review **36**(2): 90-100, Ascher, W. (1995). Communities and sustainable forestry in developing countries. San Francisco, CA, Institute for Contemporary Studies, Forster, N., University of Wisconsin-Madison Land Tenure Center, et al. (1995). Case studies of community-based forestry enterprises in the Americas : presented at the symposium "Forestry in the Americas, Community-Based Management and Sustainability", University of Wisconsin-Madison, February 3-4, 1995. Madison, Wis., Institute for Environmental Studies : Land Tenure Center, López Arzola, R. and Latin American Studies Association International Congress (1995). Empresas campesinas indígenas y reformas rurales en el estado de Oaxaca, México : "la búsqueda de un desarrollo sostenible a través del control y gestíon comunitario indígena de los recursos forestales en el estado de Oaxaca, México : estudios de caso. S.l, Elkington, J. (1998). Cannibals with forks : the triple bottom line of 21st century business. Gabriola Island, BC ; Stony Creek, CT, New Society Publishers, Mog, J. M. (2004). "Struggling with Sustainability--A Comparative Framework for Evaluating Sustainable Development Programs." World Development **32**(12): 2139-2160, Hopwood, B., M. Mellor, et al. (2005). "Sustainable development: mapping different approaches." Sustainable Development **13**(1): 38-52, Petersen, J. (2005). "Forestry In Indian Country: Models of Sustainability for our Nation's Forests?" Evergreen Magazine(Journal Article), Cook,

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[61] Añeoinda Yamba, O. (2008). Interview. M. J. Dockry. Cururú, Bolivia. Said "para que haya trabajo para sí mismo y su hijo, o para sus nietos, para todos."

[62] Canahuira Moirenda, L. (2008). Interview. M. J. Dockry. Asunción de Guarayos, Bolivia. "No acabar con los árboles."

[63] Sapiapuka Vaca, F. (8/20/2008). Personal Interview by Michael J Dockry. Asunción de Guarayos, Bolivia. "[La comunidad puede manejar el bosque de una manera sostenible] porque es gente antigua, tenemos leyendas…no seria bueno tumbar arboles…es algo sagrado para ellos [los padres]… con eso se vive…siempre me cuenta mi padre que gracias por los arboles se llueve…y por esto la comunidad es consciente es gente antigua…quieren aprovechar solamente los arboles en condiciones no tallar, tumbar todos los arboles…los socios del negocio son indígenas, son netamente antiguo la comunidad"

[64] Enríquez, C. (2008). Interview. M. J. Dockry. Asunción de Guarayos, Bolivia. "El bosque de nuestros es como nuestros hermanos, tienen vida nos dan vida a nosotros también"

[65] Sapiapuka Vaca, F. (8/20/2008). Personal Interview by Michael J Dockry. Asunción de Guarayos, Bolivia. "Mi abuelo antes… pa su chaquito… no tumbaban más que una hectárea, máximo como dos hectáreas….Y ellos…antes… le pedían…Tumpa, que quiere decir, Dios… que es el dueño de, del bosque, del río, todo eso… Antes de tumbar árboles y—porque todo tienen dueño…el monte, todo eso y, y hacíamos, y a través del bosque también…se tiene…los animales silvestres…que son importantes también…. Siempre nos hablaron los abuelos que hay que mantener el bosque."

[66] Enríquez, C. (2008). Interview. M. J. Dockry. Asunción de Guarayos, Bolivia. "El bosque nos da vida y el también necesita nosotros"

[67] There were also many implicit references to the forestry law in the oral history interviews. The communities learned about the forestry law through meetings and workshops organized by local and national forestry officials, non-governmental organizations like BOLFOR, and international government's development agencies like USAID for the United States and GTZ for Germany.

[68] Enríquez, C. (2008). Interview. M. J. Dockry. Asunción de Guarayos, Bolivia. "El buen manejo es estar bien organizado…y otro buen manejo es poder administrarlo…y otro…es seguir [el reglamento] de la ley forestal."

[69] Ibid."Manejo sostenible es si hay cuatro árboles nosotros dejamos uno, uno para semillero…para los futuros…. La ley forestal dice esto…para nuestros hijos y nietos" "[sin la ley forestal] corregimos el riesgo de [los] piratas."

[70] Macue, J. (8/22/2008). Personal Interview by Michael J Dockry. Urubichá, Bolivia. "Sostenibilidad yo entiendo de hacer el plan de manejo...de cada especia que se aprovecha se deja un semillero…para no se pierde la especia…. Si aprovechamos todo, nos quedamos sin nada…. [Si no se deja semilleros] nos va a quedar sin madera y también creo que se afecta los animalitos…ya no tendríamos bosque…o otra madera que no nos sirve…."

[71] Añeoinda Yamba, O. (2008). Interview. M. J. Dockry. Cururú, Bolivia. "El buen manejo para mi es aplicar un poco de lo que es la ley forestal…. La ley forestal no permite no dañar el bosque…. Eso para mi, para nosotros, es el

buen manejo…. Si sacamos cien por ciento no dejamos ninguno no va a ver [para los futuros]…. Hay que pensar que los niños viene en el futuro y yo creo que hemos sembrado…yo creo que van a volver a cosechar…así que seguemos la ley forestal…porque no hubiera la ley forestal no hubiera esto….”

[72] Macue, J. (8/22/2008). Personal Interview by Michael J Dockry. Urubichá, Bolivia. “[El plan de manejo da para] la aportación de salud, de educación, todo eso, se beneficia la gente de la comunidad.”

[73] Añeoinda Yamba, O. (2008). Interview. M. J. Dockry. Cururú, Bolivia. “Nosotros hemos decidido ya de vender digamos esa madera para que tengamos platas para apoyar digamos la educación y la salud, eso es lo más principal.”

[74] See for example, Iraipi Biracoti, R. (8/19/2008). Personal Interview by Michael J Dockry. Asunción de Guarayos, Bolivia, Sapiapuka Vaca, F. (8/20/2008). Personal Interview by Michael J Dockry. Asunción de Guarayos, Bolivia, Macue, J. (8/22/2008). Personal Interview by Michael J Dockry. Urubichá, Bolivia, Enríquez, C. (2008). Interview. M. J. Dockry. Asunción de Guarayos, Bolivia.

[75] Sakuru Siager, S. (8/20/2008). Personal Interview by Michael J Dockry. Asunción de Guarayos, Bolivia. “Cuando no había esos plan de manejos, no había ese trabajo, mucha gente salía de su pueblo, buscaba otro trabajo en otros lugares ¿no? Y ahora cuando hay ese trabajo, solamente van a ganar unos cuantos centavos para no dejar mucho a su familia. Ese es el beneficio que hay en la comunidad.”

[76] Canahuira Moirenda, L. (2008). Interview. M. J. Dockry. Asunción de Guarayos, Bolivia. “no acabar los arboles.” Children and opportunities for their future employment figure prominently in the following statement by Sapiapuka Vaca, F. (8/20/2008). Personal Interview by Michael J Dockry. Asunción de Guarayos, Bolivia., “If one practices good management… I believe that… we are going to have possibilities to continue to harvest in the future. Even our children are going to be able to continue doing the same work… but only if we create a sustainable management plan that will last. It is a chain that turns… it doesn’t end, no? Moreover, [future generations] will thank us for having a sustainable management plan.” “Si se hace un buen manejo…yo creo que…vamos a tener posibilidades seguir aprovechando más adelante e incluso nuestros hijos ya pueden seguir haciendo el mismo trabajo…pero siempre cuando hacemos un plan de manejo sostenible pueda durar. Una cadena que jira…que no se acabe, no?...Incluso [los generaciones del futuro] nos va a agradecer de tener un plan de manejo sostenible.”

[77] Iraipi Biracoti, R. (8/19/2008). Personal Interview by Michael J Dockry. Asunción de Guarayos, Bolivia. “Como salió una ley [la ley forestal]…que nosotros los indígenas tenemos derecho de hacer nuestro uso de tierra. [Estamos] titulados como TCO.”

[78] Ibid. “[la ley forestal ayuda porque] de repente ese gobierno quiere hacer puros chacos allí. Nosotros protegimos nuestro área para conservarlo y que los otros no vienen de otro lado [a deforestarlo].”

[79] See for example: Wilkinson, C. F. (2005). Blood struggle : the rise of modern Indian nations. New York, Norton, Doherty, R. (2007). "Old-Time Origins of Modern Sovereignty: State-Building among the Keweenaw Bay Ojibway, 1832-1854." American Indian Quarterly **31**(1): 165.

[80] Instituto Nacional de Estadística. (2001). "Bolivia: Poblacion por sexo y area según Departamento, Provincia y Municipo, Censo 2001." Retrieved Web Page, 2010, from http://www.ine.gov.bo/indice/visualizador.aspx?ah=PC20102.HTM.

[81] Cururú’s management plan explicitly states that it was created in conjunction with the community, the community council, and BOLFOR. See Zeballos C, M. A. (2001). Plan General de Manejo Forestal Cururú - Tierra Comunitaria de Origen Guarayo - Período 2001-2030. Executive Summary p.4 & 5.

