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CONFLICT RESOLUTION AND COMMUNITY SUPPORT FOR CONSERVATION
IN THE NORTHERN FOREST: A COMPARATIVE CASE STUDY FROM MAINE

BY

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Bachelor's of Science, University of Maine, 2004

THESIS

Submitted to the University of New Hampshire in Partial Fulfillment of the Requirements
for the Degree of

Master of Science
in
Natural Resources

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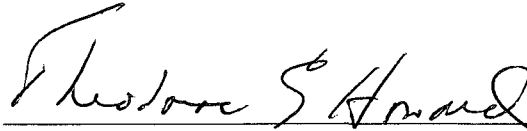
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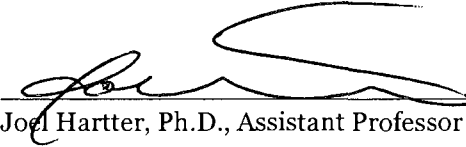
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ABSTRACT

CONFLICT RESOLUTION AND COMMUNITY SUPPORT FOR CONSERVATION IN THE NORTHERN FOREST: A COMPARATIVE CASE STUDY FROM MAINE

By

Morgan Cottle

University of New Hampshire, December 2009

Rapid land ownership changes in the Northern Forest have spurred development as well as conservation. Local people have experienced differing degrees of participation in land use decisions. I compared two conservation projects from Maine to assess the policy processes, and local attitudes about the conservation project and land use. One was a top-down approach, the second a grassroots, private effort by local citizens to conserve forest land. I gathered my data via in person interviews, mail surveys, and analysis of legislative testimony.

My findings indicate that early local involvement leads to less conflict and greater acceptance of the project. Important aspects of effective public involvement include shared learning and two-way dialogue. People generally want to maintain the working forest and the tradition of open public access. However, people also value forests as an economic opportunity for ecotourism. Most study participants favor mixed or multiple use management of forest lands.

Introduction

Rapid land ownership changes have been occurring across the Northern Forest for the past two decades. The people who inhabit the Northern Forest are tied closely to land, for both cultural and economic reasons. As forest land changes hands, often so does its use. My study takes place in Maine, where I have a deep personal connection to the people and forests. I have watched as people lost forest-related jobs and have been denied access to lands they have used for generations as lands are sold for development or closed to the public (please see below for explanation of public access on private lands in Maine). I have also watched forests struggle to recover after heavy cutting. While people rely on timber harvesting for jobs, it is also essential that the forests be managed sustainably.

There has seemed to be a rift between people who want to conserve forests in Maine and those who wish to continue to harvest timber and recreate on the land. I have watched friends and family become very angry as thousands of acres are closed off to timber harvests and public access. Many people feel that outsiders are pushing their values about the forest onto local people in Northern Maine.

For years, I have wanted to find some place in the middle, where people who passionately strive to protect a great forest can meet on the same ground with those who wish to continue to use the lands as they have for generations. It was my overall goal to see how this could be done. I believe that conserving forest land, whether as a preserve or working forest, is essential. Forests offer numerous goods and services, including timber, recreation, food, filtration, and carbon sequestration. I have always hoped that

my home state would remain heavily forested and that the people there would never have to face the wide highways, endless subdivisions, and strip malls that are prevalent in so much of the United States.

However, to conserve the forest effectively it is important to incorporate the views and needs of the people who live there. Therefore, in my study I compared two cases, one that was grassroots and locally motivated and one that was state-led and involved great controversy. The circumstances in each case are complex and embedded in an intricate web of history, local culture, and personal perspectives. However, I hope to identify some major elements of the public process that may have contributed to, or detracted from the acceptability of the projects at the local level.

Chapter 1 begins by providing an outline of the history of Maine's forested lands and their use, recent major land ownership and use changes, and the context of major conserved lands in the state. I then discuss some broad concepts in conservation, as well as conservation attitudes, and public participation in land use decisions. The methods section includes a description of both cases, and my data collection and analytical methods. I then present the overall results of in-person interviews, a mail survey, and analysis of legislative testimony from the Katahdin Lake case. In the final sections I discuss the results before tying together my objectives, results, and their implications in the conclusion.

CHAPTER 1

BACKGROUND, CONTEXT, AND RESEARCH OBJECTIVES

Context of forest land conservation and its importance in Maine

To analyze the decision processes and conservation attitudes in these two cases it is essential that the history and context of forest land uses be understood. Maine has a rich and unique history related to forest land use, and the past significantly influences the current culture surrounding forests and conservation.

History of Maine's forest land use

Ninety percent of Maine is forested, making it the most heavily forested state in the United States; additionally, 97% of the state's forest lands are considered productive (McWilliams et al. 2005). Forest products industries have operated here for centuries. The timber industry boomed in the 19th century, eventually giving way to the pulp and paper industry in the 20th century which was attracted to the area due to its abundant softwoods and waterways (Ireland 1999). Land has been traditionally owned by vertically-integrated forest products companies that owned both mills and forest lands (Hagan et al. 2005). Entire towns sprung up around pulp and paper manufacturing and many Mainers still work in the industry. Although, mills have been, and continue to be, important to local economies they have been reducing production or closing their doors, due in part to global market forces and increasing costs. The fear that people feel as high paying jobs are lost, feeds into the larger context of forest land use and conservation decisions.

Unlike forests in the western United States, most of the Northern Forest does not contain significant publicly owned lands (Irland 1999; Dobbs and Ober 1996). Although approximately 92 percent of Maine's forest land still remains in private ownership (Bell 2007), the state has a long tradition of open public access to private lands. Colonial Ordinances of 1640, which still apply today, allow public access through undeveloped private land to "great ponds" (natural lakes over 10 acres and man-made lakes over 30 acres) (Schepps 1971). Mainers have long enjoyed hunting, snowmobiling and hiking on private lands, most recently held by large paper companies and managed for timber production.

A shift from using the land primarily for timber production began as suburbanization spread throughout the 1950s, 60s, and 70s; the forest became valued as much for a green backdrop as for a place for jobs and source of raw materials (Irland 1999). The land boom of the 1980s led to subdividing of wildland throughout the Northeast, resulting in private owners parceling the land, reducing opportunities for public access (Irland 1999).

Forest land ownership changes

The catalyst for recent land ownership changes in the Northern Forest was the hostile takeover of Diamond International Corporation in 1982. Diamond owned 976,000 acres, 790,000 of which were in Maine. Sir James Goldsmith purchased the company's holdings, including all of its forest products manufacturing facilities (Northern Forest Lands Council 1994). Most of these assets, including many of the Maine lands, were then sold to a French utility company which sold the timberland within a year (Northern Forest Lands Council 1994). The Maine lands were sold in

pieces, including 230,000 acres to Fraser Paper Company and 9,400 acres to the Nature Conservancy, which were later sold to the U.S. Fish and Wildlife Service (Northern Forest Lands Council 1994). The Northern Forest Lands Study, which generated the Northern Forest Lands Council, was commissioned by Congress in reaction to the concerns about the break-up of a large private ownership and its subsequent effects on the economy and traditions of the region. These land transactions differed from those in the past which involved land being sold from one large industrial owner to another. Ownership changes between large industrial owners were not considered to change the status quo regarding mills, jobs, production of wood fiber, and public access to private lands (Phillips 1993).

Also significant is the break-up of Great Northern Paper Company (GNP) in the nineties. GNP was the largest private landowner in the northeast for decades (Hagan et al. 2005). In 1990, however, the company merged with Georgia-Pacific which sold the operations and land in Maine to Bowater, Inc. Bowater broke up the 2.3 million acre ownership, which now belongs to at least fifteen different owners (Hagan et al. 2005). Parceling the land has biological and social implications, since it leads to forest fragmentation, and may result in very different uses on adjacent pieces of land. This impacts movement of wildlife and decreases the opportunities for hunting. Additionally, removal of forest cover through land conversion (to agriculture or development) decreases the availability of important ecosystem goods and services such as carbon sequestration, filtration, and raw materials.

Changing emphases in management of forest lands

Forest land ownership patterns have changed in Maine with a shift from industrial owners to a new type of investor introduced in the 1990s (McWilliams et al. 2005; Jin and Sader 2006). TIMOs (timberland investment management trusts) and REITs (real estate investment trusts) have increased their holdings in Maine, while traditional industrial ownership has declined (McWilliams et al. 2005). New tax laws have allowed TIMOs and REITs to take advantage of tax preferences not available to industrial owners (Hagan et al. 2005). TIMOs and REITs tend to have different priorities than traditional paper companies which sought to provide a relatively constant stream of raw materials to their mills (Jin and Sader 2006). TIMOs tend to be short-term endeavors, with most planning to own specific parcels of land for approximately ten years (Ireland 2005). Both TIMOs and REITs emphasize maximum return on timberland assets (Yale Forest Forum 2002). Public concern has been raised over the prevalence of TIMOs and REITs and their impacts on forest sustainability and traditional recreational access (Jin and Sader 2006).

However, there has also been an increased emphasis on forest land conservation partially due to a priority on landscape scale conservation by the Northern Forest Lands Council (Clark and Howell 2007). Additionally, funding from both the federal Forest Legacy Program and the state's Land for Maine's Future program have made large scale conservation possible (Clark and Howell 2007). In Maine, efforts have concentrated on private land conservation rather than increasing public ownership (Clark and Howell 2007); only five percent of Maine land is in public ownership, which is less than any of the other northeastern states (Dobbs and Ober 1996). Non-profit conservation organizations now own over 300,000 acres of land, a 12-fold increase over the ten-year

period from 1994 through 2005 (Hagan et al. 2005). Additionally, conservation easements have been an important tool in forest land conservation. For example, The New England Forestry Foundation's easement on the Pingree lands, in northern Maine, conserved over 700,000 acres (Clark and Howell 2007). In fact, there are easements on nearly 80% of Maine's conservation lands (Clark and Howell 2007).

Forest land conversion and development

Despite concerns, the Diamond takeover and subsequent parceling did not immediately lead to the widespread development of forest lands (Clark and Howell 2007). However, the number of forest land ownerships of less than one hundred acres more than tripled during the latter half of the twentieth century (Irland 2000). Growing wood is now less profitable than selling the land for development (Dobbs and Ober 1996). Parcelization, subdivision, and conversion occur most often in small ownerships (less than 500 acres) (Northern Forest Lands Study 1994). Development, which is facilitated by the parcelization of land that has been taking place, results in forest fragmentation. Additionally, shadow conversion, the concept that development of one acre inhibits uses (especially for farming, forestry, and recreation) on the adjacent three to five acres, means that development impacts are widespread (Irland 2005). The impacts of forest land conversion are already evident in the southern portion of the state, where the future sustainability of the forest is threatened (McWilliams et al. 2005).

By way of contrast, although there are development pressures in some areas of the state, other areas are hurt by a lack of economic growth (Bell 2007). However, the unorganized territories of Maine are seeing unprecedented development, as the housing

units approved by LURC¹ (the Land Use Regulation Commission) have doubled from 1970 to 2000 (Planning Decisions, Inc. 2006: 20). Development is most likely to occur along water bodies or near roads and service centers (Bell 2007). An example of this in Maine, comes from the large scale residential and commercial development proposed by Plum Creek Timber Corporation in 2005 which met with great debate as LURC was required to approve the project for rezoning in the unorganized territories. The tradition of open access to private lands is threatened by development and parcelization. As lands fall under new ownership, they are increasingly being closed to public access (Irland 1999).

Major conserved forest lands in Maine

Maine has a long tradition of conserving both private and public forest land. Both Baxter State Park (see Chapter 2 for a description of Baxter State Park) and Acadia National Park were conserved as a result of generous personal donations by Governor Percival Baxter and John D. Rockefeller, respectively (Irland 1999). The White Mountain National Forest spills from New Hampshire into south western Maine. There are approximately 600,000 acres of public land managed by the Bureau of Parks and Lands (Maine Bureau of Parks and Lands 2009). Significant privately conserved land includes the Farm Cove Community Forest in Downeast Maine, and the many easements, including over 700,000 acres in northern Maine, as described above. Elliotsville

¹ Much of Maine remains in unorganized territories. The entire northwestern portion of the state is virtually uninhabited. In 1971, the Maine Legislature formed the Land Use Regulation Commission (LURC), which has jurisdiction over land use decisions in the unorganized territories (Bell 2007).

Plantation, Inc. (EPI), currently holds over 84,000 acres in the state, much of which is adjacent to Baxter State Park (Elliotsville Plantation, Inc. 2009). EPI was founded by Roxanne Quimby, founder and former owner of Burt's Bees personal care products. Quimby's alliance with the group RESTORE: The North Woods, and her support for the organization's proposed 3.2 million acre national park in Maine, has put her at odds with many locals (Clark 2008). The proposed park would fundamentally change the economic and recreational dynamics of the State, with great social and cultural implications (Power 2001; Field 2008). It is not uncommon to see "Ban Roxanne" and "RESTORE: Boston" bumper stickers around the state, indicating anger toward Quimby, and others from outside the area who are attempting to influence Maine land use. However, development proposals in previously undeveloped portions of the state are pushing locals and conservation groups to take notice of the potential loss of forest land around the state. Recently, local groups, including the town of Millinocket and the Sportsman's Alliance of Maine, and Quimby have begun to collaborate on decisions regarding recreational access to lands in the area, specifically the 8,900 acre tract known as the "Valley Lands" adjacent to Baxter State Park (Whitcomb 2008). While the animosity between groups such as Quimby, RESTORE, and locals has not been forgotten, the new-found cooperation described above indicates the beginning of a transition to a collaborative public participation process to make decisions about Maine's forest lands.

Forest Conservation, Attitudes, and the Policy Process

The context of changes in forest land ownership, as described above, sets the stage on which forest conservation decisions are made in Maine. In the following section I present some background on the conservation movement. I also discuss research on

conservation attitudes (both about conservation approaches and values) and the public process since these topics encompass my main research questions.

Defining Conservation

Conservation has a wide range of meanings which may include preserving land with little human impact to the sustainable extraction of natural resources. In the United States, Yellowstone National Park was created by act of Congress as the world's first permanent park in 1872 (U.S. National Park Service 2009) establishing a precedent for preservation of nature on a grand scale (Magoc 2006). Published in 1864, George Perkins Marsh's *Man and Nature*, became influential in the emerging conservation movement (Magoc 2006). Marsh (1864), focusing mainly on deforestation, warned that the United States would face demise, as many other civilizations had, resulting from the exploitation of natural resources. Roughly three decades later, President Harrison created the national forest system (Neimark and Mott 1999). In the early 1900s President Theodore Roosevelt commissioned Gifford Pinchot and WJ McGee to begin investigating water and forest conservation. Pinchot (the first chief of the Forest Service) and Roosevelt emphasized the efficient utilization of natural resources and direct human involvement through scientific management (Forbes 2004; Neimark and Mott 1999). An infamous rift in the conservation movement grew, however, between the wise use paradigm typified by Pinchot's and Roosevelt's views, and those of preservationists such as John Muir. Muir felt that nature must be protected from influence by human beings and emphasized preservation as the preferred means of protection. Tensions between these two viewpoints came to a head over the battle to dam the Hetch-Hetchy Valley in Yosemite National Park, which Muir fought unsuccessfully to prevent (Magoc 2006).

In the years following the Second World War a period of optimism and innovation pervaded the United States. Many environmental issues became secondary concerns as the country's economy boomed. For example, dramatic increases in timber harvesting resulted from pressure to fuel the nation's demand for lumber (Bengston and Fan 1999). However, the transgressions of this age of optimism began to surface with environmental problems in the 1950s, 60s, 70s, shaping the modern environmental movement; including issues with air and water quality, as well as the traditional concerns regarding sustainability and conservation of natural resources. Additionally, increased participation in outdoor recreation helped to increase environmental awareness among many Americans (Hays 1987; Hirt 1994).

Today, there are several gradations between the traditional wise-use conservation versus preservation views. The IUCN (The World Conservation Union) uses the term protected areas to identify areas that are "...especially dedicated to the protection and maintenance of biological diversity, and natural and associated cultural resources, and managed through legal or other effective means." (IUCN 1994). The IUCN identifies six categories of protected areas, ranging from a strict nature reserve (category Ia), to a managed resource protected area (category VI) that is sustainably managed primarily for the utilization of natural resources (IUCN 1994). The two cases I analyzed (See Chapter 2 for explanation of the two cases), represent different styles of conservation. The Baxter State Park case is similar to a National Park (category II) in that it is managed for ecosystem protection and recreation. The Downeast Lakes Land Trust case, however, is protected to ensure the perpetual utilization of natural resources by the local people (category VI). While the goals and conservation outcomes were very different for these

cases, a comparison of the processes by which these lands were conserved sheds light on successful conflict minimization strategies.

Conservation attitudes

For the purposes of this study, I am essentially dealing with two categories of conservation attitudes. One category deals with the values people place on the natural resources and their use; ranging from attitudes about recreational access to economic benefits derived from the resources. Values about resource use are important to understand because they relate to "...the desirability of goals..." and actions related to natural resource management (Bengston et al. 2004). The second category has to do with people's attitudes about a conservation project, or a specific approach to conserving the land.

Attitudes about natural resource uses. As society's demands for the goods and services expected to be produced by ecosystems have increased, so too has conflict over ecosystem uses (McCool and Guthrie 2001). Often conflict arises over competing uses; a wilderness area may be perceived violated by the presence of extractive activities such as hunting and logging, creating a polarization between groups seeking different experiences in nature (Bengston and Fan 1999).