[82] Forest management plans are a means to territorial consolidation. For example, the introduction to San Juan’s management plan states the central strategic objective reflects the goals of the Central Organization of Native

Peoples of Guarayos to "consolidate the property of the Indigenous Community Territory [TCO], through the titling, the mapping, and the occupation of the territory, to improve the living conditions of the Guarayo people."[82] Cururú's forest management plan also states that territorial consolidation is one of their primary goals as an indigenous people. The plan states that their history of organizing as Guarayos people (via COPNAG) and uniting with the pan-lowland indigenous organization CIDOB (both participants in the 1990 march) came about, "as a result of an organizational process to defend their demands as an indigenous community, the most important demand is for territory." The plan further explains that the "General Forest Management Plan of Cururú…has a central objective to 'Consolidate the property of the Indigenous Community Territory through the titling, mapping, and occupation of the territory to improve the standard of living for the Guarayos people." Farel Salas, A. F. (2007). Plan General de Manejo Forestal Comunitario: Tierra Comunitaria de Origen - Guarayos Asociación Forestal Indígena San Juan (AFI-SJ). Santa Cruz, Bolivia, Superintendencia Forestal Offices.

[83] Zeballos C, M. A. (2001). Plan General de Manejo Forestal Cururú - Tierra Comunitaria de Origen Guarayo - Período 2001-2030. p. 1

[84] Ibid. p. 17 Farel Salas, A. F. (2007). Plan General de Manejo Forestal Comunitario - Tierra Comunitaria de Origen - Guarayos - Asociación Forestal Indígena San-J uan (AFI-SJ). p.23.

[85] Ramírez Aldaya, M. A. (8/21/2008). Personal Interview by Michael J Dockry. Asunción de Guarayos, Santa Cruz, Bolivia. p.5. "El tema principal es que ellos no tienen la capacidad económica aun…Cururú ya tiene una visión empresarial…Pero aun así es difícil hasta ahora que puedan caminar solos, o sea es importante el apoyo de una asistencia externa que pueda coadyuvar el trabajo de ellos…"

[86] Guzmán Gutiérrez, R. (8/8/2008). Personal Interview by Michael J Dockry. Santa Cruz de la Sierra, Santa Cruz, Bolivia. p. 6 "…el primer beneficio creo de la com… de la forestaría comunitaria dada la coyuntura y los antecedentes, es la consolidación del derecho consuetudinario del bosque, del recurso."

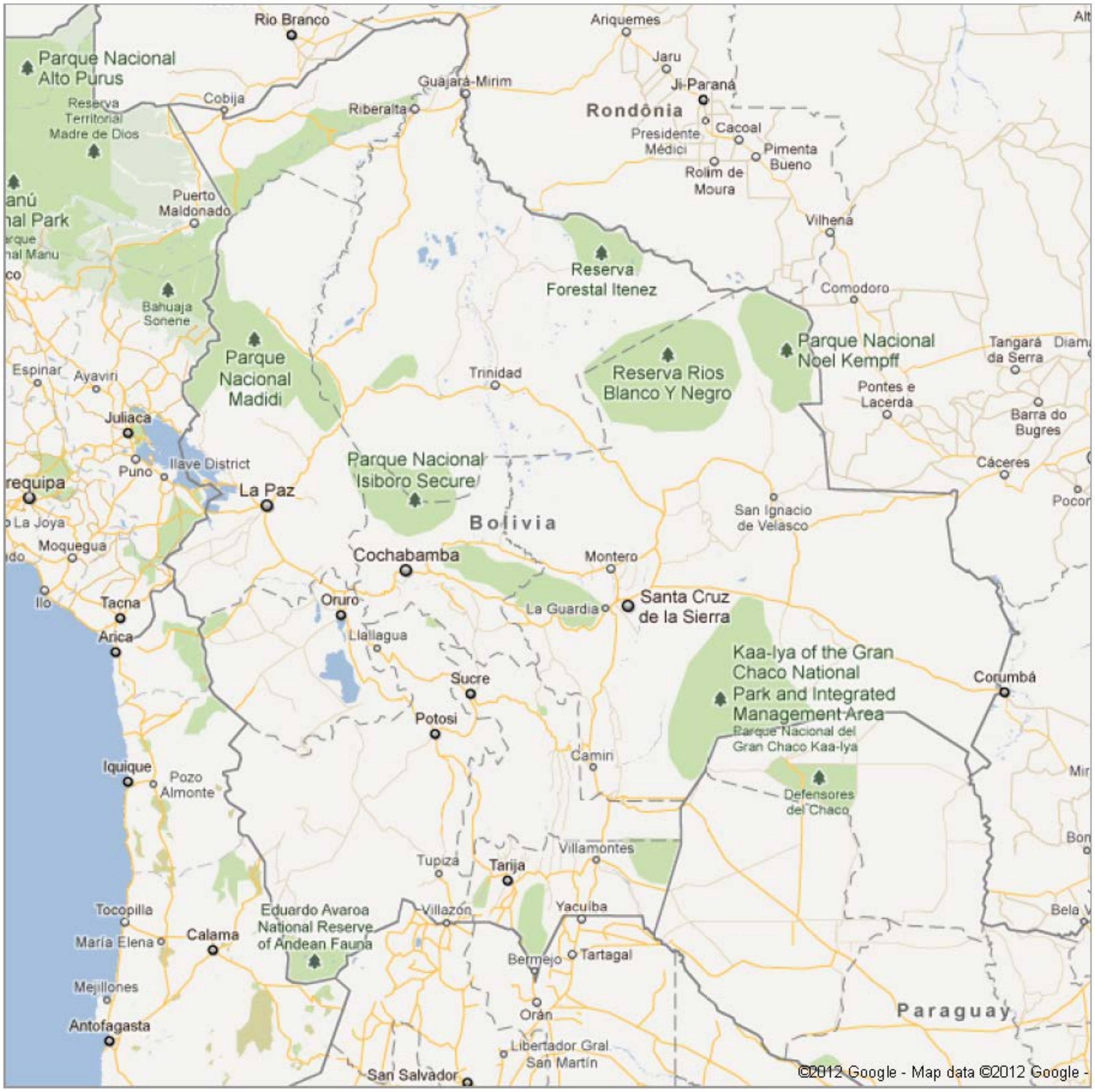
[87] Ibid. p. 7.

[88] Ibid. p. 7. "si tú tienes una visión de uso más holística donde vas teniendo unidades de uso y todas éstas son parte del manejo integral del territorio, obviamente tú estás no solamente consolidando el territorio, sino también estás demostrando a quienes están fuera del territorio, no solamente demostrando sino ofreciendo servicios y bienes que genera la gestión del territorio."

[89] Lehm, Z. (7/8/2008). Personal Interview by Michael J Dockry. Santa Cruz de la Sierra, Santa Cruz, Bolivia. p. 2 "…el tema central de la estrategia de desarrollo pasaba por el tema de manejo de los recursos naturales, y entonces."

[90] Ibid. p. 3 "hay qué pensar cómo el manejo forestal comunitario va a aportar al sistema de manejo global del territorio, de tal manera que no se enfoque solamente en el manejo forestal sino que el manejo forestal puede aportar al sistema de manejo del territorio en general."

Chapter 6 Maps and Figures


Rio Branco
Ariquemes
Parque Nacional Alto Purus
Jaru
Ji-Paraná
Guajará-Mirim
Cobija
Riberalta
Rondônia
Reserva Territorial Madre de Dios
Presidente Médici
Cacoal
Pimenta Bueno
Rolim de Moura
Puerto Maldonado
Vilhena
Bahuaja Sonene
Reserva Forestal Itenez
Comodoro
Parque Nacional Noel Kempff
Tangará da Serra
Espinar
Ayaviri
Parque Nacional Madidi
Trinidad
Reserva Rios Blanco Y Negro
Pontes e Lacerda
Barra do Bugres
Juliaca
Puno
Ilave District
Parque Nacional Isiboro Secure
Cáceres
La Paz
San Ignacio de Velasco
La Joya
Bolivia
Moquegua
Cochabamba
Montero
Ilo
Tacna
Oruro
La Guardia
Santa Cruz de la Sierra
Arica
Llallagua
Kaa-Iya of the Gran Chaco National Park and Integrated Management Area
Parque Nacional del Gran Chaco Kaa-Iya
Sucre
Corumbá
Potosi
Camiri
Iquique
Pozo Almonte
Defensores del Chaco
Villamontes
Tupiza
Tarija
Tocopilla
Eduardo Avaroa National Reserve of Andean Fauna
Villazón
Yacuiba
María Elena
Calama
Bermejo
Tartagal
Mejillones
Antofagasta
Orán
Paraguay
Libertador Gral San Martín
San Salvador
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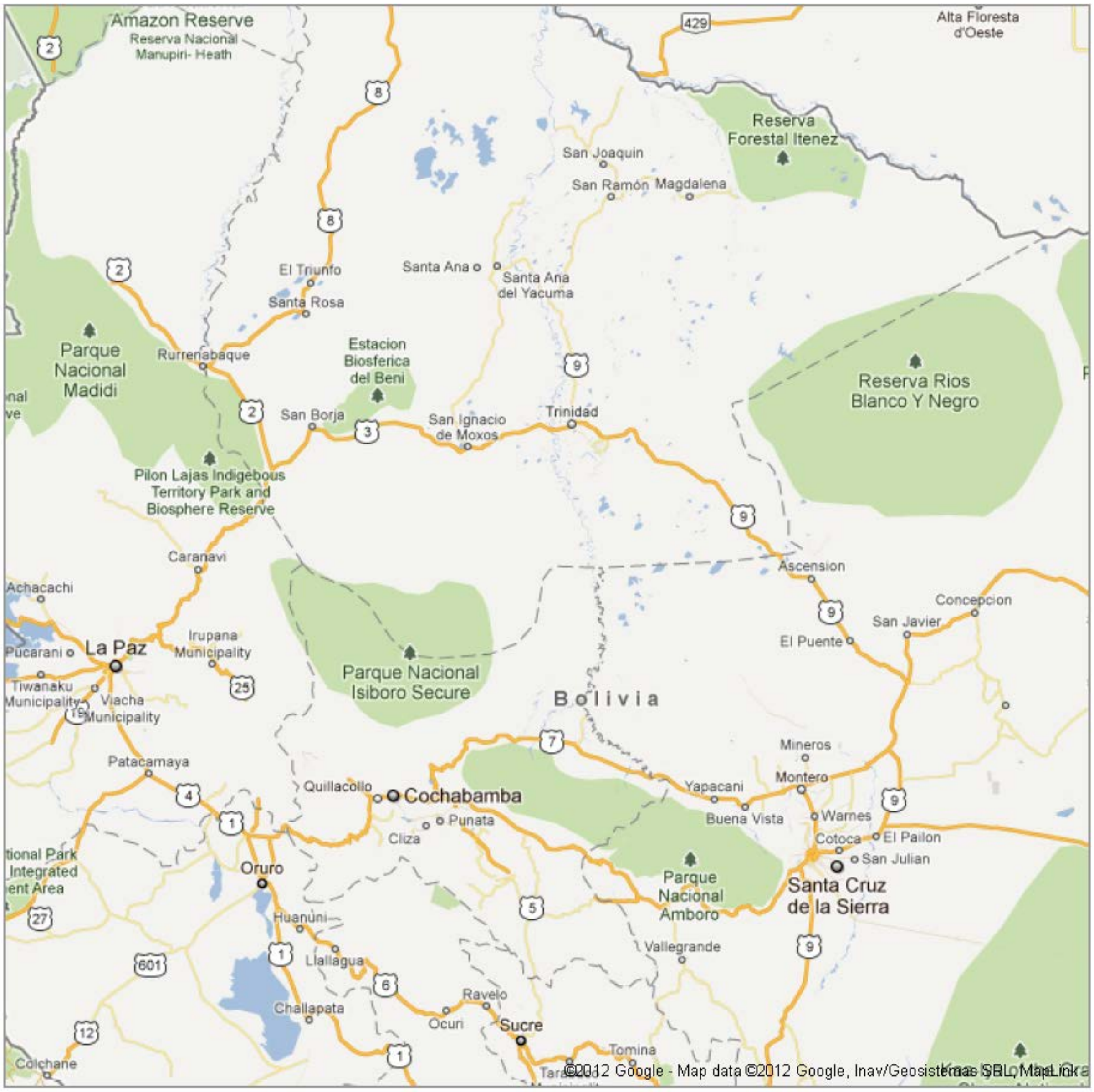
Map 1. Map of Bolivia with major cities roads. Image used according to Google terms and conditions.


Amazon Reserve
Reserva Nacional Manupiri- Heath
Alta Floresta d'Oeste
Reserva Forestal Itenez
San Joaquin
San Ramón
Magdalena
El Triunfo
Santa Rosa
Santa Ana
Santa Ana del Yacuma
Parque Nacional Madidi
Rurrenabaque
Estacion Biosferica del Beni
Reserva Rios Blanco Y Negro
San Borja
San Ignacio de Moxos
Trinidad
Pilon Lajas Indigebous Territory Park and Biosphere Reserve
Caranavi
Ascension
Achacachi
Concepcion
San Javier
El Puente
La Paz
Irupana Municipality
Parque Nacional Isiboro Secure
Bolivia
Mineros
Montero
Yapacani
Buena Vista
Warnes
Cotoca
El Pailon
San Julian
Santa Cruz de la Sierra
Cochabamba
Quillacollo
Punata
Cliza
Patacamaya
Viacha Municipality
Tiwanaku Municipality
Oruro
Huanuni
Llallagua
Challapata
Parque Nacional Amboro
Vallegrande
Ravelo
Ocuri
Sucre
Tomina
Colchane
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Map 2. Map shows the provincial capital of Ascensión de Guarayos in Santa Cruz, Bolivia. The province centers around the capital city and boarders the Santa Cruz Department (boarder is shown as a dotted line on this map). The Guarayos Indigenous Community Territory occupies the majority of the Guarayos province and the San Juan and Cururú management areas are located to the North and east of Ascensión de Guarayos.

Common Name - Bolivia	Scientific Name
Ajunau	Pterogyne nitens
Amarillo	Aspidosperma australe
Bibosi	Ficus spp.
Canelón	Aniba guianensis
Coquino	Pouteria bilocularis
Curupaú	Anadenanthera colubrina
Guayabochi	Calycophyllum spruceanum
Jichituriqui	Aspidosperma rigidum
Jorori	Swartzia jorori
Maní	Sterculia sp.
Mara	Swietenia macrophylla
Momoqui	Caesalpinia pluviosa
Ochoó	Hura crepitans
Palo maría	Calophyllum brasiliense
Paquió	Hymenaea courbaril
Serebó	Schizolobium amazonicum
Sirari	Copaifera chodatiana
Tajibo	Tabebuia chrysantha
Tarara	Centrolobium microchaete
Trompillo	Guarea macrophylla
Verdolago	Terminalia oblonga
Yesquero	Cariniana spp.

Figure 1. The 22 most common tree species of Guarayos. Figure adapted from Superintendencia Forestal "Potencial De Los Bosques Naturales De Bolivia Para Producción Forestal Permanente" 1999.

Chapter 7: Conclusion

While cutting down trees to maintain the forest may initially seem counterintuitive, active forest management has given the two indigenous communities examined in this dissertation the tools they need to achieve multiple community goals, particularly territorial control and forest protection. Yet for both communities, active forest management has also brought challenges as tribal members struggle with economic and educational constraints. In a global economy, competitive forest management entails a host of expenses: trained foresters, modern mills, good roads, and expensive management plans. Integrating the perspectives of community members into sustainable forest planning can also be extremely challenging.

The Menominee and Guarayos forest management systems have developed in different ecological, cultural, historical, institutional, and legal contexts. The Menominee have harvested trees from their reservation since the 1850s and have operated a large commercial sawmill for over 100 years. The tribe has secure long-standing legal land tenure and forest management rights. The United States government officially recognizes the Menominee tribe as a sovereign nation. Like the Menominee, the Guarayos also have legal land tenure rights over their communal territories. However, the Guarayos secured these rights only recently, in the mid-1990s. Further, the Guarayos communities do not have the technical or economic resources to manage their forests independently. While the Guarayos community has a long history of manipulating and managing their forest resources, they do not have a long tradition of commercial timber harvesting.

Despite these differences, the Menominee and Guarayos communities share many similarities. For both communities, culture and history is intimately tied to their respective forests and territories. Both communities believe that community health and ecological health are intertwined—they perceive little or no separation between people and the environment. In addition, both communities face similar challenges: they lack job and educational opportunities, and their communities have significant health problems. Each community views forestry as a way to alleviate some of these problems. Forestry has created individual job opportunities, provided for collective community welfare, improved community health opportunities, provided resources to increase educational opportunities, and allowed the communities to protect their territories and maintain their forests.

In this final chapter of the dissertation, I begin by exploring similarities in how the two communities have approached forest management. I then discuss differences between the two communities and examine the challenges each community faces. I conclude by outlining the lessons that other communities can learn from the Menominee and Guarayos forest management experiences.

Factors Affecting Community Forest Management in Menominee and Guarayos

Territorial Control and Forest Protection

For both the Menominee tribe and the Guarayos community, forestry has been an important tool for territorial control and protection. Forestry has allowed the Menominee tribe to exercise sovereign control over their resources and keep outsiders from taking Menominee resources. For example, in the 1908 La Follette Act the Menominee tribe actively pushed for the authorization to harvest their own forest rather than sell trees on the stump to outside loggers. The community saw forestry as a way to provide the necessary resources to protect their forests.

Menominee oral history interview participants often equated territorial control with tribal sovereignty. Tribal sovereignty explicitly involved control over the forest. Menominee participants indicated that the power to control their forest was important for tribal forest management because the tribe itself was able to set their own management goals and organize their own government to protect the forest and land. Sovereignty, as it relates to forestry, included controlling community forest resources and the cultural values associated with the forest. Tribal members also saw sovereignty as a way to protect Menominee forests and territory from outside forces and people.

Like the Menominee, the Guarayos community used forestry as a way to control their territories and protect their forests from outside threats. Community meeting minutes, management plans, and oral history interviews identified control and protection as explicit community goals. Further, engaging in forestry activities encourages community members to enter the forest to make maps, do inventories, oversee harvest operations, and maintain roads. When Guarayos community members are physically present in the forest, they personally observe what is occurring throughout their vast territories.

Territorial control has been successful for both the Menominee and Guarayos communities for several main reasons. First and most importantly, territorial control has been successful because it is a community goal rather than a goal imposed from outside the community. Second, legal and institutional structures at multiple levels support each community's rights to land tenure. Finally, forestry has provided opportunities for each community to maintain their presence within their territories. Community members spend time in the forest compiling inventory information, creating maps, and overseeing harvesting operations; their physical presence represents an expression of each community's legal rights to their community lands.