There may be a rift between those who wish to conserve an area for its ecological significance, and those who desire continued utilization of the area for cultural and economic activities (Shindler et al. 1993). The controversy over maintaining habitat for the endangered spotted owl (*Strix occidentalis caurina*) in federal forests in the Pacific Northwest is an example of conflicting uses. As a result of litigation, intensive timber management shifted to endangered species protection on federal forest lands in

Washington, Oregon, and northwestern California, having drastic effects on the communities in the area dependent on forest related jobs (Charnley et al. 2008). The timber available for sale decreased from 5.6 bbf (billion board feet; combined Forest Service and Bureau of Land Management) to 525 mmbf (million board feet) over the ten year period since implementation of the Northwest Forest Plan resulting in the loss of approximately 30,000 jobs (Charnley et al. 2008). In his book, *Broken Trust Broken Land*, Robert G. Lee (1994) discusses the plight of logging families in the Pacific Northwest following the changes in forest management regulations. The local residents that he met felt "...betrayed and abandoned by their government..." and wondered what they had done to deserve the destruction of their way of life.

Another example of conflicting use, of which a great deal of literature has been produced, revolves around the issue of livestock farming and predator management in the United States. Research on local attitudes about large predators, especially wolves, has illustrated that although wolves are now viewed more favorably than in the past when they were extirpated from much of their range (Chavez et al. 2005; Kellert et al. 1996; Fritts et al. 1994), conflict still exists regarding loss of livestock as prey (Musiani and Paquet 2004). People have different expectations of wolf management based on their values and perceptions.

The significance of natural resources can be attributed to human values, and expectations people have of their use (Clark 2002). However, expectations of use are likely to differ among individuals. Certain uses may be excluded from a conserved area. To individuals whose activities are excluded from an area, conservation projects may be seen as a "territorial control strategy", rather than an effort to protect ecological services

(Wilshusen et al. 2002). If access is limited, people losing access may feel a loss of power over what affects their community (Clark 2002). Salz and Loomis (2004) found that decreased support for marine protected areas in the northeastern United States coincided with restrictions on activities. Additionally, studies from Africa (please see below for explanation of inclusion of African literature) have found that restrictions on activities on land has been found to influence conservation attitudes. (Lepp and Holland 2006; Mugisha 2002; Infield and Namara 2001; Watts and Fasson 2009).

In the 1980s and 90s, a conceptual shift in international conservation led to an emphasis on utilization of resources as part of a successful conservation strategy (Hulme and Murphree 2001). Many international conservation organizations (e.g. African Wildlife Foundation, World Wildlife Fund) now strive to enhance stewardship by assisting in community development through use of exploitable resources (Hulme and Murphree 2001). Likewise, Kennedy and Koch (2004) discuss a similar shift in Europe and the United States, from focusing on resource-only management to managing the human-ecosystem relationship and all that implies; including fulfilling the needs of current and future generations of humans as well as other species. An example of this in action is the Forest Stewardship Council's (FSC) Principles and Criteria for Stewardship which includes social, ecological, and economic criteria to be met for certification (FSC 2002). Inclusion of social and economic factors in conservation activities is increasingly seen as a key factor in the success of a conservation project (Ghimire and Pimbert 1997). Social and economic factors are also important components to conservation in Maine, including timber harvesting and recreational access (including hunting, trapping, hiking, and motorized recreational vehicle use). Decisions about whether to include or exclude

these activities from conserved land are also likely to affect local attitudes about conservation projects in Maine. In a national telephone survey, Shields et al. (2002) found that Americans generally rate non-consumptive forest-related activities as more important than extractive activities. However, conservation values may differ regionally (Shindler et al. 1993); therefore, incorporation of local opinions is one of the key components of forming successful conservation policies (Wildlands Network 2009).

Attitudes about approaches to conservation. Research has explored public and professional (i.e. Forest Service employees) attitudes about the management of public lands, specifically national forests, in the United States (Shindler et al. 1993; Brown and Harris 1992; Palmer 2008; Manning et al. 1999). Attitudes regarding land management deal with resource use, as discussed above. However, I have not found literature regarding attitudes about conservation processes in the U.S. comparing different approaches. Research has also explored the relationship between local people's attitudes regarding various conservation approaches, conflict, and exclusion from the use of resources in Africa (Lepp and Holland 2006; Mugisha 2002; Infield and Namara 2001; Watts and Fasson 2009). Specifically, Lepp and Holland (2006) compare two conservation approaches to assess the corresponding public attitudes and perceptions. Ounsworth (2003) argues that research on conservation projects in developing countries is relevant when studying conservation in Northern Maine. She states that it is frequently acknowledged that industrialized countries attempt to impose a conservation agenda on developing countries (Bonner 1993; Gibson 1995; and Hill 1996) which is similar to attempts by people or organizations outside of Maine influencing conservation decisions that affect local people whose livelihoods depend on the land (Ounsworth 2003).

However, major differences in the level of dependence on the land exist between developed and developing countries. In developing countries alternatives for sustenance (water, food, and fuel) if people are excluded from conservation areas do not exist as they do in developed countries. While there are differences in cultural and historical perspective between the Northeastern United States, where I conducted my study, and Africa, it was useful for me to investigate work by researchers in Africa since they have conducted studies on local attitudes regarding different approaches to conservation. For example, Lepp and Holland (2006) interviewed locals about their attitudes and perceptions of two protected areas (PAs) near the village of Bigodi, Uganda; one of which was Kibale National Park, with a top-down approach to conservation, the other being a community-based form of conservation. The results of this study were of interest to me since I am also comparing a top-down approach to a community-based approach to conservation. While differences in scale of the issues involved (as described above) exist, some lessons about people's response to the different conservation projects were of interest. Lepp and Holland (2006) found local attitudes about the community-based conservation project to be more positive than local attitudes about neighboring Kibale National Park. The pro-conservation attitudes illustrated in their study were also found to lead to pro-conservation behavior; locals felt strongly about conserving the land (in the community-based approach) and took on the responsibility of ensuring its protection.

In the western United States a paradigm shift is underway, challenging the typical separation of social and ecological issues (Hibbard and Madsen 2003). Collaborative efforts to manage western forests for both economic concerns as well as ecological concerns arose in the 1990s in response to the loss of jobs associated with endangered

species conservation (Wondolleck and Yaffee 2000; Hibbard and Madsen 2003).

Wondolleck and Yaffee (2000) cite the Applegate Partnership as a success story in which collaboration led to agreement about the management of federal forests in the Applegate Valley, Oregon. However, Hibbard and Madsen (2003) illustrate that not everyone may view the Applegate Partnership as a success, as some environmentalists felt marginalized during the process. Therefore, even in successful collaborative efforts it may not be possible for everyone to be left with a positive attitude about the process.

People's attitudes about conservation are important because they will affect their behaviors (Manfredo et al. 2004) which can include voting for conservation initiatives or donation of money to conservation (Vaske and Donnelly 1999). Negative experiences may lead to negative attitudes about conservation which may affect individual behavior (Vaske and Donnelly 1999). It is important to identify conservation attitudes and assess what local people prioritize in terms of permissible activities which may be economically and culturally important (such as hiking, hunting, fishing, and logging). This information can then be integrated into the approach to the policy process.

The Policy Process

Lasswell (1970) defines the policy process as a social dynamic, determining who gets what and how. Clark (2002) illustrates that the social process is the context in which natural resource issues are embedded. Understanding participants' perspectives, situations, values, and strategies is important in understanding how natural resource decisions are made (Clark 2002). The legitimacy that the public gives to a process and its outcome depends greatly on process design, and different process designs yield different levels of stakeholder satisfaction (Wondolleck and Yaffee 2000). Differing outcomes

and effects are the result of the social process embedded in the policy process (Clark 2002). The policy process may indeed shape the perceptions of key players (Wilshusen et al. 2002). Conflict throughout the policy process may result in negative attitudes and affect the success of future conservation initiatives. Lampe and Kaplan (1999) outline some keys to resolving conflict based on a study of land-use conflicts in eight communities. These keys include an understanding of the issue by all participants and endorsement of the process by the leaders. Additionally they state that the context of the process in terms of past interactions can greatly affect the outcome and that the complexity of the conflict impacts the process itself.

Satisfaction in the process is often linked to early and frequent involvement of the public in a decision-making process (Wondolleck and Yaffee 2000). Community-based conservation has the potential to incorporate all stakeholders into the design and execution of a conservation objective. Place-based collaboration melds decentralized decision making with stakeholder collaboration and citizen participation (Hibbard and Madsen 2003). West and Brockington (2006) reviewed literature from around the world that indicates that top-down approaches to conservation that fail to incorporate local needs and attitudes sometimes result in conflict. They stress that it is important for "...social beliefs and practices..." to be understood before beginning a conservation project. Unless deeper social and economic issues are addressed through dialogue, rather than mere "consultation", negative attitudes are likely to persist (Wilshusen et al. 2002). One-way dialogue flowing from decision-makers to the public may create more disagreement and conflict than agreement from the affected public (McCool and Guthrie 2001). Transitioning from traditional hierarchical decision making in natural resource

management to lateral decision making with all relevant stakeholders is essential to effective collaboration (Selin and Chavez 1995).

McCool and Guthrie (2001) acknowledge the expanding recognition of the importance of including long term social processes in natural resource management. They point out that it is not always as simple as looking to science to solve natural resource issues because natural resource decisions are often “messy” situations involving an “...interacting set of subproblems...” that cannot be dealt with in isolation. To deal with these problems successfully there must be an emphasis on learning and consensus building (McCool and Guthrie 2001).

Arnstein (1969) illustrates eight levels of public participation; where the lower levels are essentially non-participation, mid-levels are token participation, and only at the upper levels do citizens experience real power in the participation process. She describes public participation as being the process by which the “have-nots” of society are able to participate in the distribution of society’s benefits, explaining that there is a difference between “empty rituals in public participation”, which are the lower to mid-levels described above, and meaningful participation that gives the “have-nots” some of the decision-making power. Manipulation falls at the lowest level of participation, where the system is distorted to become a public relations tool for those in power (Arnstein 1969). Informing and consultation can be first steps in a meaningful public participation process, but only if they are followed by other methods of public participation (Arnstein 1969). Placation begins to incorporate the public, but still falls short by not giving them true decision making power (Arnstein 1969). True public participation begins with

partnership, delegated power and citizen control; at these stages, power is redistributed through negotiation, or is completely held by citizens (Arnstein 1969).

Incorporation of meaningful public participation (i.e., the higher levels of Arnstein's (1969) classification) may reduce conflict in complex natural resource issues. However, some argue that a people-oriented approach weakens conservation by focusing on efforts for increased public participation and community development rather than strictly ecological concerns (Wilshusen et al. 2002). Indeed the temporal urgency of many conservation initiatives may preclude effective public participation from occurring. However, conflict arises over differing expectations and parties concerned with human issues may be at odds with those concerned with ecological issues, which may inhibit an open process. When nature and humans are pitted against one another in a win-lose scenario "...there is no room for dialogue and negotiation" (Wilshusen et al. 2002); shared learning and consensus-building among stakeholders can help to bridge this divide and find common ground to aid cooperation (Wondolleck and Yaffee 2000; McCool and Guthrie 2001). A community-based approach attempts to alter the traditional regulatory top-down approach pitting environment against economy (Hibbard and Madsen 2003). As Lee (1994) discusses, local control in natural resource conservation achieves more than government coercion. This active participation by stakeholders is becoming more accepted in natural resource decision processes (Shuett et al. 2001).

Problem Statement, Objectives, and Approach

There is a need to balance the economic and cultural interests of the people who inhabit the Northern Forest with environmental concerns. An understanding of how this can be done requires analysis of conservation strategies and how these impact people and

the land. My approach was to conduct a comparison of two recent conservation acquisitions with which I am familiar. While working as an intern at Baxter State Park in the summer of 2006, I was aware of the controversy surrounding the acquisition of the Katahdin Lake parcel. Living in the region since childhood, I have also been aware of the controversy surrounding the proposed national park. Local people expressed anger about top-down conservation strategies that led them to feeling excluded from lands they viewed as rightfully theirs to access.

During the summer of 2007, I worked as an intern for the Downeast Lakes Land Trust in Grand Lake Stream, learning about how the land trust was formed. Compared to land conservation initiatives in central and northern Maine, this process seemed open and broadly supported.

I chose the Katahdin Lake acquisition and the Downeast Lakes Land Trust for a comparative analysis, because both of these are fairly recent (the DLLT created the Farm Cove Community Forest in 2005, and the Katahdin Lake acquisition occurred in 2006), and based on observation I knew the Katahdin Lake project was relatively controversial, while the DLLT project was not. A comparison will not only shed light on these processes, aiding in the two organizations' understanding of the processes, but inform future efforts undertaken by other conservation groups. My main questions are:

- What elements of the policy processes made the DLLT acquisition less controversial and more supported than that of Katahdin Lake?
- What are the prevailing conservation attitudes held by people from the two cases, and do they differ?

I feel that if a conservation effort was fairly free of conflict then it was likely to increase local people's interest in and support for conservation, so perhaps attitudes differ between the two cases. Therefore, my research objectives are to:

1. Deconstruct the policy process of each case.
2. Identify which conservation strategy was more successful in terms of support for the project and conflict minimization.
3. Identify conservation attitudes of people from the two cases, and see if these differ between cases.

By fulfilling these objectives I not only provide insight on successes and failures of the two cases, but will inform future conservation efforts throughout the Northern Forest. I hope that my research will help reduce conflict over forest land decisions by illuminating successful components of a public participation process. I feel that my findings can be extrapolated beyond the two cases because these areas share cultural, economic, and ecological similarities with the rest of the Northern Forest, where ownership changes and wildland development are occurring. My research can assist conservation organizations in designing initiatives that reduce conflict to increase local support for their efforts. Additionally, I feel that my research will help to fill a gap in the body of literature because it makes the connection between conservation processes and attitudes.

Organization of the thesis

Organization of this research follows the linear-analytic structure as described by Yin (1994). Above I have outlined the issue, or problem, its context in Maine, and the objectives of my research. In the pages that follow, I have described my methods,

including descriptions of both cases, data collection, and analytical methods. In the results section, I present overall findings from in-person interviews, a mail survey, and analysis of legislative testimony for the Katahdin Lake case. The discussion delves deeply into my findings and relates them back to relevant literature. The conclusion ties together my objectives and results as well as presenting implications for the entire Northern Forest region and future research.

CHAPTER 2

METHODS

Researcher's Perspective

Clark (2002) describes the importance of researchers reflecting on their observational standpoint, including biases, base values, and self scrutiny. My background in forestry means that maintaining a working forest is part of my professional culture. Additionally, I grew up less than a one hour drive from the area surrounding Katahdin Lake and roughly a two hour drive from Grand Lake Stream (the location of the Downeast Lakes Land Trust and associated conserved lands). The close proximity of my childhood home indicates that I inherently hold much of the regional culture and values. Additionally, working in both areas put me in direct professional contact with many of the people associated with the two cases. I maintain positive professional relationships with many of these people and respect both organizations' missions and management.

To overcome any biases that may have been introduced due to my perspective I used a snowball method (described below) for selection of my interview subjects, specifically asking people to identify potential interviewees who were known to be opposed to and supportive of the two processes in an attempt to cover all perspectives. In designing the survey instrument drafts were reviewed by my thesis committee and feedback was incorporated into the final survey.

Case Studies

Rationale

A case study approach was used because I am attempting to answer ‘how’ and ‘why’ questions (Yin 1994). I want to know:

1. How did the processes differ?
2. Why one may have been more successful in terms of conflict minimization and community support?
3. What conservation attitudes are held and do they differ between the two cases?

Schramm (1971) states that a case study “...tries to illuminate a decision or set of decisions: why they were taken, how they were implemented, and with what result.” The decision processes are the means by which these lands ultimately became conserved. I want to know about the social processes that affected how these decisions were made, with what degree and timing of public involvement, and what were the results in terms of public perceptions and attitudes. Yin (1994) states that multiple-case studies must be chosen to predict similar results (literal replication), or produce contrasting results for predictable reasons (theoretical replication). I chose these cases based on empirical evidence that one process (Katahdin Lake) involved more conflict than the other (Downeast Lakes Land Trust); I am trying to ascertain what differences there were in the processes to tie those differences back to theories about public participation and community involvement.

Case Study Descriptions

The Downeast Lakes Land Trust

The Downeast Lakes Land Trust (DLLT) is located in Grand Lake Stream, Maine in Washington County. Washington County is the poorest in the state (Community Forest Collaborative 2007). Grand Lake Stream is a town of approximately 150 year-round residents. Surrounding communities include Princeton and Indian Township, home to the Passamaquoddy Tribe of Maine.

The town of Grand Lake Stream is rich in history and culture. In the 1800s there was a tannery on Grand Lake Stream, said to be the largest in the United States. Eastern hemlock (*Tsuga canadensis*) grows abundantly in the area and was harvested for the bark to feed the tannery. Following the closure of the tannery, many people in Grand Lake Stream and the surrounding communities worked in the pulp mill in nearby Baileyville (a.k.a. Woodland), or worked in the woods to supply wood to the mill.

The area is also known for its recreational opportunities, especially hunting and fishing. For generations people have come to Grand Lake Stream and hired local guides for hunting and fishing excursions. Grand Lake Stream has the greatest concentration of Registered Maine Guides in the entire state (Grand Lake Stream Guides Association 2009). The town contains fishing and hunting lodges to house the tourists coming to the area primarily in spring, summer, and fall. These businesses and the guides rely on access to the forest and lakes of the region for their livelihood. It is because access to the land is so vital to the community that local people began to react when they saw overcutting and heard rumors that the land would be sold to developers. The effort to conserve the lands began when a group of six locals formed the Friends for the Downeast

Lakes. This group sought outside assistance (see results for details) to conserve the lands and form the DLLT.