Forest Management Benefits

Despite differences in cultures, ecosystems, the economic scope of their operations, and their historical experiences, the Menominee and Guarayos communities have similar perceptions of the benefits of community forestry. For both communities, the economic benefits are extremely important. Without the economic value of their forest management activities, the communities would have fewer of the social and political resources necessary to maintain control over their territories. Forestry provides jobs for individuals and revenue for community well-being. Because the job opportunities are within the community, members do not have to leave their communities to find work. For both Menominee and Guarayos interview participants, however, the economics of forest harvesting included not just individual and community gain, but also forest and ecosystem health now and into the future. The economic benefits realized through community forest management provide a base from which to combat the challenges faced by both communities with respect to a lack of opportunities for employment, education, healthcare, and infrastructure. According to interview participants in both communities, financial goals should not override goals related to community, ecological, or cultural well-being. In other words, respondents believed it was important for the communities to use forestry to create revenue, but that this revenue should not come at the expense of other community goals or benefits.

The community members believe that without the economic viability of the community forestry operations, they would not be able to realize other important community benefits including increased opportunities for education. For example, forestry has provided the financial support for Menominee community education since the reservation was established, and for Guarayos, community education since the 1990s. Forestry profits fund teacher salaries, student tuition, and resources for students to attend classes at higher educational institutions. Forestry has also created opportunities for informal education and workshops on topics ranging from ecology, accounting, invasive species, and sustainable harvesting techniques. In sum, forestry has supported education at multiple levels in both communities.[1]

Perhaps most importantly, for both the Menominee and Guarayos people, identity is intertwined with their forests. Both communities have used forestry to foster their respective identities and cultural connections, because active forest management protected the forest. In addition, forestry has provided each community with a way to protect their forests from outside incursion and large-scale land use changes (which would replace forestland with non-forested farm or ranch land). According to the oral history interviews, maintaining cultural connections to the forest and fostering community identity are important benefits of forestry. Without the forest, the Menominee and Guarayos communities would have challenges maintaining many of their cultural traditions. Further, forestry benefits the future generations of each community. Evidence from management plans, community meeting minutes, and oral history interviews suggests that community members believe that active forest management—harvesting trees—protects the forest and provides myriad opportunities for the future, which in turn provide cultural continuity—a strong value shared by each community.

National Laws

National legislation has played an important role in forest management in both the Menominee and Guarayos communities. For the Menominee, annual harvest limits were first codified in 1890. The Menominee tribe used the 1890 law to achieve their own goals of protecting the forest and providing economic resources for the community. Legislation passed in 1908 further codified the Menominee forest management goals of a limited harvest, forest protection, and community employment and welfare. The Guarayos community has used the 1996 National Forestry Law in many of the same ways that the Menominee used the 1890 and 1908 laws: to limit harvests, ensure forest regeneration, protect the forest, and provide economic resources for the community. While forestry legislation is not the only factor influencing Menominee and Guarayos forest management, in both cases the communities have used forestry laws and regulations to realize their own goals.

Oral history interviews from both communities highlighted the central role of forestry laws in each community's perceptions of sustainable forest management. In the case of the Menominee interviews, participants often discussed the 1908 La Follette Act and the 20 million board feet harvesting limits (first codified in the 1890 law) as critical events for the tribe's long-term forest management success. Guarayos interview participants discussed the 1996 National Forestry Law as central to their own understandings of sustainable forest management. In both cases, the emphasis interview participants placed on the legal structure within which they manage forests indicated that community members believe that these laws have allowed them to use forestry to achieve community goals.

The Challenges of Community Forest Management

Despite similarities in the factors affecting community forest management in the two communities, the Menominee and Guarayos peoples face different challenges. First, land tenure is not as secure for the Guarayos in Bolivia as it is for the Menominee in Wisconsin. The Guarayos governing body, which legally holds and manages the Guarayos Indigenous Territory, has become mired in a dispute between the national and regional governments over which body will control lowland territories and resources. During my 2009 field visit to Guarayos, community members reported that there were two separate groups declaring to be the official Guarayos entity in charge of the Guarayos Community Territory. One group is aligned with a regional movement dedicated to promoting "autonomous" control of regional departments, while the other is aligned with the Bolivian national government, which promotes national "indigenous" control. To further complicate the situation, Guarayos communities have become increasingly divided along the same political lines. The dispute complicates Guarayos forest management because there are two official groups claiming to have the legal authority to oversee management within the Guarayos territory, which has led to insecurity in community land tenure and may harm forestry management in the future.

A related challenge concerns the Bolivian national government's transformation of the Forestry Superintendence into the Authority for Land and Forests (Autoridad de Tierra y Bosques or ATB). The Bolivian national government created this new authority in the late 2000s to integrate forest and agricultural land management. Because there is a strong connection between forestry and agriculture, this shift is potentially a positive step toward comprehensive land management. However, during visits to Guarayos, Bolivia in 2009, I observed that the personnel in charge of forestry oversight for the Authority for Land and Forests did not have the necessary technical skills or institutional knowledge to support community forestry and enforce the law. In sum, the state's oversight had decreased to a level that could lead to serious problems with sustainable forest management in the future. For example, the new personnel could explain neither basic forestry regulations nor their own job descriptions. This situation did not bode well for the enforcement or regulation of forestry law. During the same visit, I also observed that Guarayos community members had stopped a group of loggers who were trying to leave with a load of mahogany that they had harvested illegally from the Guarayos forestry management area. I arrived at the forestry management area four days after the community had stopped the truck and alerted the authorities. At that time, the community members had received no response from governmental officials and were beginning to grow pessimistic about the continued enforcement of the forestry law. At this point, it is unclear whether the Authority for Land and Forests will be able to increase their technical and regulatory skills—whether these events will be a small setback for Guarayos community forest management or harbingers of decreased enforcement and forestry support.

Another challenge for the Guarayos community is one that the Menominee community faced in the mid-1800s when their reservation was established: they lack practical experience in sustainable forest management. The Guarayos have few long-term examples of sustainable tropical forest management; Bolivian foresters do not know whether their forests can be harvested sustainability and protected over an extended period of time.[2] While there are some tropical forestry experiences in other countries in Latin America that may benefit Guarayos management, tropical silviculture is still relatively new and has not been practiced for much longer than several decades. It is unclear whether the forestry and silvicultural treatments employed in the Guarayos forest will perpetuate and regenerate the forests. The Guarayos communities believe that the techniques will prove successful, but have limited practical experience with forest management. In many ways, the current situation of the Guarayos community is similar to the Menominee community's experiences in the mid-1800s when Chief Oshkosh famously outlined his view that forest management could be used to provide perpetual harvests while maintaining and regenerating the forest. Only time will reveal whether the Guarayos community's forestry practices produce outcomes as successful as those attained by the Menominee.

The situation of the Guarayos people remains precarious because the community lacks economic, technical, and—to a certain extent—local political support for indigenous community forest management. Some researchers have suggested that the continued poverty in lowland Bolivia may indicate that sustainable forest management is not sufficiently effective as a method of community development.[3] However, members of the indigenous communities managing forests in Guarayos did not express doubts about the effectiveness of sustainable forest management in their testimonies. Community members understood that benefits went beyond economics to protecting their territory and passing a cultural and economic heritage on to their children and grandchildren. Indigenous communities believe that they have the right to make a decent living, but they also assert that economic success is not the most important right for which they have fought. In the interviews, participants seemed to value the right to territory and cultural recognition more strongly than pure economic benefits. Interview participants argued that the land connects the past, present, and future in a tangible and practical way. Indigenous communities recognize that to maintain their cultural relationships with the land, they must first have control over that land and the economic benefits will follow; if they lose control of their lands, there will be no opportunity for economic improvement.

Menominee community members outlined longer-term challenges that differed from the more immediate concerns of the Guarayos. First, the Menominee viewed climate change and invasive species as major issues affecting the sustainability of their forest management. Although the tribe did not cause climate change or invasive species, and they cannot stop either of these forces, they choose management strategies that will help the forest adapt to the effects of both. For example, Menominee foresters have begun to modify silvicultural prescriptions, increasing harvests of ash trees that might otherwise be devastated by the emerald ash borer in the near future.

The Menominee community is also beginning to discuss adaptation to possible effects of climate change. Climate change could fundamentally affect forest management for diversity—a long-standing forest management goal. Forest managers have not yet adjusted their management practices in anticipation of climate change, but they have engaged the Menominee community in efforts to plan for future changes. For example, the College of Menominee Nation has initiated a series of workshops and prepared educational materials (brochures, websites, and videos) designed to initiate a dialogue, raise awareness, and bring multiple perspectives into management decisions. Menominee oral history interview participants often discussed education and community involvement in decision making as factors that facilitated the success of Menominee forest management. Community climate change discussions are one example of the way the Menominee community is beginning to address this challenge.

Lessons for Indigenous Forestry from the Menominee and Guarayos Case Studies

Indigenous communities can take several lessons from the forestry experiences of the Menominee. First, the Menominee have been able to overcome community discord to foster community cohesion and community leadership over time. Second, strong internal and external governmental regulations and enforcement have promoted sustainable forest management over time. Third, the community has had a clear and consistent vision of sustainable forest management through the years. Historically, this vision was summarized in Chief Oshkosh's famous quote; later it was codified in federal law as sustained yield forestry. Today, tribal law and the forest management plan articulate shared community goals for forest management. Fourth, the Menominee have had strong institutions that have promoted sustainable forest management. Fifth, the Menominee have a profound sense of place inspired by living in the area of the current reservation for thousands of years. Sixth, the tribe has maintained control of the resources on their reservation across time. Seventh, forest management is economically viable in the Menominee forest. Economic viability is important for the Menominee people because they manage a commercial forestry business. However, the community's focus is not exclusively on commercial profitability, rather their forestry operations focus on community- and individual-level economic benefits, at times at the expense of commercial profitability. Finally, the Menominee have had access to technologies to implement sustainable management over time.

Indigenous communities can also take some lessons from the Guarayos experience. Some of the same factors facilitating Menominee forest management have also facilitated Guarayos success. First, there is strong community leadership in the Guarayos community.[4] Second, the

1996 National Forestry Law has provided the Guarayos with governmental regulations and community enforcement of sustainable forest management. Third, the community articulates their vision of sustainable forestry through forest management plans that outline shared community goals. Fourth, the Guarayos community appears to have had strong community institutions over time. Fifth, forestry is commercially and economically viable for the Guarayos community. However, economics is only one of the important reasons the Guarayos manage their forests. Guarayos forestry operations also focus on community and individual economic benefits—sometimes at the expense of commercial profitability. Sixth, the Guarayos have access to the economic and technological resources to manage their forest resources.

Three main factors inhibited sustainable forest management in the Guarayos community before the 1990s. First, national laws did not recognize the community's land tenure rights or the community's right to legally harvest timber. Second, intense market pressures and community poverty increased demand for Guarayos timber. Finally, community cohesion decreased as legal pressures forced community timber harvesters into the shadows. The Guarayos could not base forest management on community visions and goals because there was no legal mechanism for community management. Historically the Guarayos community articulated their visions for sustainable forest management through a culture of respect toward the forest; this culture promoted land use practices that did not involve large-scale forest clearing.[5] However, these Guarayos values were not strong enough to overcome the legal, social, and economic pressures for forest clearing during the mid-twentieth century.

The Menominee and Guarayos case studies suggest that indigenous communities need clear goals to guide forest management decisions. Forest management plans that incorporate community goals can help define sustainability and provide clear objectives. These case studies also suggest that indigenous communities must use legal structures and constraints to foster their own visions and goals for forest management. The communities need access to economic resources and their timber operations need to generate revenue to support community goals. Strong community leadership is also extremely important for communities that seek to manage their forests in a sustainable manner.

Finally, one of the most important lessons other indigenous communities can learn from the Menominee and Guarayos case studies is that communities can use forestry to control territory and exercise sovereignty. Many academics and forestry practitioners have shown that secure land tenure is a necessary condition for sustainable forest management. The Menominee and Guarayos case studies build on this idea by illustrating that active forest management can actually support and foster indigenous land tenure and territorial control. Both the Menominee and Guarayos communities have used forestry to foster their own visions of territorial control and governance. Using forestry to control territory allows the communities to protect their forests, increase economic revenue, increase community well-being, and foster their forest-based cultures.

Conclusion

This dissertation adds to a growing body of indigenous and American Indian scholarship by explicitly highlighting Menominee and Guarayos perspectives on their own forest management. The project uses oral history interviews and historical documents to explore Menominee and Guarayos peoples’ conceptions of the importance of forest management in their communities and their underlying community forest management goals. In both communities, the economic benefits of timber harvesting were important to provide individual employment as well as resources to foster community well-being. However, both communities believed that economic gain should not come at the expense of ecological or community health. Further, both communities viewed forestry as a way to protect their forests and enhance their territorial control. In the Menominee community, territorial control was embodied by the term sovereignty, while in Guarayos people explicitly discussed protection and control. While these two terms differ slightly and have different historical and legal contexts, the concepts are similar. In both cases, forestry has been a way to protect community forests in a manner consistent with each community’s cultural understanding of the land. Both the Menominee tribe in Wisconsin and the Guarayos community in lowland Bolivia have used forest management to foster territorial control, strengthen community well-being, and protect the forest in order to provide for cultural connections among past, present, and future generations.

Endnotes – Chapter 7

[1] For Menominee examples see Pecore, M. (1992). "Menominee sustained-yield management: A successful land ethic in practice." Journal of Forestry **90**, Nesper, L. and M. Pecore (1993). "The trees will last forever: The integrity of their forest signifies the health of the Menominee people." Cultural Survival Quarterly **17**(1), Hosmer, B. C. (1999). American Indians in the marketplace: Persistence and innovation among the Menominees and Metlakatlans, 1870-1920, Univ Pr of Kansas, Davis, T. (2000). Sustaining the Forest, the People, and the Spirit, State Univ of New York Pr, Beck, D. R. M. (2005). The struggle for self-determination : history of the Menominee Indians since 1854. Lincoln, University of Nebraska Press. Menominee interview participants also indicated that forestry provided resources for education, health, and community wellbeing. Most of the Guarayos interview participants also explained that forestry was funding health, education, and community wellbeing.

[2] There are some examples tropical forest management in other tropical countries but Bolivian forest management has only been studied in the past two decades. For older forest management examples and information on tropical silviculture see: Baur, G. N. (1965). "The ecological basis of rainforest management." The ecological basis of rainforest management, Buschbacher, R. J. (1990). "Natural forest management in the humid tropics: ecological, social and economic considerations." Ambio **19**(5): 253-258, Hartshorn, G. S. (1995). "Ecological basis for sustainable development in tropical forests." Annual Review of Ecology and Systematics: 155-175, Flachsenberg, H. and H. A. Galletti (1998). Forest management in Quintana Roo, Mexico, Washington, DC: Island Press.

[3] See for example Roper, J. M. (2003). "Bolivian Legal Reforms and Local Indigenous Organizations: Opportunities and Obstacles in a Lowland Municipality." Latin American Perspectives 30(1): 139, Boscolo, M. and M. T. V. Rios (2007). Forest Law Enforcement and Rural Livelihoods in Bolivia. Illegal Logging: Law Enforcement, Livelihoods and the Timber Trade. L. Tacconi, Earthscan**:** 191-217, Charnley, S. and M. R. Poe (2007). "Community Forestry in Theory and Practice: Where Are We Now?" Annual Review of Anthropology 36(Journal Article): 301.

[4] While both Guarayos communities have strong leadership, the leadership is not unified. San Juan and Cururú manage their forests under different management plans, which could hinder the future management of the Guarayos TCO if tensions arise between the communities or if forest management goals change.

[5] See Sapiapuka Vaca, F. (8/20/2008). Personal Interview by Michael J Dockry. Asunción de Guarayos, Bolivia.

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Waukau, Susan. Personal Interview by Michael J Dockry. Keshena, WI, 10/10/2011.

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Appendix 1. Guarayos oral history interview participants

Interview Participant	Interview Date
Zulema Lehm	8/7/2008 and 8/8/2008
Rudy Guzmán Gutiérrez	8/8/2008
Reyes Iraipi Biracoti	8/19/2008 and 8/20/2008
Luis Canahuira Moirenda	8/20/2008
Cayetano Enríquez	8/20/2008
Ronald Gutiérrez	8/20/2008
Salvador Orreño	8/20/2008
Serafin Sakuru Saiger	8/20/2008
Francisco Sapiapuka Vaca	8/20/2008
Mario Sepiapuka Vaca	8/20/2008
Ricarda Cuidosale	8/21/2008
Miguel Ángel Ramírez Aldaya	8/21/2008
Cesar Añeoinda	8/22/2008
Oscar Añeoinda Yamba	8/22/2008
Isidro Macue	8/22/2008
Jacob Macue	8/22/2008

Appendix 2. Semi-Structured Interview Questions – Guarayos Case Study

Questions for individual interviews

1. What are your experiences with forest management?

   Que son sus experiencias con manejo forestal?

2. How are you involved in your community's forest management?

   Como esta involucrado en el manejo forestal de su comunidad?

3. What are your perceptions of your community's forest management? Is it sustainable?

   Como se ve el manejo forestal de su comunidad? Es sostenible?

4. What does sustainable forest management mean to you?

   Para Usted, que es manejo sostenible? Que es buen manejo de bosques?

5. Is forest management important to your community? How?

   Es el manejo forestal importante para su comunidad? Como?

6. What factors have allowed the community to manage their forests well?

   Que factores ayuda a su comunidad manejar sus bosques?

7. What factors inhibit forest management?

   Que factores no ayuda el manejo forestal o que hace difícil el manejo?

8. What past events were important for your community's forest management?

   Que cosas en el pasado eran importante para el manejo forestal en su comunidad?

9. What past events have inhibited your community's forest management?

   Que cosas en el pasado no ayudó el manejo forestal o que hizo difícil el manejo?

10. How does your community make decisions? Who is involved in making decisions?

Como toman decisiones en su comunidad? Quienes están involucrados en tomar decisiones?

Questions for community meetings

1. What are your experiences with forest management?

   Que son sus experiencias con manejo forestal?

2. How has your community organized itself to manage their forests?

   Como esta organizado su comunidad para manejar sus bosques?

3. What works? What doesn't work?

   Que funciona bien? Que no funciona?

4. How would you describe good forest management? Poor forest management?

   Como se describe buen manejo forestal? Mal manejo forestal?

5. How is your community managing their forests according to your definition of good and poor management?

   Como está la comunidad manejando sus bosques según su definición de buen o mal manejo?

6. What past events have helped or hindered your community's forest management?

   Que cosas en el pasado ayudó o hizo difícil el manejo forestal en su comunidad?

7. Have groups or individuals from outside of the community been involved in forest management? Has this benefited the community? Has this benefited forest management?

   Hay grupos o personas que no son de la comunidad trabajando con manejo forestal en su comunidad? Eso es un beneficio a la comunidad? Eso es un beneficio al manejo de bosques?

8. How does your community make decisions?

   Como toman decisiones en su comunidad?

9. What values does the community consider when making decisions?

   Que valores culturales entran decisiones de la comunidad?

10. When your community makes decisions, are you concerned with sustainability?

    Cuando su comunidad toma decisiones, están preocupado con la sustentabilidad?