Since 2005, DLLT has owned 27,000 acres of forest known as the Farm Cove Community Forest. In 2008, the Farm Cove Community Forest expanded to 33,708 acres, with the addition of lands acquired through the Wabassus Lake Project (The Downeast Lakes Land Trust Media Release 2008; See Figure 3 in Appendix A). Management decisions are led by the Board of Directors, comprised mostly of community members. While DLLT owns the community forest, no-development restriction easements are held by the New England Forestry Foundation² and the Sweet Water Trust. The forest includes miles of lake shore, hiking and ATV trails, wildlife management areas, an ecological reserve, and a late-successional management area. DLLT practices sustainable forest management on the land (with the exception of the ecological reserve) and is certified by the Forest Stewardship Council (FSC) (Certification #: SW-FM/COC-002682). The DLLT is currently working with the town of Grand Lake Stream to conserve more lands adjacent to the town, and promote community development (The Downeast Lakes Land Trust Media Release 2009).

The Downeast Lakes Land Trust, the New England Forestry Foundation (NEFF), and the Woodie Wheaton Land Trust, in Forest City, Maine, make up the Downeast Lakes Forestry Partnership which holds conservation easements on 342,000 acres of nearly contiguous forest land in Washington County, including the Farm Cove Community Forest. NEFF acted as an early partner and resource for the DLLT. NEFF

² New England Forestry Foundation was founded in 1944 to conserve working forests, educate the public, and assist landowners with sustainable forest management. They manage 23,000 acres of demonstration forests and hold 125 conservation easements. The founders of the DLLT reached out to NEFF early in the process for assistance in conserving their lands.

assisted the group of local citizens in determining their goals, and implementing actions and fundraising. NEFF and DLLT worked together to raise funds, but would have fallen short by the 2005 deadline. To provide a portion of the remaining funds, NEFF mortgaged one of their other properties. The two organizations worked over the next several years to raise money to repay the debts and create endowments for stewardship; this was successfully completed in 2008 (Berry 2009).

Baxter State Park and the Katahdin Lake Acquisition

Baxter State Park is located in central Maine and encompasses over 200,000 acres, including Mount Katahdin, the state's highest peak. The park is named for the late Governor Percival Baxter, who acquired and donated the park to the state in 28 parcels over the course of his lifetime (Whitcomb 2008). Although called a state park, it is so in name only. The park is run exclusively by a trust left by Baxter at the time of his death. No state money is used in the operation or management of the park. Governor Baxter left the park for the people of Maine and as "...a sanctuary for wild beasts and birds..." (Baxter Deeds of Trust 1931).

Major decisions in the management of the park are made by the Baxter State Park Authority which is a three member board composed of the state Attorney General, the Director of the Bureau of Forestry, and the Commissioner of Inland Fisheries and Wildlife. The Authority closely adheres to the Baxter Deeds of Trust when making decisions about the park. The Deeds of Trust and Baxter's correspondence outline what Baxter's vision was for the management of the park.

The bulk of the park is a preserve, with no hunting, trapping, logging or off-road vehicles (See Figure 5 in Appendix A for use zone map). There is camping, with several

campgrounds ranging from cabins to tent-sites. One road, the Park Tote Road, runs the circumference of the park. The nearly 30,000 acre Scientific Forest Management Area (SFMA), located in the northern section of the park, was created as a showplace for scientific forest management by Percival Baxter. The SFMA is Forest Stewardship Council (FSC) certified (Certification #: SGS-FM/COC-2513) and is a model forest under the Forest Guild model forest program (Baxter State Park 2009). There are recreational opportunities in the SFMA, including hunting, fishing, hiking, camping, and canoeing. The timber extracted generates income for park operations and the SFMA serves as a classroom for various groups interested in sustainable forestry. Additional lands in the northern section open to hunting are just east of the SFMA. Other areas that allow hunting are located in the southern-most portion of the park and were acquired after Governor Baxter's death (Figure 5 in Appendix A).

The Katahdin Lake parcel is 4,000 acres and contains Katahdin Lake, which was part of Percival Baxter's original vision for the park (Whitcomb 2008). Prior to the park's acquisition of the parcel in 2006, it was owned by Irving Woodlands LLC, followed by the Gardner Land Company (GLC). Katahdin Lake Wilderness Camps is a small sporting camp located on the south shore of the lake.

The acquisition, and subsequent gifting of the parcel to the park, was initiated by a visit to the park by Governor John Baldacci in 2003 (Whitcomb 2008). He delegated responsibility for the negotiations with Irving, and later GLC, to the Department of Conservation (Whitcomb 2008). GLC desired other state-owned and private lands in exchange for the parcel surrounding Katahdin Lake. Because public lands were part of the deal, the state legislature became involved. Legislation, known as LD 2015, required

a 2/3 vote in the legislature to allow the sale of state lands. The state worked with the Trust for Public Lands (TPL) as an intermediary in the deal.

The passage of LD 2015 involved extensive public debate over not only the gifting of the land to the park, but the sale of state lands. Before public debate began, the Baxter State Park Authority agreed that it would accept the parcel from the state only under the condition that it be managed as sanctuary lands, excluding hunting and other 'traditional uses'. This was a pre-emptive move, because previous acquisitions which occurred after Baxter's death were open to public debate, resulting in hunting as a permissible use on those lands. Since the Authority knew that Governor Baxter had envisioned the Katahdin Lake lands as sanctuary, they decided prior to the public debate that they would only accept the lands under the condition that they be managed as a preserve.

Several state-wide and local groups were opposed to the lands being managed as a preserve, citing the loss of traditional recreational access to the land. Others in opposition to the deal were against the sale of state lands, which had been under management by the Bureau of Parks and Lands (BPL). In response to the public outcry over traditional uses, the 6,000 acre parcel was split. The northern 2,000 acres are now state lands managed by the BPL, and the southern 4,000 acres, containing Katahdin Lake have been given to the park.

Despite public opposition, LD 2015 passed with a 2/3 majority in April of 2006 (Whitcomb 2008). The swap included lands in Piscataquis, Aroostook, Franklin, Cumberland, and Penobscot counties, including 7,385 acres of state lands and 14,000 acres of private lands. The Trust for Public land raised approximately \$12 million of

private funds to purchase the lands that were exchanged with GLC for the Katahdin Lake parcel (Whitcomb 2008). The Bureau used the revenue from this sale to purchase other lands in the same counties, as required by the legislation.

Data collection

To conduct my study, data were collected from a variety of sources: observations, interviews, mail surveys, and legislative testimony, to provide triangulation (Yin 1994). Data triangulation increases validity as it provides "...multiple measures of the same phenomenon" (Yin 1994). However, I did not triangulate data for all aspects of my study. Triangulation for the process component of the study was possible because there was legislative testimony for the Katahdin Lake case, as well as survey and interview results. The section on conservation attitudes, however, relies entirely on survey and interview results, with no document analysis. A mix of qualitative and quantitative data was gathered to provide for comprehensive analysis. While qualitative methods allow for detailed study, quantitative methods measure responses from more people (Patten 1990).

I interviewed key participants in each case to understand the processes to fulfill my first objective of deconstructing the policy processes and also to understand the social processes involved in the two cases. By speaking with participants and leaders in both processes, I was able to identify components of the process that either contributed to, or detracted from the success of the process in terms of minimizing conflict and increasing support for the conservation project. Survey questions were then designed with the information garnered in interviews. The surveys were used to supplement the interview data and to gather information from more people. The surveys were designed to fulfill the second and third objectives, relating to support for the particular case, conflict, and

conservation attitudes. Survey data provide perspectives from a much broader pool of participants and stakeholders than was possible with interviews. However, the interviews allowed me to delve deeply into the issue, which facilitated development of the survey instrument. With the information gathered in both the interviews and surveys, the legislative testimony from the Katahdin Lake case was analyzed to see if trends in conflict around that case were consistent with the primary data. Analysis of the Katahdin Lake testimony also enhanced my understanding of the social process for that case.

Approval from the University of New Hampshire's Institutional Review Board was sought for use of human subjects before interviewing or surveying began; all components of the study were deemed exempt (See Appendix F).

Interviews

Interviews were open ended, with guiding questions. Each interview lasted approximately 30-60 minutes. I interviewed 15 people between the two cases; 8 from the Katahdin Lake case, and 7 from the DLLT case. Interviewees were selected based on my knowledge of the two organizations and by snowballing, a method in which additional interviewees are identified during the initial interview. I selected people to interview that I knew were involved in both processes. This included some people who are professionally affiliated with the organizations, who provided leadership in the conservation projects, and who represented major stakeholder groups. Through discussion with these individuals several others were identified and contacted for an interview. I specifically asked some interviewees to identify people with different opinions of the process in an attempt to garner information from people from all perspectives. Not all of the people contacted as potential interviewees were willing or

able to be interviewed. There were several people whom I attempted to interview, but they did not return phone call/email requests or refused to be interviewed. At each interview, audio was recorded and later transcribed. All subjects are anonymous and signed a confidentiality agreement. Due to financial and temporal constraints, I was unable to interview all pertinent individuals. Those individuals who were not interviewed were asked to respond to a mail survey. Interviewees were also asked to respond to the survey.

Mail Surveys

After interviews were conducted, I began developing a survey to assess broader attitudes about conserved forest land in Maine and perceptions and attitudes about the processes involved with the two cases. I used information garnered from the face to face interviews to develop the survey questions. A mail questionnaire was administered to the target group I selected. Eighty surveys were mailed; two were returned due to incorrect addresses. Twenty-two and fifty-six surveys were sent for the DLLT and Katahdin Lake case, respectively. The sample sizes for the two cases were unevenly split because many more people participated in the Katahdin Lake case than the DLLT case because the Katahdin Lake case involved state legislation. Additionally, the town of Grand Lake Stream (where the DLLT is located) is much smaller than the towns surrounding Baxter State Park.

Survey participants were selected based on my knowledge of participants in the two processes, observation, and interviews. These included people who participated in the process and those who were affected by the decisions. I sent a survey to all people who wrote in or spoke to the legislative committee regarding the Katahdin Lake case for

whom I had accurate mailing addresses. Several people were added who I felt would have a stake in the issue. This included a random sample of local guides in an area not well represented in the legislative testimony. Stakeholders from the town of Millinocket and its general vicinity were represented in the testimony, however, I added a random sample of guides from Patten, who also lead trips to the study area. In Grand Lake Stream, I randomly selected lodge owners, who are also guides who had not participated in the process. For the Grand Lake Stream case, I also sought out responses from people neighboring the lands, who may use the land.

Each survey was 9 pages, consisting of 31 questions, divided into two parts (See Appendices D and E). The first asked questions relating to conservation attitudes including, recreational access, timber extraction, and development; these questions were the same on both surveys. Analysis of these general conservation attitude questions fulfilled the third objective to identify conservation attitudes and see if they differed between the two cases. The second section pertained to the specific case study, and questions included those about participation, conflict, satisfaction with the process, and satisfaction with the outcome to help fulfill the second objective pertaining to the success of the process in minimizing conflict and increasing support for the project. These questions were the same for both surveys with the specific case substituted as appropriate. Respondents were invited to add additional comments after each question and/or at the end of the survey.

Response options for attitudinal questions were on a Likert-type scale, strongly agree to strongly disagree, with no opinion/not applicable as an option. Several questions

asked respondents to check the appropriate response(s) from a list. Other questions were of a yes/no nature.

Surveys were in booklet form, on white paper with a color photograph of the study area. A cover letter explained the survey and the rights of research participants. Each survey was signed by my advisor and me. There were three introductory paragraphs before the questions. In these, the term conservation is defined as land formally designated by the state or local government, an easement, a land trust, or other organization as conserved. Additionally, I stated that conservation has occurred in Maine, by both public and private entities. For the process questions, on the Katahdin Lake survey, the process was defined as that which resulted in the 4,000 acre parcel, including Katahdin Lake, being given to Baxter State Park. The study area is defined as southern Aroostook County, northern Penobscot and northeastern Piscataquis Counties. For the DLLT survey, the process was defined as that which resulted in the creation of the Downeast Lakes Land Trust and the associated conserved lands (the Farm Cove Community Forest and the Sunrise Conservation Easement). The study area is defined as the municipalities of Grand Lake Stream, Princeton, Indian Township, and adjacent towns or townships.

Surveys were sent via first class mail and included a self-addressed, stamped envelope. Timing of mailings was based on the sequence recommended by Dillman (1978). The first mailing was sent at the end of February 2009. Approximately two weeks later, a reminder postcard was mailed to those who had yet to reply. A second copy of the survey was sent four weeks after the initial mailing to those who still had not

replied. May 18, 2009 was set as a cut-off date for inclusion of survey responses in the analysis; surveys received after this date were discarded.

Subjects' Affiliations

I grouped subjects (people I interviewed and/or surveyed) into four broad categories representing their affiliation. These categories are: local and state politicians or political affiliation (including political appointees), natural resource managers, the general public, and representatives of clubs, coalitions, or other non-governmental organizations. This grouping helps to contextualize the perspectives of the participants which are important in understanding the social process (Clark 2002). The different groups will interact in different ways and bring different values, perspectives and strategies to these interactions (Clark 2002). It was important that I interviewed and/or surveyed people representing a range of perspectives, values and strategies so that I could gain a more comprehensive understanding of the processes and the attitudes surrounding them.

Table 1. Affiliations of interview and survey participants.

Subjects' Primary Affiliation	DLIT		KL	
	<i>Surveyed</i>	<i>Interviewed</i>	<i>Surveyed</i>	<i>Interviewed</i>
Local and state politicians or political affiliation	2	0	5	2
Natural resource managers	1	1	3	1
General public	16	6	22	5
Representatives of clubs, coalitions, or other non-governmental organization	1	0	10	0
Total	20	7	40	8

Analysis

Interviews were coded in NVivo, a qualitative data management tool. Segments of interviews were coded based on their relevance to seven major themes: community, conflict, conservation attitudes, maintaining access, new value institutions, past ownership of the land, and process. Pertinent segments of interviews have been incorporated into discussion of these topics.

Survey data were entered into the SPSS statistical program. For missing responses, the mean response (corresponding to the correct case) was used so that the entire case (individual respondent) would not be thrown out in computation (Johnson 2009). This method makes it more difficult for differences in responses between the two cases to be significant (indicating a relationship between the response and the case) because I am reducing the variability between cases. Therefore there has to be a greater difference between cases for the results to be significant, so reported results are more conservative.

Categories were condensed in question 13 to assist in analysis. These were condensed into three categories based on levels of attachment as indicated by the response, with 1 equaling the greatest level of attachment to the area and 3 the least. Place attachment is generally defined as the emotional connection between people and places and is often broken into two theoretical categories; place identity in which places promote a sense of belongingness through their symbolic meaning, and place dependence which has to do with a place satisfying physical or psychological needs (Davenport and Anderson 2005). My decision to condense response options to question 13 (below) was made after I began analyzing the surveys. Since the goal of this question was to establish

a general understanding of respondents' sense of place, I condensed the categories into three levels based on my assumptions of place connectivity and Relph's (1976) contention that people have strong connections to where they are born and/or have significant experiences. Therefore, I assume that people living in an area, or growing up in an area have had significant experiences and therefore are more attached to that place than people who began visiting that place later in life, or have never visited.

Question 13 and the available responses with the associated place attachment score:

"Do you live in or visit the study area? Please check all that apply"

I currently live in this area (1)

I grew up living in this area (1)

I grew up visiting this area (2)

I live in this area year round (1)

I live in this area seasonally (2)

I used to live in this area (and do not now) year round (2)

I used to live in this area (and do not now) seasonally (3)

I've never lived here, but I visit (3)

I've never lived in or visited this area (3)

People were asked to check all that apply. My assumption was that people who grew up visiting the area, still do, which is why this response indicates attachment level 2. This is because someone who has been visiting the area nearly their entire life will have a greater attachment than someone who has only recently become familiar with the area.

Frequencies were generated for all questions. Additionally, Chi-square was used to establish whether responses to the questions were independent of the case (Baxter State Park versus DLLT). Zar (1999) recommends that for testing at the 0.05 significance level the average expected cell frequency be at least six. The average expected cell frequency equals $n/(r*c)$ where n is the sample size, and r and c are rows and columns,

respectively. Since my sample size is 60, I was unable to test relationships where the number of cells exceeds 10. I could only confidently test at the 0.05 level, though in some cases the calculated value indicates significance at a smaller level of probability. Due to cell thinness I was unable to explore some relationships of interest.

After reviewing interview and survey data I analyzed the legislative testimony from the Katahdin Lake case qualitatively by reading all verbal testimony and written submissions to identify major themes. I wanted to see if information gathered from the interviews and surveys reflected attitudes similar to the testimony. Unfortunately, similar documentation was not available for the DLLT case since it was a private conservation project. The testimony for the Katahdin Lake case was obtained from the Maine State Law and Legislative Reference Library.

CHAPTER 3

RESULTS

Survey Response Rate

The survey response rate was calculated after subtracting surveys returned due to incorrect addresses, resulting in 78 delivered surveys. Of these, 60 were completed and returned, yielding a 76.9% response rate. Twenty-two surveys were sent for the Downeast Lakes Land Trust case. Of these, 20 were completed and returned (91%). Fifty-six surveys were sent for the Katahdin Lake case. Of these, 40 were completed and returned (71%).