11. What does sustainable forest management mean to all of you?

    Que significa manejo sostenible para todos Ustedes?

Appendix 3. Menominee oral history interview participants

Interview Participant	Interview Date
Dale Kakkak	4/4/2011
Maggie Escalante	4/8/2011
Jerilyn Grignon	4/8/2011
Patrick Waukau	4/8/2011
Gary Besaw	4/24/2011
Myrna Warrington	4/27/2011
Verna Fowler	5/2/2011
Al Pyatskowit	5/3/2011
Norman Shawanokasic	5/9/2011
Joan Delabreau	5/20/2011
Laurie Reiter	5/23/2011
Dusty Miller	5/26/2011
John Teller	5/27/2011
Tony Waupachick	5/31/2011
Marshall Pecore	6/1/2011
Dave Napos Turney	6/1/2011
Rebeca Alegria	6/7/2011
Jeff Grignon	6/7/2011
Dave Grignon	6/21/2011

(continued on next page)

Melissa Cook	10/7/2011
Susan Waukau	10/10/2011

Appendix 4. Semi-structured interview questions — Menominee Case Study

1. Could you tell me a little about yourself?
2. How do you use or interact with the forest?
3. What is the Menominee relationship with their forest?
4. What does forestry mean to the Menominee people?
5. What are your experiences with forest management?
6. How are you involved in your community's forest management?
7. What are your perceptions of your community's forest management?
8. How would you describe good forest management? Poor forest management?
9. What does sustainable forest management mean to you?
10. How is forest management important to your community?
11. What factors have allowed the community to manage their forests well?
12. What factors inhibit forest management?
13. What past events were important for your community's forest management?
14. What past events have inhibited your community's forest management?
15. How does your community make decisions? Who is involved in making decisions?
16. What values does the community consider when making decisions?
17. What is the importance of Education to Menominee people?
18. What does forestry mean for Menominee sovereignty?
19. Do you have any experiences with the College of Menominee Nation Sustainable Development Institute sustainability model (SDI model)?

(continued on next page)

20. Why and how was the SDI model developed? How is the SDI model used?

21. Can I ask you the year of your birth, where do you live, what is your job?

Appendix 5. Menominee tribal values

While there are many individual values that Menominee tribal members hold, there are several values that are officially promoted by tribal entities. The College of Menominee Nation has explicitly incorporated a set of seven values into their education and student policy. The values are listed in the College of Menominee Nation 2006-2008 Student Handbook and Academic Catalog under "Standards of Student Conduct."[1] The handbook and academic catalog both state:

> Native American teachings charge us with seeking the virtues of honesty, respect, bravery, wisdom, cooperation, humility, and truth. The Menominee people particularly value:
>
> - Equality and Liberation: Experiencing one's self as having the same value and rights as all other human beings
> - Human Dignity: Consciousness of the basic right of every human being to be accorded respect and to have his/her basic needs met.
> - Ritual and Communication: The use and skills of using liturgy as a communication medium for raising critical consciousness.
> - Competence and Confidence: Realistic and objective confidence that one has the skills to achieve in the world of work and to feel that those skills are a positive contribution.
> - Self-Worth: The knowledge that each individual is worthy of the same respect one accords oneself.
> - Service: Motivation to use one's unique gifts and skills to contribute to society.
> - Ecority: The capacity, skills, and personal organizational or conceptual influence to enable persons to take authority in the world and to enhance its beauty and balance.

According to Dr. Verna Fowler, Founding President of the College of Menominee Nation, these are values that the Menominee tribal legislature has also officially adopted. Dr. Fowler explained the importance of these values, “[the values are] in our college catalogues where our students know what the tribal values are. I’m not into feathers and beads. I’m into our tribal values because I think it’s the values of this tribe that have helped us survive and happen to be one of the few tribes on their ancestral lands in this day and age.”[2] These core tribal values, according to Dr. Fowler, have allowed the Menominee to maintain themselves and their lands through time. These values can be seen in many of the interviews I conducted for this research. For Dr. Fowler, these official tribal values have been a critical component of Menominee sustainable forest management.

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[1] CMN (2006). College of Menominee Nation Academic Catalog 2006-2008. C. o. M. Nation. Keshena, WI, College of Menominee Nation, CMN (2006). College of Menominee Nation Student Handbook 2006-2008. C. o. M. Nation. Keshena, WI, College of Menominee Nation.

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[2] Fowler, V. (2011). Interview. M. J. Dockry. Keshena, WI.

Appendix 6. Menominee forest management goals

While the Menominee Forest Management Plan outlines official tribal goals for forest management, it does not necessarily reflect individual tribal members' forest management goals. Perceptions of Menominee forest management can be understood within the historical context of Menominee forest management. Forestry has been used through time by the Menominee people to maintain their land base, culture, and provide economic resources to individuals and the tribe. According to the Menominee tribal members I interviewed, forest management benefits also included cultural, ecological, economic, social, and land tenure benefits.

Understanding community goals is important to understand and strengthen community forest management. One of the ways to understand tribal members' forest management goals is to listen to how tribal members define good forest management. Good forest management to the Menominee interview participants was often related to history and cultural understandings of the forest. However, researchers and academics have not probed deeply into a simple question of what good forest management has meant to Menominee people. This subsection will answer that question using Menominee people's oral history interviews.

Economics

Economics has been a goal for the Menominee community forest management since the reservation was established. While there are more economic opportunities for Menominee tribal members today than when the reservation was established, the economic value of Menominee forest management continues to be extremely important to tribal members. The Menominee reservation has consistently ranked among the lowest in economic statistics for the State of Wisconsin. Unemployment is 16.8%, 31.9% of the families are below the poverty line, and only

10.4% of the population has a Bachelor’s Degree or higher. The economic opportunities from forest management and the sawmill cut directly to the heart of some of the economic challenges of the Menominee community.

Tribal interview participants explained through first hand experiences how the employment opportunities provided by Menominee forestry and mill operations have been important to alleviate poverty on the reservation. Myrna Warrington, a College of Menominee Nation employee and Menominee tribal legislator, shared her experience that the mill and forest “was the main place of employment...you could tell who was working in the mill – you know, who had things at home: food, for one because we were real poor and sometimes didn’t have food.” Warrington saw firsthand how poverty was alleviated by the economic opportunities provided by employment at the Menominee sawmill. In this example, mill employment provided the most basic human necessity, food.

Economic considerations for many interview participants, however, often went well beyond economics to include forest protection. Tribal members considered economics as necessary to run the tribal business and provide broad community benefits, but many tribal members believed that the economic gain should not come at the expense of the ecological or social fabric of the Menominee community. For example, Dale Kakkak, Menominee tribal member and College of Menominee Nation marketing specialist, stated that good forest management included tribal employment in the mill and forest without “stressing the forest. The animals still have what they need from the forest. Community people still have what they need as far as hunting, and gathering and that kind of thing.” Gary Besaw, Menominee tribal legislator and College of Menominee Nation dean of student services, explained a similar thought that good forest management was managing for more than just timber. He stated, the "forest is a living thing…it is more than just trees, and trees for sale, and harvesting trees so more trees can grow…it's having that ability to make those kind of concessions, to try to maximize the fish, the wildlife, the animals, as well as harvesting the timber that you want." Forestry for many Menominee people has been a way to foster both community and ecological wellbeing.

Economic goals for forest management also went beyond economics to include a cultural connection to past and future generations. Interview participants explained how Menominee tribal members worked in the forest and mill in the past, some are working there now, and they expressed hope that future Menominees would also have the same opportunities in the future. Joan Delabreau, MTE employee and Menominee legislator, stated, "At one time forestry was all we had: the mill and the forest…. [I]t was always looked on as good money, a good living and a job that would be there not just for you but for your children and for your grandchildren." This has been a source of pride for many Menominee tribal members. Delabreau explained that because the mill has been around over one hundred years many tribal members say "my grandfather worked in there. My father worked in there. It's gonna [sic] be around. So I can look at working 30 years, 40 years in the mill." Forestry has provided long term employment for Menominee tribal members through time and many tribal members believe it is a way to make the forest and employment last forever.

Menominee forest management goals for both economic advancement and forest protection have been tribal goals since the reservation was established. These twin goals were also expressed by interview participants. For example, John Teller, CMN employee and former Menominee tribal chairman, equated the balance between economics and protecting the forest to the vision expressed by Chief Oshkosh in the 1800s. Teller explained, “in regards to forestry and logging and lumbering operations, we realize that we can use the forest in a good way to survive in the modern day and generate money and provide for family… Chief Oshkosh… said [this,]… we need to use the forest for our own good.”

Forest protection, jobs, and economics go hand-in-hand for some tribal interview participnats. One reason for this is that the reservation is the last remaining piece of Menominee territory in tribal control. Many Menominee people believe that they just can’t pick up and leave for another reservation; they believe that they have to make their resources last forever. Forestry has been seen by some tribal members as a way to accomplish that. Jerlyn Grignon, CMN faculty member, believed that the saw mill provided a stable economic base and protected the forest. She explained that because their land base and community can’t be moved, forest management “is about jobs and it is also about a way where we get to preserve our forest.”

Foresters described good forestry in similar ways as the rest of the interview participants: there needs to be a balance between economics and ecology. For example, Marshall Pecore, MTE Forest Manager and Menominee tribal descendant stated that good forestry was management that fostered and maintained diversity over the long-term. He also stated that, “physiological rotations are of trees is sometimes different than what your so-called economic rotations are. I think good forestry is not letting one dictate to the other, especially economics dictating to the physiological. ” Thus, from a forester’s perspective, the FMP diversity and high quality sawtimber goals which guides the foresters’ management, are a way to protect the forest and provide meaningful employment to the community.