Comparison of Processes, Conflict, and Support

The process by which these two areas were conserved was different at the outset (Table 2). While the Downeast Lakes Land Trust case began with a small group of local residents concerned about the future of their town and livelihoods, the Katahdin Lake case began with the grand vision of a great conservationist, Governor Percival Baxter, and the desire of a group of state politicians to honor that vision. The decision-makers in the DLLT case were essentially the community members who began the project by recognizing a problem (heavy cutting and risk of lake shore development on lands they relied upon) and trying to find a way to solve that problem. In the Katahdin Lake case, the decision-makers were the Baxter State Park Authority, who made the decision that the parcel would become a preserve if they were to accept it as part of the park, and state

politicians who had to make a decision regarding the landowner's (Gardner Land Company) demands for state owned lands in exchange for the Katahdin Lake parcel.

Both processes resulted in forest land being conserved, albeit managed in very different ways. The Katahdin Lake lands became part of the bulk of Baxter State Park, and the DLLT lands are actively managed and allow access for hunting, fishing, hiking, and off-road vehicles.

Table 2. The decision processes for each case unfolded differently from the source of the original vision for the respective project to who was involved and the final outcome.

Steps in the process	BSP/KL	DLLT
Issue origin	Late Governor P.P. Baxter's vision for his park	Community traditions/values/economy
Action		
Who?	State politicians and agents	Locals (both seasonal and year-round residents)
How?	Talked to the BSP Authority to gauge interest in the KL parcel; TPL for financial support for the project	Communication with landowner; Seeking assistance on how to proceed from established conservation organizations
Dealing with conflict	Public hearings on land swap (legally required for the sale of public lands)	Meetings with stakeholders to find out what expectations and concerns were of affected stakeholders
Final decision makers	State legislature	Group of locals (initially the Friends of the Downeast Lakes, later the Downeast Lakes Land Trust and its Board of Directors)
Outcome	KL lands split as a compromise (roughly 2,000 acres to state to be managed by BPL, 4,000 acres to BSP to be managed as a preserve)	Farm Cove Community Forest (FCCF); Downeast Forestry Partnership; 2007 expansion of FCCF and the West Grand Lake Community Forest Project

The fact that the DLLT case was a private conservation initiative, while the Katahdin Lake case was public led to different decision processes (Table 2). People in Grand Lake Stream were able to mobilize, and with some outside assistance (advisory and financial)

formed the DLLT and purchased the land now known as the Farm Cove Community Forest (See Chapter One for description). The Katahdin Lake case required legislation because the landowner (Gardener Land Company) desired state owned lands in exchange for the Katahdin Lake parcel. Opposition to the Katahdin Lake project, as illustrated in the legislative testimony, was due to access issues as well as the land swap. Most of the controversy over the land swap surrounded the roughly 1,000 acre “Wyman Lot” which is adjacent to the Bigelow Preserve and the Appalachian Trail. However, some people viewed the trading of well-managed public forest land to be the problem. One person wrote to the Committee about how he imagined Baxter would feel about the land swap if he was here today:

Governor Baxter clearly valued well-managed forest, like those on these BPL parcels considered for sale, as well as wild places. As much as he sought to acquire Katahdin Lake, his writings and actions leave little doubt that he would detest the machinations surrounding this particular deal. He would insist that ways be found to complete it without selling well stewarded, scientifically managed, and irreplaceable public lands. If you pass this bill as written, you will be tacitly accepting that this end justifies any means, however short-sighted and ill-conceived, and thereby dishonor Baxter’s legacy. And finally, acquisition of the Katahdin Lake parcel, rather than being a crowning achievement, would become a forever-tainted chapter in the history of Maine conservation.

This individual’s mention of Baxter’s legacy was not alone. Most of the people presenting support of the bill mentioned Percival Baxter’s legacy or vision. Indeed, the original maps of Baxter’s proposed park contained Katahdin Lake, and likely motivated the acquisition efforts. Baxter visited Katahdin Lake on his first trip from Patten to Katahdin in 1920, where “[h]e saw Katahdin Lake, along with Katahdin itself, as integral elements of his proposed wildlife sanctuary.” Many saw this acquisition as the crowning

glory of a lifetime effort, by one man, to conserve Maine forest lands. One participant in the hearings stated:

The legislature and the people of Maine are being given an opportunity to add an exclamation mark to Percival Baxter's legacy and to complete his magnificent gift to us. This Committee and the legislature should not shrink from this once-in-a-millennium opportunity.

However, the issues associated with the Katahdin Lake acquisition were part of a much larger battle over conservation in the state. Those who fought to see it go to Baxter State Park felt that the acquisition was central to a much larger campaign to conserve forest land in Maine. According to a participant in the hearings,

Katahdin Lake is the locus of the most important unprotected forest remaining in Maine. It is also where the most important artists of Mount Katahdin have intersected over the past century and a half. This combination of natural and cultural significance places the Katahdin Lake area at the top of the list of urgent Maine land conservation priorities.

Those opposed to the project saw it in a larger context as well. Another participant in the hearings stated that "We see this as a war for our heritage. We don't see this as the single parcel you are focused on."

While the historical context of the creation of Baxter State Park and Percival Baxter's vision provided the impetus for the Katahdin Lake acquisition, it may have created conflict in that it pitted people hoping to fulfill that vision against people who use the land. The absence of this background in the DLLT case may have aided in the acceptability of the project because it was not embedded in the vision of someone not participating in the process, like the late Governor Baxter.

People in Grand Lake Stream who were interviewed said that the isolation of the area may have aided in minimizing conflict in the process. One participant explained,

“...isolation worked in our favor, in that we’re far enough off the beaten path, that most people hadn’t a clue as to what we were up to, what 27,000 acres looked like, what the 300,000 acre no-development restriction...I don’t think people really realized what was going on.”

However, the locals who initiated the DLLT process made an effort to bring in many potential local stakeholders; “We went and we talked to town managers, we went to different towns, to anybody that had property that might be bordering the conservation land.” One decision-maker in the process described how they did this;

[W]e met with them and talked about what we were doing. Remember this was in the formative stage of this project, we hadn’t done it yet. We wanted to know what their concerns were. We also spent a lot of time talking to people, not just nay-sayers, anyone who had concerns, because we were interested in finding out what people wanted. ..We went to the nine towns, organized towns in the project area that had select boards and met with the select boards...and told them what we were thinking about doing and asked them what their concerns were. So, there was a lot of interplay between local selectpeople, and NEFF and DLLT. We also had meetings with the Passamaquoddies since they were an abutter. We talked to them about our ideas, and what we found was that the biggest concern was that people continue to have public access to the land, for hunting, fishing, trapping, outdoor recreation, snowmobiling, ATVing, all of those things.

Indeed, the town, and the associated conserved lands are rather isolated. Isolation may also be viewed as negative in such a process. However, decision-makers reached out for assistance. By involving the New England Forestry Foundation (NEFF) early in the process, they reduced the negative side effects of the isolation. They were able to raise money through an established conservation organization, and receive recommendation and assistance on how to go about conserving the land. Additionally, the precedent set by conserving a small portion of Grand Lake Stream several years prior, gave the

community a sense that such a feat could be accomplished. The nearby Woodie Wheaton Land Trust, in Forest City, also had already successfully conserved land, and it worked closely with the people in Grand Lake Stream. Perhaps controversy in the Katahdin Lake Campaign was heightened due to conflict around other issues in that area. A directly-affected stakeholder in the Katahdin Lake case stated:

Clearly, and without bantering about this, the continual acquisition of land by Eliotsville Plantation and putting land that was formerly in fairly aggressive land management and accessed and hunted, into non-hunting, preservation land, had everybody on edge, because there was, in local terms, there was a loss of use of that land...On top of that is a huge amount of change that's been embroiled in this area in the last ten years, where very large local engines, like the mills, have begun to change and go away, and close or threaten to close.

Regardless of the cause, there were significant differences between cases regarding survey respondents' perception of conflict around the issue (Table 3). More people strongly disagreed with the statement that there was no conflict in the Katahdin Lake case (Table 3). Some said that the fact that since the Katahdin Lake process was conducted through the Legislature, necessitated by the fact that public lands were sold to acquire the parcel, allowed for the controversy to occur, as one interviewee involved in the process stated; "...it's because public lands were being sold as part of the package that it had to go to the Legislature. When something goes through the Legislature you then have hearings, and when you have hearings it gives people a chance to talk...So, the opportunity for the opposition to grandstand came because of the hearings which are public." However, some people felt that the opportunity for public involvement that arose as a result of the legislative process was insufficient. One interviewee stated that "There were a large number of different stakeholders with different interests... and they were not

well brought together to try to find a win-win arrangement...It was not a model of negotiating to the win-win.” People may have been excluded from the process due to the fact that it took place in Augusta, nearly 150 miles from where many stakeholders lived, and hearings occurred during the work week. One person who spoke during the hearings in Augusta noted that he represented a much larger group since “Many could not get here at 9:30 on a Monday morning...” In retrospect, even some decision makers in the Katahdin Lake case felt that an inadequate effort was made to incorporate different stakeholder positions; one interviewee directly involved in the process stated, “I think if we had to do [it] over again, I think that we could’ve done a better job working with the locals.”

Table 3. Number and percentage response to the statement “There was no conflict around the process by which these lands were conserved”.

Case	Response					
	Strongly Agree	Agree	Disagree	Strongly Disagree	No opinion	Total
DLLT	1 5%	4 20%	12 60%	3 15%	0 0%	20
K.L.	2 5%	1 3%	7 18%	29 73%	1 3%	40
Total	3	5	19	32	1	60

Chi-square test statistic = 21.271; significant at the 0.05 level; p = 0.000.

Table 4. Number and percentage responses to the statement “There was opportunity to participate in the process if one wished.”

Case	Response					
	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion	Total
DLLT	12 60%	7 35%	1 5%	0 0%	0 0%	20
K.L.	11 28%	13 33%	7 18%	7 18%	2 5%	40
Total	23	20	8	7	2	60

Chi-square test statistic = 9.761; significant at the 0.05 level; p = 0.045.

The DLLT process left people feeling that there was an opportunity to participate more than the Katahdin Lake process, with a significant difference between cases (Table 4). However, there were no significant differences between cases when people were asked about their degree of involvement, and whether they felt excluded from the process

(Table 5 and 6). Many people who were unable to attend the meetings in Augusta for the Katahdin Lake project wrote emails or letters to be read at the hearings or given to the committee. The activities people participated in are similar between cases, with a few notable differences. Only 3% of people from the DLLT case wrote letters to local papers, while 11% did so from the Katahdin Lake case (Figures 1 and 2). However, 20% of respondents from the DLLT case either donated money and/or participated in fundraising efforts, while 10% did so from the Katahdin Lake case (Figures 1 and 2). A slightly greater percentage of respondents from the Katahdin Lake case indicated they had casual conversations with decision-makers (22% versus 16% respectively).

Table 5. Number and percentages to the statement “To what degree were you involved in the process...?”.

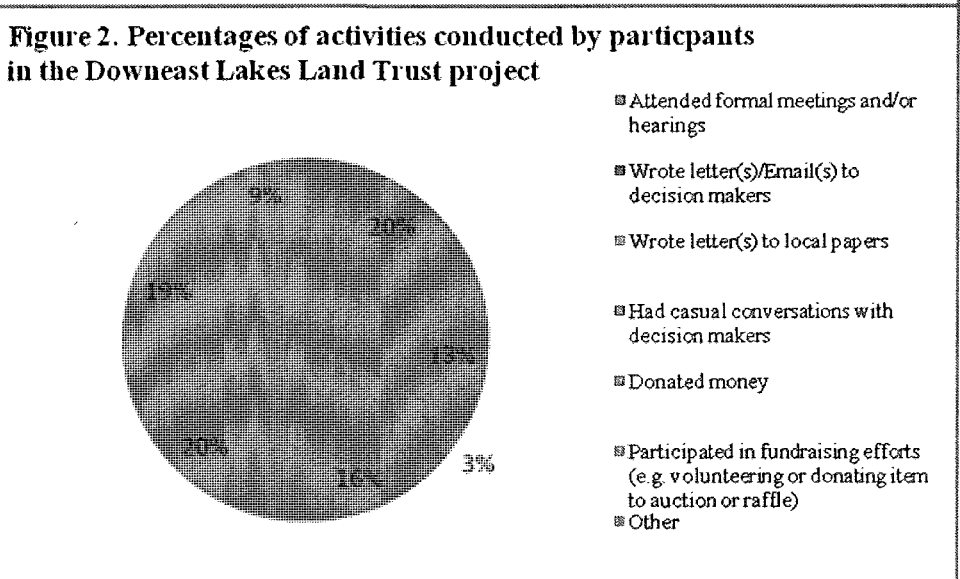
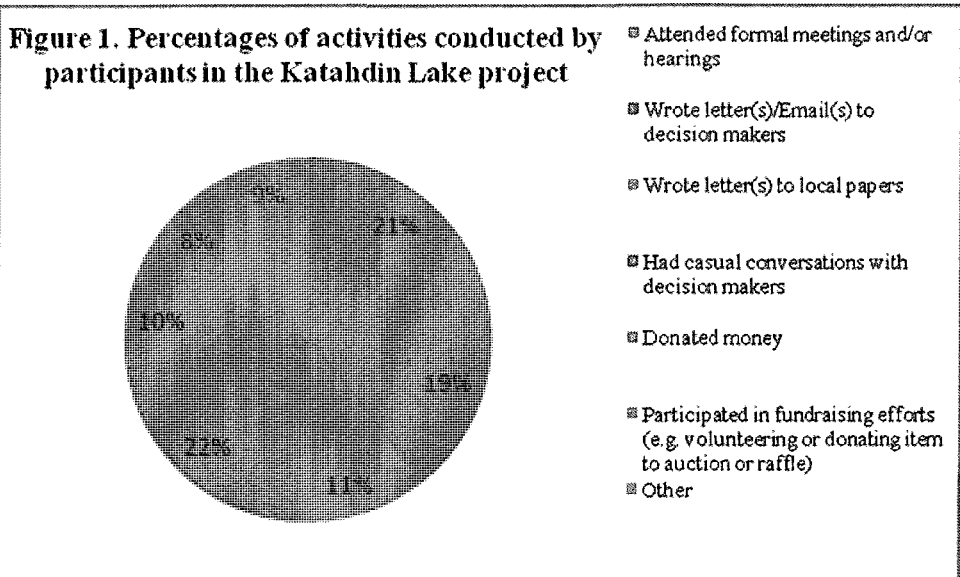
Case	Response						
	Not at all		Somewhat Involved		Very Involved		Total
DLLT	1	5%	6	30%	13	65%	20
K.L.	4	10%	16	40%	20	50%	40
Total	5		22		33		60

Chi-square test statistic = 1.309; not significant at the 0.05 level; $p = 0.520$.

Table 6. Number and percentage responses to the statement “I felt excluded from the process.”

Case	Response										
	Strongly Agree		Agree		Disagree		Strongly Disagree		No Opinion		Total
DLLT	0	0%	1	5%	4	20%	12	60%	3	15%	20
K.L.	7	18%	8	20%	8	20%	13	33%	4	10%	40
Total	7		9		12		25		7		60

Chi-square test statistic = 8.206; not significant at the 0.05 level; $p = 0.084$.



Although there was less conflict around the Downeast Lakes Land Trust process, some feel that a better job could have been done at incorporating all interested parties. However, this was more an issue of not “...always do[ing] a good job at finding them a place.” In this case, opposition to the project within the town of Grand Lake Stream itself was minimal, “...within the community it was more a question of getting used to the change that was happening, because they didn’t necessarily see a reason for it, because that’s not how they had done it before.” Many people felt that the Katahdin Lake process

could have been significantly improved, while many people in the DLLT case disagreed with this statement (Table 7). The legislative testimony for the Katahdin Lake case also indicated that people had concerns about that process. There were references by some about the negotiations taking place “in secret” and “behind closed doors”. The necessity of a rapid process was illustrated by the urgency of those supporting the project.

However, some felt that this haste was weakening the process. A decision maker in the Katahdin Lake case stated at the hearings, “This land deal is supposed to happen quickly once the money is available. My concern is that this project is being done with more speed than study, or more preservation than purpose.”

Table 7. Number and percentage response to the statement “I think the process by which these lands were conserved could have been significantly improved”.

Case	Response					
	Strongly Agree	Agree	Disagree	Strongly Disagree	No opinion	Total
DLLT	0 0%	3 15%	14 70%	3 15%	0 0%	20
K.L.	18 45%	13 33%	5 13%	2 5%	2 5%	40
Total	18	16	19	5	2	60

Chi-square test statistic = 27.052; significant at the 0.05 level; p = 0.000.

Table 8. Number and percentage response to question “If you use the land, how has your access for hunting, trapping, hiking, birding, etc. to the land changed”.

Case	Response				Total
	Decreased	The same	Increased	Not applicable	
DLLT	0 0%	12 60%	7 35%	1 5%	20
K.L.	11 28%	13 33%	5 12%	11 28%	40
Total	11	25	12	12	60

Chi-square test statistic = 14.670; significant at the 0.05 level; p = 0.002.

Loss of recreational access was a fundamental issue in both cases. This was apparent in interviews, surveys, and testimony (for the Katahdin Lake case). In Grand Lake Stream (DLLT) one interviewee stated that, “...it was the threat of the preemptive lake shore development that they could see happened in other places that was going to happen here...threatening the lodges, and threatening the guides.” The goal in the DLLT

process was to conserve land to maintain traditional uses. However, the goal of the Katahdin Lake process was to incorporate this parcel into Baxter State Park, thereby curtailing traditional uses. Thus, in the Katahdin Lake case, controversy arose over the access issue. Supporters of the sanctuary stance during the public hearings felt that Katahdin Lake is a “jewel” and part of Percival Baxter’s original vision for the preserve. Many who wrote in or spoke at the hearings felt that it should become a place for solitude, of which, they felt there are few in the state. One woman who wrote in to the committee stated that “Baxter State Park is one of the few places where motorized travel is limited, hunting is prohibited and public access is guaranteed.” However, that access depends on activity; those whose activities are excluded from the parcel did not see that as a good thing. One participant in the testimony stated “I was disheartened to hear that my heritage on this land will not be honored—that I am seen as a hindrance and encumbrance on the enjoyment of this land by others.” Indeed, most of the opposition to the Katahdin Lake project surrounded loss of access to the parcel for traditional uses.

There were significant differences between cases in responses to loss of access to the land (Table 8). Most people in the DLLT case stated that their access remained the same after the lands became conserved (60%), no one reported decreased access, and 35% of people felt their access to these lands increased (Table 8). In the Katahdin Lake area several experienced a loss of access or the same access after the lands were incorporated into the park (27.5% and 32.5% respectively), while few indicated it increased (12.5%) (Table 8).

People that were satisfied with the outcome of the Katahdin Lake process still felt that the process could have been improved; “...the Katahdin Lake process is not a

process that I would recommend to emulate. That said, it came to the right outcome.”

However, there were differences between the two cases in survey responses to satisfaction with the outcome (Table 9). People in the DLLT case tended to be more satisfied with the outcome than those in the Katahdin Lake case (Table 9).

Table 9. Number and percentage response to the statement “I am satisfied with the outcome of this process”.

Case	Response					
	Strongly Agree	Agree	Disagree	Strongly Disagree	No opinion	Total
DLLT	8 40%	11 55%	0 0%	1 5%	0 0%	20
K.L.	7 18%	16 40%	6 15%	10 25%	1 3%	40
Total	15	27	6	11	1	60

Chi-square test statistic = 9.776; significant at the 0.05 level; p = 0.044.

Table 10. Number and percentage response to the question “Do you feel that further conservation, similar to [insert appropriate case], will occur on forest land that you use?”.

Case	Response			
	Yes	Don't Know	No	Total
DLLT	16 80%	4 20%	0 0%	20
K.L.	19 48%	16 40%	5 12%	40
Total	35	20	5	60

Chi-square test statistic = 6.514; significant at the 0.05 level; p = 0.038.

Respondents from the DLLT case generally felt that further conservation of this kind would occur on land they use (80%), while 47.5% of people in the Katahdin Lake case answered yes to this question; this was a significant difference between cases (Table 10).

There was not a significant difference between cases on responses to the statement “I would not support more lands being conserved in this way...” (Table 11). Most people in the Katahdin Lake case would support other conservation methods being used (65%), while 40% of respondents for the DLLT case were unsure, a significant difference between cases (Table 12).

Table 11. Number and percentage response to the statement “I would not support more lands being conserved in Maine the way [insert appropriate case] conserves land”.

Case	Response										
	Strongly Agree		Agree		Disagree		Strongly Disagree		No Opinion		Total
DLLT	2	10%	0	0%	7	35%	11	55%	0	0%	20
K.L.	10	25%	3	8%	12	30%	13	33%	2	5%	40
Total	12		3		19		24		2		60

Chi-square test statistic = 5.793; not significant at the 0.05 level; p = 0.215.

Table 12. Number and percentage response to the question “Would you support the use of other methods to conserve lands that you use?”.

Case	Response						Total
	Yes		Not Sure		No		
DLLT	6	30%	8	40%	6	30%	20
K.L.	26	65%	10	25%	4	10%	40
Total	32		18		10		60

Chi-square test statistic = 7.262; significant at the 0.05 level; p = 0.026.

Table 13. Number and percentage responses to the statement “I am aware of forest land conservation issues around Maine other than [insert appropriate case]”.

Case	Response									
	Strongly Agree		Agree		Disagree		Strongly Disagree		No Opinion	
DLLT	6	30%	13	65%	1	5%	0	0%		20
K.L.	20	50%	17	43%	1	3%	2	5%		40
Total	26		30		2		2			60

Chi-square test statistic = 3.831; not significant at the 0.05 level; p = 0.280.

Most respondents stated that they are aware of other conservation issues around the state.

However, there was no significant difference between cases (Table 13). Most people in the DLLT case felt that their experience was more positive than other conservation issues they knew about in Maine, while few felt this way in the Katahdin Lake case, a significant difference between cases (Table 14). Despite the relationship between positive feelings and the particular case, there is not a relationship between the case and whether people have different feelings about conservation now, than they did in the past (Table 15).

Table 14. Number and percentage responses to the statement “This experience with the process of conserving forest land is more positive than other such efforts I know about around the state.”

Case	Response					
	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion	Total
DLLT	8 40%	9 45%	1 5%	0 0%	2 10%	20
K.L.	2 5%	9 23%	11 28%	12 30%	6 15%	40
Total	10	18	12	12	8	60

Chi-square test statistic = 21.675; significant at the 0.05 level; p = 0.000.

Table 15. Number and percentage response to the question “Did you at any point have different feelings than you do now regarding conservation of lands in Maine?”.

Case	Response				Total
	Yes	Don't Know	No		
DLLT	6 30%	0 0%	14 70%		20
K.L.	15 38%	2 5%	23 58%		40
Total	21	2	37		60

Chi-square test statistic = 1.552; not significant at the 0.05 level; p = 0.460.

Conservation Values

Eighty-seven percent of survey respondents strongly agreed or agreed that most forest land in Maine should be maintained for use as a working forest, with continued logging activity and recreational access (Table 16). Ninety-five percent feel that maintaining a working forest is important to Maine’s economy (Table 17). There was no significant relationship between DLLT and KL respondents for these variables (Tables 16 and 17).

Table 16. Number and percentage response to the statement “More forest land in Maine should be maintained for use as a working forest, with continued logging activity and recreational access”.

Case	Response					
	Strongly Agree	Agree	Disagree	Strongly Disagree	No opinion	Total
DLLT	11 55%	9 45%	0 0%	0 0%	0 0%	20
K.L.	14 35%	18 45%	3 8%	3 8%	2 5%	40
Total	25	27	3	3	1	60

Chi-square test statistic = 5.280; not significant at the 0.05 level; p = 0.260.

Table 17. Number and percentage response to the statement “Maintaining a working forest is important to Maine’s economy”.

Case	Response					
	Strongly Agree	Agree	Disagree	Strongly Disagree	No opinion	Total
DLLT	12 60%	8 40%	0 0%	0 0%	0 0%	20
K.L.	21 53%	16 40%	1 3%	1 3%	1 3%	40
Total	33	27	3	3	1	60

Chi-square test statistic = 1.636; not significant at the 0.05 level; p = 0.802.

Table 18. Number and percentage responses to the statement “More forest land in Maine should be preserved as a wilderness with limited human activity.”

Case	Response					
	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion	Total
DLLT	1 5%	2 10%	9 45%	8 40%	0	20
K.L.	16 40%	9 23%	5 13%	10 25%	0	40
Total	17	11	14	18	0	60

Chi-square test statistic = 13.937; significant at the 0.05 level; p = 0.003.

The results were less conclusive when looking at both cases together, regarding preservation of forest land as wilderness. Forty-seven percent feel that more land needs to be preserved as such, while 53% disagreed, or strongly disagreed, with the statement that more forest land should be preserved as wilderness. However, there were significant differences between cases in response to this question (Table 18). People in the DLLT case tend to be less supportive of preserving more forest land as wilderness than respondents from the Katahdin Lake case (Table 18).

Most participants feel that not enough forest land has been conserved in the state (roughly 73%), with no significant difference between cases (Table 19). Seventy-seven percent feel that hunting should be permitted on most conserved forest lands (no significant relationship with the case) (Table 20). Generally, people in the DLLT case disagreed with the statement that motorized vehicle use should be prohibited on most conserved forest land (90%), while respondents from the Katahdin Lake case were split

(53% agreed or strongly agreed and 58% disagreed or strongly disagreed), a significant difference (Table 21).

Table 19. Number and percentage response to the statement “Enough forest land in Maine has been conserved”.

Case	Response					
	Strongly Agree	Agree	Disagree	Strongly Disagree	No opinion	Total
DLLT	1 5%	3 15%	6 30%	7 35%	3 15%	20
K.L.	4 10%	5 13%	14 35%	17 43%	0 0%	40
Total	5	8	20	24	3	60

Chi-square test statistic = 6.750; not significant at the 0.05 level; $p = 0.150$.

Table 20. Number and percentage response to the statement “Hunting should be permitted on most conserved forest land”.

Case	Response					
	Strongly Agree	Agree	Disagree	Strongly Disagree	No opinion	Total
DLLT	9 45%	11 55%	0 0%	0 0%	0 0%	20
K.L.	11 28%	15 38%	6 15%	6 15%	2 5%	40
Total	20	26	6	6	2	60

Chi-square test statistic = 9.167; not significant at the 0.05 level; $p = 0.057$.

Table 21. Number and percentage responses to the statement “Motorized vehicle use (ATVs, snowmobiles) should be prohibited on conserved forest land.”

Case	Response					
	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion	Total
DLLT	0 0%	2 10%	12 60%	6 30%	0	20
K.L.	9 23%	12 30%	13 33%	6 15%	0	40
Total	9	14	25	12	0	60

Chi-square test statistic = 10.706; significant at the 0.05 level; $p = 0.013$.

To determine how people feel about development in Maine’s forest lands, I asked respondents if land use regulations should be stricter for development of house lots, and commercial properties. Responses between cases significantly differed for house lot development and commercial property development (Tables 22 and 23 respectively), with respondents from the Katahdin Lake case tending to favor stricter regulations than

those from the DLLT case on house lot developments (73% vs. 30% respectively) and commercial property developments (68% vs. 30% respectively) (Tables 22 and 23).

Table 22. Number and percentage responses to the statement “Land use regulations should make it more difficult to convert non-conserved forest land to developed land for house lots than is currently the case.”

Case	Response					
	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion	Total
DLLT	3 15%	3 15%	7 35%	4 20%	3 15%	20
K.L.	18 45%	11 28%	3 8%	6 15%	2 5%	40
Total	21	14	10	10	5	60

Chi-square test statistic = 12.171; significant at the 0.05 level; p = 0.016.

Table 23. Number and percentage responses to the statement “Land use regulations should make it more difficult to convert non-conserved forest lands to developed land for commercial properties (such as recreational facilities, hotels, and resorts) than is currently the case.”

Case	Response					
	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion	Total
DLLT	2 10%	4 20%	8 40%	3 15%	3 15%	20
K.L.	18 45%	9 23%	7 18%	4 10%	2 5%	40
Total	20	13	15	7	5	60

Chi-square test statistic = 9.524; significant at the 0.05 level; p = 0.049.

Seventy-five percent of respondents believe that forest conservation will provide more tourism jobs to local people that are high quality, with no significant difference between cases (Table 24). Everyone (100% of respondents) agrees that efforts should be made to maintain traditional public access on most of Maine’s forest lands.

Table 24. Number and percentage responses to the statement “Forest conservation will provide more good tourism jobs for local people in Maine’s rural areas.”

Case	Response					
	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion	Total
DLLT	8 40%	8 40%	1 5%	1 5%	2 10%	20
K.L.	13 33%	16 40%	5 13%	6 15%	0 0%	40
Total	21	24	6	7	2	60

Chi-square test statistic = 6.107; not significant at the 0.05 level; p = 0.191.

Respondents were asked to select activities which they feel should be prohibited or permitted on most conserved forest land. The only activity that elicited significantly different responses between the two cases was trapping (Table 25).

Table 25. Number and percentage responses to the question “Do you feel that trapping should be prohibited or permitted on most conserved forest land in Maine?”

Case	Response						
	Prohibit		Permit		Undecided/No Opinion	Total	
DLLT	0	0%	19	95%	1	5%	20
K.L.	15	38%	23	58%	2	5%	40
Total	15		42		3		60

Chi-square test statistic = 10.179; significant at the 0.05 level; $p = 0.006$.

Table 26. Number and percentage responses to the question “Should hunting be prohibited or permitted on most conserved forest land in Maine?”

Case	Response						
	Prohibit		Permit		Undecided/No Opinion	Total	
DLLT	0	0%	20	100%	0	0%	20
K.L.	8	20%	31	78%	1	2%	40
Total	8		51		1		60

Chi-square test statistic = 5.294; not significant at the 0.05 level; $p = 0.071$.

No one from the DLLT case wished to prohibit trapping on most conserved forest lands (Table 25). For all other activities the subpopulations were combined to evaluate support or lack of support for activities. There was no opposition to allowing cross-country skiing and hiking. Fishing and camping had no opposition but there were a few ‘undecided/no opinion’ responses. Thirteen percent of respondents feel that hunting should be prohibited on most conserved forest land (Table 26). Five percent of people feel that snowmobiling should be prohibited on most conserved forest land, while 33% of people feel that ATV use should be prohibited (Table 27 and 28 respectively).

Table 27. Number and percentage responses to the question “Should snowmobiling be prohibited or permitted on most conserved forest land in Maine?”

Case	Response						
	Prohibit		Permit		Undecided/No Opinion	Total	
DLLT	0	0%	20	100%	0	0%	20
K.L.	3	8%	34	85%	3	8%	40
Total	3		54		3		60

Chi-square test statistic = 3.333; not significant at the 0.05 level; p = 0.189.

Table 28. Number and percentage responses to the question “Should ATV use be prohibited or permitted on most conserved forest land in Maine?”

Case	Response						
	Prohibit		Permit		Undecided/No Opinion	Total	
DLLT	3	15%	15	75%	2	10%	20
K.L.	17	43%	17	43%	6	15%	40
Total	20		32		8		60

Chi-square test statistic = 5.916; not significant at the 0.05 level; p = 0.052.

In the DLLT case roughly 70% of people are most attached (1) to the study area, 25% are moderately attached (2), and 5% are least attached (3). Responses differed significantly between cases, with respondents from the DLLT case having a greater level of attachment to the study area than those from the Katahdin Lake case in which 28% are most attached (1) to the study area, 28% are moderately attached (2), and 45% are least attached (Table 29). Three people checked that they grew up visiting the area, without indicating that he/she still visits, which would have been inconsistent with one level of attachment. However, my knowledge of these individuals allowed me to establish that they continue to visit the area. Several people checked more than one response, but these were consistent with one level of attachment.

Table 29. Place attachment by case as defined by the researchers based on responses to a question asking respondents to identify to what extent they lived in or visited the study area.

Case	Levels of place attachment interpreted by responses to survey question 13. Most attached (grew up in the area, and/or currently live in the area); Moderately attached (live in the area seasonally, grew up visiting, and/or used to live in the area seasonally); Least attached (Never lived or visited, visit, and/or used to live seasonally).						
	Most Attached		Moderately Attached		Least attached		Total
DLLT	14	70%	5	25%	1	5%	20
K.L.	11	28%	11	28%	18	45%	40
Total	25		16		19		60

Chi-square test statistic = 12.548; significant at the 0.05 level; $p = 0.002$.

There was no significant difference between subpopulations regarding conservation philosophy, so they were combined for analysis. Most people identified themselves as adhering to a multiple use, or a mix of different uses in different areas philosophy (37% and 43% respectively). Eight percent identified themselves as wilderness advocates, and 10% feel that economic concerns (such as timber harvesting and recreation) are most important (Table 30). Respondents from the two cases participate in similar organizations; the only exception was preservation groups (e.g. RESTORE, the Wilderness Society). No respondents from the DLLT case indicated participation in this type of organization, while 8% of respondents from the Katahdin Lake case self-identified this type of affiliation (Figures 6 and 7).

Table 30. Number and percentages of personal conservation philosophies.

Case	Personal conservation philosophy										
	Wilderness advocate		Economic concerns are most important		Multiple use of forest lands		Mix of preservation and public access		Other		Total
DLLT	0	0%	2	10%	11	55%	6	30%	1	5%	20
K.L.	5	13%	4	10%	11	28%	20	50%	0	0%	40
Total	5		6		22		26		1		60

Chi-square test statistic = 8.481; not significant at the 0.05 level; $p = 0.075$.