The economic opportunities are also seen by several of the interview participants as opportunities for the future generations and opportunities to increase Menominee wellbeing. For example, Adrian Miller, former MTE President, stated that “we have… a sustainable forest producing over 20 million [board] feet a year, annually, sustainably, and we have a lot of people who love working with wood, and we have a mill here. That translates to a lot of jobs. You put them together and that’s why I say that this mill represents the future and hope of the Menominee people.”

Economics has been a very important goal for Menominee forest management. Forest management provides individual tribal members with meaningful employment. It provides the tribal governmental structures with economic resources to foster tribal wellbeing through education, healthcare, housing, and the means to continue to maintain their land and forest. Economics, however, for many Menominee tribal members went beyond individual gain to include forest and ecosystem health, and a cultural connection to the past and future generations.

Diversity

One of the forest management goals outlined in the FMP is diversity. Menominee interview participants also stated that a forest management goal should be to foster ecological diversity. Nine of twenty one interview participants explained that good forest management involved management for diversity. Diversity to these participants promoted forest and ecosystem health and was seen as another way to protect the Menominee forest.

Marshall Pecore, MTE Forest Manager and Menominee tribal descendant, explained, “good forestry is something that maintains the diversity as best that you can identify it at that time… and to account for it as best that you can.” He also stated that as a forest manager diversity means having diverse tree species—maple, aspen, oak, pine—but also age class diversity. He explained, "You've gotta have young trees replacing old trees, whether even-aged stands or single tree selection. …. [T]hose groupings of trees give you different groupings of fauna on the ground…animals, critters, and all the rest of it." Diversity for Pecore not only included animals and plants but diversity in tree age classes—timber harvests create conditions for young tree seedlings to regenerate in the area where old trees were harvested. This view of diversity is also reflected in the FMP.

Diversity was also more than trees according to many interview participants. Managing for diversity included looking at the whole forest. Patrick Waukau, tribal member and College of Menominee Nation (CMN) employee, expressed this sentiment by stating that good forest management is "taking everything into account that is in the woods… look at the big picture that the forest is not just trees. It is everything that is around it." Verna Fowler, tribal member and CMN founding president, also described good forest management as understanding the whole forest. She emphasized the soils, and ecology. She explained, "it has to be looked upon as a whole, not just looked upon as cutting down trees and sending logs to the mill."

Many interview participants believed that diverse forests fostered healthy forests and made them more resistant and resilient to diseases, invasive species, and disturbance. Gary Besaw, Menominee tribal legislator and CMN Dean of Student Services, believed that management for forest diversity creates a healthy system that can resist external threats. Besaw states, "the best way to hedge your bets is to look at creating that diversity in your forest… a mix of different species [and] habitats…. We're just an island stuck out amidst all of our ancestral land. We’re an island in what they call the State of Wisconsin now, things can come or go, and we can't stop many of those.”

Managing the forest for diversity is also a way that the Menominee tribe controls and protects their territory. For example, the majority of the ecological habitat types of the Menominee reservation could be managed almost exclusively for sugar maple. If most of the reservation was managed for that single species, however, some interview participants believed that this approach could risk losing the integrity of the ecological system if something like an invasive insect or pathogen began to kill sugar maple. Jeff Grignon, MTE forester, explained that managing for diversity is a way to prevent that from happening and protect the forest. He stated, “Diversity is a big key. Not putting your eggs in one basket…. We could manage for sugar maple, let the sugar maple take over and just manage for sugar maple in the future, but you know, a disease comes through and wipes out all the sugar maple, and then you have nothing.”

For many interview participants managing for diversity was more than a forest management goal; it was a responsibility. Susan Waukau, tribal forestry committee member and CMN employee, explained that an important aspect of forest management was a community responsibility. She stated, “[Menominee] as keepers of the forest… are responsible for ensuring that the quality and diversity of the forest is preserved.” Melissa Cook, Director of CMN’s Sustainable Development Institute, echoed similar thoughts by stating, “good forest management is one that's really being respectful, being responsible and value[ing]…all the aspects of the forest… that’s where the humans are needed, the plants, animals [too]. Appreciating the diversity; that's good management.” Understanding management for diversity as a responsibility necessitates an understanding of the long history of Menominee protecting their forests. When viewed in this light, managing for diversity is a profound community value that transcends the FMP. Managing for diversity according to the Menominee interview participants is good ecologically, socially, and economically.

Community Wellbeing

Interview participants also explained that another forest management goal was promoting Menominee community wellbeing. Community wellbeing has to do with historical and cultural connections to the forest. It also has to do with economic benefits that can be used by the tribe to fund their business and other tribal programs. One way that the FMP contributes to community benefits is by managing for high quality saw timber which produces value that can be invested in the community.

Community benefits—much like diversity—according to some interview participants are myriad and transcend management for economics or cultural uses alone. Jerilyn Grignon, College of Menominee Nation Faculty member summarized this by stating, “I think our rich tradition has us not just think about it [forestry], in terms of a business but we think about it in terms of a tribe…. Not just about timber harvesting and just hunting, our own identity, it is not just about gravesites, it is everything”. Community benefits accrue from good forest management as defined by tribal members.

There is a long history of defining management goals to benefit Menominee wellbeing. John Teller, CMN Menominee language liaison and former tribal chairman, explained that good forest management was management for the people. He stated that good forest management was “for the overall good of the people…you always need to look out for the welfare of the people.” Teller continued, “you have to go back to the wisdom of Chief Oshkosh and say ‘let’s cut in a respectful manner and a reasonable manner where there will be trees for them [sic] next generation'... not only trees for cultural ceremonial use but also trees for economic use too, for the good of the people."

Forest protection

Forest protection, or protecting the forest, was another forest management goal for many of the interview participants. To some, a major benefit of forest management is that forestry has allowed the Menominee people to maintain their land, their forest, and their control. Marshall Pecore, forest manager, discussed this as a "maintaining culture." He stated, "Menominee…culture [is a] maintaining culture…. I think a lot of the leaders and the tribal members realize that if they didn't have a land base they'd have no economic wherewithal to do it…they can maintain themselves so they don't have to be… subservient to other people for their well-being ." Pecore illustrated that by maintaining their land base, forest management and the economic benefits from management has allowed the Menominee people to maintain the ability to manage their own wellbeing. Forestry facilitated the control and maintenance of the Menominee reservation which in turn has allowed the Menominee to protect their lands and community.

Spiritual and Cultural Goals

Interview participants also outlined spiritual and cultural goals for forest management. Menominee tribal identity was inseparable from the forest for many interview participants. For example, Dr. Jeryln Grignon, CMN faculty member, describes the forest as "jobs, hunting and fishing, but also it is our identity…. [The forest] is part of who we are. We use the forest. [The trees and forest] take care of us [and] we take care of them."

Effective forest management, for interview participants, needed to include management for spiritual and cultural goals. This was important for broad cultural identity as well as practical cultural activities related to the forest. Forest management, therefore, was important to foster these activities. To illustrate this, Verna Fowler, CMN President, retold a story about the importance of logging to create open spaces for berries. She retold, "My mother used to always say …'They logged up there, so we're gonna have good blackberries.' That's where you wanna go pick…where they logged." In this case, forest management fostered a culturally important plant species which was important to tribal members.

Menominee tribal members also have spiritual connections to the Menominee land and forest. Good forestry, according to some interview participants also included respecting Menominee sacred and historic sites. Rebecca Alegria explained that good forest management "would be respecting sacred sites. It would be being very careful out in that forest in what you're doing. I hate to see it; it just hurts me when sugar camps get destroyed. If they know that a family for generations has sugared in the area, I would rather have them talk to that family or go around that little section." Forest management, according to Alegria, did not always protect sacred and cultural sites and was sometimes seen as negatively impacting cultural connections to the forest.

Some tribal members believed that Menominee ways of knowing and culture have allowed the tribe to manage their forests as they have through time. The former president of Menominee Tribal Enterprises (MTE), Adrian Miller, equated the diversity and quality of the Menominee forest with Menominee spirituality and cultural values. He stated that the

> Menominee are at the forefront in articulating [an] indigenous epistemology that has moved beyond virtually anything now in print or practice. The population as a

> whole need to understand the meaning of sacred lands, air, and water, then incorporate the idea into their everyday lives and practices. The Menominee people give ecological equity and intrinsic value to all species. We have a model-forest second to none in diversity and complexity, and that is nothing short of an ecological miracle.

Miller believes that the diversity of the Menominee forest, the "ecological miracle", is a result of a Menominee epistemology that considers the land, air, and water sacred.

The success of protecting the cultural heritage of the Menominee people was directly related to tribal members working on their own lands, according to some interview participants. To these participants, when tribal members are in control of the operations, they often bring a perspective that tends to protect cultural resources. For example, Jerilyn Grignon, CMN faculty member, stated "we wouldn't even be where we are today with[out] knowing that gravesites, cultural values,…the old logging camps, or where our people lived before. We wouldn't even have that if we wouldn't have loggers who knew where the sites were." To Grignon and others, forest management by Menominee people builds upon history and cultural knowledge.