Figure 6. Percentage of respondents to Katahdin Lake survey involved in forest-related organizations

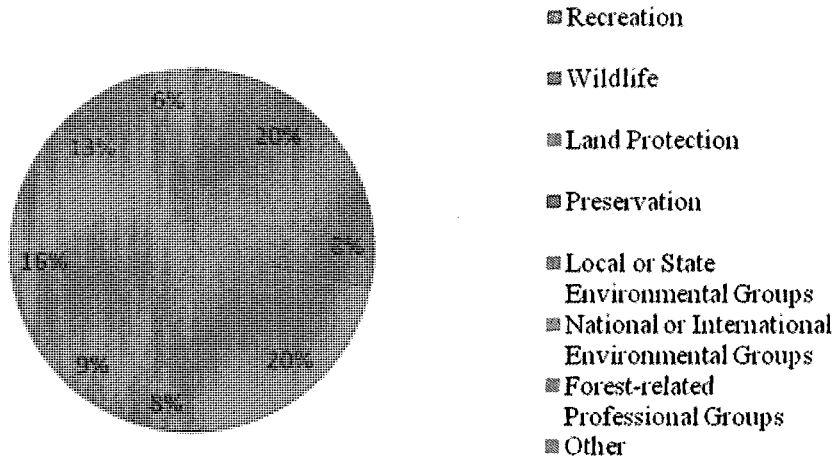
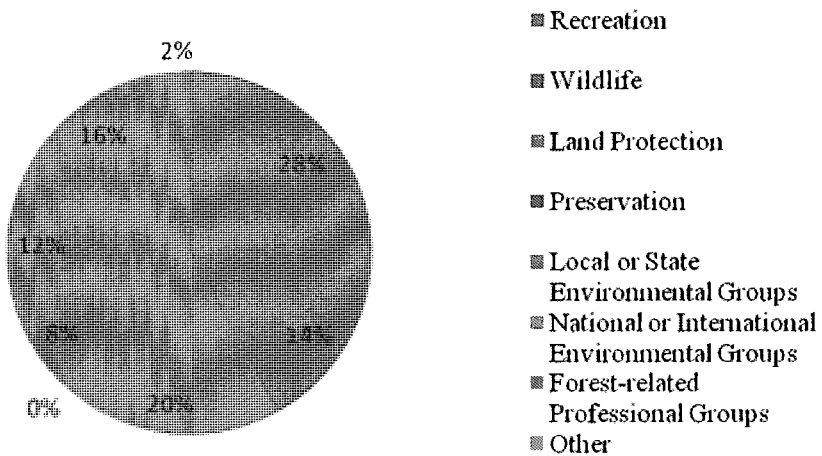


Figure 7. Percentage of respondents to Downeast Lakes Land Trust survey involved in forest-related organizations



Age, education level, or income levels were not significantly different between cases (Tables 31-33). The mean age group was 51-60, the mean income class was \$50,001 – 75,000, and the mean education level was a 2 or 4 year degree.

Table 31: Level of income indicated by respondents.

Case	Income groups (in U.S. dollars)					Total
	<25,000	25,001-50,000	50,001-75,000	75,001-150,000	Over 150,000	
DLLT	0	3	4	9	4	20
K.L.	1	6	15	16	2	40
Total	1	9	19	25	6	60

Chi-square test statistic = 4.869; not significant at the .005 level; $p = 0.301$.

Table 32. Education level indicated by respondents.

Case	Level of Education			
	Less than High School	High School	2 or 4 year degree	Advance degree (Master's or PhD)
DLLT	0	3	8	9
K.L.	0	4	19	17
Total	0	7	27	26

Chi-square test statistic = .472; not significant at the .005 level; $p = 0.790$.

Table 33. Age group indicated by respondents.

Case	Age Group					
	Under 20	21-30	31-40	41-50	51-60	61 and over
DLLT	0	0	1	3	8	8
K.L.	0	0	0	7	17	16
Total	0	0	1	10	25	24

Chi-square test statistic = 2.070; not significant at the .005 level; $p = 0.558$.

CHAPTER 4

DISCUSSION

Process Comparison

The comparison of these cases is particularly interesting in the context of the historical conservation debate. The two cases represent different styles of management; like the bulk of Baxter State Park, the Katahdin Lake parcel is managed as a preserve, reminiscent of early conservation in the United States and Muir's preservation philosophy (See Chapter 1). The DLLT lands represent a new style of conservation in which ecological concerns are blended with social and economic needs. Hibbard and Madsen (2003) note that community-based, or place-based conservation, as I illustrate with the DLLT case, goes beyond the Pinchot wise use versus Muir preservation dichotomy. They state that this approach attempts to break the traditional environment over economy (or vice versa) framework to meld the sustainability of ecological systems with that of social systems.

The specific goals of decision makers were quite different in the two cases. In Grand Lake Stream, the goal was to maintain access to the land. From this vision, leaders determined how to best accomplish the goal. However, state politicians determined that the Katahdin Lake lands should specifically be made part of Baxter State Park, rather than an overarching general goal of conserving the lands. The lands could have been conserved in some other way, however, that option was not publicly considered. Although the Baxter State Park Authority stipulated that the lands would

become sanctuary if the state chose to give them to the park, the state had the option to purchase and manage the lands itself.

There are different degrees of scale between the Katahdin Lake case and the DLLT case. This has to do with the scale of concern, geographic scale, and the temporal scale. Regarding the scale of concern, I learned that issues other than the Katahdin Lake project itself helped fuel the controversy for that project, including the controversial proposal for a national park surrounding Baxter State Park (See Chapter 1). The geographic scale is also different between the two cases; where Baxter State Park was left by Percival Baxter to the people of Maine, and therefore stakeholders include people throughout the state, the DLLT lands were conserved primarily to maintain the local way of life. Additionally, the stakeholders for the Katahdin Lake case were much more diffuse, in that they tended to be spread out throughout the state, because public lots in other parts of the state were part of the deal. Finally, the fact that Baxter State Park was formed over a series of transactions throughout Percival Baxter's life, beginning with the first parcel in 1931, and ending with the Katahdin Lake parcel in 2006, places the process in a temporal context that was absent in the DLLT case.

An issue brought up by participants in the Katahdin Lake process was the expediency with which the deal had to go through. Decision makers were said to be working under a strict timeframe, imposed by the landowner. Collaboration is time consuming, however it has potential to make a project go more smoothly (Fleeger 2008). In the DLLT case, time was also an issue. A great deal of money had to be raised in a short time. This is where the alliance with NEFF became of great importance. NEFF mortgaged one of their other properties to quickly raise a portion of the remaining money

owed before the deadline, which was later repaid via fundraising by both organizations. Fundraising for the Katahdin Lake project was tied closely to the fact that the lands would go to the Park. The Trust for Public Land used Baxter State Park as a platform to generate funds for the project. Perhaps fundraising would have been more difficult if the project had not been linked to Baxter State Park and Percival Baxter's vision.

Neither process was entirely free of conflict. The process to create the Downeast Lakes Land Trust and the associated conserved lands had some opposition, however, it was of a much different nature than the conflict surrounding the Katahdin Lake project. People in and around Grand Lake Stream questioned whether the project was actually feasible. Conserving 27,000 acres via fee acquisition was no easy feat. People wondered whether the money could actually be raised. Partnering with NEFF helped this happen since they advised fundraising strategies, and mortgaged one of their properties to provide funds to help meet a deadline. People were also concerned whether those involved in the DLLT process would actually manage the land as promised, keeping it open to all. However, after nearly four years, community members have come to realize that the land is open to all for hunting, trapping, hiking, fishing, snowmobiling, and ATV use. Also, before the land was actually conserved in Grand Lake Stream, project leaders presented their thoughts to relevant stakeholders, such as selectman in neighboring towns and leaders in the Passamaquoddy Tribe (who own land adjacent to the community forest) They asked for feedback; what people wanted to see happen and what concerns they had. The process was repeatedly referred to as a learning process. Most people I interviewed for this case indicated that they did not know exactly what they were doing, or how they were going to accomplish it, but joined together as a group to figure it out.

Shared learning can lead to more creative solutions and allows people to come to their own conclusions (Wondolleck and Yaffee 2000). This may lead to greater acceptance of the process and outcome.

Unlike the DLLT case where fears of an uncertain future for the ownership and management of the land called local people to action, the Katahdin Lake controversy surrounded what was known, rather than the unknown. By the time public debate was opened before the legislative committee, it was publicly known that the Authority's intent was to incorporate the parcel into the sanctuary, thus limiting uses of the land. It was also known that state lands were intended to be swapped as part of the deal. These two positions never united in their opposition to the project. There were different parties arguing against the project for very different reasons. During legislative testimony very few people indicated that they did not want to see the tract conserved, or given to Baxter State Park. However, conflict surrounded how this was to be done. There is potential for conflict to become positive as it can lead to learning (Lee 1993), which improves the process (Wondolleck and Yaffee 2000). In contrast to what one subject found to be an unfortunate side-effect of the public participation process, McCool and Guthrie (2001) state that negative feedback has the potential to allow learning to occur, which may make the process more adaptive and prevent the occurrence of unforeseen problems. However, this negative feedback must occur early in the process to be effective (McCool and Guthrie 2001). When negative public reactions began being voiced about the Katahdin Lake project, the goals were well established and the process was underway, so the feedback occurred too late in the process to be effective.

There was also a lot of talk about the Katahdin Lake process being conducted “in secret” and “behind closed doors”. While the intentions of the political actors involved, and the Park Authority were made known to the public, the perceived secrecy may have been due to the fact that a plan was in the works before public comment was sought. Perhaps if the state had sought public comment about what to do with the Katahdin Lake lands at the time they became available, constituents would not have felt that it was done in secret. Regardless of whether any secret dealings occurred, this perception negatively impacts people’s view of the process, and therefore, their support. Collaboration has the potential to change negative perceptions. Fleeger (2008) found that a collaborative process in wildfire management in the Sitgreaves National Forest (Arizona) changed negative perceptions that people held about Forest Service employees.

Despite the fact that many people referred to some level of secrecy perceived in the Katahdin Lake case, there was no relationship between either of the cases and whether people felt excluded from the process, or the degree of individual involvement indicated on the survey. However, there is a significant relationship between cases and the response to the question asking if there was an opportunity to participate. There seems to be some inconsistency, in that if people did not feel there was an opportunity to participate, I assumed they would also feel excluded from the process. Perhaps respondents from the Katahdin Lake case did not feel anyone was intentionally excluded, but that given the meeting times, not everyone who would have liked to participate was able to. Additionally, the fact that the public involvement surrounding that case was one-way, rather than a dialogue, may have led participants to feel that they were not fully participating.

Controversy surrounding lands around Baxter State Park is likely to have fueled opposition around the Katahdin Lake project. Indeed, conflict in land-use decisions must be understood within the context of past interactions (Lampe and Kaplan 1999). As previously mentioned, proposed projects, such as a national park in northern Maine, and completed acquisitions by Roxanne Quimby, concern locals who see the potential that they could lose access to lands they have used for generations (See Chapter 1 for more explanation). Even though the Katahdin Lake parcel is relatively small, it was perceived as a piece of a larger puzzle. Conservationists also saw the acquisition of Katahdin Lake as part of a bigger issue. Development, especially lakeshore development, similar to the large scale project proposed by Plum Creek Timber Corporation (described in Chapter 1), threatens access as well as ecological integrity. Katahdin Lake is noted by artists, photographers, and recreationalists as a place of exceptional beauty, and protecting it from second-home building was seen as vital.

These issues were not as prevalent in the DLLT case. Certainly these issues were of concern, but due to the lack of precedent, they may have been less tangible. This may be a more accurate way of describing what people referred to as the isolation that helped the project go forward. It may not be the isolation so much as the fact that there was no previous, major controversy in the area to draw attention to the project. Although some felt that this aided the process, it also had potential to inhibit it. Without the necessary attention, the project could have fizzled. As one person noted, the town of Grand Lake Stream has a lot of energy, but not a lot of money. Generation of outside funds was necessary to make the project viable. The early alliance with NEFF strengthened the process in many ways. Besides the assistance previously described, the alliance with

NEFF protects the lands in the future. Although the DLLT has continued to acquire lands and strengthen, NEFF adds to that stability by holding easements on the lands DLLT owns. Barrett et al. (2001) states that the best management designs may "...involve distributing authority across institutions rather than concentrating it in just one"; These cross-scale linkages are important for addressing complex natural resource issues (Berkes 2004) and may involve linking organizations across space and levels of organization (Ostrom et al. 2001; Young 2002). So, not only did early involvement of outside organizations give strength to the process, but also to the long-term management of the lands.

The fact that Grand Lake Stream is such a small community aided the process. The community is also not typical of many small rural towns in Maine, in that it has a strong social network, evidenced by the land trust itself, as well as the Folk Arts Festival, and the Guides Association. Even though a slightly greater percentage of those surveyed for the Katahdin Lake case indicated that they had casual conversations with decision makers, it is likely that those involved in the DLLT process had more frequent and ongoing conversations with one another. Many of these people know each other well, and see one another daily. These informal settings are more conducive to dialogue and problem solving than a typical public hearing, in which participants take turns making statements, with little to no two-way communication (Twarkins et al. 2001). The one-way communication common in public hearings means the people with power ultimately have the right to the final decision, placing it in the middle of Arnstein's (1969) ladder (See explanation in Chapter 1). While this is certainly a first step toward meaningful

participation, it falls short if other methods, which distribute power, are not utilized (Arnstein 1969).

Additionally, the fact that the DLLT process was initiated by local people, likely led to greater acceptance of the project by others in the area. In the Katahdin Lake study area, decision-makers from Augusta are seen as outsiders, as are people from out of state, or even residents of coastal and southern Maine. Actions of outsiders are interpreted less favorably than those by locals, even if they are similar actions (Hampshire et al. 2004). Earlier involvement of local stakeholders may have led to greater acceptance.

It is important to distinguish the difference between the outcome of the process and the process itself. Many people indicated in interviews that they were happy with the outcome of the Katahdin Lake process, but felt the process itself was not one to emulate. The surveys indicated that many people were unhappy with the Katahdin Lake process (based on responses to questions: “Could this process have been improved?”, and “Was there conflict in this process?”). Over half of survey respondents from the Katahdin Lake case were satisfied with the outcome of the process. However, even the outcome of the Katahdin Lake case has less support than the outcome of the DLLT case. This is likely due to the access issue. Few people indicated that their access to the Katahdin Lake parcel increased after the land was given the park. However, people have experienced a loss of access, since hunting, trapping, and ATV/snowmobile use are no longer permitted. In the DLLT case most people indicated that their access to the land is the same as it was prior to the acquisition, thus fulfilling the goal of the initial project. People that indicated increased access are likely responding to the trail work, as well as road repair and maintenance now performed by the DLLT.

Since the DLLT was created and purchased the original 27,000 acre Farm Cove Community Forest (FCCF), they have been involved in other conservation efforts in the area. They successfully completed the Wabassus Lake Project, expanding the FCCF to 33,708 acres. Additionally, they are now working with the town on the West Grand Lake Community Forest Project. Thus, it is not surprising that most of the people surveyed for the DLLT case indicated that they expect further conservation of this kind will occur on lands they use. Respondents from the Katahdin Lake case were less sure about this. Although, the park is unlikely to expand further, similar styles of conservation (i.e., preservation) are possible on lands surrounding the park.

I attempted to determine if the processes affected people's conservation philosophies. In general, people indicated that they do not have different feelings about conservation than they did in the past. This continuity in attitudes may indicate that they did not have different views prior to the process, or that the survey question failed to accurately gauge that phenomenon. Since it is impossible to assess conservation attitudes prior to the two processes, there is no way to definitively answer that question.

Conservation Values

Participants in both cases are generally consistent in the values they hold related to the forest. Most people recognized the importance of the working forest to the state's economy, and felt that it is important to maintain the working forest. This is likely due to the fact that the downsizing and/or closing of mills across the state has been covered extensively in the media, and noted by most citizens. Even those who have not been directly affected have been able to read about it in local papers. People in both cases

tended to feel that conservation would bring more high quality tourism jobs to the area. I was expecting that people would view conservation efforts as conflicting with job creation, since community development may be viewed as being inconsistent with conservation (Wilshusen et al. 2002). Perhaps with the noted decline of the forest products industry people have begun to look to other means to derive income from the forest. The development of ecotourism in other regions indicates that forest-based tourism provides this opportunity (Milliken 2007; Vail 2004).

Although few identified themselves as wilderness advocates, many people felt that more forest land in Maine should be preserved as wilderness, especially respondents from the Katahdin Lake case. I assume that supporters of the Katahdin Lake project are more supportive of wilderness, since the bulk of Baxter State Park is a preserve. In the DLLT case, most of the respondents have a high level of place attachment, indicating that their individual values are likely to be consistent with the community's as a whole. Since the community is so oriented to the guiding industry, and perhaps to a lesser extent, the pulp and paper industry, this likely affects their views on wilderness preservation, since this designation would prohibit these activities. Additionally, participants in the process to create the DLLT clearly made a choice to allow these activities on their lands, with the exception of the ecological reserve. This is also likely to explain why no respondents from the DLLT case are involved with preservation-oriented organizations.

The multi-use and mixed use conservation processes were most prevalent for both cases. This is consistent with what Shindler et al. (1993) found in Oregon where people favored managing national forests for multiple values. Although the terms multi-use (management for multiple uses on a parcel) and mixed use (different types of

management on different parcels) have different implications (which were explained in the survey) they both indicate a similar emphasis on deriving multiple goods and services from the forest.

All respondents recognized the importance of the forest-related economy, including the forest products industry and recreation. However, some important differences arise in the details of preferred land use. While everyone agreed that the tradition of open public access should be maintained, some placed stipulations on permissible activities. At issue are hunting, trapping, and recreational motorized vehicle use. However, of these, the only activity that had significantly different responses between cases, was trapping. It has been previously noted that Grand Lake Stream has the highest concentration of Maine Guides in the state. It is likely that in such a small community, even those individuals who are not guides themselves are associated in some way with a guide. Therefore, the fact that trapping is more acceptable among respondents from the Downeast Lakes Land Trust case is not surprising.

Despite the fact that both snowmobiles and ATVs (All-Terrain Vehicles) are recreational vehicles, more people are opposed to ATV use than that of snowmobiles. The snowmobile clubs in the state have become highly organized over the years. They groom trails, and advocate responsible enjoyment of snowmobiles. There is currently no equivalent to the snowmobile clubs for ATVs. ATVs may be seen as less controlled. Also, ATV use occurs during spring, summer and fall and can adversely impact soil. Snowmobiles may have less impact on the land because they are used in winter on deep snow.

Respondents from the DLLT case are more attached to the area than respondents from the Katahdin Lake case. However, the DLLT case was a community-based initiative, so people that participated tended to be from that area and therefore very attached. The Katahdin Lake case involved people from across the state due to the legislative process and the swapping of lands around Maine. Also, Grand Lake Stream's relative isolation means that people who participated in the process are more likely to live in the area than those in the Katahdin Lake process, since Baxter State Park is an internationally known entity.

Respondents from the DLLT case favor stricter development restrictions to a lesser degree than those from the Katahdin Lake case. Perhaps respondents from the DLLT case fear development less since they have successfully conserved critical lands. Additionally, there may be less of a threat of development around that area. Certainly Downeast Maine is not targeted for development to the extent that areas around Baxter State Park are, such as the proposed Plum Creek plan (See Chapter 1) which has been the source of great controversy for several years. Since more people in the Katahdin Lake case are from outside of the study area than those in the DLLT case, they may have seen first-hand the rapid development of forest land in southern Maine and neighboring states. Bengston et al. (2005) found that nationwide overall concern about urban sprawl and its environmental impacts began to increase rapidly in the late 1990s. Perhaps the isolation of Grand Lake Stream (the DLLT case), referred to earlier, lessens the overall concern about development. Additionally, the creation of the DLLT as well as the nearby Woodie Wheaton Land Trust, and their success at conserving shoreline, may have lessened fears of development impacts in the area.

Study Limitations

Subjects were selected for the study based on my professional knowledge of the two organizations, legislative testimony, and snowballing. Bias may have been introduced, since there was legislative testimony for only the Katahdin Lake case. It is possible that since participants were selected mostly based on snowballing for the DLLT case, that certain perspectives (such as those in opposition to the project) were not well represented. However, I attempted to avoid this by asking interviewees to identify people they knew to have a different opinion their own. Also, I sent the survey to individuals who were not identified through the snowballing technique, but who use the conserved lands or adjacent lands. Opposition to the project may have been more evident in the Katahdin Lake case than the DLLT case because there were state-level public hearings. Additionally, the area around Baxter State Park has other controversial projects (See Chapter 1) that may affect people's attitudes about the Katahdin Lake process. This could have led to more negative attitudes reflected on the survey than should be attributed to the Katahdin Lake project.

My sample size was rather small. Due to financial and temporal constraints I was only able to interview 15 people total and send surveys to 78 people (See Methods section for explanation). Since my questions had to do with the process we solicited responses from people directly involved in the processes. However, it is possible that the attitudes expressed by subjects in my study are unique and not representative of the majority of Mainers or people in the rest of the Northern Forest region.

A case study approach has potential to lack applicability to a greater area. It is possible that the feelings expressed by participants in these cases are unique and cannot

be extrapolated to other conservation issues. However, due to the similar socio-economic characteristics in the rest of the Northern Forest, I feel that my findings will apply throughout the region.

CHAPTER 5

CONCLUSION

Process Comparison

While it is difficult to tease out the particular process from the greater regional context, the process to incorporate Katahdin Lake into Baxter State Park was more controversial than the process to conserve the Downeast Lakes Land Trust lands. The timing and nature of public involvement was critical. The DLLT process involved visioning and planning within the community. In contrast, the Katahdin Lake process incorporated the vision of the late Percival Baxter, and involved planning primarily by state politicians.

It is important to emphasize that the goals of the process were very different. In both instances, the goals of the primary decision makers were fulfilled. However, the affected stakeholders experienced differing degrees of satisfaction and inclusion, based on the public participation in each process. The people in the DLLT process sought out feedback, both positive and negative, from stakeholders, which added to the learning process, and improved the overall process.

Despite the fact that there were significant differences between the cases in satisfaction with the outcome of the process, it was clear that there was much less contention over the outcome of the Katahdin Lake process than with the process itself. The survey indicated that most people were satisfied with the outcome of the process,

while few people felt the process could not be significantly improved, or was free of conflict.

These cases indicate that early public involvement that involves mutual learning and two-way dialogue will lead to less controversy and greater acceptance of a project. While no situation can leave everyone getting everything they want, mutual learning and two-way dialogue creates a cohesiveness that leaves people feeling that their opinions were heard and valued, and that they had power in the decision-making process. While not all conservation initiatives can truly start from the ground up, as in the DLLT case, conservation organizations throughout the Northern Forest region can take valuable lessons from these cases. Identifying goals with local people at the earliest stages of the process is a first step in creating support for a project by linking values to actions.

Conservation Values

Attitudes regarding conservation were similar between the two cases. In fact, differences were evident only on the subjects of wilderness preservation, trapping, and development restrictions. It is difficult to ascertain if these differences are related to the particular conservation process in each case, or if they are regional characteristics. Differences between cases may be reflective of a factor such as place attachment, which was not deeply analyzed in this study. Perhaps the two processes did not affect people's attitudes about conservation, however, since I did not survey people prior to the two projects, I cannot know with certainty whether a relationship between the processes and attitudes exists. Research assessing local attitudes before beginning a process to conserve forest land, followed up by an investigation of attitudes after the project's completion would lead to a better understanding of how the process affects attitudes.

What is most important to take away from this portion of my study are the values that people expressed since this information can become an important component in future conservation projects that wish to incorporate local people's values. People still value maintenance of the working forest and traditional forest activities. While timber harvesting still remains important, people are increasingly recognizing the value ecotourism can have in Maine's economy. Non-consumptive recreational activities are supported, however, consumptive activities generate mixed degrees of support; the similar activities of hunting and trapping, as well as snowmobiling and use of ATVs, generate different perceptions. While people tend to be supportive of hunting and snowmobiling, there is more controversy around trapping and ATV use. While this study does not explain the underlying reasons for this distinction, it is important to note, especially for organizations striving to promote these activities.

These findings have implications beyond the two cases. Conservation organizations throughout the Northern Forest should emphasize maintenance of traditional activities, including hunting and sustainable timber harvesting on land to generate support. However, many people identified their conservation philosophy as mixed use, meaning different activities on different parcels. Therefore, untouched reserves are socially, as well as ecologically desirable.

The overarching message is to work with the goals and values of local communities. Efforts to conserve forest land will garner more support if all stakeholder groups are brought together early in the process. People support increasing conserved lands in Maine, as preservationists and traditional users alike see the threat that forest land conversion has on their way of life. By preserving traditional uses, while also

emphasizing a conservation ethic, conservation initiatives will generate more support, which will result in more forest land being conserved.

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APPENDICES

APPENDIX A: Maps

Figure 3. Map of DLLT owned lands and adjacent properties. The West Grand Lake Community Forest is part of a newer project, begun during this research process. The Farm Cove Community Forest is the primary subject of this thesis. This map is courtesy of the Downeast Lakes Land Trust and used with permission in this thesis.

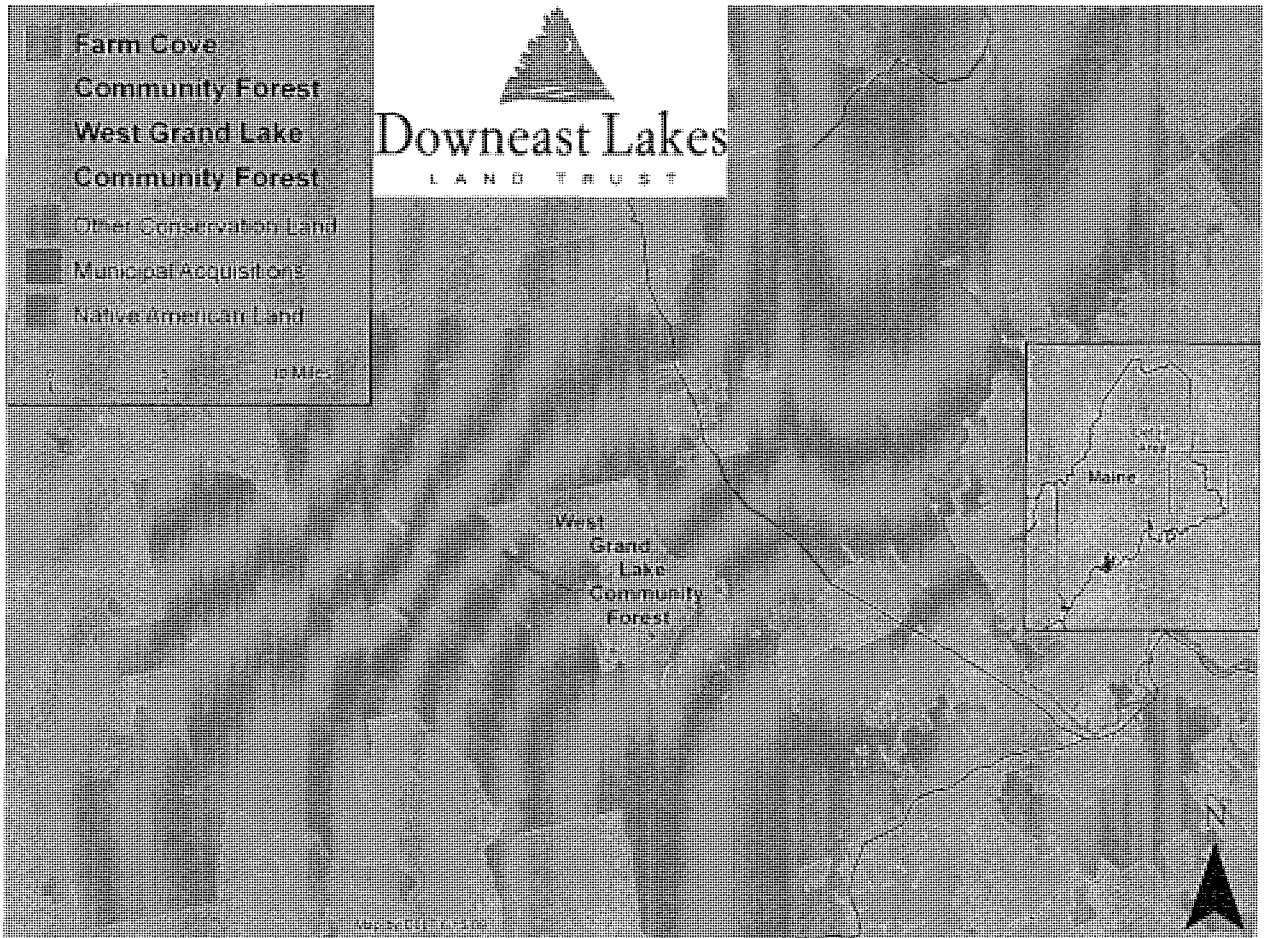


Figure 4. Northern Maine with Baxter State Park and the location of the Downeast Lakes Land Trust. This map was created by the U.S. Geologic Service.

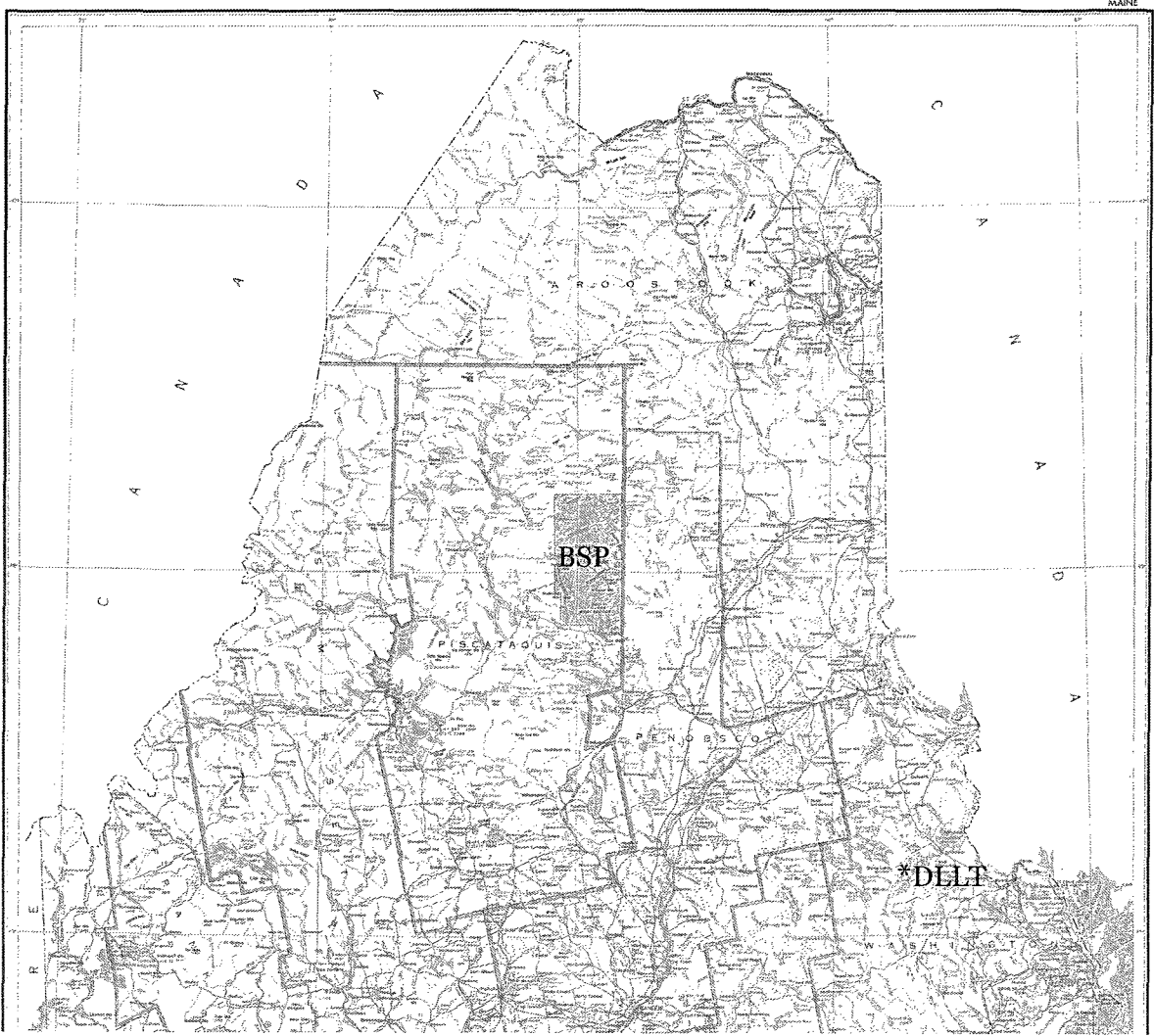

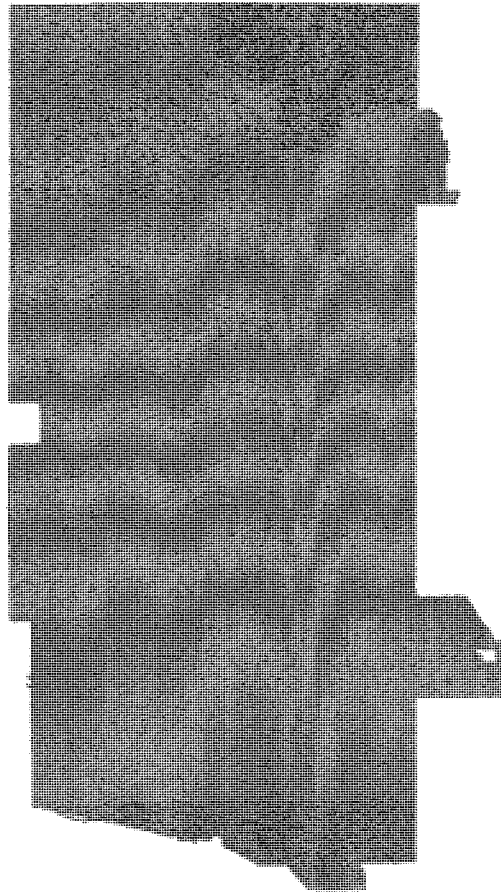


Figure 5. Use zones for Baxter State Park. This map is used with permission from Baxter State Park from page 196 of H. Whitcomb's (2008) *Governor Baxter's Magnificent Obsession*.

BSP USE ZONE LEGEND

-  Forest Management & Hunting Allowed
29,584 acres
-  Hunting Allowed
23,043 acres
-  Game Sanctuary
156,874 acres

Total Acres: 209,501



APPENDIX B: Interview Consent Form

Project Title: Conflict Resolution and Community Support For Conservation In The Northern Forest: A Comparative Case Study From Maine

My name is Morgan Cottle. I am a graduate student in Natural Resources at the University of New Hampshire. I am conducting this study for my thesis in partial fulfillment of my degree.

The goal of my research is to help resolve conflicts among people who care about the Northern Forest by identifying policy process elements that make a conservation strategy successful in terms of community support for conservation (locally and for conservation in general) and in terms of minimizing conflict around conservation issues.

I am interviewing you to better understand the process and attitudes regarding the conservation issues in your area.

Your participation is voluntary. You may refuse to answer questions at any time. Our conversation will last approximately 30-90 minutes, however you may end the interview at any time.

I will tape record our conversation, but your name will not be stated on the recording. You will remain anonymous in any publication (thesis, papers), unless you specify otherwise. I do not anticipate any risks or benefits to you personally as a result of your participation.

If you have questions or comments for me after your interview, you may contact me (Morgan Cottle) at: mab86@unh.edu

If you have any questions about the rights of a research participant you may contact Julie Simpson at the University of New Hampshire's Office of Sponsored Research.