Sustainability

All of the interview participants believed that a continued goal for forest management should be sustainability. Sustainability has been a concept that has different definitions for different people and this was also true for the Menominee interview participants. Some participants defined sustainability as something that needed to come through long term planning and by making sure that the forest resources are available for future generations. Jeff Grignon, Menominee Tribal Enterprises forester explained that forest sustainability came from "long-term planning to the best of your ability at the time, with the information that you have…. [Y]ou're gonna run out of what you have very fast if you don't have that eye that far into the future."

Several tribal interview participants also equated sustainable forest management with sustained yield forestry. Sustained yield is written into the Menominee constitution, it is found in the tribal restoration documents and management plans. For example, Dale Kakkak, CMN marketing specialist believed that good forest management for Menominee would be to "continue to operate on sustained yield basis that we always operated on." Forest management sustainability was related to the historical use of sustained yield forestry on the Menominee reservation; interview participants often was the two as the same thing.

Sustained yield forestry was often equated as analogous to good forest management or sustainable forest management. As defined in the FMP, sustained yield forestry was forestry that did not harvest trees faster than the forest could regenerate. While there is general agreement about sustainability and sustained yield goals, people's perceptions of what these goals mean within the context of actual forest harvesting have sometimes differed. Furthermore, while the FMP outlines species targets and goals, it is not always clear what this means on the ground. In other words, while tribal members may agree on many goals, including the goal for sustained yield, their understanding of what that means and what that should look like can vary.

Appendix 7. Oral history interview participants' reflections on Chief Oshkosh

Chief Oshkosh was an important Menominee leader during the treaty era. He has been credited by the Menominee people for articulating a vision for sustainable forestry. Over half of the people I interviewed explicitly mentioned Chief Oshkosh and his vision of forest management as a major factor for the success of Menominee forest management. Often times, interview participants paraphrased the oral history.

Adrian Miller, former MTE President, stated, sustainable forestry "came with a vision from one of our ancestors, Chief Oshkosh, who invented sustainable yield forestry using his words, you know, we talked about starting at one end of the reservation and working our way to the other end and then coming around. By the time we got to where we started, we'd have a forest there that was ready to be harvested again. So, that's where we started that practice."[3]

Dave Grignon, Tribal historic preservation officer, told this story about Chief Oshkosh,

> Chief Oshkosh, in fact, came up with his own version of sustainable development, saying that – seeing the lands outside of the reservation being cut – clear-cut – and cleared for farming, and that, and Menominees weren't farmers. We were hunters and gatherers, but now we were confined to this reservation. He said that, "Well, in order for us to keep this land the way it looks, we will – we see the potential of harvesting these trees, in a manner of which it will always be here." He said, "We'll start at the west-end of the reservation and we gradually go through to the east, cut only the mature trees. By the time we get to other side, it'll be time to start over again." I think that was the beginning of our own sustainable development here – sustaining our forest."[4]

Grignon described the fact that the Menominee were confined to a reservation and that they were not farming people. Chief Oshkosh, Grignon explained, outlined a vision for sustaining the forest by harvesting only the mature trees as opposed to forest clearing that was occurring on other lands in the area.

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[3] Adrian Miller, Interview, 5/26/2011 2011.

[4] David J. Grignon, Interview, 6/21/2011 2011.

John Teller told a similar story about Chief Oshkosh's vision for forestry. He stated

> Chief Oshkosh…over one hundred and fifty years ago…said…we need to realize we need to use the forest for our own good. But, in doing so, he said we are not going to clear-cut. We are going to, I think he developed a concept of sustainable yield cutting, and said something to the effect of, start in the east side of the reservation and slowly make your way to the West cutting only the trees that were down or maybe the tree was sick a little bit. Thin it out a little bit and don't take all the trees, leave some to reseed and then maybe in thirty four years by the time you get back to where you started cutting there would be naturally a process of regeneration. That was a compromise to harvest trees, which we consider living, and we call them [8:24 Menominee Language], which implies the notion of animacy and it seems to have worked….
>
> For the overall good of the people, you know you always need to look out for the welfare of the people and you have to go back to the wisdom of Chief Oshkosh and say, let's cut in a respectful manner and a reasonable manner where there will be trees for them next generation. Not only trees for cultural ceremonial use but also trees for economic use too for the good of the people. So, Chief Oshkosh was thinking about the people, no question.[5]

For Teller, Chief Oshkosh was looking out for his people by describing a management philosophy that stressed use of the forest in a way that would leave trees for future harvests.

MTE forest manager, Marshall Pecore, describes Chief Oshkosh's vision as one that maintained the culture while providing economic resources for the tribe. He stated, "Oshkosh talking about working from the east and going to the west is an economic plan for deriving some benefits to maintain our cultural identity."[6] Dave Napos Turney, Menominee tribal member, explained Oshkosh's vision as a Menominee cultural forest management philosophy. He explained, "They say that when the Menominee were finally moved, this land here became our reservation and we got into cutting timber. That was done on what was called a traditional basis, that circle, so I've seen and heard the wording that was put out there when they started cutting, and they say it was Oshkosh was the one that was credited with saying… start in the west and follow the sun and cut in that circle, and be selective in what you pick. So, in that statement, that cultural statement, it defines that traditional way of taking care of the forest."[7]

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[5] John Teller, Interview, 5/27/2011 2011.
[6] Marshall Pecore, Interview, 6/1/2011 2011.

Patrick Waukau, CMN Multimedia Outreach Specialist, described Chief Oshkosh's vision as being at the core of sustainability and that it laid the groundwork for improving the forest health. He stated

> I think it was that philosophy that Chief Oshkosh went by about starting at one end of the reservation, taking only the sick and dying. That was basically sustainability at its core. By taking out the bad trees, you are leaving the seed stock for the good trees and by the time, he made it from one end of the reservation to the other this time the other side of the reservation had a chance to grow, move your way back through. That was sustainability, everything had a chance to re-grow. Everything had a chance to propagate in a wiser fashion. It is not really genetic engineering or anything like that it was leaving the strong and that strong seed stock. That is what made many of these trees around here. It was that philosophy. Those trees came up from strong trees and the weak trees were weeded out, and that was what sold. That was what sustained the economy, were the weak trees.[8]

Waukau explaines that Chief Oshkosh articulated a Menominee vision of sustainability and that that vision improved forest health while sustaining the Menominee economy.

To the Menominee people I interviewed, Chief Oshkosh not only articulated a vision of sustainable forestry, he articulated a vision fashioned on Menominee culture and Menominee understanding of ecology. Chief Oshkosh's vision allowed the tribe to successfully transition onto a fixed reservation while sustaining and improving the natural resources that the Menominee people depended on for material and cultural survival.

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[7] Dave Napos Turney, Interview, 6/1/2011 2011.
[8] Patrick Waukau, Interview, 4/8/2011 2011.

Appendix 8. Defining sustainability at the College of Menominee Nation

On March 4, 1993, the Menominee Tribal Legislature chartered the College of Menominee Nation.[9] The College was to provide opportunities in higher education for Menominee and other students, to infuse the education with American Indian culture and prepare students for careers. At the same time the Menominee Tribal Legislature also chartered the Sustainable Development Institute. The Sustainable Development Institute was to complement the College and provide an institution to reflect upon Menominee relationships to their forested homelands and to disseminate their expertise, experience, and knowledge of sustainability. To these ends, in the mid-1990s the Sustainable Development Institute brought together College of Menominee Nation faculty, staff, Menominee community members, academics, foresters, and tribal leaders to develop a framework for understanding the key factors that have helped the Menominee people sustainably manage their forest through time.

The Sustainable Development Institute model is expressed by six discrete but highly interrelated dimensions: 1.) land and sovereignty; 2.) natural environment (which includes human beings); 3.) institutions; 4.) technology; 5.) economics; and 6.) human perception, activity, and behavior. According to the Sustainable Development Institute model, sustainable development or sustainability can be defined as the process of maintaining a balance and reconciling the tensions within and among the six dimensions of sustainability. Each dimension is dynamic, both in respect to its internal organization, and in relationship to each of the other five dimensions of the model. Change within one dimension will impact other dimensions in an ever-unfolding diffusion of responses to change. Change can be externally driven or inherent to the dynamic nature of any of the six dimensions.

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[9] See also College of Menominee Nation. "College of Menominee Nation Vision and Mission Statement." College of Menominee Nation, http://www.menominee.edu/About_CMN.aspx?id=525.

The Sustainable Development Institute model recognizes that there will always be tensions within and among model dimensions. Furthermore, as tensions between model dimensions are relieved new tensions will arise. Because new tensions between model dimensions always arise, sustainable development is a continual, and sometimes iterative, process.

The final concept in the Sustainable Development Institute model is that the Menominee People have been able to balance the six dimensions of sustainable development through their autochthonic beliefs. In other words, the Menominee's belief that they come from the land where they currently live has allowed them to balance the tensions between the six model dimensions. This describes a profound sense of place and is a core Menominee cultural value. This value—a profound sense of place—is shared by many Indigenous communities throughout the world.

Why did I use the term struggle in my title for this presentation? The Sustainable Development Institute model is not well known outside of the College of Menominee Nation. While it has been used to structure classes, international conferences, research, and it has even been used by indigenous people in other parts of the world to reflect upon their own visions for sustainability, it has not been widely adopted in the Menominee community. Some community members decry the model as lacking specific Menominee values like reciprocity and respect. Others, like Menominee forest mangers explain Menominee sustainability with more conventional definitions of sustainability like the triple bottom line or the three legged stool—environment, social, and economic sustainability. An effort is underway by the Sustainable

Development Institute to engage the community in a new dialogue about the dimensions of sustainability, Menominee culture, and the model itself. The process to define sustainability is a critical component of sustainability itself.