Julie Simpson: Email: Julie.Simpson@unh.edu
Phone: 603-862-2003

Signature _____

Date __/__/__

APPENDIX C: Survey Letter

We are conducting a study on conflict resolution and community support for conservation in Maine.

The goal of our research is to help resolve conflicts among people who care about the Northern Forest. We are analyzing conservation processes to see what makes a conservation strategy successful in terms of community support and minimizing conflict.

You are being surveyed to better understand the process and attitudes regarding the conservation issues in your area.

Your participation is voluntary, if you do not wish to respond to the survey you may discard it. The survey should take approximately 20 minutes to complete.

You do not need to write your name on the response. You will remain anonymous in any publications (thesis, papers), unless you specify otherwise. We do not anticipate any risks or benefits to you personally as a result of your participation.

If you have questions or comments for us at any time you may contact Morgan Cottle at mab86@unh.edu.

If you have any questions about the rights of a research participant you may contact Julie Simpson at the University of New Hampshire's Office of Sponsored Research.

Julie Simpson: Email: Julie.Simpson@unh.edu

Phone: 603-862-2003

We welcome any additional comments you may have, so feel free to use the space provided at the end of the survey. If you would like to receive a summary of the results of the study please include your name and email address (this will not be used in any publications or presentations of the results).

Thank you very much for your participation. Your responses are most appreciated.

Sincerely,

Morgan A. Cottle
Graduate Assistant
University of New Hampshire
Department of Natural Resources
and the Environment
Email: mab86@unh.edu

Theodore E. Howard
Professor of Forest Economics
University of New Hampshire
Department of Natural Resources
and the Environment
Email: tehoward@unh.edu

APPENDIX D: Katahdin Lake Survey

**Conflict Resolution and Community
Support for Conservation in the
Northern Forest: A Comparative Case
Study from Maine**



Mount Katahdin from Katahdin Lake courtesy of Baxter State Park photo files

For the purposes of this survey, “conserved forest land” refers to lands that have been formally designated by state or local government, an easement, a land trust, or other organization as conserved.

Because conservation of forest land is happening throughout Maine we would like to know how you feel about it. Some of these lands have been conserved by private organizations, while others are now public lands.

Please state the degree to which you agree with the statements below by circling the answer that most closely reflects your perspective. If you have additional comments specific to an issue, please feel free to use the space provided after each question. There is also space available at the end of the survey for general thoughts or comments you wish to share.

1) Most forest land in Maine should be maintained for use as a working forest, with continued logging activity and recreational access.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

2) Maintaining a working forest is important to Maine’s economy.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

3) More forest land in Maine should be preserved as a wilderness with limited human activity.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

4) Enough forest land in Maine has been conserved.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

5) Hunting should be permitted on most conserved forest lands.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

6) Motorized vehicle use (ATVs, snowmobiles) should be prohibited on conserved forest land.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

7) Land use regulations should make it more difficult to convert non-conserved forest land to developed land for house lots than is currently the case.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

8) Land use regulations should make it more difficult convert non-conserved forest land to developed land for commercial properties (such as recreational facilities, hotels, and resorts) than is currently the case.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

9) Forest conservation will provide more good tourism jobs for local people in Maine's rural areas.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

10) Efforts should be made to maintain the tradition of open public access for recreation on most of Maine's forest lands.

Strongly agree Agree Disagree Strongly disagree No
 opinion/Not Applicable

11) Please indicate, by check mark or X, whether you feel the following activities should be permitted or prohibited on most conserved forest land in Maine:

<u>Activity</u>	<u>Prohibit</u>	<u>Permit</u>	<u>Undecided/No opinion</u>
Hiking	_____	_____	_____
Camping	_____	_____	_____
Hunting	_____	_____	_____
Trapping	_____	_____	_____
Snowmobiling	_____	_____	_____
ATV trails	_____	_____	_____
Cross country skiing	_____	_____	_____
Fishing	_____	_____	_____

Other activities that should be permitted or prohibited (please specify):

12) Select one option that you feel most closely describes your personal forest conservation philosophy.

___ Wilderness advocate (preservation of conserved land that does not allow hunting, trapping, motorized recreation or timber harvesting)

- Economic (timber harvesting, recreation, etc.) concerns are most important
- Multiple use of forest lands (including hunting, logging, hiking, snowmobiling, etc. on the same land)
- Mix of preservation and public access (Some lands designated as wilderness, while others allow timber harvesting and recreation)
- Other, please specify:

The following questions are about the Katahdin Lake Campaign, which refers to the process resulting in the 4,000 acre parcel, including Katahdin Lake, being given to Baxter State Park. The study area is defined as Southern Aroostook county, Northern Penobscot and Northeastern Piscataquis counties.

13) Do you live in or visit the study area? Please check all that apply.

- I currently live in this area
- I grew up living in this area
- I grew up visiting this area
- I live in this area year round
- I live in this area seasonally
- I used to live in this area (and do not now) year round
- I used to live in this area (and do not now) seasonally
- I've never lived here, but I visit
- I've never lived or visited this area

14) There was no conflict around the Katahdin Lake Campaign.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

15) I think the process by which these lands were conserved could have been significantly improved.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

If so, what would you have changed?

16) I am satisfied with the outcome of the Katahdin Lake Campaign.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

17) If you use the land, how has your access for hunting, trapping, hiking, birding, etc. to the land changed?

Decreased The same Increased Not applicable

18) Did you at any point have different feelings than you do now regarding conservation of lands in Maine?

Yes Don't know No

If yes, briefly describe what changed your mind and how you feel now.

19) Do you feel that further conservation similar to that of Katahdin Lake will occur on forest land that you use?

Yes Not sure No

20) I would not support more lands being conserved in this way (like Katahdin Lake, a preserve) in Maine.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

Participated in fundraising efforts (may be volunteering or donating item to an auction/raffle)

Other, please specify

27) This experience with the process of conserving forest land is more positive than other such efforts I know about around the state.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

28) If you are involved with (e.g. member, participant, financial supporter) any organizations affiliated with forest land, wildlife, etc., please check all that apply.

Recreation oriented clubs (e.g. snowmobile, hunting, hiking)

Wildlife (e.g. Ducks Unlimited, Trout Unlimited)

Land protection (e.g. Land trusts, Friends of Maine State Parks)

Preservation groups (e.g. RESTORE, Wilderness Society)

Local or state environmental groups (e.g. Natural Resources Council of Maine)

National or international environmental groups (e.g. Sierra Club, World Wildlife Fund, The Nature Conservancy)

Forest-related professional groups (for example: Maine Professional Guides Association, Society of American Foresters, Professional Logging Contractors, etc.)

Other, please

specify _____

In the following three questions please check one response:

Your age:

Under 20

41-50

21-30

51-60

31-40

61 and over

Your highest level of education completed:

Less than high school

2 year or 4 year degree

High school

Advanced degree (Master's, PhD)

Your approximate yearly household income:

Less than \$25,000

\$75,001-150,000

\$25,000-50,000

Over \$150,000

\$50,001-75,000

Thank you for your time and consideration in completion of this survey. Please write any additional thoughts or comments you have in the space provided and return the completed survey in the envelope provided.

If you would like a copy of the compiled results, please include your name and email address.

**Conflict Resolution and Community Support
for Conservation in the Northern Forest: A
Comparative Case Study from Maine**

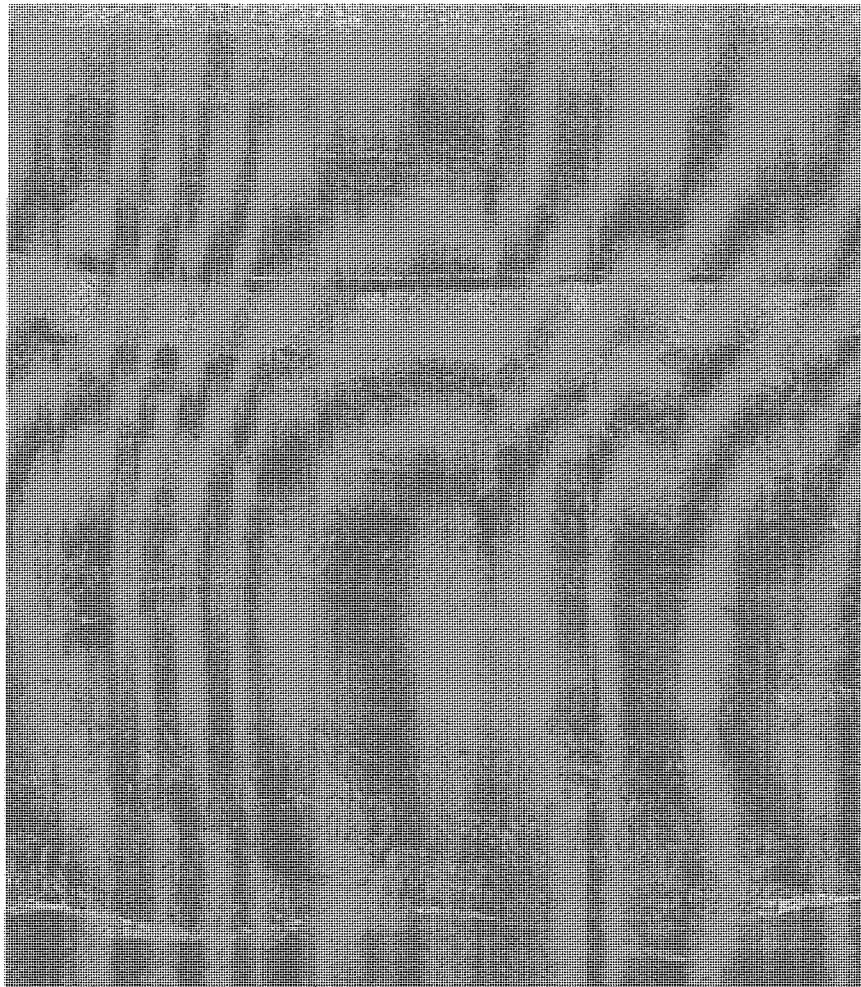


Photo courtesy of DLLT/Lighthawk photo

For the purposes of this survey, “conserved forest land” refers to lands that have been formally designated by state or local government, an easement, a land trust, or other organization as conserved.

Because conservation of forest land is happening throughout Maine we would like to know how you feel about it. Some of these lands have been conserved by private organizations, while others are now public lands.

Please state the degree to which you agree with the statements below by circling the answer that most closely reflects your perspective. If you have additional comments specific to an issue, please feel free to use the space provided after each question. There is also space available at the end of the survey for general thoughts or comments you wish to share.

- 1) Most forest land in Maine should be maintained for use as a working forest, with continued logging activity and recreational access.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

- 2) Maintaining a working forest is important to Maine’s economy.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

- 3) More forest land in Maine should be preserved as a wilderness with limited human activity.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

4) Enough forest land in Maine has been conserved.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

5) Hunting should be permitted on most conserved forest lands.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

6) Motorized vehicle use (ATVs, snowmobiles) should be prohibited on conserved forest land.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

7) Land use regulations should make it more difficult to convert non-conserved forest land to developed land for house lots than is currently the case.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

8) Land use regulations should make it more difficult to convert non-conserved forest land to developed land for commercial properties (such as recreational facilities, hotels, and resorts) than is currently the case.

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opinion/Not Applicable

9) Forest conservation will provide more good tourism jobs for local people in Maine's rural areas.

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10) Efforts should be made to maintain the tradition of open public access for recreation on most of Maine's forest lands.

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 opinion/Not Applicable

11) Please indicate, by check mark or X, whether you feel the following activities should be permitted or prohibited on most conserved forest land in Maine:

<u>Activity</u>	<u>Prohibit</u>	<u>Permit</u>	<u>Undecided/No opinion</u>
Hiking	_____	_____	_____
Camping	_____	_____	_____
Hunting	_____	_____	_____
Trapping	_____	_____	_____
Snowmobiling	_____	_____	_____
ATV trails	_____	_____	_____
Cross country skiing	_____	_____	_____
Fishing	_____	_____	_____

Other activities that should be permitted or prohibited (please specify):

12) Select one option that you feel most closely describes your personal forest conservation philosophy.

Wilderness advocate (preservation of conserved land that does not allow hunting, trapping, motorized recreation or timber harvesting)

Economic (timber harvesting, recreation, etc.) concerns are most important

Multiple use of forest lands (including hunting, logging, hiking, snowmobiling, etc. on the same land)

Mix of preservation and public access (Some lands designated as wilderness, while others allow timber harvesting and recreation)

Other, please specify: _____

In the following questions, the process referred to resulted in the creation of Downeast Lakes Land Trust (hereafter DLLT) and the associated conserved lands (the Farm Cove Community Forest and the Sunrise Conservation Easement). The study area is defined as the municipalities of Grand Lake Stream, Princeton, Indian Township, and towns or townships adjacent to them.

13) Do you live in or visit the study area? Please check all that apply.

I currently live in this area

I grew up living in this area

I grew up visiting this area

I live in this area year round

I live in this area seasonally

I used to live in this area (and do not now) year round

I used to live in this area (and do not now) seasonally

I've never lived here, but I visit

I've never lived or visited this area

14) There was no conflict around the process by which these lands were conserved.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

15) I think the process by which these lands were conserved could have been significantly improved.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

If so, what would you have changed?

16) I am satisfied with the outcome of the process that created the DLLT and the associated conserved lands.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

17) If you use the land, how has your access for hunting, trapping, hiking, birding, etc. to the land changed?

Decreased The same Increased Not applicable

18) Did you at any point have different feelings than you do now regarding conservation of lands in Maine?

Yes Don't know No

If yes, briefly describe what changed your mind and how you feel now.

19) Do you feel that further conservation, similar to how the DLLT manages their lands, will occur on forest land that you use?

Yes Not sure No

20) I would not support more lands being conserved in Maine the way the DLLT conserves land.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

21) Would you support the use of other methods to conserve lands that you use?

Yes Not sure No

If yes, please explain.

22) I am aware of forest land conservation issues around Maine other than the DLLT.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

23) To what degree were you involved in the process that created the DLLT and the associated conserved lands?

Not at all Somewhat involved Very involved

24) I felt excluded from the DLLT conservation process.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

25) There was opportunity to participate in the DLLT conservation process if one wished.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

26) If you participated, what did you do? Check all that apply. If you did not participate, please skip to question 28.

- Attended formal public meetings and/or hearings
 - Wrote letter(s)/email(s) to decision makers
 - Wrote letter(s) to local paper(s)
 - Had casual conversations with decision makers
 - Donated money
 - Participated in fundraising efforts (may be volunteering or donating item to an auction/raffle)
 - Other, please specify
-

27) This experience with the process of conserving forest land is more positive than other such efforts I know about around the state.

Strongly agree Agree Disagree Strongly disagree No
opinion/Not Applicable

28) If you are involved with (e.g. member, participant, financial supporter) any organizations affiliated with forest land, wildlife, etc., please check all that apply.

- Recreation oriented clubs (e.g. snowmobile, hunting, hiking)
- Wildlife (e.g. Ducks Unlimited, Trout Unlimited)
- Land protection (e.g. Land trusts, Friends of Maine State Parks)
- Preservation groups (e.g. RESTORE, Wilderness Society)
- Local or state environmental groups (e.g. Natural Resources Council of Maine)
- National or international environmental groups (e.g. Sierra Club, World Wildlife Fund, The Nature Conservancy)
- Forest-related professional groups (for example: Maine Professional Guides Association, Society of American Foresters, Professional Logging Contractors, etc.)
- Other, please specify

In the following three questions please check one response:

Your age:

Under 20

41-50

21-30

51-60

31-40

61 and over

Your highest level of education completed:

Less than high school

2 year or 4 year degree

High school

Advanced degree (Master's, PhD)

Your approximate yearly household income:

Less than \$25,000

\$75,001-150,000

\$25,000-50,000

Over \$150,000

\$50,001-75,000

Thank you for your time and consideration in completion of this survey. Please write any additional thoughts or comments you have in the space provided and return the completed survey in the envelope provided.

If you would like a copy of the compiled results, please include your name and email address.

APPENDIX F: Institutional Review Board Approval

University of New Hampshire

Research Conduct and Compliance Services, Office of Sponsored Research
Service Building, 51 College Road, Durham, NH 03824-3585
Fax: 603-862-3564

29-Jul-2008

Cottle, Morgan
Natural Resources, James Hall
10 Cushing St
Dover, NH 03820

IRB #: 4350

Study: Conflict Resolution and Community Support for Conservation in the Northern Forest

Approval Date: 29-Jul-2008

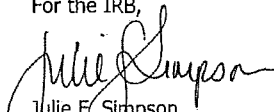
The Institutional Review Board for the Protection of Human Subjects in Research (IRB) has reviewed and approved the protocol for your study as Exempt as described in Title 45, Code of Federal Regulations (CFR), Part 46, Subsection 101(b). Approval is granted to conduct your study as described in your protocol.

Researchers who conduct studies involving human subjects have responsibilities as outlined in the attached document, *Responsibilities of Directors of Research Studies Involving Human Subjects*. (This document is also available at <http://www.unh.edu/osr/compliance/irb.html>.) Please read this document carefully before commencing your work involving human subjects.

Upon completion of your study, please complete the enclosed Exempt Study Final Report form and return it to this office along with a report of your findings.

If you have questions or concerns about your study or this approval, please feel free to contact me at 603-862-2003 or Julie.simpson@unh.edu. Please refer to the IRB # above in all correspondence related to this study. The IRB wishes you success with your research.

For the IRB,



Julie F. Simpson
Manager

cc: File
Howard, Theodore